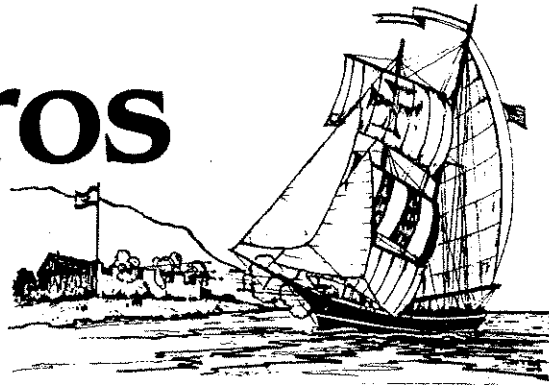
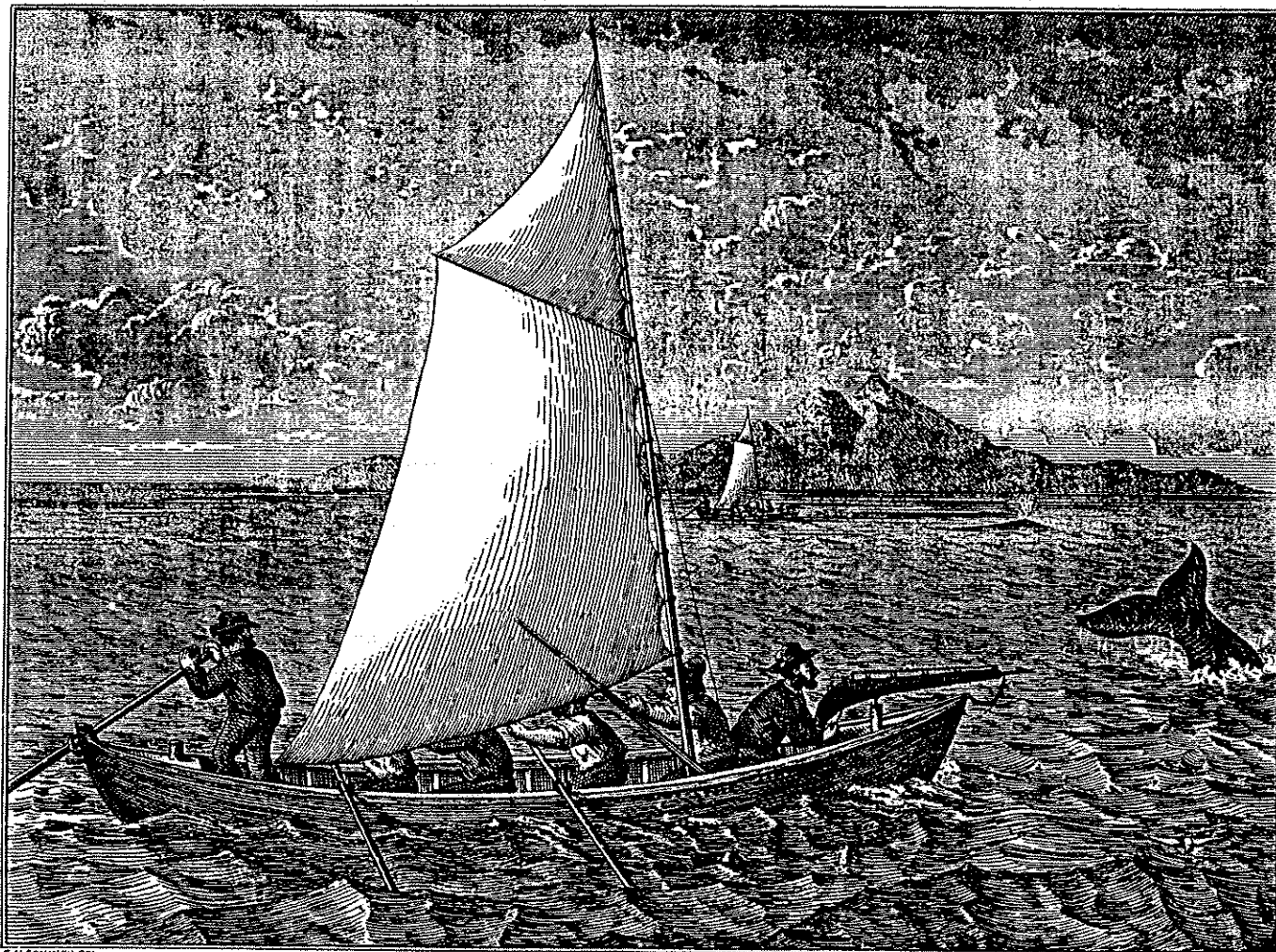


Fort Guijarros Quarterly



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CONTENTS OF THIS ISSUE:

**WHALING OFF BALLAST POINT: YANKEE WHALERS IN SAN DIEGO
IN THE YEARS AFTER FORT GUIJARROS WAS ABANDONED
1858-1886**

FORT GUIJARROS QUARTERLY

Published by the Fort Guijarros Museum Foundation, a non-profit organization incorporated in 1981 to commemorate and preserve the heritage of Ballast Point and Point Loma. The Quarterly is a journal of research and information dedicated to the promotion of a better understanding of the history of San Diego from 1796 to the present.

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COVER: Lithograph of 19th century whale boat with deck-mounted Greener's harpoon gun. This scene could easily have been of the Packard Company's whaling sloop New Hope off Ballast Point and Point Loma in the 1860's. Reproduced from Charles M. Scammon, The Marine Mammals of the North-western Coast of North America, Described and Illustrated Together with an Account of the American Whale Fishery, Bureau of Commercial Fisheries, U.S. Fish and Wildlife Service, 1874, Reprinted by Dover Publications, Inc., New York, 1968.

CONTENTS

- 1 Membership Enjoys the Most Successful Fort
 Guijarros Fiesta in Foundation History
- 3 Keynote Speech to the Foundation

 Vance Bente, Keynote Speaker
 1987 Fort Guijarros Fiesta
- 6 The Maritime Tradition of Shore Whaling: Research
 Implications from Ballast Point in San Diego Bay

 Ronald V. May, Director of Archaeology Programs,
 Fort Guijarros Museum Foundation
- 14 Preliminary Analysis of Ceramic Pipe Fragments
 Recovered from the Fort Guijarros Excavations

 Judy Berryman, M.A.
 TMI Environmental Services
- 24 Avian Remains from the Field III Excavations at
 San Joaquin de la Punta de los Guijarros

 Paul E. Langenwalter, II and Daniel A. Gutherie
 Heritage Resource Consultants
- 40 Foundation Notes

 End of Season Excavation Report
 Ronald V. May, Director of Archaeology

 Financial Statement
 Don Lyons, Treasurer

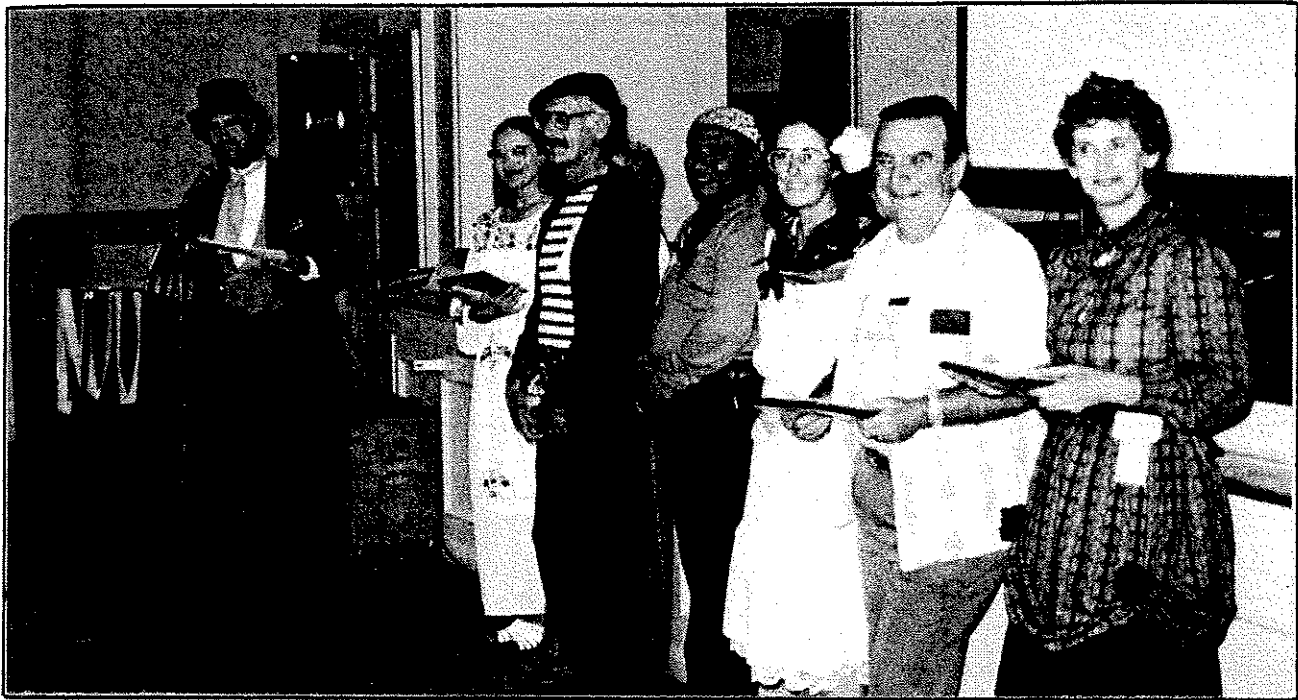
 Fort Guijarros Exhibits on the Move

 Introduction to the Board of Directors

 Membership Campaign Report
 Mike Nabholz, Membership Chair

 Membership and Pin Order Forms

MEMBERSHIP ENJOYS THE MOST SUCCESSFUL FORT GUIJARROS FIESTA
IN FOUNDATION HISTORY!



Ron May presents special awards to 1987 dig crew.

To the 220 members and guests who attended, on 19 September 1987, the Fort Guijarros Fiesta was an event that will not soon be forgotten. Over \$1600 was raised toward research and commemorative projects and a good time was shared by all.

The organization has grown this year to over 100 active participants, and approximately 42% of these members and past supporters attended the Fiesta. Many gave their time and service to help decorate, produce the entertainment, prepare exhibits, and staff the docent and support positions.

The U.S. Navy's support was key to much of the event's excitement. Through their generosity Argonaut Hall was made available, the 1863 Napoleon Cannon was scheduled for salutes, guests were shuttled to the beach in Navy vans and graciously directed to parking, dig tours, and event locations. The wonderful historic costumes worn by the U.S. Navy Cannon Team also lended color to the festive occasion.

Foundation members from the Dig Crew did an outstanding job escorting guests to the vans, down to the dig site, and around Argonaut Hall. In order to save money this year, crew members bussed tables, served coffee and wine, took down all the tables and decorations, and then cleaned up the room after the event came to an end.

A very special treat was arranged with Keynote Speaker Vance Bente', who spoke on Spanish borderland research and why Fort Guijarros is so important to the United States. Vance was awarded the first "Award of Merit" from the Board of Directors for his outstanding research contribution into the history of Spain and Mexico in California. Vance currently directs the excavations of the Santa Barbara Presidio and has written books on previous research at that site. He has also worked on Mission San Buenaventura and Puebla de San Jose.

Casa de Espana produced an outstanding performance of Spanish culture during the evening meal. Dancers delighted the guests with ethnic folk dances from diverse parts of Spain to the accompaniment of guitar music. A special treat was arranged when La Tuna arrived from an engagement in Tijuana. The La Tuna are performers from Spain that carry out a tradition dating back centuries. Dressed in costumes of minstrels, these singers played guitar and mandolin to the enchantment of the entire audience.

The awards ceremony has become an important tradition for the organization. Each year about sixty members are honored for contributions in research, exhibit preparation, excavation, and promotion of the causes of the organization. The Field Director of the archaeology project has always donated the

plaques which commemorate the special crew members who have given over sixteen weekends of hard labor to shovel dirt, shake screens, and record the excavation recoveries.

It is difficult to analyze precisely why the 1987 Fiesta had the largest turnout in the seven years history of the Foundation. Perhaps the Fort Guijarros Quarterly has convinced the membership and patrons that the organization is serious in its ideals and goals. Perhaps the new invitations stimulated a better response from the 191 people who donated for the sumptuous paella dinners. Whatever the reason, everyone looks forward to an even more vital year in 1988 with the March 20 Battle of San Diego Bay Fiesta and other exciting events in the works.

Ronald V. May, Chairman
Board of Directors



Dancers from Casa de Espana entertain guests at the Fort Guijarros Fiesta.

KEYNOTE SPEECH TO THE FOUNDATION

Vance Bente', Keynote Speaker
1987 Fort Guijarros Fiesta

As a group, we share a common interest: the successful investigation of Fort Guijarros. However, within this group many different occupations and interests are represented. That diversity and complexity is the theme of my comments tonight.

In the same way that knowledge, interest, capital and involvement of diverse people were required to establish a Spanish presence on the frontier, equally diverse interests and knowledge are required to investigate and understand this phenomenon. By way of a few comments with regard to that diversity and complexity, perhaps we can establish a geographic and cultural context for properties such as Fort Guijarros,

and place the present investigation of Fort Guijarros within the context of current inquiry involving the Spanish colonial frontier. Often referred to as northern New Spain or the Spanish Borderlands, the Spanish colonial frontier ranged eastwards from Alta California (along the Pacific Coast) through the Provincias Internas (which included parts of northern Mexico and the southwestern United States), to the Florida peninsula.

Fort Guijarros, as many of you are aware, is one of at least three subsidiary fortifications related to the presidios of Alta California built during the Spanish colonial period. In addition to fuertes, these subsidiary fortifications include castillos and batterias.

The thesis of the institutional triumvirate crystalized in the seminal essays of the early 20th century scholars such as Herbert Eugene Bolton, with his 1916 essay titled The Mission as a Frontier Institution in the Spanish American Colonies, set forth the notion that the mission was the principal pioneering agency behind Spain's colonization efforts. Perhaps it was this early pronouncement that left us with the often misleading appellation of the "Mission Period," a catch-all term used to blanket Spain's colonial efforts and the subsequent tenure by Mexico in Alta California.

However, that historic perspective began to broaden during the 1930's and 1940's as a variety of related disciplines began to make contributions; among them archaeology, socioeconomics, geography, and botany. For example, G. W. Hendry, Professor of Botany at the University



Vance Bente', recipient of 1987 Award of Merit at 1987 Fort Guijarros Fiesta

KEYNOTE SPEECH - continued

of California, Berkeley, undertook an analysis of the plant contents in adobe bricks taken from various hispanic structures in order to reconstruct the flora of the frontier.

What became clear was that the cultural development inspired by Spain's colonization of the frontier could only be understood through the collaborative efforts of numerous disciplines, and that it was essential to look at the total array of institutions, facilities, and populations that contributed to that development, not just at the missions, presidios, and pueblos.

This broadening perspective led to the recognition that the frontier was like a complex cultural system, that properties such as Fort Guijarros, like other colonial sites, represent one of the many elements that contributed to the system, and that in itself the fort or fuerte is a complex phenomenon that can yield a substantial body of information pertinent to our developing understanding of the Spanish colonial frontier. Properties like Guijarros have until recently been largely neglected. To some extent that neglect can be attributed to their number and context of preservation. Among sites similar to Guijarros, only the coastal presidios of San Francisco and Monterey are known to have included some form of fuerte, castillo, or batteria.

What is the context of preservation for similar fuertes? At San Francisco, the construction of the Castillo de San Joaquin, after which Guijarros was to be modeled, was begun at Fort Point in 1793, and completed in 1794. Equipped with cannons described as eleven brass nine-pounders, San Joaquin was described as a platform or barbette battery.

Two additional batteries were eventually in the Bay area, the San Francisco at Point Los Meganos and the Batteria de Yerba Buena. A castillo to assist in the defense of Monterey Bay was also built.

During the 1960's, it appears as though the California archaeological community came to recognize the relevance and potential contribution of these and similar sites. Examples of excavations at such sites include James Deetz's investigations at La Purisima and Bill Pritchard's study at El Castillo de Monterey.

Among the areas and features investigated by Deetz at La Purisima in 1962, was a segment of the neophyte housing. Among the important conclusions reached by Deetz was that the process of cultural change--that is the giving up of prehistoric lifeways and the corollary adoption of hispanic traits--was not a uniform process. The archaeological assemblage from the neophyte housing reflected maintenance (i.e. retention) of female-related behavior such as basketry and milling, where as male-related items associated with skin dressing and weapons manufacture were almost entirely absent.

In 1967, Pritchard undertook excavation at El Castillo de Monterey. This excavation is notable for two reasons: it signals an awareness of the peripheral, support related activities; and, the discussion of architectural change linked to historical references found in documentation and the architectural record.

Contrasting these two early investigations, the success of the Pritchard study at El Castillo de Monterey resides primarily in the fact that the National Park Service sponsored the investigation. The Deetz study is notable in that it addresses aspects of acculturation, a common phenomenon throughout the

frontier and one of concern to anyone interested in the human story of culture contact, assimilation, and change. The current investigation at Fort Guijarros is an example of similar and current research.

These broader interests have directed investigations beyond earlier preconceived notions regarding behavior, architecture, and building practices. The 18th century Puebla de San Miguel de Carnue' on the eastern limits of present day Albuquerque has been the site of investigations since 1975. The results of investigations there have provided fresh insights into the frontier experience.

At Carnue', construction included jacal, or waddle and daub (smearred stucco over a brush wall), rather than the exclusive use of adobe brick. Despite the popular conception that a "typical" Spanish colonial dwelling is a house built around a central patio, such houses may have been uncommon on the frontier. Most of the houses at Carnue' consisted of a single room plus an attached shelter--a corner fireplace and an outside hornó (oven). Houses such as these were irregularly grouped around a plaza.

The study of the Spanish colonial era has benefited, however, from these bouts with reality. A new understanding has evolved that recognizes that it is not just Spanish culture we are seeing or investigating on the frontier.

In some cases, hispanic traits are juxtaposed with those of Indians indigenous to Mexico. For example, throughout the southwest were colonies of Tlaxcalan, Indians sent to encourage loyalty to the Spaniards and convey the elements of civilization. In addition to ethnic influences, each community reflected a cultural system that had evolved as a result of its unique frontier experience. That experience is amply demonstrated in the archaeological

record, and is likely to be expressed at Fort Guijarros as well.

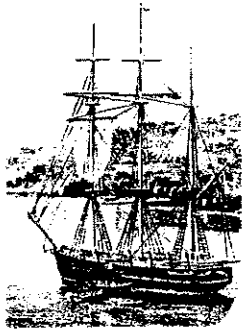
There is a sort of binary opposition active on the Spanish colonial frontier that may be described in terms of the formal, or governmentally decreed, and the vernacular, what is actually encountered (the material remains). The attitude expressed by the architecture is best summed up by the expression "yo obedesco, pero no complo" (I obey, but I do not comply). This is, perhaps, the basis for the growth of regional folk cultures.

Town layouts are an excellent example of the frontier response. As pointed out by Marc Simmons in his discussion of settlement patterns and village plans of colonial New Mexico, towns were to be designed around the classic Roman grid of the later middle ages--incorporating straight, parallel streets with rectangular blocks and one or more rectangular plazas, the principal one to be designated as the Plaza Mayor. Much of the literature would have the readers believe that construction was completed in the formal manner as prescribed by the Ordinances of 1573. However, "regularization" did not occur until the Reglamentos of 1776 and orders such as those issued to Governor Juan Bautista De Anza.

The settlements we see here tend to be more loosely structured, more organized. Thus, when looking at frontier phenomena such as an historic site like Fort Guijarros, we must be aware of the formal traditions expressed in the materials left behind, as well as the informal expression of evolving regional culture. The key point here is that as our understanding of the period continues to unfold, we must avoid becoming complacent about our knowledge of the past. We should remain skeptical. History will always be an expression or abstraction of a past reality.

THE MARITIME TRADITION OF SHORE WHALING:
RESEARCH IMPLICATIONS FROM BALLAST POINT IN SAN DIEGO BAY

by Ronald V. May



Bay whaling was a strategy employed to hunt whales from ocean-going factory ships dating back to the 16th century. Basque galleons crossed the Atlantic to the coast of Newfoundland and established settlements with shore facilities capable of supporting large numbers of ships along many miles of coastline. The ships then linked numerous outpost stations. This maritime tradition spread world wide by the mid 19th century.

Archival research in Spain has revealed a complicated system of a number of private companies owned by families with long traditions in maritime business. These families would often co-venture and cross-invest in whaling expeditions in the Atlantic.

Dutch, French, British, and American companies adopted the strategy of transporting factory ships to whaling grounds and then off-loading mobile communities at convenient locations. The ships could then return to the base from oceanic hunts or to transship between smaller stations.

However, by the early 19th century, only British and American companies dominated the industry. Ship crews were often composed of mixed ethnic groups. A typical ship of the period might have had English, Portuguese, Polynesian Kanakas, Aleut Indians, Maori from New Zealand, and Yankees from New England.

Ship captains and company agents would compare notes in the boisterous saloons of Australia, New Zealand, Hawaii, and California. Successful hunts were a source of pride and word swiftly spread of new grounds. When the ships met on the open sea, "gamming" sessions were held and plans were laid to hunt in teams.

While most ship captains preferred to operate totally at sea, all sought refuge and rest along the Pacific Coast. Some hunted whales in close to shore, but it was not until 1806 that the first shore station in the Pacific was established (1) in Tasmania. By the 1830's, regular shore stations were developed in New Zealand (2) and Australia. (3)

Whale ships had been observed in isolated areas of Mexico before the 1830's, but the first well-recorded bay whaling and shore station was at Magdalena Bay, Baja California. (4) The records of these stations remain buried in ship's logs and few have surfaced in print.



17th century tryworks oven for boiling whale oil.

Station Network System

Figure 1 illustrates a model for the station network system which seems to have characterized the semi-formal shore whaling companies of the 19th century. These operations were often miniature versions of the larger ship-owner companies. A number of families of men would band together as partners and co-mingle equipment, facilities, and supplies. Ownership must have been recorded, since the tradition of "lays" or shares was carefully maintained depending upon rank and investments.

It is likely that older seasoned mariners were chosen from ship companies to run the shore stations. Some stations were independently operated, but those which were better financed had the greatest chance of survival. Loss of a ship could mean death for the small outfits.

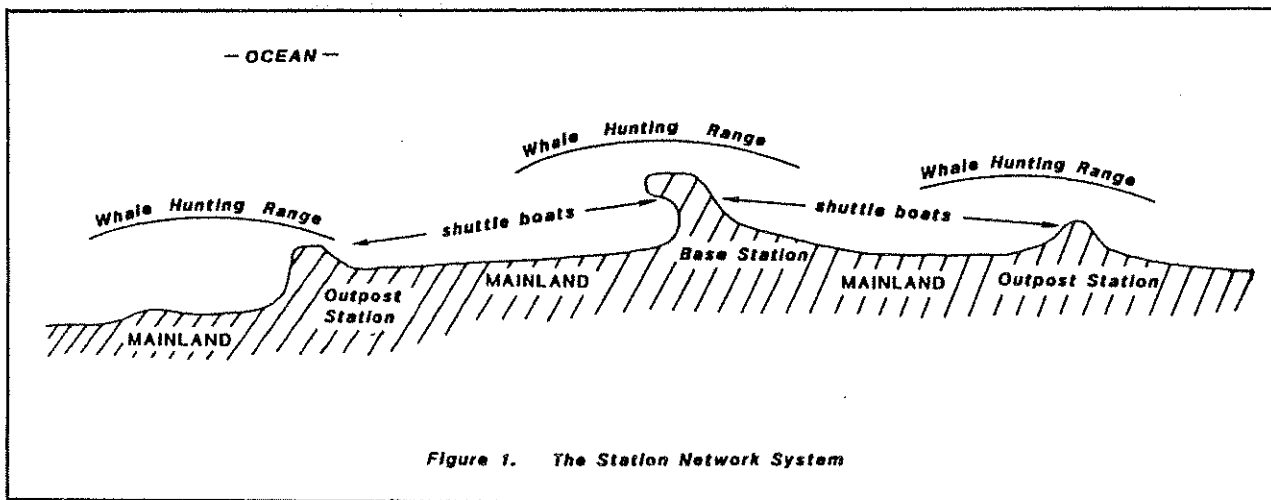
The South Pacific was the place where the system was mastered. Huge herds of Right Whales regularly passed certain points of land following seasonal currents. The companies would establish one base station to serve as the central supply and shipyard for the outposts. Schooners and sloops shuttled men, supplies, and oil between the base and the outposts. Figure 2 illus-

trates the economic and shipping network.

British whalers patterned their whaling station communities after English hamlets. There was a squire or company manager that operated the system and officers, gunners, steersmen, and shop craftsmen formed a stratified hierarchy of status. The regular whalers often held the lowest standing. However, Maori men and women working on the ships and in the households inevitably held the lowest status. (5)

Figure 3 illustrates the functional divisions within a typical whaling station. The base station was a location for the center of commerce. Complete carpenter's shops, blacksmith's shops, barracks and residential homes for married men, supply and oil warehouses, stores and offices were spread out over the beach.

The actual "try works" was the factory area where blubber was peeled off whales in shallow water, hauled up to cutting areas and "minced," and then dropped into huge cauldrons set in brick or stone ovens. Men stirred the oil, fed the ovens, skimmed oil into wooden casks, and coopers sealed the casks. Other workers would roll the casks to the warehouses where record keepers would mark the items in ledgers. Outpost stations were



much smaller and often were operated by less than ten men.

The proliferation of independent stations coincided with the demise of Right Whales in the 1840's in the South Pacific. While many of the occupants of those communities turned to seal hunting, fishing, and logging, others simply packed up their try works and sailed off for better whaling grounds.

The North Pacific

As long as the technology depended upon hand-held harpoons, animals such as the California Gray and Humpback whales were safe from whaling companies. These whales would turn and fight killing the occupants of the small twenty-eight foot long boats as they smashed the intruders with their tails. Right

whales were then hunted in the Bering Sea and off the coast of Siberia. (6)

Ship companies typically would stop for vegetables and water at the port of San Francisco, California before sailing on to Hawaii and then north. The government of Mexico extended hospitality to those ships and before long outlaw maritime wharf communities developed away from government control. As the hunting in the Bering Sea diminished in the 1850's to 1860's, some of these ships turned to hunting the California "Devil Fish."

The invention of harpoon guns with exploding missile-harpoons or bomb lances was the technological key to open the California Fishery. (7) Held like rifles or shotguns, these weapons could fire into the fleeing whales and the missile detonate inside the hapless prey.

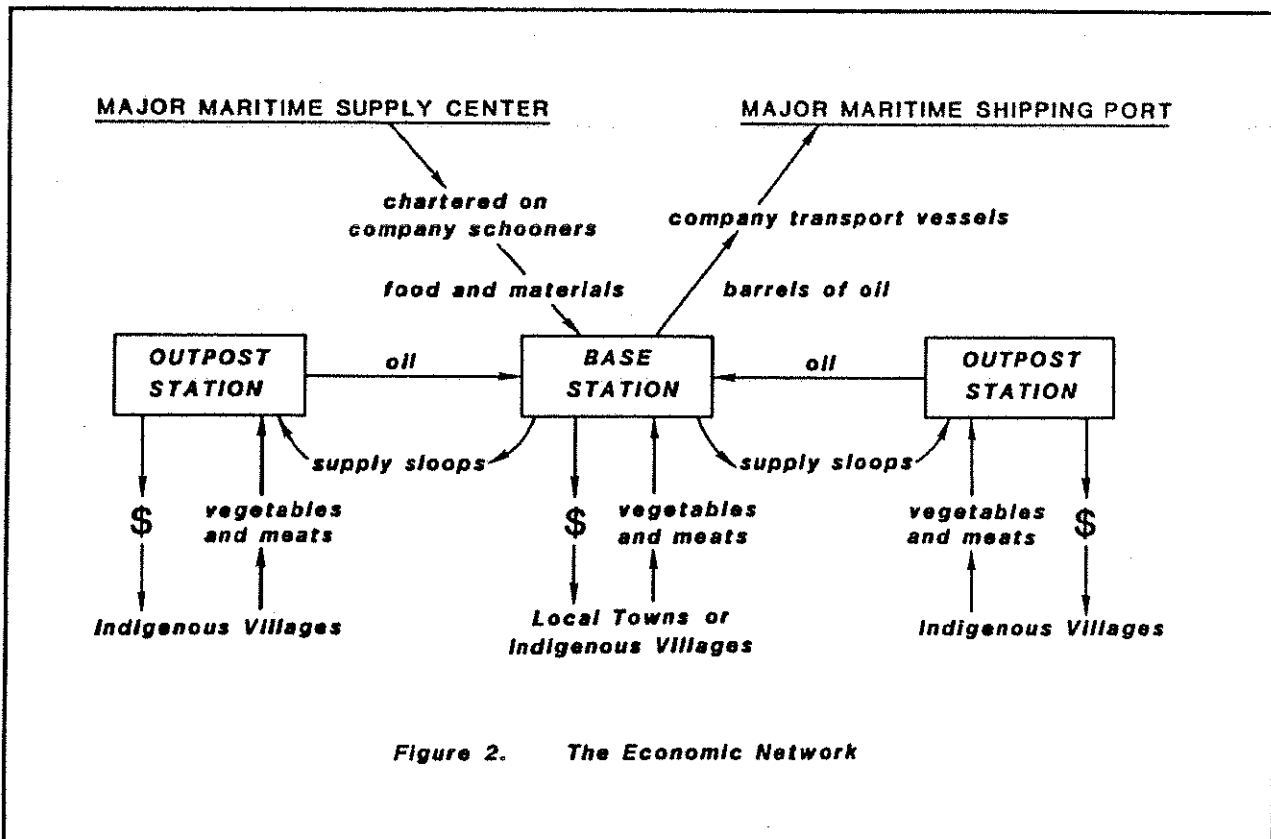


Figure 2. The Economic Network

The California Fishery

Some time between 1852 and 1854, a veteran from the South Pacific retired to California and introduced shore whaling to Monterey and Santa Cruz. Captain John Pope Davenport has been credited with introducing the system to a series of stations, most notably was Monterey.

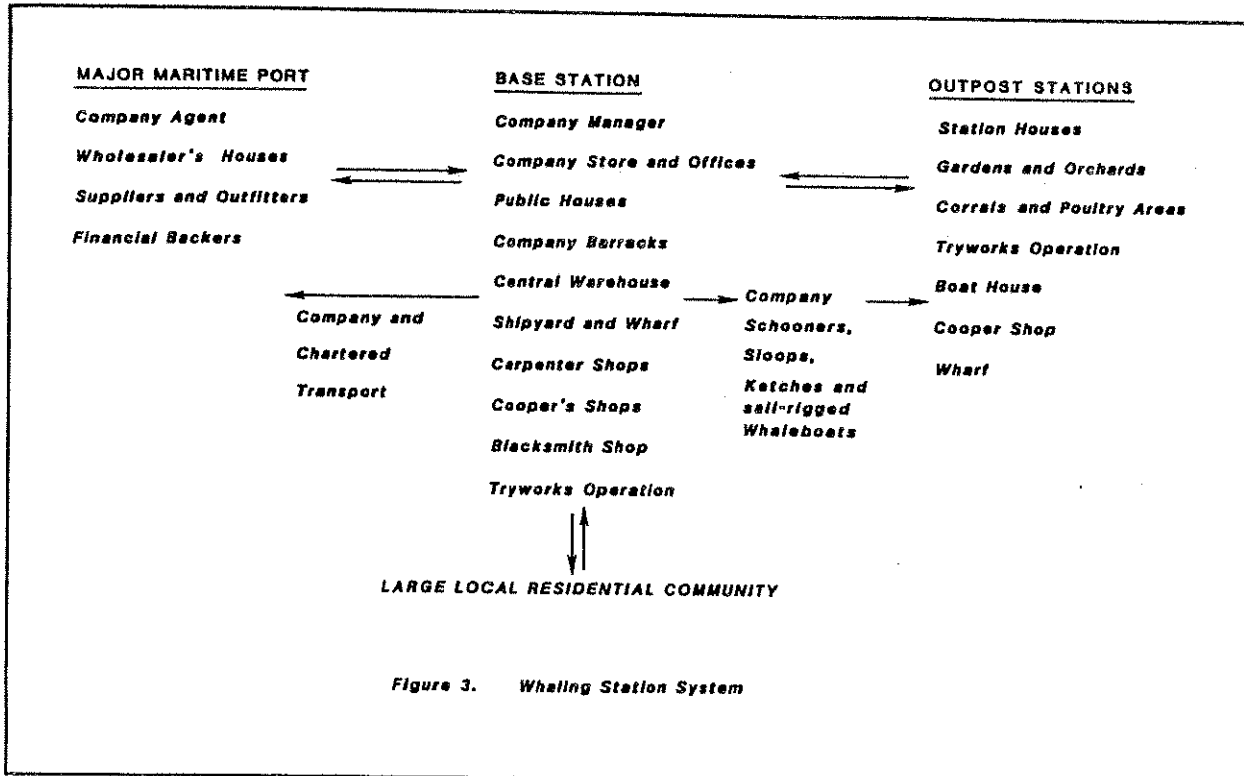
John Pope Davenport hailed from Tiverton, Rhode Island and had sailed from the South Pacific to Hawaii in pursuit of whales and new mercantile markets. (8) As a wealthy man, he arrived in San Francisco in 1849 investing heavily in frontier maritime ventures. On a trip to his home town in Rhode Island, Davenport married and returned to California in 1851 to retire from long sea voyages.

Drawing from experience in the South Pacific industry and exploitation of the Mexican fishery, Davenport made several attempts at establishing shore whaling communities in Monterey in 1852. However,

his crew of Indians and merchant sailors lacked the necessary skills. Working the coast between shore camps on the schooner Ann McKinn, Davenport recruited seasoned whalers and finally established a company in Monterey in 1854. He leased the first brick house in California for office space and sold shares to raise funds to equip his stations.

Davenport's activities remain sketchy throughout the 1850's, but it is clear that he invested heavily in ship building, bonding and ownership of ships involved in the whaling industry between Mexico and California. Research in the U.S. National Archives has revealed intricate investments that may hint an involvement in the Ballast Point Station at San Diego.

Entries were made at the U.S. Custom House in Monterey on March 24, 1855, John Pope Davenport, Daniel E. Way, George L. Dublois, and Eliju Avery were recorded as investors in the bond for the Certificate of



Registry for the schooner General Morgan and on September 11, 1855 indicating John Pope Davenport, John Campbell, and John Laker paid the \$1,000 Coasting License Bond for the schooner Teresa ton engage in trade in Mexico. (9) The following year on July 5, 1856, John Pope Davenport and L. E. Brown were listed as investors in the \$500 bond for the Certificate of Registry for the schooner Julia.

The same Elijú Avery involved with the General Morgan was Master of the schooner Sovereign which departed Monterey in 1857 for San Diego to engage in "foreign trade" in Mexico. Davenport was a co-investor on the Sovereign as well. (10) In another document from the U.S. Custom House in Monterey, John Pope Davenport's schooner Caroline E. Foote was listed as leaving for San Diego about the same time. (11)

Interestingly, correspondence between Ephraim W. Morse of San Diego and Daniel Breed of San Francisco in 1865 revealed that the Sovereign transported barrels of oil from Alphaeus and Prince William Packard's company and Levi Tilton's company on Ballast Point. (12)

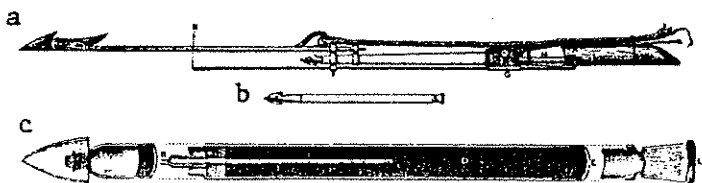
The intricate cross-connections among the whaling and shipping ventures is suggested by San Francisco Bulletin correspondent Rufus K. Porter in 1864. (13) In 1857, Porter had established the "Great Salt Works" at San Quintin and later moved south to Ojo de Liebre at Scammon's Lagoon. An article dated January 18, 1864 revealed that he declined an offer from Captain E. Burr and owner John Pope Davenport of the Caroline E. Foote for a trip to San Francisco in favor of an overland rout to San Diego. Porter referred to these men as whalers and that they had been operating alongside the bark Nile and ship Pearl, both of which were owned by Monterey whaler Captain George H. Fish. (14)

Davenport had one son named John born on September 28, 1854 in Monterey and another son Walter born on October 20, 1867 in Soquel, California. (15) Monterey historian Amelie Elkinton has documented Davenport as having moved from Monterey on June 11, 1865 and eventually settled down at Davenport's Landing north of Santa Cruz in 1867. (16)

It was in this context that the 42 year old twins of Portuguese descent, Alpheus and Prince William Packard, arrived in San Diego in 1857 to scout the environment for a good shore whaling station. They were reported having a good season at La Playa in 1858 and by 1860 occupied Ballast Point. (17) This piece of land was soon jointly occupied by the Johnson Company and Tilton Company, both of which had outpost stations in Baja California prior to that time. All these men listed Massachusetts as their birthplace in the Great Register of Voters in 1867.

A financial connection between Davenport and Ballast Point has been theorized based upon the cross-investments in shipping, bonding, and staffing of the shore whaling stations. In 1866, Thomas G. Lambert was listed on the Tax Assessment Roll of Monterey as a whaler working for Davenport's Company. Yet, in 1865, he was listed as a gunner for the Packard Company and named in a lawsuit.

One very revealing incident was the May 29, 1865 law suit by Butcher Louis Rose against the Packard



a. Pierce's Harpoon-Bomb-Lance-Gun
 b. Bomb-Lance
 c. Inside of Bomb-Lance

Company for non-payment of a \$743.22 meat bill. (18) This is a significant amount of money for the time. An average income for a whaler was about \$300 a season. When Sheriff James McCoy arrived on Ballast Point, the beach was empty. The companies had departed south to either Santo Tomas or the outpost station at Punta Banda.

It is interesting that at the height of the success of the Ballast Point station in 1873, the U.S. Army evicted the companies in order to construct an artillery fortress. (19) The companies simply shifted operations to Santo Tomas and Cape Colonett in Baja California. Even after the Army abandon the fortress project in 1874, civilian caretakers discouraged whalers from using Ballast Point until 1883.

Captain Enos Wall, a veteran of the Packard Company, set up a small try works named the Wall & Plummer Company in 1883 but it ceased when he died in 1884. The following year, Higgins & Son Company, a firm from Baja California, processed whales on Ballast Point until 1886.

Both the Wall & Plummer and Higgins & Son Companies probably established living quarters near a spring on North Island and rowed across to the tip of Ballast Point. Photographs and sketches of that location in the 1880's depicted two large warehouses and several smaller structures that probably had been used by the whalers. A 1896 U.S. Army Corps of Engineers technical drawing recorded a whaler's shanty, boathouse, and blacksmith shop on and around the ruins of Fort Guijarros further west. (20)

Archaeology at Ballast Point

During the archaeological search for the ruins of the 1796 Fort Guijarros, a thick greasy layer of dark brown sand was encountered.

This "midden" was found to be rich in fish bone, bird bone, marine shells, rusted iron, green oxidized square brass nails, and historic artifacts that dated from the 1850 to 1880 period. At least six whale vertebrae were also found.

The midden was formed atop a bed of gritty sand laced with fist-sized cobbles. Some areas were paved with large flat sandstone cobbles. The purpose of the pavement remains unknown and the source of the ten to thirty centimeter thick midden has yet to be determined.

The contents of the midden were a surprise to the team of archaeologists. A shore whaling midden had not been excavated in the United States, although comparable data has been found in New Zealand from only twenty years prior to the Ballast Point Station.

Among the bones and shell were fragments of "black" glass ale bottles, ceramic ale bottles from Scotland, Dutch-style clay pipes, red clay pipes with faces, English luster ware ceramics, and pearl ware ceramics. The pipes were made in Holland, France, England, and the United States. Most of the table ceramics were English, although they tended to predate the station by twenty years. A good number of the plates were Flow Blue pearl ware, a variety most typical of the 1840's.

A preliminary analysis of the saw-cut bone revealed that the occupants of the station near the ruins of Fort Guijarros consumed a ratio of 66% cattle, 17% pig, and 17% goat. (21) The percentages of total meat mass among the groupings of domestic animals, bird, game animals, sea mammals, fish, and sea mammals has yet to be computed.

Glass containers were not in great abundance. Ale, sarsaparilla, and medicine bottles were present but not in great frequency. This observation was mirrored by Peter

Coutts in New Zealand, who proposed that mariners might have preferred wooden casks for liquid storage. (22)

Research Implications

The discovery of the whaler's midden atop the ruins of Fort Guijarros was a major historic find. It provided the first opportunity to examine the remains of a nineteenth century maritime community uniquely adapted to isolated coastal ecozones. The dietary patterns of the mariners, selections in consumer goods from major ports, and interactions with local communities can be examined from analyses of the recovered items.

This project has expanded to include a research design concerning the social history of developing maritime subcultures in frontier societies. Statistical counts and weights of food bones, marine shell, and plant remains will be quantified to better understand what they ate in comparison with dietary patterns from residents in nearby towns.

Although it is impossible to discern items purchased from San Francisco and those from merchants in San Diego, statistical quantities produced in foreign countries can be revealing. The quantities of English over American products might suggest a Victorian value system rigidly maintained among outpost families away from "home" for extended periods of time.

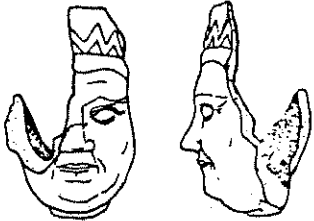
It is hoped that future research on the Ballast Point whaler's middens will reveal more to these research problems. This information will expand knowledge of the maritime lifestyle of the 19th century to levels not previously possible given the limits of historic sources.

END NOTES

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PRELIMINARY ANALYSIS OF CERAMIC PIPE FRAGMENTS RECOVERED FROM THE
FORT GULJARROS EXCAVATIONS
by Judy Berryman

PROJECT BACKGROUND



Archaeological investigations on Ballast Point in 1981, 1982, 1985, and 1987 revealed a layer of greasy sand mixed with artifacts

thought to belong to the 1850 to 1886 period. Artifacts recovered from this layer included butchered animal bone, sea shells, whale bone, English Flow Blue ceramics, Luster Ware ceramics, clay smoking pipes, black glass ale bottles, and rusted iron. Large quantities of fish bone and pismo clams were also removed during this excavation season. (1)

Most of the clay pipes were found in this layer. Clay smoking pipes represented Dutch, French, American, and English style pipes. Other diagnostic artifacts within the associated layer included Schnapps bottle fragments (dated between 1850 and 1870), black ale bottle glass, and a white ceramic ale bottle imported from Scotland to the U.S. between 1870 and 1929.

The 1981 excavation strategy required that each distinct soil level be given a sequential "locus" and field number. Each strata, pit, trench, and intrusion received a locus number. Upon completion of the field work, each locus was evaluated through the types of artifacts recovered, color of soil present, its relationship to other soil levels, and in terms of archival research conducted by Ronald V. May. (2) The various field numbers were reconciled as site-wide "strata" and given Roman numerals. The greasy sand was labeled "Strata X."

May suggested that the Ballast Point Whaling Station was operated by families of New England based sponsors who outfitted them. (3) A revised Research Design was adopted in 1982 in order to begin dealing with the problem of identifying how the whaling industry interacted with the overall economic development of San Diego. May developed four working hypotheses for this interaction:

- A) The Packard Company and Johnson Company came to San Diego in 1857 to establish base stations for hunting the California gray whale. They were fully provisioned from chandlery shops in San Francisco and continued that trade via the Pacific Mail Steamship Line.

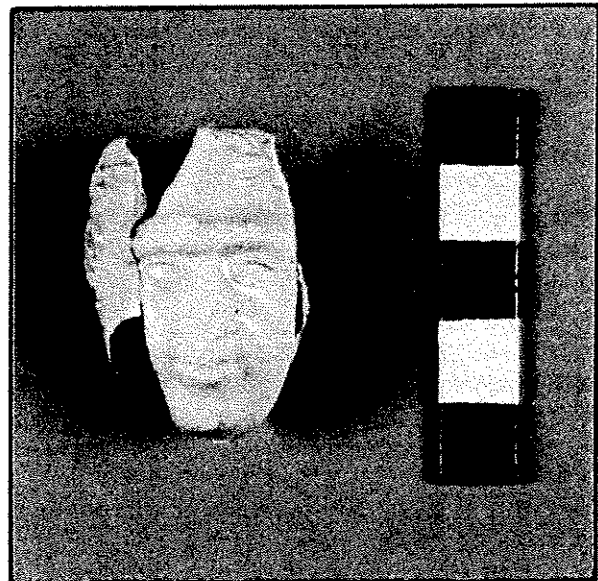


Plate 1. Presidential Pipe with head-shaped bowl. This head had a laurel-leaf head piece. The color is slightly orangish when compared to those head-shaped redder bowls with soldiers' shako hats.

B) The Packard and Johnson Companies had been hunting whales from Baja California stations for many years prior to arriving at San Diego. They had learned the trade from service on ocean-going whaleships. Following this model, shore-whalers sought closer mercantile sources than San Francisco to outfit their stations. The majority of the goods consumed by these whaling companies were purchased in San Diego markets.

C) The independent nature of mariners engaged in whaling resulted in isolated settlements at remote outposts such as La Playa from Old Town, Punta Banda, Puerto Santo Tomas, and San Martin Island, and later Ballast Point. These people conducted minimal economic exchange with the business of San Diego, especially the New Town establishments, and were primarily self-sufficient.

D) The Packard and Johnson Companies were instrumental in the development of maritime businesses in San Diego. The need for provisions and whaling equipment led to the establishment of ship chandlery and boatworks in the New Town wharf area. (4)

The preliminary study of the pipe fragments recovered during the 1981-2 excavation season offers a data base form which one can begin to address the four hypotheses. Hypothesis 1 suggests a continuation of an established trading network where merchandise and needed supplies would have been supplied through the Pacific Mail Steamship Line from San Francisco. In any case, one artifact class will not answer how particular trade items reached San Diego during the mid 1800's.

Hypotheses 2 and 3 suggest that the whalers sought closer mercantile sources than San Francisco to outfit their stations, thus one would expect to find a larger number of locally acquired artifacts. If hypothesis 4 is correct, one would expect to find few imported goods, since the emphasis would be on utilizing local resources.

RECOVERED ARTIFACTS

The tobacco pipe fragments collected from the Fort Guijarros excavation program represent a varied assemblage for the stratum which is

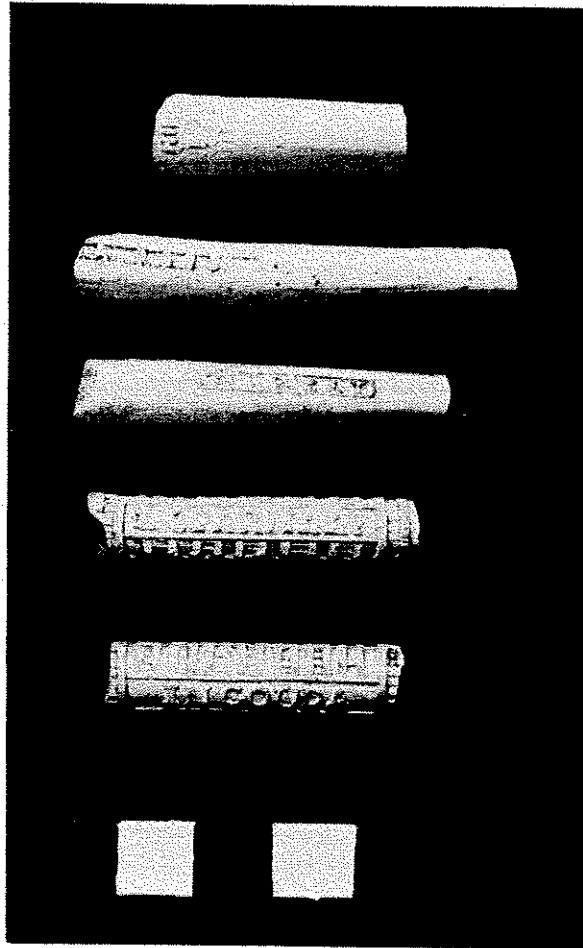


Plate 2. Maker's marks. From top to bottom: (a) French "Gambier"; (b) and (c) Scottish "Murray"; (d) and (e) Dutch "Ingouda" and "Sparnaay."

dated between 1850 and 1880. Although most of the fragments cannot be identified in terms of manufacture, at least five distinctive styles were recovered. These include:

1) Presidential Pipe Series:

Identified by the name of "Washington" impressed on the elbow of the pipe. The bowl where the tobacco is held was shaped in the image of President George Washington. The clay is red with a clear glaze. The small effigy of Washington is suspected to be of American manufacture since they are rarely recovered from sites outside the United States. (Plate 1) (5);

2) Pipes of Dutch Origin:

Identified by "Ingouda" and "Sparnaay" inscriptions. These white clay pipes had plain bowls and long thin pipe stems. The maker's marks were mechanically impressed in the stems. (Plate 2d, c) (6);

3) "Point Pleasant" Pipe Series:

A bowl fragment with raised circles around the lip (probably originated from the 33-CT-256 site in Ohio) identifies this chocolate brown clay bowl as one of a variety of types made at Point Pleasant. (Plate 3) (7);

4) Pipes of French Origin:

Tentatively identified as a "Gambier" style, these white clay "Dutch Style" long-stemmed pipes have a "leaf" mark at the base of the bowl. The name Gambier is impressed on the stem and the city of "Paris" is often below the name. (Plates 2a, 4) (8)

5) Pipes of Scottish Origin:

Identified with the impressions of "Murray," "Glasgow," and "G"

imprinted on the stems, (Plate 2b,c) (9), these "Dutch Style" white clay long-stemmed pipes are otherwise plain. A yellow glaze was occasionally applied to the tip where the lips touched the clay.

Further investigation of the pipe stems will undoubtedly place them into a tighter category. At the present time, because of the lack of decorative motifs and manufacturing marks, most of the fragments were placed into a typology based on form (pipestem, bowl, mouthpiece, etc.) rather than point of origin.

The preliminary data from the Fort Guijarros collection suggests that all the fragments have a stem bore diameter of 0.2mm (variation of 5/64 to 6/64 inches) (see table 1). An examination of the bit types shows that the Flat Bit was the most common, followed by the beveled bit, and the rounded/flat bit. Although tobacco pipe stem bore dating is

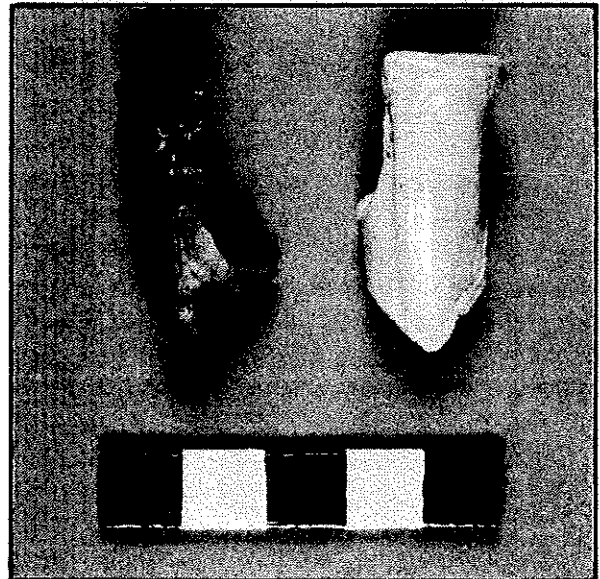


Plate 3. Bowl fragments. From left to right: (a) Point Pleasant, Ohio brown clay bowl; (b) This Dutch-style white clay pipe bowl could have been made in Europe or America.

generally considered unreliable after 1780, this measurement was taken for each piece collected as a beginning of a reference collection.

As with many collections, the number of tobacco pipe stems (8 undecorated) exceeds the total number of diagnostic bowl and stem fragments, making positive identification of the point of manufacture difficult, if not impossible.

Approximately fifty-three pipe fragments were recovered during the excavations. A preliminary typology was devised, placing each artifacts into pipestem category, bowl category, and decorated/non-decorated category. This breakdown can be seen within Tables 1 through 4.

In addition to these artifacts, ten additional pipe fragments were recovered during the 1985 excavation season. At this point in time they have not been measured. They include red glazed bowl fragments, unmarked stems, Gambier stem, possible "Roman" style red glaze bowl fragment and a more recent "Army" pipe.

Because very few of the stem pieces fit together, it is difficult to determine exactly how many individual smoking pipes were recovered. However, counting the number of whole and partial bowl fragments, it is estimated that approximately 40 individual pipes were recovered. A few of the more distinctive pieces not included in Tables 1-4 are described below:

1) Brown Terra Cotta Pipe. This is a variant of the Point Pleasant style. (10) Terra cotta keeled bowl fragment measuring 3.05 mm in height with raised dot pattern along the rim of the bowl fragment. The clay pipe industry at Point Pleasant, Ohio consisted of three different manufacturers located at three different sites. At least 82 distinctive styles

have been documented from this area, with pipe production carried out in the decade preceding 1880. (11)

2) Presidential Pipe Series. This is an orange terra cotta paste covered with a clear glaze utilizing the bust of Washington as the bowl design. (12) Two pieces were recovered from different pipes. Unlike the majority of "President's Pipes" known from archaeological sites made to celebrate a President's election or assist in a candidate's campaign, the Washington Pipe was strictly commemorative in nature. (13) The figure for the second fragment is probably an American president, but with a turban for a head decoration. This particular type of design is thought to have been manufactured exclusively in the United States since they are rarely found in other site locations. (14)

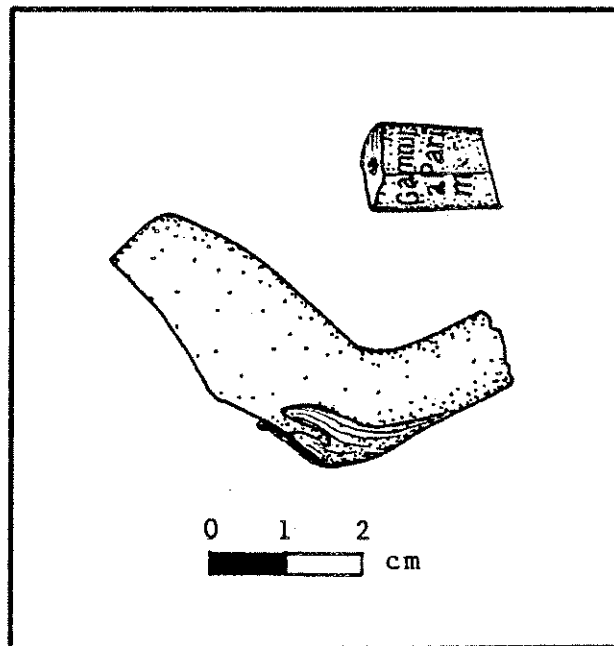


Plate 4. French "Gambier" bowl and stem fragment.

- 3) Fired Clay Pipestem with Mouthpiece, Orangish-red Glaze. this piece measures 3.65 mm long with a rounded mouthpiece (measuring approximately 1.98mm in diameter). The bore opening has a diameter of 0.3 mm. (15)
- 4) Fired Brown Clay with No Glaze. This fragment has a bowl height of 5.5mm, bowl diameter of 3.3mm., rounded elbow with stem measuring 4.45mm in length. This reconstructed complete pipe has a bore diameter of 1.0mm (Plate 6). (16)

MANUFACTURING TECHNIQUES

One of the most important features about clay pipes is their fragility. The clay pipe is a fragile, cheap, utilitarian artifact. Its length of use is therefore short and its rate of replacement rapid; unlike items which lasted longer because they were stronger or more expensive to replace, or items of value or beauty. They cost about 12 cents in Old Town stores in the 1860's.

Clay pipes, like many other artifacts, evolved through changes in size, shape, decoration, and manufacture. To the archaeologist, the most valuable material recovered from a site is that from which one can make meaningful deductions regarding point of origin, duration of use, and means of manufacture. The clay tobacco pipe fits many of these needs.

There are a number of methods for dating clay pipes, all of which have drawbacks and are constantly being revised. A summary of some of the methods available will illustrate the various manufacture techniques documented for this industry:

- 1) Statistical dating: John C. Harrington (17) and Louis Binford (18) devised a system for measuring bore diameter. Dutch pipes tended to have smaller bores compared to English pipes of the same period. Using a formula devised by Binford, researchers were able to determine what year the pipe was manufactured based on the bore diameter (diameter of the pipestem). However, in practice, the formula appears to be accurate only to 1765. (19)

F. H. W. Friedrich devised dating formula using the height of the bowl, diameter of the bowl, and the diameter of the bowl mouth to determine approximate date. His formula appears to work best with English pipes. (20)

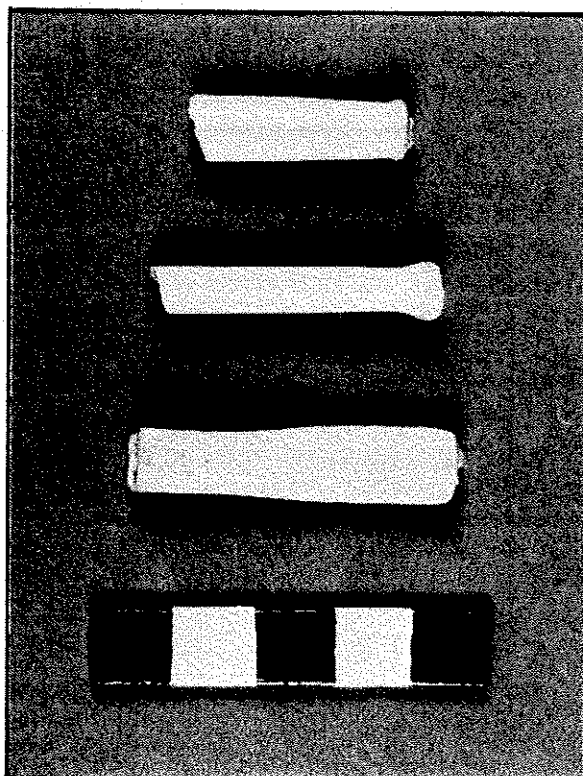


Plate 5. Three different pipe stem lip ends.

- 2) Stem length
- 3) Stem thickness/curvature
- 4) Stem decoration: Initials occur on stems around 1650, with full names by 1670. (21) Generally, decorated stems are not common on English pipes, particularly before the 19th century. By the 19th century it became common for pipes to bear other marks, both on the stem and the bowl. A price-list of the pipes produced in Scotland in 1900 listed over 2,000 pipe types and styles by name and also by type number. This type of information permits the determination of where and when the pipe was manufactured. (22)
- 5) Decorated bowls: As with stem decoration, a number of catalogs are available indicating where particular figures were manufactured and when.

PIPE INTERPRETATIONS

At least four of the pipe fragments from Fort Guijarros have been identified to be "Gambier" type pipes. The Gambier factory was founded in 1780 in the village of Givet in the Ardennes of northern France. The factory was started in this area of France because of the presence of rich clay fields.

It was initially planned to provide pipes for the local market. However, in the Napoleonic period when the new government began taxing the incoming (Dutch) pipes and they became too expensive. The French pipemakers increased distribution of their products and became very competitive with the Dutch.

The Gambier pipe was considered to be of high quality, yet relatively cheap. (23) Gambier pipes became so popular in the 19th century, that

"Gambier" became practically a synonym for a clay pipe. (24) However, from a technological point of view, the Dutch clay pipes were still considered much better. The Dutch produced pipes with strong thin stems, something that was never duplicated by French pipemakers.

The availability of pipes and tobacco during the 19th century was based on three key factors: the preferred method of smoking; the tendency of pipe makers to concentrate in certain areas, particularly in Glasgow's (Scotland) commercial areas; and trade.

During the second half of the 19th century, Scottish pipes from Glasgow dominated the North American pipe market despite a Montreal (Canada) industry of the same time. Murray pipes were also common and have been found in North America, Australia, and even on Easter Island. Between 1861 and 1863 the firm of Davidson bought out the Murray operation. It has been assumed that

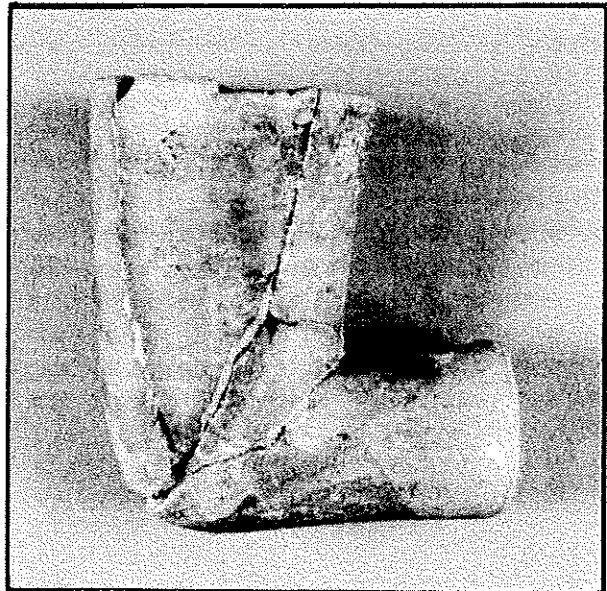


Plate 6. Similar to "elbow pipes" from Pamplin, Virginia, this unglazed brown clay pipe was located adjacent to a black glass ale bottle and a heap of pismo clams.

all Murray pipes would have been manufactured prior to 1863. (25) The firm of Davidson in Glasgow continued to operate until 1910. (26)

Davidson and the Murray firm may have manufactured pipes only for export since they are the only large Scottish pipe firms whose pipes are not represented in the collections of the National Museum in Scotland. (27)

If pipes from Glasgow were "flooding" the American market during the mid-1800's, it would be useful to know how many were being made at each factory and what was the overall unit price. These figures are extremely hard to come by and varied with the type of clay used, whether men or women were used as laborers, and how much the dealer could get.

It is known that pipes made of red clay cost 1/2d a gross extra, those made of terra cotta 1d a gross extra, and those made of "prepared clay" 4d a gross extra for "straights" and 6d a gross extra for "bent bowls." (28) Pay was by piece-rate. The average daily production for a pipemaker was around three gross (each gross being 16 dozen - 192 pipes).

Glasgow's entry into the tobacco trade occurred in earnest in 1707 when direct trading between Scotland the English colonies became legal. One of Glasgow's major trading advantage to the colonies was the safety of its northern route from foreign navies. By the 18th century, Glasgow had developed both a flourishing tobacco and pottery export business with Maryland and Virginia. (29) Along with pottery exports, shipping manifests in 1771 listed 309 gross of tobacco pipes. Glasgow pipes were considered superior to the English or French product, in addition to being cheaper. (30)

Whalers from Fort Guajarro were able to obtain fairly cheap pipes from Glasgow, French, and Dutch sources. They also had available to

them American made products such as the Presidential series and the Point Pleasant style.

The questions that cannot be answered at this time are how did the pipes recovered from the 1981 excavation arrive in San Diego; did the whalers purchase all their goods from the Packard and Johnson Company or were independent trading communities established to meet their needs?

Intensive archival research, along with further research into clay pipes associated with this particular time period will be needed before any type of conclusion can be reached. At this point in time, one can only say that various exports were available and purchased by the whaling community.

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TABLE 1

PIPESTEMS FRAGMENTS- UNDECORATED, WHITE GLAZE
(without mouthpiece)

<u>ARTIFACT NUMBER</u>	<u>OVERALL LENGTH</u>	<u>BORE DIAMETER</u>
5687 I4	4.8mm	0.2mm
5686 I4-1	4.05mm	0.2mm
5710 I4-11	10.35mm	0.2mm
5683 I4W-2	6.5mm	0.2mm
5711 I4-3	4.95mm	0.3mm
5081 I-Tr	6.8mm	0.2mm
5704 I-4W-2	3.05mm	0.2mm
5703 I4-1	2.45mm	0 (undetermined)
3713 I4-1	3.0mm	0.3mm
5693 I-4	4.55mm	0.2mm
5684 I-25E-1	5.85mm	0.2mm
5697 I-4W-2	5.30mm	0.2mm
5702 I-1B-2	2.5mm	0.2mm
5682 I10-4	1.55mm	0.2mm
5706 I4W-2	1.45mm	0.2mm
81-510/81-512	7.35mm	0.2mm
4044 I2-1	2.75mm	0.2mm
5689 I-15E	2.50mm	0.2mm
81-508 I4W-1	4.45mm	0.2mm
81-503	2.75mm	0.2mm
81-507	2.90mm	0.2mm
81-511 I4W-1	3.65mm	0.2mm
509 I4W-1	1.05mm	0.2mm
5685 I4W-2	1.55mm	0.2mm
516 I4W-1	2.15mm	0 (undetermined)
FG87 Fill	3.75mm	0.2mm
FG87 I-7-6b	3.35mm	0.2mm
FG87 10-5a-9	4.50mm	0.2mm

TABLE 2

PIPESTEM FRAGMENTS WITH MOUTHPIECES, WHITE GLAZE

<u>CATALOG NUMBER</u>	<u>OVERALL LENGTH</u>	<u>BORE DIAMETER</u>	<u>TYPE OF MOUTHPIECE</u>
5696 35W-2	3.1mm	0.2mm	rounded/flat diameter: 0.65 by 0.6mm
5384 I-4	3.55m	0.2mm	beveled bit diamater: 0.9 by 0.5mm
5680 I4-1	2.55mm	0.25mm	beveled bit diameter: 0.9 by 0.7mm

TABLE 3

DECORATED PIPESTEM FRAGMENTS, WHITE GLAZE

<u>CATALOG NUMBER</u>	<u>OVERALL LENGTH</u>	<u>BORE DIAMETER</u>	<u>FORM OF DECORATION</u>
81-513 I-4	7.35mm	0.25mm	"Gambra a Pari m"
81-502 I25E-1	5.25mm	0.2mm	inset paneling
5383 I-1B-3	5.45mm	0.2mm	irregular fluting
5694 I-14-1	5.25mm	undeterm.	"rnaay" (Sparnaay)
5688 I-1B-3	3.25mm	0.2mm	" a Pari", fluting
5691 I-4	7.75	0.2mm	fluting
504 I-4	3.45	0.2mm	"Sparnaay"
FG87 10-53-2	4.55mm	0.2mm	"Ingouda"
FG87 I-7-6b	3.95mm	0.2mm	"Glasgow"
			"Murray"
			"SPARNAAY"
			"INGOUDA"
81-500	9.15mm	0.2mm	rounded mouthpiece; stars around mouthpiece, with indented panels

TABLE 4

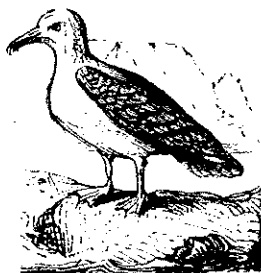
BOWL FRAGMENTS, WHITE GLAZE

<u>CATALOG NUMBER</u>	<u>OVERALL LENGTH/BOWL DIAMTER</u>
FG87 I-4-6	height bowl 4.35mm
FG87 10531	height bowl 3.65mm, diameter bore 0.3mm
FG81-515 I-4W-1	bowl fragment, partial height 2.85mm
FG81-514 I-4-1	bowl fragment, partial height 2.65mm
FG5690 I-1B-4	bowl fragment, partial height 1.44mm
FG5385	bowl fragment, partial height 3.25mm ("D" on bowl frag; D. McDougall Co. of Glassgow)
FG81-518 I-1 -3/5E	keeled bowl fragment with partial stem: bowl height 3.15mm partial diameter 2.0mm, leaf design at the base of the bowl (figure xx) (probable manufacture: Gambier)

AVIAN REMAINS FROM THE FIELD III EXCAVATIONS AT
SAN JUAQUIN DE LA PUNTA DE LOS GUIJARROS

by Paul E. Langenwalter II and Daniel A. Guthrie

INTRODUCTION



The 1982 and 1985 excavations at San Joaquin de la Punta de los Guijarros, or "Fort Guijarros" at Ballast Point in San Diego Bay, California

yielded a variety of faunal remains associated with multiple occupations of the site spanning more than a century.

The excavation was located in excavation Field III on the seaward edge of the site. The excavation of this area revealed a stratified midden laying over and against a portion of the foundation and protective glacis or rampa of the exterior wall of the fort. (1) The stratified midden yielded 273 avian specimens, representing 27 species (Table 1), from assemblages associated with occupations of the site by whalers, the U.S. Army, and perhaps earlier activity during the Mexican Period.

Most of the specimens were recovered from strata associated with the whalers' occupation. These specimens provide a unique example of bird use at a mid to late nineteenth century whaling station in western North America.

Ballast Point, which is part of Point Loma, was first used as part of a land based whaling station in 1857 when the Packard Company established a try-works there for the processing of whale oil. (2) In succeeding years, the Ballast Point operation was expanded and the Packard Company was joined by the Johnson and Tilton Companies.

The Johnson Company complex was established on the site of Fort

Guijarros and operated there until 1873 when the United States Army Corps of Engineers notified them that they must leave prior to the construction of a coastal gun emplacement which was to be a part of Fort Rosecrans. (3)

Little is known about the physical makeup of the complex, including the types and locations of buildings or other structures. Even less is known about the lifeways of the persons who lived and worked there.

The study of the sample addressed several questions. One question was whether or not the bird remains resulted from human activity, or if they were the remains of animals deposited at the site as the result of natural processes. The importance of this question was emphasized once the sample was identified and found to contain many species of shorebirds and waterfowl indigenous to the area of the site, whose remains might have easily been deposited on site by natural means. The resolution of this question was necessary so that the remains could be interpreted in their appropriate cultural or natural context.

Presuming that some of all of the bird remains were associated with the historic uses of the site, the second questions addressed was, "which species were associated with each of the occupations of the site?" This question had to be answered before others could be addressed, since the cultural and social context of animal usage at any archaeological site must be known if the analyses of the remains are to have more than trivial significance.

To answer this question the sample was submitted to a spatial

analysis. Once the spatial analyses was concluded, other questions addressed were: 1) which species were used, 2) where were they procured, 3) how were they processed (butchered and cooked), 4) did they figure in the diet of the occupants, and 5) were they procured during one part of the year and not another? The consideration of these questions provided insight into the animal-related activity at the site, as well as a foundation for future research at the site.

METHODS

Taxonomic classification of specimens was based on external macro-morphological attributes following the principles described by Simpson. (4) Assignments were made taking into account similarities resulting from convergent evolution and common ancestry. In addition to assignment of taxon, each specimen was identified as to element, portion of element, symmetry, age and sex wherever possible. Each specimen was examined for evidence of cultural modification such as burning, butchering, and manufacturing marks, asphaltum staining, painting, and unusual breakage.

Quantification of the samples is based on two calculations: the minimum number of individuals identifiable per taxon (MNI), and the total number of specimens identifiable per taxon (NISP). MNI was calculated using the most abundant skeletal element and portion of that element per taxon, with symmetry and age taken into account (specific individual paired elements).

DISCUSSION

Examination of the sample suggests that most of the avian remains at the site were deposited as the result of human activity. The

occurrence of so many bird remains in a relatively small area, along with a large number of mammalian food remains provides a prima facie case for the sample being part of the historic-occupation debris.

The skeletal elements represented for most species were from the meat bearing parts of the body. Elements from non-meat bearing parts of the body, such as skull parts and phalanges from the feet were uncommon, implying that the sample primarily represents wastes from animals that were butchered elsewhere with bone-in cuts brought to the site for consumption and then disposal.

If the birds had died and been naturally included in the archaeological deposit some relatively complete individual skeletons, including the skulls and pedal phalanges, could be expected from a block excavation like the one in Field III. Moreover, there is distinct stratigraphic clustering of bird remains (Table 1; Figure 1) would not have occurred if the deposition of the remains were natural and random.

None of the bird remains bear butchering marks or burning which could be substantive evidence of human use. However, bird bones from most archaeological sites are usually unaltered in this manner because the common methods of butchering and cooking do not require cutting bone or prolonged intense exposure to direct wear. The evidence implies that most or all of the avian remains found in the Field II excavations originated from human activity.

SPATIAL ANALYSIS

Spatial analysis of the sample indicates that the avian remains were deposited during two, perhaps three, periods of occupation. Tables 1 and 2 show a cluster of bird remains in Strata or "Layers" I and II, which

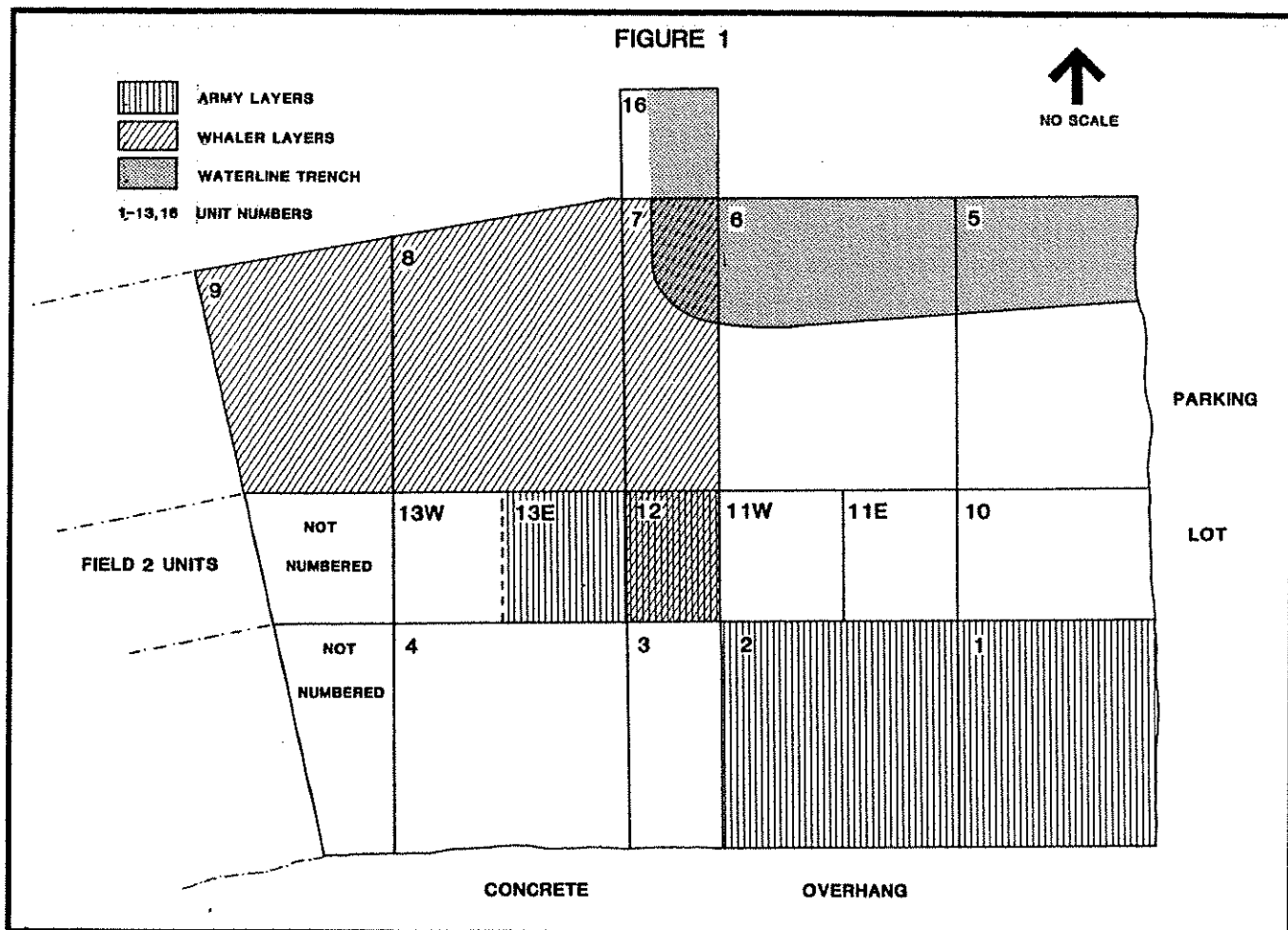
belong to the latter part of the U.S. Army occupation of Fort Rosecrans between 1896 and 1924. (5)

The locus of this cluster was in Units 1, 2, 3, 6, 12, and 13, primarily in the southeastern part of Field III (Figure 1). This cluster contained 32 specimens, 11.7 percent of the sample, representing seven species. The major portion of the sample, 233 specimens or 85.3 percent of the sample, was recovered from a cluster in Strata 5, 6, and 7, which was deposited during the whalers' occupation, circa 1858 to 1886. (6) This cluster located in Units 6, 7, 8, and 12, in the northern portion of the excavation block (Figure 1). It included a minimum of 26 species (Tables 1 and 2).

The third possible cluster of remains occurred in Stratum 8, in Unit 9. This included three specimens representing at least one species (Tables 1 and 2). Stratum 8 is the uppermost stratum deposited during the Mexican Period. There is

no difference in the condition of the specimens to indicate that they belong to the Mexican Period occupation, and it is probable that the specimens from this locus originated from the whalers' occupation of the site.

The location of the avian remains from the whalers' occupation is significant. Davidson's recounting of the lore associated with the whaling activities at Point Loma refers to the existence of a big building used by the Johnson Company as dormitories for the whalers. (7) This building was apparently located on the ruin of the Spanish fort adjacent to Field III. (8) The bird remains and the other cultural residuum (mammal and fish bone, artifacts) found in the Strata 5, 6, and 7 cluster are apparently refuse from the dormitory, which was discarded over the edge of the cobblestone foundation onto the rubble on the rampa at the edge of the beach.



SELECTION AND USE

The birds used at the site fall into four classes: waterfowl, shorebirds, indigenous terrestrial, and domestic terrestrial species. Most or all of these species were probably used for food. Although most are not popular food sources today, nearly all of them have been recorded from other archaeological sites along the California coast.

The waterfowl include at least 15 species of grebe, fulmar, pelican, goose, duck, merganser, and auklet. All of these, excepting the auklet, are relatively large, averaging several hundred grams or more in weight. Their size is large enough to make them worth the time and effort necessary to procure them for the consumable meat the birds would yield.

The shorebirds (plover, godwit, whimbrel, willet, dowitcher, gulls) are smaller as a whole. Most of the shorebird species represented average one to two hundred grams in weight, still making them worth hunting. The difference in the relative value of the meat yield, because of average difference in size, may account for the smaller number of shorebird species represented in the sample (16 waterfowl species, 8 shorebird species).

The indigenous terrestrial species include quail and burrowing owl. Quail are a small, but popular game bird found in many nineteenth century historic sites in California. Both quail and owl are large enough to make hunting worthwhile. However, it is unknown whether the owl was hunted or was an incidental, noncultural constituent in the assemblage.

Chickens are a common domestic food source because of their size and the ease with which they can be raised. Overall, the composition of the avian assemblage implies that

only larger species of birds among the several hundred available in the area were used.

Another criteria of selection appears to have been ease of access. Most of the species would have been available in the immediate vicinity of the site along the shore or in San Diego Bay with the exception of the fulmar and the auklet which would have been located offshore (or washed up on the beach during storms).

At least six avian species were used during the U.S. Army occupation when the site was part of Fort Rosecrans. These species were chicken, eared grebe, black brandt (a small goose), two species of cormorant, and quail. Geese and quail were sought by hunters during the historic period. The eared grebe and cormorants are a more unusual quarry, but are edible and have been recorded from other historic sites.

A minimum of 25 species were used during the occupation of the whaling station. These include grebe, fulmar, pelican, cormorant, duck, goose, various shorebirds, and gulls, auklet, quail owl, and chicken. The diversity of species is instructive since the food habits of west coast whalers are not known.

The species represented indicate that the occupants of the whaling station at Ballast Point utilized a wide variety of birds. Most contemporary historic sites on the west coast, whether Hispanic, Anglo-American, or Chinese, have assemblages which indicate a more conservative use of birds, containing less than half the number of avian species found at Ballast Point.

The whalers living in San Diego during the period when the Ballast Point whaling station was in operation were from New England, and most had Anglo surnames although they are known to have been a multiethnic groups which included individuals of Portuguese ancestry. (9) The number

of bird species and the kinds of species used by this group was unexpected, but apparently reflects an adaptation to the marine environment.

Historic records indicate that large amounts of meat were purchased in Old Town San Diego by the Ballast Point whalers and whaling stations in other areas raised stock on site. (10) The avian sample discussed here was found in association with the remains of cattle and other domestic species which had been used as food. Birds provided no more than a small part of the total meat resources used at the site.

Bird hunting was apparently not an economic necessity. There is no evidence that the whalers were forced to hunt to maintain themselves. Marine fowl were probably used because they were readily available or preferred by some individuals in the group.

The diversity of marine associated bird species in the sample suggest that the whalers' intimate contact with marine resources resulted in a subsistence adaptation in which marine bird species were more important than domestic or non-marine bird species. These species would have been a cheap and readily available food source which could be procured in and around the whaler's work and living space, particularly during fishing excursions, when marine associated birds and fish may have been the only available source of fresh meat. These factors would militate toward the acceptance of a diversity of avian species associated with marine habitats.

HUNTING AREAS

All of the bird species, except the chicken, are indigenous to the San Diego Bay-Point Loma area. (11) Bird hunters could have captured all of these species during a short walk

in the vicinity of the site.

Most of the waterfowl (grebe, pelican, goose, duck, merganser) could have been found on the waters of San Diego Bay and shot from the shore or boat immediately adjacent to the site. The pelagic and Brandt's cormorant, which roost along the cliffs of Point Loma (Brandt's cormorant nests there also), are particularly common in the area.

The northern fulmar and rhinoceros auklet are pelagic species which normally occur away from the shore. The fulmar is known to enter the bay and the auklet occurs near land during storms. (12) Injured or exhausted individuals of both species can be occasionally captured on the beach, particularly after storms.

All of the shore birds would have been available on Point Loma in the vicinity of the site. The quail and burrowing owl are also known from the area. (13) The quail would have been hunted on the upper reaches of the point, where it is common.

BUTCHERING AND COOKING

Evidence of butchering (breaking, cutting) in the sample is minimal, while evidence of cooking (burning) is absent. There is a paucity of skull parts, vertebrae, and pedal phalanges in the sample as a whole. The sample as a whole is well preserved so that the small representation of these parts seems unusual.

Among birds, skull parts and many vertebrae are fragile, which may account for the under representation of these parts in the sample. Pedal phalanges are among the strongest in the avian skeleton, so that their complete absence in the sample cannot be attributed to natural factors, nor would all of them have been lost because of the methods used to collect the sample. The under

representation of these parts in the sample suggest that the heads and feet of the birds were removed as part of the butchering process, and discarded elsewhere.

Butchering marks were found on two specimens. A proximal femur of a chicken from the Army occupation bears two blade marks on the mid-shaft. These marks appear to have been made by a narrow steel blade. These marks may have been made during the process of cutting the flesh from the bone. A second specimen, the coracoid of a scaup, has had one edge of the proximal end sheared away by a bladed tool. The cut probably reflects the cutting of the breast into sections.

The rarity of butchering marks is not unusual in bird samples from historic sites, except those occupied by Chinese. The size and construction of birds allow dressing and cutting the carcass into pieces without having to cut bone, and the force necessary to accomplish cutting is low enough to preclude most accidental nicks which might prove instructive.

Burned bones were absent. This might indicate that methods other than roasting were used to cook fowl, but there is no proof to support the inference. Baking, boiling, and frying, which do not cause burning of bone, occasionally leave identifiable alterations, but these were not found in the sample.

SEASONALITY

The seasonal residence patterns of the bird species present in the sample were examined to determine if bird hunting at the site was seasonal. Information from Unitt's synthesis of the distribution of birds in San Diego County, supported by Cogswell's regional information, was used to profile the residence pattern for each species.(14)

This information (Table 3) indicates that most of the avial species found at the site remained resident in the region, at least in small numbers, throughout the year. Although the entire populations of some species (bufflehead, show goose) normally exit the San Diego Region, the evidence for the sample species indicates that a few individuals are present in the region so that an incidental capture is not impossible during any part of the year, but is unlikely during certain months. It is possible that some of these species were more numerous and resided longer in the region in the past.

If transient population density is considered, it is probable that species normally rare or absent in the region in one season were taken at times when they were more abundant. These species include: eared grebe, horned grebe, western grebe, northern fulmar, pelagic cormorant, snow goose, white-winged scoter, and rhinoceros auklet. These species occur in abundance in the region during the winter, that is the period between approximately October and March (see individual schedules). This suggests that some bird hunting was done during that part of the year.

END NOTES

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- 2 Ibid., pp. 5-6.
- 3 Ibid., pp. 6-7, 12.

4 George G. Simpson, "The Principles of Classification and a Classification of Mammals," Bulletin of the American Museum of Natural History vol. 85, (city: publisher, 1945).

5 May, p. 15

6 May, "Schooners, Sloops, and Ancient Mariners."

7 Winifred Davidson, "Loma Lore," San Diego Scrapbook, Over Size Book, Museum of San Diego History, Research Archives, Acc. 0667, n.d.

8 May, personal communication.

9 May, "Schooners, Sloops, and Ancient Mariners."

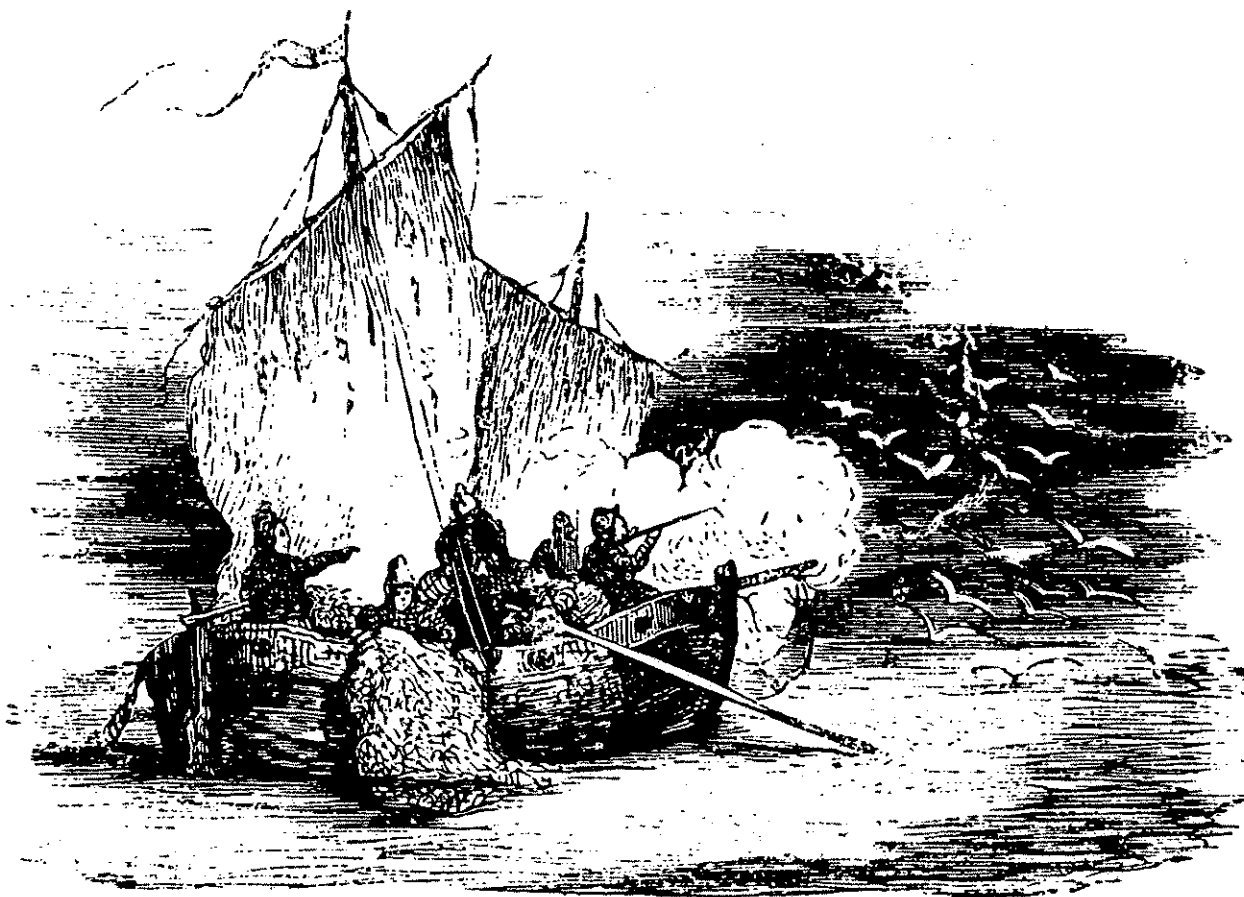
10 Ibid., pp. 8-9.

11 Philip Unitt, "The Birds of San Diego County," San Diego Society of Natural History, Memoir vol. 13, 1984.

12 Ibid., pp. 25, 100.

13 Ibid., p. 109.

14 Howard L. Cogswell, Water Birds of California (University of California, Berkeley, 1977).



Common Name	Scientific Name	-----U.S. Army-----				?	Whalers 1858-1886	?	Mexican Period
		1	2	3	4				
Horned Grebe	<u>Podiceps auritus</u>						1		
Eared Grebe	<u>Podiceps nigricollis</u>	1							
Western Grebe	<u>Aechmophorus occidentalis</u>						7		
Northern Fulmar	<u>Fulmarus glacialis</u>							1	
Brown Pelican	<u>Pelicanus occidentalis</u>						1		
Double-crested Cormorant	<u>Phalacrocorax auritus</u>		1				7		1
Pelagic Cormorant	<u>Phalacrocorax pelagicus</u>		1						
Brandt's Cormorant	<u>Phalacrocorax penicillatus</u>						4		
Black Brant	<u>Branta bernicla</u>	1	1				36		1
Snow Goose	<u>Chen caerulescens</u>						2		
Scaups and Allies	<u>Aythya sp.</u>						7		
Bufflehead	<u>cf. Bucephala albeola</u>						1		
White-winged Scoter	<u>Melanitta deglandi</u>						1		1
Surf Scoter	<u>Melanitta perspicillata</u>						24		6
Red-breasted Merganser	<u>Mergus serrator</u>						1		
Unidentifiable Goose	Anatidae			1					
Unidentifiable Duck	Anatidae						2		
Black-billed Plover	<u>Pluvialis squatarola</u>						1		
Marbled Godwit	<u>Limosa fedoa</u>						1		1
Whimbrel	<u>Numenius phaeopus</u>						9		2
Willet	<u>Catoptrophorus semipalmatus</u>						1		1
Short-billed Dowitcher	<u>Limodromus griseus</u>						1		
California Gull	<u>Larus californicus</u>						2		
Ring-billed Gull	<u>Larus delawarensis</u>						1		
Bonaparte's Gull	<u>cf. Larus philadelphia</u>						1		
Rhinoceros Auklet	<u>Cerorhinca monocerata</u>					1	2		2
California Quail	<u>Lophortyx californica</u>	1					2		2
Domestic Chicken	<u>Gallus gallus</u>	5	10			5	1		3
Burrowing Owl	<u>Athene cucularia</u>								3
Unidentifiable Bird	Aves	5	5			3	74		17
Total		13	19		9		189		39

Table 1. Distribution of avian remains collected during the 1982 field season at San Joaquin de La Punta de Los Guijarros, given by total specimens per stratum.

-----U.S. Army-----
1896-1924

-----Whalers-----
1858-1886

Mexican
Period?

Common Name	Scientific Name	1	2	3	4	5	6	7	8
Horned Grebe	<u>Podiceps auritus</u>						1		
Eared Grebe	<u>Podiceps nigricollis</u>	1							
Western Grebe	<u>Aechmophorus occidentalis</u>						1		
Northern Fulmar	<u>Fulmarus glacialis</u>							1	
Brown Pelican	<u>Pelicanus occidentalis</u>						1		
Double-crested Cormorant	<u>Phalacrocorax auritus</u>		1						
Pelagic Cormorant	<u>Phalacrocorax pelagicus</u>		1						
Brandt's Cormorant	<u>Phalacrocorax penicillatus</u>						1		
Black Brant	<u>Branta bernicla</u>	1					3		1
Snow Goose	<u>Chen caerulescens</u>						1		
Scaups and Allies	<u>Aythya sp.</u>						1		
Bufflehead	<u>cf. Eucephala albeola</u>						1		
White-winged Scoter	<u>Melanitta deglandi</u>						1		1
Surf Scoter	<u>Melanitta perspicillata</u>						2		1
Red-breasted Merganser	<u>Mergus serrator</u>						1		
Unidentifiable Goose	Anatidae			1					
Unidentifiable Duck	Anatidae								
Black-billed Plover	<u>Pluvialis squatarola</u>						1		
Marbled Godwit	<u>Limosa fedoa</u>								
Whimbrel	<u>Numenius phaeopus</u>						1		1
Willet	<u>Catoptrophorus semipalmatus</u>						1		1
Short-billed Dowitcher	<u>Limnodromus griseus</u>						1		1
California Gull	<u>Larus californicus</u>						1		
Ring-billed Gull	<u>Larus delawarensis</u>						1		
Bonaparte's Gull	<u>cf. Larus philadelphia</u>						1		
Rhinoceros Auklet	<u>Cerorhinca monocerata</u>					1			1
California Quail	<u>Lophortyx californica</u>	1							
Domestic Chicken	<u>Gallus gallus</u>	1				1			
Burrowing Owl	<u>Athene cunicularia</u>								1
Unidentifiable Bird	Aves								
Total		4	5		2	25	11		1

Table 2. Distribution of avian remains collected during the 1982 field season at San Joaquin de La Punta de Los Guijarros, given by minimum number of individuals per stratum.

Common Name	Scientific Name	Residence Cycle											
		J	F	M	A	M	J	J	A	S	O	N	D
Horned Grebe	<u>Podiceps auritus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Eared Grebe	<u>Podiceps nigricollis</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Western Grebe	<u>Aechmophorus occidentalis</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Northern Fulmar	<u>Fulmarus glacialis</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Brown Pelican	<u>Pelicanus occidentalis</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Double-crested Cormorant	<u>Phalacrocorax auritus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Pelagic Cormorant	<u>Phalacrocorax pelagicus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Brandt's Cormorant	<u>Phalacrocorax penicillatus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Black Brant	<u>Branta bernicla</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Snow Goose	<u>Chen caerulescens</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Scaups and Allies	<u>Aythya sp.</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Bufflehead	<u>cf. Bucephala albeola</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
White-winged Scoter	<u>Melanitta deglandi</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Surf Scoter	<u>Melanitta perspicillata</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Red-breasted Merganser	<u>Mergus serrator</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Black-billed Plover	<u>Piuvalis squatarola</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Marbled Godwit	<u>Limosa fedoa</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Whimbrel	<u>Numenius phaeopus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Willet	<u>Catoptrophorus semipalmatus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Short-billed Dowitcher	<u>Limnodromus griseus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
California Gull	<u>Larus californicus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Ring-billed Gull	<u>Larus delawarensis</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Bonaparte's Gull	<u>cf. Larus philadelphia</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Rhinoceros Auklet	<u>Cerorhinca monocerata</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
California Quail	<u>Lophortyx californica</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Domestic Chicken	<u>Gallus gallus</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Burrowing Owl	<u>Athene cucularia</u>	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

Table 3. Seasonal residence pattern of the avian species from San Joaquin de La Punta de Los Guijarros based on modern patterns in the region. Residence patterns are based on Unitt (1984) and Cogswell (1977). *** - Period of residence of main population. + - smaller populations, mostly stragglers. --- - Small numbers of individuals present locally. U - uncommon. R - rare. VR - Very rare. ? - Uncertain date. . - single record.

HERITAGE RESOURCE CONSULTANTS

P. O. BOX 1674

LA MIRADA

CALIFORNIA

CATALOG OF BIRDS FROM THE 1982 EXCAVATIONS AT SAN JOAQUIN DE LA PUNTA DE LOS GUIJARROS

Final Version: October 22, 1987

Collector: R. V. May

Date: 1982, 1985

Identifier: D. Guthrie & S. Warter

Cat. #	Area	Unit	Lvl	Taxon	Element	Portion	# of Spec.
1887	III	6	5	Aves	fragment		1
1898	III	7	5	Aves	fragment		2
2005	III	6	2B	Gallus gallus	femur	proximal	1
2107	III	8	6	Aves	fragment		2
2107	III	8	6	Chen caerulescens, cf.	ulna	distal	1
2107	III	8	6	Gallus gallus	humerus	distal	1
2124	III	8	6	Aves	fragment		1
2124	III	8	6	Melanitta perspicillata	carpometacarpus		1
2124	III	8	6	Melanitta perspicillata	ulna		1
2124	III	8	6	Melanitta perspicillata	ulna	distal	1
2124	III	8	6	Melanitta perspicillata, cf.	vertebra	fragment	3
2204	III	8	6	Aves	fragment	shaft	3
2204	III	8	6	Aythya (cf. Scaup)	coracoid	right	1
2204	III	8	6	Branta bernicla	humerus	proximal	1
2204	III	8	6	Branta bernicla	tibia	proximal	1
2204	III	8	6	Phalacrocorax penicillatus	tibia	distal	1
2204	III	8	6	Phalacrocorax penicillatus	tibia	proximal	1
2251	III	8	6	Branta bernicla	digit 2, phalanx ?		1
2251	III	8	6	Branta bernicla	humerus	proximal	1
2251	III	8	6	Branta bernicla	radius	proximal	1
2251	III	8	6	Melanitta perspicillata	femur	proximal	1
2251	III	8	6	Melanitta perspicillata	tarsometatarsus		1
2251	III	8	6	Melanitta perspicillata	ulna		1
2332	III	9	7	Branta bernicla	coracoid	distal	1
2349	III	2/3	1	Podiceps nigricollis	humerus	shaft	1
2357	III	13	6/7	Melanitta perspicillata	radius	proximal	1
2393	III	13	6	Aves	fragment		5
2393	III	13	6	Branta bernicla	radius	proximal	1
2393	III	13	6	Branta bernicla	scapula	proximal	1
2393	III	13	6	Branta bernicla	ulna	proximal	1
2393	III	13	6	Catoptrophorus semipalmatus	humerus	distal	1
2408	III	13E	1	Gallus gallus	sacrum	fragment	1
2455	III	8	7	Aves	fragment		1
2455	III	8	7	Gallus gallus	cervical	complete	3
2455	III	8	7	Phalacrocorax auritus	cervical	complete	1
2462	III	8	7	Aves	rib	fragment	1
2462	III	8	7	Melanitta perspicillata	carpometacarpus	distal	1
2563	III	9	6A	Aves	fragment		4
2563	III	9	6A	Branta bernicla	humerus	proximal	1
2563	III	9	6A	Melanitta perspicillata	mandible	fragment	1
2563	III	9	6A	Melanitta perspicillata	ulna	proximal	1
2563	III	9	6A	Numenius phaeopus	carpometacarpus	complete	1
2563	III	9	6A	Phalacrocorax auritus	axis	complete	1
2563	III	9	6A	Phalacrocorax auritus	pterygoid	complete	1

2620	III	8	2	Gallus gallus	scapula	complete	1
2655	III	7	6	Aves	fragment		12
2655	III	7	6	Catoptrophorus semipalmatus	unla	distal	1
2655	III	7	6	Melanitta perspicillata	radius	distal	1
2655	III	7	6	Phalacrocorax penicillatus	fibula	proximal	1
2655	III	7	6	Phalacrocorax penicillatus	tibia	distal	1
2665	III	13W	1	Aves	fragment		5
2698	III	Flood		Gallus gallus	tarsometatarsus	shaft	1
2737	III	12	7	Aves	fragment		1
2755	III	12	6B	Aythya (cf. Scaup)	carpometacarpus	proximal	1
2755	III	12	6B	Catoptrophorus semipalmatus	radius	distal	1
2794	III	7	2	Branta bernicla	scarum	fragment	1
2829	III	2	2	Phalacrocorax auritus	humerus	proximal	1
2855	III	7	2	Aves	fragment		1
2855	III	7	2	Gallus gallus	tibia	shaft	1
2915	III	7	2	Gallus gallus	pelvis	fragment	3
3033	III	9	6A	Aves	fragment		1
3033	III	9	6A	Branta bernicla	clavicle	fragment	1
3033	III	9	6A	Branta bernicla	digit 2, phalanx 1	complete	1
3033	III	9	6A	Larus californicus	radius	proximal	1
3033	III	9	6A	Larus californicus	ulna	proximal	1
3033	III	9	6A	Larus delawarensis	humerus	distal	1
3033	III	9	6A	Limnodromus griseus	ulna	complete	1
3033	III	9	6A	Melanitta perspicillata	humerus	distal	1
3046	III	9	7	Aves	fragment		4
3046	III	9	7	Catoptrophorus semipalmatus	tarsometatarsus	distal	1
3046	III	9	7	Fulmarus glacialis	digit 2, phalanx 1	complete	1
3046	III	9	7	Melanitta perspicillata	radius	complete	1
3046	III	9	7	Numenius phaeopus	carpometacarpus	complete	1
3070	III	9	6B	Branta bernicula	ulna	right	1
3079	III	9	6A	Aechmophorus occidentalis	coracoid		1
3079	III	9	6A	Aechmophorus occidentalis	humerus		1
3079	III	9	6A	Aechmophorus occidentalis	sternum	fragment	1
3079	III	9	6A	Aechmophorus occidentalis	ulna	proximal	1
3079	III	9	6A	Anatidae	carpometacarpus		1
3079	III	9	6A	Aves	radius		1
3079	III	9	6A	Branta bernicula	coricoid	distal	1
3079	III	9	6A	Phalacrocorax auritus	radius	proximal	1
3121	III	8	6B	Aythya (cf. Scaup)	carpometacarpus	complete	1
3121	III	8	6B	Aythya (cf. Scaup)	cervical	complete	1
3121	III	8	6B	Aythya (cf. Scaup)	coracoid	complete	1
3121	III	8	6B	Aythya (cf. Scaup)	radius	distal	1
3121	III	8	6B	Aythya (cf. Scaup)	tibia	is	1
3121	III	8	6B	Melanitta deglandi	carpometacarpus	complete	1
3121	III	8	6B	Phalacrocorax auritus	cervical	complete	1
3121	III	8	6B	Phalacrocorax auritus	maxilla	fragment	1
3131	III	8	6	Aves	fragment		2
3131	III	8	6	Melanitta perspicillata	carpometacarpus	complete	1
3214	III	8	6	Anatidae	coracoid	rt. prox.	1
3214	III	8	6	Aves	cervical	fragment	1
3214	III	8	6	Aves	rib	fragment	1
3214	III	8	6	Aves	sternum	fragment	1
3214	III	8	6	Branta bernicla	coracoid	right	1
3214	III	8	6	Branta bernicla	humerus	proximal	1

3214	III	8	6	Branta bernicla	ulna	right	1
3214	III	8	6	Branta bernicla	ulna	right	1
3214	III	8	6	Catoptrophorus semipalmatus	humerus		1
3228	III	7	7	Aves	vertebra		1
3228	III	7	7	Limosa fedoa	coracoid		1
3236	III	8	6	Cerorhinca monocerata	femur	fragment	2
3242	III	7	7	Lophortyx californica	femur	distal	1
3242	III	7	7	Lophortyx californica	sacrum	complete	1
3242	III	7	7	Numenius phaeopus	tibia	shaft	1
3264	III	8	7	Athene cunicularia	humerus	distal	1
3264	III	8	7	Athene cunicularia	tarsometatarsus	complete	1
3264	III	8	7	Athene cunicularia	tibia	distal	1
3264	III	8	7	Aves	fragment		5
3264	III	8	7	Melanitta deglandi	tibia	distal	1
3264	III	8	7	Melanitta perspicillata	cervical	complete	2
3264	III	8	7	Melanitta perspicillata	humerus	fragment	1
3264	III	8	7	Melanitta perspicillata	thorassic	complete	1
3269	III	7	6	Phalacrocorax auritus	femur		1
3289	III	9	2	Aves	fragment		1
3323	III	8	6	Aves	fragment		5
3323	III	8	6	Branta bernicla	scapula	proximal	1
3323	III	8	6	Branta bernicla	ulna	distal	1
3323	III	8	6	Phalacrocorax auritus	cervical	complete	1
3346	III	9	8	Aves	fragment		1
3346	III	9	8	Cerorhinca monocerata	mandible	distal	2
3351	III	8	6C	Melanitta perspicillata	humerus	distal	1
3351	III	8	6C	Melanitta perspicillata	humerus	shaft	1
3351	III	8	6C	Mergus serrstor	ulna	complete	1
3367	III	8	6	Aves	fragment		5
3367	III	8	6	Branta bernicla	carpometacarpus	complete	1
3367	III	8	6	Branta bernicla	digit	complete	3
3367	III	8	6	Bucephala albeola, cf.	scapula	complete	1
3367	III	8	6	Catoptrophorus semipalmatus	tarsometatarsus	complete	1
3371	III	8	6	Aves	fragment		3
3371	III	8	6	Branta bernicla	clavicle	fragment	1
3371	III	8	6	Branta bernicla	coracoid	complete	1
3371	III	8	6	Branta bernicla	humerus	distal	1
3371	III	8	6	Branta bernicla	radius	distal	1
3371	III	8	6	Branta bernicla	tibia	proximal	1
3371	III	8	6	Melanitta perspicillata	coracoid	complete	1
3371	III	8	6	Melanitta perspicillata	coracoid	fragment	1
3371	III	8	6	Melanitta perspicillata	humerus	complete	1
3371	III	8	6	Melanitta perspicillata	pelvis	fragment	1
3371	III	8	6	Melanitta perspicillata	tibia	distal	1
3371	III	8	6	Pelicanus occidentalis	cervical	complete	1
3413	III	9	6A	Aechmophorus occidentalis	carpometacarpus	complete	1
3413	III	9	6A	Aechmophorus occidentalis	radius	complete	1
3413	III	9	6A	Aechmophorus occidentalis	ulna	distal	1
3413	III	9	6A	Aves	fragment		6
3413	III	9	6A	Lophortyx californica	carpometacarpus	complete	1
3413	III	9	6A	Lophortyx californica	cranium	fragment	1
3413	III	9	6A	Melanitta perspicillata	cervical	complete	1
3413	III	9	6A	Melanitta perspicillata	tibia	distal	1
3413	III	9	6A	Podiceps auritus	radius	complete	1
3416	III	7	6	Branta bernicla	ulna	distal	1

3416	III	7	6	Catoptrophorus semipalmatus	carpometacarpus	complete	1
3416	III	7	6	Catoptrophorus semipalmatus	ulna	proximal	1
3431	III	5	2B	Gallus gallus	femur	distal	1
3445	III	7	6	Aves	fragment		10
3445	III	7	6	Branta bernicla	coracoid	distal	1
3445	III	7	6	Branta bernicla	ulna	proximal	1
3445	III	7	6	Chen caerulescens	ulna	proximal	1
3508	III	8	2	Gallus gallus	coracoid	distal	1
3508	III	8	2	Gallus gallus	radius	distal	1
3576	III	8	7	Aves	fragment		4
3591	III	8	5	Cerorhinca monocerata	coracoid	proximal	1
3594	III	8	5	Gallus gallus	pelvis	fragment	4
3594	III	8	5	Gallus gallus	tibia	shaft	1
3646	III	1	1B	Lophortyx californica	humerus	complete	1
3671	III	12	1	Gallus gallus	radius	fragment	2
3676	III	12	6A	Aves	fragment		6
3676	III	12	6A	Branta bernicla	humerus	distal	1
3676	III	12	6A	Branta bernicla	radius	distal	1
3676	III	12	6A	Branta bernicla	ulna	fragment	2
3676	III	12	6A	Catoptrophorus semipalmatus	tibia	distal	1
3676	III	12	6A	Catoptrophorus semipalmatus	ulna	distal	1
3676	III	12	6A	Larus philadelphia, cf.	carpometacarpus	complete	1
3676	III	12	6A	Melanitta perspicillata	carpometacarpus	complete	1
3676	III	12	6A	Melanitta perspicillata	digit 2, phalanx 1	complete	1
3676	III	12	6A	Pluvalis squatarola	tibia	distal	1
3712	III	12	1	Branta bernicla	tibia	shaft	1
3722	III	6	2	Anatidae (goose)	tibia	shaft	1
3722	III	6	2	Aves	fragment		2
3722	III	6	2	Aves	fragment		1
3722	III	6	2	Gallus gallus	coracoid	complete	1
3754	III	13	1	Gallus gallus	femur	proximal	1
3754	III	13	1	Gallus gallus	pelvis	fragment	1
3777	III	8	2	Phalacrocorax pelagicus	cervical	complete	1
4060	III	8	6	Aves	fragment		5
4060	III	8	6	Branta bernicla	coracoid		1

END OF SEASON EXCAVATION REPORT

On Halloween Day, the Fort Guijarros Field Crew finally laid to rest the 1987 excavation season. The site has been re-buried for another year and the crew have either retired for a restful winter or are busily working on exhibits, analyzing collections, or writing articles for the next Quarterly.

Perhaps the longest dig project since 1981, the excavations and mapping at Field Block I ran from June to October and consumed every Saturday from 10 A.M. to 4 P.M. Most of the time was spent just getting down to the wall feature that was exposed in 1981.

The research this summer was designed to re-map a section of the wall and remove each tile/mortar fragment for careful recordation. Fred Buchanan, Life Member and retired civil engineer, devised a detailed coding system for each variety of architectural piece based upon the previous summer's examination of the 1981 sample.

The team mapped, photographed, and coded each piece. One section of the wall was profiled and two key strata of soil were removed and screened to ascertain if the boulders/cobbles at the top of the "wall" were part of the original architecture. The field conclusion was that these cobbles were a repair



Field Block I," site of 1981 and 1987 archaeological excavation. The scene illustrates the string grid over the ruined walls of the fort. Ladders lead to the 1981 trench cut into the wall. View is to the west.

made during the Mexican Period (after 1821) and that the toe of the merlon (breast wall) was about five feet higher and eight feet back. The adobe mud surrounding the cobbles contained bits of white earthen ware ceramics, butchered animal bone, and plaster chips.

It will take many months to assemble all the data and make sense of the hundreds of notations. Fred Buchanan has proposed a workshop for those interested to sort over the details and brainstorm hypotheses about how the walls were built. A report on the work will be planned for a future Quarterly. Members interested in the workshop should call in on the message phone at 294-3262.

In getting down to the walls, several layers of undisturbed dirt associated with the U.S. Army Coast Artillery were passed through. The usual bullet casings, insignia, and personal items were exposed. One interesting item was reported in the San Diego Union as a "parlor token" from the Stingaree (red light) district. This has since been cleaned and has been identified as a slot machine token from "Murphy's Billiard Parlor." Other items included clay pipes and ale bottle fragments from the Yankee Whalers in the 1860's and 1870's.

As the season moves into rain and the time has come to snug-in for the season, the crew will move into the laboratories and archives to carry out other needed duties. Of course, there is always next year and new mysteries to explore!

Ronald V. May
Director of Archaeology

FINANCIAL STATEMENT

The financial report for the Fort Guijarros Museum Foundation is usually only distributed to the Board of Directors on a monthly basis. However, given the success at the recent Fiesta and other events, the following is proudly reported:

Balance of 9/1/87:	\$7,152.30
Receipts:	\$3,457.91
	<u>\$10,610.21</u>
Expenses:	<u>\$1,422.72</u>
Balance of 9/30/87	\$9,187.49
Wood Grant	\$1,914.83
Life Members	\$2,850.00
General Fund*	\$4,411.36
Sales Tax Due	<u>\$ 11.30</u>

\$9,187.49

*(excluding Life Members)

FIESTA PRELIMINARY RECAP

Receipts:	
Contributions	\$ 200.00
Reservations	<u>\$3,800.00</u>

Total Receipts: \$4,020.00

Expenditures:	
Mail & printing	\$ 569.92
Hall rental	\$ 242.00
Food & wine	\$ 434.40
Misc.	\$ 115.20
Postage	<u>\$ 262.75</u>
	<u>\$ 1624.27</u>
unpaid bills	<u>\$ 740.00</u>

Total Expense \$2,364.27

Net \$1,655.73

Don Lyons
Treasurer

FORT GUIJARROS EXHIBITS ON THE MOVE

Exhibit preparers Nancy Bailiff and Alan Willis have been busy developing exhibits on the archaeological discoveries this past summer. During the Cabrillo Festival, Cabrillo National Monument Superintendent Gary Cummins arranged for the Foundation to utilize a large booth for photographs and technical drawings on the research and excavations that have been conducted since 1981.

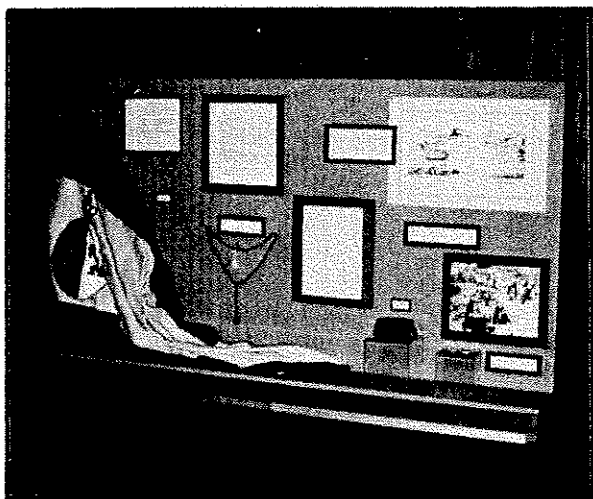


Photo: Wall exhibit on display at Cabrillo National Monument. The 1803 (replica) Spanish flag drapes the left side and introduces text and artifacts. Also displayed is an 1830 rosary which was recovered in 1981 by underwater archaeologist Roy Pettus. A 1843 sketch of Fort Guijarros and artifacts from the excavations on the walls is also featured.

The exhibit booth was removed at the end of the one day event. However, a semi-permanent exhibit is being developed for the museum area that will occupy one wall. Among the items to be featured will be the 1830 Rosary that was recovered by Foundation Advisor and marine archaeologist Roy Pettus during his search for the cannons south of Ballast Point. In a remarkable state of preservation, the

olive wood bead and brass artifact is the finest recovery thus far. Pettus used the search for his M.A. Thesis and now works for Intersea in San Diego.

The long-term exhibit at Glendale Savings has been removed and a new one installed at American Savings on Rosecrans Street in Point Loma. Instrumental in these exhibits has been Peninsula Chamber of Commerce President Caroline Crosby and Mary Harrington of American Savings.

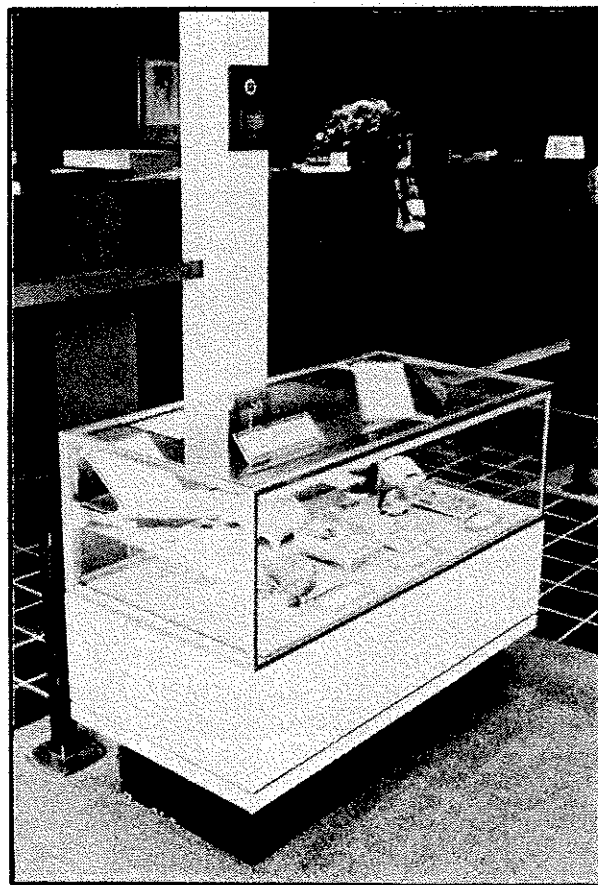


Photo: Case exhibit in the American Savings and Loan on Rosecrans St. in Point Loma. The display features Spanish military, Yankee whaler, and U.S. Army Fort Rosecrans artifacts recovered in the archaeological excavations.

INTRODUCTION TO THE BOARD OF DIRECTORS

The following notes and comments are provided to introduce the membership to the board of directors and their activities in the past months.

*Ronald V. May, Chairman.

Elected chairman by the board in 1981. After the founding of the organization, Chairman May has steered the organization through the administrations of five U.S. Navy commanding officers and coordinated all the Fort Guijarros Museum Foundation programs.

*Jesus Benayas, Vice Chairman.

Elected Vice Chairman in 1985, Vice Chairman Benayas served as Treasurer from 1981 to 1985 as the delegate director from Casa de Espana until Maria Olson assumed the post in 1985. Jesus took a leave of absence from June to October and recently returned from a trip to Spain.

*Don Lyons, Treasurer.

A Life Member since 1986 and member of the field archaeology crew, Treasurer Lyons accepted appointment as Interim Treasurer in 1987 and recently agreed to assume full responsibilities as Treasurer.

*Dale Ballou May, Corresponding Secretary.

A member since 1982, Secretary May served as Recording Secretary from 1982 to 1986 and Layout Editor on the Fort Guijarros Quarterly since it was first produced.

*Caroline Crosby, Director.

A Life Member since 1984, Director Crosby has been on the board since 1981 as a delegate from the Peninsula Chamber of Commerce.

*Philip Flemion, Ph.D., Director.

Appointed as delegate director from the Institute of Public and Community History, San Diego State University, Director Flemion has been on the board since 1986.

*Cdr. John C. Hinkle, Director.

A member since 1981, Director Hinkle was Commanding Officer of the U.S. Naval Submarine Base, San Diego when the organization was an ad hoc committee. He invited the group to assist the Navy in commemorating the site of Fort Guijarros in 1980. Since his transfer to another station, Director Hinkle continued to serve as Fund Raising Chair in 1982 and as Interim Vice Chair during Director Benayas' absence in 1987.

*Captain Phil Klintworth, Director.

A member of the board since his arrival as Commanding Officer of the U.S. Navy Submarine Base, San Diego in 1987, Captain Klintworth assumed the delegate seat provided in the by-laws to each commanding officer of the Submarine Base.

*R. Curtis McKee, Director.

Appointed to the board in 1987, Director McKee recently retired from the U.S. Navy Fleet Naval Reserve and currently serves as a U.S. Magistrate. Director McKee has been actively involved in Foundation programs since 1981.

*Eleanor Neely, Director.

Appointed in 1986, Director Neely has assisted the Foundation since 1984 as liaison with the San Diego Historical Society in organizing the Battle of San Diego Bay Fiesta and Fort Guijarros Fiesta events. Director Neely has assumed the post of Archivist.

*Maria Olson, Director.

A member of the ad hoc committee in 1980, Director Olson was appointed as delegate director from Casa de Espana in 1985. Director Olson has organized numerous Spanish folk entertainments at Foundation events and has been the coordinator of the Battle of San Diego Bay Fiestas since 1985.

*James Royle, Director.

A Life Member since 1985, Director Royle was appointed delegate director from the San Diego County Archaeological Society in 1986. Director Royle has been a crew member on the archaeological projects since 1981 and served as a crew chief in 1987.

INDIVIDUAL

- Todd Caffo
- Rose Chassy
- John P. Dooley
- Susan Floyd
- Kristi Hale
- Donald J. Hartley
- A.D. Hinshaw & Associates
- Kaja Laustsen
- Danna Lee
- John E. Marston
- Andrea J. McKee
- Caroline N. Morrison
- Debra M.D. Owen
- Elizabeth Schlappi
- C. Jackson Selsor
- Ruth E. Stinson
- Judy Swink
- Harriet Wright

MEMBERSHIP CAMPAIGN REPORT

Welcome to the 33 new members of the Foundation who have joined this past quarter. Total memberships now number 117. The new members have come from a variety of sources, particularly the archaeological excavation and fiesta.

I encourage members to participate more actively. All of our work is done by volunteers, and your skills and experience may be especially valuable to the Foundation in some aspect of its operation. Call or write us if you're interested in being involved.

One way to participate is to provide feedback to us on what we're doing and how we're doing it. Please let us know what you like and dislike about the Quarterly, our events, etc. Is there something that you feel we should be doing that we are not?

If you are moving, please drop a card with your new address to the Foundation post off box. Every copy of the Quarterly that is returned costs \$1.46 in additional postage.

The following is a list of new and upgraded memberships as of November 18, 1987:

FAMILY

- William J. Aste, Sr.
- Laurie & Wayne Bennett
- Michael J. Curren
- John & Sharon Hinkle
- Lois & Jack Miller
- John & Bonnie Rush
- Roland & Virginia Smith
- Hugh & Marilyn Story
- Tom & Erlene Surber
- Lcdr. & Mrs. C. Everly Terry

CORPORAL OF THE GUARD

- Agustin Lucas

CREW OF THE LELIA BYRD

- Mary Oswell

FRIEND OF FORT ROSECRANS

- Dale Ballou May (upgrade)

COMMANDANTE'S CIRCLE

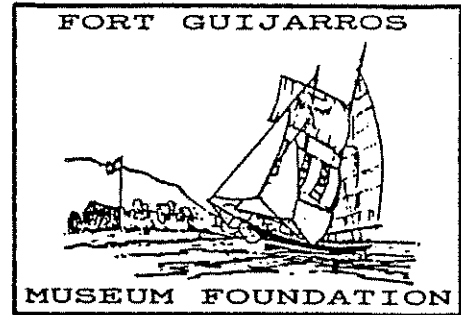
FOUNDING LIFE MEMBERS

- Mr. & Mrs. R. G. Drolette
- Mr. & Mrs. Philip M. Klauber
- Kenhelm W. Stott, Jr. (upgrade)

Mike Nabholz,
Membership Chairman

NEW FORT GUIJARROS PIN !

The Foundation now has pins available which feature our familiar "Battle of San Diego Bay" logo shown at the right. The battle was fought on March 22, 1803 between the Spanish at Fort Guijarros and the American Brig Lelia Byrd.



Size 1" x 1/2"
White with gold design
\$5.00 Each (tax & shipping included)

NAME _____

ADDRESS _____

CITY/STATE/ZIP _____

Mail to: Fort Guijarros Museum Foundation
Box 231500
San Diego CA 92123

3Q87

MEMBERSHIP FORM

ANNUAL MEMBERSHIP

Student	\$ 8.00
Military	\$ 8.00
Senior	\$ 8.00
Regular	\$ 12.00
Family	\$ 16.00
Institution	\$ 12.00

SPECIAL MEMBERSHIP CATEGORIES

Corporal of the Guard	\$ 25.00
Crew of the Lelia Byrd	\$ 50.00
Friends of Fort Rosecrans	\$ 75.00
Yankee Whalers	\$ 100.00
Patrons of the Fort	\$ 125.00
Commandante's Circle	\$ 150.00+

Those who become members of the Commandante's Circle in 1987 also will be honored as Founding Life Members.

Please circle membership category desired.

NAME(S) _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE (OPTIONAL) _____

Mail to: Fort Guijarros Museum Foundation
Box 231500
San Diego CA 92123

3Q87

