1927 Fifth Avenue
San Diego, CA 92101-2358
P 619.308.9333 F 619.308.9334
www.recon-us.com

RECON

RECEIVED

MAR 2 1 2003

Planning Department

March 20, 2003

Mr. Jerry Hittleman, Senior Planner
Planning Department
City of Oceanside
300 North Coast Highway
Oceanside, CA 92054

Reference: Review of Previously Completed Evaluations for the Proposed Mission San Luis Rey Waterline Construction Project (RECON Number 3813A)

Dear Mr. Hittleman:

The following is a summary of the completed work and the results of the San Luis Rey Archaeology – Water Pipe Project – CA-SDI-241, by Jack Williams of The Center for Spanish Colonial Research (CSCR). The CSCR evaluation work was completed as a series of approximately 1-meter units placed along the proposed waterline route. Based on previously completed research and excavation work within the Mission grounds, the area of work was determined to be an area of high sensitivity for buried archaeological artifacts and features. As proposed, the waterline passes through the central area of the mission complex.

The proposed pipe right-of-way follows two general paths, one oriented east/west across the central area of the mission grounds and a second route along the eastern side of the complex, which runs north/south. The results of the excavations for the east/west segment are summarized as follows:

The portion of the right-of-way west of Peyri Hall (A1-A5) produced a mixture of colonial-era trash, Spanish-era materials, and recent historic trash. There were no buried features or structural elements identified along this segment of the proposed right-of-way. The materials associated with the colonial era were identified as plainware, animal bone, marine shell, tile, and annular ware. Williams concluded that the items found in the test units along this western segment were the result of slope wash and were most likely from the north and east of the right-of-way, an area identified as the convento complex and the communal kitchen (pozolero).

The second segment began slightly east of Peyri Hall (B1-B8), just off the southwest corner of the Retreat Center. This segment ran across the length of the parking lot in front of the Retreat Center, the convento and the church. Unit B1 produced recent historic trash including a nickel dated 1954 and a penny dated 1902. The material in this unit was similar to the items in the western segment and is believed to have originated from the communal kitchen at the convento.

Sample unit B2 produced tile and adobe block and many recent colonial and recent artifacts. The most interesting feature of this sample unit was the presence of an in-place segment of the tile aqueduct that continues towards the adjacent area, to the south and west. This area was identified as the acequia by Williams. Excavations were completed in this area between 1967 and 1968 by Maida Boyle.

The remaining units along this segment (B3-B8) produced variable amounts of mixed-era debris. Materials associated with the present day back to the Mission Period were recovered from these sample units. Ceramics of many types and multiple periods, glass, plaster, two percussion caps, and brass and gold decorative items were found in the sample units. The sources of these items are unclear; however, Williams speculates that they may have been redeposited during the occupation of the rebuilt convento or other rebuilt restoration-period structures nearby. The materials were recovered from a matrix of apparent disturbance with no obvious patterning.

The final segment sampled in the right-of-way is identified as C1-C7. These sample units stretch along the easternmost section of the sampled area. As with units B3-B8, this eastern segment produced a broad mix of Mission Period through modern period items. The soil conditions and mixture of items in the sample units indicated that there has been a high degree of displacement and mixing and that the overall structure of the archaeological deposit is not intact. In other words the strata that these materials are expected to occupy have become intermixed as the result of various construction, reconstruction, and improvement projects on this property. At the most easterly portion of the sample area there was an expectation of Native American materials, as this is the portion of the mission complex where native people are thought to have lived during the initial years of colonization. There were no distinctive native artifacts found in the sample units at this end of the right-of-way, with the recovered items maintaining a consistency with the mixture of items seen in the more westerly sample units.

A qualified archaeological and Native American monitor should be present for the construction phase of the proposed project. The monitors will attend a pre-construction meeting and apprise the construction crew of their responsibilities and authority. The monitors will observe the excavation process and will be empowered to stop and divert the construction team if necessary.

There are three potential areas with buried architectural elements along the proposed right-of-way. The irrigation ditch that may have been exposed in sample unit C3, a portion of the acequia that was exposed in sample unit B2, and the cobble footing that appeared in sample unit C2. The exposure of these areas is possible during construction for the water pipe. If these areas are located during the proposed work, the archaeological monitor will document the exposure and recover the structural elements in a systematic way before they are disturbed. After the pipe is laid, these items will be replaced and reburied in the trench.

A qualified archaeological monitor will be present for all of the ground-disturbing excavation associated with this project. The monitor will collect unearthed artifacts and keep a record as to where they were recovered. These items will be cleaned, catalogued, and analyzed in the context of previously completed work in the project area. Items dating to the Mission Era and later will be the property of the Mission. Native American items, including items dating to the contact and post-contact eras, will be the property of the San Luis Rey Band of Mission Indians.

A report will be prepared detailing the methods, results, and interpretations of this monitoring process. This report will be submitted to the Mission San Luis Rey and the City of Oceanside within four weeks after the completion of the final field day.

Thank you for the opportunity to review and comment on this document. Please call me if you have any questions.

Sincerely,

Dayle M. Cheever
Manager, Cultural Resources Group

DMC:amb

Reference Cited

Williams, Jack
2001 San Luis Rey Archaeology – Water Pipeline Project – CASDI-241. The Center for Spanish Colonial Research.

The Center for Spanish Colonial Research

11047 Pegasus Avenue, San Diego, California 92126 email sdpresidio@mindspring.com

Ed Gabarra
Mission San Luis Rey
4050 Mission Avenue,
Oceanside, California 92057

November 13, 2001

Dear Ed,

As per your request I have prepared the following preliminary description of our recent findings at Mission San Luis Rey.

San Luis Rey Archaeology - Water Pipe Project - CA-SDi-241
Preliminary findings (Oceanside, California)

Jack S. Williams (principal Investigator)
November 13, 2001

Abstract

The purpose of this summary report is to describe archaeological investigations that were made in connection with the proposed installation of a water pipe at Mission San Luis Rey. In response to a request by the mission staff a series of test units were excavated in the proposed right-of-way during the Spring and Summer of 2000. The project staff excavated at a total of nineteen locations within the southern portion of the study area. All of these units produced numerous archaeological materials. Unfortunately, most of the deposits and features encountered had been disturbed by twentieth-century activities. Research conducted before 2000 had already been completed for the northern portion of the pipeline. These investigations produced similar results. At the end of this report, I recommend that all additional land modification be monitored by archaeologists and qualified Native American representatives. The materials recovered, along with those already collected, should be analyzed and a detailed final report submitted. I further recommend that the records of the project and all the collections recovered should remain at Mission San Luis Rey, under the ownership of the Franciscans.

Introduction 1.0

The report that follows has been prepared at the request of the Franciscan Fathers of the *Province of Santa Bárbara* who manage most of the archaeological site of Mission San Luis Rey. The project was undertaken in keeping with the Franciscans' commitment to historic preservation and environmental sensitivity. Long before the national, state, and local governments took an interest in historical places, the Franciscans were actively pursuing the management of archaeological and architectural resources. At San Luis Rey they have worked hard to maintain and interpret the mission and its grounds for the benefit of the public.

Misión San Luis Rey de Francia was the eighteenth Franciscan settlement established in coastal California. The site was designated a *National Historic Landmark* in 1970. This is the highest level of cultural significance recognized by the federal government. The landmark status recognizes both San Luis Rey's archaeological and architectural features (it received a thematic designation).[1]

During the Winter of 1999 I was approached by Ed Gabarra, the site administrator of the mission. He asked me if I could provide an archaeological study for a proposed water pipe system. The mission staff hoped that this project would alleviate a dangerous lack of water. They particularly feared a potential structural fire. Without adequate supplies, the entire mission might burn to the ground. Nicholas Magalousis had completed work on a similar water pipe project a decade before. The 1991 water pipe alignment followed Peyri Road.[2] However, that route had not been selected for construction. Ed Gabarra proposed a new route for the pipe system in 1999. This pathway was closer to the existing mission *convento* (friary) and church (see figure A). During May and July of 2000 the field work component of the present archaeology project was completed. Documentary research and analysis have continued since the end of the field phase. The monitoring of an unrelated construction project during February of 2001 provided an opportunity to collect additional relevant information. I have used this data to supplement the material gathered in 2000.

Mission San Luis Rey is a well-known landmark that receives more than 100,000 visitors a year. It is located on the 7.5 minute, San Luis Rey USGS quadrangle (N3307.5-W11715/7.5 - see figure one).[3] The boundaries of the archaeological site have never been firmly established. The description in the 1970 nomination of the mission as a *National Historical Landmark*[4] mentions that it included at least thirty-five acres. Additional archaeological investigations expanded the site definition

---

[1]The UTM coordinates of the site are 11470430//3677090, 11470090//467, 11470000//3676780, 11470040//3677090.

[2]Harry Kelsey and Nicholas Magalousis, *Archaeological and Historical Investigation at Mission San Luis Rey, California, CA-Sdi-241, Sector C, for the Peyri Road Water Line Project (711-85-7850) of the City of Oceanside Water Utilities Department* (Laguna Beach: Interdisciplinary Research, 1991).

[3]Township eleven South, Range four west from SBM.

[4]USI/COMOS (United States Committee, International Council on Monuments and Sites) *Preliminary Inventory of Spanish Colonial Resources Associated with National Park Service Sites and National Historic Landmarks, 1987 second edition* (United States Department of the Interior: Washington, 1989), pp. 4-321 to 4-327.

to include not less than the sixty-two acres in 1989.[5] Similar work by Magalousis and Kelsey revised this figure to approximately one hundred and eighty acres.[6] However, more recent investigations have made it clear that part of the archaeological site extends into adjacent properties owned by the City of Oceanside, other government entities, and private parties (see figure two).[7]

The proposed water pipe system that would disturb the area consists of a relatively narrow corridor, less than 1.5 meters wide. The depth of the trench will not exceed 1.2 meters.[8] The 2000 archaeology project was designed to further evaluate the archaeological impacts of the proposed pipeline. Based on the density of remains found in previously studied areas,[9] a total of nineteen locations were selected for test pits. Each of the units produced material culture that dated to between the mission era (1798-1835) and the present (see figure three). Besides artifacts, the project also encountered three early architectural features. Unfortunately, site formation processes that took place in the later nineteenth and twentieth centuries have badly disturbed the entire study area.

I served as the principal investigator of the project and undertook or supervised all the work described in this report.[10] A small number of volunteers and the Native American monitors (Mark Mojado and Linda Foussat) aided me in this effort. The Indian monitors filed a separate report with the Luiseño People. I would like to express my thanks to all these individuals, along with the mission fathers and staff. The faults that may exist in the work and this report are, of course, exclusively my own.

The Study Setting 2.0

Mission San Luis Rey de Francia is situated on a low, grassy hill or mesa, within the broader channel of the San Luis Rey River.[11] It is located about three miles east of the Pacific Ocean. The mesa top stands about twenty to forty feet above the present river level. The hill is part of a marine terrace that

---

[5]The site definition was provided by Debra A. Dominici. See Nicolas Magalousis and Harry Kelsey, *Preliminary Archaeological and Historical Investigations at Mission San Luis Rey, California CA-SDi-241: Sector D:Phase I Report. Volume V: San Luis Rey: Friary and Cemetery*, Interdisciplinary Research, Laguna Beach: Interdisciplinary Research,1992.

[6]Volume one, page 7.

[7]Responsible individuals need to revise the official site boundaries. At the time that the site was designated a *National Historic Landmark* it was noted that archaeological investigations were continuing to help to define the site.

[8]Section six describes additional recommended mitigation measures.

[9]See also Nicholas Magalousis and Harry Kelsey, *Preliminary Archaeological and Historical Investigations at Mission San Luis Rey, California, CA-Sdi-241*, volumes one through five, (Laguna Beach, Interdisciplinary Research, 1990-1992).

[10]See Jack S. Williams, *curriculum vitae*, November 2000.

[11]This "river" might be more accurately described as a perennial, intermittent stream.

rises about ninety feet above sea level. An underlying granite dome gives the area relative geologic stability. This formation is decomposing. The resulting alluvial deposits contain mica, quartz sand, clay and feldspar. The formation is associated with *Valley Margin Deposits* of the recent epoch. In general, the hilltop has relatively thin topsoil. The geological strata that underlie the cultural deposits found at the site consists of compact, extremely hard, yellow/brown to reddish/brown clay soil. This formation sometimes includes small numbers of dispersed small-diameter, waterworn cobbles.[12]

Residential and commercial neighborhoods surround Mission San Luis Rey. The southern portion of the Franciscan-owned site includes a small area of surviving riparian environment. During the mission era (1798-1834) there were large expanses of marshlands and grasslands in the regions adjacent to the Franciscan settlement. Chaparral and trees covered the surrounding hills and valleys. Alders, oaks, sycamores and willows were common.

No one knows the name of the humans who first lived in the vicinity of the mission. A number of prehistoric traditions are associated with the area. The oldest evidence of human activity that has been discovered in Southern California is thought to date to at least 12,000 years ago. Archaic groups associated with the Oceanside region include *San Dieguito Culture* (which is recognized by about 7,000 B.C.) and *La Jolla Culture* (which is recognized by about 7,500 B.C.). During the later prehistoric period the inhabitants of the mission area are associated with the *San Luis Rey Complex* (circa AD 1400-1750). These people were the ancestors of the Shoshone-speaking natives who were residing in the area when the first Europeans arrived.[13]

The first non-Indian to explore the region was Juan Rodriguez Cabrillo. He visited coastal Southern California during the middle of the sixteenth century (1542). However, it was not until 1769 that a European population made its home in California. The major route that connected San Diego with the northern settlements (the *camino real*) passed directly through the study area. Between 1769 and 1798, Luiseño Indians and colonists from San Diego often exchanged ideas and goods. Unfortunately, few documentary records exist to help us to understand the details of Spanish/Indian interaction during this period. Apparently, the relationship that developed was largely friendly.

The mission was founded on June 13, 1798. Within a short period of time it grew into one of the most prosperous settlements in California. From the beginning, large numbers of local *Luiseño* people joined the community. The missionaries pursued an ambitious construction program. By the end of 1798 the first adobe chapel and *convento* (mission residence) had been erected at the site. A new adobe church with a tile roof was completed in 1802. Work on the current structure began in 1811, but was not completed until 1815. José Antonio Ramírez, a master mason from Mexico, supervised the building's construction. At the time of secularization in 1834, the settlement was still growing.

We have an incomplete understanding of the extent and character of the buildings of the mission. The most important structures have been identified. The Franciscans restored the later church and its *convento*. You can visit the ruins of the soldiers' barracks complex, a brick kiln, and a series of waterworks (including two elaborate *lavanderias* [clothes washing areas]). However, no one has identified the location of many of the other early structures that are mentioned in documents.

The Mexican government took possession of the mission in 1834. Within a decade most of the

---

[12]See *Preliminary Archaeological and Historical Investigations*; volume one, pp. 16-17.

[13]The village at, or near the site was known as Tacayme and the region Quechla (see Magalousis and Kelsey, volume 5, page 9).

Indian population had abandoned the site. After the *Mexican-American War*, the United States army used the mission buildings as a military base. In 1865, President Abraham Lincoln returned the chapel and the surrounding ruins to the Roman Catholic Church. A group of Franciscans returned to the site in 1892 and began the long process of reconstruction. Since then, many additional buildings have been added to the complex.

The archaeological research conducted at San Luis Rey before 1990 is poorly documented. During the early twentieth century, the Franciscans undertook informal excavations as they rebuilt various parts of the mission. Scientific investigations began during the middle of the century. Anthony Soto and Maida Boyle were the first scholars to take a serious interest in documenting the site.[14] However, few records of their work have survived.[15]

The Research Design 3.0

Most aspects of the archaeological effort described in this report were guided by a previously developed research design (*Mission San Luis Rey Archaeological Project: Summary Research Design*).[16] Our goal was to collect archaeological data to resolve both management issues and a number of broader questions about life at the missions. These inquiries involve Iberian-Indian interaction; the mission economy; culture change within the neophyte community; and the relative material progress of the settlement compared to other Franciscan outposts.

Our most obvious management objective was to determine if cultural remains were present within the proposed alignment. We would have to evaluate the significance of any traces of past human activities that we discovered. Mission period (1798-1834) remains would automatically be assigned high significance based on the *National Historic Landmark* status of the site. Artifacts and features that dated to other periods were evaluated in keeping with the guidelines presented by the *National Register of Historic Places*. If we discovered extremely significant remains, planners would have to find a new

---

[14]See Anthony Soto, Recent Excavations at San Luis Rey Mission: The Sunken Gardens, *Provincial Annals, Province of Santa Bárbara*, Order of Friars Minor (April 1960) 22:205-21, 247-49, Mission San Luis Rey, California - Excavations in the Sunken Gardens, *The Kiva: A Journal of the Arizona Historical and Historical Society* (April 1961) 26:34-43, and Maida Boyle, *San Luis Rey Mission: Report on the Historical and Archaeological Study*, 1968, reproduced by Magalousis and Kelsey, volume one pp.125-149.

[15]Archaeologists have discovered a large number of prehistoric sites close to the mission. They include at least nine separate locations (SDi-5422, SDi-241, and at least seven sites recorded by Caltrans that were not given trinomial (SDi) designations). Magalousis and Kelsey have prepared an inventory of these locations (see volume one, pp. 17-18).

[16]See Jack S. Williams, *Mission San Luis Rey Archaeological Project: Summary Research Design* (Center for Spanish Colonial Research: San Diego, 1999 - a copy of which has been included as an appendix to this report). Some preliminary findings related to these objectives are included in "The Franciscan Experience in Alta California and the Pimería Alta of Sonora: A comparison and Archaeological Analysis," a paper given at the *Franciscan Experience in the Americas Conference*, Oakland, California, November, 2000 (and submitted to *The Americas*, for consideration for publication in a forthcoming issue - see the attached copy).

route for the pipeline.

Between 1988 and 2000, I conducted a number of informal walking surveys of the study area. These efforts suggested that we were likely to discover cultural remains in the pathway proposed for the pipeline. It was clear that subsurface testing would be required to confirm my suspicions. I decided to establish a series of test units at regular intervals within the pipeline right-of-way. I increased the frequency of the units in the areas of highest sensitivity (locations that were close to known mission-era remains - see figure three). During 2001, I monitored an unrelated construction effort at the western end of the study area. The data I collected was incorporated into the findings presented later in this report (see figure four).

Project Methods 4.0

The methods that we used to recover data are described in detail in the *Center for Spanish Colonial Archaeology Handbook.*[17] They involve two divergent approaches. The first consists of archaeological investigation through excavation. The second relies on the analysis of previous archaeological reports and colonial texts.

The field work procedures employed can be summarized in the following terms:

> *The site will be divided into horizontal units using a one meter by one meter grid. Except in test units, all excavation will be by strata rather than by arbitrary levels. The techniques used to retrieve artifacts involve the removal of soil with hand tools. The resulting earth will be passed through screens with one-eighth inch hardware cloth.*[18] *We expect that chronological control will be facilitated by the presence of certain kinds of tin-glazed earthenwares (maiolica, majolica, mayolica) which have great sensitivity to change over time.*
>
> *The materials removed will be cleaned*[19] *and analyzed in the project laboratory. The first stage of our work will seek to eliminate any materials that fall outside the chronological period of interest (circa 1798-1835). The remaining items will be classified in terms of European, local Native American, Mesoamerican, African and other cultural origins and their potential value as status indicators. The items will then be re-sorted into various functional categories according to traditional patterns of male and female-linked tasks. The data produced by the examination of artifacts will be used to construct an array with cells that reflect the dimensions of donor*

---

[17] Jack S. Williams and Anita G. Cohen-Williams (The Center for Spanish Colonial Archaeology: San Diego, 1997).

[18] Artifacts were placed in bags marked with the site, unit, and depth designations. Daily field notes were also kept to document our work.

[19] All non-perishable artifacts will be washed with water. Minimal mechanical abrasion (such as rubbing with cloth) will be used to clean metal, and similar delicate items. Artifacts will be catalogued using a lot summary sheet that includes information about the counts and character of the artifacts. Exceptional objects will be photographed and drawn as necessary.

origins, sex, and status, as well as culture change over time, and the relationship that existed between the settlement and the emerging world economy. A statistical comparison of various aspects of the data will then be conducted with the aid of a micro-computer to evaluate various claims noted in previous sections.

The archival portion of the project involved the examination of texts that may also provide insights into various aspects of the site's history and colonial lifeways. The documents examined include previous archaeological reports, census data, court testimonies, inspection papers and similar documents found in the national archives of Spain, and Mexico, as well as select portions of the manuscript holdings of the Bancroft Library.

The research team had to resolve a number of special technical problems. I marked out the right-of-way, base lines and excavation units using a measuring tape, paint, mason cord and stakes. The Franciscans had paved a good portion of the right-of-way. In order to remove the asphalt we had to use a masonry saw. An area measuring approximately 1.5-by-1.5 meters was opened for each test pit. We did not have information about the strata that might be present. Consequently, I decided to excavate using 20 cm arbitrary levels. We took all depth measurements from the highest corners of the test units. Every excavation was documented with drawings (plans and profile views) and photographs. I aligned all the units to magnetic north. The mission staff provided the project with a detailed base map (see figure three).[20]

Findings 5.0

I divided the water pipeline right-of-way into three segments (western segment = A; central segment (adjacent to the church and *convento*) = B; and eastern segment = C). I labeled units within each segment from west to east (i.e. Units A1, A2, A3, etc.). The findings at each individual location were as follows:

Unit A1
dates of excavation: May 8 and 17, 2000
man hours expended: Approximately 8 hours
stratigraphy: see comments below
Maximum depth below highest corner: see comments below

discussion: The area that was designated unit A1 was located within the paved roadway. Our attempts to cut through the approximately 20 cm of asphalt ended when we hit a solid concrete surface. Repeated attempts to cut through this surface using the mission backhoe failed. Apparently, the concrete represented an early twentieth century roadway. Excavations undertaken in February of 2001 in an adjacent area confirmed our suspicions and provided additional insights into the western end of the study area (see comments below at the end of this section).

---

[20]The map was prepared using photogrammetric computer aided drafting techniques by Forest L. Youngs.

Unit A2
dates of excavation: May 3 and 5, 2000
man hours expended: approximately 16 hours
stratigraphy: The soil removed appeared to represent a single homogenous strata that consisted of loose, brown, sandy loam with numerous roots; this strata ended in a compact, hard yellow clay that had no artifacts (representing sterile)
Maximum depth below highest corner: approximately 28 cm (no pavement present)

discussion: This unit produced a few colonial period artifacts mixed with twentieth-century trash. The items recovered included tile fragments and pieces of bone showing signs of Hispanic butchering.

Site formation processes: The artifacts recovered from unit A2 were probably found at this location as a result of slope wash. Their original area of deposition was probably located to the north and east. Roots from nearby conifer trees complicated the excavations.

Unit A3
dates of excavation: May 8 and 9, 2000
man hours expended: approximately 16 hours
stratigraphy: The soil removed could be divided into two strata; the top soil was recognizable as a darker-colored strata with some organic materials, including conifer needles; strata 2 was similar to the soil found in unit A2; this strata ended in a compact, hard yellow clay that had no artifacts (representing sterile); compared to unit A2, relatively few roots were encountered
Maximum depth below highest corner: approximately 35 cm (no pavement present).

discussion: This unit produced sparse amounts of colonial trash, including plainware, animal bone, marine shell, tile, maiolica (Spanish colonial tin-glazed earthenwares) and annular ware; a few items from the twentieth century were also noted.

Site formation processes: The artifacts recovered from unit A3 were probably found at this location as a result of slope wash. Their original area of deposition was probably located to the north and east.

Unit A5[21]
dates of excavation: May 9, 10 and 11, 2000
man hours expended: approximately 20 hours
stratigraphy: The soils that were removed consisted of four distinct strata; a thin layer of grey-brown topsoil with grass and organic matter was followed by a second strata consisted of grey-brown, loose sand and silt; a third strata consisted of a narrow band of grey-brown, sandy loam that was made up of many smaller lamina; a fourth strata consisted of a grey-brown sandy loam; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in units A2 and A3
Maximum depth below highest corner: approximately 60 cm (no pavement present)

---

[21]Unit A4 was laid out but not excavated, as information from units A3 and A5 was believed to be sufficient to justify interpretation of the probable character of this segment of the pipeline.

discussion: All four strata observed contained mixed Spanish colonial and twentieth-century trash. The items included objects similar to those recovered in unit A2. The densities of material were similar to the fill encountered in the recent *acequia* area excavations to the south and east (see figure three part one). Tile was particularly abundant, although no adobe brick fragments were noted.

Site formation processes: The artifacts recovered from unit A5 were probably found at this location as a result of slope wash. Their original area of deposition was probably located to the north and east. It is likely that the material came from the southwestern corner of the *convento* complex and was associated with the communal kitchen (*pozolero*).

Unit B1
dates of excavation: May 12, 17 and 19, 2000
man hours expended: approximately 20 hours
stratigraphy: The soils that were removed consisted of two strata; no topsoil was noted; the upper strata consisted of a grey-brown sandy loam; strata two consisted of a loose, yellow-colored, sandy loam with relatively few artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in units A2, A3 and A5
Maximum depth below highest corner: circa 80 cm (no pavement present)

discussion: This unit was generally similar to unit A5. Significantly more recent artifacts were found. These items included a nickel (dated 1954) and a penny (dated 1902). The lowest level (60-80 cm) had relatively few artifacts.

Site formation processes: Most of the artifacts recovered in unit B1 were probably moved to this location as a result of slope wash. Their original area of deposition was probably the communal kitchen in the southwestern corner of the *convento*. Some of the more recent materials may have been dropped into the upper soil during the twentieth century. Pepper tree roots and rodent activity heavily disturbed each strata.

Unit B2
dates of excavation: May 19, 23 and 24 2000
man hours expended: approximately 24 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soil that was removed represented a single strata of loose fill consisting of a combination of grey/brown silt, adobe brick fragments, and tile fragments similar to those noted in the adjacent *acequia* excavations to the south and west; the bottom of the unit corresponded to the tile aqueduct also seen in the adjacent area; the tiles were set into the yellow clay characteristic of the sterile soil at the site
Maximum depth below highest corner: 95 cm (not including pavement)

discussion: Numerous colonial and twentieth-century artifacts were recovered. The lowest layer included plastic and other modern artifacts. One of the *in situ* tiles had the paw print of a dog. The floor tiles (*ladrillos*) used in the structure measured 16x24x5.5 cm and 18x36x5.5 cm. The original top layer of tiles that had sealed the aqueduct were apparently removed (and not replaced) by Boyle.

Site formation processes; The debris and artifacts encountered probably originally represented deposits associated with the nearby communal kitchen (the *pozolero*). These materials were apparently displaced during the restoration work of the middle twentieth century. Maida Boyle removed and redeposited the soil that covered the aqueduct in connection with her investigations of the site between 1967 and 1968.

Unit B3
dates of excavation: May 26 and 30, and June 1, 2000
man hours expended: approximately 20 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils could be divided into two, relatively distinct strata; the upper strata was brown in color and consisted of a relatively loose clay loam with abundant building debris (including adobe bricks, Roman cement, Portland cement, mortar, roof tile and floor tile); strata three appeared to have been less disturbed and contained fewer artifacts related to architecture; the sterile surface represented a hard, compact, yellow-colored clay
Maximum depth below highest corner: approximately 70 cm (not including pavement)

discussion: The artifacts recovered and distribution patterns were generally similar to those noted for unit B2. Among the finds were several pieces of mission era (1798-1834) pipe tile. The soil of level one (0-20cm) was somewhat more compact than in unit B2, as might be expected in an area that had not been excavated by Boyle. The lower strata had few twentieth-century artifacts. The colonial era objects recovered included plainware, maiolica, bone showing signs of Hispanic pattern butchering, and marine shell.

Site formation process; In general the upper portion of this unit (through the bottom of strata two) was similar to the area excavated in the *acequia* investigation to the south and west. The remains encountered probably represent redeposited materials from the *pozolero* or other portions of the *convento* (located to the north). The lower strata may represent an undisturbed portion of the site, although this seems somewhat unlikely given the documented activities in the adjacent areas.

Unit B4
dates of excavation: May 31 and June 1, 2000
man hours expended: approximately 20 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented a single strata consisting of a brown-colored, clay loam; this strata ended in a sterile soil zone consisting of compact yellow clay
Maximum depth below highest corner: approximately 65 cm (not including pavement)

discussion: The artifacts encountered consisted of items dating from the mission period through the early twentieth century. The number of these objects collected was notably less than in units B2 and B3.

Site formation processes: Most of the items observed were apparently pushed into this area from the adjacent *convento* to the north during restoration.

Unit B5
dates of excavation: June 5, 2000
man hours expended: approximately 20 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented a single strata composed of a brown clay loam; the upper portion of this strata included abundant dispersed artifacts including architectural debris; this strata ended in a sterile soil zone consisting of compact yellow clay
Maximum depth below highest corner: approximately 54 cm (not including pavement)

discussion: The artifacts included colonial and more recent materials. Later nineteenth-century ceramics were notably abundant. The finds also included blue and gold-colored plaster.

Site formation processes: Most of the items observed were probably deposited in the general area in connection with the construction and occupation of the rebuilt *convento*, which began at the end of the nineteenth century. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot.

Unit B6
dates of excavation: June 1, 5 and 6, 2000
man hours expended: approximately 20 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite strata (which represented the earlier parking lot); the remaining soils represented a single strata composed of a brown, sandy, clay loam with abundant mortar, sand, tile, tin cans and small diameter stones; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units; this surface included a cone-shaped pocket that may have served as a post hole (the soil contained in the feature was screened separately - the deposit produced a single plastic button and a piece of black glass)
Maximum depth below highest corner: approximately 50 cm (not including pavement)

discussion: This unit contained large amounts of mixed trash dating from the mission era (1798-1834) to the middle twentieth century. The items recovered included plainware, glass, ironstone pottery, Roman cement, and two percussion caps (a larger specimen suitable for a musket, and a smaller specimen suitable for a pistol). No maiolica fragments were recovered.

Site formation processes: Most of the items observed were probably deposited in the general area in connection with the occupation of the rebuilt *convento* or other nearby early restoration period structures (which began at the end of the nineteenth century). The munitions observed are possibly associated with the United States' military occupation of the site. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot. The post hole included fill from the period after 1900, and may represent the remains of some sort of fence. Similar recent post holes were encountered in the *acequia* area excavations.

Unit B7
dates of excavation: June 5, 6 and 7, 2000
man hours expended: approximately16 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented a single strata composed of a loose, brown, sandy loam with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units
Maximum depth below highest corner: approximately 63 cm (not including pavement)

discussion: The artifacts collected were similar to those found in unit B6 except that fewer items were recovered. One extraordinary find consisted of a small brass and gold object that apparently represented part of a decorative setting. This artifact was found at a depth of approximately 20 cm.

Site formation processes: Most of the items observed were probably deposited in the general area in connection with the occupation of the rebuilt *convento* or other nearby early restoration period structures (which began at the end of the nineteenth century). Some of the items recovered may have been redeposited at this location in connection with periodic reconstruction and maintenance activities that took place within the mission church. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot.

Unit B8
dates of excavation: June 7 and 8, 2000
man hours expended: approximately 15 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented two strata; the upper strata consisted of a loose, brown, sandy loam with notable concentrations of architectural debris; beneath this strata was a darker-colored deposit with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units
Maximum depth below highest corner: approximately 65 cm (not including pavement)

discussion: The items recovered were similar to those collected in unit B7. The finds included some painted sky blue over yellow colored plaster.

Site formation processes: Most of the items observed were probably deposited in the general area in connection with the occupation of the rebuilt *convento* or other nearby early restoration period structures (which began at the end of the nineteenth century). Some of the items recovered were probably deposited here in connection with periodic reconstruction and maintenance activities that took place within the mission church. The painted plaster may represent evidence of the original colors employed in the dome of the nearby church bell tower. The plaster and tile may have been deposited in 1926, when heavy rains caused the collapse of the southeastern corner of the tower. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot.

Unit C1

dates of excavation: June 19, 20 and 21, 2000
man hours expended: approximately 20 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented a single strata composed of a brown, sandy, silty loam with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units
Maximum depth below highest corner: approximately 40 cm (not including pavement)

discussion: The artifacts recovered were similar to those collected in unit B8. One unusual item was a carved bone or hardwood rosary bead, probably dating to before 1900.

Site formation processes: Most of the items observed were probably deposited in the general area in connection with the occupation of the rebuilt *convento* or other nearby early restoration period structures (which began at the end of the nineteenth century). Some of the items recovered were probably deposited here in connection with periodic reconstruction and maintenance activities that took place at the mission cemetery and church. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot.

Unit C2
dates of excavation: June 20 and 21, July 25 and 26, 2000
man hours expended: approximately 30 hours (including expansion into adjacent areas)
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soil represented a single strata composed of a brown, sandy, silty loam with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units; an irregular concentration of cobbles running in an approximately north-south direction were imbedded into this strata
Maximum depth below highest corner: approximately 55 cm (not including pavement)

discussion: As with most of the other areas described here, this excavation produced a mixture of objects dating from the mission era (1798-1834) to the twentieth century. The finds included a small, flat, lead figure that may represent Mary or Jesus. This device may have been attached to a rosary, or served as some kind of *ex-voto*. In general, artifact concentrations were similar to those observed in unit C1.

Site formation processes:
The purpose of the cobblestone feature could not be determined with certainty. The surface of the alignment was extremely irregular. No adobe brick fragments were observed. The most probable explanation is that the stones represent the lower coarse of a foundation that has been largely removed. If this is a wall footing, then it probably represents an early mission structure. It may have been robbed of stones and adobe bricks at an earlier date in connection with construction activities dating to the mission era (1798-1834). In order to clarify the function of these stones the excavation area was enlarged. The work suggested that the stones fall into a north-south alignment. Most of the artifacts that were collected were probably deposited in the general area in connection with the periodic

reconstruction and maintenance activities that took place at the mission cemetery. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot.

Unit C3
dates of excavation: June 21, July 7, 2000
man hours expended: approximately 20 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented two strata; the upper strata was composed of a grey-brown, sandy loam with dispersed artifacts; this was followed by a nearly sterile deposit of loose sand and silt; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units; this surface had a distinctive depression that may correspond to a shallow irrigation channel (a *zanja*)
Maximum depth below highest corner: approximately 37 cm (not including pavement)

discussion: As with most of the other units described here, this excavation produced a mixture of objects dating from the mission era to the twentieth century. In general, artifact concentrations were similar to those observed in unit C1, although notably less items were recovered.

Site formation processes: Most of the items observed were probably deposited in the general area in connection with periodic reconstruction and maintenance activities that took place at the mission cemetery. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot. The apparent shallow irrigation ditch cannot be easily dated. It may have been used during the mission era (1798-1834), although agricultural activities continued in this area of the site into the middle twentieth century. The fact that the feature had been carefully covered with sand suggests that it may have been excavated and back-filled by another researcher (possibly Boyle or Soto).

Unit C4
dates of excavation: July 6 and 7, 2000
man hours expended: approximately 20 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented a single strata composed of a brown clay loam with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units
Maximum depth below highest corner: approximately 40 cm (not including pavement)

discussion: As with most of the other units described here, this excavation produced a mixture of objects dating from the mission era (1798-1834) to the twentieth century. In general, artifact concentrations were similar to those observed in unit C1, although notably less items were recovered.

Site formation processes: Most of the items observed were probably deposited in the general area in connection with periodic reconstruction and maintenance activities that took place at the mission cemetery. The lack of additional artifact patterning may have resulted from the periodic grading of the parking lot.

Unit C5
dates of excavation: June 8 and 9, 2000
man hours expended: approximately 16 hours
stratigraphy: This unit was not covered by pavement; the soils removed consisted of five relatively distinct strata; the first consisted of dark brown, moist topsoil, with a considerable amount of mulch; the second strata consisted of loose decomposing granite and sand; the third strata was composed of a brown-grey, clay loam with dispersed artifacts; the fourth strata consisted of a brown, silty, sandy loam with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units; the upper surface was filled with ice plant, grass and roots
Maximum depth below highest corner: approximately 77 cm (no pavement present)

discussion: As with most of the other units described here, this excavation produced a mixture of objects dating from the mission era (1798-1834) to the twentieth century. In general, artifact concentrations were similar to those observed in unit C1, although notably less items were recovered. The finds included a large, hand-forged iron hinge fragment and a clay marble. Similar marbles have been found on colonial sites elsewhere in California, although they continued to be used up through the early part of the twentieth century.

Site formation processes: The location of this unit corresponds to an area that has been suggested to have been used for mission-era (1798-1834) Native American habitation. The density of the finds is not consistent with such an interpretation. If this area had been used in this manner, it appears that relevant deposits must have been removed. Rodent activities were particularly notable in level three (40-60cm). The point of origin of the artifacts recovered cannot be easily determined. Their dispersed character in the soil suggests that the area has probably been plowed and graded.

Unit C6
dates of excavation: July 10 and 11, 2000
man hours expended: approximately 16 hours
stratigraphy: This unit was covered by asphalt pavement; beneath this surface we found an orange to tan-colored sand and decomposing granite surface (which represented the earlier parking lot); the remaining soils represented a single strata composed of a brown clay loam with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units
Maximum depth below highest corner: approximately 33 cm (not including pavement)

discussion: As with most of the other test areas described here, this excavation produced a mixture of objects dating from the mission era (1798-1834) to the twentieth century. In general, artifact concentrations were similar to those observed in unit C4, although notably less items were recovered.

Site formation processes: The location of this unit corresponds to an area that has been suggested to have been used for mission-era (1798-1834) Native American habitations. The density of the finds is not consistent with such an interpretation. If this area had been used in this manner, it appears that relevant deposits must have been removed. Their dispersed character of the artifacts in the soil suggests that the area has probably been plowed and graded. The point of origin of the artifacts recovered cannot be easily determined.

Unit C7
dates of excavation: June 12 and 15, 2000
man hours expended: approximately 24 hours
stratigraphy: This unit was situated within a short path the connected the mission and parish properties; the soils removed can be divided into two strata; the upper grey-brown topsoil was filled with roots; the remaining soil represented a dark brown to tan clay loam with dispersed artifacts; this strata ended in a sterile soil zone consisting of compact yellow clay similar to that seen in adjacent units
Maximum depth below highest corner: approximately 50 cm (no pavement present)

discussion: As with most of the other units described here, this excavation produced a mixture of objects dating from the mission era (1798-1834) to the twentieth century. Most of the items appear to date to the later time period. In general, artifact concentrations were similar to those observed in unit C1, although notably less items were recovered.

Site formation processes: The location of this unit corresponds to an area that has been suggested to have been used for mission-era (1798-1834) Native American habitations. The density of the finds is not consistent with such an interpretation. If this area had been used in this manner, it appears that relevant deposits must have been removed. Their dispersed character of the artifacts in the soil suggests that the area has probably been plowed and graded. Disturbance by rodents and roots complicated the excavation. The point of origin of the artifacts recovered cannot be easily determined.

West gate monitoring
dates of excavation: February 2001
man hours expended: approximately 12 hours
Maximum depth below highest corner: approximately 40 cm (below the pavement surface)

discussion: Excavations for a new gate located at the western end of the study area allowed the examination of the buried strata close to unit A1. Jack hammers were used to cut through the cement surface that had prevented previous excavations. The trenches that were excavated were perpendicular to the right-of-way. Most of the cultural materials observed in the trenches were related to the roadway. However, a dispersed trash lense containing Spanish colonial remains (including butchered cattle bones) was noted at the southern end of the main trench.

Site formation processes: The appearance of the strata that included colonial trash suggested the possibility that this deposit had not been significantly disturbed. The presence of food remains introduces the possibility that some portion of the adjacent area may have been used as a habitation area.

It should be noted that the northern pipe extension area had already been studied by Magalousis and Kelsey.[22] The mission staff made the decision that no additional testing should take place in this area.

---

[22]See volume five, especially the recommendations (pp. 63-65).

Management Implications and Recommendations 6.0

The investigations described here have a number of important implications for our understanding of the site. This has been the first project to develop information from areas ranging from the western to the eastern ends of the core of the mission archaeological zone. Our findings suggest that the highest concentrations of artifacts can be found in the central and western portions of the site. This pattern was first suggested by the work completed in 2000 on the masonry *acequia* located near the southwestern corner of *convento*. Maida Boyle exposed this feature between 1967 and 1968 (see figure three, part one).[23] Since the conclusion of that project, erosion from the adjacent mounds of backfill had slowly covered the aqueduct with soil. The feature was re-excavated between 1998 and 2000 by the *Center for Spanish Colonial Archaeology*. This project produced more than 100,000 mission-era objects. The surface of the adjacent areas was also rich in similar materials. Some of the items had originally been deposited in the *convento*. During reconstruction they had been pushed into the study area with tons of adobe bricks and related architectural debris. However, beneath the layers of debris and redeposited soils we discovered a clear occupational surface. Many of the artifacts we discovered that were embedded in this strata appear to have been deposited near to where they had been used.

How do these concentrations of artifacts relate to what we know about activities that took place at the early mission? A careful examination of the position of known features in light of other California settlements suggests that there may have once been a large open plaza that faced the church (see figure two). The community's house of worship, the *convento*, and the soldiers' barracks shared this open space. Archaeological evidence from the present testing program, surface deposits, investigations at the masonry *acequia*, and at the eastern gate (undertaken in February 2001),[24] all point to the fact that other buildings may have lined the plaza. Based on the types of artifacts observed, it is probable that some of these buildings were used as habitations. The creation of a large central plaza, surrounded by residences, church, government buildings, warehouses and workshops is entirely consistent with Spanish colonial town planning.

If such a plaza ever existed, it is clear that it was no longer visible by the middle of the third decade of the nineteenth century.[25] By 1827, the buildings of the outpost could be divided into three major complexes. The first district consisted of the sprawling *convento*, which measured more than 500 feet on a side. To the south could be found the elaborate soldiers' barracks, with its six apartments, tower, corral and guardhouse. A journey to the area north of the *convento* brought visitors to the Indian village. A French visitor named Duhaut Cilly described the later cluster of buildings in the following terms;

> *To the north, two hundred paces from the mission, begins the* ranchería, *or village of Indians. It is composed of thatched huts, merely of various shapes, the larger number conical, scattered or grouped without plan over the great extent of ground. Each one*

---

[23]In her analysis, she referred to this area as feature fourteen (see Boyle 1968).

[24]A detailed report on this work is in preparation at the present time.

[25]Several foreign visitors left detailed descriptions and pictures of the mission during this period. See Zephyrin Engelhardt, *San Luis Rey, The King of the Missions*, San Francisco: James H. Barry Company, 1921, pp. 56-57.

of these hovels holds a family, and all together contained at this time a population of more that two thousand persons. In the beginning stone houses, distributed with regularity, were built for the Indians, and this method is still in use at several missions. It is believed to have been observed since that kind of dwelling did not suit the health of the Indians, accustomed to their cabins; so that the padres have decided to let the build their huts to their taste.[26]

This village had a number of special features. It must have covered an extremely large area. Assuming that an average of five people lived in each house, then there would have had to have been more than 400 huts. Antonio María Osio states that Father Antonio Peyri persuaded the Indians to separate their homes in order to slow the spread of diseases.[27]

Kelsey and Magalousis attempted to determine if the neophyte village was located to the east and southeast of the cemetery. Proposed construction projects that have subsequently been completed disturbed these site areas. A number of drawings and etching made after 1825 suggest that at least some Indian houses existed at these locations. Magalousis and Kelsey's investigations produced meager evidence for such buildings. They concluded that it was possible that the archaeological remains of the village had been completely destroyed or that the main habitation area was on the northern side of the site. However, they assigned the highest probability to the idea that the residences were scattered all around the mission grounds.[28] This seems to be a reasonable conjecture.[29]

Given what we know about the mission during the period between 1825 and 1834, than what activities could have taken place in the area of the proposed "plaza" that could explain the deposits of domestic trash that have been found there? Previous research has identified the homes of the soldiers, the friars and the other Latino inhabitants. However, as noted by previous researchers, the location of some of the Indian habitations remains a mystery. The missing houses include the early masonry residences mentioned by Duhaut-Cilly. The oldest buildings known to have existed at the mission include the soldiers' barracks, the church and the *Sunken Gardens*. All three of these features are located on the perimeter of the proposed plaza. Furthermore, the *lavanderias*, fountains and adjacent bathing facilities are conveniently close to the "plaza." They are located at a great distance from the village area described by Duhaut-Cilly. Given all this evidence, it seems reasonable to propose that the trash deposits that are found on the "plaza" were created in connection with early

---

[26]See Auguste B. Duhaut-Cilly, *Voyage Autour du Monde Principlamente a la California* (2 volumes; Paris: A. Betrand, 1834).

[27]See Antonio María Osio (translated by Rose Marie Beebe and Robert M. Senkewicz), *The History of Alta California*, Madison: University of Wisconsin Press, 1996, pp. 124-25.

[28]See Kelsey and Magalousis, *Archaeological and Historical Investigations*, pp. 20-21.

[29]Even if some soils have been removed from this area, it would be remarkable that a village of the size and character of the one described in early documents was so thoroughly erased. The evidence uncovered is consistent with the dispersed pattern suggested by Osio and argued for by Magalousis and Kelsey.

neophyte occupations. If this is true, then the houses of the Indians initially lined the plaza as they did at Mission San Antonio and many other Spanish California settlements.

Why was the traditional mission plan radically altered by Peyri? The answer may have been provided by Osio. The Franciscan decided that the normal system of adobe housing was helping to spread diseases. Throughout California the mission population was declining as the result of health problems. To fight the spread of contagions, he resettled portions of his congregation in the outlying areas of the mission district at places such as Pala and Las Flores. At the same time, he abandoned the plaza-oriented character of the emerging mission complex. He consolidated many of the buildings that would normally be found on the plaza into the massive *convento*. The army continued to occupy its residential complex on the opposite side of the former plaza. The Indians moved into a combination of traditional and semi-traditional brush homes to the north of the *convento*. If a neophyte became ill, Peyri quickly isolated them in two hospital wards that stood adjacent to the church. By the time that Duhaut-Cilly and other foreigners reached the mission, it represented a unique manifestation of mission ground plans in California. Peyri's bold plan may have worked. San Luis Rey was the only community that did not suffer a population decline throughout its long history.

The present test program has increased our understanding of another important aspect of the archaeology of the mission. Beneath the present parking lots lie massive secondary deposits of colonial period trash and building debris. Many of these items came from the early *convento* (1815-1834). The exact provenance of the individual artifacts has been lost. Nevertheless, these items still have the potential to add to our knowledge of the mission. They should be collected, studied and curated.

The availability of water to fight fires is extremely important to the preservation of the mission. Various site formation processes have disturbed most of the identified archaeological deposits. They nonetheless contain numerous artifacts. Furthermore, the possibility exists that other features are present in the right-of-way. I therefore recommend that the remaining pipeline excavations be monitored by a qualified archaeologist. During the digging the archaeologist should prepare detailed field notes about the observed strata, and he or she should collect any disturbed artifacts that are observed. If significant deposits or features are disclosed, all construction efforts on the affected segment of the pipeline should cease. An appropriate form of mitigation must be implemented before any excavations are continued.

I recommend that the early features encountered during the testing phase should be dealt with in the following manner:

1. The remains of the irrigation ditch (*zanja*) are extremely ephemeral (Unit C3). The ditch cannot be dated accurately. If additional traces of this feature become visible in the pipe construction trench they should be carefully documented.

2. If possible, the pipeline should avoid the masonry *acequia* (Unit B2). If necessary, the tiles should be carefully mapped and numbered before removal. Once the pipe is in place, the tiles should be returned to their original positions.[30]

3. The unidentified footings are a special problem (Unit C2 and adjacent areas). The principal investigator and the mission staff carefully considered the option of expanding

---

[30]Similar methods were recommended by Kelsey and Magalousis (see *Archaeological and Historical Investigations*, pager 78).

the excavation to develop a more comprehensive understanding of this feature. The foundations appear to have a north-south alignment that is perpendicular to the water line.[31] The mission cemetery unfortunately occupies the area immediately to the north of unit C2. It is extremely likely that at least some graves were located outside of the adobe wall that now surrounds the *campo santo*. The principal investigator, mission staff, and the Franciscans wish to avoid disturbing burials as much as is humanly possible. The area to the south may contain burials or remnants of some of the Indian residences shown in early artwork. Unclear processes have badly disturbed the cobble feature. We would probably have to expose a large area in order for us to gain a better understanding of their function. In summary, any additional excavation outside the narrow corridor of the pipeline is likely to produce additional adverse effects on sensitive resources that are not necessary. After carefully considering the possibility of expanding the dig to the north and south, we choose not to pursue this option. If possible, the stones should be left in place. If not, the individual rocks should be mapped, numbered, and replaced after the pipe has been installed.

A large amount of diverse artifacts were recovered during the testing phase. Even greater numbers of colonial-period objects are likely to be collected during the monitoring phase of the project. I recommend that the results of the analysis of all of these artifacts should be presented in a single, comprehensive project report. Collectively this information should help to quantify and illustrate the broad patterns of cultural development that characterize the mission.

I hope the foregoing preliminary report is of some use to you for your immediate planning needs. I look forward to working on the next phase of this important project.

Best wishes,

Jack S. Williams

---

[31]Since the feature has a north-south alignment, expanding excavations to the east and west are not likely to unearth additional relevant information.

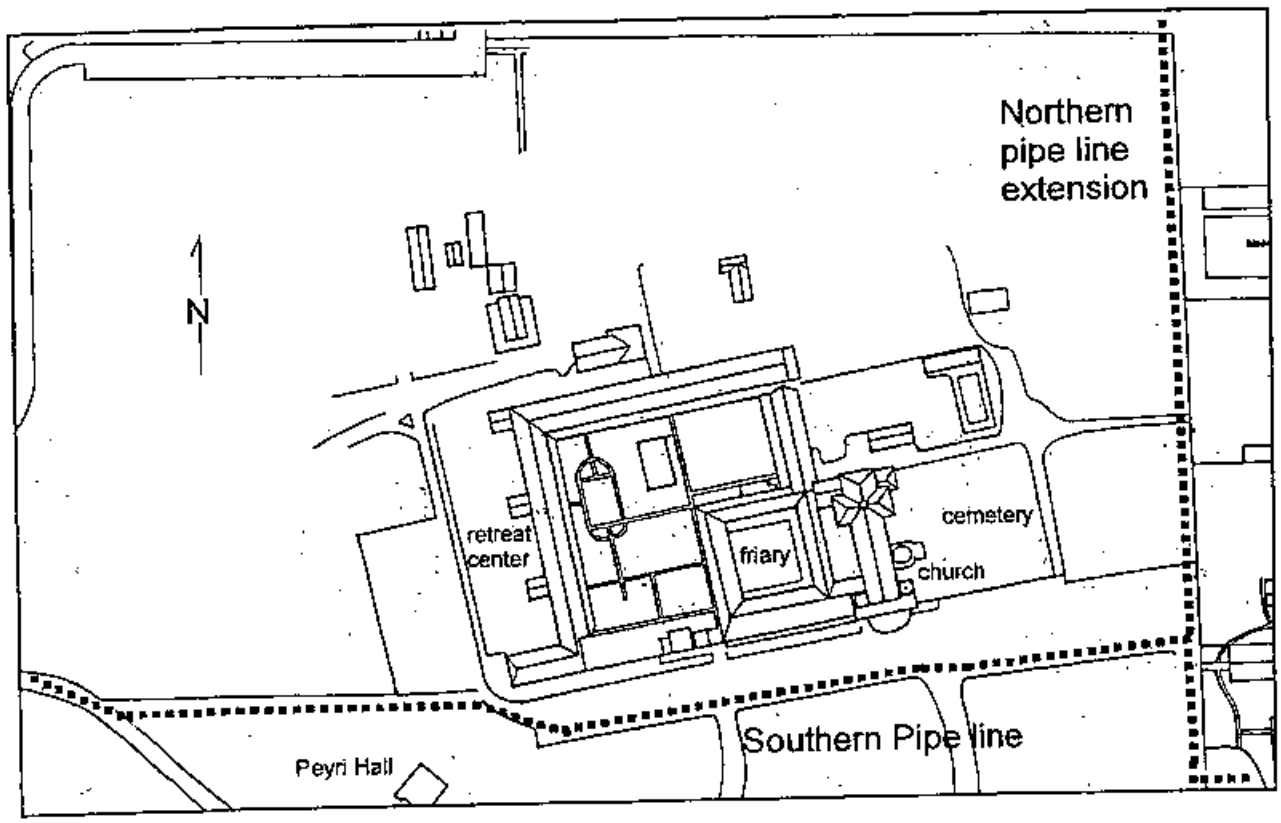


Figure A
Approximate route of the water pipe system proposed for Mission San Luis Rey

Archaeological investigations undertaken in 2000 focused on the southern segment of the route. The northern pipe line extension includes areas previously addressed in environmental studies and is not covered by the information presented in this report. A more detailed plan of the southern pipe route can be found in figure three.

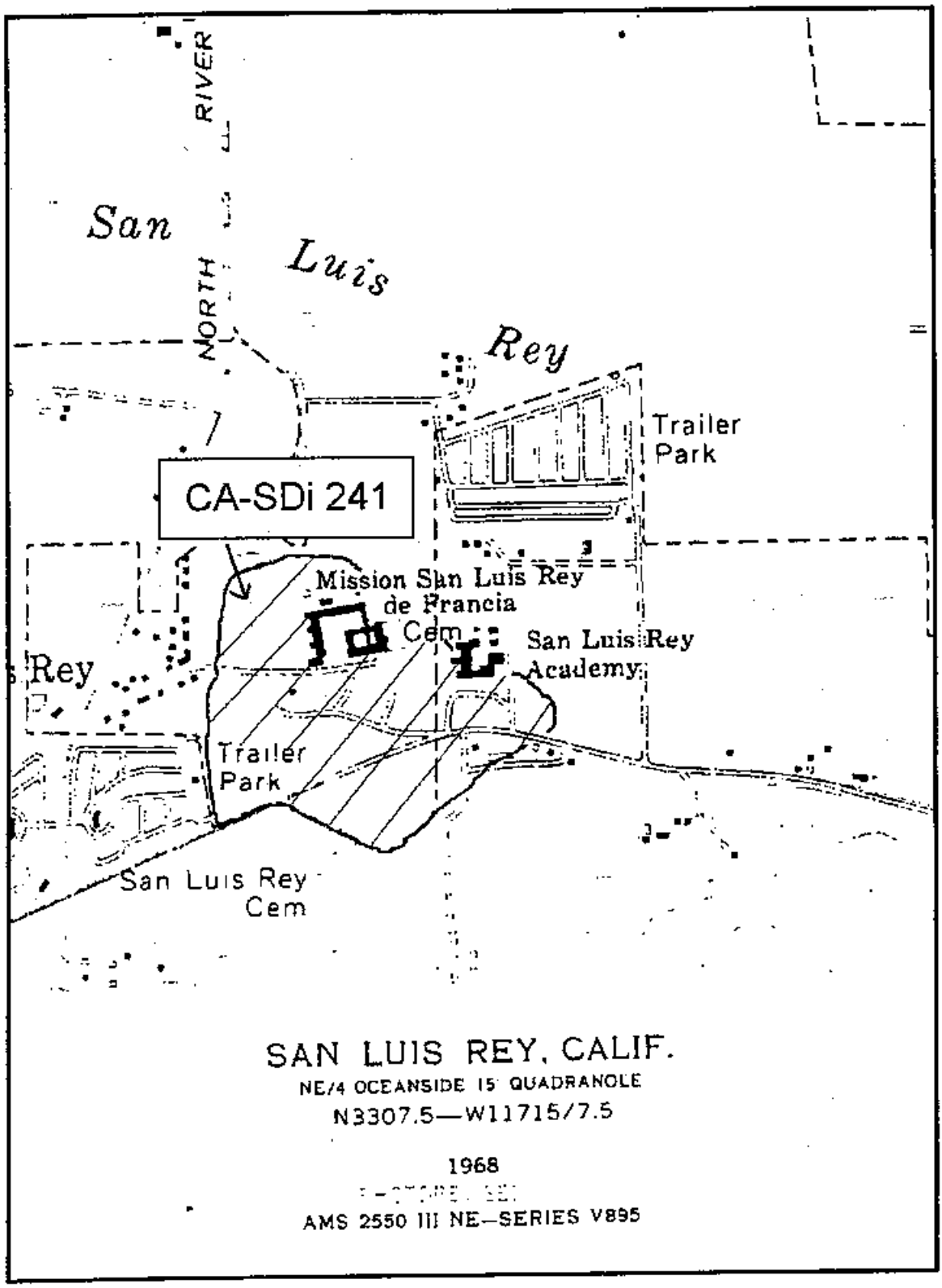


Figure 1 - Site location - CA-SDi-241 (Mission San Luis Rey National Historical Landmark)

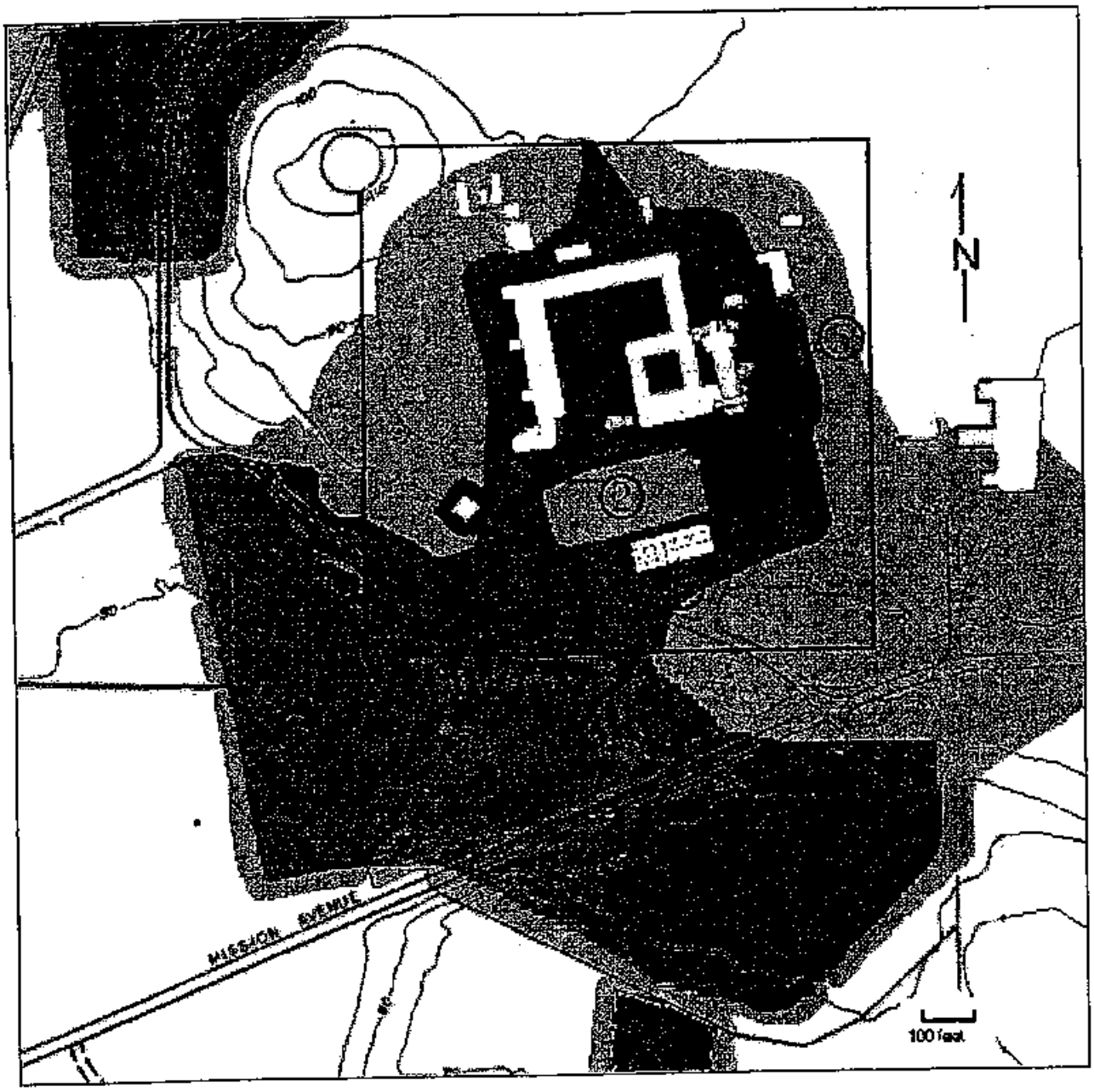


Figure 2 - CA-SDi-241
Mission San Luis Rey Archaeological Features and Sensitivity

Key

1) Sunken Gardens; 2) *plaza mayor*; 3) *convento*; 4) church; 5) cemetery; 6) soldiers' barracks

(Darker areas represent portions of the site with higher probabilities of containing significant resources - black areas also include known 19th and early 20th century resources)

Center for Spanish Colonial Research

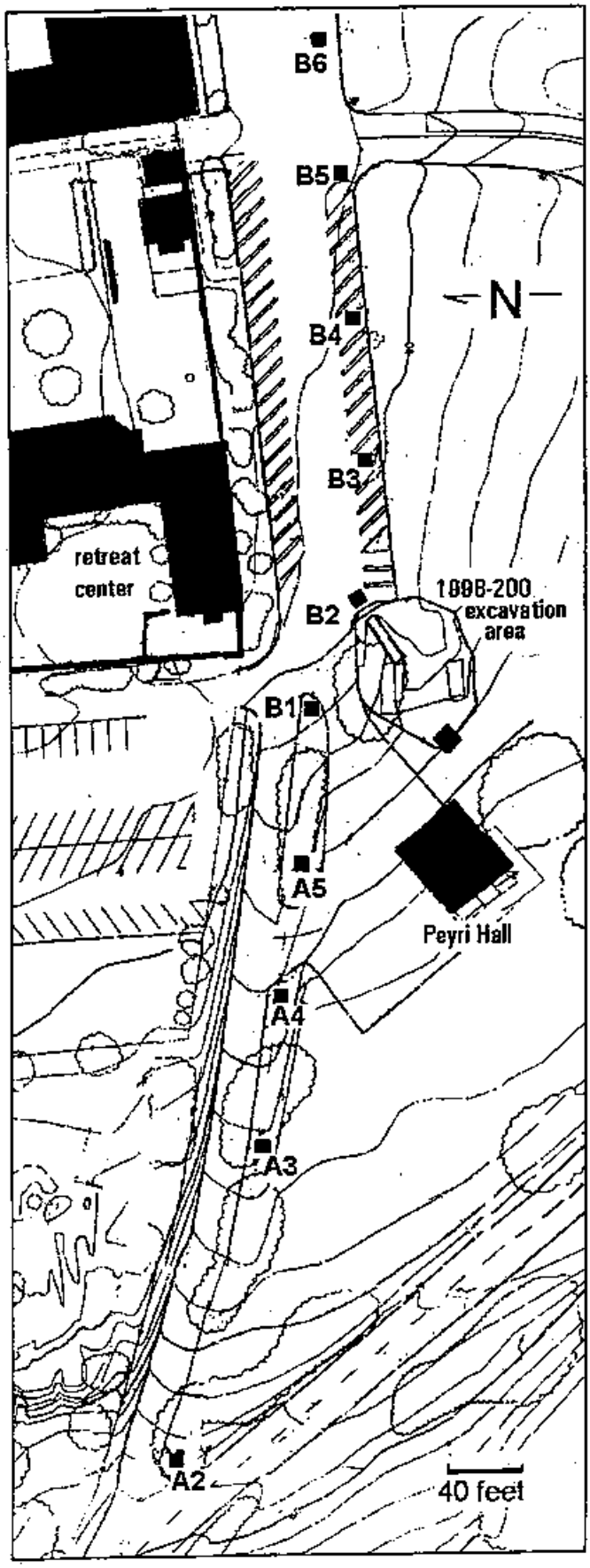


***Figure 3** part 1*
(western section)

CA-SDi-241
Test units
Water pipeline
Project 2000

Center for Spanish
Colonial Research

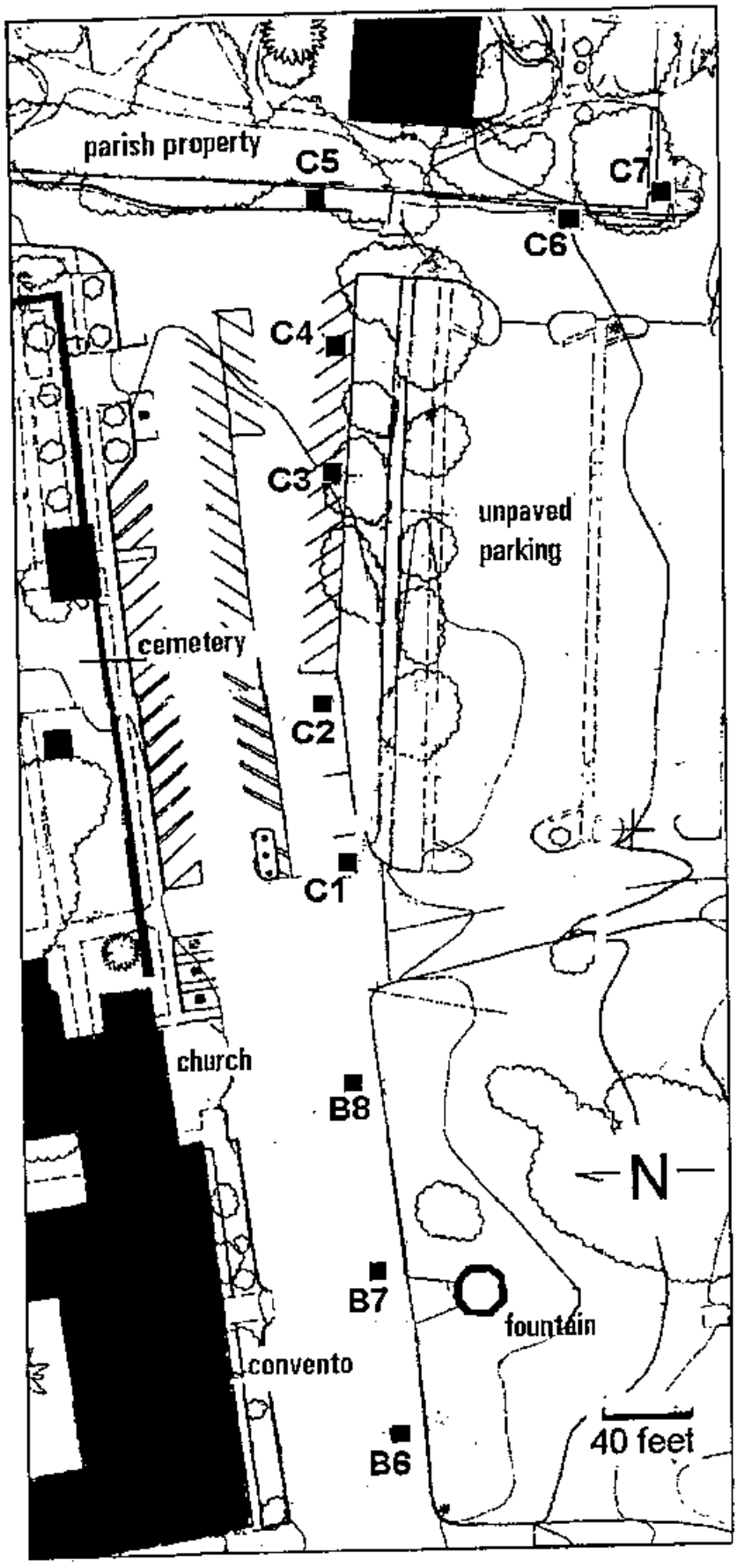


***Figure 3** part 2*
(eastern section)

CA-SDi-241
Test units
Water pipeline
Project 2000

Center for Spanish
Colonial Research

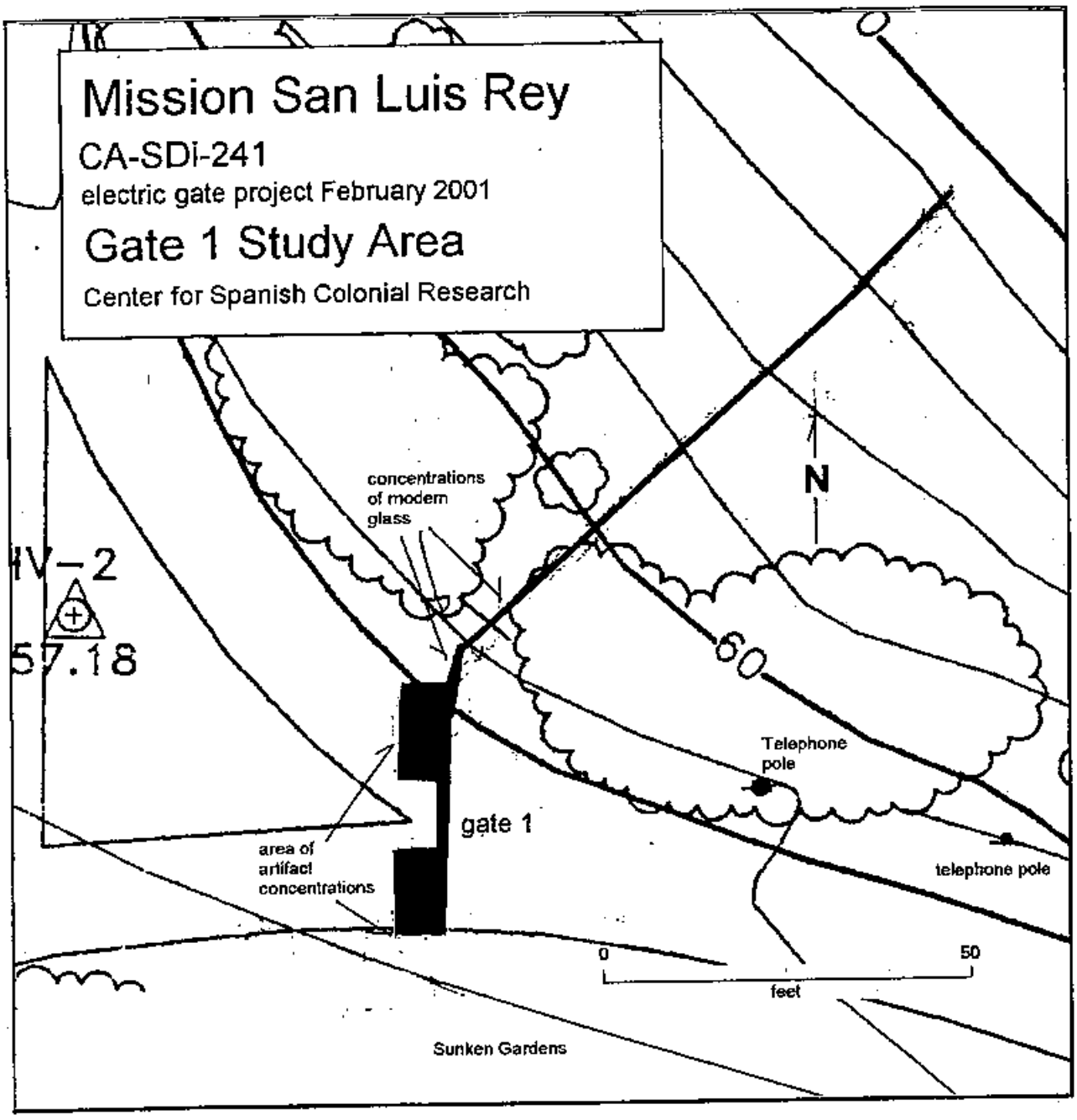

Mission San Luis Rey
CA-SDi-241
electric gate project February 2001
Gate 1 Study Area
Center for Spanish Colonial Research
0
N
concentrations of modern glass
4V-2
57.18
60
Telephone pole
gate 1
area of artifact concentrations
telephone pole
0
50
feet
Sunken Gardens

Figure 4

MISSION SAN LUIS REY ARCHAEOLOGICAL PROJECT: SUMMARY RESEARCH DESIGN

Center for Spanish Colonial Research

Jack S. Williams

Mission San Luis Rey de Francia was founded in June of 1798. It was the eighteenth Franciscan outpost established in California. The settlement quickly grew into one of the most populous settlements in the province. By 1824 the mission included a massive church, a friary, workshops, hospitals, schoolrooms, communal kitchens, storehouses, and homes of Latino and Indian residents. In 1832, the neophyte population included 2, 788 souls. Over 57, 000 head of livestock grazed on mission lands. Two years later the settlement was officially secularized. The Mission buildings were occupied by United States military forces between 1846 and 1865. President Abraham Lincoln returned the mission to the Catholic Church. Today the Franciscans of the Santa Bárbara Province continue to operate the mission. The location includes some of the best-preserved and most architecturally significant structures in California and the Southwestern United States (Engelhardt 1921).

The staff of the *Center for Spanish Colonial Archaeology*, Inc., is working in cooperation with the San Luis Rey Mission Museum to conserve and develop the site. The purpose of the proposed project is two-fold. The first major objective is to develop information appropriate to site management. The second goal is to collect information relevant to certain questions about the social history of the settlement.

MANAGEMENT OBJECTIVES

Because it is clear that any further research at Mission San Luis Rey needs to help to preserve the significant cultural resources present at the site, One of the major objectives of the proposed project is the development of a long term archaeological site management plan. When completed, this document should:

1) provide an overview of all previous archaeological or related work conducted at the site;

2) describe research contexts for Spanish Colonial, Mexican Republic and early American era remains;

3) establish relevant research questions for each era based on current trends in method and theory in historical archaeology;

4) identify appropriate goals, methods and analyses in connection with the research objectives;

5) define thresholds of significance relevant to national, regional and local research interests;

6) develop an inventory of the mission's known and expected archaeological features;[1]

7) develop a profile of how site formation processes have effected the site;

8) produce a predictive model in regards to the presence of remains based on previous work at other similar sites in North America;

9) determine the most appropriate maintenance activity for the mission's vegetation;

10) determine which kinds of vegetation produce the smallest adverse effect of the archaeological resources present;

11) determine which areas of the site are threatened by natural site formation processes and vandalism.

The predictive model could be tested in connection with the various site disturbing maintenance activities that have to be periodically undertaken at the mission.

RESEARCH OBJECTIVES

The research objectives of the Mission San Luis Rey project focus on four major questions. These enquiries involve the general nature of Indian/Iberian interaction, the character of the mission economy, the study of mission-induced culture change, and the material progress of San Luis Rey compared to other Franciscan missions.

The missions and Iberian-Indian Interaction

What can archaeology suggest about the general nature of Iberian-Indian interaction at the missions? Some social historians have characterized Franciscan evangelization in California as a process of forced conversion and long-term imprisonment. Probably the most dramatic recent expression of this view is to be found in works by Robert H. Jackson and Edward Castillo (1995;

---

[1]Many of the locations of features known to have existed at the site have been lost. For example, Pablo Tac lists a mill, corrals for livestock, houses of shepherds, granaries, and stables., These features cannot easily be accommodated within the known structures (1958:12). Engelhardt lists temporary buildings, an earlier adobe church with flat roof, houses for the major-domos, a tannery, corrals and various other buildings (1921:16, 18-19).

and Jackson 1994). Similar ideas have been offered by researchers working in other areas of the Spanish frontier (Dobyns 1962). In their view, the missions were the products of the use of military force. Does the material record support this perspective? Were the patterns of interaction seen in Alta California the same as those of other missions?

The economy of Mission San Luis Rey

What can archaeology suggest about the economy of Mission San Luis Rey? Was the settlements focused primarily on the development of self-suficiency, or was it oriented toward exporting products? What were the major elements of the mission economy? Are the patterns observed in Alta California similar to those seen in other missions? How did the Mission San Luis Rey interact with the larger world economy?

A number of conflicting ideas about the nature of global development have been offered by Fernand Braudel (1979, 1981), Donald Platt (1972, 1980a, 1980b), Stanley Stein, Barbara Stein (Stein and Stein 1970, 1980), Charles Tilly (1981), Immanuel Wallerstein (1974a, 1974b, 1979, 1980, 1984), and Eric Wolf (1982).

Historical sociologist Immanuel Wallerstein has developed a highly controversial interpretation of the development of modern capitalism (1974a, 1974b, 1980). Wallerstein's interest began with a focus on the origins of under-development. According to his view modern capitalism had emerged in Europe by the end of the fifteenth century. The creation of the "*modern world system*" allowed European states to systematically exploit overseas possessions through a global division of labor. The world system was made up of two basic components. These were a core and a periphery.

Wallerstein stated that the emergence of "world" capitalism was linked to the exchange of "*essentials rather than luxuries*." These were exported from the core areas to the peripheries. His model includes the underpinning assumption that different kinds of surplus will be produced by the core and periphery. Most core production centers on high-value per unit manufactured goods and periphery production emphasizes low value per unit raw materials. Thus the world economy is characterized by a single division of labor with unequal accumulation of benefits for the core at the expense of the periphery. The control of peripheries is guaranteed by the necessity to import "essentials" from the core (Wallerstein 1974, 1980). He claims these "commodities'" importance grew out of the fact that they were "*essential* for daily use" (1974:302). It is the "essential" character of these items that created the dependency relation which defines the core and periphery (Wallerstein 1980:8-9).[2]

In recent years Wallerstein's ideas have become highly influential throughout the social sciences. They have enjoyed a growing popularity among both prehistorians (Blanton and Feinman 1984; Di Peso 1977, 1980; McGuire 1986; Pailes and Reff 1980, 1985; Pailes and Whitecotton 1979;

---

[2] Throughout his study, Wallerstein notes that his views are not shared by all economic historians. For example, he rejects the ideas of Pirenne (1937) with the comment that, "*I am skeptical, however, that the exchange of preciosities, however large it loomed in the conscious thinking of the European upper classes, could have sustained so colossal an enterprise as the expansion of the Atlantic world, much less accounted for the creation of a European World Economy*" (1974b:41-42).

Plog and others 1982; Upham 1982; and Whitecotton and Pailes 1979). and historical archaeologists (Hardesty 1988; Hoover 1986, 1988, 1989; Lewis 1976, 1984, 1985; McGovern 1985; Paytner 1982; Redman 1986; Schuyler 1988; Williams 1989).

Previous archaeological studies demonstrate that a high volume in trade in "essentials" is likely to leave behind evidence in the archaeological record (Adams 1976; Earle and Ericson 1977; McAdams 1975; Renfrew 1969, 1977; and Sabloff and Lamberg-Karlovsky 1975). If this is true then a relatively simple archaeological test can be proposed to evaluate the validity of Wallerstein's ideas for a specific time and place.

Kenneth Lewis has sought to apply Wallerstein's ideas to the archaeological record of English colonial South Carolina (Lewis 1976, 1984, 1985). His research has focused on Camden. This settlement was an interior town whose major occupation dates to the second half of the eighteenth century.

On the basis of Wallerstein's model Lewis predicted that significant amounts of items that occurred in the site would have been produced in Great Britain. He also stated that the other goods recovered would mirror the characteristics of similar sets of artifacts in England. He found overwhelming archaeological evidence in support of this hypothesis. For example, his analysis of ceramics produced the following results: British (88%); local colonial (5%); local Indian (3%); Chinese porcelain (3%); Iberian and French (<1%); total sherd count 12,796. Lewis (1976:147-148) justifiably concludes that:

> *Despite its relative isolation from Britain and the coastal entrepot of Charleston, Camden contains a wealth of imported material goods, reflecting its full participation in the trade and communications system of the frontier. Its central position in a network of trade and communications linkages reaching from the backcountry to England, Europe, and even the as far as the Orient should not be viewed as a unique situation, but rather as representative for a colonial area on a periphery of a world economic system such as that centered in Europe in the eighteenth century.*

If Wallerstein is right and a mission in the periphery is economically dependent on European powers in the core, then evidence of significant amounts of essential goods manufactured in Europe should be found in mission archaeological deposits.[3]

Tilly (1981) and Wolf (1982) present an alternative explanation for the emergence of the modern capitalist world economy. In contrast with the work of historical sociologists, Wolf's analysis focuses on the role of native peoples in relationship to expanding "core" influence.

Both researchers reject Wallerstein's claim that European expansion before the seventeenth century was a "capitalist" endeavor. They argue that the mode of production involved with early

---

[3] The validity of Wallerstein's claim for a region must be based on information gathered on a regional rather than site specific basis. Following Wallerstein's logic it is quite conceivable that an individual site might not show a dependency relation even though it was embedded in a dependent province.

European expansion cannot be conceived of in terms of capitalism (Tilly 1981:chapter 1; Wolf 1982:22-23). They provide evidence that "modern capitalism" was a product of intense industrialism that first appeared in Great Britain after 1750. Consequently, Tilly and Wolf claim the relationships of economic dominance seen by Wallerstein in the sixteenth century did not emerge until after 1700.[4]

Historical sociologists Stein and Stein (1970, 1978), and historian Platt (1972, 1980a, 1980b), have carried the Wallerstein/Tilly/Wolf debate into colonial Mexico. Stein and Stein have argued that Mexico had become a part of the "periphery" during the late colonial era. Platt argues that this relationship could not have occurred until after 1860. His views emphasize massive increases in later British "industrial" trade.

The arguments presented by each of these authors can be expressed in terms of different dates after which the existence of a dependency relation can be said to exist. The conflicting dates are summarized in the table that follows:

Various views of the origins of the "modern world system" and its relationship to New World sites

authority	*date of shift*
Wallerstein	prior to contact (1492)
Tilly and Wolf	sometime between 1700 and 1850
Stein and Stein	about 1800
Platt	after 1850

For any of the later authors the imposition of the "modern world system" should result in a dramatic shift in the quantity and kinds of goods that were imported to colonial regions in America. The resulting complex of artifacts should be similar to the pattern recognized by Lewis at Camden.

Braudel has presented a significantly different interpretation of the origins of the capitalist world economy. He rejects the importance placed on the sixteenth century by Wallerstein and finds the roots of capitalism in earlier times. In contrast with other researchers Braudel argues that the colonies of the New World developed a reciprocal commercial relationship with Europe. By the end of the eighteenth century the new lands had developed independent centers (or cores) of capitalism and industry (1979:404-405):

> *The New World was quite prepared to manufacture the things it needed . . . In short, the whole of America, as it matured, developed its own expedients. Spanish America*

---

[4] Hall (1989:246) claims Weber (1982:chapter 13) made a similar appraisal of the intervention of the capitalist world system with the arrival of Anglo-Americans. However, in my discussions with Weber he has indicated that he saw a shift in the world economy between Mexico and the United States, not the introduction of the capitalist world in a vacuum.

in particular found in the smuggling networks a measure of freedom and a source of profit. The Manila galleon, as everyone knew, was a means of snatching American silver out of the clutches of Spain or indeed Europe, for the benefit of far-off China and the capitalists of the Consulado in Mexico City. What was more, up to the end of the eighteenth century, by far the lion's share of the silver coins and ingots was going not to the king of Spain (now no more than a poor relation) but to private merchants - including the merchants of the New World.

According to Braudel, New Spain and Spain did not enjoy the classic mercantile-state relation found within a world-empire.[5] New Spain's economic existence was not confined to being a producer of raw goods that were exchanged for more valuable items manufactured in Europe. The profits made did not accumulate to the exclusive benefit of the homeland (Spain) or even the mother region (Europe).

From Braudel's perspective the tremendous mineral wealth of Mexico transformed the colonial economy. "The structures of everyday life" limited the level of exploitation that was possible before the advent of cheaper, industrial, maritime trade. Platt (1972:5) also points specifically to this problem as a major factor limiting commerce and making large-scale exporting to rural Latin America between 1820 and 1850 unprofitable. According to Braudel, Spain and other European nations extracted an almost unbelievable wealth from Latin America. Nevertheless, a considerable amount of "treasure" remained in the hands of the New World entrepreneurs.

Because bullion was extracted in the periphery by private enterprise and market conditions were controlled by merchants in the colonies, capital tended to accumulate overseas (Brading 1971:97). These funds were expended on imported goods that were produced in Europe, other colonies, and Asia. Capital was also re-invested in mining and the development of other areas of economic infrastructure.[6] New Spain was an industrial producer of finished goods that it both consumed and exported. By 1750, colonial capitalism encompassed phenomena that ranged in size from the corporate enterprises of some of the world's wealthiest men to the humble stalls of the ubiquitous corner grocers (Kinsbruner 1987). By 1810, the economy of New Spain had assumed gigantic proportions.[7]

Braudel notes that a fundamental shift occurred in the Latin American economies in the wake

---

[5] Something that has been repeatedly, and apparently erroneously, asserted about the Spanish empire. See for example Hall (1989:8).

[6] This was to a considerable extent not a matter of choice. After 1750, Bourbon reformers created a massive system of taxes that supported a wide variety of public works and siphoned off an increased amount of wealth for the crown (Priestly 1916:24-45, 75, 80-81, 299, 312-90).

[7] Braudel notes the following production; agriculture - 138.8 million pesos; manufacturing - 61.0 million pesos; mining - 28.0 million pesos; total from physical out-put 227.8 million pesos; additional economic activity - 173.2 million pesos; total estimated gross national product 400.0 million pesos. These figures have been rounded off to the nearest .0 million (Braudel 1979:420-421).

of the wars of liberation. The neo-colonialism of this era did produce the core/periphery relation described by Wallerstein (1979:424); "*From now on, bound hand and foot to the City of London, Latin America would remain on the periphery of the European world-economy.*"

Braudel's arguments can also be transformed into a prediction about the archaeological record. In the Spanish New World later colonial deposits should show evidence of the existence of Hispanic American industry. By contrast early republic period sites should show little evidence of such a phenomenon. Instead they should contain indicators of the commercial dominance of Britain. If evidence for this change becomes clear after 1860, then this would tend to support the arguments put forth by Platt (1972).

Mission San Luis Rey and culture change

To what extent were Indians' lives changed by the mission experience? Did the Franciscan establishments have any impacts on the technologies of the natives? Does the archaeological evidence support the idea that the missions saw the replacement of one technological complex by another? Was there a fusion of Indian and European lifeways? Were the patterns seen at San Luis Rey similar to those of the other missions? A number of anthropologists have taken a strong interest in the acculturation of Indians. General treatments of Latin American Indian culture change include those offered by Beals (1951, 1952, 1967), Foster (1960), Kurath (1949), Padden (1957), Phelan (1959) and Steward (1943). In areas of *Northern New Spain*, influential studies of Indian culture change have been offered by Edward Dozier, Henry Dobyns and Edward Spicer (Dobyns 1959, 1972, 1976, 1980; Dozier 1961, 1964, 1966; and Spicer 1954, 1962, 1969). Numerous archaeologists working in Spanish colonial archaeology have also shown a strong interest in Indian acculturation (Di Peso and other 1953; Di Peso 1951; 1956; 1974; Doyel 1977; Deetz 1962; Fontana 1965; Masse 1981; and Robinson 1963, 1976). Even historians have taken a limited interest in the topic (Weber 1988).[8] Nearly all of these authors suggest that culture change generally had a significant effect on Indian peoples. However, the character and intensity of transformations that were experienced varied widely over time and space. How do the people living at Mission San Luis Rey fit on this continuum?

---

[8]Perhaps the most persuasive recent challenge to the view that daily life is of trivial importance to history, has been offered by the social historian Fernand Braudel. He has argued that the patterns of everyday existence represented a set of social structures (Braudel 1973:1238-1244, 1981). To him these "structures" restrict the role played by groups and individuals in history. They literally define the limits "of what is possible." A description of these structures is therefore essential to any explanation of broad patterns of social change. Studies showing evidence for Indian cultural influence on Europeans includes work conducted in Alta California (Williams and Cohen 1985), New Mexico (Snow and Stoller (1987) and Florida (Deagan 1973, 1974, 1980, 1983). The Florida data have pointed to the importance of *mestizaje* (race mixing) as a mechanism for the spread of Indian cultural characteristics.

The material progress of San Luis Rey compared to other Franciscan missions.

Historians and ethnographers have pointed to the idea that the mission program involved a multi-phase program of cultural transformation. The specific objectives of the missionaries changed over time.[9] Most of the analysis has focused on the nonmaterial aspects of that change. Do archaeological correlates exist for the evolutionary stages of development in Alta California at San Luis Rey? If they do, what conclusions can be reached about the comparative material advances made at this outpost compared to others?

Previous relevant research in California

Archaeological investigations of the missions of California have produced an uneven literature. Surveys and excavations have augmented information provided by more traditional historical research.

The work at Mission San Luis Rey has sadly not been approached in terms of questions that have gone beyond those traditionally associated with the preparation of management recommendations. Extensive excavations were undertaken by Anthony Soto between 1955 and 1960. However, his projects did not produce a report.[10] George Mroczowski, a treasure hunter, undertook excavations in 1959-1960. He uncovered a massive still now on display at the museum.[11] However, he did not produce a report on his investigations. In the decade that followed, Maida Boyle undertook a new series of excavations. She produced a short summary of her findings (Boyle 1968).[12] After 1989 a series of investigations were made by Nicolas Magalousis and Harry Kelsey. They carefully documented their findings (Magalousis and Kelsey 1990-1992). [13]However, like previous researchers, they did not address issues involving culture change or process.

The lack of interest in such issues is not too surprising given that relatively few of the archaeological studies conducted in California have aimed at collecting data relevant to questions similar to those noted in previous sections. By far and away, the churches have remained the major

---

[9]For additional information on the masterplan for culture changed see the introduction to Bringas (1977:1-36); Spicer (1966: 281-333); and, Webb (1952:20-30). In terms of a specific spiritual stages of the Indians, Matson and Fontana state; "*to accomplish these ends, the religious and civil authoriti4es would lead Indians through institutionalized stages progressing from mission to conversion or reduction to doctrina to curacy. . .*", page 26.

[10]A short summary was prepared (Soto 1961). The records of this early work have subsequently disappeared.

[11]Personal interview, 1986.

[12]Records of this project have also disappeared.

[13]A small portion of the site was investigated by Martin Rosen and Judith Tordoff (1991).

focuses of archaeological work involving excavation.[14] A smaller, but significant number of studies have been undertaken in the *conventos* (priest residence complexes).[15] Far fewer investigations have aimed at providing an understanding of the neophyte residential areas, or other kinds of site areas.[16] An examination of the literature suggests that the focus on church and *convento* buildings has provided few insights into the research questions noted above. Until recently, comparative data from presidios and civil sites was not available. This information provides an important source of supplemental information about the material world that was the source of influences among mission neophytes. The most important missing information concerns the Indian residences. These village areas are unique in that they can provide material evidence that cannot easily be confused with remains that may have been deposited by friars, soldiers or civilian mission inhabitants.

With the gradual development of research projects that have addressed the previously understudied Indian residences found at mission sites, a sufficient amount of data has emerged to allow us to develop a tentative general profile of certain key differences and continuities found within the Franciscan missions of these two regions. The sections of the text that follow provide a description of some of that evidence.

Architectural data

Buildings represent an important manifestation of technology. The organization and character of architecture can be analyzed to reach conclusions about the activities that took place within a community over time and space. The broader studies of settlement configurations can also provide important evidence relevant to the political, social, and economic relations that took place at a site. Fortunately, the use of a combination of archaeology and documentary investigations allows the reconstruction of the appearance of many of the missions of both regions during the era of their use.

---

[14]Most of the early excavations were undertaken for purposes of providing information to guide reconstruction. Few of the efforts made between 1900 and 1960 had formal archaeological controls. See for example, Smith (1921).Webb's monumental work (1952) provides numerous references to informal projects of this sort undertaken throughout California. Many more recent environmental archaeological reports have continued to focus on reconstruction objectives, rather than anthropological investigations. See for example, Dietz (1983).

[15]Probably the most extensive of these studies took place in connection with the reconstruction effort at Mission La Purísima Concepción (see Whitehead 1980). Much of the material recovered has never been fully analyzed.

[16]See Robert L. Hoover (1985). Work on neophyte quarters has taken place at La Purísima, San Antonio de Padua, San Luis Obispo, San Carlos Borromeo, Santa Clara, San Francisco Solano, San Buenaventura, San Juan Bautista and Santa Cruz. Probably the most important of these studies in California were those conducted by James Deetz and Robert L. Hoover. See James Deetz, (1962) and Hoover and Costello (1985). The problematic nature of research studies involving only *conventos* and churches is reviewed by Annetta Cheek (1974).

A visitor to the surviving missions is often struck by similarities. With few exceptions, the modern missions consist of impressive masonry churches and some portion of an abutting residence complex used by the missionaries. However, only a few of the contemporary sites include any of the numerous other important buildings and facilities that made up these establishments during the Spanish colonial and early Mexican Republic periods.

Fortunately, a relatively complete set of ground plans exists for the California missions. Archaeological and documentary investigations have also provided a number of insights into how the mission buildings changed over time. A careful analysis of this evidence suggests some striking differences existed in the physical plants and layout of the settlements of the two regions.

The architectural elements of the missions can be divided into a number of distinct groups based on their function. These include churches, *conventos*, neophyte residences, storage areas, agricultural features, industrial features and miscellaneous other kinds of architectural features.

One of the central features of the missions was the *convento*/church complex. The elements of these structures consisted of the main house of worship, and a residence for the missionaries. In both regions the residence buildings of the larger missions were usually laid out in the form of a quadrangle. In some missions a simpler arrangement, consisting of a long row of rooms, was simply added to the church. The rooms that made up the *convento* could include residences for the soldiers that protected the mission, a warehouse, workshops, school rooms, offices and hospitals.

The main residential area provided to the Indians was not incorporated into the *convento*. Instead, the aboriginal people usually lived in an adjacent space. Sometimes the Indian settlement was built on the edge of a large central plaza that was shared by the *convento* and church. Residential units included traditional housing (generally brush and jacal[17] huts) as well as more permanent buildings of adobe with apartments similar to those found in the Iberian towns and presidios.[18] They included structures designed to house nuclear families as well as communal residences for young men and women.

The storage facilities present at the missions could be incorporated into the *convento* quadrangle or they could be built as independent structures. Agricultural facilities provided at some of the missions include such elements as walled orchards, irrigation facilities (including dams and aqueducts (*acequias*), tiled or cobbled threshing floors and grain mills. Industrial facilities found at the missions include blacksmith shops, carpentry shops, weaving rooms, pottery factories, large-scale tile and brick kilns, massive lime kilns, carpentry shops, tanning vats and fullering mills. Defensive architecture found at the missions includes surrounding curtain walls and corner defenses, such as towers (*torreones*). These features are shared with fortified presidios and pueblos.

Miscellaneous buildings found at some missions include freestanding residence complexes

---

[17]As used in Sonora and California, this term is associated with wattle and daub architectures (rather than upright log (*palizado)* constructions).

[18]The styles of these structure can be broken into a number of smaller categories. Besides traditional ovoid homes, Indians adopted the use of square or rectangular huts, detached adobe buildings, as well as row houses. More permanent buildings were provided with earth, thatch and tile roofs.

for non-mission Indians (such as apartments for the soldiers' and their families, and residences for the *major domos*) as well as washing and recreational facilities, such as *lavanderias* (masonry washing facilities, sometimes referred to as *lavabos*).

Artifact evidence

We may now turn to the evidence of smaller kinds of items found on archaeological sites. What kind of story do the artifacts tell us? Data from Indian residence areas probably provides us with the best insights into the material character of native lives in terms of culture change, the mission economy, and relations that existed between Indians and *Latinos*. Based on the small data sets available from Indian residential areas, it is possible to advance some tentative ideas in regards to these issues.[19]

A number of scholars have sketched out elements of the blueprint for planned culture change that was established by the missionaries. The frontier evangelists obviously sought to introduce ideas about Christianity that called for the elimination of some native beliefs. Most Franciscans also shared a common set of beliefs about material progress that equated European technologies with civilization, and similar Indian ways with inferior (backward) modes of production. Key features of the mission program included the adoption of European-style work, clothing, and housing. To become *gente de razón* (people of reason, or *Latinos*) the Indians were expected to learn how to speak Spanish and take up the manners of contemporary northern settlers. Some areas of human behavior, including many aspects of foodways, were generally viewed in neutral terms. Many native customs that had some religious connotations, such as traditional dancing or folk medicine, were embraced in the same manner that practices of pagan origins in Europe were accepted by the early church. Some European behaviors were seen in negative terms, including drunkenness, gambling, fornication and licentiousness. Franciscans often attempted to prevent these traditions from being introduced at the missions. Some aspects of native customs were generally venerated and promoted. These included faithfulness, cleanliness, and ferocity in warfare against pagan or other enemy groups. It is important to note that Franciscan ideology (in contrast with the general character of Iberian views) was not based on an assumption of overall European cultural superiority. While some missionaries held such a view, many did not. The majority appear to have assumed that no racial or cultural barriers prevented Indian people from being either their intellectual or spiritual equals. Certain aspects of native belief and practices were discriminated against, while others were actively promoted. In short, the missionary effort aimed at the integration of Indians into a modified version of the "modern world," not cultural or biological genocide.[20]

For analytic purposes, I have divided the smaller artifact traditions in terms of the following arbitrary categories: builders' tools building materials and hardware; cloth and clothing production; food substances; food serving; food preparation and storage; jewelry and clothing; religion related

---

[19]Unfortunately, the data gathered from the *conventos* and churches, the areas that have been the focus of most mission excavations, have almost no value in resolving these questions.

[20]Many features of Spanish national ideology (rather than religion) dictated that native peoples who became *gente de razón* would not be embraced as equals.

items; transportation; warfare and hunting; other household technologies; and other items (see table two). We can further divide each of the corresponding sets of artifacts in terms of "native," "introduced," and "mixed" traditions.[21] Native traditions would reflect pre-contact origins. Introduced items would be of European design, and could be further divided into locally produced goods, and objects procured from more distant sources. Finally, some items may reflect the use of European or Indian material culture for purposes that did not exist in either the European or pre-contact circumstances (for example, crucifixes could be used as horse jangles). I have described these items as have been of mixed traditions.

METHODS TO BE USED TO CONDUCT THE STUDIES

The methods used to resolve the research problems noted previously involve two divergent approaches. The first consists of archaeological excavation. The second relies on the analysis of colonial texts.

Excavations undertaken at Mission San Luis Rey will follow the general procedures developed in Center investigations undertaken at other sites and detailed at length in the Center's Handbook (Williams and Cohen-Williams 1997). This approach can be summarized in the following terms:

> *The site will be divided into horizontal units using a one meter by one meter grid. Except in the case of strata test units, all excavation will be by strata rather than by arbitrary levels. The techniques used to retrieve artifacts involve the removal of soil with hand tools. The resulting earth will be passed through screens with one-eighth inch hardware cloth. We expect that chronological control will be facilitated by the presence of certain kinds of tin-glazed earthenwares (maiolica, majolica, mayolica) which have great sensitivity to change over time (Cohen-Williams 1992). Site areas will be selected according to their present condition, with degraded and threatened areas of the mission receiving the highest priority.*
>
> *The materials removed will be cleaned and analyzed in the project laboratory. The first stage of our work will seek to eliminate any materials that fall outside the chronological period of interest (circa 1798-1835). The remaining items will be classified in terms of European, local Native American, Mesoamerican, African and other cultural origins and their potential value as status indicators. The items will then be re-sorted into various functional categories according to traditional patterns of male and female-linked tasks (Castañeda 1990). The data produced by the examination of artifacts will be used to construct an array with cells that reflect the dimensions of donor origins, sex, and status, as well as mission culture change over time, and the relationship that existed between the mission and the emerging world economy. A statistical comparison of various aspects of the data will then be conducted with the aid of a micro-computer to evaluate various claims noted in*

[21]See also comments in Cheek (1974).

previous sections.

Attempts will also be made to evaluate the known archaeological reports relevant to the study area (principally Soto 1960; Boyle 1968; Magalousis and Kelsey 1990-1992). Unfortunately, a preliminary analysis of these works indicates that much of this work did not address issues outside those that involved documenting the presence of various features and artifacts.

The archival portion of the project involves the examination of texts that may also provide insights into various aspects of the sites history and colonial lifeways. The documents to be examined include official reports, census data, court testimonies, inspection papers and similar documents found in the national archives of Spain, and Mexico, as well as the manuscript holdings of the Bancroft Library.

At the conclusion of the project, all the archaeological collections and associated records will be placed on permanent deposit at the Mission San Luis Rey Mission. Here, they will be made available to future investigators in accordance with the rules established by the Franciscans.

CONCLUSIONS

The project being undertaken at Mission San Luis Rey seeks to illuminate certain aspects of the social history of the early colonial period. It attempts to integrate research objectives with the development of a long-term management plan. Taken together, these two sets of objectives represent an appropriate starting point for long term investigations of this important site.

REFERENCES CITED

Adams, William H.
1976 Trade Networks and Interaction Spheres - a view from Silcott. *Historical Archaeology* 10:99-113.

Beals, Ralph L.
1951 The History of Acculturation in Mexico. *Homenaje al doctor Alfonso Caso*, Imprenta Nuevo Mundo, México. pp. 73-82.
1952 The History of Acculturation in Mexico. In Tax 1952:225-232.
1967 Acculturation. In *Handbook of the Middle American Indian* Volume 6:449-68. University of Texas Press, Austin.

Blanton, Richard and Gary Feinman
1984 The Mesoamerican World System. *American Anthropologist* 86:3:673-682.

Boyle, Maida
1968 *San Luis Rey Mission: Report on the Historical and Archaeological Study*, reproduced in Magalousis and Kelsey (1990 1:125-149).

Brading, David A.
1971 *Miners and Merchants in Bourbon Mexico, 1763-1810*. Cambridge University Press, Cambridge.

Braudel, Fernand
1973 *The Mediterranean and the Mediterranean World in the Age of Phillip II.* Volume 2. Harper and Row, New York.
1979 The Perspective of the World. Volume 3 of *Civilization and Capitalism 15th-18th century*. Translated by Sian Reynolds, Harper and Row, New York.
1981 The Structures of Everyday Life. Volume 1 of *Civilization and Capitalism 15th-18th century*. Translated by Sian Reynolds, Harper and Row, New York.
1982 The Wheels of Commerce. Volume 2 of *Civilization and Capitalism 15th-18th century*. Translated by Sian Reynolds, Harper and Row, New York.

Bringas, Diego (translated and edited by Daniel S. Matson and Bernard L. Fontana),
1977 *Friar Bringas Reports to the King: Methods of Indoctrination on the Frontier of New Spain 1796-97*, University of Arizona Press: Tucson, 1977.

Castañeda, Antonia I.
1990 Presidarias y Pobladoras: Spanish-Mexican Women in Frontier Monterey, Alta California, 1770-1821. unpublished Ph.D. dissertation, Department of History, Stanford University.

Cheek, Annetta
1974 The Evidence for Acculturation in Artifacts: Indians and Non-Indians at Mission San Xavier del Bac, Arizona. Unpublished Ph.D. dissertation, University of Arizona, Tucson.

Cohen-Williams, Anita G.
1992 Common Maiolica Types of Northern New Spain. *Historical Archaeology* 26(1):119-130.

Cohen-Williams and Jack S. Williams
1993 Beyond Mestizaje: Archaeological approaches to alternative mechanisms of incorporation in Northwestern New Spain, a paper presented at the Society for Historical and Underwater Archaeology Meeting, Kansas City, January 1993.

Deagan, Kathleen
1973 Mestizaje in Colonial St. Augustine. *Ethnohistory* 20:1:55-65.
1974 Sex, Status and Role in the Mestizaje of Spanish-Colonial Florida. Unpublished Ph. D. Dissertation, Department of Anthropology, University of Florida.
1980 Archaeology in the Ancient City: Past, Present and Future. In Dobyns 1980:47-65.
1982 St. Augustine: First Urban Enclave in the United States. *North American Archaeologist* 3(3):183-205.
1988a Spanish Exploration and Colonization of the New World. Paper presented at the 21st Annual Society for Historical Archaeology Meeting, Reno.
1988b Neither History Nor Prehistory: the Questions that Count in Historical Archaeology. *Historical Archaeology* 22(1):7-12.

Deagan, Kathleen (editor)
1983 *Spanish St. Augustine: The Archaeology of a colonial Creole Community.* Academic Press, New York.

Deetz, James
1962 Archaeological Investigations at La Purísima Mission. *Archaeological Survey Annual Report 1962-1963*, volume 5, University of California at Los Angeles.

Dietz, Stephen
1983 *Final Report of Archaeological Investigation at Mission San José (CA-Ala-1);* Archaeological Consulting and Research Services Inc., Santa Cruz.

Di Peso, Charles C.
1951 *The Babocomari Village site on the Babocomari River*. The Amerind Foundation, Dragoon.
1956 The Upper Pima of San Cayetano de Tumacacori. *The Amerind Foundation Publication,* Number 7, Amerind Foundation, Dragoon.
1974 *Casas Grandes: A Fallen Trading Center of the Gran Chichimeca* (edited by Gloria J. Fenner). 3 volumes, Northland Press, Flagstaff.
1977 The Northern Sector of the Mesoamerican World System. Unpublished paper, presented at

the Clements Seminar Fort Bergwin (cited in Fenner 1983:316).
1980 The Northern Sector of the Mesoamerican World System. (revision) Unpublished paper, presented at the 13th annual Society for Historical Archaeology Meetings, Albuquerque.

Di Peso, Charles, Arthur Woodward, Rex and M. Virginia Gerald
1953 The Sobaipuri Indians of the Upper San Pedro Valley of Southeastern Arizona. *The Amerind Foundation Publication* Number 6, Amerind Foundation, Dragoon.

Dobyns, Henry
1962 *Pioneering Christians among the Perishing Indians of Tucson*. Editorial Estudios Andinos, Lima.
1963 Indian Extinction in the Middle Santa Cruz Valley, Arizona. *New Mexico Historical Review* 38(2):163-181.
1964 *Lance, Ho!* Editorial Estudios Andinos, Lima.
1972 The Military Transculturation of Northern Piman Indians, 1782-1821. *Ethnohistory*, 19:4.
1976 *Spanish Colonial Tucson: A Demographic History*. University of Arizona Press, Tucson.
1980a Introduction. In Dobyns 1980:1-4.
1980b The Study of Spanish Colonial Frontier Institutions. In Dobyns 1980:5-26.

Dobyns, Henry (editor)
1980c *Spanish Colonial Frontier Research*. Center for Anthropological Studies, Albuquerque.

Doyel, David
1977 Excavations in the middle Santa Cruz River Valley, Southeastern Arizona. *Contributions to Highway Salvage Archeology in Arizona*, Number 44, Arizona State Museum, Tucson.

Dozier, Edward P.
1961 Rio Grande Pueblos. In Spicer 1961:94-186.
1964 The Pueblo Indians of the Southwest. *Current Anthropology* 5(2):79-97.
1966 *Hano: A Tewa Community in Arizona*. Holt Rinehart and Winston, New York.

Earle, Timothy K. and Jonathan E. Ericson
1977 *Exchange Systems in Prehistory*. Academic Press, New York.

Engelhardt, Zephyrin
1921 *Mission San Luis Rey: King of the Missions*, James H. Barry Company, San Francisco.

Fenner, Gloria J.
1983 Obituary of Charles Corradino Di Peso 1920-1983. *The Kiva* 48(4):307-313.

Foster, George
1960 Culture and Conquest: America's Spanish Heritage. *Wenner Gren Foundation for Anthropological Research, Viking Fund Publications Number* 27.

Green, Stanton W., and Stephen M. Perlman
1985a *The Archaeology of Frontiers and Boundaries*. Academic Press, New York

Hall, Thomas D.
1983 Peripheries, Regions of Refuge, and Nonstate Societies; Towards a Theory of Reactive Social Change. *Social Science Quarterly* 64:3:582-597.
1989 *Social Change in the Southwest, 1350-1880.* University Press of Kansas, Lawrence.

Hardesty, Donald L.
1988 The Archaeology of Mining and Miners: A View from the Silver State. *Special Publication Series*, Number 6. The Society for Historical Archaeology.

Hoover, Robert L.
1985 The Archaeology of Spanish Colonial Sites in California, in *Comparative Studies in the Archaeology of Colonialism*, edited by Stephen L. Dyson, British Archaeological Review (reprint).
1986 Spanish Colonial Research within the Framework of World Systems Theory. Paper presented at the 19th Annual Society for Historical Archaeology Meeting, Sacramento.
1988 Spanish-Native Interaction at a California Mission within a World Systems Framework. Paper presented at the 53rd Annual Meeting of the Society for American Archaeology, Phoenix.
1989 Spanish Colonial Archaeology Within a World System Framework. Paper presented at the First Joint Archaeological Congress, Baltimore.

Hoover Robert L. and Julia Costello
1985 Robert Hoover and Julia Costello (editors), Excavations at Mission San Antonio 1976-1978, *Institute of Archaeology Monograph 26,* University of California at Los Angeles: Los Angeles.

Jackson, Robert H.
1994 *Indian Population Decline, The Missions of Northwestern New Spain, 1687-1840,* University of New Mexico Press: Albuquerque.

Jackson, Robert H. and Edward Castillo
1995 *Indians, Franciscans and Spanish Colonization: The Impact of the Mission System on California Indians*, University of New Mexico Press, Albuquerque.

Kelsey, Harry and Nicholas Magalousis
1991 *Archaeological and Historical Investigation at Mission San Luis Rey, California, CA-Sdi-241, Sector C, for the Peyri Road Water Line Project (711-85-7850) of the City of Oceanside Water Utilities Department,* Interdisciplinary Research, Laguna Beach.

Kinsbruner, Jay
1987 Petty Capitalism in Spanish America: The Pulperos of Puebla, Mexico City, Caracas, and Buenos Aires. *Dellplain Latin America Studies* Number 21, Westview Press, Boulder.

Kurath, Gertrude Pokosch
1949 Mexican Moriscas: a Problem in Dance Acculturation. *Journal of American Folklore* 62:87-106.

Lewis, Kenneth E.
1976 *Camden, a frontier town in eighteenth century South Carolina.* University of South Carolina, Institute of Anthropology and Archaeology, Anthropological Studies 2.
1984 *The American Frontier: An Archaeological Study of Settlement Pattern and Process.* Academic Press, New York.
1985 Functional Variation among Settlement on the South Carolina Frontier: An Archaeological Perspective. In Green and Perlman 1985:251-271.

McAdams, Robert C.
1975 The emerging place of trade in civilization studies. In Sabloff and Lamberg-Karlovsky 1975:451-465.

McGovern, Thomas H.
1985 The Arctic Frontier of Norse Greenland. In Green and Perlman 1985:275-316.

McGuire, Randall H.
1986 Economies and Modes of Production in the Prehistoric Southwestern Periphery. In Mathien and McGuire 1986:243-269.

Magalousis, Nicolas and Harry Kelsey
1990 *Preliminary Archaeological and Historical Investigations at Mission San Luis Rey, California, CA-Sdi-241, Sectors A and B*, volumes 1-3, Interdisciplinary Research, Laguna Beach.
1992 *Preliminary Archaeological and Historical Investigations at Mission San Luis Rey, California CA-SDi-241: Sector D:Phase I Report. Volume V: San Luis Rey: Friary and Cemetery*, Interdisciplinary Research, Laguna Beach.

Masse, W. Bruce
1981 A reappraisal of the Protohistoric Sobaipuri Indians of Southern Arizona. In Wilcox and Masse 1981:28-56.

Mathien, Frances Joan and Randall H. McGuire (editors)
1986 *Ripples in the Chichimec Sea: Consideration of Southwestern-Mesoamerican Interactions.* Southern Illinois University Press, Carbondale.

Padden, Robert Charles
1957 Cultural Change and Military Resistance in Araucanian Chile, 1550-1730. *Southwestern Journal of Anthropology* 13(1):103-21.

Pailes, Richard A. and Daniel T. Reff
1985 Colonial Exchange System and the Decline of Paquime. In Foster and Weigand 1985:253-263.

Pailes, Richard A. and Joseph W. Whitecotton
1979 The Greater Southwest and the Mesoamerican "World" System: An Exploratory Model of Frontier Relationships. In Savage and Thompson 1979:v.2;105-121.

Paytner, Robert W.
1982 *Models of Spatial Inequality*. Academic Press, New York.

Phelan, John J.
1959 *The Hispanization of the Philippines, Spanish Aims and Filipino Responses; 1563-1700*. University of Wisconsin Press, Madison.

Pirenne, Henri
1937 *Economics and Social History of Medieval Europe*. Translated by I. E. Clegg, Harcourt, Brace and Jovanovich, New York.

Platt, D. C. M.
1972 *Latin America and British Trade, 1806-1914*. A &C Black, London.
1980a Dependency in Nineteenth-Century Latin America: An Historian Objects. *Latin American Research Review* 15(1):113-130.
1980b The Anatomy of "Autonomy" (Whatever that May Mean): A Reply. *Latin American Research Review* 15:1:147-149.

Redman, Charles
1986 *Qsar es-Seghir: An Archaeological View of Medieval Life*. Academic Press, New York.

Renfrew, Colin
1969 Trade and Culture Process in European Prehistory. *Current Anthropology* 10:151-169.
1977 Alternative Models for Exchange and Spatial Distribution. In Earle and Ericson 1977:71-90.

Robinson, William J.
1963 Excavations at San Xavier del Bac, 1958. *The Kiva* 29(2):35-37.
1976 Mission Guevavi: Excavations in the Convento. *The Kiva* 42(2):135-175.

Rosen, Martin D. and Judith Tordoff
1991 *Extended Phase I Investigations at CA-SDi-5422, City of Oceanside, California, California,* Department of Transportation, Sacramento, 1991.

Sabloff, J.A., and C.C. Lamberg-Karlovsky (editors)
1975 *Ancient civilization and trade*. University of New Mexico Press, Albuquerque.

Savage, William W. and Stephen I. Thompson
1979 *The Frontier: Comparative Studies*. 2 volumes, University of Oklahoma Press, Norman.

Schuyler, Robert
1988 Archaeological Remains, Documents, and Anthropology: a Call for a New Culture History. *Historical Archaeology* 22(1):36-42.

Schuyler, Robert L. (editor)
1978c *Historical Archaeology: A Guide to Substantative and Theoretical Contributions*. Baywood Publishing Company, New York.

Smith, Frances Rand Smith
1921 *The Architectural History of Mission San Carlos Borromeo*, California Historical Survey Commission, Sacramento.

Snow, David and Marianne L. Stoller
1987 Outside Santa Fe in the 17th Century. Paper presented at the Annual American Society for Ethnohistory Meetings, Oakland.

Soto, Anthony
1960 Recent Excavations at San Luis Rey Mission: The Sunken Gardens, *Provincial Annals, Province of Santa Bárbara*, Order of Friars Minor (April) 22:205-21, 247-49.
1961 Mission San Luis Rey, California - Excavations in the Sunken Gardens, *The Kiva: A Journal of the Arizona Historical and Historical Society* (April) 26:34-43.

Spicer, Edward H.
1954 Spanish-Indian Acculturation in the Southwest. *American Anthropologist* 56:663-684.
1962 *Cycles of Conquest: The Impact of Spain, Mexico and the United States on the Indians of the Southwest 1533-1960*. University of Arizona Press, Tucson.
1969 Political Incorporation and Cultural Change in New Spain: A Study in Spanish-Indian Relations. In Peckham and Gibson 1969:107-136.

Spicer, Edward H. (editor)
1961 *Perspectives in American Indian Culture Change*. University of Chicago Press, Chicago.

Stein, Stanley J. and Barbara H. Stein
1970 *The Colonial Heritage of Latin America*. University of Oxford Press, London.
1980 D. C. M. Platt: The Anatomy of "Autonomy." *Latin American Research Review* 15:1:131-146.

Steward, Julian
1943 Acculturation Studies in Latin America: Some Needs and Problems. *American Anthropologist* 45:198-204.

Tac, Pablo (edited and translated by Minna and Gordon Hewes)
1958 *Indian Life and Customs at Mission San Luis Rey*, Mission San Luis Rey, Oceanside, California.

Tax, Sal (editor)
1952 *Heritage of Conquest*. Free Press, Glencoe.

Tilly, Charles
1981 *As Sociology Meets History*. Academic Press, New York.

Upham, Stedman
1982 *Politics and Power: An Economic and Political History of the Western Pueblo*. Academic Press, New York.
1987 Understanding Disease History of the Southwest: A Reply to Reff. *American Anthropologist* 89(3):708

Wallerstein, Immanuel
1974a The Rise and future demise of the World Capitalist System: Concepts for Comparative Analysis. *Comparative Studies in Society and History, 16:403 (September).*
1974b *The Modern World System I: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century*. Academic Press, New York.
1979 The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis. Chapter 1 of *The Capitalist World-Economy*, Cambridge, Cambridge University Press.
1980 *The Modern World System II: Mercantilism and the Consolidation of the European World Economy 1600-1750*. Academic Press, New York.
1984 *The Politics of the World Economy: The States, the movements, and the Civilizations*. New York, Cambridge University Press.

Webb, Edith Buckland
1952 *Indian Life at the Old Missions*, W.F. Lewis, Los Angeles.
1998 *The Mission Villages or Rancherias*, California Mission Studies Association Keepsake.

Weber, David J.
1982 *The Mexican Frontier 1821-1846, The American Southwest under Mexico*. University of Oklahoma Press, Albuquerque.
1988 Myth and the History of the Hispanic Southwest. *The Calvin P. Horn Lectures in Western History and Culture*, University of New Mexico Press, Albuquerque.
1992 *The Spanish Frontier in North America*. Yale University Press, New Haven.

Weber, David J. (editor)
1979 *New Spain's Far Northern Frontier*. University of New Mexico Press, Albuquerque.

Whitecotton, Joseph W. and Richard A. Pailes
1979 New World Pre-Columbian World Systems. In Mathien and McGuire 1986:183-204.

Whitehead, Richard (editor)
1983 *An Archaeological and Restoration Study of Mission La Purísima Concepción, Reports written for the National Park Service by Fred C. Hageman and Russell C. Ewing*, Santa Bárbara Trust for Historic Preservation, Santa Bárbara.

Wilcox, David R. and W. Bruce Masse (editors)
1981 *The Protohistoric Period in the North American Southwest AD 1450-1700*. Arizona State University Anthropological Research Papers No. 24, Arizona State University, Tempe.

Williams, Jack S.
1982 Archaeological Investigations in the Soldiers' Barracks Complex of Mission San Antonio de Padua 1978-1981. *Atlatl* 3:68-83.
1982 The Casa de Elías: A case study in Ethnicity and Economics. Manuscript on file at the Arizona Historical Society Library, Tucson.
1983 Plainware Ceramics from Mission San Antonio de Padua, California. Manuscript on file at the San Antonio Mission Archive.
1987 Presidios, Culture Change, and the Structure of Everyday Life in Northern New Spain, 1570-1821. Paper presented at the American Society for Ethnohistory Meetings, Oakland.
1988a Archaeology, Social history, and the Problem of Political Control in Northern New Spain. Paper presented at the 53rd Annual Meeting of the Society for American Archaeology, Phoenix.
1989 The Archaeology of Underdevelopment and the Military Frontier of Northern New Spain. Paper presented at the First Joint Archaeological Congress, Baltimore.
1990 Book Review: of Columbian Consequences, Volume 1: Archaeological and Historical Perspectives on the Spanish Borderlands West (edited by David Hurst Thomas), *American Anthropologist* 92(4):1028-1029 (December).
1991 *Architecture and Defense on the Military Frontier of Arizona 1752-1856*, doctoral dissertation, University of Arizona, Tucson, University Microfilms, Ann Arbor.
1992 (with Paul Farnsworth) The Archaeology of the Spanish Colonial and Mexican Republican Periods: Introduction. *Historical Archaeology* 26(1):1-6.

1992 The Archaeology of Underdevelopment and the Military Frontier of Northern New Spain. *Historical Archaeology* 26(1):7-21.

Williams Jack and Anita G.. Cohen-Williams
1997 *The Center for Spanish Colonial Archaeology Handbook.* Fifth edition, The Center for Spanish Colonial Archaeology, San Diego.

Wolf, Eric
1982 *Europe and the People Without History.* University of California Press, Berkeley.

CURRICULUM VITAE
February, 2001

NAME: Jack Stephen Williams

ADDRESS: 11047 Pegasus Drive
San Diego, California
92126

PHONE: (858) 693-4926

email: sdpresidio@mindspring.com

BORN: July 22, 1955
San Diego, California

CITIZENSHIP: United States

COLLEGES AND UNIVERSITIES ATTENDED:

San Diego Evening College (1972-1973)
San Diego State University (1973-1978)
California State University Northridge (Spring 1976)
granted a B.A. in History and Anthropology with honors and distinction in History, August 1978, at *San Diego State University*
University of Arizona (1981-1991)
granted an M.A. in Anthropology, May 1983
granted a Ph.D. in Anthropology, May 1991

MAJOR FIELD:

Archaeology, History, Ethnohistory

SPECIAL INTERESTS:

Historical archaeology, the archaeology of cultural diversity; the archaeology and history of the North American Southwest and California

CURRENT RESEARCH/TEACHING POSITION HELD:

Executive Director - The *Center for Spanish Colonial Research*, San Diego, California. The *Center's* research is focused on various European and Indian sites dating from the Spanish Colonial and Mexican Republic periods in the New World. I have held the position since June of 1988.

Instructor - Inter-American College Program in Spanish Colonial Archaeology, San Diego, California. *Inter-American College* is a bilingual institution (Spanish and English) that focuses on providing educational opportunities for bilingual students to enhance their understanding of various aspects of western civilization, including the development of Latin America.

EXPERIENCE AS PROJECT DIRECTOR AND PRINCIPAL INVESTIGATOR:

Archaeological investigations at Mission San Luis Rey de Francia, California (Luiseño and Spanish Colonial), (Summer 1998 - ongoing project)

Archaeological investigations at Mission Santa Barbara, California (Chumash and Spanish colonial), (Fall 1996 - ongoing project)

Archaeological Survey of *Baca Float Limited Land Co.* properties south of Tubac, Arizona (Archaic, Hohokam, Protohistoric Piman, and historic era sites [Spanish Colonial [circa 1700] through early twentieth-century] occupations), (Summer 1996)

Archaeological Investigations of the Presidio of San Diego Site, California (Spanish Colonial and Mexican Republic cultures [1769-1835]), (Winter 1992 - Spring 1998)

Archaeological Investigations of the Tubac Presidio Site, Arizona (Spanish Colonial [circa 1700] through early twentieth-century occupations), (Spring 1988 - Summer 1997)

Archaeological Investigations of the Serranilla Banks, Republic of Colombia, (Spanish Colonial underwater and terrestrial shipwreck sites circa. [1600-1900]), (Spring 1994 - Spring 1996)

Archaeological consultant on an environmental study of San Agustín Mission Site area, Tucson, Arizona (Hohokam, Piman, Spanish Colonial, Mexican Republic and Anglo-American cultures), (Summer 1989)

Archaeological Investigations undertaken in connection with the construction of museum facilities at San Xavier del Bac, Arizona (Spanish Colonial), (Spring 1988)

Archaeological Investigations of the San Agustín del Tucson Presidio Site, Tucson, Arizona (Spanish Colonial through early twentieth-century occupations), (Spring-Winter 1987)

Archaeological Investigations of the San Agustín Mission Site, Tucson, Arizona (Hohokam, Piman, Spanish Colonial, Mexican Republic and Anglo-American cultures), (Spring 1986)

An archaeological survey of Spanish presidios and other fortified sites in the states of Chihuahua, Coahuila, and Durango, Republic of Mexico, (seventeenth through nineteenth-century Spanish Colonial occupations), (Spring-Summer 1985)

(Principal investigator - with Jorge Olvera), Survey and excavation of presidios and other fortified sites in the states of Sonora, Chihuahua, Durango, Zacatecas, Aguas Calientes, San Luis Potosí, Jalisco, and Guanajuato, Republic of Mexico, (sixteenth through nineteenth centuries - Spanish Colonial and Mexican Republic occupations), (Spring 1984)

(Principal investigator) Archaeological Investigations of the San Juan Capistrano Kiln Site, City of San Juan Capistrano, California (Spanish Colonial), Spring - Summer 1996, Milford Wayne Donaldson Project Director

(Principal Investigator) Archaeological Investigations of the Vallecitos Stage Station Site, San Diego County, California (ca. 1846-1900 Anglo-American), Winter-Summer 1996, Milford Wayne Donaldson Project Director

EXPERIENCE AS FIELD DIRECTOR ON ARCHAEOLOGICAL PROJECTS:

Archaeological investigations of the Casa de Elías, Midvalle Farms, Arizona (Mexican Republic and Anglo-American occupations), (for Pima Community College), (Spring 1982)

California Polytechnic University Field School, Mission San Antonio de Padua, California, (Spanish Colonial and Mexican Republic eras), Robert Hoover, Principal Investigator, (Summers 1981 and 1980)

(Assistant Field Director), *California Polytechnic University Field School*, Mission San Antonio de Padua, California, (Spanish Colonial and Mexican Republic occupations), Robert Hoover Principal Investigator, (Summer 1979)

EXPERIENCE AS A STAFF RESEARCHER AT THE UNIVERSITY OF ARIZONA:

Research Associate, Arizona State Museum, analysis of documents related to the material culture of northern New Spain, and settlement systems in the Tucson Basin dating to the Spanish and Mexican eras, (August 1987 - July 1988)

Student Translator/Reader, Documentary Relations of the Southwest Provincias Internas Master Index Project (Spanish Colonial), Charles Polzer and Thomas Sheridan directors, (December 1986 - December 1987)

EXPERIENCE AS A CONSULTING ARCHAEOLOGIST AND HISTORIAN:

Historical and archaeological consultant (expert witness) on the Wright's Field parcel, located in Alpine, California (since Summer 1994).

Historical consultant on the Presidio of Monterey, California, Robert Edwards, Principal Investigator, Cabrillo College, Aptos (Summer-Fall 1993)

Historical and archaeological consultant on the architecture of the Santa Barbara Presidio, Milford Wayne Donaldson Architect, Inc., (Fall 1993, Spring 2000)

Historical consultant on a proposed exhibit on the Spanish military on the northern frontier of New Spain (exhibited in Sevilla, Spain), Fundación Ideas e Investigaciones Historicas, Madrid (Fall 1990).

An evaluation of the present condition and archaeological potential of the San Agustín Mission Site (ARIZ:BB:13:6), Tucson, Arizona (Archaic through early twentieth-century occupations), William Doelle Principal Investigator, Institute for American Research, (Summer 1987)

Environmental study related to Fort Huachuca, Arizona, (Spanish Colonial, Mexican Republic, and Anglo-American eras), (for Pima Community College), (Fall 1982)

Sundesert Nuclear Power Plant Project Transmission System Studies, California, (various prehistoric and Anglo-American occupations of Southern California), Wirth Associate Inc., Christopher White Principal Investigator, (Fall-Spring 1976-1977)

EXPERIENCE ON ARCHAEOLOGICAL CREWS:

(excavation crew), Wharram Percy Excavations, York, England (Roman through early nineteenth-century occupations), J.G. Hearst director, (Summer 1983)

(laboratory crew), Archaeological investigations related to the Salt-Gila Aqueduct (Hohokam and Salado cultures), Lynn Teague, Principal Investigator, (Spring 1981)

(crew member/crew chief survey and excavation), New World Research Pipeline study, (Anglo-American, prehistoric Cadoan, and Panhandle-Pueblo cultures), Prentice Thomas Principal Investigator, (Fall 1980)

(excavation crew), archaeological investigations of two late prehistoric sites in the Texas Panhandle at Hereford and Canyon, Texas, Katherine A. Spielmann Principal Investigator, (Summer 1980)

(crew member excavation and survey), Army Corps of Engineers investigations at the New Melones Reservoir, California, (Anglo-American culture), Science Applications Inc., Julia Costello Principal Investigator, (Winter 1980)

(excavation crew), New York State University at Binghamton and the National University of Huamanga investigations at Wari (Huari), Peru, (Andean Middle Horizon culture), William Isbell Principal Investigator, (Summer-Fall 1979)

(lab crew), University of California at Santa Barbara Investigations at the University Research Center, California, (prehistoric Canaliño and Anglo-American cultures), Pandora Snethkamp Principal Investigator, (Spring 1979)

(excavation crew), University of Santa Barbara excavations at Vandenberg Air Force Base, California, (prehistoric Canaliño cultures), Michael Glassow and Pandora Snethkamp Principal Investigators, (Winter-Spring 1979)

(excavation crew), California Polytechnic University Field School, Mission San Antonio de Padua, California, (Spanish Colonial and Mexican Republic occupations), Robert Hoover Principal Investigator, (Summer 1978)

(survey crew), An evaluation of Cahuilla tribal properties near Palm Springs, California, (prehistoric and protohistoric Cahuilla cultures), Joseph Ball Principal Investigator, (Spring 1977)

(excavation and survey crews), Hidalgo County Settlement Pattern Survey, New Mexico, (Mimbres and Casas Grandes cultures), Frank Findlow Principal Investigator, (Summer 1976)

(excavation crew), San Diego State University investigations at the Harkness-Bancroft Site, California, (Diegueño (Kumya'ay) culture), Joseph Ball Principal Investigator, (Spring-Fall 1975-1976)

(crew chief - excavation), San Diego State University Field School investigations at the Presidio of San Diego site, California (Spanish Colonial and Mexican Republic occupations), Paul Ezell, Principal Investigator, (Summer 1974)

(crew chief - excavation), San Diego State University Field School investigations at the Bancroft Ranch House Site, California (Anglo-American and Diegueño (Kumya'ay)occupations), Paul Ezell, Principal Investigator, (Spring 1974)

(excavation crew), San Diego State University Field School investigations at the Presidio of San Diego site, California (Spanish Colonial and Mexican Republic occupations), Paul Ezell, Principal Investigator, (Fall 1973 and Summer 1969)

PUBLICATIONS:

The Other Lancers of the King, *La Revista, The Newsletter of the Santa Barbara Mission Museum Advisory Board*, September 1998 [2(2):3-8].

Adobe Ramparts: Archaeology and the Evolution of the Presidio of San Diego, *Pacific Coast Archaeological Society Quarterly* 33(4):29-56, 1997.

(with Anita G. Cohen), *The Center for Spanish Colonial Archaeology Handbook* (fourth revised edition). *The Center for Spanish Colonial Archaeology*, San Diego, 1996.

Preservation Crisis on Presidio Hill, Center for Spanish Colonial Archaeology Technical Report Number 6. *The Center for Spanish Colonial Archaeology*, San Diego, 1997.

(with Anita G. Cohen) A review of *Indians, Franciscans and Spanish Colonization: The Impact of the Mission System on the California Indians*, in *La Campana*, (summer 1996), pp. 4-10. *Santa Barbara Trust for Historic Preservation*, Santa Barbara.

(with Nicole Newlands), *The Center for Spanish Colonial Archaeology Handbook* (third revised edition). *The Center for Spanish Colonial Archaeology*, San Diego, 1996.

(editor) *The San Diego Presidio Reader 1996, The Center for Spanish Colonial Archaeology*, San Diego. This volume also includes chapters by the editor on the research design (21 pages), San Diego Mission in 1783 (8 pages), José de Zúñiga (5 pages) , the San Diego Presidio Archaeology Project 1992-1994 (19 pages), and Contrasting approaches to the Spanish Colonial Archaeology in the Americas (with Patricia Fournier Garcia- 12 pages), 1996.

The Center for Spanish Colonial Archaeology Handbook (second revised edition). *The Center for Spanish Colonial Archaeology*, Tubac, 1994

Anza's Military Costumes. *Noticias de Anza* 3(2):1-3 (June), 1994.

Presidio of San Diego (California). *California Mission Studies Association Newsletter* 11(1):10-11, 1994.

The Presidio of San Carlos de Monterey, The Evolution of the Fortress-Capital of Alta California. The Center for Spanish Colonial Archaeology Technical Publication Series, Number 1, Tubac, 1993.

The Center for Spanish Colonial Archaeology Handbook. The Center for Spanish Colonial Archaeology, Tubac, 1993.

A Walking Tour and Brief History of the Royal Presidio of San Diego. San Diego Historical Society, San Diego, 1993.

The San Diego Presidio Archaeological Project. *California Mission Studies Association Newsletter* 10(1):12, 1993.

A Review of *From Spaniard to Creole: The Archaeology of Cultural Formation at Puerto Real, Haiti*, by Charles R. Ewen, *Historical Archaeology* 27(3):118-19, 1993

Archaeological Investigations at the Captains' House at the Presidio of Tubac 1992. The Center for Spanish Colonial Archaeology, Tubac, 1992

Evaluating California's Presidios and Their Relationship to Those of the Interior Provinces. *California Mission Studies Association Newsletter*, 9(2):13, 1992.

The Archaeology of the Spanish Colonial and Mexican Republican Periods, (editor - with Paul Farnsworth). A special issue of *Historical Archaeology* [volume 26, number 1], 1992.

(with Paul Farnsworth) The Archaeology of the Spanish Colonial and Mexican Republican Periods: Introduction. *Historical Archaeology* 26(1):1-6, 1992.

The Archaeology of Underdevelopment and the Military Frontier of Northern New Spain. *Historical Archaeology* 26(1):7-21, 1992.

Architecture and Defense on the Military Frontier of Arizona, 1752-1856. Ph.D. dissertation submitted to the Department of Anthropology of the University of Arizona, Tucson. University Microfilms, Ann Arbor, 1991.

Book Review of *Columbian Consequences. Volume I: Archaeological and historical perspectives on the Spanish Borderlands West.* Edited by David Hurst Thomas. Washington: Smithsonian Institution Press, 1990, *American Anthropologist* 92(4):1028-1039 .

Book Review of *Let there be Towns: Spanish Municipal Origins in the American Southwest, 1610-1810.* By Gilbert R. Cruz, with a foreword by Donald C. Cutter. College Station: Texas A&M University Press, 1988; *The Journal of Arizona History* 31(2):222-223, 1990.

The Regulation of Presidios of 1826, An Introduction and an Analysis. *The Journal of Spanish Colonial Archaeology* 1(1):5-62, 1989.

Fortress Tucson: Architecture and the Art of War at a Desert Outpost (1775-1856). *The Smoke Signal*, combined issues no. 49-50, (Fall), pp. 168-188. Republished in 1989 in *Brand Book Number 5*, edited by Otis H. Chidister and Maurice F. Guphill, published by the *Tucson Corral of Westerners*, Tucson.

Non-indigenous artifacts from feature 5, an appendix to *Archaeological Assessment of the Mission Road Extension*, by Mark D. Elson and William Doelle. *Institute for American Research*, Tucson, 1987.

San Agustín del Tucson: A Vanished Mission Community of the Pimería Alta. *The Smoke Signal*, combined issue no. 47 & 48, (Spring), pp. 113-128. Republished in 1989 in *Brand Book Number 5*, edited by Otis H. Chidister and Maurice F. Guphill, published by the *Tucson Corral of Westerners*, Tucson, Arizona, 1986.

The Presidio of Santa Cruz de Terrenate: A Forgotten Fortress of Southern Arizona. *The Smoke Signal*, combined issue no. 47-48, (Fall), pp. 129-147. Republished in 1989 in *Brand Book Number 5*, edited by Otis H. Chidister and Maurice F. Guphill, published by the *Tucson Corral of Westerners*, Tucson, Arizona, 1986.

Archaeological Evidence of Spanish Military Policy in Northern New Spain. In *Comparative Studies in the Archaeology of Colonialism*, edited by Stephen L. Dyson, *British Archaeological Review International Series 233*, Oxford, England, pp. 115-129, 1985

Arms of the Apachería: A comparison of Spanish and Apachean fighting Techniques of the Later Eighteenth Century, (with Robert Hoover). *Museum of Anthropology of the University of Northern Colorado at Greeley*, Occasional Papers in Anthropology and Ethnology, no. 44, 1983.

Archaeological Investigations of the Soldiers' Barracks Complex of Mission San Antonio de Padua 1979-1981. *Atl-Atl: Occasional Papers,* No. 3, *Department of Anthropology of the University of Arizona*, pp. 68-83, 1982.

A Flintlock Mechanism from Mission San Antonio. *The Masterkey*, vol. 55, no. 1, (January-March), pp. 23-26, 1981.

MANUSCRIPTS UNDER CONSIDERATION FOR PUBLICATION:

(with Anita G. Cohen), Non-ceramic artifacts from Mission San Antonio de Padua's Soldiers' Barracks Complex, to be included with the forthcoming site report on the Soldiers' Barracks complex at Mission San Antonio, edited by Robert Hoover.

REPORTS AND PROPOSALS ON FILE:

A preliminary Report on archaeological findings at Mission Santa Bárbara - 1997 Part I: The Lavandería area investigations; a report prepared for the San Bárbara Mission Museum, 1999.

The San Diego Presidio Archaeology Project 1994-1996. A summary report prepared for the San Diego Historical Society and the City of San Diego. City of San Diego and the San Diego Historical Society, San Diego, 1997.

Progress Report: The Serranilla Banks Archaeology Project, A summary report prepared for the Presidency of the Republic of Colombia, Santa Fe de Bogota, Colombia, August, 1995.

Progress Report: The Serranilla Banks Archaeology Project, A summary report prepared for the Presidency of the Republic of Colombia, Santa Fe de Bogota, Colombia, February 1995.

The San Diego Presidio Archaeology Project 1992-1994. A summary report prepared for the San Diego Historical Society and the City of San Diego. City of San Diego and the San Diego Historical Society, San Diego, 1994.

A Research Design for the San Diego Presidio Project (second revised edition). National Civilian Community Corps, Washington, City of San Diego, San Diego Historical Society, 1994.

Presidio Flags and Flagpoles used in Colonial California and Northern New Spain: An analysis with special reference to those found at the Presidio of Santa Barbara. Santa Barbara Trust for Historic Preservation, Santa Barbara, 1994.

Summary Research Design and Proposal for Archaeological Investigations of the Serranilla Banks / Resumen del Diseño para la Investigacion y Propuesta para las Investigaciones de los Cayos de Serranilla [Bilingual edition], Office of the Presidency, Bogota, Colombia, 1994.

A brief report on certain aspects of the Architecture of the Presidio of Santa Bárbara. Santa Barbara Trust for Historic Preservation, Santa Barbara, 1993.

Proposed Guidelines for Archaeological Management of Presidio Park, San Diego, California City of San Diego and San Diego Historical Society, 1993.

A Report Concerning Archaeological Monitoring of a Utilities Trench Undertaken at Tubac Presidio State Historic Park (ARIZ:DD:8:33) March, 1992. On file with Arizona State Parks, Phoenix, 1992

Torreones de la Frontera: An analysis of two-story Towers (Torreones) in Spanish Colonial Presidios of the later 18th and early 19th centuries. A study undertaken for the Santa Bárbara Trust for Historic Preservation, November, 1991.

La Frontera del Norte. Presencia militar española en los territories de América del Norte. (Presidios. Función defensiva y Función colonizadora). On file with Fundación Ideas e Investigaciones Historicas, Madrid, 1990.

In the Shadow of Sentinel Peak: An Archaeological and Historical Survey, A report for the Tucson/ Pima County Historical Commission, on file with the City of Tucson, Arizona, 1989.

A Plan for Mission Visita of San Agustín del Tucson City Historic Park, submitted to the Tucson City Council in cooperation with the Tucson-Pima County Historical Commission, on file with the City of Tucson, Arizona, 1986.

Plainware Ceramics from Mission San Antonio de Padua, California, on file with the San Antonio Mission Archives, California, 1983.

The Casa de Elías: A Case Study in Ethnicity and Economics, and, Los Reales Viejo (with Anita G. Cohen), on file with the Arizona Historical Society, Tucson, 1982.

Indios, Gentile Mestizos, and Pobladores: Latino and Indian Relations outside the Mission of the Alta California Frontier 1769-1835, Gran Quivira Meetings, Santa Bárbara, October 2000.

Mastering the Mission Misconceptions: Education, Popular Entertainment and the Dilemma of the California Mission Heritage, Conference of Museum Directors and Pastors of the California Missions, Mission Santa Bárbara California, September 2000.

Mission Gardens, Conference of Museum Directors and Pastors of the California Missions, Mission Santa Barbara, California, October 1999.

Some unexpected insights into the presidios of Northern New Spain, Gran Quivira Conference, Mountainair, New Mexico, October 1999.

Soldiering in the time of Juan Bautista de Anza, Third International Anza Conference, Altimira, Colorado, September 1999.

Community Involvement and Living History, Conference of Museum Directors and Pastors of the California Missions, Mission Santa Barbara, California, September 1998.

Social Status, Artifacts and Architecture in colonial Alta California, 1998 Society for Historical Archaeology Annual Conference, Atlanta, Georgia, January 1998.

The Presidio of San Diego, a special presentation at the Gran Quivira Meetings, San Diego, California, October 1997.

The Mission as a frontier institutions revisited - a synthesis of research since 1917. Three Hundred Years of Mission History Conference, San Diego, California, October 1997.

Discussant of Papers presented at a symposium of Spanish Colonial Papers at the Annual Conference of the Southwestern Social Sciences Conference, New Orleans, March, 1997.

Progress Report - The San Diego Presidio Archaeology Project, Gran Quivira Meetings, Mountainair, New Mexico, October 1996.

The Serranilla Banks Archaeological Project, (with Anita Cohen), Society for Historical Archaeology Annual Conference, Washington, January 1995.

Archaeological Investigations of the North Wing of the Presidio of San Diego 1993-1995, and, Historical and Archaeological Analysis of the Evolution of the Presidio of Monterey, (both with Anita G. Cohen), Society for California Archaeology Meetings, Eureka, April 1995.

The San Diego Presidio Archaeology Project: An Introduction, California Mission Studies Conference, Sonoma, February 1995.

From Neophytes to Peons: Understanding Changes in the Relations of the Hispanic and Indian Populations of Alta California 1769-1846, and, The Patterns of Armed Aggression: Archeology and the Technology of the Spanish Struggle to Conquer and Keep the New World 1492-1821, (both with Anita G. Cohen), Society for Historical Archaeology Annual Conference, Washington, January 1995.

Penetrating the Unknown Country: History, Historical Archaeology, and the Case of the California Presidios, California Historical Society and the California Council for the Promotion of History Annual Conference, San Diego, September, 1994.

El Presidio Enterrado - the Search for the First San Diego. Keynote presentation. California Mission Studies Conference, San Diego, February, 1994.

The Western Presidios in the Mexican/American War. Second Annual Palo Alto Conference, Brownsville, Texas, February 1994.

The Problem of Identifying Gender, Status, and Ideology in the Civil Military Settlements of Northern New Spain, and, Understanding the Politics of Domestic Architectural Change in Presidio Communities of Northern New Spain (both with Anita G. Cohen). Society for Historical Archaeology Meetings, Vancouver, British Columbia, January 1994.

Excavations of the Presidio of San Diego, Summer 1993. Gran Quivira Society Meetings, Tucson, October 1993.

California's Fortress Missions. California Mission Studies Association Meetings, Mission San Antonio, California, February 1993.

Beyond Mestizaje: Archaeological Approaches to alternate mechanisms of incorporation in northern New Spain, and, Neither Native American or European: An appraisal of culture change in a Spanish Military Community (both with Anita G. Cohen-Williams). Society for Historical Archaeology Meetings, Kansas City, January 1993.

The Spanish Military In Arizona. A Meeting of Two Worlds Conference, Bureau of Land Management, October 1992.

Rethinking the Adobe Citadel: Archaeological and Documentary Research at San Diego Presidio, 1992, Gran Quivira Society Meeting, San Diego, October 1992.

In Search of Tucson's Vanished Presidio. Discovering Tucson's History Lecture Series, Arizona Historical Society, Tucson, February 1992.

Soldiering in San Diego, 1769-1821. San Diego Institute of History, San Diego, California, May, 1992.

Alta California's Presidios and the Interior Provinces, a Comparative Analysis. California Mission Studies Conference, Mission San Luis Rey, California, February 1992.

The Evolution of the Captain's House of the Presidio of Tubac, Arizona. Conference on Historical and Underwater Archaeology Meeting, Kingston, Jamaica, January 1992. Archaeological Investigations of the Casa de los Osos, Tubac, Arizona. Gran Quivira Conference, Goliad, Texas, October 1991.

Neither Indian nor European: An archaeological appraisal of cultural interaction and subsequent change in Spanish military communities in Arizona. University of Arizona, Symposium on Northern New Spain: Hispanic and Native American Perspectives, Tucson, September 1991.

Reglamento y Ordenanza: The Professionalization and Modernization of the Presidio Forces of Alta California. The Spanish Beginnings in California 1542-1822 - An International Symposium, Santa Barbara, California, July, 1991.

An overview of archaeological research in Tubac 1987-1990. Gran Quivira Conference, Socorro, New Mexico, October 1990.

An Archaeological Perspective of Wealth and Social Status in Northern Sonoran Presidio Communities. 1990 Conference on Historical and Underwater Archaeology Meeting, Tucson, January, 1990.

Archaeological Investigations at the Tubac Presidio Site 1989. Gran Quivira Conference, Las Cruces, New Mexico, October 1989.

The Archaeology of Underdevelopment and the Military Frontier of Northern New Spain, First Joint Archaeological Congress, Baltimore, January 1989.

The Archaeology of Underdevelopment, American Anthropological Association Annual Meetings, Phoenix, Arizona, November 1988.

Archaeological Investigations at the Tubac Presidio Site 1988. Gran Quivira Conference, Tubac, Arizona, October 1988.

Archaeology, Social History and the Problem of Political Control in Northern New Spain. Society for American Archaeology Meetings, Phoenix, April 1988.

The 1987 Excavations at the Presidio of San Agustín del Tucson and the Structure of Everyday Life in Northwestern New Spain, Conference on Historical and Underwater Archaeology, Reno, January 1988.

Presidios, Culture Change, and the Structure of Everyday Life in Northern New Spain, 1570-1821, American Society for Ethnohistory Meetings, Oakland, November 1987.

The 1987 Excavations at the Presidio of Tucson site, Gran Quivira Conference, Mountainair, New Mexico, October 1987.

Descendants of the Mogollon: Some considerations of Processes Influencing Ranchería and Town-dwelling Peoples of the Protohistoric Southwest 1500-1900, fourth Mogollon Conference, Tucson, October 1986.

Stabilization Efforts and Interpretive Plans for the Presidio of Santa Cruz de Terrenate Site in Southern Arizona, Gran Quivira Conference, Santa Barbara, October 1986.

The Presidio of Santa Cruz de Terrenate: A Forgotten Fortress of Southern Arizona, Annual Arizona Historical Society Meeting, Douglas, May 1986.

PAPERS PRESENTED AT PROFESSIONAL MEETINGS (continued):

Fortification, Armed Force, and the System of Military Security in Northern New Spain 1550-1821, Conference on Historical and Underwater Archaeology, Sacramento, January 1986.

Rethinking Spanish Military Policy in Northern New Spain, Gran Quivira Conference, Mountainair, New Mexico, October 1984.

San Agustín del Tucson, a Vanished Spanish Mission Community of the Pimería Alta, Gran Quivira Conference, Santa Barbara, October 1983.

(with Anita Cohen), Colonies in a Hostile Land: Settlement Patterns and Configuration in Northern New Spain, Southwest Regional Conference of Phi Alpha Theta, Tucson, April 1983.

(with Anita Cohen), Los Reales Viejo, Tucson Basin Conference, Tucson, April 1982.

Military Artifacts from a California Mission, Archaeological Institute of America Annual Meetings, San Francisco, December 1981.

(with Anita Cohen), Recent Archaeological Discoveries at Mission San Antonio de Padua, Alta California, Gran Quivira Conference, Mountainair, New Mexico, October 1981.

In addition to the presentations noted above, I have organized symposiums at *Society for Historical Archaeology Meetings* devoted to Spanish Colonial and Mexican Republic sites in 1989 (with Paul Farnsworth), 1990 (with Paul Farnsworth), 1994 (with Russell Skowronek and Anita G. Cohen-Williams), 1995 (with Russell Skowronek and Anita G. Cohen-Williams) and 1996 (with Anita G Cohen-Williams and Nicole Newlands) and 1998. I also organized a symposium devoted to military sites archaeology at the same meetings in 1993.

GRANTS AND AWARDS:

In support of the Tucson Mission Archaeology Project, Southwest Mission Research Center, 1999

In support of Mission Gardens Research, Santa Barbara Mission Museum, 1999

In support of the Tucson Presidio Archaeology Project, Southwest Mission Research Center, 1998

In support of the San Diego Presidio Archaeology Project, California Heritage Fund, 1997

In support of the San Diego Presidio Archaeology Project, the National Trust for Historic Preservation, Summer, 1996

Ed Scott Memorial Award for Historical Research (an historic preservation award) for work at the San Diego Presidio site, Save Our Heritage Organization (SOHO), San Diego, May, 1995

In support of archaeological investigations at the Presidio of San Diego site, the San Diego Community Foundation, 1995

In support of archaeological investigations at the Presidio of San Diego site, National Civilian Conservation Corps (NCCC), 1994, 1995, 1996

In support of archaeological research involving the Serranilla Banks Archaeological study area, Pacific Geographic Society, Long Beach, 1994

In support of the Tubac Presidio Archaeological Project, Tubac Historical Society, 1990

In support of the San Agustín del Tucson Presidio Project the Tucson-Pima County Historical Commission, 1987 and the City of Tucson, 1987

In support of a public exhibit promoting the development of a Tucson Mission Park, The Tucson-Pima County Historical Commission, 1987

In support of the San Agustín Mission Archaeological Project, The Tucson-Pima County Historical Commission, 1986 and a Comins Fellowship Grant, (University of Arizona), 1983

In support of presidio survey and excavation projects on historical sites in northern Mexico, Educational Fund Grant, (University of Arizona), 1985, Comins Fellowship Grant, (University of Arizona), 1985, Tinker Grant in Latin American Studies, 1984

In support of a Presidio of Santa Cruz de Terrenate (Arizona) Archaeological Assessment, Educational Fund Grant, 1986

Certificate in recognition of a significant contribution to the conservation of the historical resources and architectural heritage of Pima County by defining and bringing to public attention the Convento Site, Tucson-Pima County Historical Commission, 1987

APPOINTMENTS

Board Member, California Mission Foundation, 2000-2002.

President, San Diego Chapter of *Archaeological Institute of America,* 1998-2000.

Instructor, Inter-American College's Program in Spanish Colonial Archaeology, since Fall 1997

Editorial Board, The International Journal of Historical Archaeology, Charles Orser, General Editor, Plenum Publishing Corporation, since Winter, 1995.

Lecturer teaching Historical Archaeology (History 1008a and 208b), Archaeology of the Southwest, and Public History, University of San Diego, California, Fall 1996 - Spring 1997.

Lecturer teaching Archaeological Field Methods (Anthro. 4001) and Spanish Colonial Society as Seen Through Archaeology (4002), University of California, San Diego, Extension Program, since Spring 1996.

Lecturer teaching Archaeological Field Methods (ASB 231) and Historical Archaeology (ASB 426) at the San Diego Presidio Archaeological Project, for the Department of Anthropology, Arizona State University, Tempe, Summer 1993

Lecturer teaching ASB 333 (Prehistory of the New World), Department of Anthropology, Arizona State University, Tempe, Spring 1992

Lecturer teaching ASB 426 (Historical Archaeology) and ASB 335 (Southwestern Anthropology), Department of Anthropology, Arizona State University, Tempe, Fall 1991

Part time faculty associate teaching ASB 101 (Human Origins and the Development of Culture) and ASB 426 (Historical Archaeology), Department of Anthropology, Arizona State University, Tempe, Fall 1990

Research associate at the Arizona State Museum, 1987-1988 academic year

Teaching assistant, Department of Anthropology, University of Arizona, 1982-1987

Technical Advisory Committee on Cultural Resources, for the Bureau of Land Management, in connection with properties adjacent to the San Pedro River in southeastern Arizona, 1986-1988

TEACHING EXPERIENCE:

California History, United States History, Inter-American College, National City, California, Winter-Spring, 1998, Spring 1999.

Methods of Historical Archaeology, and, Spanish Colonial Society as Seen Through Archaeology, University of California Extension Program, San Diego, Winter, Spring, Summer, and Fall quarters 1996, Summer 1997, Summer 1998, Summer 1999.

Southwestern Archaeology, Public History, and, Methods of Historical Archaeology, University of San Diego, Fall semester, 1996, Spring semester, 1997.

Instruction in Introductory Anthropology, Southwestern Anthropology, New World Prehistory, Archaeological Field Methods, and Historical Archaeology, Arizona State University, Tempe, 1990-1994

Instruction of students at the Valencia Road site, (as the teaching assistant for a field methods in archaeology course taught by Paul Fish), 1983

Instruction in connection with positions held as Field Director and Assistant Field Director at the Mission San Antonio de Padua Field School, (including instruction in the field and lectures), 1977-1981

SPECIAL SKILLS:

Experience in Spanish archival materials. Practical experience in directing excavations and teaching in Spanish

Technical illustration (my drawings have been published in James Officer's *Hispanic Arizona: 1536-1856*, (University of Arizona Press, 1987), *American West Magazine*, *Southern Arizona Trails*, and have been exhibited at the *San Antonio Mission Museum*, Tucson City Hall, *Tucson Museum of Art* (Casa de Córdova), *Tubac Presidio State Historic Park Visitor Center*, the *Arizona Heritage Center* (Tucson), and the *Junípero Serra Museum* in San Diego, California

Model construction (models I have prepared have been used by the *Bureau of Land Management* interpretive program at the Presidio of Santa Cruz de Terrenate, at the *Tubac Presidio State Historical Park Museum*, and the Casa de Córdova which is administered by the *Tucson Museum of Art*)

AFFILIATIONS AND PROFESSIONAL ORGANIZATIONS:

California Mission Studies Association
Center for Spanish Colonial Archaeology
Register of Professional Archaeologists (ROPA)
Southwest Missions Research Center
Society for Historical Archaeology
Santa Bárbara Mission Museum Advisory Board
California Mission Foundation Board of Directors
Archaeological Institute of America

The Franciscan Experience in Alta California and the Pimería Alta of Sonora: A Comparison and Archaeological Analysis

The Franciscans Experience in the Americas
November, 2000

Jack S. Williams
The Center for Spanish Colonial Research

The Franciscan Experience in Alta California and the Pimería Alta of Sonora: An Archaeological Analysis

DRAFT

Jack S. Williams
The Center for Spanish Colonial Research

January 2001

The Franciscan experience in the Americas has taken place over vast regions during a period that has lasted more than four hundred years. Within the Spanish Empire alone, Franciscan missionaries have labored in virtually every kind of geographic and social setting known to man. Among some scholars there has been a tendency to portray the frontier missions as an institution that remained the same, irrespective of time or place.[1] Surprisingly few efforts have been made to systematically understand the variability found between missions. This brief study attempts to compare some important aspects of the Franciscan experience in Alta California and the Pimería Alta (of Sonora)[2] during the later eighteenth and early nineteenth centuries.

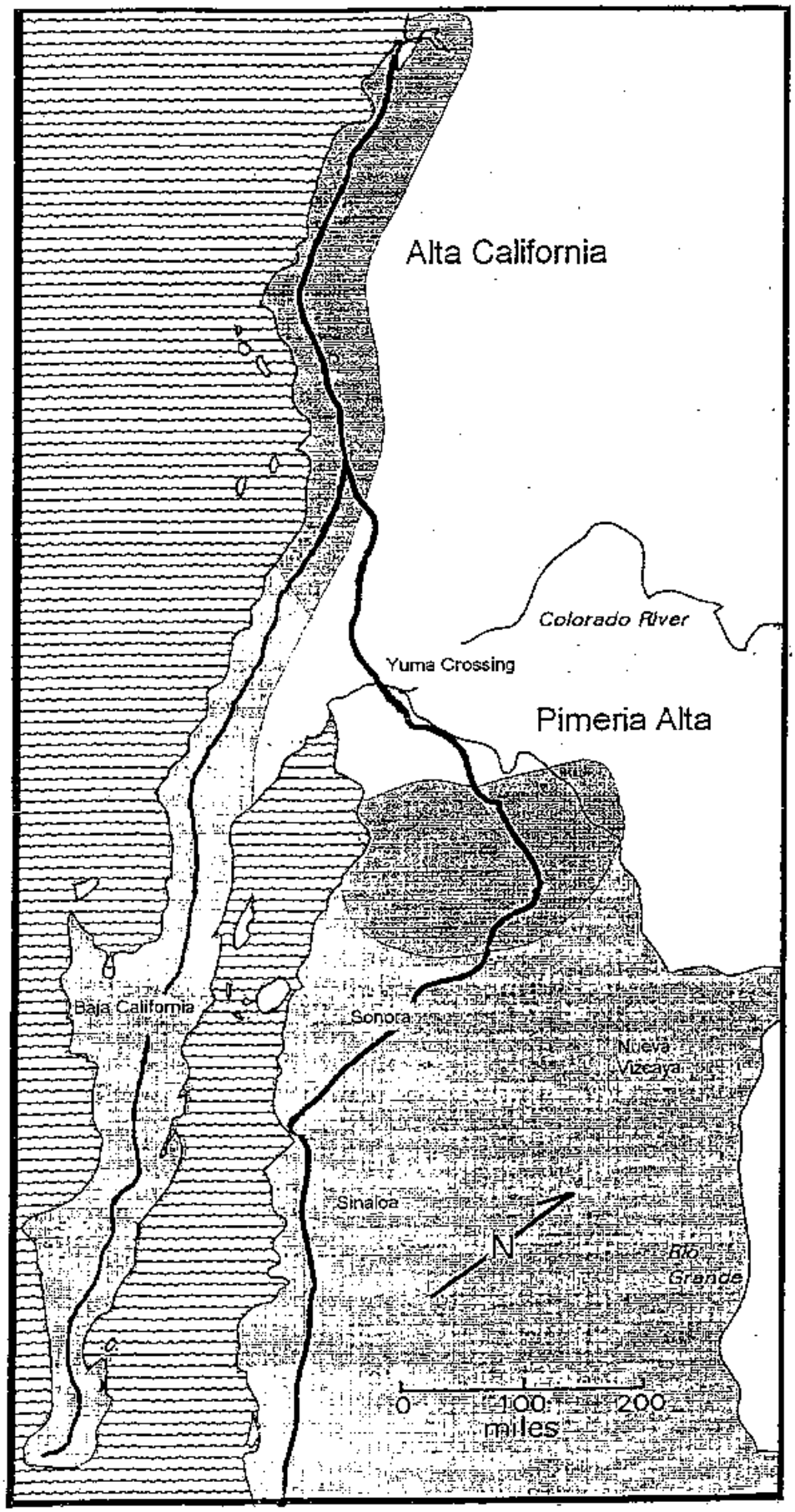
The Franciscan mission effort in northwestern New Spain.

Northwestern New Spain was not initially evangelized by the Franciscans. Prior to 1768, the region had been developed by the members of the *Company of Jesus* (the Jesuits). Between the later sixteenth and the middle eighteenth centuries the Jesuits had succeeded in creating mission settlements on both sides of the *Sea of Cortes*. In the west, in what would later become known as Baja California, they had been given a free hand to establish and develop a province that was placed almost entirely under ecclesiastic control. In Sonora, the Jesuits had developed a chain of missions

---

[1]See for example, James, Francis Bannon, *The Spanish Borderlands Frontier 1513-1821*, (Holt, Rinehardt and Winston: New York, 1963).

[2]The Pimería Alta is a term used to designate the northern region of Sonora inhabited by Piman speaking O'odham peoples (including those that were formally known as Piman and Papago). It includes modern Southern Arizona and much of Northern Sonora.


Alta California
Colorado River
Yuma Crossing
Pimeria Alta
Baja California
Sonora
Nueva Vizcaya
Sinaloa
N
Rio Grande
0
100
200
miles

within a more traditional colonial government framework. By the middle eighteenth century the province represented a region that was also an extension of the mining and military frontiers.[3]

In 1768, the Jesuit effort to bring the Indian peoples of *Northwestern New Spain* into the Christian world came to an abrupt end. After a short period of chaos, the Franciscans were selected to resume the management and development of the missions within both of these regions.

In the west, the *Colegio de San Fernando* (College of San Fernando) was placed in charge of California.[4] In 1768 it became clear that there would be an opportunity to expand the evangelic effort into an entirely new region, far beyond the old Jesuit mission frontier. Under the leadership of Junípero Serra, the colony was expanded to the area that would later come to be known as Alta California. The Indians that were encountered here were extraordinarily diverse. They spoke a host of languages and had amazingly different customs. The natives shared a general lifestyle that was based on hunting and gathering. Where resources were abundant, some groups established a relatively sedentary lifestyle. Many followed a seasonal transhumance that saw them move from area to area when seasonal food resources became available. Compared to Baja California and Sonora, the aboriginal people were both abundant and densely settled. Most of the native political life focused on the residence group (usually referred to as *rancherías*[5] by the Spaniards).[6] In the end, 21 missions were built along the coast. They ranged in size from the massive San Luis Rey, with a population of nearly 3,000 people, to the tiny Mission San Rafael, which counted only 300 inhabitants in 1834.[7]

---

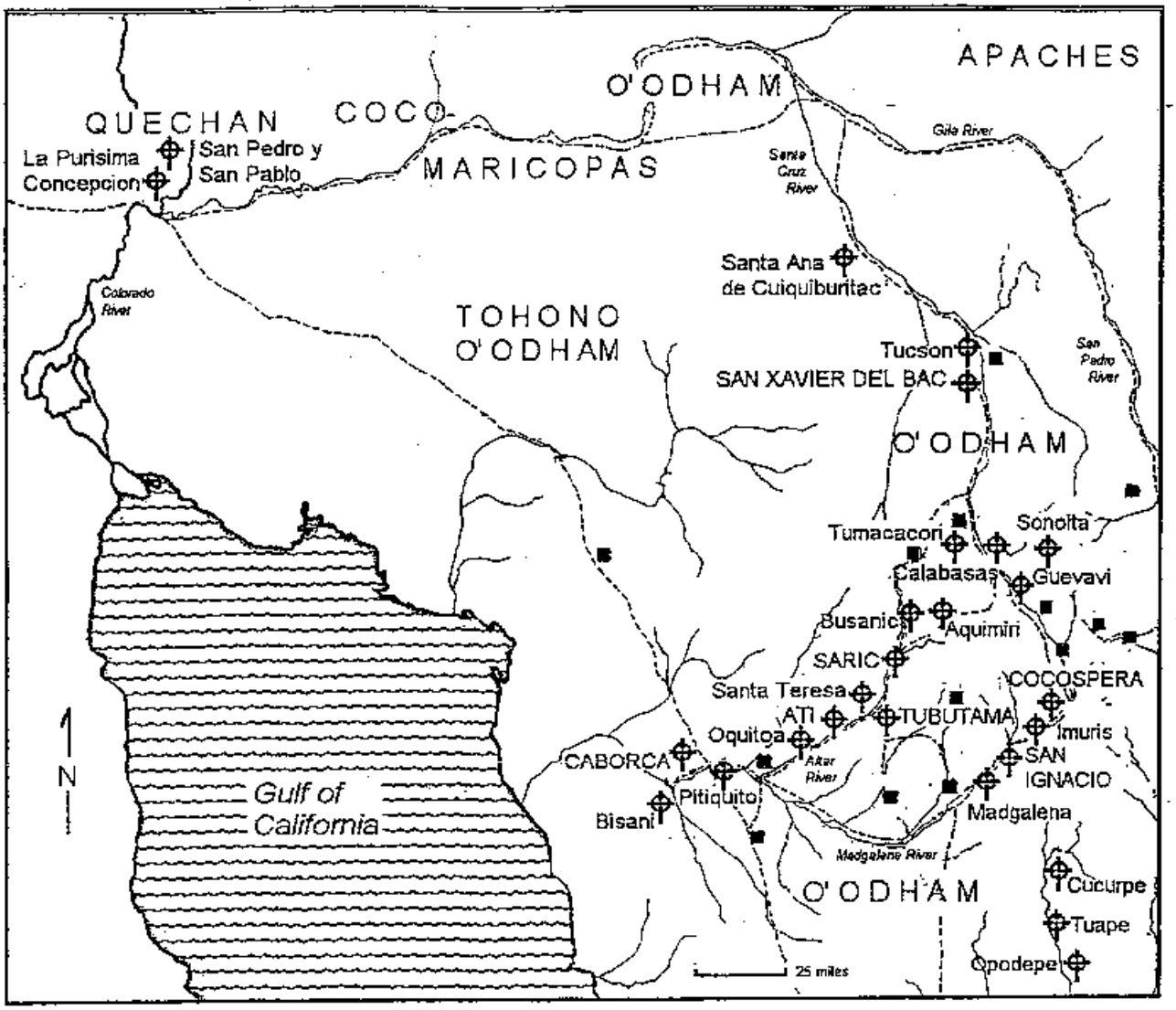
[3]The first major missionary to undertake the conversion of the Upper Pimas (O'odham) was Eusebio Francisco Kino, who arrived in 1687. Space limitations preclude a more comprehensive examination of the Jesuit role in the northwest. Those interested may want to examine volumes authored by Harry W. Crosby [*Antigua California: Mission and Colony on the Peninsular Frontier, 1697-1768* (University of New Mexico Press: Albuquerque, 1994)], and John Kessell,[*Mission of Sorrows: Jesuit Guevavi and the Pimas 1691-1767*, (University of Arizona Press: Tucson, 1970)]. The most comprehensive study of the region has been provided by Charles Polzer, *The Evolution of the Jesuit Mission System in Northwestern New Spain, 1600-1767* (unpublished doctoral dissertation, University of Arizona, Tucson).

[4]Which had its headquarters in Mexico City.

[5]A kind of dispersed village.

[6]Probably the best summary description of the Alta California Indians is provided by Robert Heizer (editor), *Handbook of North American Indians, Volume 8, California,* (Smithsonian Institution: Washington, 1978).

[7]A single Franciscan mission was established in Baja California at San Fernando Velicatá. In 1774, the region was transferred to the administration of the Dominicans. Subsequently they developed the northern frontier of the province. The coastal missions of Alta California were: San Diego; San Luis Rey; San Juan Capistrano; San Gabriel; San Fernando, San Buenaventura; Santa Bárbara; La Purísima Concepción; Santa Inés; San Luis Obispo; San



The Pimería Alta 1768-1821

In contrast with Alta California, the Franciscans inherited an already extant mission system in the Pimería Alta. During the later eighteenth century a major attempt was made to extend the mission system to the west to the Quechan peoples (who lived in the vicinity of modern Yuma, Arizona). However, these communities managed to survive for less than twelve months before being destroyed in a general uprising. In the two decades that followed the Franciscans developed plans to push the mission frontier northward to the Gila River, with the particular hope of incorporating the northernmost O'odham, who were strident military allies of the Spanish. The northernmost outpost was eventually created at Santa Ana de Cuiquiburitac during the first decade of the nineteenth century. However, dramatic increases in the levels of violence experienced in the Apache wars brought this and similar mission efforts to an end.

In the map above, mission communities are marked with a cross and civil and military settlements are marked with squares. Headquarter missions (*cabeceras*) names are capitalized.

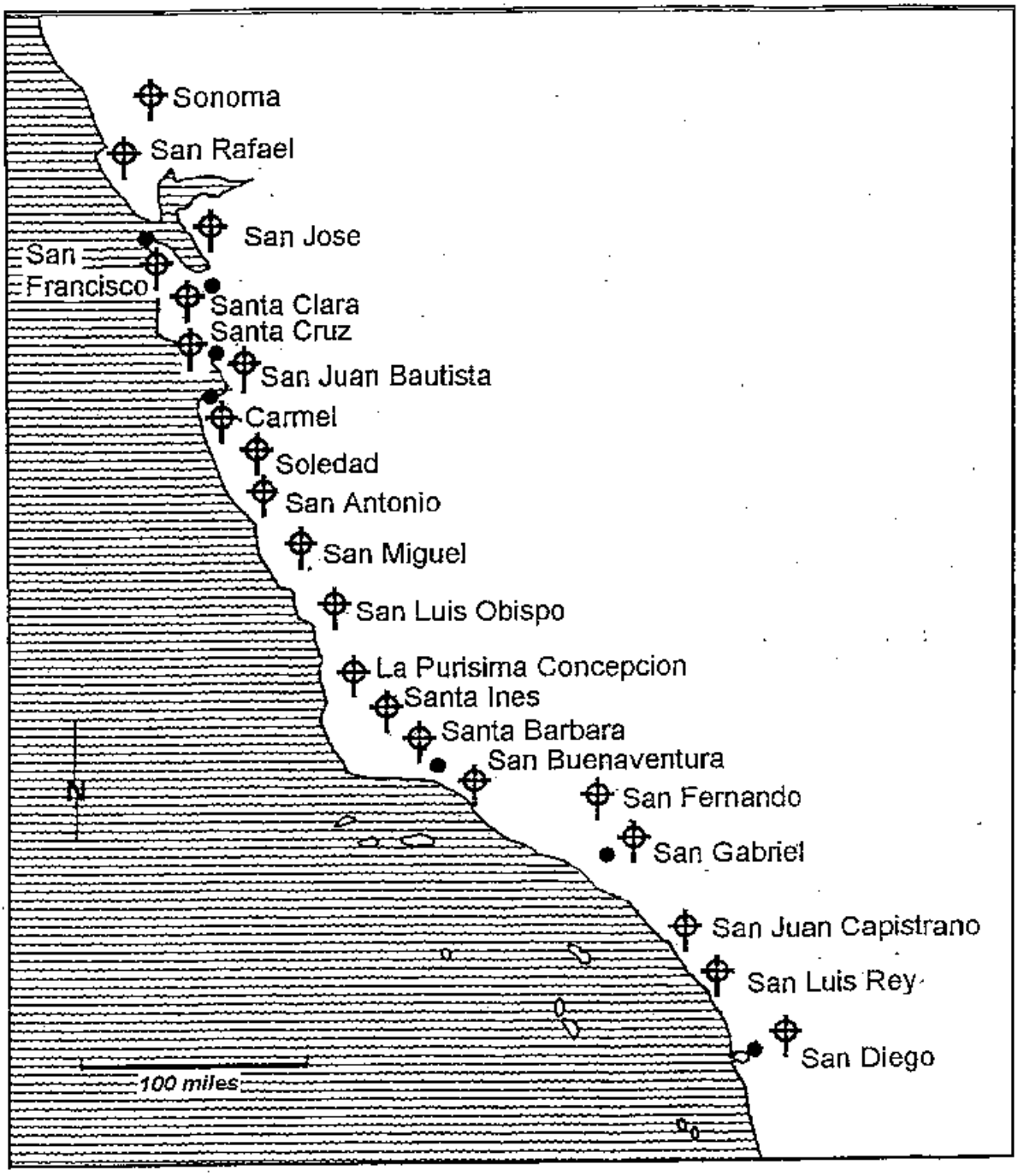
In Northern Sonora, the *Colegio de Santa Cruz del Querétaro* (College of the Holy Cross of Querétaro) undertook the recuperation of the former Jesuit settlements of the Pimería Alta (land of the Upper Pimas). The Indians of the region showed considerably less diversity then those of Alta California. The major groups that inhabited the area consisted of the more sedentary O'odham (Pimans), and the more migratory Tohono O'odham (Papagos). Collectively, these societies could be said to have lived on a continuum that ranged from a nearly nomadic lifestyle to near year-round permanence. Most of the northern Sonorans practiced a combination of desert farming and hunting and gathering. As with the California natives, nearly all of the Indians' political life focused on individual *rancherias*.[8] The Pimeria Alta was also the home of numerous groups of semi-nomadic Athabascan-speaking peoples known to the Iberians as "Apaches." This group did not live at the missions, but played a significant role in their development. By 1795 the Apaches occupied settlements at some of the northern presidios of Sonora.[9] In general, the native population of the Pimería was smaller and more dispersed than that of Alta California. Between 1769 and 1835 the Franciscans manned approximately twenty mission communities in the Pimería Alta.[10]

Miguel; San Antonio; Nuestra Señora de Soledad, San Carlos Borromeo (Carmel); San Juan Bautista; Santa Cruz; Santa Clara; San José; San Francisco de Asis (Dolores), San Rafael; and, San Francisco Solano (Sonoma). These settlements eventually developed a number of important outlying communities, including Santa Isabela (an *asistencia* of San Diego), Las Flores, and San Antonio de Padua (*asistencias* of San Luis Rey). In 1774, the control of the missions of Baja California was transferred to the Dominicans. The most detailed overall study of the missions of the province is provided by Zephryn Engelhardt, *Missions and Missionaries of California* (in three volumes), (Mission Santa Bárbara: Santa Bárbara,1929).

[8]Probably the best profiles of O'odham ethnography are provided by Bernard L. Fontana in *Man in Arid Lands; The Piman Indians of the Sonoran Desert*, (Desert Biology, volume 2: Academic Press, New York, 1974), and, *Of Earth and Little Rain: The Papago Indians* (Northland Press: Flagstaff 1981). Other excellent summaries relevant to these groups are to be found in Alfonso Ortiz (editor), *Handbook of the North American Indian, Volume 10, The Southwest* (Smithsonian Institution: Washington, 1981).

[9]The dynamic relationship between the mission frontier and the movement of groups such as the Apaches is documented in Albert Schroeder, Shifting for Survival in the Spanish Southwest, *New Mexico Historical Review* 43(4):291-310 (1968), and William Griffen, Culture Change and Shifting Population in Central Northern Mexico, *Anthropological Papers of the University of Arizona Number 13*, (University of Arizona Press: Tucson, 1969). Other details about the Western Apaches can be found in Ortiz, *Handbook*, 462-68 and in Kieth Basso and Morris Opler, Apache Culture History and Ethnology, *Anthropological Papers of the University of Arizona, Number 21*, (University of Arizona Press: Tucson, 1971).

[10]Including both mission *visitas* (outlying settlements without resident priests) and *cabeceras* (headquarters). A total of 15 missions had been inherited from the Jesuits in Sonora. The missions of the Pimeria Alta were: San Xavier del Bac (with the *visita* of San Agustín del



The Mission Frontier of Alta California

Alta California's mission frontier was confined to a narrow coastal strip that extended from San Diego in the south to Sonoma in the north. The outposts were governed from the regional headquarters at Carmel.

In the map above, the missions have been marked with crosses, civil and military settlements with solid circles.

During a short but remarkable period lasting less than five years (1776-1781), the missions of the two regions were linked together to form a continuous frontier. The *Yuma Crossing* missions (La Purísima Concepción and San Pedro y San Pablo Bicuñer) were located in what was the province of the *Fernandinos* (members of the College of San Fernando), but were administered by the *Sonorenses* of the College of the Holy Cross. The effort, headed by Francisco Garcés, had great potential for facilitating additional missionary expansion, but ended in tragedy.[11]

Between 1768 and the middle of the 19th century the Franciscan establishments in both Alta California and the Pimería Alta continued to develop as two independent but parallel mission frontiers. The period after 1810 saw repeated government efforts to secularize the missions.[12] For a variety of reasons, these attempts did not initially lead to the suppression of the Franciscan outposts in either region. New policies initiated under the *Republic of Mexico* finally brought an end to government support and the slow demise of the Franciscans' establishments as centers of Indian population and culture change.[13]

Tucson); Los Santos Angeles de Guevavi (with the *visitas* of San Ignacio de Sonoitac, San Cayetano de Calabazas and San José de Tumacácori); Santa María Soamca (with the *visita* of Nuestra Señora del Pilar y Santiago de Cocóspera); San Ignacio de Cabórica (with the *visitas* of San José de Imuris and Santa María Magdalena); Nuestra Señora de los Dolores del Sáric (with a *visita* at San José de Aquimiri); San Pedro y San Pablo de Tubutama (with a *visita* at Santa Teresa); San Francisco de Atil (with a *visita* at San Antonio Paduano del Oquitoa); and, La Purísima Concepción de Nuestra Señora de Caborca (with *visitas* at San Diego de Pitiquito and Santa María del Pópulo de Bísanig). During the decades that followed, some of these mission headquarters were transferred to various *visitas*, other *visitas* and missions were suppressed. The best summary histories of the Franciscan missions of the Pimería Alta are probably provided by John Kessell [*Friars, Soldiers, and Reformers: Hispanic Arizona and the Sonora Mission Frontier, 1767-1856,* (University of Arizona Press:, Tucson, 1976)], and James Officer *[Hispanic Arizona, 1536-1856* (University of Arizona Press: Tucson)]. The transition to Franciscan control in the region is documented in detail in Kieran McCarty's, *A Spanish Frontier in the Enlightened Age - Franciscan Beginning in Sonora and Arizona, 1767-1770* (Academy of Franciscan History: Washington, 1981).

[11]The best recent study of these events is provided by Mark Santiago, *Massacre at the Yuma Crossing: Spanish Relations with the Quechan 1779-1782,* (University of Arizona Press: Tucson, 1998). Ethnographic data on the Quechan (Yumas) and related groups are reviewed in Ortiz, *Handbook,* 4-12, 86-98.

[12]To replace the missionaries with secular clergy and transfer the management of the mission communities to the parishioners.

[13]All the Alta California missions were secularized between 1834 and 1835. On paper, the Sonora Franciscan outposts continued to exist through the era of the *Gadsden Purchase* (1856), but after 1835 they had few missionaries, Indians, or other resources at their disposal.

Archaeology and the missions

During the first half of the twentieth century, most archaeological projects that involved the missions were focused on recovering information that was used exclusively in architectural reconstruction. After 1950, researchers began to consider broader questions involving the relationship between past human behavior and the material record. During the last quarter of the twentieth century, archaeological investigations of the missions have become a major focus of the emerging field of *historical archaeology*. Over time, researchers have increasingly turned their attention to questions originating within the traditional fields of social history and ethnohistory.[14] This essay has as its focus the examination of four such questions.[15]

What can archaeology suggest about the general nature of Iberian-Indian interaction at the missions? Some social historians have characterized Franciscan evangelization in these two regions as a process of forced conversion and long-term imprisonment.[16] In their view, the missions were the products of the use of military force. Does the material record support this perspective? Were the patterns of interaction seen in Alta California the same as those of the Pimería Alta?

What can archaeology suggest about the economy of the missions? Were these settlements focused primarily on the development of self-suficiency, or were they oriented toward exporting products? What were the major elements of the mission economy? Are the patterns observed in Alta California similar to those seen in the Pimería Alta?

---

[14]See comments in Paul Farnsworth and Jack S. Williams (editors), The Archaeology of the Spanish Colonial and Mexican Republican Periods, *Historical Archaeology* 26:1 (1992). See also J. Jefferson Reid, J. Jefferson, Michael B. Schiffer and William Rathje, Behavioral Archaeology: Four strategies, *American Anthropologist* 77(4):864-869 (1975), and Michael Schiffer, Towards a Unified Science of the Cultural Past, in *Research Designs in Historical Archaeology,* (edited by Stanley South - Academic Press, New York, 1977), 13-40.

[15]Obviously, archaeological data is limited in its implications for the material world. In regards to the diverse array of other aspects of culture change that took place within the mission contexts, see Edward Spicer, *Cycles of Conquest: The Impact of Spain, Mexico and the United States on the Indians of the Southwest, 1533-1960* (Tucson: University of Arizona Press, 1966), 281-333.

[16]Probably the most dramatic recent expression of this view is to be found in works by Robert H. Jackson and Edward Castillo [*Indians, Franciscans and Spanish Colonization: The Impact of the Mission System on California Indians* (University of New Mexico Press, 1995)], and Robert H. Jackson, *Indian Population Decline, The Missions of Northwestern New Spain, 1687-1840,* (University of New Mexico Press: Albuquerque,1994). Henry Dobyns has provided similar, although somewhat less strident, perspectives on events in the Pimería Alta. See Henry Dobyns, *Pioneering Christians among the Perishing Indians of Tucson,* (Editorial Estudios Andinos, Lima, 1962); and Indian Extinction in the Middle Santa Cruz Valley, Arizona, *New Mexico Historical Review* 38(2):163-181 (1963).

To what extent were Indians' lives changed by the mission experience? Did the Franciscan establishments have any impacts on the technologies of the natives? Does the archaeological evidence support the idea that the missions saw the replacement of one technological complex by another? Was there a fusion of Indian and European lifeways? Were the patterns seen in Alta California similar to those of the Pimería Alta?

Historians and ethnographers have pointed to the idea that the mission programs of both regions involved a multi-phase program of cultural transformation, where the specific objectives of the missionaries changed over time.[17] Most of the analysis has focused on the nonmaterial aspects of that change. Do archaeological correlates exist for the evolutionary stages of development in Alta California and the Pimería Alta? If they do, what conclusions can be reached about the comparative material advances made in the two regions?

The archaeological evidence of two mission frontiers

Archaeological investigations of the missions of California and the Pimería Alta have produced an uneven literature. In both regions, surveys and excavations have augmented information provided by more traditional historical research. Relatively few of these studies have aimed at collecting data relevant to questions similar to those noted above. By far and away, the churches have remained the major focuses of archaeological work involving excavation.[18] A smaller, but

---

[17]For additional information on the master plan for culture changed see the introduction to Diego Miguel Bringas (translated and edited by Daniel S. Matson and Bernard L. Fontana), *Friar Bringas Reports to the King: Methods of Indoctrination on the Frontier of New Spain 1796-97*, (University of Arizona Press: Tucson, 1977), 1-36, Spicer, *Cycles of Conquest*, 281-333, and, Edith Buckland Webb, *Indian Life at the Old Missions*, (W.F. Lewis: Los Angeles, 1952), 20-30. In terms of a specific spiritual stages of the Indians, Matson and Fontana state; "*to accomplish these ends, the religious and civil authoriti4es would lead Indians through institutionalized stages progressing from mission to conversion or reduction to doctrina to curacy. . .*", 26.

[18]Most of the early excavations were undertaken for purposes of providing information to guide reconstruction. Few of the efforts made between 1900 and 1960 had formal archaeological controls. See for examples, Frances Rand Smith, *The Architectural History of Mission San Carlos Borromeo*, (California Historical Survey Commission: Sacramento, 1921), and Paul Beaubien, Excavations at Tumacácori - 1934, *Southwest Monuments Special Report Number 15*: (Coolidge, 1937).Webb's monumental work, *Indian Life at the Old Missions*, provides numerous references to informal projects of this sort undertaken throughout California. Many more recent environmental archaeological reports have continued to focus on reconstruction objectives, rather than anthropological investigations. See for example, Stephen A. Dietz, *Final Report of Archaeological Investigation at Mission San José (CA-Ala-1)*, (Archaeological Consulting and Research Services, Inc. Santa Cruz, 1983). From an early date, a few scholars recognized the value of archaeology as a means to understanding social history and anthropology. See for example, George W. Hendry, The Adobe Brick as a Historical Source, *Agricultural History*, 5:110-127. One of the most obvious pleas for evaluating the missions as a whole from an

significant number of studies have been undertaken in the *conventos* (priest residence complexes).[19] Far fewer investigations have aimed at providing an understanding of the neophyte residential areas, or other kinds of site areas.[20] An examination of the literature suggests that the focus on church and

---

anthropological perspective can be found in the works of Arthur Woodward (See Buford Pickens (editor), *The Mission of Northern Sonora: A 1935 Field Documentation,* (University of Arizona Press: Tucson, 1993). The same man was responsible for identifying the future relation of history and anthropology within the broader framework of historical archaeology. See The Study of Historic Archaeology in America, *Boletin Bibliograpfico de Antropologia Americana* 1:101-103 (1937). Sadly, relatively few researchers working on missions in Sonora or California have followed Woodward's example or approach.

[19]Probably the most extensive of these studies took place in connection with the reconstruction effort at Mission La Purísima Concepción [see Richard Whitehead (editor), *An Archaeological and Restoration Study of Mission La Purísima Concepción, Reports written for the National Park Service by Fred C. Hageman and Russell C. Ewing,* (Santa Bárbara Trust for Historic Preservation, Santa Bárbara: 1980)]. As with similar research conducted during the early twentieth century, minimal archaeological controls were used. Much of the material recovered has never been fully analyzed.

[20]See Robert L. Hoover, 1985, The Archaeology of Spanish Colonial Sites in California, in *Comparative Studies in the Archaeology of Colonialism*, edited by Stephen L. Dyson, British Archaeological Review (reprint). Work on neophyte quarters has taken place at La Purísima, San Antonio de Padua, San Luis Obispo, San Carlos Borromeo, Santa Clara, San Francisco Solano, San Buenaventura, San Juan Bautista and Santa Cruz. Probably the most important of these studies in California were those conducted by James Deetz and Robert L. Hoover. See James Deetz, Archaeological investigations at La Purísima Mission, *Archaeological Survey, Annual Report, Department of Anthropology and Sociology, University of California at Los Angeles,* volume 5:161-244 (1962), and, Robert Hoover and Julia Costello (editors), Excavations at Mission San Antonio 1976-1978, *Institute of Archaeology Monograph 26,* (University of California at Los Angeles: Los Angeles, 1985). In the Pimería Alta the studies that have most intensively focused on similar site areas have been provided by Charles Di Peso. See for example, Charles Di Peso, Arthur Woodward and Rex and Virginia Gerald, *The Sobaipuri Indians of the Upper San Pedro Valley of Southeastern Arizona,* (The Amerind Foundation: Dragoon, 1953), and, *The Upper Pima of San Cayetano del Tumacacori: An Archaeohistorical Reconstruction of Ootam of the Pimería Alta,* (The Amerind Foundation: Dragoon, 1956). Unfortunately, serious questions about the relevancy of his findings for mission period culture change have been raised that undermine his conclusions. See, for example, Jack S. Williams, *Architecture and Defense on the Military Frontier of Arizona, 1752-1856,* (unpublished dissertation, University of Arizona Press, 1991), 86-88, and, Albert Schroeder, Comments on "San Cayetano del Tumacacori," *New Mexico Historical Review* 32(3):246-48 (1956). The problematic nature of research studies involving only *conventos* and churches is reviewed by

convento buildings has provided few insights into the research questions noted above. Within the Pimería Alta, all forms of data from south of the present international border are also scarce. Until recently, comparative data from presidios and civil sites was not available. This information provides an important source of supplemental information about the material world that was the source of influences among mission neophytes. The most important missing information concerns the Indian residences. These village areas are unique in that they can provide material evidence that cannot easily be confused with remains that may have been deposited by friars, soldiers or civilian mission inhabitants.

With the gradual development of research projects that have addressed the previously understudied Indian residences found at mission sites, a sufficient amount of data has emerged to allow us to develop a tentative general profile of certain key differences and continuities found within the Franciscan missions of these two regions. The sections of the text that follow provide a description of some of that evidence.

Architectural data

Buildings represent an important manifestation of technology. The organization and character of architecture can be analyzed to reach conclusions about the activities that took place within a community over time and space. The broader studies of settlement configurations can also provide important evidence relevant to the political, social, and economic relations that took place at a site. Fortunately, the use of a combination of archaeology and documentary investigations allows the reconstruction of the appearance of many of the missions of both regions during the era of their use.

A visitor to the surviving missions of the Pimería Alta and California is often struck by similarities between the two regions. With few exceptions, the modern missions consist of impressive masonry churches and some portion of an abutting residence complex used by the missionaries. However, only a few of the contemporary sites include any of the numerous other important buildings and facilities that made up these establishments during the Spanish colonial and early Mexican Republic periods.

Fortunately, a relatively complete set of ground plans exists for the California missions. A smaller number of similar maps exist for the Franciscan establishments of the Pimería Alta. Archaeological and documentary investigations have also provided a number of insights into how the mission buildings changed over time. A careful analysis of this evidence suggests some striking differences existed in the physical plants and layout of the settlements of the two regions.

The architectural elements of the missions can be divided into a number of distinct groups based on their function. These include churches, *conventos*, neophyte residences, storage areas, agricultural features, industrial features and miscellaneous other kinds of architectural features (see table one).

In both Sonora and California, one of the central features of the missions was the *convento*/church complex. The elements of these structures consisted of the main house of worship,

---

Annetta Cheek, *The Evidence for Acculturation in Artifacts: Indians and Non-Indians at Mission San Xavier del Bac, Arizona*, (Unpublished doctoral dissertation, University of Arizona, Tucson, 1974).

and a residence for the missionaries. In both regions the residence buildings of the larger missions were usually laid out in the form of a quadrangle. In some missions a simpler arrangement, consisting of a long row of rooms, was simply added to the church. The rooms that made up the *convento* could include residences for the soldiers that protected the mission, a warehouse, workshops, school rooms, offices and hospitals.

In both Sonora and California the main residential area provided to the Indians was not incorporated into the *convento*. Instead, the aboriginal people usually lived in an adjacent space. Sometimes the Indian settlement was built on the edge of a large central plaza that was shared by the *convento* and church. Residential units included traditional housing (generally brush and jacal[21] huts) as well as more permanent buildings of adobe with apartments similar to those found in the Iberian towns and presidios.[22] They included structures designed to house nuclear families as well as communal residences for young men and women.

The storage facilities present at the missions could be incorporated into the *convento* quadrangle or they could be built as independent structures. Agricultural facilities provided at some of the missions include such elements as walled orchards, irrigation facilities (including dams and aqueducts (*acequias*), tiled or cobbled threshing floors and grain mills. Industrial facilities found at the missions include blacksmith shops, carpentry shops, weaving rooms, pottery factories, large-scale tile and brick kilns, massive lime kilns, carpentry shops, tanning vats and fullering mills. Defensive architecture found at the missions includes surrounding curtain walls and corner defenses, such as towers (*torreones*). These features are shared with fortified presidios and pueblos.

Miscellaneous buildings found at some missions include freestanding residence complexes for non-mission Indians (such as apartments for the soldiers' and their families, and residences for the *major domos*) as well as washing and recreational facilities, such as *lavanderias* (masonry washing facilities, sometimes referred to as *lavabos*).

Artifact evidence

We may now turn to the evidence of smaller kinds of items found on archaeological sites. What kind of story do the artifacts tell us? Data from Indian residence areas probably provides us with the best insights into the material character of native lives in terms of culture change, the mission economy, and relations that existed between Indians and *Latinos*. Based on the small data sets available from Indian residential areas, it is possible to advance some tentative ideas in regards

---

[21]As used in Sonora and California, this term is associated with wattle and daub architectures (rather than upright log (*palizado)* constructions).

[22]The styles of these structure can be broken into a number of smaller categories. Besides traditional ovoid homes, Indians adopted the use of square or rectangular huts, detached adobe buildings, as well as row houses. More permanent buildings were provided with earth, thatch and tile roofs.

TABLE 1 - ARCHITECTURAL CHARACTERISTICS OF CALIFORNIA AND PIMERÍA ALTA MISSIONS

Features	*Alta California*	*Pimería Alta*
churches	initial churches of log and thatch; developmental churches of adobe with *azoteas*; proto-urban churches of adobe, fired brick and dressed stone with tile roofs	initial churches of log and thatch; developmental churches of adobe with *azoteas*; proto-urban churches of fired brick and dressed stones, some with masonry vaulting
conventos	initial *conventos* were simple clusters of rooms abutting the churches. Later complexes grow into large quadrangles, with associated classroom, warehouses, offices, hospitals, and workshops. Some missions have multi-story residences	initial *conventos* were simple clusters of rooms abutting the churches. Later complexes had warehouses, classrooms and workshops. At least one of the *conventos* (Tucson) was built as a two-story structure.
neophyte residences	combination of traditional thatch huts and adobe houses, by 1800 most residences are adobe, some residences reflect higher status than others; special residence areas for unmarried males and females; later houses had tile roofs, some were provided tile floors; segregated residence areas for unmarried males, unmarried women and families	combination of traditional thatch huts and adobe houses, most residential complexes are thatch, residences do not appear to reflect status differences within the community; special residence areas for unmarried males and families.
storage	initial structures consisted of log buildings, later structures were built from adobe; little household level-storage	initial structures consisted of log structures, later buildings were typically made from adobe; little household level-storage
agricultural	nearly all aspects of agriculture represent introduced concepts; technologies include aqueducts (*acequias*), adobe-walled gardens, and orchards; some proto-urban sites have masonry *acequias*, dams, and reservoirs, cobbled threshing floors and mill houses	much of the agriculture follows traditional patterns; technologies include earthen *acequias*, some of the more elaborate sites have masonry *acequias* and adobe-walled gardens and orchards
industrial	blacksmithys, carpentry shops, weaving shops, tanning facilities, pottery factories and wine-making facilities (often incorporated into the *conventos*)	blacksmithys and carpentry shops
defense	initial period sites often have log stockades; developmental sites are sometimes protected by adobe fortifications; later missions are devoid of major fortifications	developmental sites are protected by elaborate adobe fortifications; many are created in the form of *casamuros*
other	some proto-urban sites have elaborate washing facilities (*lavanderías*)	

to these issues.[23]

A number of scholars have sketched out elements of the blueprint for planned culture change that was established by the missionaries. The frontier evangelists obviously sought to introduce ideas about Christianity that called for the elimination of some native beliefs. Most Franciscans also shared a common set of beliefs about material progress that equated European technologies with civilization, and similar Indian ways with inferior (backward) modes of production. Key features of the mission program included the adoption of European-style work, clothing, and housing. To become *gente de razón* (people of reason, or *Latinos*) the Indians were expected to learn how to speak Spanish and take up the manners of contemporary northern settlers. Some areas of human behavior, including many aspects of foodways, were generally viewed in neutral terms. Many native customs that had some religious connotations, such as traditional dancing or folk medicine, were embraced in the same manner that practices of pagan origins in Europe were accepted by the early church. Some European behaviors were seen in negative terms, including drunkenness, gambling, fornication and licentiousness. Franciscans often attempted to prevent these traditions from being introduced at the missions. Some aspects of native customs were generally venerated and promoted. These included faithfulness, cleanliness, and ferocity in warfare against pagan or other enemy groups. It is important to note that Franciscan ideology (in contrast with the general character of Iberian views) was not based on an assumption of overall European cultural superiority. While some missionaries held such a view, many did not. The majority appear to have assumed that no racial or cultural barriers prevented Indian people from being either their intellectual or spiritual equals. Certain aspects of native belief and practices were discriminated against, while others were actively promoted. In short, the missionary effort aimed at the integration of Indians into a modified version of the "modern world," not cultural or biological genocide.[24]

For analytic purposes, I have divided the smaller artifact traditions in terms of the following arbitrary categories: builders' tools building materials and hardware; cloth and clothing production; food substances; food serving; food preparation and storage; jewelry and clothing; religion related items; transportation; warfare and hunting; other household technologies; and other items (see table two). We can further divide each of the corresponding sets of artifacts in terms of "native," "introduced," and "mixed" traditions.[25] Native traditions would reflect pre-contact origins. Introduced items would be of European design, and could be further divided into locally produced goods, and objects procured from more distant sources. Finally, some items may reflect the use of European or Indian material culture for purposes that did not exist in either the European or pre-contact circumstances (for example, crucifixes could be used as horse jangles). I have described these items as have been of mixed traditions.

---

[23]Unfortunately, the data gathered from the *conventos* and churches, the areas that have been the focus of most mission excavations, have almost no value in resolving these questions.

[24]Many features of Spanish national ideology (rather than religion) dictated that native peoples who became *gente de razón* would not be embraced as equals.

[25]See also comments in Cheek, *Evidence of Acculturation*.

TABLE 2
ARTIFACT ASSEMBLAGES ASSOCIATED WITH NEOPHYTES IN ALTA CALIFORNIA AND THE PIMERÍA ALTA

activities	*California*	*Pimeria Alta*
builder's tools, building material and hardware	introduced adobe brick technology and tile; limited evidence of the adoption of Iberian pattern metal hardware and tools (such as hammers); native building traditions persist	introduced adobe brick technology; otherwise little evidence of introduced technologies; documents suggest limited introduction of Iberian pattern tools; native building traditions persist
cloth and clothing production	introduced ceramic spindle whorls; metal sewing equipment (thimbles, scissors, awls, needles); bone awls; documents suggest the limited introduction of imported cloth	native ceramic spindle whorls, bone awls and needles; documents suggest the limited introduction of imported cloth
food substances	abundant remains of introduced domesticated animals, including cattle, sheep, chickens, and turkeys; traces of introduced domesticated plants including wheat, maize, and beans; persistence of native hunted and gathered food resources (including shell fish, fish and wild game); documents suggest the introduction and importance of less visible Old World foods, such as wheat	abundant remains of introduced domesticated animals, including cattle, sheep, and chickens; persistence of native hunted and gathered food resources and traditional native domesticated maize, beans, turkeys, agave; documents suggest the introduction and importance of less visible Old World foods, such as wheat
food serving	traditional native ceramics continued in use in the south; introduced imported ceramics (including maiolica, Chinese porcelain, lead-glazed cooking wares and imported English ceramics); documents suggest the persistence of traditional native basketry	traditional native ceramics continued to be used; some items show the limited adoption of Old World inspired glazes and related features (of mixed cultural origins); scarce introduced imported ceramics; documents suggest the persistence of traditional native basketry
food preparation and storage	limited adoption of introduced *estufas* and *hornos*; persistence of traditional cooking and food processing facilities; persistence of traditional native cooking and storage ceramics in the south; introduced of plainware ceramics in the north; limited adoption of Old World features in ceramics in the south; persistence of native chipped and ground stone tool technology; limited adoption of introduced metal and glass tools (including copper cauldrons; copper and steel eating implements; glass bottles, steel knives and saws); documents suggest the persistence of related aboriginal technologies, such as native basketry	limited adoption of introduced *estufas* and *hornos*; persistence of traditional native cooking and food processing facilities; persistence of traditional native O'odham cooking and storage wares; limited adoption of introduced Old World features in ceramics (of mixed cultural origins); persistence of native chipped stone tool technology; little evidence of household adoption of introduced metal and glass tools; documents suggest the persistence of related aboriginal technologies, such as native basketry

TABLE 2
ARTIFACT ASSEMBLAGES ASSOCIATED WITH NEOPHYTES IN ALTA CALIFORNIA AND THE PIMERÍA ALTA

activities	*California*	*Pimeria Alta*
jewelry and clothing	abundant introduced glass trade beads, clothes fasteners (buttons, clasps, buckles); persistence of native shell jewelry (whose production was to some extent facilitated by the use of European tools, such as wire drills)	scarce introduced glass beads; persistence of native shell jewelry; other items noted as imported at left were extremely scarce
religion related	extremely scarce introduced crosses, saints' medals and crucifixes; persistence of native tradition smoking equipment; introduction of ceramic figures that may have religious significance; persistence of native carved stone effigies	extremely scarce introduced crosses, saints' medals and crucifixes; persistence of native tradition ceramic figurines, some of which may have religious significance
transportation	scarce introduced horse shoe fragments, horse shoe nails, other metal tack; documents suggest the importance of horses and mules among some neophytes	extremely scarce introduced tack; documents suggest the importance of introduced horses and mules among some groups
warfare and hunting	introduction of many new technologies, including horses, steel knives, machetes, agricultural implements, lances, limited introduction of firearms; persistence of native chipped stone tool technology; documents suggest the continued use of native bows as well as shields and clubs in the far south; adoption of introduced glass as a raw material in lithic production	introduction of many new technologies, steel knives, machetes, agricultural implements, lances, persistence of native chipped stone tool technology; documents suggest the continued use of traditional native bows, wooden clubs, shields, and projectile points; adoption of introduced glass as a raw material in lithic production
other household technologies	traditional native activities, including pottery production (in the south) and shell jewelry manufacture; persistence of other aspects of native chipped stone and ground stone industries; persistence of native basketry; persistence of bone tools	traditional native activities, including pottery production and shell jewelry manufacture; persistence of native chipped stone and ground stone industries; persistence of native basketry; persistence of bone tools
other items	persistence of other kinds of basketry and bone tools; scarce introduced coins and lighting equipment (brass and ceramic lamps)	persistence of other kinds of basketry and bone tools

Notes: based on archaeological data from the following missions; San Antonio (California); San Luis Rey (California); Santa Bárbara (California); San Juan Bautista (California); Santa Cruz (California); San Diego (California); Carmel (California); La Purísima Concepción (California); San Xavier del Bac (Pimeria Alta), Tucson Mission (Pimeria Alta); and Tumacacori (Pimeria Alta)

Findings

The sections that follow provide a number of conclusions based on the data presented in tables one and two. They seek to resolve the questions that were established earlier in this essay in regards to forced conversion, mission economics, neophyte culture change and mission evolution.

The archaeological record and mission evolution

Previous research has established that the missionaries of both Alta California and the Pimería Alta arrived on the frontier with a definite mental template as to the changes that they anticipated making in the Indian community.[1] From an archaeological perspective, the most obvious manifestations of these changes are likely to be seen in the areas of architecture and economics (especially foodways).[26]

In regards to the settlement systems, it is clear that if at all possible, the missionaries attempted to draw the population together into compact towns (*reducciones*) that were consistent with European notions of towns.[27] The key elements of their ideas can be traced to certain broad concepts involving Iberian town planning. Villas and pueblos were constructed from permanent materials. They were laid out around a square or rectangular central plaza (a *plaza de armas*). On one side of the plaza a church was constructed with abutting residence building and offices. On the opposite side government buildings (often including the *cabildo* (town council building and government headquarters), *carcel* (jail and police station) and a municipal granary) would be erected. On the remaining sides of the plaza would be built with a combination of workshops, warehouses, and residences. Traditionally, the more valuable house lots (*solares*) were located on the plaza. This basic plan was often adapted to the special needs dictated by topography, or by defense concerns.

The limitations imposed by the scarcity of building materials and technical expertise on the frontier prevented the immediate realization of the missionaries' visions.[28] During the earliest days, temporary materials, such as cloth, wood and mud were used to establish provisional facilities.[29] During these early stages, buildings were typically made from upright logs (*construcciones del*

---

[1]See Spicer, *Cycles of Conquest*, 281-333, and Bringas, *Report to the King*, 1-36.

[26]See table three.

[27]It was not always possible to create such compact towns. Some missions lacked the food or water resources required to establish year-round residences at a single location. Many of the mission Indian communities continued to augment their food production with gathered resources. Some mission never had formal Indian towns. For example, the native inhabitants of Mission San Diego in Alta California and Mission Guevavi in the Pimería Alta were allowed to live in their traditional *rancherias*, in close association with *gentile* (non-Christian) Indians. Similar circumstances forced the Dominican missionaries of northern Baja California to adopt a pattern of mission development without *reducciones*.

[28]See table four.

[29]See the illustration of the evolution of mission housing that follows table four.

palizado) and had thatch roofs (*techados de paja*). Many of the *initial phase* constructions show a concern with security that is manifested in the building of enclosing log stockades.[30] Over time, the crude structures were supplanted by more permanent buildings of adobe and undressed masonry (they entered a *developmental phase*). Where the climate permitted, structures were provided with flat earthen roofs (*azoteas*). The buildings of the second phase of development were sometimes protected by more elaborate fortifications made from adobes or undressed stone.[31] With prosperity and time these edifices give way to those of cement, brick, and cut stone (*de ladrillos*, or *de cal y canto*) that reflected a *proto-urban phase* of development. The need for fortifications was gradually eliminated, and the settlement plans begin to more directly reflect the urban ideal.[32]

It is clear that architecturally speaking, the missions of the two regions share the largest number of features during the earliest phases of development (the initial and developmental phases). However, only a few of the structures built in northern Sonora reflect the later stage of development. By contrast, in Alta California many more of the ecclesiastic and secular buildings of the outposts incorporated elaborate embellishments. For example, after 1783, most roofs found at the California missions were made using rounded tile (*tejas*). In both Sonora and California, the churches were atypical when compared to the rest of the settlements. Inevitably, they reflected the finest building materials that were available. Some of the houses of worship in both regions were provided with the elaborate systems of masonry domes (*bovedas*) that characterize the more architecturally sophisticated parts of the empire.

In Alta California separate communal housing was provided for single young men and women. The young men's dormitory was usually combined with the communal kitchen.[33] One of the most intriguing classes of features associated with the California missions are the women's dormitory complexes, called *monjerios* (literally nunneries). *Monjerios* were created in California after 1780 at a number of missions. They represented attempts to segregate young women from their families during the night. These facilities have no counterpart in Sonora.

Alta California's missions also include certain other kinds of features that are unknown to the Pimería Alta. Among these are structures within the *convento* compounds of California that were used as hospitals and wineries. While both regions had elaborate waterworks, the Californian systems also had a number of features unknown to Sonora. These included *lavanderias*, large masonry dams, and freestanding mills (for both grinding corn and fullering).[34]

---

[30]See the illustration of an initial phase stockade following table four.

[31]See the illustrations of fortified missions and developmental phase open settlements that follow table four.

[32]See the illustrations of proto-urban mission complexes that follow table four.

[33]Usually called a *pozolero* in California. In Sonora, the same term was more often applied to a metal pot used to prepare *pozole*.

[34]The elaborate character of the prominent systems is documented in Robert O. Browne, *San Buenaventura Mission Water System, Ventura, California,* (Ventura County Archaeological

TABLE 3
MATERIAL CORRELATES OF THE END PRODUCTS OF MISSION DIRECTED CULTURE CHANGE

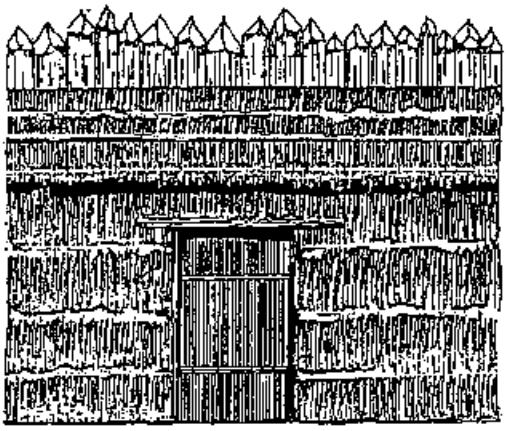
area of activity	idealized objective	material correlates/ comments
religion	Roman Catholicism administered by parish priests	Churches and religious equipment, including sacramentals; suppression of aboriginal religious customs involving disposal of the dead; elimination of native religious artwork and paraphernalia
language	By the last quarter of the 18th century, Franciscans promoted fluency in Spanish, although multi-lingualism was encouraged	no obvious features
residence pattern	centralized, grid-pattern, Iberian-style towns built with central plazas surrounded by permanent houses (of adobe or stone) and related municipal structures (typically including churches and granaries)	settlements with the features noted at left; these items will generally have high archaeological visibility
authority structure	centralized; with lines of authority established by church and state; leadership structure within the Indian community consistent with Iberian town life (where both church and state officials provided direction)	symbols of rank in the form of special clothing and insignia (such as batons of office); elimination of native markers of authority; few of these objects are likely to survive in archaeological contexts
property ownership	based on a combination of private and public holdings; individual families hold lots and graze animals on common pasturage; under certain circumstances wage labor and currency	no distinctive obvious features correspond to the overall patterns; the adoption of wage labor and currency might be correlated with the presence of coins or similar objects (such as beads)
apparel	clothing suitable to lower status Latinos (trousers and shirts for men and blouses and skirts for women)	few items of apparel made from cloth will survive in archaeological contexts; the best available indicators are found in the form of fasteners and some decorative items (such as beads)
occupations	for men - Iberian-style farming and stock raising undertaken within a framework of disciplined daily work; for women - traditional household maintenance; the overall work effort aims at self-suficiency for the community as a whole	plant and animals remains are typically highly visible in the archaeological record; some forms of work are indicated by introduced tools (such as agricultural implements and horse gear) and certain architectural features (such as dams, aqueducts and corrals); the presence of large quantities of imported basic commodities would argue against self-sufficiency

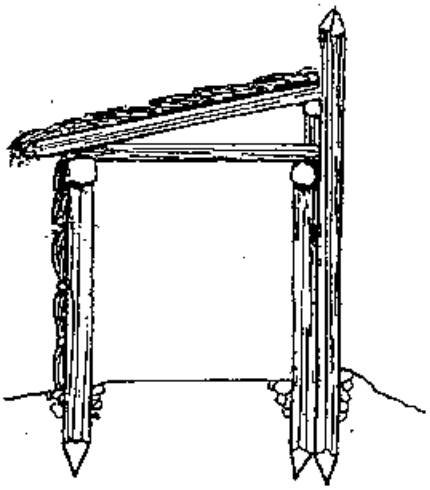
Notes: adapted from Spicer, *Cycles of Conquest*

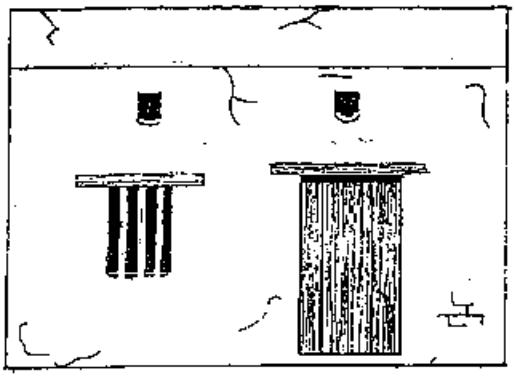
TABLE 4
THE EVOLUTION OF BUILDING MATERIALS AND TECHNIQUES

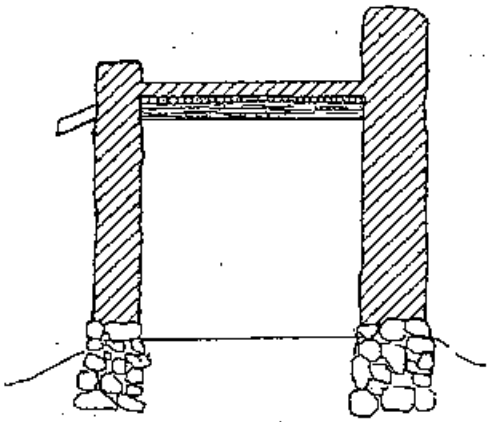
phase	*materials*	*notes*
initial phase	cloth, logs, mud, thatch	provisional buildings typically made from upright poles (*construcciones del palizado*) with thatch roofs (*techos de paja*). Floors are universally made from compacted earth or clay. Many initial phase complexes include log stockades that protect the church, the residence building of the Franciscans, and some storage facilities. Indians generally live in traditional housing outside the stockade.
developmental phase	adobes, wood, undressed stones, limited use of tiles and concrete	more permanent buildings constructed out of earthen blocks and crudely dressed field stone or rubble stone. Most of the roofs provided are flat, earthen, *azoteas*. Buildings have earth, cement, or clay floors. Fired bricks or tiles are rarely employed. Some developmental complexes include adobe fortifications. These defense works rarely include the residential areas used by the neophytes.
proto-urban phase	adobes, wood, undressed stones, extensive use of fired bricks, tile, cement, occasional use of dressed stones and iron decorations	more permanent buildings similar to those seen in the developmental phase except that they generally have more elaborate architectural embellishments, typically executed in fired bricks (*ladrillos*) or stone. Roofs are of dressed masonry and tile. Prominent buildings have tile or cement floors. Wooden and iron embellishments include decorative *rejas*. Fortifications are rarely associated with proto-urban phase settlements.

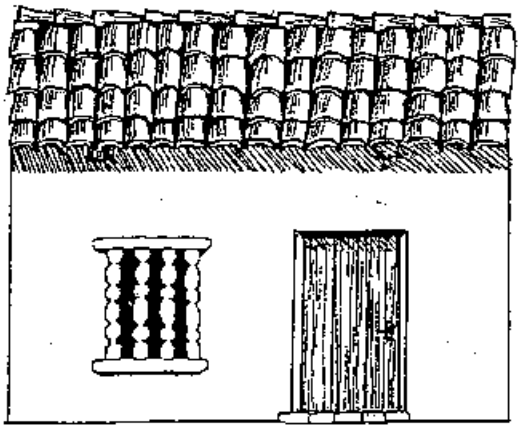
Notes: it should be realized that this is an idealized scheme. The actual settlements at any given time generally reflect a mixture of traits. For example, some missions that mostly correspond to the developmental phase may have some features of the proto-urban phase.

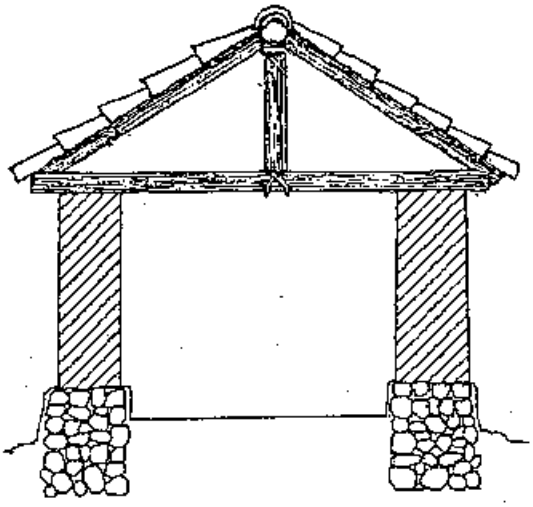


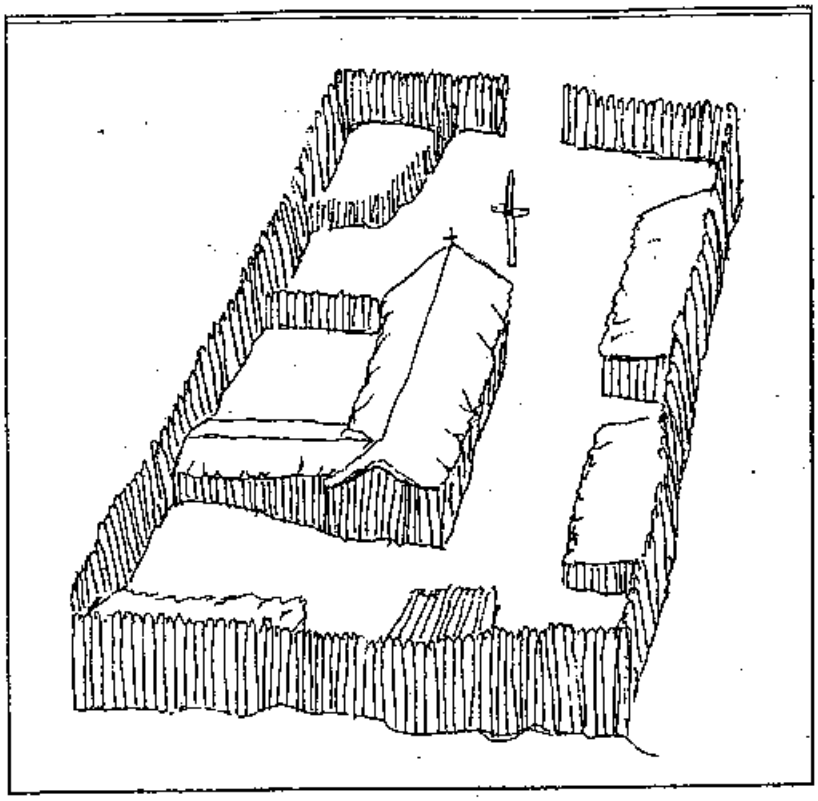








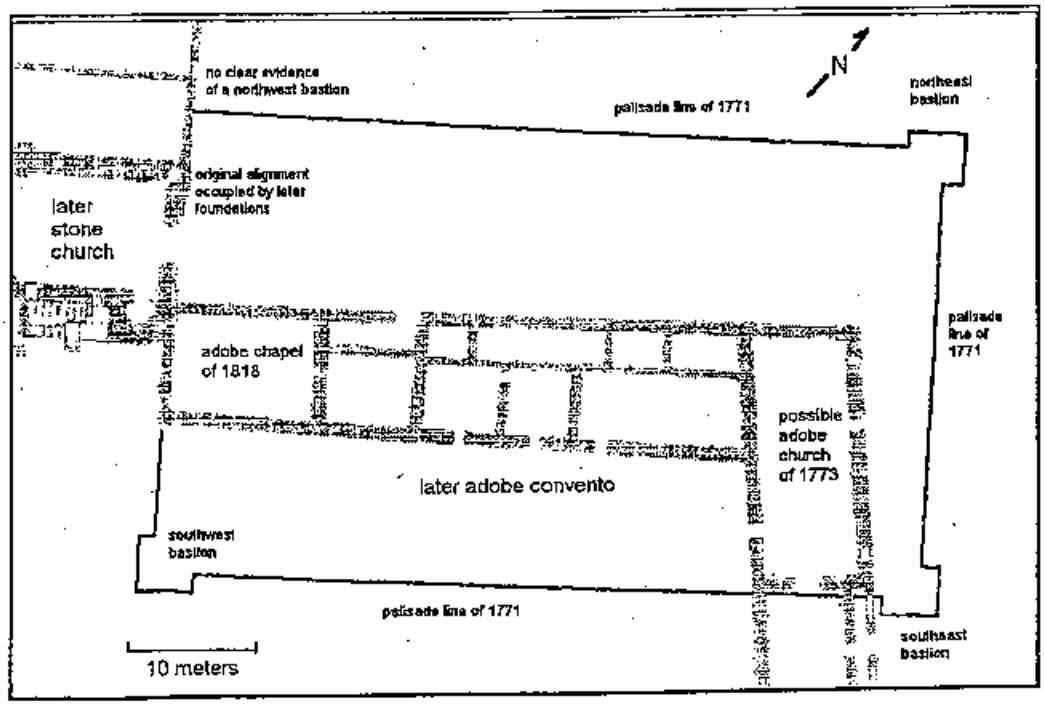


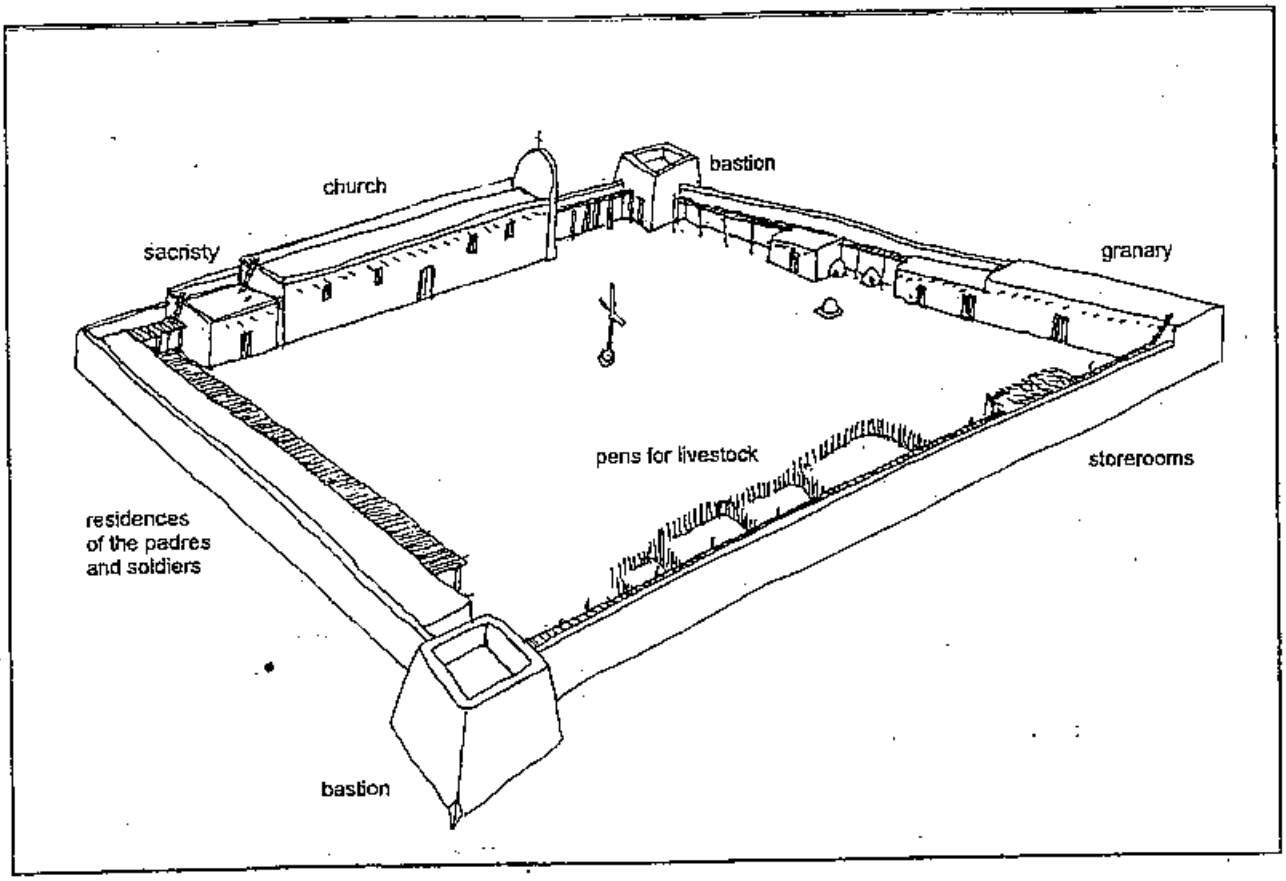


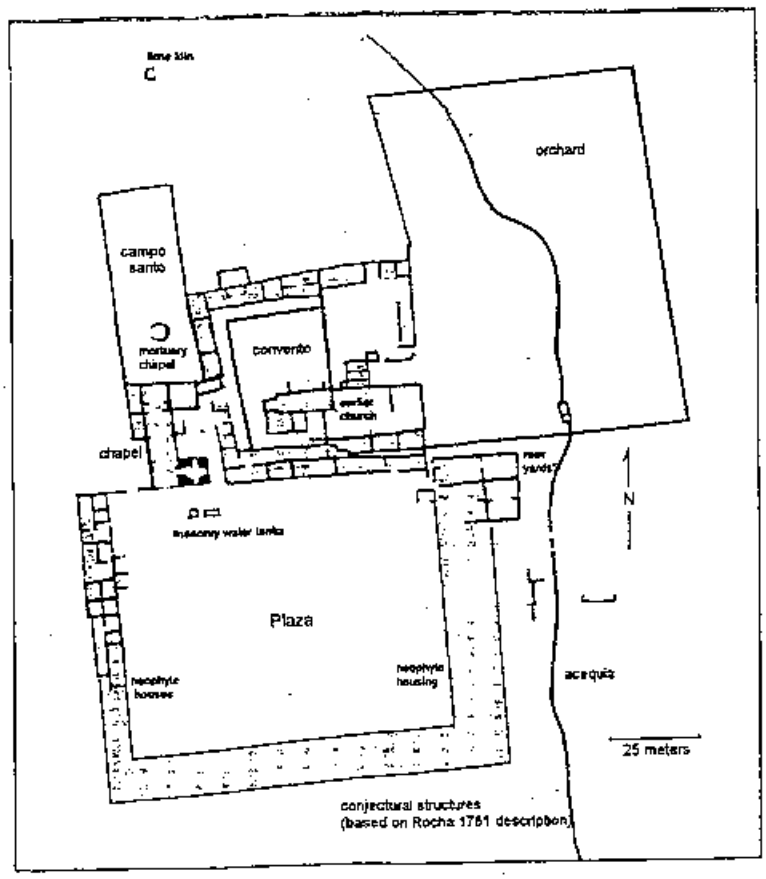
An initial phase stockade

Initial Phase buildings were constructed using temporary building materials such as logs, thatch and wattle and daub. Most of the earliest mission settlements of Alta California were built as simple stockades, with modest chapels and residences for the missionaries, the *escolta* (soldier guards) and the handful of neophytes who typically accompanied the founding expeditions. The main residential areas for Indians consisted of traditional housing located in an adjacent area. During this phase of development, mission outposts were similar to civilian and military settlements, except that they generally include larger houses of worship.

Above; conjectural architectural reconstruction of San Diego Mission, June, 1770; below; plan of the stockade of San Carlos Mission (Carmel), as indicated in an early twentieth century plan.





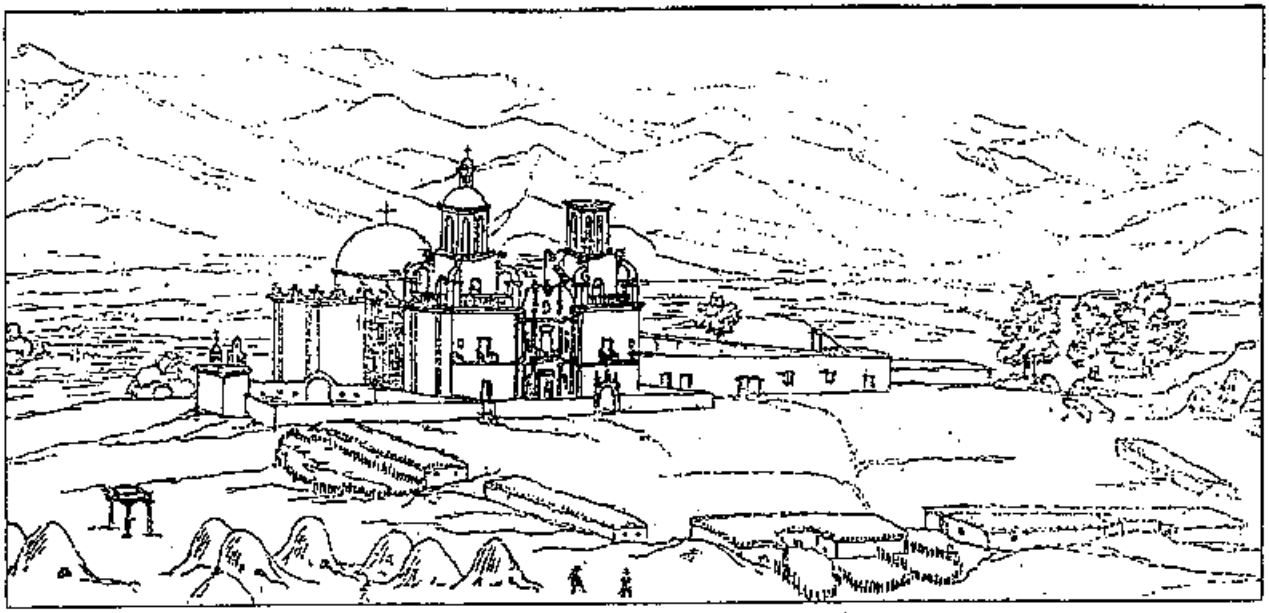


Fortress missions

Some of the frontier missions developed into fortified adobe compounds designed to protect missionaries and neophytes from possible attacks by hostile Indians.

The use of fortified missions in Alta California was confined to the far south. The most dramatic example was probably San Diego. By contrast, many of the Franciscan missions of the Pimería Alta were built with elaborate fortifications similar to those found at the presidios

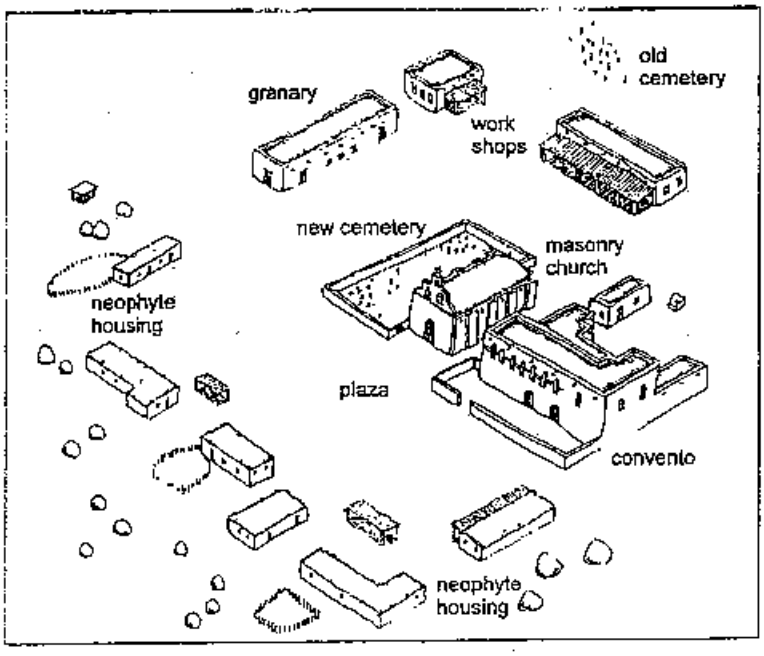
Above; Mission San Diego, 1783 (based on a contemporary description); left; plan of Tumacacori Mission, probably the most extensively excavated Pimería Alta.

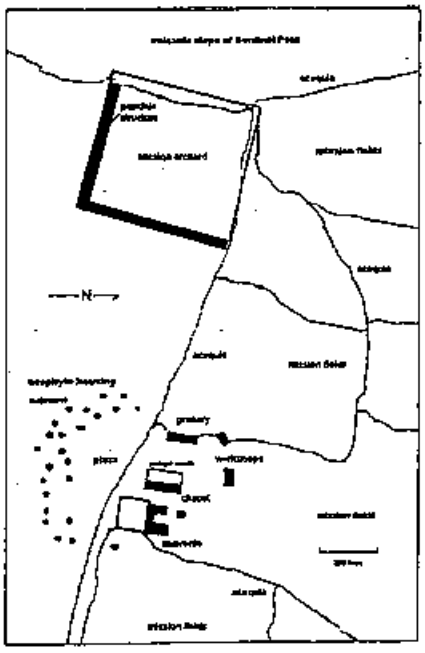


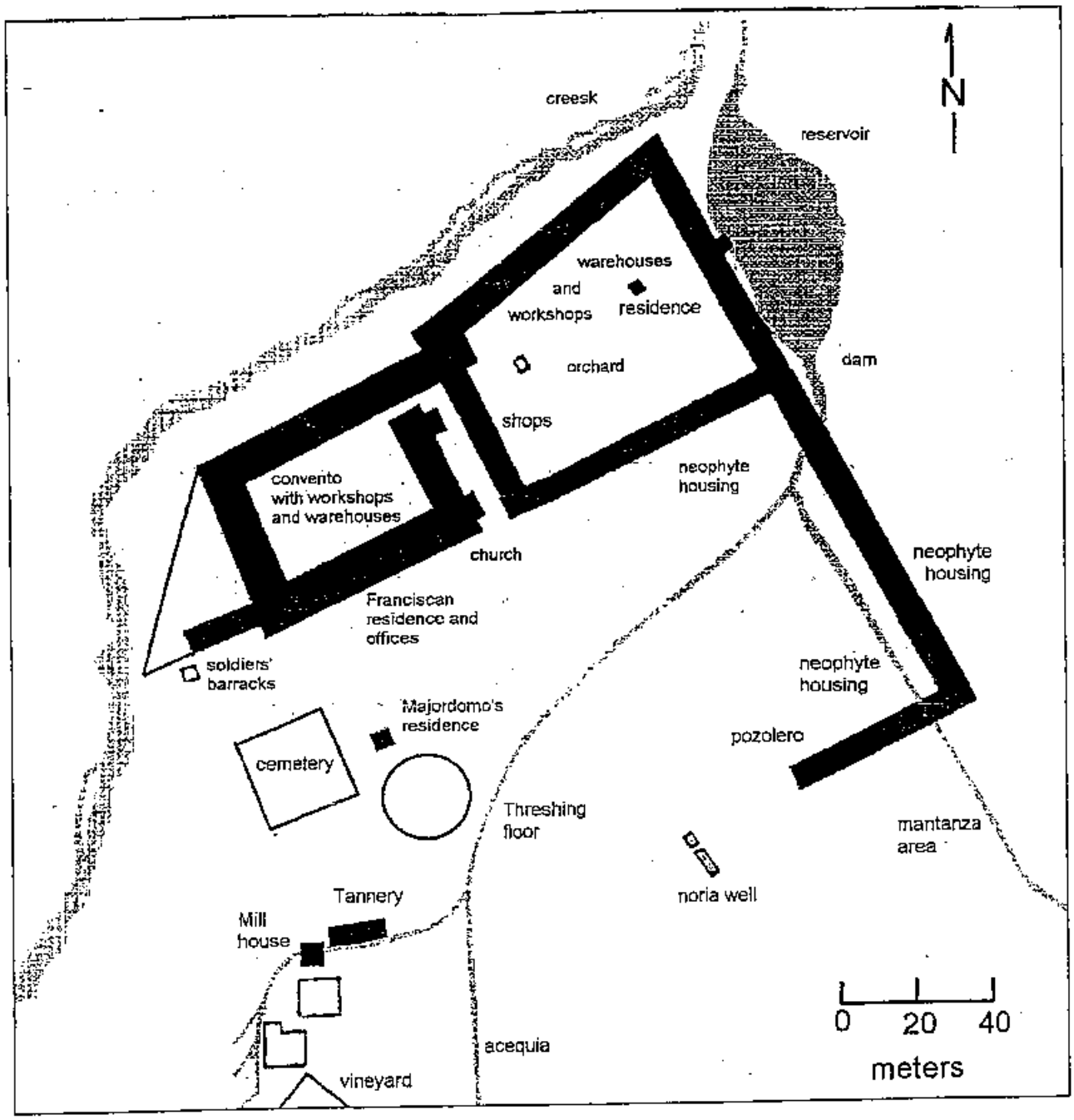
The developmental phase open settlements

In both Alta California and Sonora, most missions evolved into open settlements with large plazas surrounded by a *convento* with chapel and a combination of traditional native housing and introduced adobe apartments. In Alta California, this stage of development was generally quickly followed by proto-urban settlement organization. However, in the Pimería Alta the mission communities rarely experienced additional growth.

above; Mission San Xavier del Bac, ca 1849, showing the mission's later configuration; below left; reconstruction of the main plaza of Mission San Agustín del Tucson, ca. 1800; below right; plan of the Tucson mission community and fields.



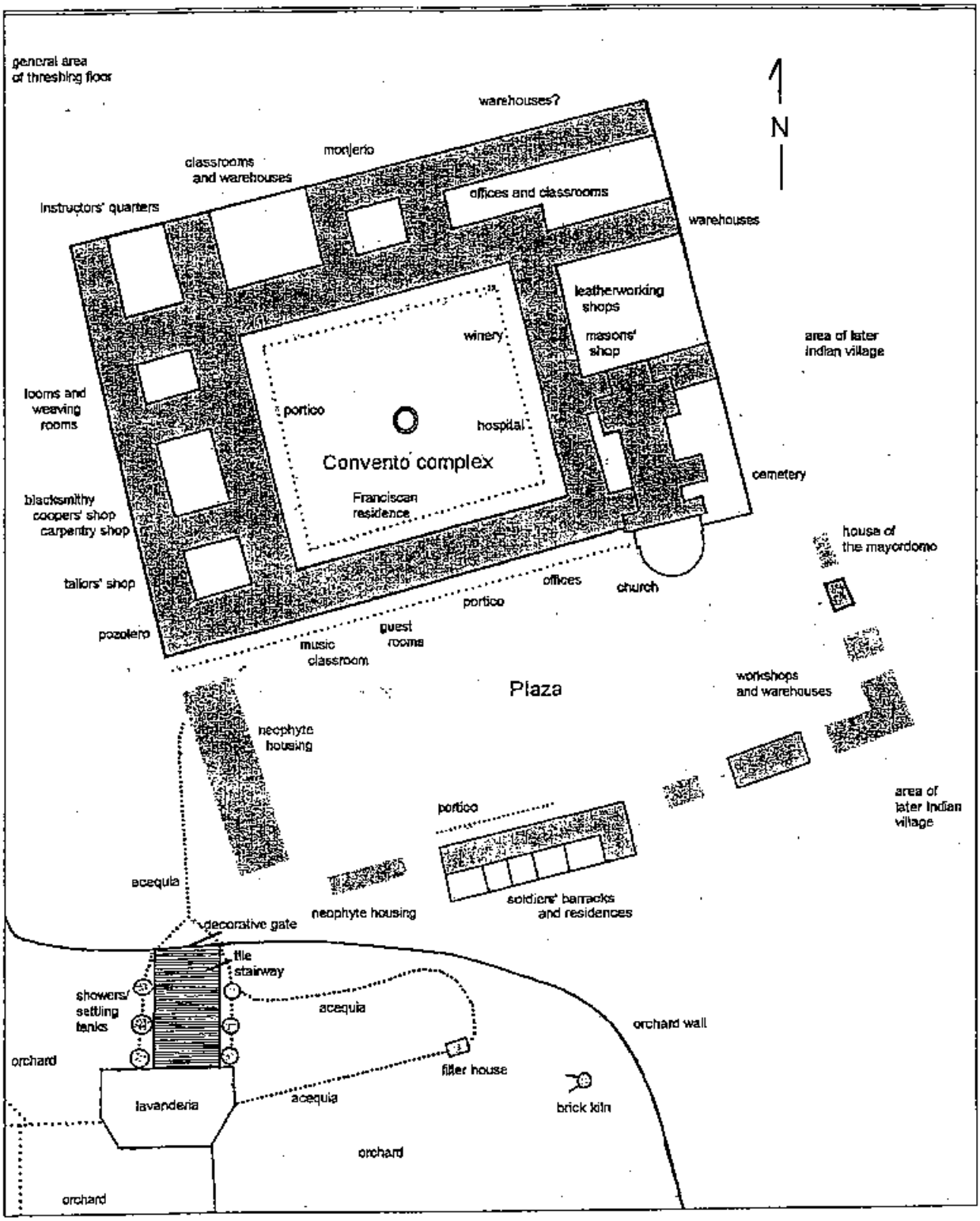




The proto-urban mission complex

The most elaborate missions of Alta California assumed many of the characteristics of the urban centers of Central New Spain. Adobe structures with tile roofs were built around a large central plaza. Buildings included those dedicated to housing, storage, education, public health, recreation, and manufacturing. These complexes were constructed out of more permanent materials on a grander scale than any of those seen in the Pimería Alta.

Above; Mission San Antonio de Padua, circa 1825.



The plan of Mission San Luis Rey above includes the most elaborate convento built in either region. The structure measured more than 500 feet on a side. It incorporated a diverse array of buildings with numerous residential, public health, educational, recreational, storage, industrial, and administrative functions.

In general, the California missions have a more diverse array of industrial sites than those of the Pimería Alta. Just as the waterworks associated with agriculture are less elaborate in the east, there are a number of industries that are similarly entirely unrepresented in Sonora. The Franciscan establishments of the Pimería Alta lack weaving shops, pottery-making factories, and fullering mills. In general, the existence of more elaborate buildings and diverse trades in California can be linked to the introduction of artisans to the western region after 1790. These men trained the generation of mission craftsmen who were largely responsible for the elaboration of the California missions.

In summary, the architectural evidence suggests that the California missions more perfectly corresponded to the urban template contemplated by the Franciscan authors of directed culture change. Despite some notable continuities and significant achievements, the data presented here suggests that architecturally speaking, the Franciscan program in Sonora was apparently arrested at the developmental phase of evolution.

The archaeological record and technological change among native peoples

An examination of the archaeological record presents a number of important insights into the technologies found within the mission communities. In both Alta California and Sonora, the Franciscans attempted to introduce similar European technologies and related plants and animals. At the end of the mission period the neophytes of both areas had only partially assimilated the full range of technologies seen in the broader *gente de razón* society.

Historians have offered persuasive arguments that the presence of certain goods helped to draw Indians into the mission system. Cattle, horses, sheep, and wheat were obviously beneficial sources of energy and food. Steel knives and scissors also have an obvious superiority to functionally similar chipped-stone implements. Woolen clothing offers obvious advantages in the snow.[35] The enthusiasm shown by some natives for certain items of Old World manufacture has caused some investigators to conclude that aboriginal people were universally quick to abandon their traditional technologies. However, the archaeological record makes it clear that the mission inhabitants of both regions were involved in a selection process where items that were deemed to be useful were adopted

---

Society: Ventura, 1974), Roberta Greenwood and N. Gessler, The Mission San Buenaventura Aqueduct with Particular Reference to the Fragments at Weldon Canyon, *Pacific Coast Archaeological Society Quarterly* 4(4):61-86 (1968), Anthony Soto, Mission San Luis Rey, California - Excavations in the Sunken Garden, *The Kiva* 26(4):34-43 (1961), and Jack S. Williams, *A preliminary report on archaeological findings at Mission Santa Bárbara - 1997, Part 1 - The lavandería area investigations*, (Center for Spanish Colonial Archaeology, San Diego, 1999). Few of the missions in the Pimería had elaborate lime kiln facilities (see Julia Costello, Lime Processing in Spanish California, *Pacific Coast Archaeological Society Quarterly* 13(3):22-32 (1977), and Jack S. Williams, *Archaeological Investigations of the San Juan Capistrano Lime Kiln 1996,* Center for Spanish Colonial Archaeology, San Diego, 1996).

[35]See Thomas Sheridan, Kino's Unforseen Legacy: The Material Consequences of Missionization among the Northern Piman Indians of Arizona and Sonora, *The Smoke Signal* 49-50 (Spring & Fall 1988).

and used alongside traditional technologies. Older methods of hunting and gathering and other indigenous technological systems were still functional, and were in many cases more important that those introduced by the newcomers. Not surprisingly, the traditional technologies persisted. Ultimately, the new materials and methods were accommodated within an essentially native framework. In this sense, it remains clear that the culture change seen in technology in both Sonora and California was additive, rather than replacing.[36]

There were some technologies that had no precedent in either region. The introduction of large domesticated animals, including horses, mules, cattle, sheep and goats produced important consequences for native approaches to transportation and subsistence. Steel knives, lance heads, machetes, and firearms, revolutionized certain aspects of warfare. However, in regards to most kinds of activities, the new technologies coexisted with older, traditional forms and methods. In both Alta California and the Pimería Alta there was a wide array of items that represent the persistence of aboriginal material culture. Even where imported consumer goods were abundant, the use of traditional chipped and ground stone technology or basketry did not come to an abrupt end. It is impossible to fully account for the persistence of these items. Without doubt, preference as well as necessity played a part in the selection of items. Whatever the cause, it would be a mistake to conclude that the mission residents had uniformly abandoned their previous material traditions.

A careful examination of the traits noted in table two also suggests a feature that has less generally been recognized in regards to the Franciscan mission experience. While most of the items that are listed are consistent with the distilled set of elements identified by Edward Spicer and George Foster as the "*Culture of the Conquest*," a number of objects fall outside of these parameters.[37] In the case of Alta California it is obvious that many items of Mesoamerican origin also made their way into the Franciscan directed program of culture change. The most obvious of these items in the archaeological record may be domesticated corn, certain kinds of beans, and turkeys. At least one of the classes of fine, decorated ceramics (*Bruñida de Tonalá* ware) can also be traced to pre-Columbian origins. These, and other Mesoamerican traits are visible in the contemporary presidios. The presence of these objects suggests that models of frontier culture change need to incorporate non-local Indian, as well as Old World cultural influences.

A comparison of the specific culture changes that took place in the two regions offers other insights. The data presented in table two suggests that similar items were introduced to both regions. The O'odham clearly had certain aboriginal customs that were more similar to those of the Iberians than their California counterparts. For example, in contrast with the Alta California groups, agriculture involving corn, beans, and squash were already present in Sonora.[38] Cotton cloth

---

[36]See Spicer, *Cycles of Conquest*, 255.

[37]See Spicer 1966, 283-85, and George Foster, Culture and Conquest: America's Spanish Heritage, *Viking Fund Publications Number 27*, (Wenner Gren Foundation for Anthropological Research: New York, 1960).

[38]Some of the California Indian groups were involved in various kinds of wild plant manipulation, such as irrigation and seed planting, that approximated agriculture.

production was also a strong indigenous tradition. The Old World technologies that related to agriculture and cloth production appear to have been simply incorporated into the O'odham's material culture complex. The evidence from the Pimería Alta also suggests that the Indian people of Sonora had many more opportunities to interact with *Latino* settlers than their California counterparts. As a result, the technological changes introduced outside the context of the missions were of much greater importance.[39]

In both Southern California and the Pimería Alta aboriginal peoples continued to employ native tradition ceramics. By contrast, the Indians of Central and Northern California had no prior experience with this technology.[40] The quantities of plainware ceramics on sites associated with these northern groups are significantly smaller then those associated with the other Indians. The use of imported ceramics was apparently most common among the neophyte population of California. By contrast, non-indigenous tradition wares apparently only made limited inroads into the O'odham ceramic complex.

If some of the new technologies that were introduced to both regions had more profound effects on the California Indians, it is also clear that the western province saw some kinds of activities that remained unknown in the Pimería Alta. For example, after 1790 mission Indians in California learned a variety of industrial trades, including, weaving using looms, manufacturing shoes, working as millwrights, leather-working, stone masonry, soap-making, and wine-making. The lack of such skilled labor in the Pimería Alta was sadly commented on by José de Zúñiga, the post commander at Tucson, in 1804.[41]

For many categories of activities shown in table two, the differences between the artifact patterns seen in the two provinces seem to be most obvious in terms of the quantities, rather than the qualities, of imported items. In general, the Pimería Alta inhabitants can be characterized as having extremely limited access to imported consumer goods. Most of the types of merchandise

---

[39]See Paul Ezell, The Hispanic Acculturation of the Gila River Pimas, *(American Anthropological Association Memoir Number 90*: Menasha, 1961).

[40]The significant continuity of ceramic traditions in the Pimería Alta are documented in Louis R. Caywood, Joseph Toulouse, *Pottery Found on Mission Sites in Pimeria Alta* (unpublished manuscript on file at the Western Archaeological and Conservation Center, National Park Service, Tucson, 1942), and Bernard Fontana, William J. Robinson, Charles W. McCormack, and Ernest E. Levitt, *Papago Indian Pottery* (University of Washington Press: Seattle, 1962). In Southern California, much of the pre-contact tradition was incorporated into the missions' technology (see Malcolm Rogers, Yuman Pottery Making, *San Diego Museum of Man Papers*, Number 2. (Museum of Man: San Diego, 1936). In the areas north of Los Angeles, plainware pottery making and use did not exist before 1769 (see Jack S. Williams, Early Nineteenth-Century Plainware Pottery from Mission San Antonio de Padua, California, unpublished manuscript on file at the San Antonio Mission Archive (1983)).

[41]See Kieran McCarthy, Desert Documentary: The Spanish Years, 1767-1821, *Arizona Historical Society Monograph #4*, Tucson, 1976, 91.

manufactured outside of Sonora are not present in the areas associated with neophytes. The causes of these contrasting distribution patterns will be considered in the discussion of mission economics that follows.

In summary, the evidence suggests that the Indian people of both regions adopted certain technologies and rejected others. A comparison of the archaeological record of the two regions suggests that the inhabitants of the California missions underwent a more profound and intense set of changes as a result of the introduction of new forms of material culture by missionaries.

The archaeological record and the mission economies

In both Alta California and northern Sonora missionaries focused their economic efforts on food production. A virtually identical array of domesticated plants and animals were introduced. These foods supplemented traditional items that were grown, or hunted and gathered. During their earliest phases of development, missions in both areas focused on the establishment of self-suficiency using a combination of indigenous and introduced technology.

In Alta California self-suficiency gave was to an economy where large amounts of consumer goods[42] were imported and redistributed to the Indian people living at the missions. As noted above, the relative lack of consumer goods in the missions of the Pimería Alta suggests that they did not become as embedded in the system of international trade as those of the Pacific outposts. What caused the differences in the economies of the two regions?

In the Pimería Alta the economy involved production of food for consumption at the mission and to a lesser extent for trade with the presidios and mining camps.[43] The archaeological evidence indicates that the fruits of this commerce were limited. Significant wealth was accumulated by the mission community in the form of crops, cattle, mules, sheep and horses. However, these same goods were being produced by other sectors of the economy. Archaeological evidence from the presidios of Tucson and Tubac suggest that while soldiers and settlers enjoyed a diverse array of trade goods, the Indians living at the mission received relatively few such items.[44]

---

[42]The specific items include concentrations of serving wares, iron tools, and artifacts associated with clothing, such as buttons and fasteners.

[43]See Cynthia Radding de Murrieta, The Function of the Market in Changing Economic Structures in the Mission Communities of Pimería Alta, *The Americas* 34(2):155-169 (1977), and Las estructuras socio-económicas de las misiones de la Pimería Alta - 1768-1850, *Noreste de Mexico* 3:1-124, INAH, Centro Noroeste, Hermosillo (1979).

[44]The Sonoran missions' decline after 1821 had no broader implications for the economy of the region. The presidios of the Pimería Alta had always been forced to a greater extent into self-suficiency and reliance on government subsidy as well as regional economic support from the mining frontier. The missions effective disappearance as centers of Indian population and acculturation had minimal significance for the government and the larger economy. Alternative mechanisms of support were already in place.

During the early days, the California missions followed a similar economic pattern to Sonora in regards to excess agricultural and ranching production. The government purchased a small portion of the crops and domesticated animals raised at the Franciscan establishments. These items were then added to the herds and granaries of the presidios. However, it should be noted that by 1783, these small outposts were already producing sufficient food and animals to meet all their basic needs.[45] The additional provisions may have enhanced the quality of life at the presidios, but they made little real difference in the support of the overall California effort. The value of the purchases was of great significance to the missionaries, who used the community earnings to acquire consumer goods and related supplies in Mexico City.[46] Nevertheless, the amounts generated through such enterprises were insufficient to significantly increase the quantities of consumer goods available to the missions for distribution to the neophytes.[47]

This situation began to change around 1790. The development of the hide trade provided the Franciscans with significant amounts of disposable wealth. The direct purchases that were made by foreign merchants made it possible for the missionaries to generate cash which was used to both embellish the mission community's facilities and to purchase consumer goods.[48] These items fueled the recruiting of more Indians, whose presence at the Franciscan establishments was energized in part by a desire for the commodities. By the end of the *War of Independence* (1810-1821) the missions had become the centerpiece of the region's economy, producing wealth and redistributing consumer goods to the inhabitants of missions, presidios and pueblos.[49] These items also flowed from the coastal outposts into the interior. Mission prosperity also made investment in the mission

---

[45]See Sherbourne Cook, The Indian versus the Spanish Mission, *Ibero-Americana volume 21* (1943), 37.

[46]Robert Archibald, *The Economic aspects of the California Missions*, The Academy of American Franciscan History: Washington, 1978.

[47]The small part played by government funding through purchases of this sort is demonstrated by the developments of the decade 1810-1821 (during the *War of Independence*). Although the crown suspended payment of the debts owed to the Franciscans, the missions throughout the province continued to prosper and economically expand.

[48]Archibald suggests that the missions became the primary food producers for the presidios after 1810. This data is contradicted by figures on presidio food production quoted by Cook, *The Indian versus the Spanish Mission*, Table 2, page 37. Archibald was also apparently unaware of the importance of redistribution of consumer goods to the Indians living at the missions. D.C. M. Platt places early California's international trade in a broader perspective in *Latin America and British Trade, 1806-1914*, (A &C Black, London, 1972).

[49]The development of a civilian economy in Alta California was retarded by a lack of population. When secularization finally came during the middle of the third decade of the nineteenth century, the lack of alternate support for the region's military establishment saw the near complete demise of regional defenses.

economic infrastructure possible. This, in turn, produced a fluorescence of mission arts and crafts that had no counterpart in the Pimería Alta.

Ironically, all these economic achievements were made without the benefit of a formal market system.[50] Before 1790, life in the isolated province was based on a combination of self-suficiency in agriculture and government subsidies in terms of consumer goods.[51] International capitalism had been introduced in the form of the hide trade at the end of the eighteenth century. However, despite the introduction of private foreign merchants, the Franciscans still dominated the region's commerce. They maintained a collective approach to the movement of goods into and out of the mission warehouses. As the wealth of the province ironically accumulated in their mendicant hands, they reinvested the surplus in the infrastructure as well as luxury for their Indians and the *gente de razón* population. In so doing they achieved what Herbert Eugene Bolton has characterized as one of the climaxes of the missionaries' material accomplishments in the Americas.[52]

In summary, it appears that Franciscans working in both regions were basically successful in creating communities that were to a significant extent, self-sufficient. Even so, Indians living in the missions of both Sonora and California continued to supplement their diet through hunting and gathering. These alternative subsistence strategies do not appear to have diminished over time. In the case of Alta California, a unique set of opportunities made it possible for the missions to achieve a more significant role in the regional economy and produced a kind of prosperity that was unknown in the Pimería Alta.

The archaeological record and forced conversion

Of all the questions posed at the beginning of this essay, the first one that was listed is probably the one that is most easily addressed by the archaeological data. A very clear model for penal institutions exists in terms of both modern jails and concentration camps, as well as their eighteenth-century counterparts. The kinds of behavior that took place in these kinds of institutions also have predictable effects on architecture as well as artifact types and their distribution.

Data drawn from contemporary prisons indicates that coercion is facilitated by the creation of some kind of residential enclosure, manned by guards. For obvious security reasons, the initial period missions did not incorporate housing for neophytes.[53] Few of the developmental phase missions were equipped with enclosures. In those that do, the layout and character of the facilities

---

[50]By contrast, the missions of the Pimería Alta existed in a world where consumer goods were readily available through a system of local markets.

[51]The *gente de razón* population remained small and existed within an economy that was entirely controlled by government officials. As late as 1846, the province did not count 10,000 *Latino* inhabitants.

[52]The Mission as a Frontier Institution (1917), reproduced in John Francis Bannon, *Bolton and the Spanish Borderlands*, (University of Oklahoma Press: Norman, 1964).

[53]Many of the *conventos* (Franciscan residences) were fortified (see the related illustration of an initial phase stockade following table four).

were clearly designed to keep people out, rather than controlling the resident neophytes. These fortified missions were built precisely in the settings where an external threat was most obvious.[54] Most developmental phase and nearly all proto-urban missions do not have any kind of enclosure.[55] This arrangement is entirely inconsistent with coercion on the part of the missionaries and soldiers.[56] To summarize, it can be said that the plans of settlements found in both regions do not correspond to models based on the idea that they were places of confinement.

A case might be made that in spite of the lack of obvious architectural features, the Indians lived as defacto slaves within a setting that was more comparable to the indirect control afforded by circumstances sometimes seen in the antebellum United States' south. However, a detailed examination of the archaeological evidence suggests that the artifactual data is also inconsistent with this suggestion.

Slaves are generally not allowed to engage in economic activities outside of the supervision of owners or overseers.[57] The abundance of hunted and gathered resources among mission Indians confirms contemporary comments by missionaries and others that aboriginal people made use of a wide variety of hunted and gathered food resources that took them far away from the missions and Iberian control. In Sonora, virtually the entire mission population periodically moved away from the Franciscan outposts to seasonally undertake wage labor.[58] The Indians involved in this massive population movement did so without any supervision of the type that would have been expected in

---

[54]See the related illustration of fortress missions (following table four).

[55]See the related illustration of a developmental phase and proto urban-phase mission complexes (following table four).

[56]Some authors have attempted to present the women/girl's dormitories (*monjerios*) as a kind of jail. However, the use of the *monjerios* is clearly more consistent with emerging ideas about privacy then they are confinement. Furthermore , the use of *monjerios* follows the customs that were shared by the Iberian elite. See Asunción Larvin (editor), *Sexuality and Marriage in Colonial Latin America,* (University of Nebraska Press: Lincoln, 1989).

[57]This depends to some extent on the mode of production found among slaves. In some areas, people who have such a status are given relative freedom to pursue independent economic activities, as long as they produce goods (usually defined in terms of quotas) to the benefit of their owners. However, these individuals were generally confined to geographic circumstances where flight was otherwise still extremely difficult. Such an arrangement was virtually impossible in Northern New Spain, as the interior regions remained outside of Iberian control. An individual set free to move through these areas could have easily escaped, and was almost impossible to capture.

[58]Radding de Murrieta, The Function of the Market,155-169. In the settlement of Cieneguilla alone, 1,500 - 2,000 neophytes and *gentiles* were employed in mining in 1773 (Ibid. Page 163). The next year the missions of the Pimería Alta as a whole reported a total of only 2,018 Indians (Kessell, *Friars, Soldiers, Reformers,* page 246).

a forced migration. In California, large numbers of neophytes at some missions worked as individual contracted laborers.[59] Furthermore, In both Sonora and California the Indian peoples came into contact with large numbers of aboriginal people who were not a part of the mission system.[60]

Slaves are not generally organized by their masters into military units, or provided stores of weapons. Archaeological evidence of military technology remains abundant at the missions. These items include steel knives, machetes, and lance heads. Chipped stone knife blades and projectiles points, suggesting the continued use of aboriginal weapons, are also abundant. Contemporary documents suggest that the missions provided an important force of militia that supplemented, and in some cases supplanted the regular armed forces of the province.[61]

Slaves typically live under circumstances of extreme poverty. In California the mission Indian inhabitants appear to have enjoyed similar quantities of goods to the soldiers and settlers. Furthermore, some of the neophyte residences at the mission were superior to those of the middle-status presidio and pueblo residents. Comments by missionaries and the military during the *War of Independence* (1810-1821) confirm the fact that some of the California Indians appear to have enjoyed a more comfortable lifestyle then the *gente de razón*. By contrast, the Indians of the Pimería Alta apparently did not have access to the quantities of consumer goods, or types of housing, seen in nearby presidio and pueblo communities.[62] However, even here, the material culture assemblage

---

[59]Most obviously at Santa Bárbara Mission. See Maynard Geiger, *The Indians of Mission Santa Barbara in Paganism and Christianity,* Franciscan Fathers Old Mission Santa Barbara, Santa Bárbara (1960), 33, 62, 77.

[60]The Franciscans were anxious that the neophytes who were allowed to move freely through the interior attempt to persuade the *gentile* Indians to move to the missions. The promotion of interaction with similar communities of politically independent, and culturally traditional, free blacks was not a feature of the slave experience in the antebellum South.

[61]Jack S. Williams, The Other Lancers for the King, *La Revista* (1998) 2(2):3-8.

[62]These goods included steel tools, copper implements, maiolica and glass beads. See Kenneath Bone, A Preliminary Analysis of Beads from Mission San José, Alameda County, California (unpublished manuscript, California Sate University Hayward Anthropology Museum (1975)); Maide Boyle, San Luis Rey Mission Report on the Historical and Archaeological Study of its Primary Construction and Indian Villages Associated with it (unpublished manuscript, Mission San Luis Rey, California (1968)); John S. Clemmer, The Archaeology of the Neophyte Village at San Juan Bautista State Historical Monument, (unpublished manuscript, California Department of Parks and Recreation, Sacramento (1961)); Anita G. Cohen-Williams, Diagnostic Maiolica Types of Northern New Spain, *Historical Archaeology* (1989); Deetz, *Mission La Purísima*; Glenn Farris, Archaeological Testing in the Neophyte Family Housing Area at Mission San Juan Bautista, California. Manuscript on file, Archaeology Lab, Department of Parks and Recreation, West Sacramento (1991), Archaeological Evaluation of the Neophyte Family Housing (plus Infirmary), the Granary, and the Threshing Floor at La Purísima Mission State Historic Park, manuscript on file, Archaeology Lab, Department of Parks and Recreation,

of the neophytes does not seem inferior to those of contemporary *gentile* (non-Christian) Indians. By contrast, the ascetic qualities of life experienced by the Franciscans in the region can be established through both descriptions and archaeology. The overall patterns seen in the missions thus suggest that the neophytes did not live under circumstances of extreme poverty, either in absolute or comparative terms.

Finally some basic questions have to be considered about the ability of the Iberians to control the Indian populations. As noted by Fernand Braudel, technologies have set finite limits to what can be accomplished by individuals throughout history.[63] The maximum force available at the missions did not amount to more than a dozen men. Could such a force, armed with the weapons of the time, be reasonably expected to force groups of Indians, sometimes numbering more than a thousand, into compliance? Based on the evidence drawn from modern law enforcement and military operations, it is clear that the small force of non-Indians could not have achieved such an objective.[64]

West Sacramento (1995); David L. Felton, Santa Cruz Mission State Historic Park - Architectural and Archaeological Investigations, 1994-1985, manuscript on file, Archaeology Lab, Department of Parks and Recreation, West Sacramento (1987); Hoover and Costello, *Mission San Antonio*; David Hornbeck, Economic Growth of the California Missions, paper presented at the 53rd Annual Meeting of the Society for American Archaeology, Phoenix (1988); Donald Howard, Excavations at Tes-haya: The Indian Rancheria at Mission San Antonio de Padua (Mont 100), *Monterey County Archaeological Society Quarterly* 2(1):1-11 (1972), Dietary Trends of the Antonio Indians, *Monterey County Archaeological Society Quarterly* 2(2):5-11 (1973). and Jack S. Williams, Jack and Anita G. Cohen-Williams, unpublished manuscript chapter in forthcoming Mission San Antonio Soldiers' Barracks Report (edited by Robert L. Hoover); *The Center for Spanish Colonial Archaeology Handbook* (revised fifth edition) (The Center for Spanish Colonial Archaeology: San Diego, 1998). Additional data has been provided in the ongoing excavations at Mission San Luis Rey and Santa Bárbara undertaken by the author.

[63]The Structures of Everyday Life, *Civilization and Capitalism: Fifteenth-Eighteenth century*, volume 1 (Harper and Row: New York, 1981).

[64]The importance of fugitivism at the California missions has generally been much exaggerated. In the most detailed study of the phenomenon published, Cook could not produce evidence of a single incidence of such departures from some missions (such as San Luis Rey) and strikingly low percentiles (less than 1 percent) at others. Furthermore, Cook does not take into account the fact that those who were involved in clearly antisocial behavior (such as the murder of other neophytes or similar crimes) were motivated to become fugitives, along with people who were simply seeking to leave the missions as an act of resistence. He concludes that no more than 3,462 out of 81,000 (a little over 4%) neophytes became permanent fugitives throughout 1831 (the numbers include the politically chaotic decade of 1821-1831). In regards to fugitivism as a whole, Cook admits; "*On many occasions, undoubtedly thousands of neophytes ran away* [no specific evidence to support this claim is offered]. *Of these a very large proportion returned to the fold after absences varying from a few days to several years . . .*" When the

In summary, it may be safely concluded that simple military-style coercion played no significant part in the creation of the missions of either region. Instead, the evidence points to the incorporation of neophytes through voluntary means.

The causes of contrasting patterns of development

Table five summarizes the comparisons I have made between the Pimería Alta and Alta California. It includes consideration of Iberian-Indian interaction at the missions, the mission economies, technological changes among the native populations, and the evolutionary stages visible in settlement architecture. In regards to the basic dynamics of the missions, it appears that in both regions important changes were effected in aboriginal lifeways through largely peaceful means at the missions. While introduced technologies were important, traditional material culture was also essential to the creation and maintenance of the Franciscan communities. One of the most profound differences in the two regions can be seen in the area of economics. Consumer goods are more important in Alta California. It is also clear that a greater number of California sites achieved what I have called a proto-urban phase of development. In short, while there are certain obvious continuities between the two regions, the Alta California effort appears to have been more of a material success than its Sonoran counterpart. Why did Alta California and the Pimería Alta follow divergent patterns in this regard? The answers are complex. However, a number of relevant factors are suggested by both the archaeological and documentary records.

In terms of training and goals, the missionaries of both provinces were given similar preparations and worked under similar sets of instructions. However, in Alta California, the Franciscans had far more control over the infrastructure of the economy, and ultimately, over all provincial temporal affairs. The missionaries themselves often linked their success to their ability to guide (and in some cases govern) all aspects of the neophytes' lives. In this regard, Junípero Serra and the administrators that followed him were successful in preserving some of the special arrangements granted to the Jesuits in Baja California. Alta California's extreme isolation also played an important part in this situation. Spanish mission economic policies in the westernmost province wavered during the second decade of their development, when the idea that the missions should be built as *reducciones* under missionary leadership was clearly under attack. The destruction of the *Yuma Crossing* outposts in 1781 brought an end to proposals to reshape the California missions along the lines preferred by the more radical military reformers, such as Governor Felipe de Neve and Teodoro de Croix. After 1792, the transfer of Alta California to direct viceregal control insured that the missions of the region would be governed in a way that was different from those found elsewhere in the *Interior Provinces*. The missionaries' place in the province as the primary instrument of Indian relations would remain largely in place through the time of secularization (1834-1835).

The archaeological record cannot easily be used to evaluate the role played by individual personalities that affected the missionary effort. By contrast, documents clearly indicate the

---

limited ability of the Iberians to restrain the Indians is also taken into account, it becomes clear Cook's data is inconsistent with the general findings he offers. See Cook, *The Indian versus the Spanish Mission*, 58-64, especially table three.

TABLE 5
SUMMARY OF ALTA CALIFORNIA AND PIMERÍA ALTA PATTERNS

Technology	*Alta California*	*Pimería Alta*
Iberian-Indian interaction at the missions	with few exceptions the neophytes voluntarily participate in the mission program; no clear patterns of military or similar coercion were used to create or maintain the missions; Neophyte militia play a vital role in the defense of the region	with few exceptions the neophytes voluntarily participate in the mission program; no clear patterns of military or similar coercion were used to create or maintain the missions; Neophyte militia play a vital role in the defense of the region
the mission economies	self-sufficiency was the prime objective; some small amounts of goods sold to the presidios and pueblos; after 1790 increasing amounts of goods are exported to areas outside the province; this produces cash which is used to purchase increasing amounts of consumer goods; the province never develops significant markets	self-sufficiency was the prime objective; some small amounts of goods sold to the presidios and pueblos; no goods are exported from the province by the missions; neophyte products have to compete with private establishments on the open market
technological changes among the native populations	significant introduced technologies; continuation of many prehistoric traditions; more abundant trade goods in California may be linked to a larger role being played by introduced technologies; some trades noted in California that are absent from the Pimería Alta; overall pattern a fusion of Indian and European lifeways	significant introduced technologies; continuation of many prehistoric traditions; overall pattern a fusion of Indian and European lifeways
evolutionary stages visible in settlement architecture	initial and developmental phase sites reflect typical patterns; many later sites reflect proto-urban phase development; continuation of some prehistoric settlement traditions; most mission settlements are open	initial phase sites reflect typical patterns; most later sites reflect developmental phase characteristics; continuation of most prehistoric traditions in regards to housing; significant numbers of sites are fortified

extraordinary part played by certain people in the development of the two regions. Although, Alta California's Junípero Serra had no counterpart in Sonora, a number of less well-known, but highly influential figures, such as Francisco Garcés, undoubtedly played a part in the achievements in the east. Among the second tier of Californian leaders are a host of other father presidents, including Francisco Palóu and Fermín Lasuén. Among the people who helped frame the mission experience must also be listed civilian and military officials, such as José de Gálvez, Pedro Fages, Felipe de Neve, and Teodoro de Croix. Finally, the personalities of Indian leaders also played a dramatic part in the missions. No one was more responsible for dividing the region into two frontiers than Salvador Palma (*Olleyquotequiebe*), the Quechan who lead the efforts to both create and destroy the Spanish presence at the *Yuma Crossing*.

In both regions, the success of individual Franciscan establishments was in no small measure linked to the responses of Indian people. Given that Iberians lacked the ability to simply coerce the aboriginal peoples, the natives' willingness to play an active role in mission development was as important as any other factor in the Franciscans' achievements. It is also clear that Indian resistance was of critical importance to the failure and limited accomplishments found in some mission outposts. By no means were the native peoples a passive population whose efforts were irrelevant to the dynamics of history.

A demonstration of the effects imposed by Indian peoples can be found in the contrasting stories of Mission San Diego and Mission San Luís Rey on the Alta California frontier. Here, similar attempts were made by the Franciscans to develop communities in adjacent, largely homogeneous, environments. However, while the San Diego community experienced numerous spiritual and material set backs, San Luís Rey became one of the most successful and rapidly growing outposts to be found in the province. While San Diego's architectural advance was modest (it failed to experience the creation of a *reducción* Indian town), Mission San Luis Rey saw the construction of some of the largest, and most elaborate facilities to be found in California (including the largest *convento* complex to be seen in all of the northwest).[65] Alone among the Alta California outposts, San Luis Rey's neophyte population did not decline prior to secularization.[66] While fugitivism and lawlessness remained a near constant problem at San Diego, these same troubles were virtually absent from San Luis Rey. The most obvious cause for the differences in the development of these two missions was the natures of the native peoples.[67]

---

[65]This structure measured over five hundred feet on a side. See the illustration of the ground plan of the site following table four.

[66]A preliminary examination of the artifacts associated with each group suggests that the Luiseño also embraced smaller Iberian material traditions with greater enthusiasm.

[67]See Florence Shipek, California Indian Reactions to the Franciscans, in Antonine Tibesar (editor) *Junípero Serra and the Northwestern Mexican Frontier, 1750-1825*, (Academy of Franciscan History: Washington, 1985). Shipek generally emphasizes the negative aspects of Indian-Franciscan interaction, but notes the remarkable success of the San Luis enterprise, which she attributes in part to the leadership of Antonio Peyri, but more fundamentally to differences in

It is also clear that some groups, such as the Quechan and the Apaches, who rejected missions outright, successfully remained outside the sphere of Spanish and Mexican political control. Furthermore, had it not been for the barriers that these and similar groups represented, there is little reason to believe that the mission efforts would not have advanced rapidly to the Gila River in the northeast, and to the Colorado River in the west. Contemporary military and religious officials were unanimous in stating that the economic and political development of Sonora (including the Pimería Alta) had been retarded, and even brought to desolation, by the Apaches.[68] Repeated attempts to reopen the *Sonora Road* that linked Mission San Gabriel to Tucson, were always brought to ruin by the Quechan problem. Clearly, Indian resistance played a fundamental part in limiting and encouraging the development of the mission frontier as a whole.

If the presence of the Apaches constituted a factor that undermined the mission effort in Pimería Alta, it was equally true that the plentiful civilians found in the region constituted another major form of irritant for the missionaries. These settlers provided numerous avenues for economic and cultural exchanges between the native and European worlds. In particular, the mining camps *(reales de minas)* were hotbeds of lawlessness and greed that were unknown in Alta California. Ranchers and prospectors often seized Indian lands and water resources. The mines also offered the Indians alternative opportunities for both trade and employment. The marketplaces of the civil settlements and military outposts encouraged direct participation of *gentile* and Christian Indian alike in petty capitalism. By contrast, Alta California included far fewer *gente de razón*, and no mining communities of markets.[69] With few exceptions, the *gente de razón* were not allowed to infringe on the Indian communities. The slowed development of the Pimería Alta missions is undoubtedly linked to the existence of Iberian mission antagonists.

The differences in environmental setting also clearly played a role in the contrasting development of the two regions. In general, the Pimería Alta had far less land that was suitable for cultivation. By contrast, coastal Alta California incorporated ecological zones that remain some of

---

the structures and character of Luiseño society and culture.

[68]See Williams, *Architecture and Defense*, 14-15. The Apache problem also had a unifying affect on Spanish-O'odham political relations. This, in turn, helped to insure cooperation in other areas of behavior between the Franciscans and the Indians. See Sheridan, *Kino's Unforseen Legacy*, 151-67. However, given the casualties and other hardships caused by the struggle, it seems unlikely that many colonial officials believed that the benefits created by the *Apache Wars* outweighed their hardships.

[69]In 1820, the entire *gente de razón* population of Alta California numbered less than 3,000. Of these, no more than 200 lived in the missions. The neophyte population at that time included a little over 21,000 individuals. By contrast, in 1820 the eight mission districts of the Pimería Alta counted only 1,127 Indians and 2,291 *gente de razón*. Under the Mexican regime (1821-1856) the number of non-Indians steadily grew. See Kessell, *Friars, Soldiers and Reformers*, 245-46. As late as 1846 the entire *Latino* population of Alta California did not exceed 10,000 people.

the most agriculturally productive on earth. Yields of corn, wheat, and barley in the west were extraordinary when measured by eighteenth-century standards. Logistical factors related to the environment were also important. Even though the Pimería Alta was closer to centers of production in the south, access to ports meant that Alta California could be more easily and cheaply supplied by sea and that it had a far greater potential for all kinds of commerce. Another example of the dramatic role played by ecology in the mission development can be documented in the disruptive effects that took place among the Kumyaay at Mission San Diego (California). Here, limitations on the availability of water and land for agriculture forced the Franciscans to abandon plans to create a *reducción* (centralized town). Instead, neophytes were allowed to live in the interior, often in communities that combined Christians with *gentiles* (pagans). Similar conditions prevailed in northern Baja California among the Dominican establishments. The net effect of the lack of town was a slowing of the acculturation process, owing directly to the lack of exposure to missionaries, and continued intense interaction with traditional *gentiles*.[70]

The relative success of the California endeavor is also clearly tied to the economic opportunities created by the hide trade. In fact, if Alta California had remained tied exclusively to the central part of New Spain through the San Blas trade, it is hard to imagine that the remote region could have survived during the *War of Independence* (1810-1821) when the traditional supply system collapsed. During this period the mission economy not only prospered, but provided for the continued survival of the presidios and pueblos by acquiring and manufacturing the consumer goods which were essential to these outposts. The primary importance of the missions to the region's economy only gradually declined during the decade that followed.

Finally, perhaps the single most obvious material difference in the missions of the two regions that has not been considered up until now involves the scale of Indian involvement. The force of numbers, as noted by Ferdinand Braudel, often helps to define and set limits to what was possible.[71] There were simply far more Indians in Alta California than there were in the Pimería Alta. A far greater number came to live in the missions in the west. Between 1774 and 1820, the O'odham population of the Pimería Alta declined from 2,018 to 1,127.[72] By contrast, during the same period the Indians living in the missions of Alta California grew from a community of about 600 to a little

---

[70]Similar social problems plagued the Pimería Alta missions, where there was a gradual replacement of the more sedentary river O'odham (Pimas) by the migratory Tohono O'odham (Papagos). Despite the availability of land and water, the Franciscans were only marginally successful in persuading the later group from taking up year-round residence in the missions. Their seasonal trips to the open desert had similar consequences for acculturation. See Kessell, *Friars, Soldiers and Reformers*, 246.

[71]Braudel, *The Structures of Everyday Life*, 31-103.

[72]Even in 1723 the population had not counted more than 2,500. See Robert H. Jackson, *Indian Population Decline: The Missions of Northwestern New Spain, 1687-1840* (University of New Mexico Press: Albuquerque, 1994), 168.

more than 21,000.[73] In 1820 the missions districts of San Diego, San Gabriel, San Francisco, Santa Clara, Santa Bárbara, San José and San Luis Rey were each individually larger than the combined total of all the missions of the Pimería Alta. The larger population size clearly facilitated the more elaborate building programs and other accomplishments in California.

In summary, the factors that appear to have limited the development of the Pimería Alta Franciscan establishments include the presence of more plentiful Indian and civilian mission antagonists, and greater aridity. The extensive control over the mission temporalities that the Franciscans enjoyed in Alta California also helped them to achieve more of their economic goals. In both regions, the active role played by neophytes was critical to the success and maintenance of mission communities. The most important economic difference in the two regions may well have been the opportunity for participation in the hide trade in California. Ultimately, the single most obvious factor that set the limits for what could be accomplished was population size. The Pimería Alta missions simply had fewer people, making it unfeasible for the eastern missionaries to undertake the kinds of projects seen in Alta California.

General conclusions: One order - many mission systems

Without doubt, there are some striking material similarities among the missions of Pimería Alta and Alta California. The Franciscans created settlements following a common masterplan that called for the social, political, economic, and religious transformation of native peoples into rural peasants. Today, the most obvious remains of the missions consist of massive houses of worship and abutting residence complexes (*conventos*). The artifacts contained in adjacent sites point to the introduction of similar Old World plants and technology. However, a closer examination of the archaeological record of the two regions suggests that there were significant differences. Economically, Alta California enjoyed a greater level of material prosperity than the Pimería Alta. The western region also witnessed the appearance of a more diverse array of technologies as well as luxuries. Although they passed through similar initial stages of development, the California missions achieved a greater measure of the traits that corresponded to the idealized model of town life envisioned by the Franciscans. In that sense, they were more materially advanced than the Sonoran settlements.

Consideration of the differences and similarities noted here suggest that the idea that all missions of *Northern New Spain* are fundamentally alike needs to be reconsidered. Mission building was a creative and dynamic process that produced many kinds of mission systems. As noted in preceding sections, the contrasting patterns of development resulted from many factors. Indian people, Franciscans, and other newcomers each played an important part in the creation and the demise of the missions. Of no less importance were circumstances brought on by the larger physical and social environments that surrounded missions' development. The force of individual personality also deserves recognition in any appraisal of what happened in mission history.

The goal of the mission efforts in both regions was the comprehensive transformation of native peoples. In neither frontier region was full success achieved. However, in many outward ways

---

[73]These figures are based on those provided by Engelhardt and Kessell. The Christian Indian population of California had declined to a little over 16,000 by 1834.

the missions appear to have accomplished a great deal. Certain customs and powerful technologies were introduced. The outward signs of conformity to orthodox Catholicism, manifested most obviously in houses of worship, were much in evidence. However, many native technologies and ideologies remained and continued to play an important part in the everyday lives of the mission inhabitants. The living descendants of the Indians demonstrate that the aboriginal people did not lose their sense of being Indians, no matter how dramatic their outward signs of transformation. The great strength of culture to adapt without losing its essential elements is much in evidence in the Indian experience of *Northern New Spain*. The survival of Indian people in these regions, and their often fierce loyalty to the Catholic Church, provides strong evidence of what was a complex, and a times, seemingly self-contradictory set of relations.