Identifying Early Cannon at the Presidio of Santa Barbara

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About the Author

Michael Hardwick specializes in Spanish colonial military history and material culture, a field he has actively researched for over forty years. He is an Honorary Life Trustee of the Santa Barbara Trust for Historic Preservation. The California State Military Museum in Sacramento uses many of his biographical sketches of Spanish colonial soldiers on their website. He has recently advised California State Parks on La Purisima Mission Museum displays and consulted on historic murals of the Portolá Expedition for the Laguna Hills Civic Center. In 2005 Michael wrote Changes in Landscape: The Beginnings of Horticulture in the California Missions, which identified for the first time much of the horticulture that was found in the early California Missions. Currently with Dr. Jarrell Jackman of the Santa Barbara Trust for Historic Preservation he is co-editing a translation of The Spanish Royal Army of California by the late Professor Carlos López of Menlo College.

Abstract

Founded on April 21, 1782, the Royal Presidio of Santa Barbara was the last in a chain of four military fortresses built by the Spanish along the coast of Alta California, then a wilderness frontier. Ordnance originally supplied to the presidio included two bronze four-pounders, each weighing over 700 pounds. Field pieces of this type were known as cañones de campaña. Unfortunately, in California none of the original presidial four-pounder (de a 4) cannon have survived. Recently cannon of this type were located at the U.S. Naval Academy in Annapolis, Maryland. The Navy captured them as trophies of war in 1847 during the Mexican War in California. By comparing original inventory records at the presidio with the physical characteristics of cannon at the Naval Academy, it was possible to identify cannon that were most likely originally supplied to the presidio.

Very little information exists concerning the armament and weaponry used in the 18th century presidios of California. Such garrisons were manned by dragoon soldados de cuera (leather-jacket soldiers). While these soldiers were armed with firearms, the weapon of choice for these soldiers was the lance. By the late 18th century in California soldados de cuera were serving in fortified presidial garrisons. The garrisons were typically supplied with cannon, but it was presumed that this took the form of light antipersonnel artillery. Presidial soldiers had no formal training in the use of artillery. Plans for California presidios, however, showed gun bastions (baluartes) in opposing corners, suggesting that the bastions were designed to support fairly heavy field pieces for the defense of garrison walls. It seemed odd that such gun bastions would be designed to support small cannon.
The presidio of Santa Barbara was initially equipped with two four-pounder de a 4 (de a cuatro) bronze cannon, which fired a four-pound ball about 3 ½ inches in diameter. These cannon were also capable of firing grapeshot (a cluster of smaller balls), producing an effect rather like that of a large-bore shotgun. Inventory records revealed that the original presidial four-pounders were not light at all, but in fact weighed over 700 pounds, so having a gun bastion to support them made sense. Unfortunately, in California none of the original presidial de a 4 cannon have survived for scrutiny.

In August of 2009 cannon expert, John Morris, of Springfield Arsenal in Alexandria, Virginia was contacted to see if he had any knowledge of early 18th century Spanish bronze 4-pounder cannon weighing more than 700 pounds. A graduate of the US Naval Academy at Annapolis, John previously had photographed and catalogued the Spanish cannon collection at the Academy. He was able to clarify references to ordnance at the Santa Barbara Presidio by linking them to bronze four-pounder cannon at the Academy. Some of these had been captured in California during the Mexican-American conflict of the late 1840s and shipped to the East Coast as trophies of war. The weights on the Spanish bronze 4-pounder trophy cannon at the Academy compared favorably to inventory records at the Presidio in Santa Barbara. When the Spanish markings on the Academy cannon were deciphered, they were within a few pounds of those described in a 1783 inventory at the Presidio of Santa Barbara.

Founded on April 21, 1782, the Royal Presidio of Santa Barbara was the last of a chain of four military fortresses built by the Spanish along the coast of Alta California, then a wilderness frontier - following those at San Diego, Monterey, and San Francisco. In 2005 a study of the arms and armament of the Santa Barbara Presidio was undertaken by the author. Weapons inventories, powder stores, and munitions were compiled by year from notes and translated source material at the Santa Barbara Trust for Historic Preservation Research Center. Richard Whitehead, author of Citadel on the Channel, had originally assembled source documents and had them translated. Whitehead, however, underutilized information related to presidio armament, as he focused on the construction of the Presidio at Santa Barbara.

A specific citation from Richard Whitehead’s book did mention artillery supplied to the presidio at its founding:

The Governor [Felipe de Neve] has asked for two cannons de a 4 [using four-pound cannon balls] and suitable cartridges, half of them grapeshot, for the defense of the aforementioned presidio, and [requested] that transporting be done by way of [the Naval Department of] San Blas (Whitehead and Cutter: 62).

On June 30, 1782 Governor de Neve reported that cannon were on the way to the new presidio at Santa Barbara: “…Soon the useful store of munitions will receive two cannon of 4 caliber, and cartridges, corresponding amounts of ball and grapeshot, which the frigates Princesa and Favorita are carrying” (Whitehead and Cutter: 62).

By the following year [1783] garrison commandant, José [Francisco] de Ortega, noted the following in a memo of ordnance to his successor Felipe de Goycochea:
1 cannon, bronze re-enforced 4 calibers weighing 7 quintals 62 pounds (762 pounds) in good condition and mounted.
1 cannon, (same as above), weighing 7 quintals 46 pounds (746 pounds) in good condition and mounted.
1 iron bore-swab ramrod of wood, good condition
1 iron ladle with swabbing sponge, good condition
2 touchhole scrapers (picks for puncturing the charge), good condition
1 cartridge case [made] of wood (Sahyun: 100,197)

As part of the blueprint for establishing a frontier presidial garrison like the presidio in Santa Barbara in the late eighteenth century, there probably was a standard for the size of ordnance at the garrison. It seems that 4-pounder (de a 4) cannon were preferred. In October of 1790 the garrison commander at Santa Barbara, Lt. Felipe de Goycooechea, exchanged his original issue bronze 4 caliber cannon for two lighter guns from the frigate “Aranzazu”. These were, however, only two-pounder (de a 2) cannon and considered by higher authority to be inappropriate for the presidio. The viceroy later notified Goycooechea to return the “Aranzazu” cannon, as the guns at the Santa Barbara Presidio should be the larger four-pounder (de a 4) cannon. (Hardwick: 31)

Spain did not have a well-defined system of field artillery until the late 18th century when, following the lead of the French, the Spanish began to develop light mobile cannon that could travel with the army. These often took the form of a bronze 4-pounder cannon, field pieces known as cañones de campaña.

In approximately 1770, the Spanish Crown adopted a non-standard design cast by Josephus Barnola at the royal foundry in Barcelona. This style of cannon had an extremely long breech with no dolphins (handles for lifting the gun). The coat of arms of King Charles III was absent from the breech, and a cannon name was engraved on the barrel in a raised scroll (Brinckerhoff and Chamberlain: 126-127).

Cannon of this type sported a bore of 3 ½ inches, measured almost 5 ½ feet in length, and were known to weigh in excess of 600 pounds. The left trunnion (pivot) identified the source of the gunmetal used to cast the gun. The right trunnion was marked with the weight or pesa (abbreviated P) of the cannon. Cannon weight was often in quintales (abbreviated q). A Spanish quintal was equivalent to slightly more than 100 English pounds. Fractions of a quintal were given in libras (abbreviated l). A Spanish libra was almost equal to an English pound.

There is a cannon at the Naval Academy that is most likely a California Presidio bronze 4-pound (de a 4) cannon. It is very much like the one inventoried at Santa Barbara in 1783. Mislabeled as a Spanish 8-pounder, it is a trophy of the Mexican War in California. The bronze plaque on the breech reads: “Spanish eight-pounder named El Gallard, captured by the U.S. Navy from the Mexicans in California 1847”. The top inscription on the right trunnion as you face the cannon from the back reads: “7q-68Ls” (7 quintales, 68 libras) or roughly 768 pounds, which is very close to the described weight of the Santa Barbara Presidio cannon. Inscriptions on the trunnion below the weight read “PESo CASo”, PESo (Peso) or weight and CASo (unknown). The back
The breech face of the cannon is engraved with the words: “Josephus Barnola Fecit Bar/1766”. Josephus Barnola cast it in Barcelona in 1766. The tube is named El Gallard engraved on the chase (or barrel) of the gun. El Gallardo in Spanish means the handsome, brave, or gallant one.”

Captured in the Philippines during the Spanish American War, the 18th century cannon on display at Fort Lewis in Washington State are prime examples of how bronze Spanish cannon were often marked. These 24 pounders were used in larger fortresses in colonies like Cuba, Mexico, and the Philippines. Few, if any, were used in Alta California. If used, they were not in the presidios themselves, but in castillos (coastal gun emplacements). Trunnions (cannon pivots) were inscribed with the specifics for each cannon. The left trunnion (facing the cannon from the back) specified gunmetal composition. Typical inscriptions were: Cobre de Mexico [Copper from Mexico] or Cobre Yngles y Mexico [English and Mexican copper – suggesting that the cannon were perhaps recast from older bronze]. The right trunnion indicated the weight of the gun. Weight was often marked with abbreviations: q or qq is for quintales (100 weight), @ was for arroba (roughly 25 pounds). The breech of the gun was often engraved with the king’s cipher, date, and place of manufacture.

Eighteenth century cannon may seem but curiosities in our time, but in the past they were weapons of war issued and controlled by kings and royal armies. Customarily manufactured in royal foundries according to standardized specifications, bronze cannon were often inscribed with dates and places of manufacture. They were typically marked with a king’s cipher and could also name the designer of the ordnance. Various other markings on trunions identified the source of the metal used in casting as well as weight of the cannon. As historical artifacts, they are windows into the history of their time.

Sources


Hardwick, Michael R. Arms and Armament, Presidios of California. Unpublished manuscript.

Sahyun, Geraldine V., trans. “Felipe de Goycochea: list of the military supplies of war which were received in 1782 by his predecessor José de Ortega”, Santa Barbara, Trust Research Center Translations binder 1782-1784.

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*Proposed illustrations:*

![Figure 1](image1)

*Figure 1*

![Figure 2](image2)  ![Figure 3](image3)

*Figure 2*  *Figure 3*

This *cañon de campaña* is at the Naval Academy. It is most likely a California Presidio bronze 4-pound (*de a 4*) cannon. These three photos are courtesy of John Morris, Springfield Arsenal, Alexandria, Virginia, 2009.
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Proposed illustrations:

Figure 4

Ammunition and ordnance equipment for cannon would have looked much like this. Prepared charges were stored in a wooden cartridge case. Photo by the author is from a display at the Smithsonian Institution, Washington, DC, 2005.
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Proposed illustrations:

Figure 5

Captured in the Philippines during the Spanish American War, 18th century 24 pounder (de a 24) Cannon on display at Fort Lewis in Washington State are prime examples of how Bronze Spanish cannon were marked. Drawing is by Fred Rice, 1949.