

Maritime Museum of San Diego

MAINS'L HAUL

Volume 41, Number 1

A Journal of Pacific Maritime History



The Kettenburgs
San Diego Yacht Builders



Seventy-two years after her launching day in 1931, the Maritime Museum's Pacific Class sloop *Wings* soars in her natural element.

On the cover, Dennie Barr steers her PCC *Mickey* to victory in the inaugural Newport-Ensenada race in 1948. The artist, Kipp Soldwedel, was a crew member; he painted the scene for Mrs. Barr in 1952.

Photo by Maggie Piatt; cover courtesy Edward S. Barr, photographed by John Wright



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MAINS'L HAUL

is published quarterly,
wind and weather permitting, aboard
the ferryboat *Berkeley*.

"*Mains'l Haul*—An order in tacking
ship bidding 'Swing the main yards.'
To loot, steal, or 'acquire'."

—John Masefield

DID YOU KNOW?

- that a woman won the first Newport-Ensenada Race, at that time the world's largest international race? (cover)
- that San Diego's Pacific Highway used to run along the edge of the bay and was called *Atlantic Avenue*? (page 6)
- that the site of San Diego's County Administration Building was underwater until 1915? (pages 10-11)
- that George Kettenburg, Jr.'s first original sailboat design was the legendary PC? (page 15)

Maritime Museum of San Diego

MAINS'L HAUL

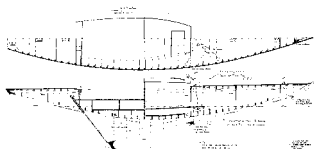
A Journal of Pacific Maritime History

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Debra Domenici with Edward Barr

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Mark Allen Editor

Tony Enyedy Art Director

Press Plus Printer

These days, visitors walking along the Embarcadero near the San Diego Maritime Museum encounter a colorful series of "Urban Trees."

The purpose of these whimsical sculptures, sponsored by the Port of San Diego, is to inspire more people to promenade along the waterfront. The pieces seem to serve this purpose well, engaging passersby and drawing them further along their walk. They walk, that is, until they come to one sculpture utterly unlike all the others (for indeed it's not really one of them), so harmonious in form and balance that it usually stops pedestrians

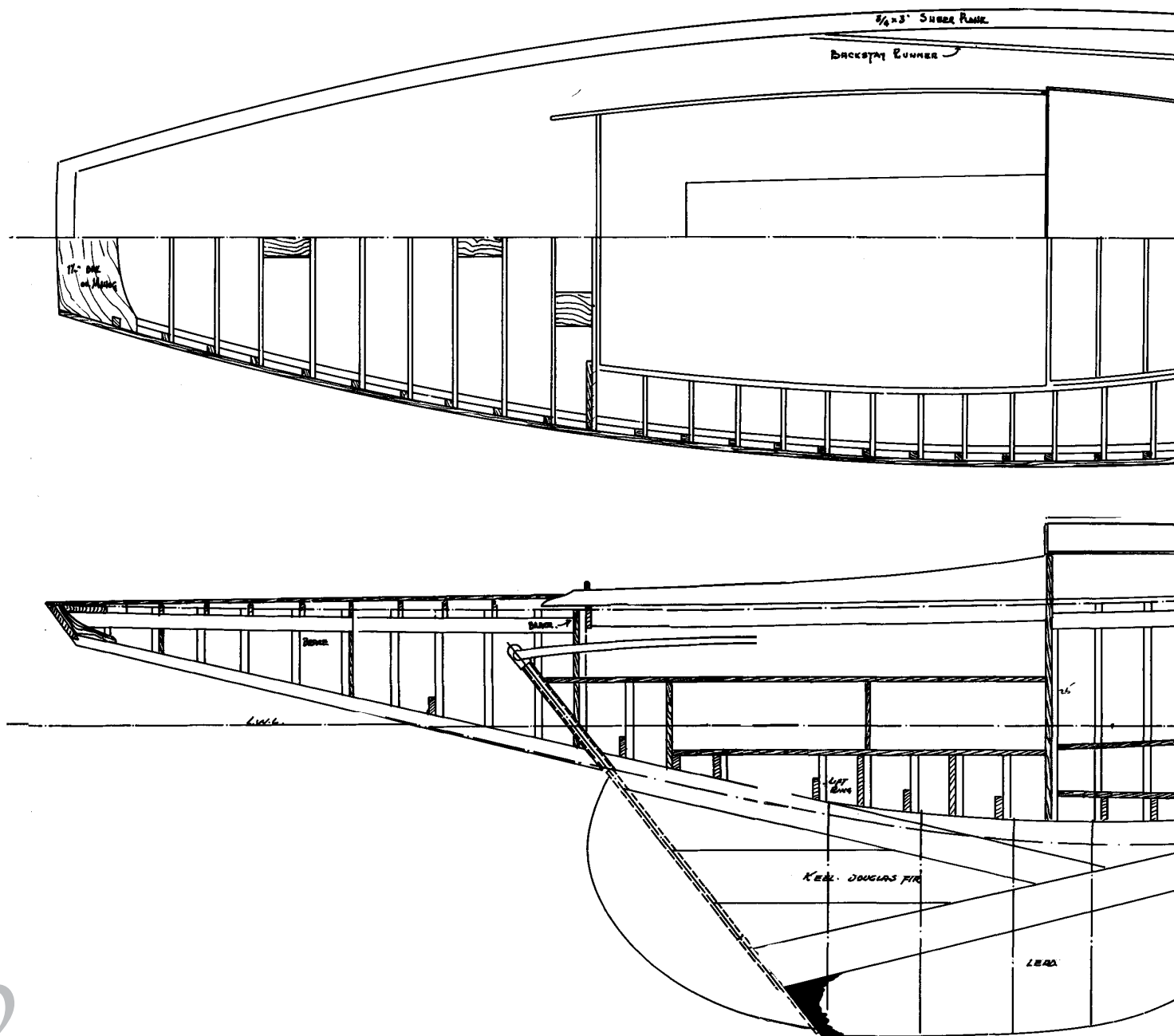
in their tracks.

The sculpture is titled "*Wings*," by the late San Diego artist George Kettenburg, of whom you'll read more in this issue. Built in 1931, recently restored and newly installed in front of the *Berkeley*, *Wings* is the Museum's own PC#8, the oldest boat of her class to have survived. On any given day one can see on the bay behind her dozens and sometimes hundreds of recreational sailing vessels that have spread their own wings to the afternoon breeze. For every sailboat visible on the bay, there are hundreds more in their marina slips waiting to take flight. Up and down the coast of Southern California, thou-

FROM THE HELM

by Ray Ashley

Director
Maritime Museum of San Diego



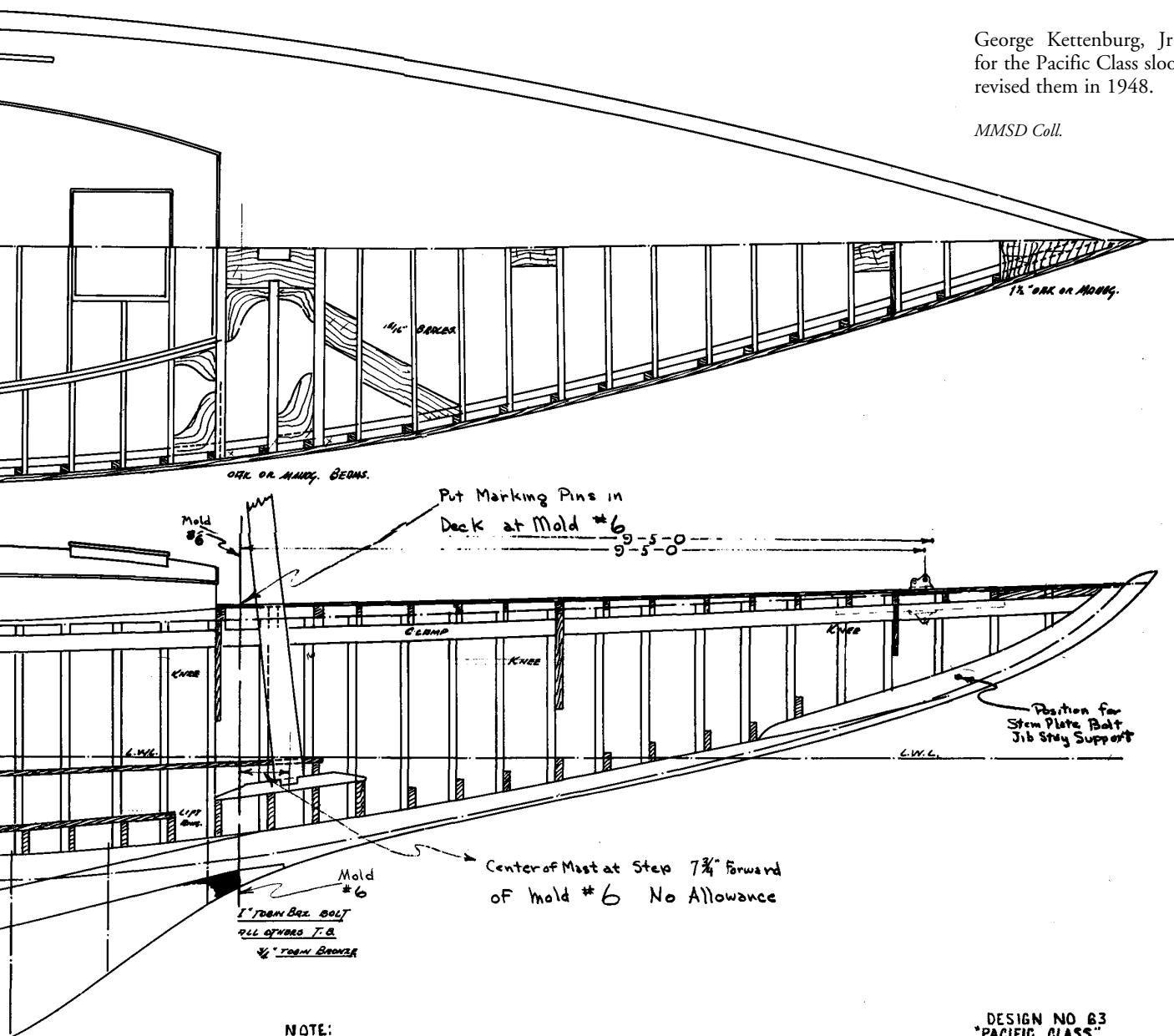
sands of recreational sailing vessels engage in races, cruises, and day-sails, or simply wait to fulfill their owners' dreams of future voyages. The phenomenon is hardly an elite affectation, for most of these vessels are owned and sailed by the same middle class who have built Southern California's economy. In so doing, a large-scale industry catering to the design, construction, sales, outfitting, moorage, insurance, maintenance, instruction, and handling of recreational sailing vessels has risen faster and further here than anywhere else in the world. Though it's not possible to trace the physical origin of something so vast and complex to a single point, *Wings* may be the closest we'll ever come, for the Kettenburg PC was the first popular class of ocean sailing boat in Southern California that people of ordinary means could aspire to own.

Like *Wings* herself, delicate and ethereal, the entire phenomenon of recreational sailing is somewhat dreamlike and surreal in

that its entire purpose lies only in going to sea for its own sake. There are none of the imperatives that drove people to the sea in former times —the need to move cargo, catch fish, or to get anywhere. In recreational sailing, the product *is* the process, and when done gracefully, it approaches art. At least the pedestrians on the Embarcadero have voted this opinion, for *Wings* is overwhelmingly the most popular sculpture on the promenade. They pause to take in her lines, peer at the label to find out what she is, and gaze admiringly some more. Then, most intriguing of all, people commonly reach up and tenderly pat her topsides. It happens often enough each day that it is hard not to believe that some kind of subliminal connection is being made. In other words, like any successful work of art, and like our other ships, *Wings* seems to be excelling at her job in giving flight to myriad voyages of memory and dreams.

George Kettenburg, Jr.'s lines for the Pacific Class sloop, as he revised them in 1948.

MMSD Coll.



NOTE:
THIS DWG. COVERS HULLS UP TO
AND INCLUDING HULL NO. 35.

DESIGN NO. 63
"PACIFIC CLASS"
KETTEBURG BOAT WORKS
SCALE: 1"=1'-0"
REV. 1948

3

Silver Gate

And the San Diego Yacht Club

Terry Shewmaker

Editor's note:

In 1912, a prosperous family of six moved to San Diego from their native Pittsburgh. Within a few years, the father and his teenaged son—both named George Kettenburg—began building boats in their backyard.

The family name would become famous in Southern California boatbuilding, but in 1912, the Kettenburgs and other newcomers found San Diego a dismaying place for recreational boating. Aside from its wonderful weather, the city was home to only 39,600 people, its bay was ringed by smelly mud flats, and the center of most boating activity, the San Diego Yacht Club, had been pushed from one location to another. The impermanence of the still-young local yachting scene was epitomized by the club's headquarters aboard a converted ferryboat. Despite the rough-and-ready nature of local yachting, however, in and around this improvised clubhouse boating gained new prominence in San Diego—and 1912 would mark an early high point for local yachting.

On the spring day in 1910 when *Silver Gate* became a yachtsmen's clubhouse, the twenty-three year-old former ferryboat was still quite impressive. The "Oregon pine" planks along her 189-foot length glowed white, while the pair of octagonal Victorian pilothouses—her signature feature—looked for all the world like newborn hatchlings of the sumptuous Hotel del Coronado.¹

Silver Gate's original career plying San Diego Bay had been brief but eventful. Intended to be a Pacific pioneer—the West Coast's first double-ended ferryboat driven by screw propellers, instead of old-fashioned paddlewheels—she had instead shown a calamitous inclination to smash into ferry landings.² "Achieving quite a reputation as a pile-smasher" from her first day in service (April Fool's Day, 1888), *Silver Gate* lasted barely



a month before being ignominiously retired.³ Another propeller-driven ferry would not venture out on the bay for forty-one years.

After a brief stint as an excursion vessel, the banished ferryboat became a star attraction at Camp Coronado, the Tented City—a popular summertime resort oasis south of the Hotel Del Coronado.⁴ Tent City's dances took place "on the beautiful Floating Casino" nightly, the Sabbath excepted. "The smart set of San Diego" crossed the bay to "enjoy a better hop than can be given in the club houses of the city itself."⁵ But, as 1910's Tent City season approached, it was becoming evident that those dancers needed more elbow room: "In past seasons many San Diego people whose chief pleasure is dancing hesitated to make the trip across the bay after having made it once, only to find the old Casino so crowded that they could not get on the floor. With the new casino," then under construction on the beach beside Glorietta Bay, "there will be plenty of room."⁶ What would become of the Floating Casino, whose hardwood dance floor had been the rage of Tent City for almost nine years?

One proposal had been floated back in 1902 by yachtsman Lucien A. Blochman. "The enterprising commodore of the Corinthian Yacht Club has evolved the idea of a floating club house," the *Tribune* reported. Commodore Blochman pointed out that the club might be well served by such a novel home. "It is not always convenient to have a clubhouse at one particular place on the shore. A club house afloat could easily be moved from place to place, whenever occasion required."⁷ With a dance floor "of respectable dimensions" like *Silver Gate's*, something he deemed indispensable for success, Blochman envisioned that such a clubhouse would be sought after by all San

Terry Shewmaker has passionately researched *Silver Gate* for years, amassing a substantial trove of material. She has also contributed to our knowledge of San Diego's oldest yacht, the 1902 *Butcher Boy*, which once moored alongside *Silver Gate* and is now part of the Maritime Museum's fleet. This is her first *Mains'l Haul* article.

"Top deckers" and sailors from the armored cruiser *South Dakota* gather to watch a rowing race at the foot of Hawthorne, about 1912. Mission Hills rises behind them to the left.

San Diego Historical Society Photograph Collection



Diegans interested in aquatic sports. "Whether the thing goes or not," the *Tribune* concluded, "it is certainly a pleasant subject for speculation."⁸ The thing would indeed go, although the idea languished for another eight years.

Over on the San Diego shore in February, 1910, incoming Commodore Frank Benham and his Board of Directors met in the Yacht Club's headquarters at the D Street Boathouse.⁹ They knew that their club would soon be uprooted: outside the door a new commercial pier was due to be constructed. Reclaimed acreage behind a massive new seawall would push the shore another block into the harbor—leaving their home on the waterfront-girding Atlantic Street (now Pacific Highway) high and dry. The Commodore chaired a commission to tackle the problem, and they returned in April with the answer: the club would buy the old casino from the Coronado Beach Company, move it across to San Diego, and build a five-hundred-foot wharf. "Tent

San Diego's recreational boats cluster around *Silver Gate* about 1910, in this early (and heavily retouched) aerial photo looking north toward Mission Bay. Broadway runs past the ornate courthouse at bottom, while Second Avenue slices through the right corner.

San Diego Historical Society Photo Coll.



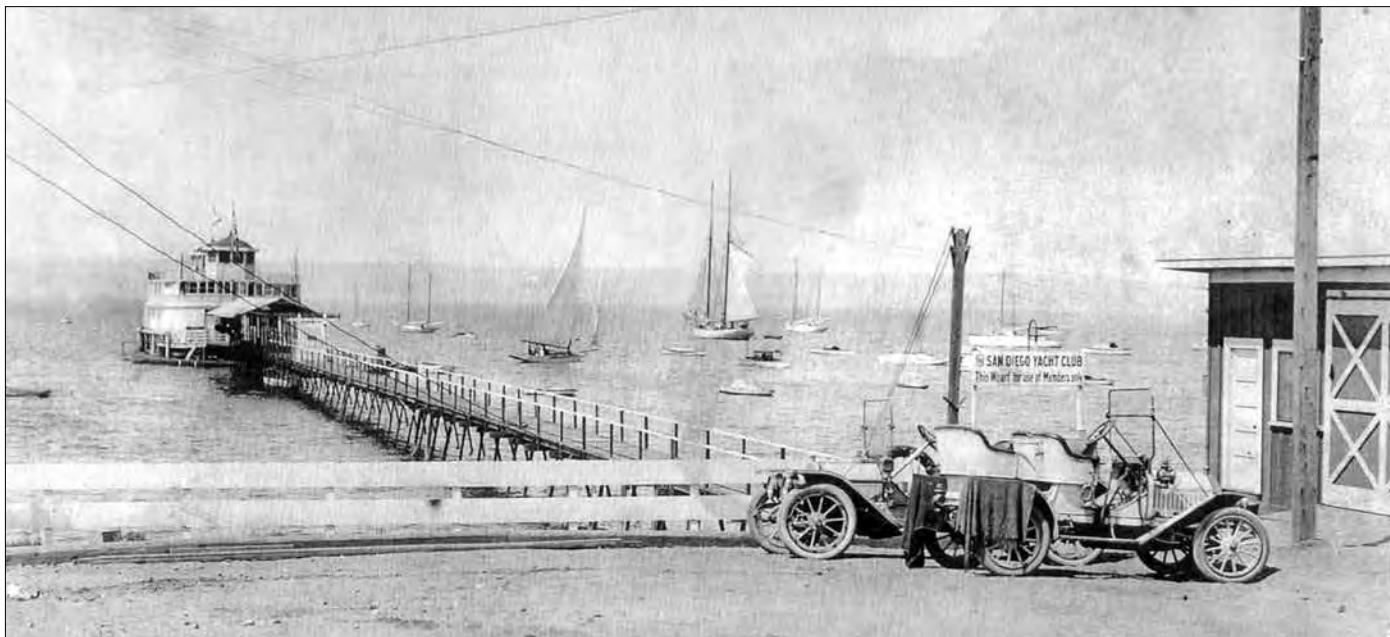
City Casino to be Palatial Club House,” announced the San Diego *Union*.¹⁰

Silver Gate and the Yacht Club both traced their beginnings to San Diego’s 1880s boom—heavy, too-brief years when the railroad’s arrival pulled San Diego up to the brink of being a major city. In the wake of the Boom’s ignominious bust in 1889, the club had bounced from one meeting place to another, even splitting into two groups—the homeless San Diego and the livelier Corinthian, with its D Street clubhouse. But neither club proved financially able to survive alone, and their 1905 merger—under the San Diego name and the Corinthian burgee—had finally brought stability.

Silver Gate was towed across the bay in the spring of 1910, leaving behind the colorfully-striped canvas-and-thatch “skyline” of Tent City and the red-roofed Hotel Del Coronado. Her destination was a far cry from such manicured pleasure grounds. All along Atlantic Street stretched a jumble of shacks, businesses and wharves. Her new home would be at the foot of Hawthorne Street, which dropped down to the water’s muddy edge from the barren mesas and canyons of City Park, soon to be renamed Balboa Park.

On the night of June 7, its interior adorned with “an appropriate arrangement of signal flags and United States ensigns as decorations,” the new clubhouse hosted a grand ball. As “mem-





The famous schooner *Lurline*, at center, gets underway in 1912.

Courtesy of the Jim Sweet Family

bers of the yacht club entertained their guests as never before,” the floating clubhouse resounded with music and laughter and yachting talk, the men “garbed in regulation costume of blue coat and white duck trousers,” the women elegant in gowns. A thousand San Diegans enjoyed “the largest and most elaborate club house on the Pacific Coast.” As Japanese lanterns glowed throughout her little fleet, *Silver Gate* appeared to swim in the darkness amid a sea of fireflies, one of which was Halley’s Comet, rushing away from the earth.¹¹

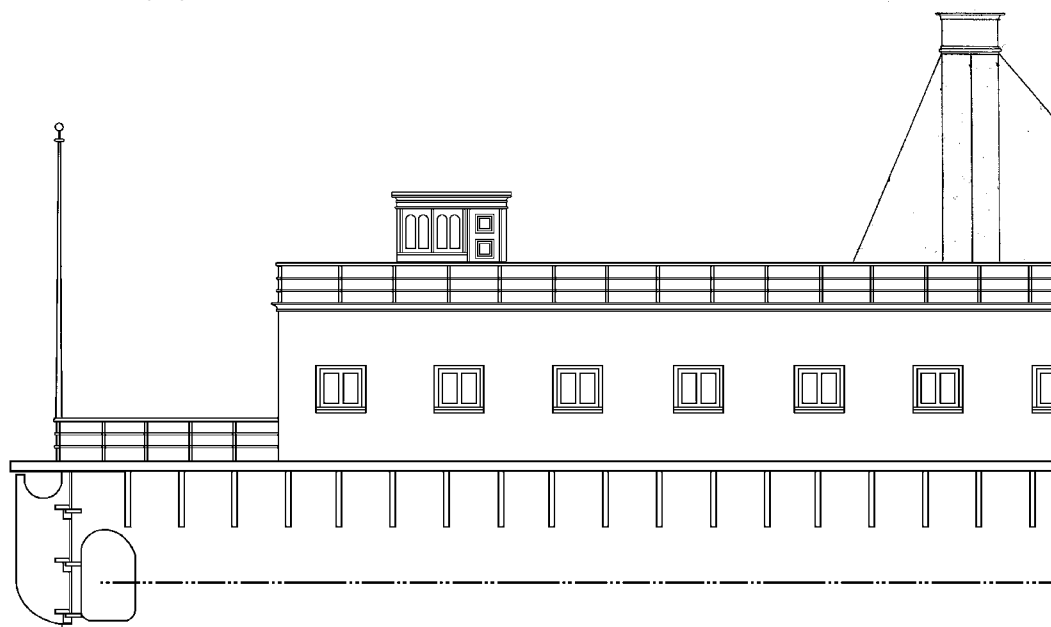
Pacific Motor Boat magazine noted approvingly that the new clubhouse “has three decks where there is plenty of room for everything that is called for in a yacht club.”

A ball room, main cabin, ladies’ cabin, locker rooms, with shower bath and swimming facilities just outside the door, state room for the commodore, directors’ room, and quarters for the club keepers, are all provided, as well as a landing stage fastened to the hull of the vessel, that rises and falls with the tide so that it will always be steady.¹²

Almost all of the old ferry was put to use. Small boats and tenders sheltered under her overhanging sides. One ornate pilothouse served as the directors’ room; the other

Simple, squat, and ugly, the ferry’s original design was also practical. Her practicality ended, however, when local builders added the weight of another deck. This 1887 drawing from San Francisco’s Union Iron Works is published here for the first time.

MMSD Coll.



offered Commodore Benham an office with a spectacular bay view.¹³

In 1912 the floating clubhouse enjoyed its finest moments. Two signal events in local yachting that year brought more attention to recreational boating in San Diego than ever before.¹⁴ The first was the victorious homecoming of San Diego's first champion in the great yacht race to Honolulu, renowned today as the Transpac Race. The second was a whirlwind visit by the world's most famous yachtsman.

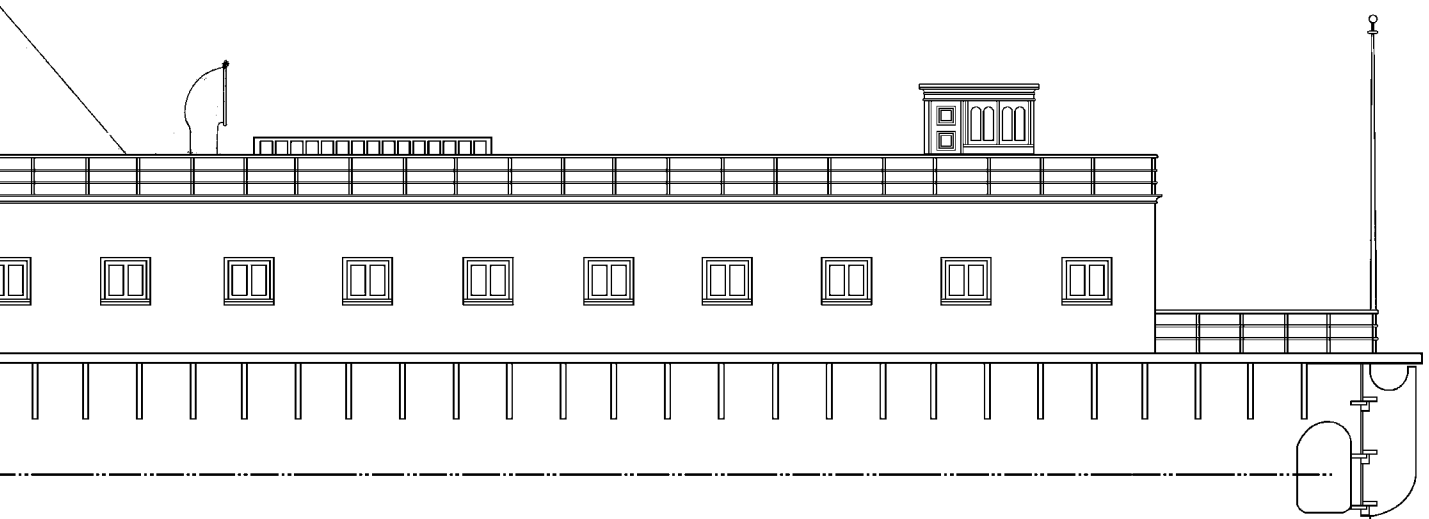
"Sturdy old timbers in the sea veteran *Silver Gate* resounded with merriment" in August after the victorious, locally-famous *Lurline* glided into the bay.¹⁵ It had been a quarter century since the schooner had brought millionaire city-builder John D. Spreckels on his first trip through the Silver Gate, and she had already won the inaugural California-to-Honolulu race in 1906. But in 1912, "the dear old cup-grabber" represented San Diego for the first time, flying from her mast-head an enormous pennant trumpeting **SAN DIEGO 1915**, announcing the coming Panama-California Exposition. When the headlines proclaimed her victory, San Diegans rejoiced.¹⁶

As the victor and her flotilla of local escorts rounded North Island on the morning of August 9, "a salute of eight guns was fired from the San Diego Yacht club house, and every few minutes after that until the *Lurline* came to anchor, the salute was repeated." To the din of whistles blowing all over the city, "friends crowded the roof of the club house and cheer after cheer arose from those on land and in the boats as the sturdy boat rounded to at the moorings."¹⁷ Two weeks later, aboard what had been "a contrary ferryboat in its halcyon days and later a dancing pavilion, but now the



At center, *Lurline*'s skipper, the mustachioed Lew B. Harris, is momentarily upstaged by a dog while being welcomed back to the clubhouse.

San Diego Historical Society Photo Coll.



quarters of the San Diego Yacht club, there gathered a jovial crowd of local yachtsmen to pay homage to the rollicking crew of the *Lurline*.”¹⁸

On Thanksgiving Day, 1912, the floating clubhouse hosted an even more celebrated guest: British tea magnate Sir Thomas Lipton, the perennially unsuccessful challenger for the *America's* Cup. Sporting his familiar yachtsman's cap and white-spotted blue tie, he arrived in a most un-yachtsmanlike fashion, stepping off the early-morning “Owl” train from Los Angeles. Frank Spalding, commodore for 1912, presided over a hastily-assembled clubhouse feast. He rose to propose toasts to President Taft, King George V, and the Navy. “Last but not least,” he pronounced, “let us drink to our good friend, Sir Thomas Lipton, who has done more toward the promotion of yacht racing in San Diego harbor than any other man.”¹⁹

Silver Gate, left, will soon have to move again as the new seawall bears down on her. This photo was taken from near the present Maritime Museum; Harbor Drive will be built atop the seawall, and the County Administration Building will rise on the landfill at center.

Courtesy San Diego Historical Society Photo Coll.; San Diego Union 1914 page courtesy San Diego Historical Society Research Archives

He spoke without hyperbole, for Lipton had been the benefactor of the harbor's most important sailing trophy, still competed for today. Sir Thomas had deeded the Lipton Cup in 1903 to the club's predecessors, the Corinthians, a generous gesture which had done a great deal to encourage the early growth of yacht racing in Southern California. That Thanksgiving, on his only known visit to San Diego, he was seated before the great silver trophy that bore his name. All day long, reporters scampered after the famous visitor as if he was visiting royalty—which, in a sense, he was.

The days of the floating wooden clubhouse, however, were numbered. Members were told in October 1914 that they would have to move again, in order to allow more of their growing city's mud flats to be filled in. Equipped with a bilge pump and borne on a high spring tide, the erstwhile ferry tran-



sited the harbor once more. Former commodore Frank Benham "got up on deck and blew the whistles," member Clem Stose recalled, "and we had all the club power boats serving as tugs."²⁰

Her last anchorage would be back on Coronado, beached in the mud near the foot of E Avenue, the only available site. Behind her, the municipal dredge—also named *Silver Gate*, ironically enough—went about its work. The old anchorage at the foot of Hawthorne soon lay buried under tons of muck sucked up from the bottom.

Sport Enthusiasts of World Are Lured to San Diego by Matchless Out-Of-Doors





**SIR THOMAS LIPTON
IN CITY; WILL SEND
YACHT TO SAN DIEGO**

Noted English Sportsman and Millionaire Guest of Local
Yacht Club During Short Stay Today; Views Boat

Jeweler and yachtsman Alonzo Jessop poses proudly aboard *Silver Gate* with Sir Thomas.

Courtesy of the Jessop family and San Diego Yacht Club History Coll.

The move from San Diego dealt a severe blow to the yacht club's membership numbers. War soon drained away more, as at least twenty-eight of the club's sailors entered the navy, and empty boats languished at their moorings. "The clubhouse contains many trophies symbolical of victory snatched from worthy rivals," a newspaper noted in 1918, but no races were contested during the war.²¹ Shortly after the armistice, ferryboat and yacht club alike sank to their nadir as membership shrank below twenty, and the clubhouse decayed.

The yacht club survived this near-collapse, but *Silver Gate* did not. As part of the war effort, as Clem Stose remembered, "the Navy stripped all of the copper off its bottom and nobody ever put it back." Soon, "the worms ate through, so we didn't have any yacht club anymore."²² By 1919, the club had no choice but to sell. "The club house has been sold to a wrecking company," members were notified. "You are hereby requested to move all personal property from the building by October 20."²³ Once a proud if errant ferryboat, *Silver Gate* was now, according to her owners, just a derelict "building."

"Silver Gate to be Junked," newspapers announced.²⁴ Resting on the mud, forlorn and abandoned, the thirty-two-year-old vessel awaited the wreckers, who came in late October. Nearby, some of her old-timers assembled on the shore as a melancholy last escort. They stood, one witness remembered, "silent and with heads bowed." When it was over, the knackers and their "take" departed; the old-timers, still in silence,

turned away. "It is not a happy sight," member Jerry MacMullen later remarked, "to see an old ship—and one's old home—go that way."²⁵

A jumble of ballast stones long remained where they had tumbled into the water, a double-ended shade that would haunt the shore for years. Eventually, recreational boating in San Diego would find itself on firmer footing than during the yacht club's "floating" years. While later clubhouses would be more substantial, however, none could match the eccentric charm of *Silver Gate*.

N O T E S

- 1 Oregon pine is now known as Douglas fir.
- 2 *Silver Gate* was launched November 15, 1887 at San Diego Marine Railway & Drydock Co., North Island, with engines and plans supplied by Union Iron Works, San Francisco. The reasons for her poor handling were argued for decades, but it is generally agreed that, due to extensive modifications made to the original design during construction, she was both overbuilt and underpowered. See particularly "The SILVER GATE – A Detailed Description of the New Coronado Ferry-Boat," *San Diego Union*, 7 February 1888; "Successful Launch of the 'Silver Gate,'" *Coronado Evening Mercury*, 15 November 1887.
- 3 Her first day of service, Easter Sunday 1888, happened also to be April Fool's Day. "Around the Bay," *Union*, 30 April 1888.
- 4 In 1899, changing maritime laws demoted her from excursion vessel to barge. "Held Up - SILVER GATE Excursion on the Bay Stopped," *San Diegan-Sun*, 20 July 1899.
- 5 "Thousands Visit Retreat Yearly," *Union*, 1 January 1910.
- 6 "Many Improvements Made at Tent City Since Last Season," *Evening Tribune*, 6 June 1910. See also "Tent City to have Mammoth Pavilion," *Union*, 27 March 1910.
- 7 "Commodore Blochman's Floating Clubhouse," *Tribune*, 24 June 1902. Blochman's concept was for this platform to host receptions in different parts of the bay, at seven suggested locations between Chula Vista and Point Loma, an idea which ultimately came to nothing.
- 8 Ibid. Blochman estimated an expense of about \$1,000.

- 9 "Yacht Club to Hold its Annual Meeting," *Union*, 6 February 1910.
- 10 Millionaire yachtsman and civic benefactor John D. Spreckels, whose Coronado Beach Co. owned the vessel, arranged to sell it for \$1,000, considerably under market value, "Tent City Casino to be Palatial Club House," *Union*, 3 June 1910. Iris Engstrand and Cynthia Davalos, *The San Diego Yacht Club: A History 1886-2000* (San Diego: San Diego Yacht Club Sailing Foundation, 2000), 40; "Yacht Club Purchases Casino for Its Home," *San Diego Sun*, 26 April 1910.
- 11 "Yacht Club Dedicates New Casino with Ball," *Union*, 7 June 1910; "Floating Home of Yacht Club Gay with Life on Opening Night," *ibid.*, 8 June 1910; "Yacht Club Entertains Many Friends," *Tribune*, 8 June 1910; column by "Penciler" (Frank Benham), *Pacific Motor Boat*, July 1910 (n.p.).
- 12 Penciler column, June 1910.
- 13 *Union*; "Tent City Casino."
- 14 See Edward S. Barr, "That Incredible SDYC Year—1912," San Diego Yacht Club *Mainsheet*, April 1999: 22-25; Part 2, *ibid.*, May 1999: 14-16. Captain Barr has been generous and invaluable in assisting the author with her research.
- 15 "LURLINE's Crew and Skipper are Honored by San Diego Yacht Club," *Union*, 23 August 1912.
- 16 Extensive local coverage was devoted to *Lurline's* victory. See, for example, "Here's to the Honolulu Cup!" *Sun*, 16 June 1912; "San Diego Yacht Again Wins Long Ocean Race," *Union*, 1 July 1912; "Yacht LURLINE, Winner of the Honolulu Race, Sails into Home Port," *Tribune*, 9 August 1912.
- 17 "LURLINE, Winner of Pacific Race, is Back in Port," *Sun*, 9 August 1912.
- 18 "LURLINE's Crew and Skipper are Honored."
- 19 "Sir Thomas Lipton Endears Himself to San Diego Hosts," *Union*, 29 November 1912.
- 20 "A Ninth Home for San Diego Yacht Club," *Union*, 23 September 1962.
- 21 "Waters of Bay & Ocean Source of Great Pleasure," *Union*, 1 January 1918; Engstrand and Davalos, *San Diego Yacht Club*, 287.
- 22 Clem Stose, transcript of interview with Bert Israel, Captain Johanson, and Stose, by Edward S. Barr, 7 February 1973, p. 20, San Diego Yacht Club History Coll.; copy in MacMullen Library, Maritime Museum of San Diego.
- 23 "S.D. Yatch [sic] Club Lads Must Empty Lockers," *Sun*, 17 October 1919. By this time, the vessel had also acquired dry rot and a pronounced list.
- 24 "Silver Gate to Be Junked," *Coronado Strand*, 18 October 1919; "Long Career as Pleasure Craft Will End Soon in Junk Pile" *Union*, 14 October 1919.
- 25 Jerry MacMullen, "History of the San Diego Yacht Club," *Sea* January 1946: 46.



Silver Gate ended her career near where she began it, off Coronado. Above, a family clowns aboard their yawl, with the Orange Avenue ferry terminal at left behind them.

Above, from Jack Bone scrapbook, 1918, courtesy San Diego Yacht Club History Coll.; below, original print of Lee Passmore photo MMSD P-11072



The Rise of the Kettenburg PC

Richard S. "Rish" Pavelec
with Mark Allen



Editor's note:

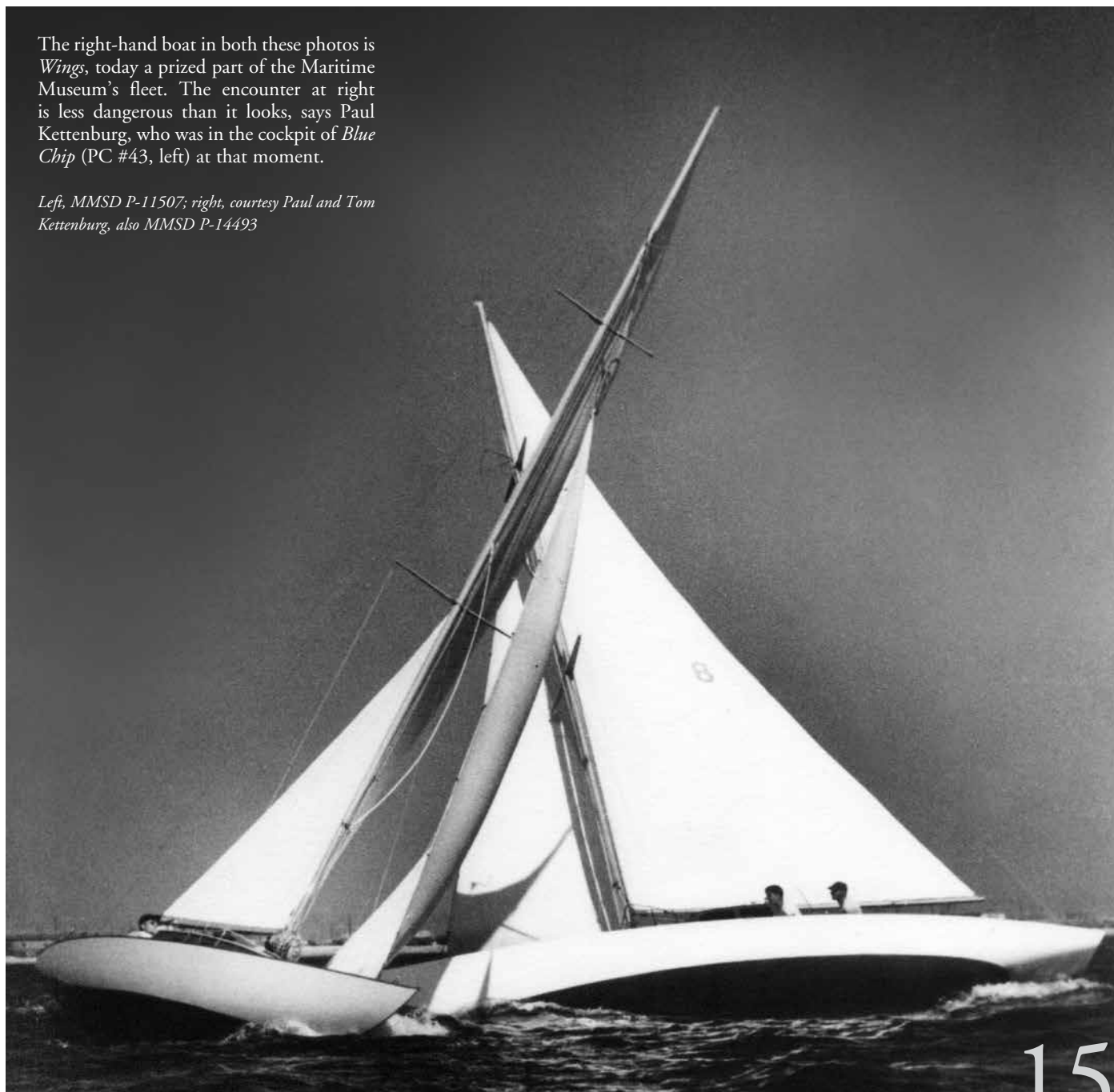
Today, in a boatyard on San Diego's Shelter Island, a 1929-vintage design is emerging from among shavings and sawdust. It is the first Pacific Class (PC) sailboat built in almost fifty years, and Carl Eichenlaub is crafting it for his daughter, who is soon to become the first woman commodore in the history of the San Diego Yacht Club. Mr. Eichenlaub, the builder of several world champion Star boats and boatwright to the U.S. Olympic team since 1976, did not choose to build this design on a whim. He is resurrecting the PC because, as he or any longtime local sailor will tell you, PCs are the emblematic San Diego sailboats. Thoroughbred racers that were born in San Diego, built to perform in its typically light air, and which once formed the state's largest racing class, they are California classics.¹

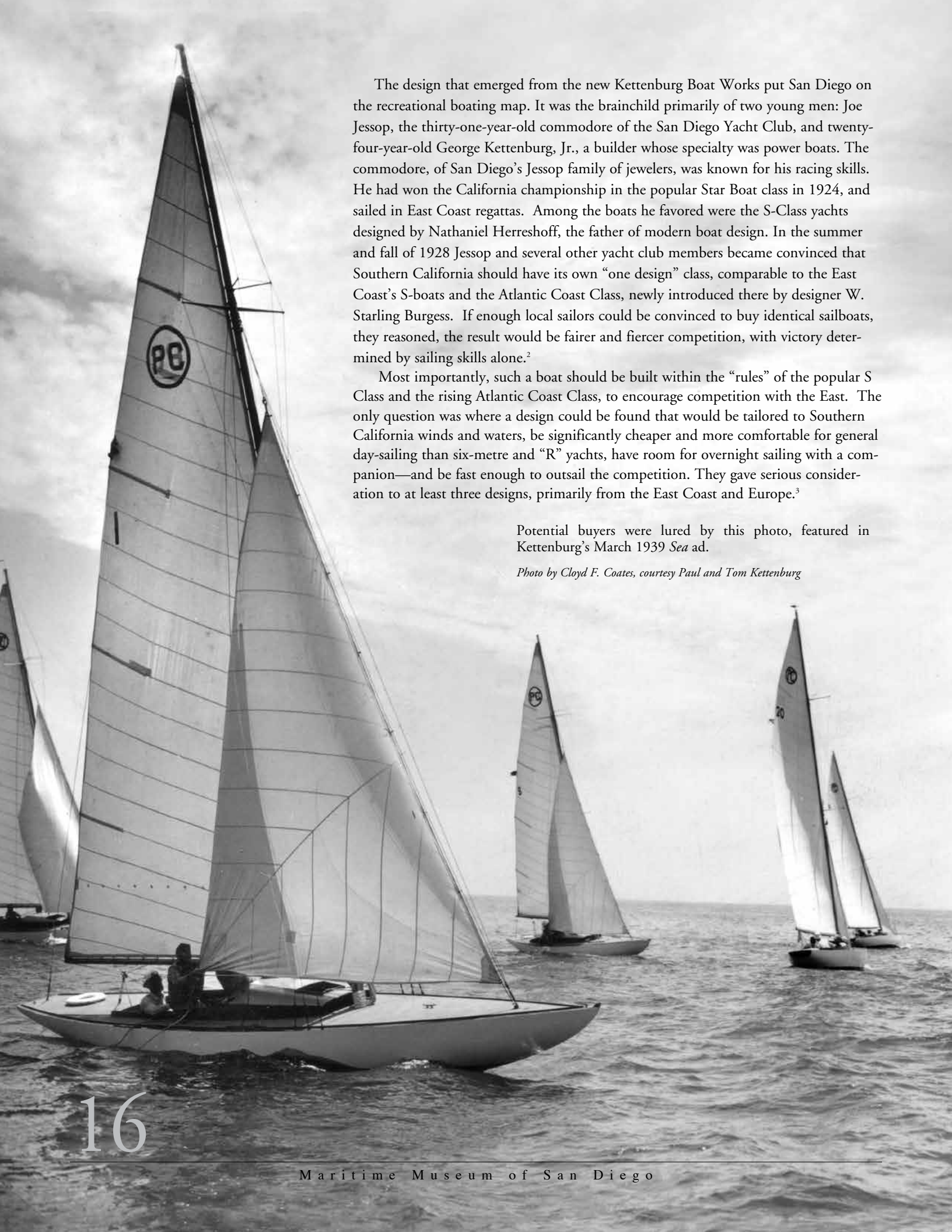


The year was 1929. Herbert Hoover's America, poised on the brink of economic catastrophe, was an inauspicious moment for the creation of a new racing sailboat class. It was particularly so for a young backyard boat builder whose formal education had culminated in a high school diploma, who had never created an original sailboat design, and who lived far from the centers of American yachting. While San Diego's population had doubled in the previous ten years, it still counted under 148,000 people. In 1929, San Diegans were invited to celebrate the opening of Presidio Park above Old Town, whose gleaming new Serra Museum celebrated San Diego's past. From its tower, they could soon catch a glimpse of their city's recreational future: the sails of the first of a fleet of locally-designed sailboats racing on San Diego Bay and into the ocean beyond.

The right-hand boat in both these photos is *Wings*, today a prized part of the Maritime Museum's fleet. The encounter at right is less dangerous than it looks, says Paul Kettenburg, who was in the cockpit of *Blue Chip* (PC #43, left) at that moment.

Left, MMSD P-11507; right, courtesy Paul and Tom Kettenburg, also MMSD P-14493





The design that emerged from the new Kettenburg Boat Works put San Diego on the recreational boating map. It was the brainchild primarily of two young men: Joe Jessop, the thirty-one-year-old commodore of the San Diego Yacht Club, and twenty-four-year-old George Kettenburg, Jr., a builder whose specialty was power boats. The commodore, of San Diego's Jessop family of jewelers, was known for his racing skills. He had won the California championship in the popular Star Boat class in 1924, and sailed in East Coast regattas. Among the boats he favored were the S-Class yachts designed by Nathaniel Herreshoff, the father of modern boat design. In the summer and fall of 1928 Jessop and several other yacht club members became convinced that Southern California should have its own "one design" class, comparable to the East Coast's S-boats and the Atlantic Coast Class, newly introduced there by designer W. Starling Burgess. If enough local sailors could be convinced to buy identical sailboats, they reasoned, the result would be fairer and fiercer competition, with victory determined by sailing skills alone.²

Most importantly, such a boat should be built within the "rules" of the popular S Class and the rising Atlantic Coast Class, to encourage competition with the East. The only question was where a design could be found that would be tailored to Southern California winds and waters, be significantly cheaper and more comfortable for general day-sailing than six-metre and "R" yachts, have room for overnight sailing with a companion—and be fast enough to outsail the competition. They gave serious consideration to at least three designs, primarily from the East Coast and Europe.³

Potential buyers were lured by this photo, featured in Kettenburg's March 1939 *Sea* ad.

Photo by Cloyd F. Coates, courtesy Paul and Tom Kettenburg

George Kettenburg, Jr. had begun building boats in his family's Point Loma backyard when he was in high school.⁴ His father, who had moved to San Diego from Pittsburgh when he retired at age forty, loved engines and speedboats. He asked his son to assist him in constructing a power boat from plans by designer William Hand. Fourteen-year-old George Jr. modified the design and significantly improved it. Seeing this and other successes, George Sr. elected to finance his son's endeavors. He founded the Kettenburg Boat and Engine Company, working as its machinist himself. These backyard boatbuilders constructed their first sailboat in 1926, when local yachtsmen ordered four knockabout sloops from plans by the famed designer John Alden.⁵ To launch George Jr.'s creations, they rigged a modified auto chassis as a cradle and rolled it down Kellogg Street, with braking power provided by the family car at the other end of a rope. Once at the shore, they waited for high tide to lift their boat from the mud. To launch the two largest boats built in the backyard, the Kettenburgs had to hire house movers to haul the vessels down to the bay.⁶

Seeing that their efforts were meeting with success, the senior Kettenburg elected in 1929 to buy property and relocate the business to the bayside, adjacent to what is now Shelter Island. The new location made launching easier, and doubtlessly improved the mood of neighbors tired of the roar of government-surplus aircraft engines being tested in the speedboat builders' backyard. Their new galvanized metal building bore a sign proudly announcing "Kettenburg Boat Works."

In the fall of 1929, George Jr. proposed boldly to Jessop and his yacht club cohort that he could create a design that would satisfy their desires, if they would agree to wait to see his boat before settling on any other design. On March 4, 1930, he launched the first "Pacific Class" sailboat.⁷ The name was an intentional echo of the widely-publicized and comparably-sized Atlantic Coast Class, with whom Jessop's group hoped to create competition. He named the first PC *Scamp*, a reference to one of his younger sisters who, according to brother Paul, was often in the way.⁸



The Kettenburg crew pose proudly in the backyard in 1926 before launching one of their first sailboats, an Alden-designed knockabout sloop. Flanking twenty-two year-old George, Jr. are, from left, Jim Crum and "Chet" Allenthorpe, with George's twelve-year-old brother Paul and Dick Hershey at right.

Courtesy Paul and Tom Kettenburg; MMSD P-11528

Paul Kettenburg Recalls the Birth of the First PC, 1929

One day we were down there at the yard and Joe Jessop came in and was talking to George. He said, "You know, we're looking at bigger boats so our girlfriends or wives could be able to sail with us." He started telling George what they had in mind.

. . . George and Joe were just chatting and I was standing there—maybe I had been talking to George about something else—and Joe . . . started telling George about the fact that the Star boats were not comfortable for what they wanted to do, so they were looking at these other boats. George, out of the blue, said "Well, you know, it seems to me I could build a better boat for San Diego than those." Joe's comment was, "Well—if you want to build one, why don't you build one, and we'll wait. And we won't do anything until you get that built, and see how it goes." They were in no 'big sweat,' so they held off any further dealings that they had. George just out-of-the-blue designed what became the PC.

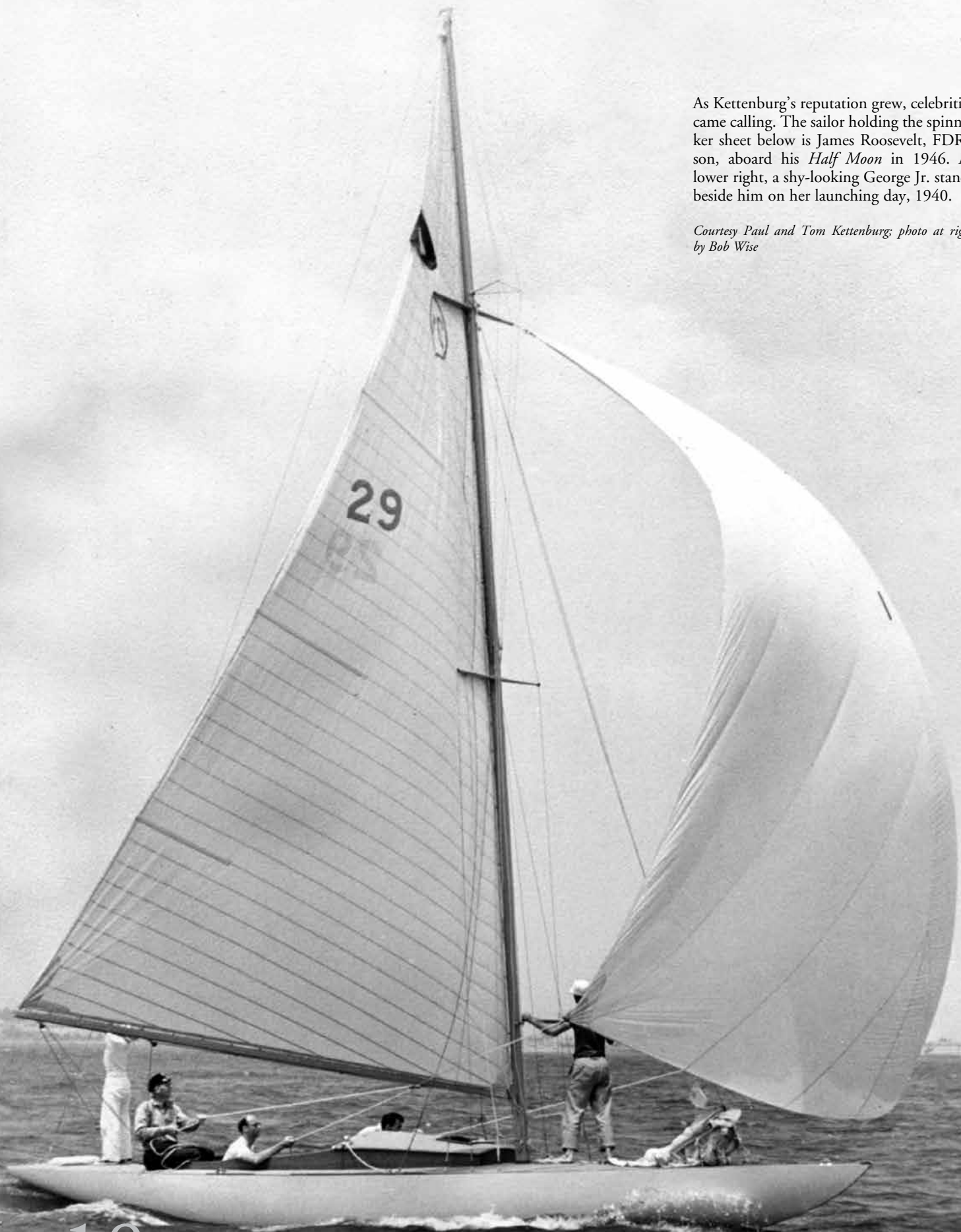
. . . What he did was carve out a model, an inch to the foot, with layers of wood that could come apart. He carved this model out, and that was the design. When he got the model built the way he wanted it, he took the layers apart, laid them out on the loft floor, and made the measurements for the PC hull design. . . . He laid it all out, and all I did was tack down the battens wherever he said to tack.

He got this PC built—got it in the water. My Dad bought him some sails. . . . George didn't have any money. . . . Joe Jessop probably had a lot to do with how the interior of the PC was laid out—a couple of bunks—the cockpit setup—in the seat arrangement—I think Joe Jessop had a lot to do with that. As far as the hull and the rig—that was George's.

*from an interview by Mark Allen,
16 October 2003, MacMullen Library,
MMSD*

As Kettenburg's reputation grew, celebrities came calling. The sailor holding the spinnaker sheet below is James Roosevelt, FDR's son, aboard his *Half Moon* in 1946. At lower right, a shy-looking George Jr. stands beside him on her launching day, 1940.

Courtesy Paul and Tom Kettenburg; photo at right by Bob Wise



San Diegans looking out across their bay in 1930 had the pleasure of seeing *Scamp*, with its designer at the helm, leap nimbly to life under sail. In her very first race, George bested a pair of bigger R-boats and the Nordic twenty-two-square-meter boat which the yachtsmen were considering as a prototype for their proposed one-design class.⁹ “The boat was so successfully designed and beautiful that we had no trouble getting it out and getting the class going,” Joe Jessop remarked later, with a touch of fatherly pride and exaggeration: “We had seven people ready to sign ten minutes after we had the boat all set up.”¹⁰

“Shootout” in Hawaii

“The new Pacific Coast One Design Class, priced at \$2100 Complete with Sails,” was indeed an immediate success.¹¹ Skippers were convinced that their homegrown racers could not only compete with R-type yachts and the S Class, but beat them. By 1931, Kettenburg Boat Works had completed six boats.¹² Joe Jessop, acting for the San Diego Yacht Club, contacted the S Class fleet in New York, and challenged them to a four-boat match race in Hawaii. With the aid of his Navy connections, four PCs were transported across the Pacific on the decks of two Navy ships.¹³ En route, sailors became so interested in the project that they spent a good deal of time polishing the bottoms of the sloop each favored.¹⁴

The PCs were successful, narrowly winning the series. They proved to be so popular in Hawaii that all were purchased by Hawaiian yachtsmen. The victors returned to San Diego with the trophy, and most immediately ordered replacements for their boats.

Pacific Class sloops were soon all the rage in Southern California, and interest was developing up the coast as far as Washington State, and beyond. With victories as their primary form of advertising, Kettenburg Boat Works would soon offer PCs through franchises in Newport Beach, Los Angeles, San Francisco and Seattle. But with the weight of the Depression increasingly felt in Southern California, relatively few were being sold. That the young boatyard survived at all, however, was due in large part to continued interest in the PC.

While the design remained unchanged, by 1938 the cramped interior had been altered in response to owners’ desires for V-berths to allow for more comfortable nights, and for a small galley that replaced stowage compartments. Talk of a head in the cabin had become a reality by 1941.¹⁵ Another change was addition of a raised “dog house” over the cabin entrance, a concession to those tired of banging their heads on the entryway.¹⁶

At the outbreak of war, Pacific Class production came to a halt with hull number thirty-five, as did



Competitors Recall the Death of the First PC, 1939

... I was crewing with "Hook" Beardslee on his Rhodes 33 in a team race against the PCs. We were covering George Kettenburg, and George got in a bit too close. A wave caught him and threw him up on the beach, and one of his crew members, Dick Fenton, went to jump out, and just then another wave threw the boat right on top of him. I watched all this with horror as a crew member, and "Hook" Beardslee, in his best sailing competition manner, said: "Well, that's one boat. Don't watch him anymore. Watch your jib." So you see—I learned you have to concentrate in racing.

Bob Allan, quoted in Allen Farwell Trane, ed., Newport Harbor Yacht Club, 1998

... up at Newport the wind was almost parallel to the beach at times. And we were racing—George and I having a head-to-head—and you had to tack as close as you could to the breaker line in order to get out of the current and get the most wind. And I'll have to admit it was my aggressiveness that caused George to wait too long to come out on starboard tack and a wave caught [him] and he ended up on the beach. By the time the workmen had got there, the PC had filled completely with sand. Therefore, when they went to move it, it just broke in half. That was the end of PC number one.

Doug Giddings, 1998 interview, San Diego Yacht Club History Coll.; photo courtesy Paul and Tom Kettenburg



virtually all pleasure boat construction in America. The Kettenburg yard turned to building small naval craft and commercial fishing boats for the war effort. With San Diego's young men leaving their homes and boats and joining the military, leisure sailing was at a lull until the war was over.

Postwar prosperity brought a dramatic surge in yacht sales, and the PC was back in popular demand. With thirty-five hull numbers to serve as "test models," the PC received its first significant changes. Owners had complained about not having enough cabin space and wanted more head room, sliding hatchways, cabin windows for improved lighting, and other amenities befitting a small cruising boat. More importantly, changes were made to the standing rigging. The head stay (from the bow to the mast head) was removed, as was the old "diamond rig." To replace them, George Jr. chose to install a double jib forestay.¹⁷ Postwar PCs can be easily recognized by their elongated cabin, and most have a hatch afore the mast for light and ventilation. The last Pacific Class yacht, hull number eighty-three, was completed in 1959.¹⁸

At least forty-seven of the original seventy-eight boats built are still sailing, a testimony to the esteem in which these aging "woodies" are held.¹⁹ After seventy-five years, PCs remain a significant presence on San Diego Bay, and many continue to race regularly. Although more modern racers and day-sailers surround them, the first sailboat class designed to race on Southern California waters holds an honored place. "They're still a wonderful boat," as Joe Jessop told an interviewer sixty years after he and George Kettenburg, Jr. birthed San Diego's iconic sailboat.²⁰

N O T E S

- 1 Bill Center, "A Dream in Wood: Carl Eichenlaub is Bringing a Classic Boat Back to Life," *San Diego Union-Tribune*, 8 March 2004.
- 2 A "one design" is a boat built within very specific rules, i.e., the size and material of sails, length, beam, weight, keel shape and size, type of wood, length of mast and boom, etc. A PC and an S-Class boat are one-designs which share very similar specifications and may race together. Other boats which are similar but do not share one-design status might still race (as did PCs and Rhodes 33s after the latter's introduction in 1937), but depending on the "seriousness" of the regatta, the sponsoring yacht club may choose to assign handicaps to ensure fair competition.
- 3 A. E. Childs, "Evolution of the Pacific Coast One-Design Class," *Pacific Coast Yachting*, September 1930: 21. Childs had debated potential designs with Joe and George Jessop, Emil Schmidt, Robert Mann, and Edward Peterson. Those seriously considered included Nordic 22 sq. metre boats (one of which was brought to San Diego in late summer 1928), the Atlantic Coast Class (four of the first batch of which were considered for shipment to San Diego from Germany), and sketches by "a Los Angeles architect" for a boat carrying about 400 sq. feet of canvas, with a pair of bunks. See also Samuel Dauchy, "The Pacific One-Design Class," *Yachting*, August 1934: 57; Joe Jessop, interview by unknown interviewer, 22 March 1985, San Diego Yacht Club History Coll., p. 2; copy in the MacMullen Library and Research Archives, Maritime Museum of San Diego (hereinafter MMSD).
- 4 Accounts of this period may be found in transcripts of several interviews with Paul Kettenburg made between 1985 and 2003, MMSD.
- 5 A "knockabout" vessel is no more than 15 to 25 feet long, very simply rigged. The term was then in colloquial use for anything simple and casual, such as "knockabout" clothes.
- 6 Faxed note from Tom Kettenburg to Mark Allen, 5 February 2005.
- 7 "Newest One-Designer," clipping from unidentified newspaper in Richard Hershey scrapbook, hand-dated 5 March 1930, courtesy Harry Hershey; copy at MMSD.
- 8 Paul Kettenburg, conversation with the author, 2003. Three of George Jr.'s speedboats had been named *Poggy*, an affectionate nickname for his sister Ella.
- 9 Childs, "Evolution," 21.
- 10 Kate Bast, "A Good Guess that Endured 65 Years: The Pacific Class," *Sailing* (November 1994): 68.
- 11 Childs, "Evolution," 22; see also Kettenburg advertisement in the same September 1930 issue. In the February 1939 *Sea* magazine, the PC is advertised at \$2,550. Perhaps as a result of a typographical error, the price sank to \$2,250 in an ad in the same magazine the following month. A March, 1941 *Sea* ad lists a price of \$2,950, while an unidentified ad, probably from around 1945, lists it at \$3,750, also apparently less sails. The ads listed above state that the figures do not include the cost of sails. Paul Kettenburg recalled that the first four sold for \$1,800. Interview by Karen Scanlon, 10 June 2003, n.p., MMSD. Joe Jessop recalled that the first PCs sold for \$1,850, but they were able to sell them for \$2,150 in Hawaii—which was also their replacement cost back in San Diego. Jessop, "interview," p. 4.
- 12 No hull #6 was completed. That boat had been intended for Robert Mann, who disdained it as his "unlucky number." Mann purchased #7 instead.
- 13 The skippers and hull numbers of the San Diego entries in the 1931 PC and S Class Regatta at the Pearl Harbor Yacht Club were Joe Jessop in *Blue Jacket* (PC #2), A. E. Childs in *Tiana* (#3), George Jessop in *Jean* (#4), and Robert Mann in *Jade* (#7). Dauchy, "Pacific One-Design," 57.

- 14 Kenneth "Keno" Hallawell, "History of the San Diego Yacht Club 1886-1942," n.d. (1942), San Diego Yacht Club History Coll., p. 7; Bailey Cook, "PC News of the Month," *Sea* (March 1941): 34.
- 15 V berths are bunks whose tapering outboard edges conform to the curve of the inside of a hull; ad in *Sea*, March 1941.
- 16 Though the "doghouse" windows on hulls #30 and #31 added light to the cabin, the idea did not catch on.
- 17 With 31 boats actually completed, the jib stay deck fitting was moved a foot aft, so that the stay now met the mast near the newly added jumper strut. These gave strength to the top section of the mast, and the double jib stays acted as a forestay without going to the head of the mast as the old forestay had, reducing strain on the masthead. In order to keep within "one design" rules, the longer foot of the new jib (or "lapper" as it was sometimes called) was compensated for by shortening the luff of the sail, leaving sail area unchanged. PC sail area was listed variously as 353 and 385 sq. ft. The smaller figure, which does not include a spinnaker, appears in Childs, "Evolution," 22; Harry B. Wilford, "The PC's Conquer New Territory," *Pacific Skipper*, February 1937; advertisement, "You'll Find Them in Every California Port," *Sea*, February 1939; advertisement, "The New PC Racing-Cruising Sloop," *Sea*, March 1941; and advertisement "Custom Built Boats," unknown publication, circa 1945. The 385 sq. ft. figure appears in Dauchy, "Pacific One-Design," 58, and Curtis Zahn, "Those Perennial PC's," *Sea*, June 1943. The Atlantic Coast Class also features a 385 sq. ft. sail area.
- 18 Demand led to several PCs being built outside San Diego. Hulls #13, 15 and 17 were launched by South Coast Boat Yard in Newport, California in 1934, and #19 was launched there in 1937. Dauchy, "Pacific One-Design," 58; "They Blew Their Tops," *Sea*, May 1937: 12. Plans to build hulls #32-34 in Hawaii ended when the Japanese attacked and they were never completed. In the postwar era, hulls #56-59 were built in Vancouver, British Columbia, while hulls #80-83 were built by Kettenburg, then shipped upside-down by rail to Seattle where they were finished.
- 19 The PC Association has approved very few changes to the class. Specifications such as the location of the jib car track, limitations on the use of modern sail materials such as Kevlar, lead keel shaping and hull weight have been instituted in an effort to keep competition between pre- and post-war boats fair. Much effort has also gone into locating and identifying the vessels still in existence. 64 of the 83 hull numbers assigned are now lost, sailing or "on the hard." 19 are yet unaccounted for, while 17 hull numbers are classified as either never built, now converted and no longer a PC, lost, or otherwise destroyed.
- 20 Joe Jessop, interview by Bob Wright, 10 November 1990, MMSD, p. 9.

In this family snapshot, Paul Kettenburg stands aboard his *Blue Chip* on launching day in 1946.

Courtesy Paul and Tom Kettenburg



The Kettenburg PC

A Feast for the Senses

Richard S. "Rish" Pavelec

Why a PC? To understand the appeal that the Kettenburg Pacific Class sloop has to people like me, it is important to understand the mentality of a "wooden boat person"—to the extent that understanding anything so mystifying is possible. We are people who see and love the beauty of wood. Remember how much you enjoyed walking in a pine forest, or smelling the Christmas tree at home? Surely you've noticed the aroma of your cedar-lined closet? Those of us who love "woodies" find that a wooden boat evokes similarly memorable sensations. I confess to holding a piece of mahogany up to my nose after a fresh cut,

just to experience the smell. Douglas fir has another aroma entirely, and so does Sitka spruce, the other type of wood of which a PC is composed. Over all these smells lingers the distant tang of the sea. Not being an "old timer" in the boat world, I grew up in a universe of fiberglass hulls. Fiberglass smells like... nothing. Of course, there *are* other smells—not so pleasant—associated with old wooden boats and their bilges.

The sounds of a wooden boat are distinctive too. Being belowdecks in a metal or fiberglass boat is a little like sitting in a hollow, echoing metal drum. Wooden walls, by contrast, absorb sounds, and even add warmth to them.

The Museum's 1931 *Wings* in her element, in 2003.

Photo by Maggie Piatt

"Rish" Pavelec, who retired from a career of cardiology research at UCSD, is unofficially (but by popular consensus) the historian of the PC fleet. He is a frequent contributor to the San Diego Yacht Club's *Mainsheet* and has owned seven PCs. Rish has contributed extensively to the enthusiast's website www.kettenburgboats.org, where he created and maintains the PC Registry. He was primarily responsible for the restoration of the Maritime Museum's own *Wings* (PC#8), and whenever possible, he can be found at the helm of *Dawn* (PC#16), restored in 2004.

Visually, too, the varied types of wood have their own beauty. Without question, people who see the beauty of wood see the beauty of wooden boats as well.

Consider the effects of time on these hulls, also—some of which are three-quarters of a century old or better. Close your eyes and visualize yourself sitting in a comfortably familiar room in your favorite old home or hotel. If you're lucky in your fantasy, there's a fire burning in the fireplace, and just enough lamplight to read by. Your chair is overstuffed leather that has conformed itself to the human frame for years, and for that reason the leather is somewhat cracked and worn in those places where your elbows rest, or your head is pillowed on the chair back. Those in the Arts would call this "patina." It's what a lover of old cars finds in a 1954 Jaguar XK140 that has spent the past fifty years alternating between trips down the road where it belongs, and careful storage in a garage—revered but not "over-restored." Now picture a PC, in the gentle rise and fall of the waves at the dock. You look from the cockpit down into the dark, not-terribly-generous space of the cabin, and see and smell the wood. You hear the working of wood against wood, and the rubbing of the lines. This patina of smell, sight, touch and sound is not merely a characteristic of something old: it is a characteristic of something old whose special qualities have been carefully nurtured and appreciated down through the years. In the PC's case, this care has lasted long past when the original purpose of cutting-edge competitive racing faded into memory. Buy a Pacific Class sloop from any but the most heartless of owners, and you're obtaining a trust—a vessel (literally), into which your fellow humans have poured their love and care, and received a measure of joy in return.

If speed is one's primary motivation in buying a boat, well, plastic boats can be faster because their lightness enables them to glide on top of the water. A wooden boat, with its heavier displacement, tells the water that it is coming. A PC demands that the seas part to let her pass.

Of course, all this is "generic" to almost *any* old wooden boat.

To be more specific to the PC, there's the architecture itself: what is so carefully and elegantly built from all that fine smelling, feeling, and sounding old wood. To the practiced eye, the interior of these sloops is something like the vault of a Gothic cathedral—but turned upside-down and built of wood. In the former, lightness, grace and strength in stone points to the glory of God; in the latter, lightness, grace and strength in wood points to the glory of Man—when he claims his trophy on race day.

Now step back from the vessel. From the stern, your eye first catches the tiny, arms-length-wide transom, usually finished in varnished wood. A walk alongside the narrow white hull—particularly when the boat is out of the water—enables you to appreciate George Kettenburg, Jr.'s artistry. These sleek lines are what make this sloop fast. The thirty-seven-foot mast and 385 square feet of sail capture every breath of wind. The saying is: "If there is any wind at all, a PC can sail." One or two people can easily uncover and rig one in minutes, and be out in the wind. When the wind is a brisk breeze, she handles beautifully. Why a PC? It's because each one offers a small glimpse into perfection. It is what *should* be.

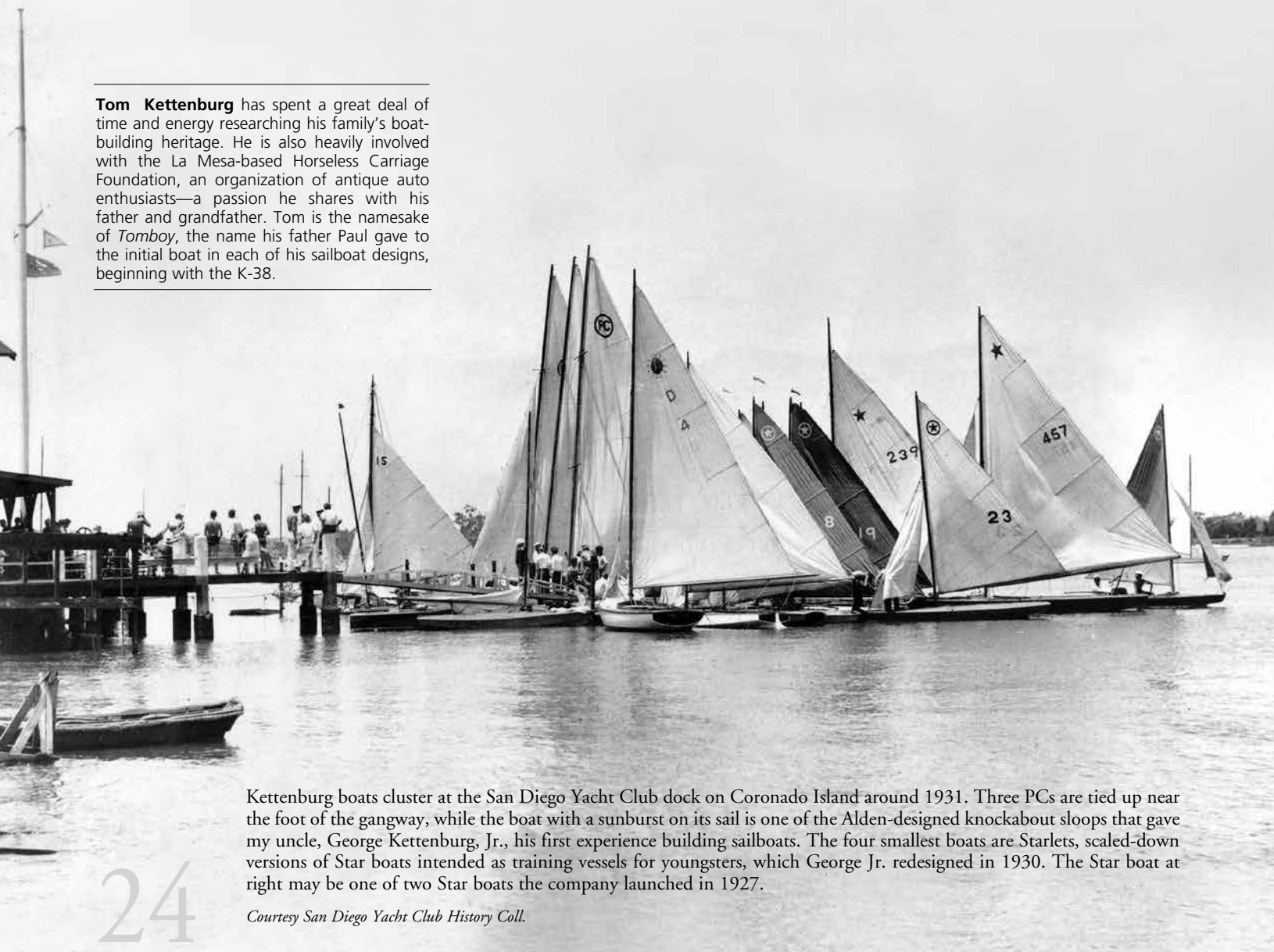
When my wife and I travel, sooner or later we find ourselves sitting over dinner or a glass of wine with a new acquaintance, and the subject of yachting comes up. Often, a new friend will ask "What does your boat look like?" At that point, my eyes glaze over. I see my boat in front of me, though the person who posed the question does not know that. My answer is simple: "She's a Kettenburg PC. She is thirty-two feet at the deck. A day-sailer, really. Fractional rigged. She has a 2,400-pound fixed lead keel, a narrow 6'8" beam, and a twenty-one foot waterline. She has the shape of a barracuda. She looks *exactly* like what a sailboat should look like." By now, my new friend's eyes, too, may well have glazed over. But wherever the conversation goes from this point is probably lost to me. It will be a while before the vision of my PC leaves my mind.

The Family Business

Photos from the collection of Paul and Tom Kettenburg

Captions by Tom Kettenburg

Tom Kettenburg has spent a great deal of time and energy researching his family's boat-building heritage. He is also heavily involved with the La Mesa-based Horseless Carriage Foundation, an organization of antique auto enthusiasts—a passion he shares with his father and grandfather. Tom is the namesake of *Tomboy*, the name his father Paul gave to the initial boat in each of his sailboat designs, beginning with the K-38.



Kettenburg boats cluster at the San Diego Yacht Club dock on Coronado Island around 1931. Three PCs are tied up near the foot of the gangway, while the boat with a sunburst on its sail is one of the Alden-designed knockabout sloops that gave my uncle, George Kettenburg, Jr., his first experience building sailboats. The four smallest boats are Starlets, scaled-down versions of Star boats intended as training vessels for youngsters, which George Jr. redesigned in 1930. The Star boat at right may be one of two Star boats the company launched in 1927.

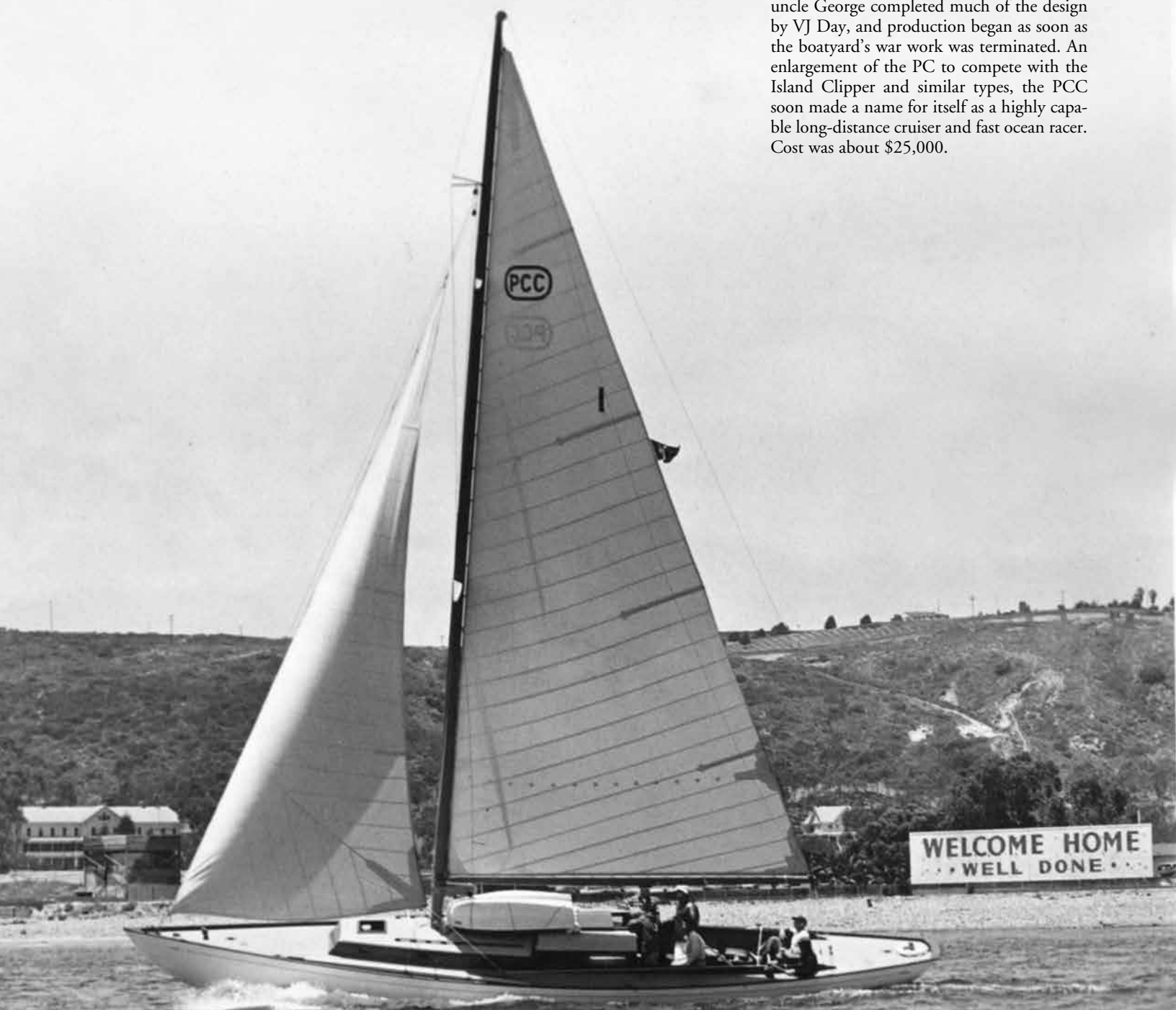
Courtesy San Diego Yacht Club History Coll.

At right, two PCCs contest the weather mark off Newport Beach, probably in the early 1950s.

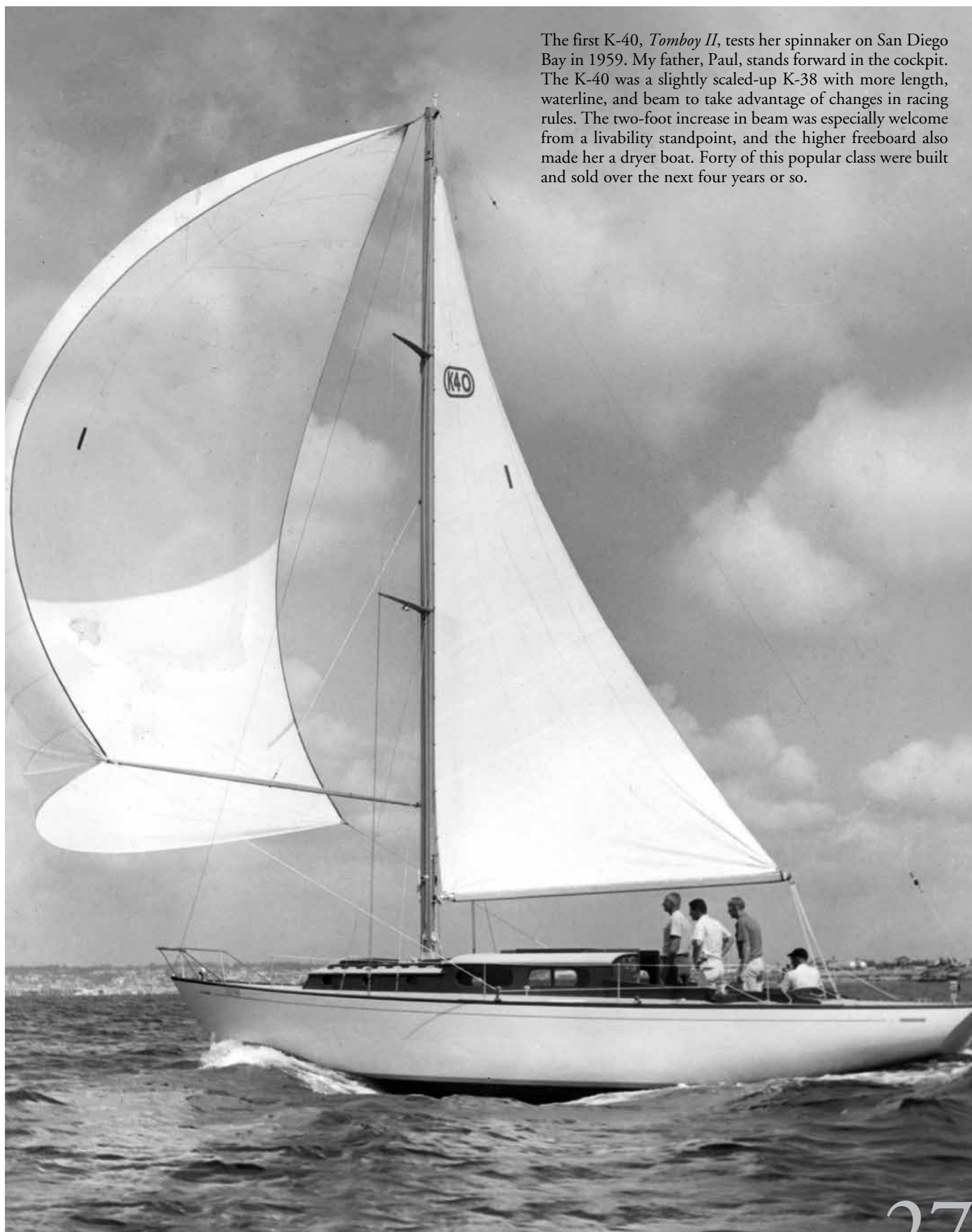
The power boat *Knotty*, below, was a Depression-era project built for Paul, my father, in 1936. She was put on a flatcar and shipped to Chicago the following year for his use on Lake Michigan, where he lived at the time. From left to right stand my grandfather—George Kettenburg, Sr.—Jim Underwood, his son Charles, Dick Hershey, Dick Leonard, Roy Stowe, and George Kettenburg, Jr.



The first of twenty-four Pacific Cruising Class (PCC) boats is saluted by a sign welcoming returning veterans as she passes Fort Rosecrans on Point Loma. She is possibly on her sea trials in late 1945 or early '46. My uncle George completed much of the design by VJ Day, and production began as soon as the boatyard's war work was terminated. An enlargement of the PC to compete with the Island Clipper and similar types, the PCC soon made a name for itself as a highly capable long-distance cruiser and fast ocean racer. Cost was about \$25,000.



The first K-40, *Tomboy II*, tests her spinnaker on San Diego Bay in 1959. My father, Paul, stands forward in the cockpit. The K-40 was a slightly scaled-up K-38 with more length, waterline, and beam to take advantage of changes in racing rules. The two-foot increase in beam was especially welcome from a livability standpoint, and the higher freeboard also made her a dryer boat. Forty of this popular class were built and sold over the next four years or so.



The sun rises over North Island as the yard prepares to launch an early PCC, probably my uncle's own *Eulalie*, around 1946. Reminders of the recent war abound: mounds in the right background on an embryonic Shelter Island are munitions bunkers; beyond them three escort carriers lie moored. Recreation would be crucial to San Diego's peacetime future; as the Kettenburgs were reshaping local yachting, dredges like the one at center were starting to reshape the harbor for recreational use.





The Kettenburg yard in the early 1950s, looking toward the west. The sailboat on the cradle to the left is Gartz Gould's PCC *Ballerina*, a very successful racer. The main boat construction building was built of corrugated galvanized iron in 1929.

The People of *“KBW”* 1943-1952

Mark Allen

Mark Allen has edited the past fourteen issues of *Mains'l Haul*. He is currently working on a book about the Kettenburgs, for anticipated publication by the Maritime Museum of San Diego and Mystic Seaport Museum, Connecticut, in 2006. Mark would be glad to hear from anyone who would like to share their memories or photos of the Kettenburgs.

If you drop the Kettenburg name in Newport, Rhode Island, or any of the other sacred waters of American yachting along the Eastern Seaboard, you may well draw blank stares. KBW—as it was frequently abbreviated by the family members who ran it—is truly a Southern California phenomenon. While the boats and the name spread along the West Coast and out to Hawaii, both have been little known in the world beyond.¹ One reason for this apparent neglect is the Depression and war, which prevented widespread West Coast interest in their Pacific Class (PC) sloops from translating into truly widespread sales, and limited the class's ability to take hold outside the region. Another is the fact that the extraordinary George Kettenburg, Jr. completed only two original sailboat designs before passing the designer's mantle along to brother Paul, and so never gained the fame of more prolific designers. Since many of Paul's sailboat designs balance postwar desires for comfortable cruising vessels that could also race against the more spartan racing orientation of prewar designs like the PC, his fine boats have always sailed somewhat in the shadow of his brother's. There is perhaps a dash of “East Coast bias” in the mix, too: Nathaniel Herreshoff's S Class sloops are far better known than the PCs, although only sixteen more of them were launched than their San Diego-built competitors. Likewise, W. Starling Burgess's Atlantic Class, which the Pacific Class was also specifically built to challenge, outnumbered the PC fleet by only twenty-one boats.²

There are three reasons, however, that this San Diego firm deserves to be more widely known. On a national level, of course, there is the undisputed, lasting quality of the boats, which continue to inspire enthusiasm almost four decades after the last Kettenburg design was launched. Regionally, their story matters too, as that of a surprisingly harmonious and long-lasting family

“Bud” Caldwell planks a PCC about 1946, just after he joined the company. Like many, he would be a loyal employee for decades. “We had a very special group,” he recalls. A longtime surfer, he is a lifelong friend of KBW partner Morgan Miller.

Photo by Cloyd F. Coates, MMSD P-11534





Paul looks over his brother's shoulder in George's office in 1944.

Courtesy Paul and Tom Kettenburg

of their home port's idea of itself as a kind of accessible Paradise. As the most historically significant of San Diego's recreational boatbuilders, Kettenburg is important—if little known outside the local boating community—to the image San Diego presents to the world.

The years between 1943 and 1952 were perhaps the most important ones at KBW, for it was then that the death of one talented Kettenburg created the opportunity to unveil the designing skills of another, and was also when the pattern of KBW's remarkable five-way equal partnership was set.



In December, 1943, a tall, crew-cut twenty-nine-year-old parked his late-model Ford in front of the familiar corrugated metal building at the foot of Dickens Street in Point Loma. Paul Kettenburg had intended to be away for only a year, but ten years had passed, and he was now looking at a changed boatyard. When he had left, thanks to the Depression “there really wasn’t enough to keep us both busy at the yard. My brother could handle everything that there was to be handled.”³ Now, however, it bustled with the work of filling new Navy contracts. He had changed, too; the baby of the family had matured during years of responsibility as a field engineer in Chicago for General Electric. Wartime policies had forced him to stay with GE far longer than he wanted to, but now he was excited to return to the family business and get back to the work he most enjoyed: designing and building boats.

business helmed by Kettenburgs for sixty years. KBW succeeded in part by diversifying around the needs of recreational boaters, expanding organically from designing and building boats to repairing them and selling marine hardware, finding time along the way to fill the needs of the Navy—the San Diego region's major growth engine during much of the twentieth century. Finally, as city planners developed the bay to take advantage of that other key to local economic development—the year-round outdoor recreational opportunities that lure tourists and winter-weary transplants alike to our shores—sailboats have become icons

Paul stepped into the relative darkness of the big tin shed, the upper story of which housed the loft floor where new boat designs were laid out full-size. He threaded his way across the main floor, past the inverted hulls of Navy plywood boats being built on jigs, to his brother's corner office. Every horizontal surface of George Kettenburg, Jr.'s work space was covered with papers, while hanging on the walls were a few photographs of the glamorous PCs and their other prewar boats. George, the owner and general manager, was a tall, blue-eyed thirty-nine-year-old with wiry blond hair, and skin "bronzed about the same tint as russet leather" from many hours at the helm of sailboats.⁴ Well-liked, casual, quiet but very friendly, he had, according to his business partner Morgan Miller, "this enthusiasm that you just can't imagine."⁵ To George's daughter Jean, his native enthusiasm made him seem "like another kid," so much so that even she and her brother called him by his first name.⁶ In the office, she recalls, he was similarly informal: sometimes, when clients stopped by, George—who was also a champion archer—would "have his bow out, and he'd be practicing" by drawing the bow, "right in the middle of somebody coming in to ask him something about boats."⁷

An immediate problem grabbed Paul's attention upon his return. When the war began, George had achieved every businessman's goal of landing a government contract. KBW would build plane re-arming boats—a Navy design intended to carry munitions out to seaplanes. He miscalculated, however, on the time required to build these snub-nosed thirty-three-foot plywood craft. George had anticipated that they could complete a boat every four days, and priced his bid accordingly. But with thirty boats built, each was still demanding over five days of work. The government contract, rather than saving the company from the lingering effects of the Depression, was pushing it toward

During World War II, KBW and Navy personnel test their notably ugly seaplane re-arming boats, which could reach speeds of up to eighteen knots. "On one of the tests I went along with George, and the Navy testing officer really gave the sample boat *the works*," recalled longtime employee Dick Hershey. "When the boat was moving at top speed with the throttle wide open, the officer yanked . . . the shift lever from FULL AHEAD to FULL ASTERN!! No in-between hesitation at neutral . . . You could just about feel every nut, bolt, screw, nail and everything else grab on for dear life. . . . George and I also grabbed whatever and looked in amazement at each other, but the officer merely said that if the swabby skipper suddenly saw a mine dead ahead, he surely would yank everything he could to evade that mine. . . . so the boat has to be able to take illogical abuse. Thankfully, the boat took it well."

MMSD P-11538





Baby Doll was among the “Kettenburg 38s,” as the fishermen called them, launched to ensure that American tables were supplied with fish during wartime.

MMSD P-11115

bankruptcy. Consultants were called in to attempt a rescue. They identified a potential savior in KBW’s own ranks: Charlie Underwood, a man whom they believed had the skills to staunch this hemorrhage of expensive production time.⁸

Charles A. Underwood, who, like George, had almost no formal training, was described by his son as “always a real perfectionist, with tremendous attention to detail.”⁹ Charlie had followed his father into the firm, starting as an apprentice in 1930, and had risen to be supervisor of new construction and Navy work.¹⁰ He “was a real innovator,” according to George’s son Bill.¹¹ Thanks to Charlie’s re-thinking of the mass-production process, the workmen learned to turn out a new boat at the rate of one every day-and-a-half.¹² They built at least ninety plane re-arming boats, a boom in business that finally lifted the wet blanket of the Depression from KBW’s finances. Though the Navy was very happy with the finished product, few if any of these boats actually re-armed planes; they apparently served their country as general utility boats.¹³

Another project was starting to bear fruit at about the time Paul returned. The Kettenburgs had long had good relations with the fishermen of San Diego’s world-famous tuna boat fleet. Many of them were Portuguese, and were the Kettenburgs’ neighbors and former schoolmates on Point Loma. The company already served them, building over a hundred of the small tenders

that was carried aboard each of the big tuna “bait boats” in order to fish for live bait before the big boats set out after their real quarry. Shortly after the outbreak of war, however, the tuna fleet vanished from local waters—commandeered for service in the South Pacific, where their refrigerated fish holds suited them for transporting frozen goods. Many of his old schoolmates found themselves without boats, Paul recalls. “Here were all these fishermen sitting around with nothing to do, and there was a shortage of meat.” With beef and other meats scarce in wartime, the National Food Administration encouraged consumers to switch to protein-rich tuna. “They decided that they ought to have boats for these fishermen, so we designed this thirty-eight-foot fishing boat to hold ten tons of fish and take three people fishing.”¹⁴

The problem, of course, was that George had never designed a tuna boat before. He asked Charlie Underwood to take the lines of their largest prewar boat, the eighty-five-foot motor cruiser *Joanne*, and scale them down to thirty-eight feet.¹⁵ Also, according to Dick Hershey, who had begun working for George right out of high school in 1926, “when we started building the fishing boats George was not too sure of his design details, so he sent me out to the various boat yards ‘spying,’ so to speak. I made a number of sketches of various boats under construction from which George was able to resolve his own design.”¹⁶ Charlie came to the rescue again, devising a series of stations where the boats would be assembled. While their prewar boats had been built from the keel up, the assembly of the fishing boats and plane re-arming boats—and every wooden boat Kettenburg built thereafter—would begin upside-down on a mold, for convenience and speed. “We had it set up so one station would lay the keel,” Paul remembers. “They had one gang of people who would set the keel, bend the frames, plank it, and then take it off the mold and turn it over. Another group would do the interior and decking. Another group would do the mechanical work. Another one would come in and do the rigging, and so on.... We had about six stations. Every ten days, everything would move—ready or not!”¹⁷ They still had plenty of work building the plane re-arming boats, but, as George’s son Bill recalls, “food got to be a higher priority than bombs” in obtaining scarce construction materials. “They had a higher priority building the fish boats than they did the plane re-arming boats.”¹⁸

Even when the big tuna boats began returning home after the war, demand continued for the well-liked little craft. Almost fifty of the eighty built were launched after the war, before production ceased about 1949.¹⁹ “This thirty-eight-foot fish boat was by far the Cadillac of the albacore boats,” says Morgan



“George W. Kettenburg built his 35th albacore boat, the 38-foot fishing vessel *Poggy*, with accommodations worthy of a luxurious cabin cruiser,” according to *Pacific Motor Boat* in August, 1945. Bill Kearns stands at left; George is at center with older brother Robert, an engineer who took no part in the boat business, and Paul looks on.

Courtesy Paul and Tom Kettenburg



As Paul looks on, George crouches among wooden battens on the lofting floor with salesman Kenny Baker and Charlie Underwood, who holds a model of the hull of their new PCC.

From the January 24, 1946 San Diego Daily Journal, courtesy San Diego Yacht Club History Coll.

Miller, for it had notably more comfortable interior features than other boats of similar size. The fishermen found the boats to be sure-fire sources of revenue; the money from fishing albacore was so good in the mid-1940s that some paid off their boats with a single season's catch, for "the albacore fishing was just like a gold rush."²⁰

And so mass production was introduced to local boat building. The process would become key to the company's survival after wartime contracts evaporated. "After the war, Charlie set it up so that all the boats we were building were in 'production,'" but without sacrificing the quality that had long been a KBW hallmark, Paul remembers proudly.²¹ Between VJ day and 1952, the company turned out 351 boats of several types.²²

As the two Kettenburg brothers looked to the future, they pinned many hopes on an anticipated postwar revival of interest in the Pacific Class sloop, which, as Morgan Miller recalls, "was kind of the backbone of everything" that had developed at the yard since 1930.²³ As war-weary Americans along the West Coast returned to their Depression- and war-deferred dreams of owning sailboats, the PC was a familiar daydream, waiting only for \$3,750 to become reality.²⁴ The Kettenburgs could count on some potential buyers from the San Diego Yacht Club, thanks partly to the "brand loyalty" of members who had helped create and promote the class in the first place. "They were not just a boat yard, but really a part of the yacht club," one longtime sailor recalls; the family had been involved with the club since 1923.²⁵ So, Paul remembers, "we went into 'production' on PCs. Prior to the war Kettenburg never did any 'production' in building—it was just 'set up' to build a boat, and then 'set up' another one."²⁶

George had other cards up his sleeve besides the PC. He believed that boaters' itch for still larger, faster sailboats, suppressed during the Depression and wartime, would need scratching. "During the war he kept seeing this Island Clipper at the yacht club. He'd walk by it every day, and every time he went out," recalls Paul. "That's the kind of boat I'd like to have," George would tell his brother. During the war, he thought through the design of the PCC. The Pacific Cruising Class—known almost exclusively by the abbreviation PCC—would be a new class of forty-six-foot boats designed to both race and carry a family in comfort.²⁷ Charlie and Paul lofted George's lines, essentially enlarging the PC's shapely, narrow hull. They had the design nearly completed by VJ day.²⁸ "The day war was over we started building the first PCC," says Paul.²⁹ The new boat would see great racing success, sweep-

ing numerous West Coast races, including the Transpac in 1949. Thanks to Charlie Underwood's production techniques, in the late 1940s the yard was launching a PCC every twenty-one days.³⁰

"It was a great place to work," commented a carpenter who was hired in 1947. "Kettenburg was a wonderful place; it was a small, family organization." The crew numbered only about thirty, even during this period of booming construction and heavy work in the repair yard.³¹ Labor relations appear to have been consistently good, too, by all accounts: "the spirit of cooperation by both labor and management," wrote a Navy representative in a 1952 letter that KBW proudly reprinted, "has been outstanding."³²

George's vision was that the company should develop as a partnership, so in January 1949 the new partners incorporated as Kettenburg Marine.³³ George was listed as general manager; Charlie Underwood was superintendent of construction and Navy work.³⁴

The partner who ran the boat repair yard, an unglamorous but frequently highly profitable part of the operation, was Bill Kearns. Like the other partners, he had done many different jobs at KBW since joining the firm in 1937.³⁵ He had a bachelor's degree and a teaching credential in industrial arts, and frequently brought promising high school students to work at the yard. Like virtually all boatyard workers, his back suffered from all the years of strain he had put on it; his widow recalls that he usually met with customers in a squatting position, since sitting or standing quickly grew painful.³⁶

Partner Morgan Miller—"Morg" to nearly everybody—was two decades younger than George.³⁷ Having grown up sailing Kettenburg-built Starlets, he had married George's daughter Jean after a wartime stint as a Navy pilot, and graduated from Stanford with an economics degree in 1948. That year, his new father-in-law induced him to set aside his plans for graduate school in order to transform KBW's parts counter into a significant retail operation. As his brother-in-law Bill Kettenburg remembers, George dissuaded them from becoming designers; "he told Morgan and me, 'Don't go into the architecture. Go into the store—that's what we need.'"³⁸ Bill Kettenburg, the other "young guy" among the partners, would also shape the expansion of the company's marine hardware business, and was made a full partner early in 1952. Bill began by supplying Navy contracts, and later specialized in purchasing and marketing, while Morgan ran the chandlery.³⁹ In 1950, the two opened a large store on Carleton Street, which for many years was the mainstay of KBW's profitability.

Paul, identified simply as "engineer" in the company's 1952 sales booklet,



In 1950, Morgan Miller and Bill Kettenburg opened the company's marine hardware store. It was perhaps the most modern in the U.S. when it opened, and would grow into the nation's fourth-largest marine distributorship. At the operation's height, there were three other Kettenburg stores in Southern California.

Photo by Phil Barber, late 1950s, MMSD P-11544



Even at the height of wartime, the company was never large, as their 1944 picnic in Balboa Park shows. Charlie Underwood crouches at left. George sits comfortably at center, with Bill Kearns and Paul to his left. To George, “all of the employees were kind of like his family,” as Morgan Miller, who would soon join the firm, recalls.

Courtesy Paul and Tom Kettenburg and Harry Hershey

would soon become a sailboat designer in his own right. 1949 brought KBW another landmark besides the partnership, as Paul introduced his first original sailboat design, the K-38. Its inspiration had come while cruising with his wife to Catalina Island aboard a PCC, which felt to him like “too much boat” for two to handle comfortably.⁴⁰ The K-38 was essentially a PCC scaled down to thirty-eight feet, and built with “no frills” to keep the cost down to \$10,000, substantially less than the price tag of a PCC. “This design will fill in a gap that has heretofore existed between the PC and the PCC,” remarked a *Yachting* writer. “The snappy sailboat” from San Diego “appears to be a satisfactory compromise between an out-and-out racer and a comfortable cruiser, and she certainly has a good deal of eye appeal.”⁴¹ George and Charlie helped extensively with the design of the first K-38, named *Tomboy* after Paul’s son—a naming tradition that Paul would follow with the initial boat of each of his subsequent designs.⁴²

All was not well, however. Days before Christmas 1952, George Jr. died of cancer of the sinuses after a nine-month illness; he was not yet forty-nine.⁴³ “I’ve always felt it was caused by copper paint dust that he had breathed in,” Paul has ventured. “I was lucky that I didn’t get the same thing, because I did all the same things he did.”⁴⁴ During his lifetime, George had retained fifty-one percent control of the partnership; “he made the decisions,” says Morgan Miller.⁴⁶ How the partners would function together in his absence was an open question.

When George died, the yard was busier than ever, and still in the midst of Korean War-era military contracts. The Navy had set the company to work refurbishing hundreds of disused Second World War landing craft, because, as Paul put it, “all of a sudden they decided they were going to maybe have some more inva-



sions.” For about a year, “we had our yard just full of these things,” forty or fifty of which were jammed anywhere they would fit.⁴⁵ PCs, PCCs, and now K-38s filled the construction building.

A few days after Christmas, 1952, a sadder, thirty-nine-year-old Paul A. Kettenburg climbed the stairs up to his office in the new building on Carleton Street, whose windows looked out across the growing boatyard. He had much to work on. “After George passed away, I kind of became the lead partner,” although he had no larger share in the business than the others.⁴⁷ Paul saw his role in the partnership as “trying to keep all five of us going down the same road,” a feat of shepherding that he would perform successfully until retiring in 1979. Paul’s primary job was selling the company’s product, whose design and construction continued to be his first love. From Paul’s drawing board would come beautiful sailboats like the K-40, the K-50, and the K-43. Decades after leaving the corner office behind, he remembers proudly that “we were actually five equal partners, as it ended up. Everybody thought that this was impossible—for five equal partners to be able to run a business.... Fortunately, each one had his own job. Each one could complement the others, and we worked really as a very close-knit group.”⁴⁸

Despite the perils of family dynamics and market forces, the boatyard and store remained familiar local landmarks until Kettenburg Marine closed its doors for good in 1994.⁴⁹ “The Kettenburgs were so respected by everyone,” recalls Loch Crane, who worked for George in the mid-1930s. “There was no ‘corner-cutting’—their reputation was worth more than anything else.”⁵⁰ Thanks to the boats and the loyalty they still inspire, that reputation is every bit as alive today as it was in the crucial years between 1943 and 1952.

The crew enjoys more stylish surroundings at an employees’ dinner in the U. S. Grant Hotel in 1945. George sits at center; Paul is at the corner of the table to his right.

Photo by Cloyd F. Coates; courtesy Paul and Tom Kettenburg and Harry Hershey

N O T E S

- 1 Important national coverage in recent years has included Paul Lazarus, "Kettenburg Boat Works: Power and Sail for Southern California," *WoodenBoat* 116 (January/February 1994): 60-68.
- 2 Seventy-nine PCs were built, while ninety-five S Boats were launched starting in 1919, and one hundred Atlantic Coast Class boats were built in the two years following their 1928 introduction. These numbers are true for the Atlantics only prior to 1962, when the design was revived and modified.
- 3 Paul Kettenburg (hereinafter PK), interview by Robert Wright, 25 May 1985, MacMullen Library, Maritime Museum of San Diego (hereinafter MMSD), p. 6. Because the reputation of KBW depended nearly as much on the integrity of the individuals involved as on the high quality of the boats themselves, this article quotes from interviews and other first-person accounts whenever possible. The author is especially grateful for the assistance of Paul, Tom, and Bill Kettenburg, Morgan and Jean Miller, and Bud Caldwell.
- 4 John Springer, quoted in Edward Barr, "Business Mixes with Pleasure as Kettenburg Heads for Canada – Part II," *Mainsheet* (October 1999): 32; Bill Kettenburg, Jean (Kettenburg) Miller, and Morgan Miller, Sr., interview by Mark Allen, 22 March 2004, p. 14, MMSD. George, Jr.'s extremely fair skin made him burn easily, so his typical sailing garb was a floppy hat, with tincture of benzoate smeared liberally on his nose and lips; he was also unusually allergic to cigarette smoke. He is identified as owner and general manager in a 1946 contract between Kettenburg Boat Works (hereinafter KBW) and the City. "City of San Diego Leases and Contracts," p. 31, San Diego Historical Society (hereinafter SDHS).
- 5 Kettenburg, Miller, and Miller interview, p. 4.
- 6 *ibid.*, pp. 4, 11.
- 7 *ibid.*, p. 14.
- 8 The consultant was the Chicago firm of George S. May, Business Engineers. Anonymous (Charles La Dow), "Kettenburg Marine: The Story of an Enterprise," 1988 typescript, MMSD, p. 15.
- 9 Charles Underwood, Jr., quoted in obituary, *San Diego Union*, 15 October 1998. Charles, Jr. would follow his father into the firm.
- 10 His title is given in an advertising booklet created to secure Navy contracts, "Kettenburg Boat Works: San Diego, Calif." n.d. (1952), Paul and Tom Kettenburg collection, n.p.
- 11 Kettenburg, Miller, and Miller interview, p. 5.
- 12 Jean recalled the production rapidity; Paul, in his 1985 interview, recalled the number built as 150, and later recalled two separate contracts, the first for 20 of these boats, the second for 40. Kettenburg, Miller, and Miller interview, p. 13; PK, 1985 interview, p. 7; PK interview by Charles Bishop and Barry Moskowitz, 30 January 1998, San Diego Yacht Club History Coll. (hereinafter SDYC), copy at MMSD, p. 20. See also Iris Engstrand and Cynthia Davalos, *The San Diego Yacht Club: A History 1886-2000* (San Diego: Yacht Club Sailing Foundation, 2000).
- 13 Richard Hershey, "Richard B. Hershey," n.d. (1987), n.p., courtesy Harry Hershey, MMSD.
- 14 PK, 1998 interview, p. 20. The 38-foot boat was sponsored by the National Food Administration. La Dow, "Kettenburg Marine," p. 16.
- 15 La Dow, "Kettenburg Marine," p. 16.
- 16 Hershey, "Richard B. Hershey," n.p.
- 17 PK, 1985 interview, pp. 7-8.
- 18 Kettenburg, Miller, and Miller interview, p. 11.
- 19 PK, 1998 interview, p. 20; Morgan Miller, Sr., conversation with author, 9 February 2005. The date production began is unclear, but it was certainly after 1943; an anonymous typescript gives the date as 1945. "The Kettenburg Story..." n.d. (circa 1962), n.p., MMSD.
- 20 Kettenburg, Miller, and Miller interview, pp. 11, 13.
- 21 PK, 1998 interview, p. 22.
- 22 "Kettenburg Boat Works," n.p.
- 23 Kettenburg, Miller, and Miller interview, p. 5.
- 24 Undated KBW ad (circa 1945) from unknown publication, copy at MMSD.
- 25 Loch Crane, telephone conversation with the author, 6 January 2005. PK, conversation with the author, 30 March 2005.
- 26 PK, 1998 interview, p. 22.
- 27 The Island Clipper was a 44-foot prewar design by Merle J. Davis, built in Los Angeles by Fellows & Stewart. The boat George admired was one of two completed before the war halted production. Thomas G. Skahill, "Fellows & Stewart Inc., Boatbuilders: A Retrospective," *WoodenBoat* 173 (July/August 2003): 55. The first PCC was 44 feet long on deck, but the rest of the 25 boats built were 46-footers.
- 28 PK, 1998 interview, p. 23.
- 29 PK, interview with Karen Scanlon, 13 June 2003, MMSD.
- 30 "Kettenburg Story..." n.p. Bud Caldwell, in a conversation with the author on 23 January 2005, gave a figure of one PCC completed every 12 days.
- 31 Richard L. Palmer, interview by Betty Quayle, 6 April 1992, San Diego Historical Society Coll., p. 8. Palmer would later become a notable sculptor and painter. His estimate of a work force of about 30 is borne out by the number of men in the 1944 company picnic and 1945 dinner photo, although in his 1998 inter-

Champion sailor Peggy Slater races another K-38 in a heavy blow, probably in the L.A. area, under reefed mainsails. The column of numbers high on the sail of her red-hulled *Valentine* denotes her competitive finishes at the K-38 Nationals from 1955-1957. Peggy became Kettenburg's San Pedro sales agent around 1953, and was responsible for a large percentage of the firm's sales right up to the end of K-41 sailboat production in 1968.

Courtesy Paul and Tom Kettenburg



view, Paul recalled that the wartime workforce reached 120.

32 B. L. Stovall to KBW, 9 January 1952, reproduced in "Kettenburg Boat Works," n.p.

33 *ibid.*

34 *ibid.*

35 *ibid.*

36 Helen Kearns Cheverton, telephone conversation with the author, 4 January 2005.

37 Morgan Miller, Sr., conversation with the author, 9 February 2005.

38 Kettenburg, Miller, and Miller interview, p. 12.

39 "Bill" Kettenburg is actually George W. Kettenburg V. James Barthold, "B.I. Visits Kettenburg," *Boating Industry* (September 1972).

40 Gunnar C. Anderson, "Through Three Generations: The Kettenburg Log," *Sailing* 8 (June 1974): 32.

41 Anonymous, "The Kettenburg 38," *Yachting* (August 1949): 51.

42 The *Tomboy* name was used when PK was testing or racing the first of each new design; the name was then changed when the boat was sold.

43 George Kettenburg, Jr. obituary, 21 December 1952, *Union*.

44 PK, interview by the author, 16 October 2003, MMSD, p. 12; interview by Karen Scanlon, n.p.

45 PK, 1985 interview, p. 11. Other war-related contracts included a project for the Air Force; despite its cancellation, KBW still profited. Navy repair projects included whaleboats, buoy boats, LCPLs, LCPVs, plane re-arming boats, and life rafts. B. L. Stovall to KBW, "Kettenburg Boat Works," n.p.

46 Miller, Sr., conversation.

47 PK, 2003 interview, pp. 12-13.

48 PK, 1985 interview, p. 9.

49 Kettenburg was purchased in 1969 by the Los Angeles-based Whittaker Corp., which owned Columbia boats. PK stayed on as manager until his retirement in 1978. Whittaker sold the company to local businessman Thompson Fetter in 1986.

50 Loch Crane, telephone conversation with the author, 6 January 2005.

Dennie Barr O'Bryan

A Pioneering Woman "Big Boat" Sailor

Debra A. Dominci
with Edward S. Barr

Editor's note:

As ninety-one-year-old Paul Kettenburg recalls, before the Second World War "the Yacht Club was almost entirely men."

"It was a gentlemen's club, really. It wasn't until along in the later 'thirties and on up that the women became involved...When I was running around as a little kid, there weren't any women around."¹ But as American women found themselves encouraged to "do their part" for the war effort in jobs formerly reserved for men, some also found new recreational opportunities. With most young men absent, these women learned every aspect of sailing, and became expert skippers when racing resumed after the war. The best-known of these was Peggy Slater, a flamboyant competitor in the 1950s in her red-hulled Kettenburg K-38 and K-43, both named *Valentine*. Peggy was preceded, however, by "Dennie" Barr, an equally fierce competitor in ocean races, and comparably colorful. As George Kettenburg, Jr. lay dying in his hospital bed in 1952, he savored memories of his friend's triumphs while thumbing through her scrapbooks. One incident memorialized in those scrapbooks later hung on her own wall, and appears on our cover: *Mickey's* 1948 victory in the first Newport-Ensenada Race.



42

When the AMERICA³ racing team proclaimed in 1995 that they were making history as an all-woman crew competing in the America's Cup races for the first time, some of us remembered Southern California yachtswomen who had been vigorous competitors long before. Like Peggy Slater of San Pedro, Dennie Barr O'Bryan contributed to the success and acceptance of women in yachting.²

Born Dorothy Darrow Denison in Denver in 1910, Dennie moved to San Diego as a girl. "My first sailing experiences were when I was about seven," she remembered. Judge William Paxton Cary wanted to get to know his future step-daughter better: "The Judge had a thirty-two-foot yawl named *Wave*, and he thought it would be great fun if we got together on the boat. He bribed me with a half-gallon of vanilla ice cream." Later, she recalled, "there wasn't a greener, sicker child at Coronado Yacht Club."² Dennie continued sailing in Coronado with her stepfather, who promised to give her a boat of her own once she finished college. She had other motivations to continue sailing, too: "I fell for a beau who sailed Stars. The only way to converse with him was to sail with him. When he asked me to crew, I thought I had *arrived*."⁴

At left, in her characteristic red scarf and sunglasses, Dennie and her crew enter San Diego Bay with Bill Frazee at the helm.

At right, *Mickey* slices past *Antigua*, PCC #5.

At left, Dennie Barr scrapbook, authors' coll.; this page San Diego Yacht Club History Coll.

Deb Domenici has worked for Caltrans for 25 years as a Cultural Resource Manager and District Archaeologist. She restored and owned PCC #22, *Comanche*, and in 1992 she revitalized the PCC Nationals, which have since evolved into the multi-class Kettenburg Regatta. Deb is heavily involved in the Ancient Mariners' Sailing Society, an organization of wooden boat enthusiasts. In the mid-1990s, Edward Barr gave her his mother's scrapbooks for safekeeping. "It only seems fitting," he says, "that Deb becomes the curator of my mother's sailing history."





Above, in a newspaper photo Dennie and Larry share a smoke aboard *Mickey*. Below, another newspaperman snapped her picture upon *Varuna's* 1945 arrival in San Diego, aboard which the glamorous snapshot at right was also taken.

Above, Dennie Barr scrapbooks, authors' coll.; below, San Diego Historical Society Photo Coll.; right, courtesy Edward S. Barr



On a blind date while attending New York's Sarah Lawrence College, Dennie met Lawrence Barr under the clock at the Biltmore Hotel. They married in 1930. Far from prosperous during the Depression, the Barrs moved from New York to San Francisco, and then to San Diego. Larry worked as a sales representative for a plumbing supply company until the outbreak of war; he later sold real estate in La Jolla.⁵ Upon Dennie's return to San Diego, her stepfather gave her the promised boat: a twelve-foot, clinker-built, catboat-rigged skiff. Their two children and dog frequently joined them on outings.

In 1937, the Barrs bought a twenty-two foot sloop. They soon moved up to a thirty-two foot Ashbridge yawl named *Mickey*, which they acquired from a couple who were forced to sell due to the Depression. "Up to *Mickey*," Dennie later recalled, "I didn't understand the love a person could have for a boat."⁶

When World War II came, her husband joined the Coast Guard and served in the South Pacific. "As he left, Larry told me to sail *Mickey*, sink her or sell her."⁷ She sailed, learning all the tasks usually performed by men, and skippered in races whenever and wherever a fleet could be mustered. Friends saved gas ration coupons for her so she could power the boat to Coronado races. "Most of the racing during the war years was done at the armchair. We played a lot of tactics and navigation games. And we planned for those long cruises everyone was going to take after the war was over."⁸

Cruising in a sailboat indeed offered a popular daydream of postwar relaxation. The Barrs did much more than daydream: June 1945 found them headed east, where they bought the big *Varuna*, an eighty-foot John Alden-designed schooner, and sailed her home—a 6,490-mile voyage. Sailing supplies, however, were still scarce, and maintaining *Varuna* proved daunting. Dennie wanted to get back into racing, and was intrigued by a new yacht design being readied by her friend George Kettenburg, Jr.⁹

In May, 1946, Kettenburg Boat Works launched its first Pacific Cruising Class yacht, or PCC. The new class had everything that a postwar sailor might want at the beginning of the "baby boom": it was a big, lean sailboat, with simple accommodations for family cruising, which could also win races. The PCC was designed to compete with the California 32 and the Island Clipper, prewar Southern California designs.

The Barrs took the tiller of the fourth PCC at her launching on March 8, 1947, naming her *Mickey* after their lovingly-remembered yawl. The success of the design was immediately clear: the year they bought *Mickey*, five of the seven racers competing for the Lipton Cup, including the victor, were Kettenburg PCCs.¹⁰

Yachting news items and race brochures from immediately after the end of the war often politely begin by mentioning that the "Lads and Lassies" assembled for this or that regatta, but one never sees women's names amongst the winners. The month after the Barrs took ownership, however, it became clear that at least one of these lassies was no ordinary sailor's wife. While her husband was away, Dennie sailed *Mickey* to Catalina Island over Easter break with her young son and his friend. Newspapers reported that although there were small craft warnings and rough seas both ways, Mrs. Barr was undeterred.¹¹ Like many other activities dominated by men before the war, "women's work" would soon be stretched to include blue-water racing.

"Mom raced *Mickey* at every possible opportunity, which was about every week," recalls her son Edward.¹² *Mickey's* designer, George Kettenburg, Jr., frequently crewed for her. She competed in every race held in San Diego at least once, challenged unsuccessfully for the Lipton Cup five times, and sailed the 125-mile "Ensenada Race" sixteen times.¹³



Mickey was one of ninety-seven boats that left the starting line for the inaugural race from Newport, California, to Ensenada, Mexico, on April 23, 1948. “Boisterous winds” between twenty and thirty-five knots quickly trimmed the field to only the most serious sailors. The first yacht to ride the wind into Ensenada, twenty-one hours later, was the huge, eighty-seven-foot M-boat *Pursuit*. Once handicaps were factored in, however, Dennie—in a PCC not much more than half that length—took first place.¹⁴ It was a banner year for the PCC: Kettenburg boats swept all the top five places except third in the largest international yacht race in history.

In 1951, Larry Barr died of a heart attack at age forty-five. Dennie continued racing, and, when her son went north to enter Stanford in 1951, she began campaigning *Mickey* in the San Francisco Bay area. With a Stanford crew, she swept fourteen out of the sixteen regattas she entered. “She cleaned out the trophy case at the St. Francis Yacht Club,” Edward remembers. In 1953, she was asked to join as their first female flag member, on condition, he recalls, “that she would leave her winnings in their trophy case.” She was the first woman ever allowed in that club’s traditionally male-only bar, provoking mutterings of “Doesn’t that woman know her place?” and “Why doesn’t she just go home and leave us alone?”¹⁵

“I think our races on San Francisco Bay meant the most to me,” Dennie would reminisce. “No one thought a PCC could race in that wind. All we did was reef and sail a broader course. We went farther, but we were much faster.”¹⁶



Dennie hoists the trophy she won in 1952 for the boat-pounding, crew-exhausting hundred-mile “Buckner” race from San Francisco to Tomales Bay, which was followed by a rounding of the lightship and return to San Francisco Bay.

Dennie Barr scrapbooks, courtesy of the authors

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Yachtswomen of the Year.

One racing incident, recalled by her son, illuminates her character particularly well. “During the 1950 Midwinter Regatta *Kitten* and *Mickey* were pitted against each other in a windward duel. Near the mark, *Mickey* was storming along, raildown.” Then Fred Lyon’s PCC #6, the inaptly named *Kitten*, converged sharply on her port side. “*Mickey*’s crew yelled ‘Starboard!’—but Fred Lyon made no effort to give way. Dennie yelled to her crew, ‘Where will we hit?’ ‘Center of their cockpit,’ came the reply. ‘Oh, *Damn!*’ With a sudden jerk, Dennie jammed the helm up to the quadrant limit—missing *Kitten*’s backstay by inches. This emergency maneuver tore the tendons out of Dennie’s right hand in her wrist.” Her opponent, however, did not drop out of the race or apologize. Bound by her own code of honor, Dennie lodged no protest, though the incident left her with limited use of her right hand for the next thirty-six years. She did, however, let the sailing fleet know in no uncertain terms that “if he ever does that again, I will *not* give way.”¹⁹

Back in San Diego in 1953, Dennie met and married Garrick O’Bryan, the owner and builder of the Islandia Hotel and a yachting novice. From 1953 to 1968, Dennie continued racing, skipping *Mickey* in three more Ensenada races.

She grew, if anything, more unabashed than ever. “Mom conceived and adopted the three-cupped brassiere as her battle flag,” to show that *Mickey* “had more” than any other racer. “To the shock of some traditional yachtsmen, she fashioned and sewed a real three-cupped white brassiere and proudly flew it at the starboard spreader,” recalls Edward, when *Mickey* was docked at the San Diego Yacht Club.¹⁷

As Dennie’s crew grew older and had their own families, she felt she was no longer sailing enough, and in 1968 sold the twenty-one-year old *Mickey*. Soon she found a new “dream boat”—an eight-foot sabot, the kind of craft typically sailed by young beginners. In 1970, she helped found the Sexy Sabot Sailing Set (SSSS) for women at the San Diego Yacht Club. For seventeen more years she competed with sailors who were often a third her age. “I enjoy sailing now just as much as I ever have,” she told an interviewer at age sixty-six.¹⁸

In 1986, Dennie Barr O’Bryan passed away, just three months after she placed fourth in the Sabot Nationals. Five years after her death, the San Diego Yacht Club honored her as their first

NOTES

- 1 Paul Kettenburg, interview by Mark Allen, 16 October 2003, MacMullen Library, Maritime Museum of San Diego, p. 3. San Diego did boast a few women sailors before the war, notably Dorothy Royce.
- 2 Slater became Kettenburg's Los Angeles area representative from about 1953-1968. See Peggy Slater and Shelly Usen, *Peggy: An Affair with the Sea* (Montecito, California: Edens Publishing Group, 1992).
- 3 Bill Center, "Dynamite Dennie O'Bryan," *Sea* 70 (September 1978): 106. Several small errors of fact in Center's article have here been corrected by Dennie's son Edward S. Barr.
- 4 Star-class boats. She also sailed as crew aboard *Teva* in the 1920s on trips to Catalina.
- 5 "Defender of Lipton Cup Trophy is Christened," *La Jolla Journal*, 13 March 1947.
- 6 Ibid.
- 7 Center, "Dynamite," 107.
- 8 Ibid.
- 9 The couple's interest in the PCC from the design's inception is indicated by a clipping about the launching of *Eulalie*, the first PCC, pasted in Dennie's scrapbook. They may have been present at the event. "New Type Racing Yacht Unveiled by Kettenburg," *San Diego Union*, 19 May 1946.
- 10 Milt Wegeforth's PCC #1 *Ray* won the 1947 Lipton Cup. Two articles in small local papers state that *Mickey* was intended by George Kettenburg, Jr., to help defend the Lipton Cup trophy for San Diego from another PCC newly based in Newport. "Defender of Lipton Cup Trophy;" "Cup Defender," *La Jolla Light*, 13 March 1947.
- 11 Barbara Foster, "Catalina-Isle is Port of Call for Yachtsmen," *San Diego Journal*, 1 April 1947; *Union* 2 April 1947.
- 12 Edward S. Barr, "Dennie Barr O'Bryan: Dynamite Yachtswoman," *The Albatross* [Ancient Mariners' Sailing Society newsletter] 24 (February 1998): n.p.
- 13 The Newport-Ensenada Race was created by the Newport Ocean Sailing Association, founded in 1947 to revive prewar interest in yachting. The start date of subsequent races was adjusted so that the end of the race would coincide with Cinco de Mayo celebrations.
- 14 *Pursuit's* time was 21 hours, 16 minutes; *Mickey's* time was 19 hours 47 minutes. Bud Desenberg, *The Ensenada Race: Thirty Years of Silver and Gold* (Newport: Newport Ocean Sailing Association, 1978), n.p.
- 15 Barr, "Dennie Barr O'Bryan."
- 16 Center, "Dynamite Dennie," 108.
- 17 Barr, "Dennie Barr O'Bryan."
- 18 Center, "Dynamite Dennie," 106.
- 19 Barr, "The Last Sailboat Design by George Kettenburg: The PCC (Pacific Cruising Class)," *Mainsheet*, September 1999: 28.

Dennie flashes a grin from her sabot in the last picture taken of her aboard a boat—a reminder of the sense of fun of a woman who once dressed *Mickey's* crew in mouse ears and tails for a race.

Courtesy San Diego Yacht Club History Coll.



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Courtesy photographer John Babu; ad on facing page, circa 1947, from Dennie Barr scrapbooks, courtesy Deb Domenici



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MAINS'L HAUL

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Pacific Time Machines
Recent Replicas & New Traditional Vessels



Whether emerging from the fog (cover) or seen from above, the 1984 *Californian* reveals several purposes replica and heritage vessels have in common. She evokes the past, she carries passengers into adventures at sea in modern-day comfort and safety, she sails handily, and she simply looks beautiful.

Photo by Chris Lopatosky; cover photo by Ray Ashley

DID YOU KNOW?

- that HMS *Rose* was designed to be a nautical-themed restaurant, in case the bank repossessed her? (page 6)
- that the overhead clearance on HMS *Surprise*'s gun deck in the film *Master and Commander* was measured to snugly fit the height of one modern shipwright? (page 25)
- that *Lady Washington*'s architect also designed the *Columbia* at Disneyland? (page 5)
- that perhaps the first "replica" vessel in the West was made for display in San Diego's 1915 Exposition? (pages 80)
- that among the measuring instruments used to create a modern Chumash board canoe was a Kentucky Fried Chicken bucket? (page 83)



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"*Mains'l Haul*—An order in tacking ship bidding 'Swing the main yards.' To loot, steal, or 'acquire'."

—John Masefield

Maritime Museum of San Diego

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Pacific Time Machines

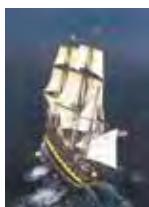
Recent Replicas & New Traditional Vessels

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Ray Ashley
From the Helm

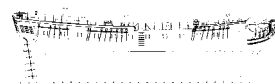
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Mark Allen Editor

Tony Enyedy Art Director

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A more unusual set of stories than the following could hardly be envisioned. Although each of these narrative seem to move rationally, according to their own internal logic, collectively the stories represent a phenomenon strange and perhaps unprecedented. You will find tails of tale of a mid-eighteenth-century British frigate which changed her identity at mid-life, of Hawaiian voyaging canoes from about 1000 A.D., of early American trading vessel, revenue cutters, privateers, and Gold Rush hulks, of Chinese shrimping junks, of fishing *fellucas*, and of native Californian Chumash *tomols*. Each one, however, is a “new” vessel, based on type that sailed in the Pacific of our memory or imagination, only to vanish from the face of the earth along with many of the seafaring tradition of the cultures that produced them. Yet recently and within the pace of a single generation they have returned to sail the Pacific once again. Clearly, there is something strange indeed going on here.

In fact, the phenomenon is even more sweeping than the selection above would indicate. As of this moment, in various places around the world, new Greek triremes and merchantmen of the fifth century B.C., at least two medieval Hanseatic cogs, a veritable fleet of Viking ship, Polynesian voyaging canoes, Elizabethan galleon, large seventeenth-century Northern European men of war, merchantmen and discovery ships, seventeenth-century Arab *booms*, Columbian-era caravels and carrack, fantastic treasure junks of the great Chinese voyages of the early fifteenth century, and extinct small craft of every description have either returned to existence or are in an advanced stage of planning or construction. Our museum itself not only owns two replica ship and one sixteenth-century

shallop, but is well along in planning to build *San Salvador*, a replica of Cabrillo's discovery ship of 1542. It is said that the first-century Romans built what they believed were replicas of Greek triremes for theatrical amusement, and certainly Louis XIV and Napoleon III did so, but nothing remotely of the present scale of extinct ship revival has ever happened before.

In his survey of what he called the replica ship “movement,” the maritime artist and historian William Gilkerson suggested eight functions for replica ship: follies (decorative attraction for personal amusement), floating museum display, passenger-carrying vessel, vessels identified

with a particular commercial company, vessel built for film, sailing ambassadors, vessels created for experimental archeology (to explore technical characteristic and capabilities of vanished vessels or to re-create old voyages), and educational vessels conceived as component of organized institutional programs. Each of the watercraft in this issue addresses at least one of the above functions, and some of them address several. But the assorted purposes envisioned or rationalized for these projects do not themselves explain the underlying question of why. For the first time in history, large number of very complex, expensive, and maintenance-intensive objects have returned from extinction. Why have they done so, long after the original mission and context for which they were specifically conceived has vanished?

Perhaps there is a kind of precedent for such behavior, but we are not accustomed to observing it in our own culture. For more than a century, anthropologists have documented occasions where traditional societies, under the enormous stress produced by rapid change, engage in unconventional and elaborate rituals designed to provoke a favorable outcome to their present challenge through the mystical summoning of ancestors. Such rituals are dramatic, often spectacular, in their physical nature and material content. The active American ghost dances of the

FROM THE HELM

by Ray Ashley
Director,
Maritime Museum
of San Diego

late nineteenth century or Pacific cargo cult of the twentieth century come to mind as examples. Such rituals sometimes absorb significant time and resource, arguably from activities more directly related to survival, in ascending cycles that intensify with the society's perception of stress and uncertainty of the future. To quote the voice of John Quincy Adams in the film *Amistad* (whose plot incidentally revolves around a slave ship portrayed on film by the Californian, and by the *Amistad* replica), "when a member of the Mende tribe

encounters a situation in which there appears to be no hope at all, he invokes his ancestors.

But what has this to do with maritime history? Ships are what historians of material culture sometimes refer to as "superartifacts"—objects which transcend culture.

Because the sea is the most threatening of environments, ships of all time and places have ever embodied a society's highest possible order of technology and belief. To the greatest degree possible of any human creation, they are thus the perfect and complete physical embodiments of the culture that produce them, and reflect those societies in microcosm. Because variables of geography, resources, history, and culture are so infinite in scope, the ship of any time and place are also as specific to that time and place as they are comprehensive of its attributes. To preserve an historic ship is to preserve as much as possible of a past world. To build a replica ship is to attempt to *conjure up* that past world.

So why are they here? Clearly, they are here because we have summoned them out of need, in ways both wonderful and strange.

The topsail schooner *Californian* has returned to San Diego, where she was built in 1984.

photo by Randall McLachlan



A Personal Account of the Frigate *Rose*

John Fitzhugh Millar

*From HMS Rose
Foundation Poster,
MMSD Archives 122.2,
courtesy Richard Bailey*

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Maritime Museum of San Diego



*R*ose's story begins in Newport, Rhode Island, where I was living in 1968, twenty-three years old and two years out of Harvard. Although Newport is better known today for its connection with yachting, the America's Cup Races, and the mansions of the Gilded Age, in the colonial period Newport was the fifth largest city in America, and still has more colonial buildings than anywhere else in the country. It also had important connections to the birth of the American Navy, thanks to a frigate called *Rose*.

Perhaps because I'd grown up in this historic city, I noticed earlier than most that the Bicentennial was fast approaching. I became a founding member of Rhode Island's Bicentennial Commission, and, through the commission, founded the Bicentennial Council of the Thirteen Original States in 1970, which successfully raised huge sums of money for Bicentennial projects. Being so involved with planning for 1976, and coming from a well-known if frequently not well-off sailing family, it occurred to me that, with the exception of the *Victory* in England, no ships existed from the Revolutionary War. Why not build some for the Newport waterfront? Newport's colonial architecture would garner additional attention from people coming to look at the ships. Everyone said it was a good idea, but no one offered to help. I wanted to build a full-rigged ship (*Rose*), a brig (*Fair American*), a square-topsail schooner (*Saint John*), a square-topsail sloop (*Providence*), and David Bushnell's tiny submarine (*Turtle*). I was impressed that Mystic Seaport in Connecticut, *Mayflower* at Plymouth, and the MGM *Bounty* then at Saint Petersburg, Florida, could attract enough paying visitors to pay the bills.

It was too good an idea to drop, so I went to the bank. "How much money would you lend me to build five Revolutionary War ships?" I asked. The reply was uproarious laughter. When the laughter subsided, I asked if we had anything to talk about at all. "Maybe one ship," said the loan officer. I picked the biggest of the five, because of the importance of visual impact in persuading tourists to get out of their cars to pay admission. He offered up to \$250,000—if I could jump through certain hoops.

I thought that \$250,000 was a vast fortune, but I quickly learned from talking to shipyards around the world—including a yard on the site where the original *Rose* had been built at Hull, Yorkshire, but which was unfortunately doing only steel construction by that time—that a ship of that size could be expected to cost about \$2 million. I almost gave up, but then I heard back from Smith & Rhuland, Ltd., of

The author looks over the keel and sternpost with Fred Rhuland, owner of Smith & Rhuland shipyard, in the summer of 1969.

Photo by Knickle Studios, Lunenburg, author's coll.





Designer Philip Bolger suggested making a time lapse film of her construction, envisioning “a pleasant rippling effect as the successive frames were set up.” Though the author was enthusiastic, it proved to be beyond the available skill and time. “Also,” Bolger recalls, “the ship filled the building shed so completely that it was impossible to get a convincing angle of view.”

Knickle Studios photos, author's coll.

Lunenburg, Nova Scotia. They had a proud heritage of having built the fishing schooner *Bluenose* (she appears on the Canadian dime), the replica *Bluenose II*, and the *MGM Bounty*. They told me that since I would not need engines, gearboxes, propellers, generators or life-support systems, they could build the ship for \$256,000, provided that I paid separately for running rigging, sails, and cannons. I persuaded the Samson Braid rope people to supply rope for free, and Hood Sailmakers in Massachusetts to supply sails at a deep discount, and I bought cannons out of petty cash. I returned to the bank. The people of the Rhode Island Hospital Trust Co. were very surprised to see me again, but felt obliged to lend me the money, although they did try to get me to sign an agreement with a local hotel to run the ship as a restaurant. Mercifully, the hotel, not yet built, backed out.

The original 1756 lines of *Rose* survive in the National Maritime Museum at Greenwich, England. The shipyard, however, needed modern construction drawings, and the bank required that certain changes be made—including two-meter headroom throughout, in case they needed to repossess the ship to sell as a restaurant. Therefore, I selected a naval architect, Phil Bolger of Massachusetts, because I was impressed by his gracefully and cleverly designed yachts, built in an age when other architects designed ugly boats in the interest of speed. Phil seemed intrigued with the project, and worked hard to develop the right drawings. I do wish he had talked me out of certain of the changes, like the





Smith & Rhuland steps *Rose*'s steel tube lower masts in the spring of 1970. The original stern decorations were made of latex, and quickly disintegrated.

Knickle Studios photos, author's coll.

enclosed waist, not on the original *Rose*—which I went along with because of the bank's demand to be able to sell the ship as a restaurant if they had to foreclose on her—and I wish he had not altered the underwater lines. I can only imagine, however, what this already well-known architect thought of the crazy youth commissioning this ship.

The keel, two huge pieces of Douglas Fir from the West Coast, was laid in June 1969. Construction moved fast. Within weeks, a closely-spaced forest of beautiful, heavy, curved frames stood atop the keel. The frames, like the three-inch planking, were made of local white oak, red oak, birch, beech, and maple. Knowing people shook their heads at this, especially since the wood had not really been seasoned. As a practical matter, nearly all North American hardwoods can be expected to rot at about the same rate. Some eighteenth-century ships lasted no more than three years, whereas others survived up to twenty years. I had asked Phil Bolger if there was any advantage to using cold-molded construction, and he advised against it, since the technique was then too new to judge its efficacy in the long run.

Many of the team of about forty workmen came out of retirement to build *Rose*. A local habit, acquired when Lunenburg was a center of Prohibition-era

rum smuggling, was in evidence; we later discovered numerous empty rum bottles distributed throughout the structure of the ship. Dauphinee's Block Shop in Lunenburg—in which all the power tools on three floors were run by enormous leather belts leading to a single steam engine—made many blocks and other fittings for the ship. At Phil's suggestion, the fore and main lower masts were made of steel tubes, whereas the decks and rest of the spars were made of Douglas fir and local black spruce.

Rose was launched in March by Ruth Alofsin, wife of the mayor of Newport. Three friends and I rigged most of the standing rigging in the next month. The bank had serious reservations about the project, so I had to return to Newport for a conference, and missed the ship's first sail. Then the shipyard decided to hold out for a *lot* more money, which I had no way of paying, so we stumbled into some sort of settlement. In May, under the command of Jolyon Byerley of English Harbour, Antigua, we sailed for Boston. The pilot, who came out aboard a tug, expected to earn his fee by directing us to make fast to the tug, but we pulled out charts of Boston dated 1775 and sailed through the maze of islands right into the harbor. Through my inexperience, even though I had sailed all my life we managed to break the main topgallant mast as a puff of wind came out from behind a tall building. A few days later, we were towed to Newport, where we sailed triumphantly into the harbor.

Then things started going wrong. The first berth for which we had a contract was withdrawn, and the next one turned out to be so filthy with coal dust that we had to leave, at which point we were sued for breach of contract by the wharf owner, which left us unable to charge admission anywhere in Rhode Island. In 1971, the ship spent the summer in Boston. We held sea chantey concerts aboard her every Friday evening, and my future wife Cathy liked the concerts so much that she even skipped work on occasion to make sure she was there for them. With the lawsuit settled, *Rose* returned to Newport. By 1973, she was finally settled in a suitable berth, so I could implement the next part of the plan.

I established a tax-exempt corporation, Seaport '76 Foundation, to take over *Rose* from me at cost and proceed with construction of the other four vessels. I picked retired Rear Admiral Jack Wadleigh to lead the foundation. Using the *Rose* as bait, we easily raised about \$1.5 million to build the twelve-gun Continental Navy sloop *Providence*. Unfortunately, I was only one of many directors, and the Executive Director, against my protest, requested naval architect Charles Wittholz to make several changes to the plans I had drawn of *Providence*, which were based on three eyewitness portraits of the sloop that I had uncovered. (My drawings can be found in my 1978 book *American Ships of the Colonial & Revolutionary Periods*.) First, the director wanted her to be fiberglass rather than wood. Then he wanted her a lot sharper "so she can go fast." Finally, he decreed that she should have a much shallower draft. Although she looks good above the waterline, thanks to the changes she has almost no room inside, and, once launched late in 1976, she sailed with a severe weather helm. Due to bad financial management, the foundation was insolvent by 1995, and the ship now belongs to another foundation established by the city of Providence.

In the meantime, *Rose* was invited to Operation Sail in New York in July 1976. I patiently explained to the organizers that all the other tall ships invited were government-owned and had engines, whereas *Rose* was owned by the bank and me, and had no power. Therefore, we would need a tug and an insurance policy. For about eight months in advance, OpSail repeatedly assured me that tug and insurance were in place, but at the last moment they were able to provide neither. They were outraged when we had to cancel the trip. The prelude to Operation Sail, however, had been the catalyst for my friend, Barclay Warburton III, to establish the American Sail Training Association, something that was to have a profound effect on *Rose* later in her career.

To my horror, Seaport '76 decided it did not want to take over *Rose*, and it had no intention of building further ships. The directors were frightened of taking on *any* expensive projects, and *Rose's* maintenance and repair bills were steadily escalating. Since I could not afford to maintain her, I decided I had to sell her. In 1980, she moved to New Bedford, and I moved to Williamsburg, Virginia, for graduate study in history at the College of William & Mary. Alas, the new owner failed to make payments, so I had to repossess the ship, by then much deteriorated from lack of maintenance. The next person to come along took her to Connecticut, but again failed to make any payments, so I repossessed her again. Finally, in 1984, I sold her for a pittance to Kaye Williams of Bridgeport, Connecticut.

Kaye owned Captain's Cove Marina there, and intended that the ship should decorate his marina. Richard Bailey, who had worked for me on the ship, offered his services to Kaye as captain and as chief of repairs to the ship. Two weeks after the sale, Congress changed the rules under which ships like *Rose* may operate. When I had her, *Rose* was permitted to go sailing for fun, and we did so occasionally, but she was not permitted to carry paying passengers. The new legislation permitted *Rose* to charge for sail-training cruises, provided she met Coast Guard requirements. Kaye raised about \$2 million through his HMS *Rose* Foundation, and had Richard rebuild the ship with engines and accommodations. Most of the work was finished in time for the ship to take part in Operation Sail in honor of the Statue of Liberty's birthday the following year.

Also around 1986, a civic group from Aberdeen, Washington, contacted me to design copies of the sloop *Lady Washington* and the ship *Columbia*, the first American vessels to visit the West Coast. I had become fairly well-known thanks to *Rose* and *Providence*, and had just published a revised version of my book. I designed preliminary plans, and put further work in the hands of naval architect Ray Wallace, whom I recommended to them. In the end they ran out of money, and so built only *Lady Washington*.

Back aboard *Rose*, Captain Richard Bailey devised a complicated program of one-week sail training cruises for thirty-one trainees at a time, ranging in age from eight to eighty, and *Rose* sailed the length of the East Coast many times. She ranged as far north as Hudson's Bay, made two cruises in the Great Lakes, and spent two seasons in the Caribbean. She took part in the 1992 Operation Sail in commemoration of Columbus, and looked perfect at the 250th anniversary reenactment of the capture of Louisbourg, Nova Scotia, in 1995. She spent one glorious summer cruising with other tall ships around Western Europe, where she even had a baby, as it were: she inspired Rochefort, France to com-



The Rose, at right, a replica of an 18th-century British warship, was part of yesterday's Parade of Sail in New York Harbor

With the World Trade Center behind her, *Rose* sails onto the *New York Times* front page on July 5, 2000. The photographer did not capture her signal flags, which announced "It's a Girl!" in honor of Capt. Bailey's new daughter.

Photo by Keith Meyers, courtesy New York Times

mence a full-size copy of the frigate *l'Hermione*, which had carried Lafayette to America, and construct her in their eighteenth-century dockyard buildings. For them, the process is clearly the most important part: construction will take about twelve years.

At various times, *Rose* was chartered at pierside in New York by W. W. Norton & Company, American publishers of Patrick O'Brian's books. O'Brian came in person to autograph books, and at one point I'm told he observed that *Rose* could stand in well for the frigate *Surprise* in his books. His chance remark was perhaps what set the ball rolling for another chapter in the ship's life. Richard had the ship repainted at that time to O'Brian's specifications.

Rose's last big event under Kaye Williams was Operation Sail in 2000. Kaye then announced that his foundation, rather than appointing new directors, would offer *Rose* for sale. Richard arranged a sale to a non-profit group, Tall Ships Newport, that would continue and expand the sail training program. The final papers were on the verge of being signed when Twentieth Century Fox offered to purchase the ship for one or more O'Brian films, for considerably more than Tall Ships Newport could pay.

Fox kept the ship at Newport for a full year before deciding to move her to California. In a move that perhaps only Hollywood people can understand, they ordered her out to the West Coast in the dead of January, the worst weather of

the year. She arrived safely, and after making mostly cosmetic changes to the ship, Fox shot *Master & Commander: The Far Side of the World*, starring Russell Crowe and directed by Peter Weir.



Why did I choose to build *Rose*, which was, after all, a British ship? Of course, she was intended to be one of five vessels, the other four being American, but the little-known story of the original *Rose* wraps around some of the most important events leading to American independence.

Rhode Island differed from other colonies in being a special experiment to see if religious freedom and tolerance could actually work. Charles II also granted her the right to elect her own governors, who paid more attention to the desires of their electorate than to their king. Rum, made from molasses, was the chief food preservative of the day, but British colonies were required to buy it only from other British colonies. French colonies like Haiti were not allowed to make rum out of their molasses, so they worked out a system of “donating” their molasses to Rhode Island, which turned it into rum for export. Rhode Island became extremely wealthy, Newport blossomed, and Brown University was built on the proceeds of this illegal trade.

In 1763, however, the newly-crowned, micro-managing George III ordered the Royal Navy to stop Rhode Island from importing Haitian molasses, the only thing this resource-poor colony knew how to do. The Navy, not wishing to intimidate British subjects, sent the six-gun schooner *Saint John* to Newport. The schooner started confiscating all smuggling craft that entered the harbor, so Governor Stephen Hopkins ordered her to depart. When he was refused, Hopkins ordered her sunk. The damaged schooner departed on July 9, 1764—victim of the first shots of resistance fired against British authority in America, a dozen years before the Declaration of Independence.

The patient British sent a further three small vessels to enforce policy; each was burned by mobs. The last was *Gaspee* in 1772, and the subsequent operations of the British commission of enquiry were so resented that Stephen Hopkins (by then Chief Justice) established the Committees of Correspondence in 1773 to fashion a response. When they failed to work well, Hopkins persuaded the colonies to establish the Continental Congress the following year.

The original *Rose* comes into the story in 1774, when the British decided to send a larger warship. The twenty-gun *Rose* arrived at the end of the year, wiped out the smuggling industry in weeks, and remained on station to make sure the industry stayed dead. By July, 1775, most of the working population of Newport moved to Connecticut due to unemployment, and the legislature petitioned Congress to found a national navy to dispose of *Rose*.

The new navy (originally only the twelve-gun sloop *Providence*), mushroomed into a tiny flotilla by the following spring, and arrived at Newport on April 8, 1776 after a bungled raid in the Bahamas. Luckily for them, *Rose* had sailed the previous day, unaware of their approach. The Rhode Island legislature decided to give the British no legal reason to return, so they declared inde-

pendence on May 4, 1776, two months ahead of the rest of the country. Thus, *Rose* quite unwittingly caused the founding of the Continental Navy, then by a fluke of timing enabled it to survive, and spurred Rhode Island to declare independence.

The original *Rose* played other, smaller, parts in history, being selected by Cook in 1768 for his first voyage of Pacific exploration, but dropped in favor of the flat-bottomed *Endeavour*. In 1779, old and rotten (though far younger than the replica is today), she carried the report that d’Estaing’s powerful French fleet was about to attack Savannah, Georgia, and was ordered sunk to block the channel, preventing the French from sailing close enough to Savannah to capture it. Dredging operations have removed all traces of the ship over the years, but the Savannah waterfront is decorated with cannons believed to have been salvaged from *Rose*.

Of course, I am prejudiced, but though I have the highest regard for the writing of Patrick O’Brian, I think the career of the original *Rose* is important enough that she should be returned to her original name. Today, *Rose* and I have evolved. While I have kept my original name, and operate a bed-and-breakfast with my wife in a colonial-style house in Williamsburg, *Rose* appears set for the foreseeable future to remain part of the Maritime Museum of San Diego’s fleet as *Surprise*, where it is hoped she’ll sail again.

If I had it to do over again, would I have done anything differently? Knowing what I know now, I would have insisted on cold-molded construction, which is stronger and more durable than traditional construction. I probably would not have deviated as much from the 1756 design, especially in the levels of the decks. And, perhaps even more important, I would have tried to restrain myself from proceeding without *far* more extensive financing than was ever available to my younger self.

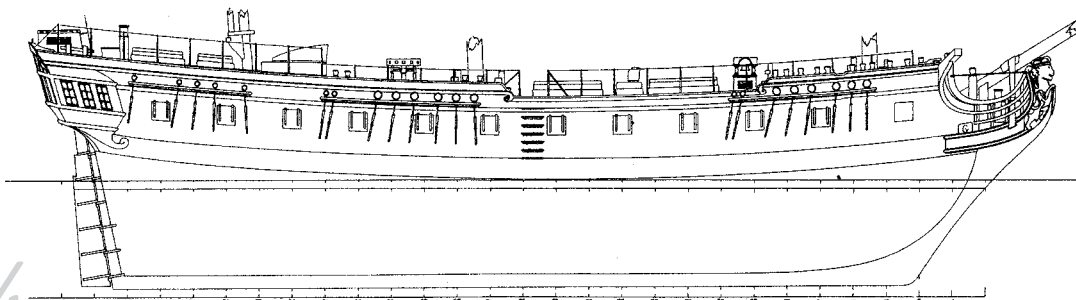
With Nova Scotia snow on the ground behind her, *Rose* floats free in March 1970. Her lion figurehead was carved by Newport’s David Clarke. According to the author, “I am told that it fell off when the rotting ship was being towed to Bridgeport in 1984, and that some beachcomber has it.”

Knickle Studios photos, author’s coll.



Designing the Ship *Rose*

Philip C. Bolger



The *Rose* project began for me in January 1969 with a telephone call from John Millar, asking whether I'd be interested in working with a Newport group to produce a ship. He followed up in a letter dated January 8 with some description of *Rose*, but made it clear that *Rose* was only one of several "possible alternatives," of which he listed two naval ships of about the same size: a scaled-down *Boreas* (Nelson's ship in the West Indies) and the 1748 *Boston* (the oldest-known plan of an American-built ship), or the smaller *Cyane*, which had been captured by *Constitution* in 1815. He emphasized, however, that "we prefer *Rose* for her connection with Newport."

I responded on January 10 with a rambling two-thousand-word letter discussing all aspects of the project as I saw it, also favoring using *Rose* as a model. "She's a good-looking ship," I wrote, "and plain enough to be a practicable proposition." My letter continues:

If I understood you correctly, this is not to be a scholarly replica like Baker's design for the *Mayflower*, but as good a vessel as can be made that will look like the original when afloat, including as far as possible the appearance on deck and below decks. It has to be so if anything more is to be done with her than tie her to a wharf to look at, as of course by modern standards—especially those of the Coast Guard officers who will be passing on her in one way or another—none of these old vessels were seaworthy, the word now generally used to mean foolproof. Apart from legal complications I myself have no ambition to be the author of another incident like the foundering of the *Albatross*, the root cause of which was the vessel did not have freeboard appropriate to her weight; not that her center of gravity was too high, but that when she got knocked down hard, as can happen no matter how much stability a vessel has, she put too much of her deck, including some hatches, in the sea.

The *Albatross* was at that time the primary cautionary tale to builders of large traditional sailing vessels, a role since taken by the tragic 1986 loss of *Pride of Baltimore*. *Albatross* was a steel brigantine which, while working as a sail training vessel in 1960, was knocked down, flooded through her open main hatch, and sank within sixty seconds.

"To get enough buoyancy to make sure this can't happen," my letter continues, "we deck her completely at spar deck level, flush from bow to stern, or with one or more small breaks as the *Rose* plan shows." The original *Rose* had most of her battery mounted on an open gun deck through the middle part of the ship, with high bulwarks to protect the gun crews but no decking or galleries above the guns. Her watertight integrity for reserve stability purposes extended only up to the gun deck, and so was dangerously low by modern standards. She relied on expert and alert officers and crew to compensate for the deficiency.

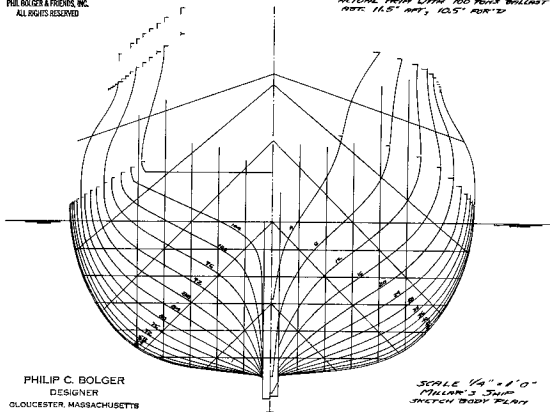
I suggested that the new ship could be made lighter and shallower than the original since she would have no battery. The guns were probably "long nines," two meters or more long and weighing a ton each, and she had to carry their ammunition and other supplies for long periods to fulfill her primary function of performing patrol and escort duties in distant waters. A lighter and shallower ship would have been cheaper to build and substantially less expensive to maintain—a point I kept returning to this in the first weeks of discussion—but this was rejected on various grounds. I acquiesced at a fairly early stage, only stip-

Since the Admiralty draft of *Rose* showed nothing above the base of her masts, the author relied for his rig design on Longridge's *Anatomy of Nelson's Ships*, with some practical help from Alan Villiers' *The Way of a Ship*.

1971 photo by William Lanagan, MMSD PC2528-B, courtesy John Millar; 1969 drawing courtesy of the author

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DISPLACEMENT 91.3 TONS DRAFT 5'6" 7/8"
ACTUAL DRAFT WITH 100 TONS BALLAST
NOTE: 16.5" AFT, 10.5" AHEAD



ulating that I should “be free to deal with the underbody according to my own methods” of design. To this, John only noted that “it is most desirable...to give maximum restaurant floor space,” because financing for *Rose* depended on her ability to serve as a floating restaurant if the need arose.

Early in February we met in Boston and discussed construction. In correspondence John had raised the possibility of building her in steel, but this was finally rejected in favor of wood, using laminated frames and other modern methods if the still-to-be-chosen builder considered it economical. I had pressed for selecting a builder before freezing the plans, to allow adapting the design to whatever method the builder could work with most efficiently. We found ourselves in good rapport on this point.

I hurriedly turned out a set of preliminary plans, including outboard profile, inboard profile, and main and spar deck plans, with some representative sections and a tentative spar plan. Though many minor changes were made later, these drawings practically defined the ship from then on.

One common misconception about my work on *Rose* has bothered me ever since: the notion that, because an Admiralty draft of *Rose* existed, my design efforts contributed little. Admiralty drafts, for those unfamiliar with the term, are outline reference drawings of ships that came into the Royal Navy’s dockyards. These drafts were intended to record the hull forms for future study, and were not building plans. They omit lofting offsets, include minimal construction detail and, in the case of *Rose*, no spar plan beyond indicating the location of her mast steps. No modern shipyard could build from these plans as they stood. On “my” *Rose* it took about 1,500 given dimensions to define the hull shape sufficiently to enable a builder to lay her down.

The drawings accompanying this article are from my original package, and make clear my intention to deviate from eighteenth century practice by changing from the short, blunt, bow and long, gently-sloped afterbody of the period to a matched bow and stern, with a steeper run aft and less-steep bowlines forward. This involved a hollowing-out of the forward frame shapes, which no eighteenth century designer would have tolerated. The change followed the practice of a hundred years or so after the designing of the original *Rose*, to the present day, and unquestionably improved her performance. The alteration of the above-water shape was not very noticeable—a slight hollow in her forward waterline and a visible above-water bilge in her foremost frames. I also smoothed-up the sections, since I was using present-day fairing methods and wasn’t constrained by the compass-controlled drafting of the eighteenth century. This alteration was slight and was done for drafting and lofting convenience.

John took these plans to England, where he did not find much interest in the project. In the meantime I approached Harvey Gamage in South Bristol, Maine, who was interested, but who had too much work on hand to offer delivery as soon as the Newport syndicate had in mind. John was in touch with Smith & Rhuland in Lunenburg, Nova Scotia, because he had been impressed by their work on the representation (very far from a replica!) of the *Bounty*. Rhuland had capacity, a reputation for fast and sound work,

and enthusiasm for the project. His preliminary estimate was well within the scope of the syndicate, and the project went forward on the assumption that he would build the ship.

I proceeded with the working plans, in close touch with Fred Rhuland. He was pleased with the plans in general, and said the lofting offsets “worked out exceptionally well.” He suggested that the ship use approximately the same construction as the fishing vessels he’d built on a similar scale, with sawn frames of local rock maple and all else of Douglas fir from British Columbia. (Had *Rose* been built with laminated frames there would have been a small saving in fabricating the timbers.) I flew to Lunenburg to confer with Rhuland only twice, partly because it was clear that he knew what he was doing and did not need the designer’s intrusions, and partly because I was at full stretch trying to keep the plans ahead of the ship. (I recalled how, on a government project I had worked on as a junior draftsman, I’d been sent down to the building site to see *how* a certain bulkhead had been built before designing it.) I was also not in good health at the time. The only mistake that happened in my absence was that the quarter galleries were built with less tumble-home than the plans called for, an error of aesthetic significance only. A matter on which I wish I had taken a stronger stand was the deletion of steel hull strapping over the frames, a time-consuming feature to which Rhuland vehemently objected. If it had been done, and if the steel had lasted well, this would have prevented the flattening of her handsome sheer line over the years. I did insist on strapping the deck, which was easier to execute.

We barely got away with the just-in-time delivery of plans, some of which required hurried changes. I have a letter dated July 30, 1969, to Hood Sailmakers in Marblehead, Massachusetts, who were doing a superb job on her sails: “In working up the yokes, trusses, and brace angles, I’ve found that the crossjack yard lands on the maintopgallant backstay and must be shortened.” This required the foot of the mizzen top-sail to be shortened by three feet from the dimension given on my sail plan. Another letter contains a comment that proved to be prophetic, made with regard to which, if any, of the designed sails could be dispensed with initially to save expense: “The maintopgallant staysail would be the next thing to eliminate if you’re retrenching, as while it will be a very effective sail indeed it is certainly going to take the topgallant mast over the side sooner or later.”

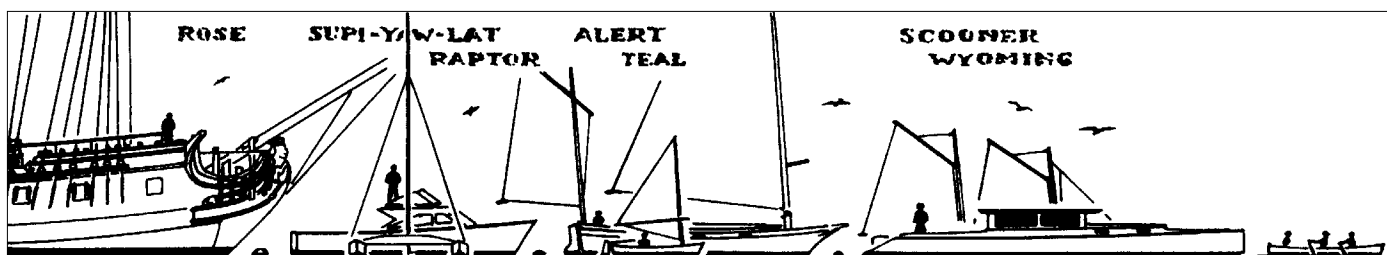
As the ship took form, there was discussion of peripheral matters such as paint schemes and other details. For instance, when the matter of anchors came up, I did research which led me to design a fabricated anchor whose appearance resembled one from the period, but in the end Rhuland found a couple of stock anchors from a defunct Banks fishing schooner. They were probably grossly inadequate, but good enough as a stop-gap. I designed, and Rhuland’s small-boat shop built, a 28-foot pinnace and a 16-foot yawlboat to be carried on deck. Both of these were arranged to optionally carry sizable outboard motors in the fond hope that they would be some use in docking the ship.

There was some argument about the deadwood, which I had tried to reduce on grounds that its shrinking and swelling was an unnecessary stress on the



Rose was the last major vessel constructed by Smith & Rhuland.

From the author's 1982 book 30-Odd Ships; opposite, Knickle Studios photo, courtesy John Millar



The author continues to design interesting vessels—albeit rather smaller ones. *Rose* was his Design #225; current projects are in the 670s. His pride in *Rose* is evident above, in the present letterhead of the architectural practice he has shared with partner Susanne Altenburger for a dozen years.

author's coll.

structure. Rhuland resisted successfully on this, keeping to his standard arrangement. Meanwhile I was sweating out the leads for hundreds of pieces of standing and running rigging, derived from various precedents and checked by Erik A. R. Ronnberg, sometime mate of the four-masted bark *Abraham Rydberg*. Erik A. R. Ronnberg, Jr., then just starting his career as a world-class historical model-maker and writer, was immensely helpful in suggesting sources and critiquing the design in general. (Later he, I, and Rhuland got up a proposal for the *Pride of Baltimore* project, which was not considered because we could not arrange construction in Baltimore, and might have been rejected anyway because we would have insisted on “out of period” proportions to give the design an acceptable range of stability.)

A railroad accident delayed delivery of the spar stock just enough for me to specify some last-minute corrections before any wood was cut. For instance, the spritsail had been deleted, and the spritsail yard reduced to what was needed as a spreader for the jibboom guys. Millar pointed out that the designed dolphin striker and martingale—a strut and stay holding the end of the jibboom against the tension of the foretopgallant stay—were out of period, and they were replaced by a somewhat less advantageous lead to the cutwater. In the same spirit of seeking authentic appearance I designed no spreaders on the 176-foot maintopgallant backstays.

The launching was a gala affair, with high provincial officials present, and John Millar resplendent in an eighteenth century lieutenant’s uniform. A royal standard—probably illegal but very beautiful—was displayed among other colors. I was prowling the ship, having authorized launching her unballasted, but now worried about a strong wind right on the beam. I suggested that it would be prudent to keep the gunports closed, and Rhuland agreed. I got down alongside the ways for a good view of her behavior as she took the water, but she proved amply stiff in the event.

I meant, and was invited, to sail over to Boston in her on her first serious trial under sail, but for the time being I was too run down to face it, and missed an exciting episode. She arrived off President Roads in a brisk and squally northwest wind, having outsailed the motorship supposed to tow her, and proceeded to beat up into Boston Harbor, logging eleven knots close-hauled with little stern wave (vindicating my shortening of her run) and tacking without difficulty. There was some hitch in the gear

that prevented bracing the course yards to the intended limit, and too few in her crew to see properly to the topgallant yards, so she looks a little haywire in the photos. Her speed and handiness in light flotation and with no propellers to drag was impressive, however, and startled some yachts that attempted to escort her in. But the new rigging was visibly stretching and the state of her upper spars looked more and more precarious with each tack, especially as she continued to carry the big maintopgallant staysail, which I had warned about several times. At last there was a sharp squall; she heeled quite a lot—perhaps fifteen degrees or more—and the maintopgallant mast broke about three feet above the cap of the topmast.

I went aboard when they got her alongside and the gear more or less secured, and was peremptorily ordered aloft to assess the damage. I have acrophobic tendencies, and I've seldom done anything as hard as that climb, though it's actually less than ninety feet. I found that the mast had gone at a knot in the grain, but I don't think it had a chance in any case with that sail set, and the backstay ineffective due to stretch. The basic idea of a topgallant mast is that it's a "fail-safe" feature, which will usually snap rather than endanger a ship. I read through the journal of Captain Cook's three-year world cruise in the *Resolution*, noting that this legendary sailor endured seven breakages of topgallant masts, and treated each as a very minor incident, with broken masts replaced at sea within a day or two. My sympathies were with *Rose's* skipper, who was trying to put on a decent show, and almost got away with it until that last little squall. And, after

The author watched anxiously to see how *Rose* behaved the instant she hit the water.

Knickle Studios photo, courtesy John Millar



Looking “a little haywire,” *Rose* blows into Boston for her first major public appearance. Her maintopgallant mast snapped shortly after this photo was taken.

author's coll.

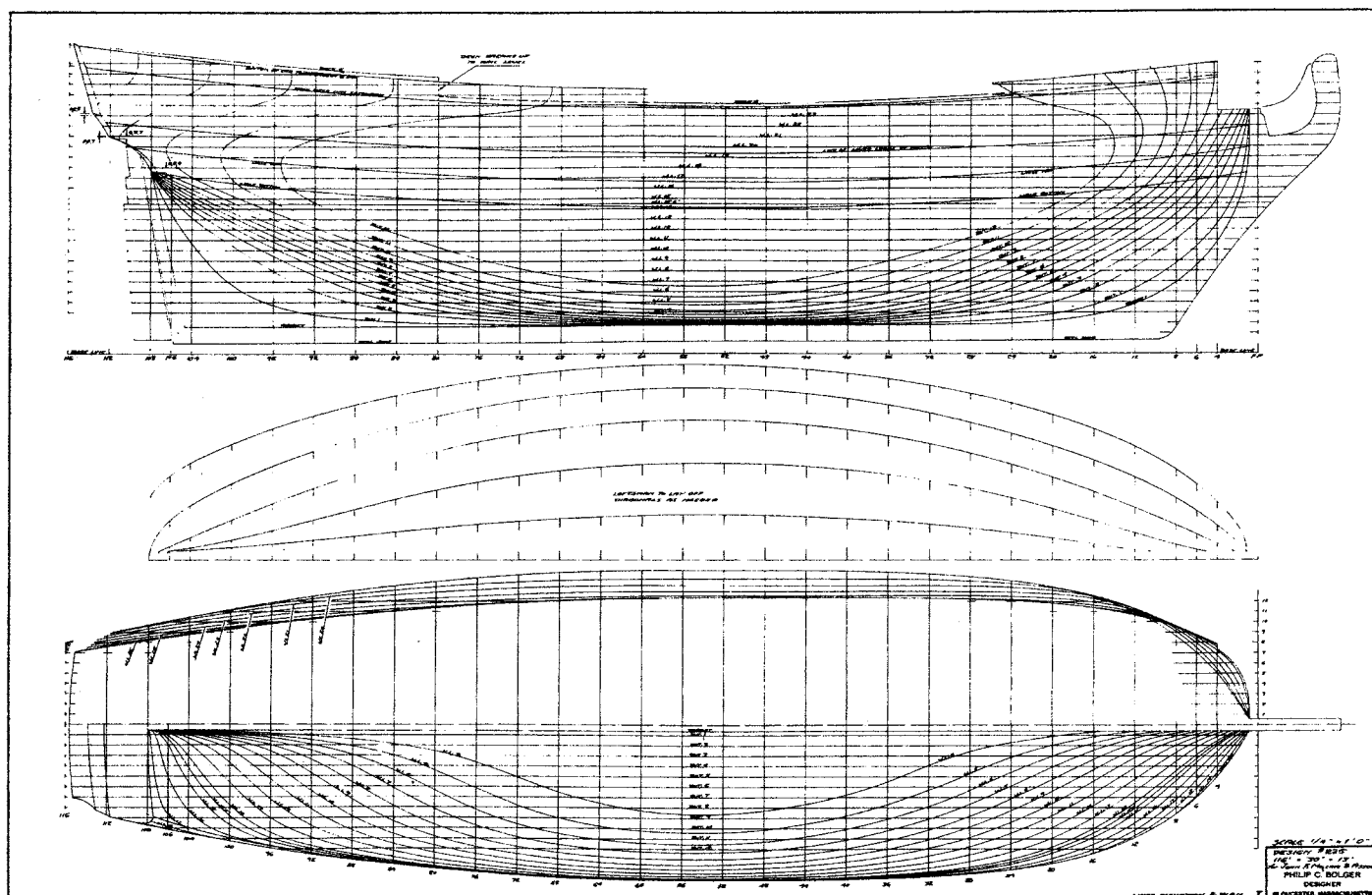


all, not much harm was done due to the forgiving qualities of this rig.

Later that summer I had a pleasant sail in her off Newport, with everything in good order and working well, at least in the light airs that day. She was not well-found for going to sea, with minimal gear and much makeshift work noticeable. As she returned up the bay she exchanged black powder salutes (dense clouds of white smoke) with the schooner *Sbenandoah*, looking noble indeed. I think she was not under sail again for a long time, as the syndicate proved to be badly undercapitalized and moreover was embroiled in a lawsuit with the builder, who had hugely underestimated the cost of the ship and was trying to recoup with a long list of extras over the contract price.

Rose went through various vicissitudes, gradually running down in condition, and was finally sold in 1988 to a foundation in Bridgeport, Connecticut, which did an elaborate rebuild, putting her for the first time in genuinely seaworthy condition. I supplied prints of the original plans as they requested, including the intended location for engines and prop shafts. They decided, unfortunately, not to keep me informed of their work and supply me with copies of their plans, as I had asked. This was perhaps related to a policy that had developed of publicly minimizing my design's considerable differences from the Revolutionary War-era ship. I was not consulted beyond requests for many sets of plan prints, and not invited to look at her. One day I noticed that she was in Gloucester Harbor, and went alongside in my utility boat and asked permission to board. That was granted, but there was no one aboard who knew my name and I was not encouraged to go below or aft.

My final connection with *Rose* came when a representative of a California film production company called at our office requesting a set of plans of *Rose* to use in converting her to play the part of HMS *Surprise* in the film *Master and Commander*. My partner Susanne Altenburger and I named a nominal



price, and eventually were confronted with a rather abstruse legal document which struck us as authorizing them to do anything with the plans and prohibiting us from any influence on what was done—while taking responsibility for the outcome. I did not sign and had no more to do with the film, which was not badly done, although I thought they missed out by not sailing the ship more and harder, as opposed to relying on studio and computer fakery.

It's worth mentioning that what sent John Millar to me in 1969 was a cover story in *Popular Boating* about a 16-foot rowboat I had designed for my own use, an elaborated Whitehall boat with a strong period flavor. I had taken a lot of pains with the modeling and details, including a gilded stern ornament. This boat indulged an impulse to design and own a "gold-plater," no expense spared, just once. I'm glad that one of its satisfactions was that it opened the opportunity to design a big square-rigger—again, just once—and indulge a life-long interest in nautical history. I did not seek or accept any more commissions of this type, being rather more interested in the future than the past. As *Rose* began her sailing career I was designing the fast aluminum diesel cruiser *Berserker* for an Icelandic client, and sailing my experimental leeboard sharpie *Pointer*. Today, I continue design work, now in my fifty-third year of full-time independent practice.

The "scholar's scholar" Howard Chapelle once scorned *Rose* as "another non-replica," as is clear in the ways her hull differs from eighteenth-century norms. The author, however, disagrees with those who think that, in the interest of authenticity, "the stern should go faster than the bow."

from the author's 1982 book *30-Odd Boats*

Creating *Surprise*

Leon A. Poindexter



22

Maritime Museum of San Diego

Clearly, the *Rose* was the sort of ship Peter Weir was looking for. The Australian director was planning to film *Master and Commander*, based on Patrick O'Brian's popular Napoleonic War-era sea stories. Weir and the film's producers had traveled the world looking for a suitable ship to play O'Brian's frigate *Surprise*, and here they stood on a cold winter's day in 2001 on the weather deck of HMS *Rose* in Newport, Rhode Island. The *Rose* was undergoing her regular haul out, and as her shipwright, I was on board when Captain Richard Bailey introduced me to Peter Weir. It was immediately clear that high among the director's priorities for the film was to capture the rich detail of O'Brian's ships and men, and that the ship herself was to be more than just a movie set, but virtually another character.

To look like HMS *Surprise*, however, *Rose* would require extensive changes. The *Surprise* of Patrick O'Brian's novels was based primarily on a real frigate that had begun her life as the French *Le Unité*, built in Le Havre in 1794. In 1796, she was captured by the British, renamed, and commandeered into their own navy.

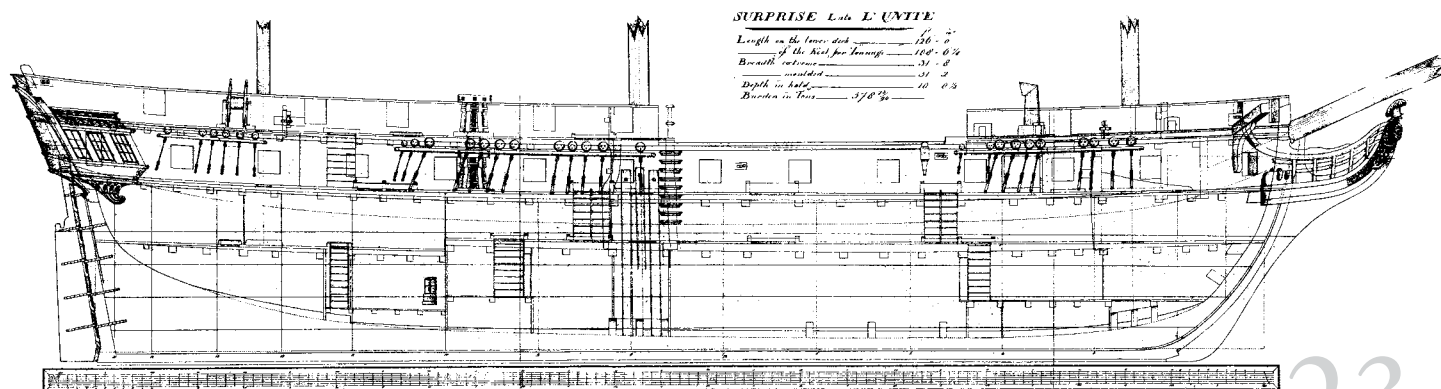
We obtained a set of the 1794 *Surprise*'s lines, drawn by the Royal Navy dockyards after her capture, from the National Maritime Museum in Greenwich. Comparing these drawings with the lines of the original 1757 *Rose* and the lines of our *Rose* replica, we found we had a close match. The real *Surprise* was only a few feet longer than the *Rose* replica, with about the same beam and draft. But there needed to be significant changes, since the director made it very clear that he wanted a high degree of historical accuracy and period detail. The original *Rose* predated the *Surprise* by about forty years, so her old-style square beakhead bulkhead had to be changed to the rounded bow design characteristic of the end of the eighteenth century. The entire weather deck had to be stripped of twentieth century superstructures and raised hatch coamings. She needed to be given the appearance of an open waist and needed new bulwarks, hammock nets, a double ship's wheel, a new transom, stern and quarter galleries, and carved head rails.

*"She was...
a trim, beautiful lit-
tle eight-and-twenty,
French built, with a
bluff bow and lovely
lines, weatherly, stiff,
a fine sea boat, fast
when she was well
handled, roomy and
dry."*

Patrick O'Brian, HMS *Surprise*, 1973

In 1970, the year *Rose* was launched, O'Brian published *Master and Commander*. The ship was already over 30 years old when an actor took the photo at left during a break in filming. Her appearance had been aged further by Hollywood craftsmen.

photo at left courtesy Al Sorkin; 1796 lines of HMS *Surprise* courtesy National Maritime Museum, Greenwich, England



A glance aloft revealed much more to be done. Our *Rose* needed re-rigging from her sailing school rig, which too-closely resembled a late-nineteenth-century one. We needed to eliminate details such as crane irons on the course yards and retrofit them with old-style jeer blocks. All the wire shrouds, too, had to be thickened so that they matched the diameter of an old hempen standing rig. Our *Rose*'s sails, old and obviously made of a synthetic material, required replacement by a whole new set of sails, cut and sewn to eighteenth century specifications by Jim Brink of California. Royals and stuns'ls were to be added, and new fighting tops built.

I mentioned to Peter Weir that I had recently built a full-scale whaleship's fo'c'sle and fore deck for an exhibit in the New Bedford Whaling Museum. To my astonishment, Peter actually wanted to see it, so we piled into a limousine—the first time that I had set foot in one. After making sure there was no sawdust in my pants' cuffs or fresh red lead on the seat of my jeans, I climbed aboard and started in on my best “sea stories” about working on the *Constitution* and the schooner *Ernestina*, and sailing to the Caribbean on the schooner *Roseway*. And we chatted about life at sea on an eighteenth century frigate.

I was hired shortly after this initial meeting. The director began receiving my packets of research material, created using the walls of my Newport motel room as my drawing board. I compared the lines and deck plans of the *Rose* to the real *Surprise* and drew preliminary sail and deck plans. A long series of phone calls began. In fact, I made so many calls to New South Wales that the phone company called me to let me know that someone was using my credit card to call Australia. I live on a farm, and one day I got a cell phone call while visiting my neighbor in his hen house. I quite enjoyed telling him to please keep his chickens quiet because “Hollywood” was calling.

After the great excitement of the first meetings, the project seemed to fade away. Months went by until, suddenly, it was on again. Peter Weir got his frigate, and I was informed that they had decided to “pull the trigger.” I met in Gloucester and Newport with the head of Fox Studio's marine department, and began to look at possible East Coast shipyards for a construction site.

The first phase of my work was to refit and re-power the ship for her trip through the Panama Canal to San Diego. The *Rose* desperately needed structural and mechanical work, including new mast partners, new engines, bilge piping, some new planks, caulking and copper sheathing in the bow, all undertaken on the marine railway in Newport. We began work in November, just in time for the cold New England weather.

The *Rose* left on January 1, 2002 for the Canal, and I left for Hollywood a few days later. Literally waiting for my ship to come in, I worked with the Art Department at Fox Studios in a suite of offices apparently overlooking a street in lower Manhattan—the set for *NYPD Blue*.

On the first day, they showed me plans the Art Department had drawn for the *Surprise*. They looked, unfortunately, more like an overly-carved “Disney-fied” pirate ship than a frigate of the Napoleonic era. Also, the

Rose's 20th century features were soon gone.

author's coll.





Peter Weir, center, stands with his lead actors: Paul Bettany, Russell Crowe, and HMS *Surprise*.

courtesy 20th Century Fox

draftsmen mentioned that the height between the deck and the overhead had to be six and a half feet. “Well, not if it is to be anything like reality,” I told them, pointing out that the real *Surprise*’s gun deck was only five feet high—as our copy of the Admiralty draft we had gotten from Greenwich showed. Fox’s Art Department people were horrified: “We can’t do five feet—we’ll never get the camera equipment in that space. Can’t you compromise?” We settled on five feet, seven-and-a-half inches, because I am five foot seven; the extra half inch let me walk under the beams without having to duck.

Research quickly backed up the low headroom. I came across a letter from a Royal Navy surgeon who requested permission to conduct a study to determine if the high rate of “lunacy” in the navy was related to the fact that the men were constantly smacking their heads on deck beams. (In a nice detail added to the script, the character of Dr. Maturin does just that.) So, when filming began, the cameramen wore motorcycle helmets. Peter Weir even had a deck beam made of foam core installed across the entrance to the film’s suite of offices, so that everyone, including the FedEx man, learned to duck.

Those first drawings were put aside, and I went to work in the Art Department as technical advisor to the set designers. The *Rose* was redesigned based on the Admiralty *Surprise* drawings. The studio engineered and designed a full-sized identical copy to be built in Baja California in the middle of a four acre, seventeen-million-gallon tank created for the filming of *Titanic*. This landlocked version of the *Surprise* would be completely three dimensional. (To save the cost of building both sides of *Titanic*, by contrast, the film makers had reversed the negatives to show her other side.) The tank version of the *Surprise* sat atop a forty-foot gimbal, the largest yet used in film making, to give her the proper rolling and pitching motion “at sea.” This posed an interesting engineering problem: what should be done about wind pressure on the sails of a ship that doesn’t move? The energy transferred down the masts could exert several extra tons of stress on the gimbal mechanism. The solution was simplicity itself: if wind speed exceeded a certain amount, a warning would be given and the tank *Surprise*’s sails struck. Experienced



The author points out timbers to be cut away in *Rose's Great Cabin*, 2002. His "official" title changed several times during production, from Technical Advisor to Lead Shipwright to On-Set Consultant and even to "extra."

author's coll.

crew members of the *Rose* were on hand to furl sails at a moment's notice, and included in the production as "extras." Because some of the *Rose's* best topmen were women, however, the hair and makeup departments provided sideburns, mutton-chop whiskers and facial stubble for the ladies. The signs on the doors of the heads read, "Men" and "Women with Sideburns."

The real *Rose* was used in shots of the *Surprise* at sea, but the great majority of shots that were closer up and on deck used the tank version, because it would be virtually impossible to shoot entirely at sea on the real *Rose*. Fitting the principal actors, over a hundred extras, and technical and support crews onto a ship only about 110 feet on deck would be one problem. Camera gear, too, would interfere with the safe operation of the ship, sun and sails would play havoc with lighting, and daily trips in and out of port would add hours to each day's filming. In the movie business, time truly equals money; shooting primarily at sea would be a financial drain because the production would be at the mercy of the weather. Finally, actors can't perform when they are seasick—and there was a lot of that.

The tank version provided the ability to shoot at any time in any weather, and from stable platforms. Storm scenes were shot with the ship rolling and pitching on the gimbals, with two jet engines with fire hoses

in front of them producing wind and driving rain, and five-hundred-gallon dump tanks on fifty-foot towers to create seas breaking on deck. In the background, however, filmmakers would add one touch of authenticity: actual footage taken on the *Endeavor* when she rounded Cape Horn in March, 2002.

Only in the tank do storms happen on cue. While I was warm, dry and enjoying my stay in sunny Hollywood, the *Rose* was in serious trouble. The worst time to leave Newport for a two month voyage to California is the first week of January. Within days they encountered huge storms, with winds over seventy knots. The worst of the damage actually occurred afterwards. While sailing in fine Caribbean weather, the storm-weakened main topgallant mast blew to pieces, taking the topgallant sail on its yard and pitching it into the braces of the fore topgallant, breaking that yard too. The topsail was a mess and impossible to strike. With night falling, yards, sails and rigging dangled like "a mobile from hell." Repairs and jury rig were made at sea in the dark. In the morning, they discovered that the main topmast yard was also broken. Fortunately, no one was hurt.

Meanwhile, the entire movie crew moved operations from Hollywood to

Fox Studios in Rosarito, Mexico, a forty-acre complex of workshops and sound stages built for the filming of *Titanic* and *Pearl Harbor*. The main feature was the four acre, four-foot-deep “horizon tank,” looking across the tank there seemed to be no line between its edge and the Pacific. The ship in the tank appeared to be at sea—but it was surreal to see cranes and heavy equipment apparently being driven about in the ocean.

The art department relocated to a building the size of an aircraft hanger. The staff had expanded to seventeen draftsmen and artists, who drew hundreds of plans by hand. At the director’s urging, I researched details on the other interior sets as well. Since the real *Surprise* was built by the French, the design of the ship’s knees and the underside of the decking would have all been in French style, while features likely to have been changed in the Royal Navy’s dockyards—belfry, hammock netting, yards, shot racks, etc.—would be British. The gun deck, berthing deck, great cabin and orlop decks were built in their entirety, rather than in the small sections typical of moviemaking. The *Surprise*’s gun deck set, complete on both sides, was constructed on a bluff overlooking the ocean so that the horizon appeared in the gallery windows, and was also mounted on a gimbal. It had chain pumps for pumping the bilges, elm tree pumps, and cable lifters; inside these sets, all appeared exactly as it would have in 1805.

Shipwrights know how to do ships; these creative people knew how to do movies. Our interactions were an education for them, and for me. I worked with each of the set designers as they did their drawings, often hovering over their drawing boards, making rough sketches, answering questions, and checking finished blueprints. I often found it awkward to present small details, thinking “they will never go this far” for accuracy, but about 95% of the time they did. Peter Weir was particularly interested in showing shipboard life as well as action. One day he asked me where the head was supposed to be. “You’re going to love this,” I told him; “it is forward in the head rails for the enlisted men and aft, in the quarter gallery, for the captain.” I never dreamed he would actually show this in the film, but both are there!

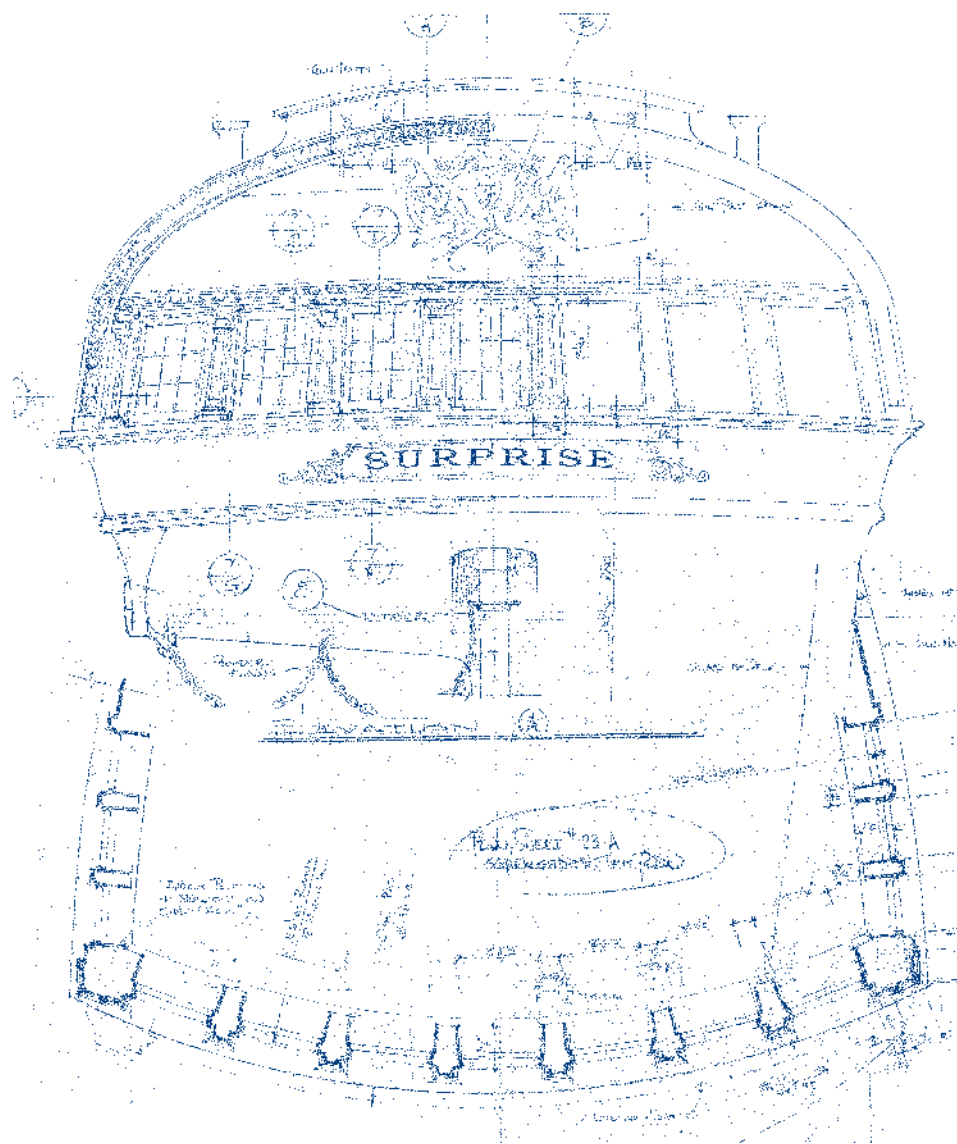
After the sets were designed and construction begun, I went to meet the storm-battered *Rose*. She was put into a WWII-era floating dry dock at Southend Shipyards in San Diego for her bottom and topside work and the basic rigging of the lower masts. I finished putting together a twenty-five-man shipwright crew only days before the haul-out, calling on men I had previously worked with on the East Coast, plus some good people recommended on the West Coast.

We only had about three months before filming on the ship began in mid-June to complete the items on our list: the round bow, new upper stem, new head rails, wash cants, new bowsprit, closed-in bulwarks, new fighting tops, two new cut-in gunports to in, an open waist, most of the quarterdeck to replace, new catheads, bollard heads, a new stern, stern- and quarter-galleries,



The tank-bound *Surprise*, 2002.

author's coll.

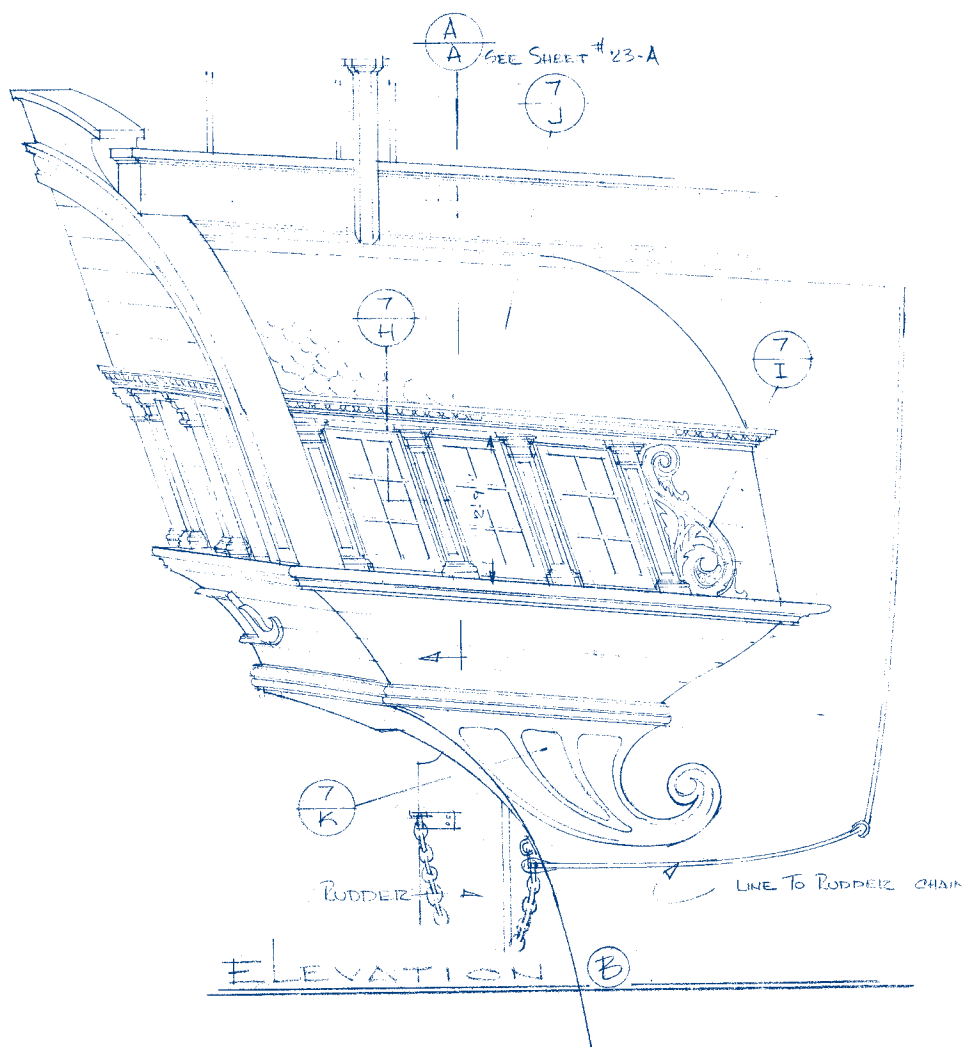


add a whale running the length of the ship, and copper her bottom, not to mention caulking and painting. Her longtime captain Richard Bailey rightly insisted that changes in the bow, head rails, stem, stern and galleries all had to be “real,” substantial, and able to stand up to actual sea conditions. The only set decorating was the moldings and trim work, which was prefabricated at the Fox workshop and installed in Ensenada, just south of Fox Baja.

She was moved there to finish the topsides, deck, galleries, head rails and rigging at pierside. To complete the work there were about fifty set-construction workers and painters on the ship at the same time, not counting the riggers, besides the twenty-five original shipwrights. In the same “time equals money” spirit, the movie people had the idea that if it takes “X” days to do work with fifty men, you can get it done in half the time with one hundred. My biggest problem was to keep the painters from painting the work before the shipwrights could finish. Another headache was getting wood shipped from the Midwest and Pacific Northwest to Baja California, a land of cactus and scrub trees. Back home in New England, I am used to walking into the woods with the sawyer, and picking out and felling the trees with just the right sweeps.

While working in Ensenada, a controversy arose about the condition of the movie *Surprise*’s paint. The original art director





photos, author's coll.; blueprint details
courtesy 20th Century Fox





In Spring 2002, the new stem is “flown” into place in San Diego. It fit snugly.

author's coll.

had quit the film, and there was division over whether or not the ship would have been neat, clean and tidily painted at sea—after all, some argued sensibly, nearly two hundred men were aboard to do maintenance. I was called in to help settle the dispute. I found that, while the men diligently holystoned the decks and polished brass with brick dust, there simply was not enough paint allotted to maintain ships in “Bristol fashion.” Having been in the US Navy at sea on a destroyer, I knew firsthand that within weeks even the best paint job looks like it had been through war. So I took pictures of the *Rose*’s recently-painted fore peak to show how quickly it had become dingy and had run with rust, and presented a copy of a letter to the Admiralty Board from a frigate captain asking whether, with the amount of paint he was allotted, he should paint the starboard side or the larboard. So the *Rose*’s fresh paint was made to look old as soon as it was applied. The painters were amazing artists, and their finished creation was complete with realistic rust streaks. I told the lead painter, “if you worked for me and made the paint of a new boat look like that, you would be fired!” He thanked me for the compliment.

TTrue to the director’s vision, details were attended to. Many items had to be created, like removable panels, manger, chain pumps, binnacle box, flag lockers, and chicken coops, not previously seen on film. The working Brodie galley stove was built by craftsmen from Italy, perfect down to the last bolt. I helped design the ship’s bell, which was cast in Spain. It turned out to have perfect sound and was used for sound effects. The size of the bower anchors was computed from a mathematical formula based on the beam of the ship. The anchor cable was even switched from one hawse hole to the other when, in the story, the ship crosses the equator.

Jim Barry and his rigging crew did an amazing job, rigging both the real *Rose* and the tank replica, plus the tank replica of the French “super frigate” *Acheron*. The *Rose*’s masts were stripped down to the lowers and new authentic fighting tops were built; top masts, t’gallants and royal masts were built and installed, and about twenty-five miles of new cordage and six-hundred rope-stropped blocks for both ships were put together in his shop in Rosarito, Mexico. Ten sails were added to make the *Rose*’s inventory a total of twenty-seven.

Though the production kept us unbelievably busy, the process offered some very satisfying moments. On one memorable day of filming on the *Rose*, we were well off shore and waiting for the helicopter to show up for an aerial shot. All the camera gear and modern equipment, the makeup people and camera crews were below. On deck, everyone was in period dress, chase boats had been sent away, and there was absolutely nothing of the twenty-first century to be seen anywhere. The ship was under full sail, and the crew was doing ship’s work. It was a strange feeling, as if all our efforts had actually transported us back to 1805.

Going into this project, I had no idea how big a production *Master and Commander* was going to be. As Peter Weir told me more than once, “I’ve never done a film this big either. My next picture will be two people in a bar.”

A *Rose* by any other name, HMS *Surprise* awaits her hoped-for return to sea at the Maritime Museum of San Diego.

courtesy Maggie Piatt, MMSD coll.

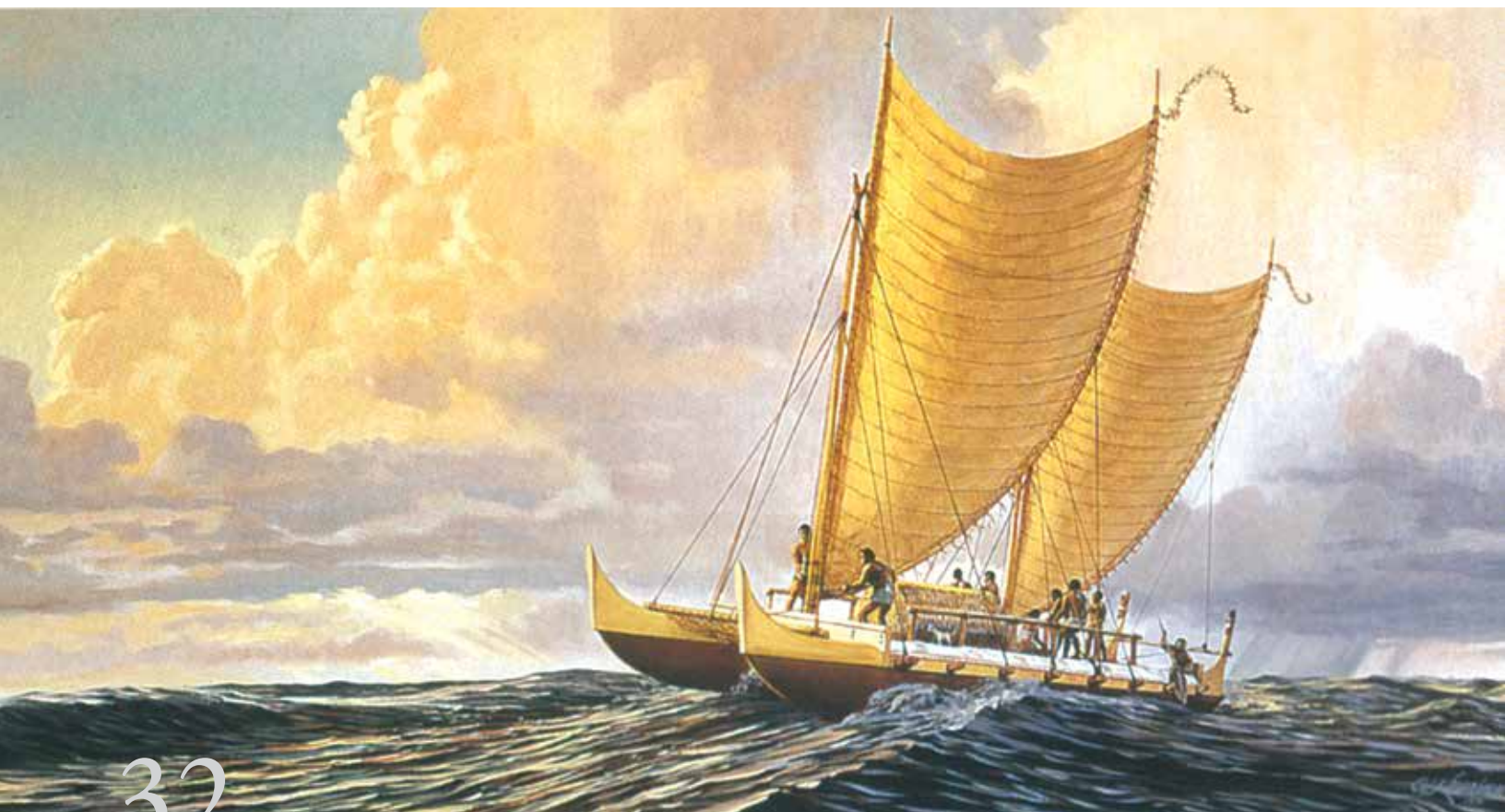


“A People Who Do Not Search for What They Have Lost Will Become a Lost People”

Herb Kawainui Kane

Polynesia began with the voyaging canoe. More than three thousand years ago, the uninhabited islands of Samoa and Tonga were discovered by an ancient people. With them were plants, animals, and a language with origins in Southeast Asia. Along the way, they became great seafarers.

More than two thousand years ago, Polynesians exploring eastward discovered the Tahitian and Marquesas Islands. From these “centers of diffusion” explorers reached outward as far as Hawai’i to the north, Easter Island to the east, and New Zealand to the southwest. Before European open-ocean exploration began, Eastern Polynesia had been explored and settled.



Dreaming up a Modern Voyaging Canoe

I was born in Minnesota, which my parents were passing through en route to their home in Hawaii. You might say that I was raised both in my father's Hawaii and my mother's Wisconsin. My interests in art, architecture, Polynesian traditions, and sailing found a common focus in the Polynesian voyaging canoe. I had become an illustrator, working in Chicago, but always longed to return to Hawai'i. As an avid sailor, curious about the construction and performance of these sailing canoes, I began researching what was known about them and expressing my findings in drawings and a series of paintings, some of which became calendar illustrations in Hawai'i. Anthropologist Kenneth Emory of Honolulu's Bishop Museum went through the evidence with me, sifting out those features of hull design and sail plan which by their wide distribution may be taken to be most ancient. These I applied to a conceptual design. From my own experience with the Pacific swell and in consultation with others, a waterline length of fifty-five to sixty feet seemed one that could surmount swells and recover easily in the troughs, and was an average length for canoes known to have been used for long distance voyaging in the Tuamotus and Tahitian islands.

Dr. Ben Finney, a University of Hawaii anthropologist, Tommy Holmes, a well-known water sports enthusiast, and I incorporated the non-profit Polynesian Voyaging Society and began recruiting members. Each of us brought a different dimension, and attracted a different public, to the project. Ben was most interested in deriving information from voyaging experiments that could answer scientific questions. Tommy saw the project as a great adventure. I took a cultural view, believing that the ancient voyaging canoe was the central object of Polynesian culture, and knowing that when such objects are lost, the use and the memory of them fades away, becomes distorted, and cultural disintegration results. By reviving the sailing canoe I hoped that we could stimulate revival of other areas of Hawaiian culture.



The author, an accomplished artist, created the image of *Hokule'a* at left. His painting of King *Moi'keha*, above, hints at how central he believes the voyaging canoe is to a Hawaiian sense of identity.

paintings in this article courtesy of the artist, published in his 1991 book Voyagers.

After he imagined voyaging canoes in his paintings, the author helped bring one into existence.

photos courtesy Sam Low

Learning how the canoes had been built was one thing, but the question of how they actually performed was quite another. It was a question generating some heat among sailors and anthropologists. In discussion with others, the idea emerged to build a performance-accurate canoe and put it to a hard test: sailing round-trip between Hawai'i and Tahiti, without instruments. The idea was not necessarily to build the canoe of traditional materials, but to replicate those features that affect performance, including hull design, sail plan, and assembly of the parts by flexible lashings.

Instead of carving the hulls from logs, which would have been vastly beyond our means, we decided to build them up with laminations of narrow marine plywood strips glued up diagonally over longitudinal stringers, each layer in the opposite direction from the layer underneath. It was a method ideally suited to replicating the compound, convex curvature of Polynesian hulls. To protect the wooden hull from scraping and water penetration, a thin skin of fiberglass was applied before it was painted.

Working within parameters established by my general drawing, naval draftsman Vince Bartelone of Newport Beach did the critical lines drawing for the hulls. We hired two boatwrights and three carpenters, and work commenced in a donated rusty storage shed at Honolulu Harbor, assisted by a host of volunteers.

Naming *Hokule'a*

When the parts of the canoe were close to being completed, one of the boatwrights chalked "Da Boat" on the side of one of the hulls—a hint that it was time to come up with a name. We tossed the question around at a board meeting a few days later. Several names were suggested, but none seemed to be what everyone was looking for.

One exceptionally clear night I stayed up quite late, star chart in hand, locating and memorizing stars and their positions. After turning in, I



dreamed of stars. Arcturus, *Hokule'a* in Hawaiian, seemed to grow larger and brighter and I awoke—whether due to the brightness or to my bladder I couldn't say—but I jotted “Hokule'a” on a notepad on my nightstand.

The next morning, I saw the notation and recognized it as a fitting name for the canoe; it means “star of gladness.” As a zenith star for Hawai'i it would indeed be a star of gladness if it led to landfall. I phoned a few friends, including the staff at our office, and asked them to call others, and at the next meeting the name was adopted.

Sailing an Ancient Design in Modern Seas

The idea of steering a sixty-foot multi-hull sailing canoe without a rudder always intrigues conventional yachtsmen on their first sails aboard *Hokule'a*. A sailing vessel makes leeway as the wind pushes her sideways against the water. To counteract this, we hold a steering paddle against the lee side of the hull near the stern, where it controls the amount of lateral resistance to the water. Raising the paddle reduces lateral resistance, allowing the stern to swing off the wind, and turning the bow into the wind. Lowering the broad blade increases lateral resistance at the stern, and the canoe turns off the wind. We found that the pressure of the water against the blade holds it firmly against the hull with little effort from the steersman. A slight twisting





"Aunt Clara...lived at Honaunau Bay in South Kona. When we anchored *Hokule'a* there on its first training and shakedown cruise, she insisted on sailing with us when we left. I could not refuse her. She became the beloved elder of our crew."

courtesy of the artist

pressure to hold the leading edge of the blade firmly against the hull prevents the flow of water from getting under the blade and kicking it away.

As I discovered while sailing *Hokule'a*, even the pieces at either end of the hulls have a practical function. Eastern Polynesian end pieces typically rise higher at the stern than at the bow. The stern piece appears to break the crest of following waves that might otherwise board the canoe. And when the canoe surfs on a following wave, plunging forward, the bowpiece, in a burst of spray, helps prevent the bow from "bone-yarding" into the back of the wave ahead.

The flashing speed of modern catamarans results from their wide beam and rigidity of construction, made possible by steel fastenings. *Hokule'a* is a slower sailer. Assembled with lashings of cordage, she lacks the rigidity of modern multi-hulls, for her hulls must be closer together to reduce stress on the cross-beams. Assembly by lashings, however, seems to offer one advantage: they absorb much of the shock of waves that beat against the hulls, a pounding that is transmitted throughout a modern vessel.

Goodbye to *Hokule'a*

I sailed *Hokule'a* on her training and shakedown cruise among the Hawaiian Islands in 1975; because of his job, Ben couldn't be along on much of it. I knew then that the canoe could make it to Tahiti, since the waters between the Islands are often rougher than the open sea. What really spoke to me, however, was the outpouring of affection for the canoe from Hawaiians at every stop. People by the hundreds would appear along the shore, bringing picnic dinners, sitting quietly and staring at the canoe, and quietly leaving after dark. There was also a vocal minority who wanted to take over the canoe for their own agenda, but a silent and vastly larger majority took the canoe to heart.

When we landed at Hanalei, Kauai, the last stop on our shakedown cruise, the people held a feast with singing and dancing. One of the dancers was a pretty Hawaiian with long wavy hair. One night, the anchor watch, Roger Kaawaloa, saw a small canoe approaching, paddled by the same girl—but she looked very different. She handed him a paper bag, said "this is for the canoe," and paddled away. He looked in the bag and understood why she looked different: it held her long hair. In the old times in Hawai'i, to give something of oneself to another was an act of great trust and *aloha*, beyond words, because in the old thinking the recipient could use such a gift to work harmful magic against the giver.

By this time, however, I had spent too much time and money on the canoe project. Recently divorced, I had an opportunity to obtain custody of my two kids, but it would not be cheap. A major commission to paint murals at a new hotel in Kona was offered, and I took it. Sadly, I could not sail on her maiden voyage to Tahiti.

While the canoe was at sea, however, I somehow found time to take



over the project's administration, do some fundraising, help train crewmen for the return voyage, escort them to Tahiti, arrange for the canoe's support and her itinerary through the Tahitian islands, and hurry home to do more fundraising.

After the return voyage was concluded and debts paid, I was able to make a long-desired move from bustling Honolulu to the far more relaxing Kona district of my home island, Hawai'i, and retire from active involvement with the Polynesian Voyaging Society. I am gratified that they have continued to make successful cruises, attracting the enthusiasm and leadership of a new generation, and I am content to be one of the "old dinosaurs" of what is now a very vibrant movement across Polynesia.

Many years ago now, a friend told me a phrase spoken by an elder on the island of Huahine, near Tahiti, after *Hokule'a* had voyaged there. "A people who do not search for what they have lost will become a lost people," he had said. *Hokule'a* is one of the products of this ongoing search, and I am proud to have been part of the way she has become an ambassador across Polynesia and Native America.

Reviving Hawaiian Voyaging

Ben Finney

Although Hawaiians had given up long distance voyaging by the time Captain Cook arrived in 1778, they were still sailing outrigger and double canoes around and between the islands of this most isolated of Polynesian archipelagoes. By the time of the American takeover in 1898, however, inter-island sailing was a thing of the past. The new regime attempted to “Americanize” Hawaiians, suppressing their language and culture while trying to make them into obedient citizens. Traditional Hawaiian pastimes of

off Oahu, 2005; courtesy Monte Costa

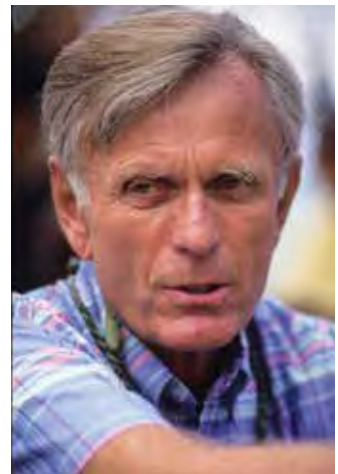


ocean swimming, surfing, and canoe racing recovered nevertheless, and were thriving by the 1910s and 1920s, particularly at Honolulu's Waikiki Beach. While having fun, Hawaiians could express their cultural identity and demonstrate their skills in the sea that surrounds them.

In water sports, Hawaiians instead "Hawaiianized" many Americans, including me. When I was a teenager growing up in San Diego during the late 1940s and early 1950s, I took up surfing just as the heavy redwood "planks" descended from ancient Hawaiian *alaia* boards were being superseded by light "chips" made from South American balsa wood covered with fiberglass. That surfing was an ancient Hawaiian pastime particularly intrigued me. While on vacation from the University of California at Berkeley in the summer of 1953, I made a pilgrimage to Hawai'i to surf in the sport's home waters. Thanks to Kawika Kapahulehua, a young Hawaiian surfer who befriended me, I had my first chance to sail on one of the fast new beach catamarans that had been developed in Hawai'i a few years earlier. (Many years later, Kawika became Captain of *Hokule'a*, the first of the new big double canoes.) At summer's end, I got my first taste of ocean cruising by crewing back to California on a racing yacht.

Back in Berkeley, these experiences tumbled around in my mind as I started taking anthropology courses, including one on Pacific Island cultures. I found that I much preferred anthropology to the economics and history courses I had been taking, and upon receiving my degree I took up graduate studies in the field. But soon after starting classes I realized that I was too restless to tolerate the graduate school grind. After working in industry for a while, I signed up to be a naval aviator, but had to wait eight months to get into the training program. During that unexpected "time out" I spent more time on blue water: on a freighter to Tahiti, on an old trading schooner through the Tuamotus, and on another schooner to the Marquesas. Back in the U.S., I completed basic training and had just begun learning how to fly when the Navy's budget was slashed and the program was cancelled. I soon found myself in the Naval reserve and back in my old job, assembling F-106 interceptors to shoot down Russian bombers that never came.

Yet I couldn't get canoes, sailing and Polynesia out of my mind, and again enrolled in graduate studies in anthropology, this time at the University of



As a youth in San Diego, the author read Thor Heyerdahl's *Kon Tiki*. Like most scholars he rejects Heyerdahl's notion that Polynesia was settled by voyagers drifting from South America, but he found the adventure of making modern-day "research" voyages appealing.

the author at Hilo, 1999; courtesy Monte Costa



off Molokai, 1998; courtesy Monte Costa

Hawai'i, where I could better study Polynesians and the sea. Upon flying to Hawai'i in the spring of 1958, I met with my advisor, the distinguished folklorist Katherine Luomala. After talking about the anthropology program, she handed me a copy of Andrew Sharp's recently published book *Ancient Voyagers in the Pacific*, which argues that Polynesians had been incapable of making long navigated voyages, and that therefore Polynesia had been settled accidentally by castaways. Professor Luomala warned me that I would not like the book, and she was right. As I read it that night I felt as though the author was telling me that Polynesians had never been great seafarers, and that I should go back to California, as there was nothing to learn in Hawai'i. But Sharp's thesis that Polynesians had been involuntarily scattered over the ocean by wind and current didn't make any *sailing* sense to me. Studying the written sources, I soon realized that the information available on long-distance canoe sailing and navigation was so spotty and contradictory that the debate over accidental and intentional settlement could go on forever without a satisfactory conclusion. It seemed obvious that to make any progress, we needed to reconstruct the old canoes and relearn the old wayfinding methods, and then test these over legendary voyaging routes. Later, as I began to learn something about ancient Hawai'i, the legendary seaway between Hawai'i and Tahiti came to mind.

However, before building a voyaging canoe, I wanted to become an anthropologist so that my efforts would be more informed and relevant—and so that I would have a way to make an interesting living. After earning graduate degrees at the University of Hawai'i and Harvard, I landed a job teaching at the Santa Barbara branch of the University of California. In 1965 and 1966 my students (including one Hawaiian) and I built a forty-foot-long replica of a Hawaiian double canoe. Thanks to a grant from the National Science Foundation I was able to conduct instrumented sea trials off Santa Barbara, and then in Hawaiian waters. There, renowned Hawaiian scholar Mary Kawena Pukui named the canoe *Nalehia*—which means “The Skilled Ones,” after the way her hulls rode so gracefully over the swells. These trials provided the hard data on sailing and paddling a double canoe that I would need, if my dream of building a deep-sea voyaging canoe and sailing her from Hawai'i to Tahiti and back was ever to materialize. A few years later I managed to get a job teaching anthropology in my old department at the University of Hawai'i, which brought the project another step closer to reality.

In 1973 Herb Kane, Tommy Holmes and I founded the Polynesian Voyaging Society in order to develop an institutional base for the project. Herb had first contacted me to consult about Polynesian canoes in relation to tide charts he was illustrating for a Hawaiian corporation. He soon went to work designing the canoe that we would later call *Hokule'a*, and painted her sailing at sea, a stunning image that we reproduced on posters to announce the project and ask for public support. These popular posters launched *Hokule'a* into the public imagination.

We had brashly promised to build a voyaging canoe and make the voyage to Tahiti within three years, and somehow managed to do just that. In 1974 we began raising funds and were so successful that we started work within a few months. In 1975 we launched *Hokule'a* and began learning how to sail her. In mid-1976, we sailed *Hokule'a* to Tahiti and

Hokule'a off Haleiwa, Oahu, 2003. The author's first canoe, *Nalehia*, was lost to gradual deterioration in Tahiti.

courtesy Monte Costa



back, a voyage that undercut the nay-saying of those who denied the ability of Polynesians to have settled the region intentionally. Also, we could not know it at the time, but our troubled passage to Tahiti kicked off the revival of canoe voyaging that has now spread throughout Polynesia.

Trouble Along the Way

After seeing how the Hawaiians who had helped build, paddle and sail *Nalehia* had become so excited and proud to be actively learning about canoe sailing, I had hoped Hawaiians would play key roles in the new project and, after *Hokule'a* returned from Tahiti, that they would take over the canoe as a “floating classroom” to teach about Hawai’i’s maritime heritage. While Herb was busy creating *Hokule'a* and Tommy was handling a wide variety of chores, I ran the project, planned the voyage, raised funds, and refined the research plan. I also recruited and obtained funding for several highly experienced and talented island sailors to fill critical roles on the canoe. The most crucial was Satawal’s Mau Pialug who, we hoped, would navigate the canoe almost 3,000 miles to Tahiti and back—without reference to charts or

Now in her thirtieth year, *Hokule'a* sails off Molokai.

courtesy Monte Costa



other Western navigational tools.

As we approached our departure date, however, a number of Hawaiians started protesting. They felt cheated when they realized that *Hokule'a* would sail on a research as well as cultural voyage, and that not everyone on board would be Hawaiian. Whereas we were proud that ten of our fifteen crewmembers, including Captain Kawika Kapahulehu, were Hawaiian, the protesters focused on the fact that three of us were *haole*—white foreigners. They were also upset that Mau, a Micronesian, would guide *Hokule'a* to Tahiti. The more radical among them demanded that we cancel the voyage and turn the canoe over to them, so that they could sail her for their own political and recreational purposes.

In part, I agreed with them. The growing emphasis on cultural revival had obscured the research purpose of the voyage, and the argument that the five foreigners on board were trespassing in Hawaiian space was, in a sense, valid. Yet the protestors weren't sailors, and cared nothing about the goals of the project. We were not about to give up, drop all we had worked for, and disappoint those who had supported us, including so many Hawaiians. Despite threats and dockside protests, on May 1, 1976 we set sail for distant Tahiti.

Unfortunately, it was not a happy voyage. We had hoped that once at sea everyone would settle down and work together toward the common goal of reaching Tahiti. But the troubles sailed with us. Halfway to Tahiti six of the novice Hawaiian crewmembers staged a protest to complain that they were being overworked and underfed, that the canoe was lost and that the "leaders" did not know what they were doing. They refused to stand watch, or do anything else they didn't like. The rest of us went about our task of sailing to Tahiti, although within sight of the island the strikers staged a final confrontation that left blood on the deck. As a consummate navigator and crew captain, Mau Pialug was not used to having novice sailors go on strike and assault their canoemates. By June 4, when we landed on Tahiti, Mau was so disgusted that he flew home to Micronesia. Mau's departure scrubbed the second half of the research plan to sail back to Hawai'i using only traditional navigation, and cast a pall over the entire voyage. Captain Kapahulehua and some other stalwarts from the first leg did a fine job of sailing *Hokule'a* swiftly home, with help from new Hawaiian crewmembers who flew in from Hawai'i, but the damage had been done.

A Tragic Second Attempt

New Hawaiian leaders then took over the Polynesian Voyaging Society to fulfill the canoe's educational mission. However, despite their efforts to calm the waters, bitterness over the 1976 voyage continued to simmer. They decided to clear the air by having an all-Hawaiian crew sail *Hokule'a* back to Tahiti in 1978. Unfortunately, they didn't include the most experienced island mariners from the first voyage. Despite storm



Mau Pialug in Tahiti, 1995.

courtesy Monte Costa

warnings for the infamous Ka'iwi Channel between O'ahu and Moloka'i, the new crew set sail at dusk on a windy March evening. They recklessly drove *Hokule'a* hard into blustery winds and steep breaking seas, until around midnight, when boarding seas swamped the lee hull and the ceaseless wind pushed the listing canoe over, dumping everyone into the ocean.

With the shortwave radio drowned and the unsecured emergency locator beacon (which had to be manually turned on) floating somewhere in darkness, there was no way to send a distress signal. The next day, world champion surfer Eddie Aikau courageously tried to get help by paddling his surfboard to Lana'i, the nearest island. He soon disappeared over the huge swells, and was never seen again. At dusk the capsized canoe was finally spotted by a passing airliner, and that night a helicopter plucked the remaining crewmembers off the overturned hulls. The following day a Coast Guard cutter towed battered *Hokule'a* back to Honolulu.

Rebuilding and Retraining

For a while it looked like the project would collapse. Self-appointed realists argued that the first voyage had been a lucky fluke, that canoe voyaging was just too dangerous and that the Polynesian Voyaging Society should give *Hokule'a* to a museum. Others countered that the capsizing had just been an unlucky accident, and that the crew should just patch up the canoe and set sail for Tahiti before they lost their nerve. Fortunately, a nucleus of crew and board members insisted that the tragically interrupted voyage be completed, but only after rebuilding the canoe and training the crew in seamanship and safety.

Behind them was Myron "Pinky" Thompson, a savvy social worker and distinguished Hawaiian patriot. After being elected president of the Society, he set about applying lessons he had learned in working with Hawaiians and their institutions. Rather than complaining about past wrongs and invoking Hawaiian exclusiveness, Pinky urged crewmembers and directors of the Society to go back to cultural basics. He had them study such positive Hawaiian values as *'imi 'ike* (seeking knowledge), *a'o* (learning, teaching), *lokahi* (unity), and *malama* (to care for), and then think about how central these were to carrying out the tasks that went into the discovery and settlement of the islands and the development of Hawaiian civilization. Although a few participants thought these exercises were artificial, everyone eventually came around and found it exhilarating to work toward rebuilding the canoe and the Society, and then carrying out the voyage, within a framework defined by Hawaiian values and informed by a new sense of mission.

Thompson also made sure that the group worked closely with the Coast Guard and other relevant institutions and individuals in repairing the canoe, planning the voyage, and undertaking training in seamanship and safety. He saw to it that Kawika Kapahulehua and other veterans of the 1976 voyage were consulted, and that Mau Pailug was brought back to Hawai'i to give Pinky's son Nainoa Thompson, who had been trying to



study non-instrument navigaton on his own, a crash course in traditional wayfinding so that he could navigate *Hokule'a* to Tahiti and back. In 1980 a well-trained crew immersed in Hawaiian values sailed *Hokule'a* to Tahiti and back to Hawai'i, without any significant problems. In so doing they earned back their pride, and in guiding the canoe both ways Nainoa emerged as a modern culture hero and role model for Hawaiian youths.

Although the elder Thompson stressed Hawaiian values and pride, he felt that Hawaiians would suffer if they turned totally inward and worked only amongst themselves. He believed instead that they should lead organizations devoted to traditional activities and Hawaiian welfare, but insisted that their staff not be restricted to Hawaiians.

The Ka'iwi Channel, on a calm day. Surfer Eddie Aikau's rescue attempt here is still commemorated in the slogan of Oahu's Quicksilver Classic surfing competition: "Eddie Would Go."

courtesy Monte Costa

“Voyage of Rediscovery” 1985-1987

After *Hokule'a* returned from her second voyage to Tahiti in the summer of 1980 the crew went back to their families, jobs and schools, immensely proud of what they had accomplished. Some months later *Hokule'a* was sailing again, this time around the Hawaiian chain on educational cruises. Because the Coast Guard classifies her as an experimental vessel, however, schoolchildren could not sail on *Hokule'a*. Nonetheless, when in port or anchored they could come aboard to get some “feel” for what a voyaging canoe is like, and interact with crewmembers sharing sailing experiences and explaining the principles of canoe voyaging. However, as satisfying as these cruises and shore sessions were, the younger members of *Hokule'a*'s crew particularly started saying that the canoe was made for long-distance voyaging, and that they should sail her to the South Pacific again, this time traveling beyond Tahiti to other Polynesian islands and archipelagoes.

After some debate, the Polynesian Voyaging Society chose Aotearoa (New Zealand) as the destination of a two-year cruise that would also take the canoe through six other Polynesian archipelagoes—the Tuamotus, Leeward Societies, Cook Islands, Tonga, Samoa and Te Henua 'Enana (Marquesas Islands). It was billed as a “Voyage of Rediscovery;” while the Hawaiians were learning about new routes, islands and cultures, their hosts along the way would have a chance to meet their long-separated northern cousins, sail on *Hokule'a*, and learn about voyaging.

After leaving Rarotonga and heading southwest, the Hawaiians were lucky in getting easterly winds from three successive high-pressure systems that enabled *Hokule'a* to reach Aotearoa's Bay of Islands in just seventeen days.

After the successful voyage, which he had worked long and hard to make a reality, Pinky Thompson talked to me about how *Hokule'a* was helping Hawaiians gain respect from their fellow Polynesians. Before *Hokule'a*, he told me, Polynesians from the South Pacific looked down on Hawaiians for having virtually lost their language and become too American. Now, however, Hawaiians could demonstrate old skills their South Pacific cousins have forgotten—and are willing and able to share them.

Hokule'a's Child: *Hawai'iloa*

After returning to Hawai'i in mid-1987, the Hawaiians resolved to take the voyaging revival a step farther by building a totally “native materials” canoe. *Hokule'a* had been expediently built mostly from modern materials. Now they wanted to build a voyaging canoe in the old way. Federal funding was obtained through the newly created Native Hawaiian Culture and the Arts Program, and the search started for a pair of tall and straight *koa* trees. To everyone's dismay, after months of tramping through the uplands of Hawai'i Island and Maui no suitable trees could be found. Indiscriminate logging, land-clearing for cattle, and introduced diseases and pests had devastated the old *koa* forests.

The windward side of Oahu is home to many native Hawaiian people. The loss of big native koa trees, however, frustrated the canoe builders.

courtesy Monte Costa



At this time a group of Native Alaskans associated with Sealaska, a native timber corporation owned by the Tlingit, Haida and Tshimsian people of Southeast Alaska, were in Hawai'i. When they heard of the Hawaiians' plight they offered to send them a couple of big trees from their vast forest holdings. When Herb Kane asked if the Polynesian Voyaging Society could purchase the trees, Sealaska's CEO Byron Mallott unhesitatingly replied "Hell, no—we'll give them to you!" He wanted not make a one-time sale, but to establish a relationship between peoples. Initial hesitancy about using Alaskan logs to build *Hawai'iloa* was overcome when it was realized that Hawaiians living on Kaua'i and other islands without tall koa trees formerly carved canoes out of logs that had drifted upon their shores all the way from the Northwest Coast. Nainoa Thompson selected a pair of 220-foot, four-century-old spruce trees. After prayers to the forest gods uttered by both Tlingit and Hawaiian shamans, Sealaska felled the old giants and shipped the lower seventy feet of each log to Hawai'i—all gratis. The Alaskans' generous gift not only made it possible to build *Hawai'iloa*, but, as Byron Mallott had foreseen, initiated a continuing relationship between native peoples from Hawai'i and Southeast Alaska.

Even using steel tools, it took over three years to hollow out and shape the logs, but despite problems, in mid-1993 the 57-foot *Hawai'iloa* was launched with great ceremony, and sea trials began. Then came a huge disappointment, demonstrating how much remained to be learned about building and sailing voyaging canoes: *Hawai'iloa* rode so low in the water that she didn't have enough buoyancy to carry a full crew and provisions. She also sailed "bow down" because her forward sections were too slim and shallow to support the mainmast, boom and driving sail, plus the heavy forward crossbeams linking the hulls. This gave her a terrible "weather helm;" she automatically headed into the wind until the sails luffed and the canoe stopped sailing. This could only be partially corrected by plunging three long steering paddles deep into the sea. So out of the water she came, and her builders worked for months adzing out as much wood

as they dared from the hull interiors, and removing one of the heavy forward crossbeams. Although this lightened *Hawai'iloa* significantly, her weather helm was still too strong. Then someone remembered that the outrigger surfing canoes used for sailing off Waikiki in the 1920 and 1930s had the same problem, which was remedied by placing their single mast at the fulsome stern instead of at the slim bow. The same was tried on *Hawai'iloa*, and she sailed so well that soon everybody forgot that she was really sailing backwards!

For her maiden voyage, *Hawai'iloa* had originally been scheduled to sail to Te Henua 'Enana (The Marquesas), thought to have been the Hawaiian people's homeland, and then sail back to Hawai'i to commemorate the islands' *original* discovery by Polynesians. However, by the time she was ready to go in 1995, the voyaging renaissance spawned by *Hokule'a* had reached the point that there were several other new double canoes from around Polynesia whose crews wanted to join the voyage. After *Hawai'iloa* rendezvoused with voyaging canoes from Aotearoa, the Cook Islands and Tahiti (plus others from Hawai'i) at the temple of Taputapuātea near Tahiti, they all proceeded to Te Henua 'Enana. From there they broad-reached across the southeast trades, then worked their way through the doldrums, after which they close-reached through the northeast trades to make landfall on Hawai'i's Big Island after just a little over two weeks at sea.

Over the last seventy-five years, canoes, rafts and junks have been built outside of Polynesia to sail there on one-way voyages in efforts to "prove" one migration theory or another. *Hokule'a*, on the other hand, and the canoes she has inspired—*Hawai'iloa*, *Makali'i*, *Hoku Alaka'i*, *Hawaikinui*, *Tahiti Nui*, *Takitumu*, *Te Au o Tonga*, *Te Aurere*—continue sailing back and forth among the islands of the Pacific, giving island youths the chance to experience the technology that enabled their ancestors to explore and settle lands scattered across this mightiest of oceans.

Kia ora te waka! Long live the canoes!

The *Hokule'a* project was expected to result in the revival of old technologies, but one unexpected result was the re-invention of an "invisible" technology: long-range canoe wayfinding. In order to demonstrate that people could have intentionally crossed thousands of miles of seemingly featureless sea to settle Hawai'i, *Hokule'a* was navigated to Tahiti without instruments in 1976. But since Hawaiian long-range wayfinding was truly a lost art, the navigator was Mau Pialug, a Micronesian. Later, Mau's pupil, a young Hawaiian named Nainoa Thompson, almost single-handedly reinvented Hawaiian celestial navigation. To re-imagine old techniques for which there was no written or oral record, Nainoa was unafraid to use modern technology—even the planetarium of Honolulu's Bishop Museum—to learn ashore a way of navigating that he would have to practice at sea for weeks, without technological help of any kind. His achievement has made him widely admired both inside and outside the Native Hawaiian community. The following transcribed remarks by this very private man are excerpted from articles by his cousin Sam Low.

– the Editor

Hokule'a and the Rebirth of a Lost Art

Nainoa Thompson

Navigation is about understanding and watching nature. ...everything you need to guide you is in the ocean, but you need to be skilled enough to see it. It took many years to learn the ocean's many faces, to sense subtle cues—the slight differences in ocean swells, in the colors of the ocean, the shapes of the clouds, and in the winds.

Mau trained me like his grandfather trained him. He took us out on the ocean like children, becoming our father and mother at sea. We had very few formal lessons; the learning really came by being close to him—looking at the things he looks at, feeling the things he feels. Even though I'm now able to guide the canoe on my own, I'm still his student. He is the *only* master navigator.

In 1976, I flew to Tahiti to be on the crew who would sail *Hokule'a* back to Hawai'i on her maiden voyage. I watched the canoe enter Pape'ete Harbor. Seventeen thousand people came down—a huge chunk of the population of the island. The canoe got to the black sand beach, and so many children got on that it sank the stern. People couldn't see, so they climbed into



Nainoa Thompson stands with his mentor, Mau Pialug, in 1998.

the trees.

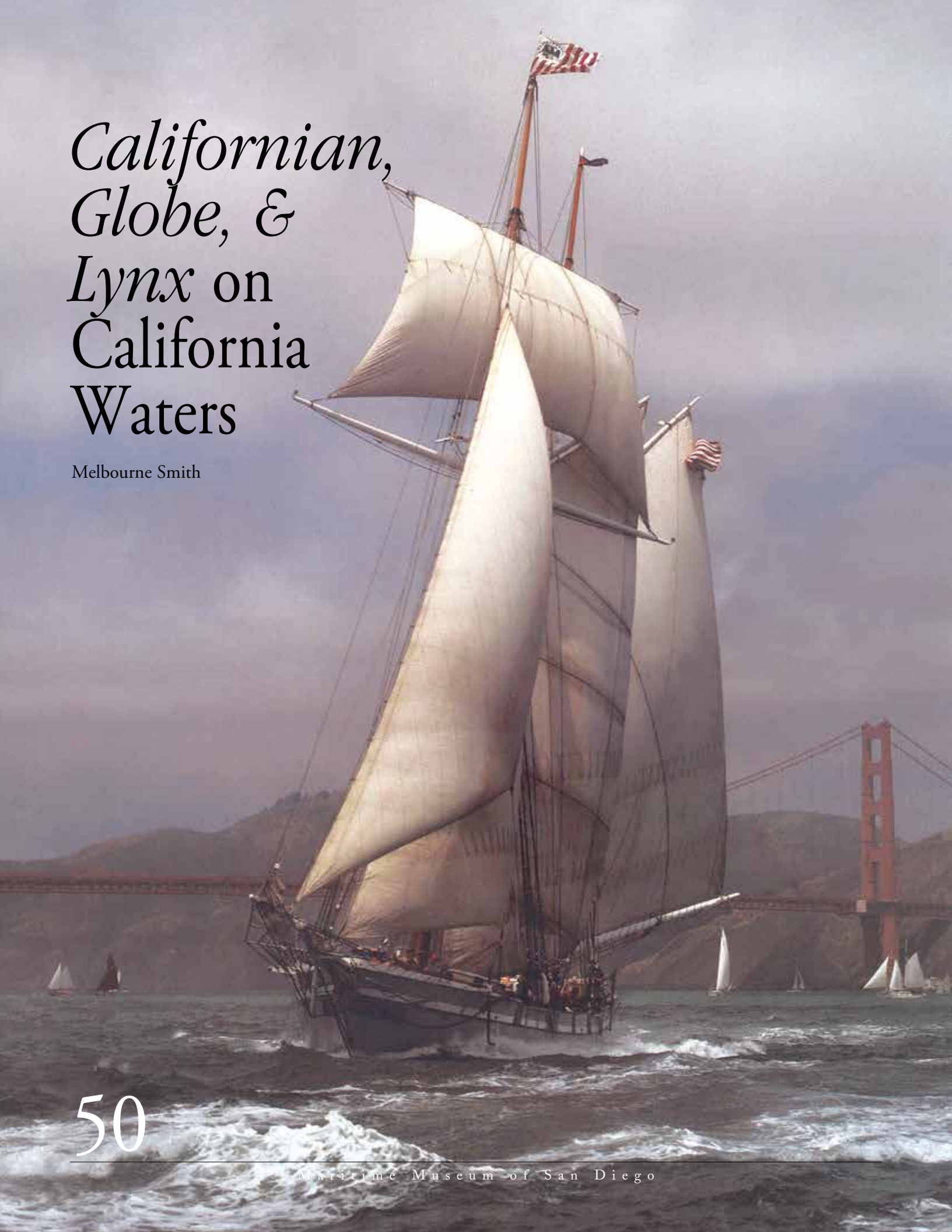
It was a spontaneous reaction by a people who had maintained their language and their genealogy, who understood who their great navigators were. They knew about the great canoes, but they did not have such a canoe.

So when *Hokule'a* entered the bay she was a powerful symbol that reminded them of the greatness of their culture and their heritage—and therefore themselves. It was the beginning, I think, of cultural revival and the renewal of the Polynesian people.

Two hundred years ago, we lost basically all that we knew about our traditions, and it's going to be through research and through projects like this that we can regain it. But we're not just regaining an artifact. We are regaining the pride in the culture of the people.

As we voyage we are creating new stories within the tradition of the old stories; we are literally creating a new culture out of the old. We must sail in the wake of the ancestors to find ourselves.

"When I look at Hokule'a I see sheer beauty in its lines and images. I see joy in the eyes of our children. I see it being a catalyst that unifies the Hawaiian people in the pride we have for the achievements of our ancestors."

A large three-masted sailing ship, the USS Constitution, is shown from a low angle, sailing on the water. The ship's white sails are partially set, and it has an American flag at the top of its mainmast. In the background, the Golden Gate Bridge is visible, spanning the water. The sky is overcast and grey. The water is dark with white foam from the ship's wake.

Californian, Globe, & Lynx on California Waters

Melbourne Smith

50

Maritime Museum of San Diego

I have found designing and building a sailing vessel to be much like raising a daughter. You hope that when she leaves home, she will be well-prepared and be treated well. So far, I've had the opportunity to design and build three craft for the West Coast: two schooners on the Baltimore clipper model, and one stationary exhibit ship. They are the *Californian* in San Diego, the *Globe* in Sacramento, and the *Lynx*, sailing out of Newport Beach.

In 1982, Steve Christman was considering building a small ketch for his Nautical Heritage Society. He invited me to Dana Point to join the discussion, and I convinced him instead—I hope for the better—to build a 100-gross ton schooner that would be worthy of being the state's Official Tall Ship. I promised to design and build her for under a million dollars on the beach in San Diego within twelve months. He was successful in raising the funds and she was built just under budget. It took two attempts to launch her, fully-rigged, and she finally floated on San Diego Bay on May 29, 1984, still on schedule.

Californian's design was based on the revenue cutter *Campbell*, built in Portsmouth, Virginia in 1849. The *C. W. Lawrence* was built on the same model, and in 1848 was dispatched to the Pacific Coast by the U.S. Revenue Marine Service. There the *Lawrence* became the first American government vessel to visit the new state. *Californian* is not a replica, because she is much smaller than the original (83'4" on the waterline, vs. *Lawrence's* 100'4") but her clipper lines are similar. I gave her harder bilges and a little more freeboard to meet stability and safety requirements. Her rig, with a fore square-topsail and topgallant, was nearly identical to the larger original schooner. Inspectors from the Coast Guard hesitated about the lofty topgallant and main jackyard topsail, but the stability test proved the righting arm more than adequate to carry her full compliment of sail in ocean waters.

The righting arm, for those unfamiliar with the term, is the inherent ability of a vessel to resist the heeling arm—the wind-pressure on her sails and upper structure. Too little righting arm causes a vessel to be unstable. Too much righting arm produces a very stiff vessel and may be desirable in a modern yacht, but it is detrimental in a vessel where the crew must go aloft to furl sails. A stiff vessel reacts quickly and has a quick period of roll. Less of a righting arm means a longer period of roll, where the movement is less violent and easier on the gear and crew. A good design provides just enough righting arm to assure positive stability and meet the Coast Guard requirements, but no more. A comfortable and safe ship like *Californian* is one that does not have to be overly ballasted to compensate for inadequacies of design.

Her construction was experimental in 1984, and has proved successful. Frames of Southern pine were laminated in one continuous piece from the keel up to the waterways. Before laminating, each individual layer was pressure-treated with pentachlorophenol before laminating to shape using resorcinol glue. This type of adhesion is permanent and has proven to be superior to epoxy in creating large built-up timbers.

Often new owners of historic vessels are unprepared when they finally take possession. All the advice about hiring a reliable captain and training a crew

In Nautical Heritage Society colors, *Californian* heads toward San Francisco about 1987.

photo by Diane Beeston, Nautical Heritage Society poster, MMSD Archives 122.3

San Diego's Spanish Landing Park was transformed into a New England boatyard for *Californian's* construction.

MMSD slide coll.

was lost in the excitement and, as I feared, *Californian* was rushed into service. A make-up crew was hurriedly organized by the owner; I was dismissed and ordered ashore, and the schooner raced off to join the Olympics in Long Beach. She arrived with great fanfare by crashing into the pier, knocking out a few parking meters, and poking her jib boom into a restaurant.

In her long and ultimately successful career with the Nautical Heritage Foundation, I don't think she was ever sailed to her potential, because of an unending parade of captains and crews. During her service she was fitted with added bunks and her handsome saloon was ripped out to increase her capacity. Her sails were badly stained by an ill-attended oil-stove, rigging was not serviced, and this daughter of mine began to appear much like a neglected lady left to fend for herself on the streets.

Today, *Californian* is owned by the Maritime Museum of San Diego, where she has been carefully restored, re-rigged, given new sails, and re-powered with a larger engine. She has also been fitted with an oversized four-blade fixed propeller—whose probable effect, when under sail power alone, I would liken to dragging an iron stove through the water. Originally, *Californian* was fitted with a Luke automatic feather-



ing propeller to reduce drag. Her sailing ability to windward has also been further upset with a poorly boomed and sheeted staysail. But, as I hoped and expected, after twenty-two years she remains in excellent constructional condition and continues to regularly carry passengers. While her sailing qualities may now be handicapped, the added propulsion power will help her work for many years to come.

The *Globe* in Sacramento is a very different story, and one that ended quite ignobly: a cautionary example, if you will, of what *not* to do with a historic-type vessel. The original brig *Globe* of 1833 was a New England vessel that was abandoned in San Francisco during the Gold Rush. She was towed upriver to Sacramento, where she joined other hulks used as stores ships—floating warehouses for the state’s new capital. In 1984, Sacramento’s redevelopment agency decided that such a hulk would be an attractive display as part of their city’s revitalized waterfront. They funded the design and construction and contacted the Nautical Heritage Society, owners of *Californian*, to manage the operation. Photographs of the *Globe* were found and I designed her full-size, exactly as she originally appeared above the waterline. Below, however, I gave her a flat bottom, because it would not be seen and she would never be sailed. She was constructed in the summer of 1985 as a public exhibition next to the historic train station in Old Town.

A storehouse, intended to house exhibits, was fitted on deck exactly as on the original hulk. Under that was the captain’s stern cabin, which was made suitable for a manager or caretaker. Because of the rake of the transom, I was able to fit stern windows in the cabin that could remain open year-round. The main deck was constructed much like the original, with standing lower masts and a permanent wooden awning-type structure. With a combination of open stern windows and an open deck hatch under protective cover, the free flow of fresh air was guaranteed. As with all vessels, ventilation was necessary for her preservation—a fact that was carefully explained to her owners and manager: they were to never close the stern windows or covered deck hatch.

Over time, however, the aft cabin was converted by some local spirit into a cozy den with a new bulkhead—complete with an air-conditioner. It was some five years later that I learned that the AC had been vented directly into the hold and that the ventilating hatch in the deck above had been kept shut tight. After all that time, the dank hold had acquired an atmosphere resembling a rain forest, infested with rot and slimy growth. The vessel was hauled and fitted with a new bottom, but too late: the hull continued to deteriorate. Sometime before 1998 the *Globe*, with someone’s “really cool” cabin aboard, was unceremoniously retired to a scrap yard—hothouse and all.



The author puts finishing touches on *Californian*’s transom. The eagle, carved by Lee Kutz and much overpainted in the years since, is now gilded again.

courtesy Bob Covarrubias



My most recent vessel completed for California is the privateer *Lynx*, launched in 2001. She was designed for Woods Maritime of Newport Beach and built in Rockport, Maine. Her design is an interpretation of the larger War of 1812 schooner *Lynx*, captured by the British on Chesapeake Bay. Like *Californian*, the new vessel is certainly not a replica, but her hull and rig are very much on the classic Baltimore clipper design. She was intended as an educational ship and has proven well suited to the task.

Fortunately, Woodson Woods is an avid sailor and student of maritime history. It was a rare opportunity to design a vessel that would be handy, swift, *and* appreciated. The owner followed the design work through every stage of development with keen interest. The builders in Maine had never built a schooner of this type before, but they understood every design detail and constructed *Lynx* with great enthusiasm and exceptionally fine workmanship.

It was also an opportunity for me to expand my use of treated Southern pine. I gained further confidence in the longevity of this laminated wood when I designed and built the War of 1812-era U.S. Brig *Niagara* in 1990. *Lynx*'s stem, keel, keelson, knees, and deck beams are all built out of laminated timbers. This allows a lighter but much stronger construction that assures her a long life quite impervious to the usual wood building faults. I believe that building with laminated wood is a much better use of our limited timber resources. And when treated before laminating and using resorcinol glue, these twenty-first-century timbers produce a superior historic vessel for modern usage.

The only snag that developed with *Lynx* involved local riggers. Many in Maine have narrowed their focus to Down-East cargo and fishing schooners, and cannot appreciate

Lynx is a success story; *Globe* was not.

Author's coll.



the lighter and handier Chesapeake Bay traditions. Reefing loose-footed mainsails, standing foresails, and jackyard topsails are just not in their repertory. However, most rigging details were worked out or compromised to produce a remarkably swift and handy vessel.

Because of careful planning and cooperation, when launched the schooner was ready for sea in quick order. Since that day in 2001, her sailing qualities have been carefully tuned on three passages to Hawaii under a skilled and cognizant master.

In evaluating the careers of these three West Coast “daughters” of mine, I would say that *Californian* was worked hard, often neglected, but is still as fit as the day she was launched. She will certainly do her best for the Maritime Museum. *Globe* was doomed to an abbreviated career as a wharfside hostess, but I’m sure she saw some really good times on the river in Old Town after the sun went down. *Lynx*, on the other hand, is living up to parental hopes and expectations and has a particularly exciting future. She’s a daughter with a full and exciting dance card.

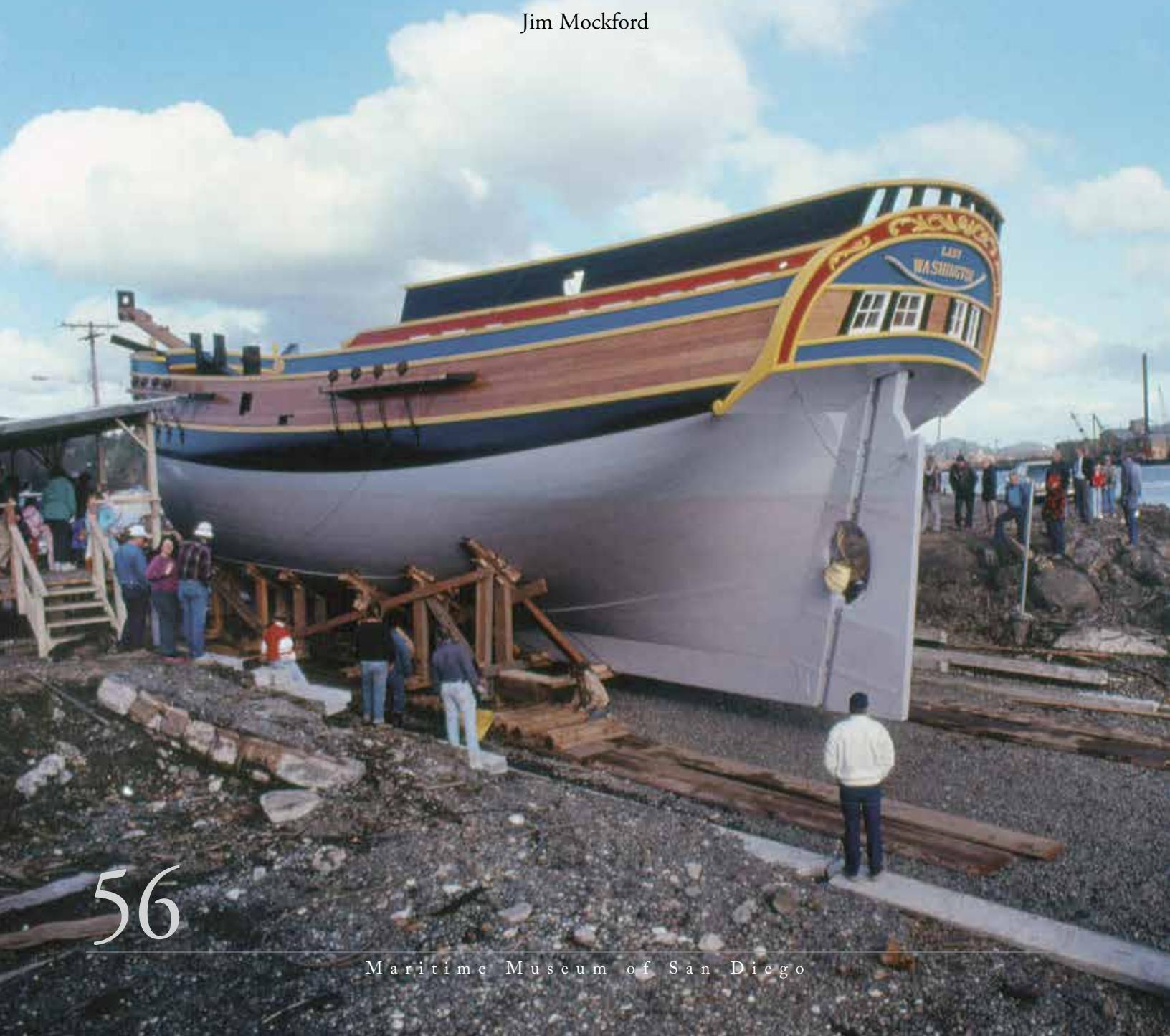
Californian chases a current stable-mate toward San Diego Bay in 2004. Acquiring her has enabled the museum to greatly expand the programs it offers the public.

courtesy Bob Grieser



Trials and Triumphs of a Lovely *Lady*: Washington's Tall Ship Ambassador *Lady Washington*

Jim Mockford





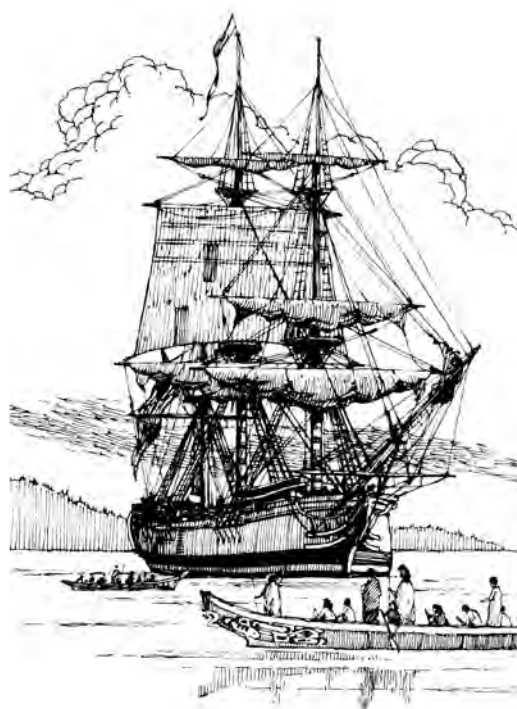
On March 7, 1989, four thousand schoolchildren, old salts, volunteers and sightseers gathered in the small, economically depressed Washington lumber town of Aberdeen to christen and launch a tall ship. Statehood centennial celebrations around Washington in 1989 reintroduced citizens to the lively histories of their communities. Aberdeen and Grays Harbor contributed by launching *Lady Washington*, a replica of the first American-flagged ship to arrive in the Pacific Northwest.

A century ago, Grays Harbor was a major lumber port with an important shipyard; twenty-five ships lay at anchor there in August 1905.¹ By the 1980s, however, the area had declined steeply with the economic eclipse of lumbering. In 1980, ashfall from the eruption of Mount St. Helens rained on the harbor as a harbinger of darkening economic times. At Christmas 1981, the unemployment rate of Grays Harbor County stood at 16.3%. During the next five years the population of already small Grays Harbor County declined by over 3,500 to 62,700, and the number of employed persons dropped from 33,670 to 26,100.² The economic recession of the early 1980s hit Timber Country hard, as did cancellation of work in 1982 at the nearby Satsop Nuclear plant when Western Washington Public Power (WWPSS — widely known as “Whoops!”) collapsed. Mayr Bros. Lumber, a major regional employer, filed for bankruptcy in 1984. Average county wages peaked at \$19,798 in 1981 and dropped to \$17,791 in 1986, the year that the Aberdeen movie theater shut down after its last picture show. Before the keel for *Lady Washington* was laid in September 1987, even Kurt Cobain and his band Nirvana had left Aberdeen to introduce “grunge” music to the world. Aberdeen had become the type of town that would inspire grunge. Some imaginative citizens, however, were determined to revive their moribund hometown and focused on the waterfront, where they envisioned a return to their harbor heritage.

The idea of building a tall ship originated around 1985 in discussions among Aberdeen citizens contemplating the best way for their town to participate in the 1989 State Centennial Celebration—and benefit from the available state funds. Among the most energized were students in a history class at Grays Harbor College. In 1985 Professor Lyman Pederson asked his class what they thought Aberdeen should do to celebrate the centennial.³ Talk of tall ships that arose there was encouraged by Charles M. Parkin, an author who visited Grays Harbor promoting his book *Sea Venture: Captain Gray’s Voyages of Discovery*, and who met with County Commissioner Bill Vogle to discuss replica sailing ships.⁴ Parkin suggested building replicas of two small eighteenth century Pacific Northwest exploring and trading vessels. The first was the Royal Navy Armed Vessel *Chatbam*, consort to George Vancouver’s HMS *Discovery*. The other ship Parkin suggested was the American *Lady Washington*, consort to John Kendrick’s *Columbia Rediviva*.⁵

Captain Robert Gray had sailed from Boston on the sloop *Lady Washington* in 1787 with Kendrick’s larger *Columbia Rediviva*, seeking to trade for furs in the Pacific. The two men traded command of their vessels in 1789, and Gray sailed *Columbia* along the Northwest Coast, discovering both Grays Harbor (which he named Bulfinch’s Harbor after a sponsor) and the Columbia River, which he named after his ship.⁶ Gray became the first American captain to circumnavigate the earth when he returned to Boston in 1792.

1989 photo, courtesy Grays Harbor Historical Seaport.



When students at Grays Harbor College proposed building replicas of Robert Gray's two ships as a great way to celebrate the state centennial, County Commissioner Bill Vogle and Jack Lawson, a county economic development official, looked into the business ramifications for the community. Fred Thurman, Aberdeen's Finance Manager, faced the fact that "Grays Harbor has long been known as the rest area on the way to the beaches," and little more. A maritime heritage site *could* attract tourists to visit, stay in Aberdeen—and spend. Thurman also expressed concerns that the region's youth had no sense of the maritime history that had shaped their community. He confessed to being "tired of seeing the young people in the town looking forward to the day that they graduate from high school so that they can leave Grays Harbor." He hoped that they would find in the project "the first chance that they've had in some time to do something positive" for their community.⁷

Barbara Caskey, a student in Pederson's Northwest History class, was a member of the Philanthropic Educational Organization (PEO), a national women's organization devoted to promoting educational causes. She remembers that PEO meetings suddenly became lively as talk about building tall ships brought people together; the people of Grays Harbor were growing enthusiastic about re-creating the first two *American* ships that shaped Pacific Northwest history.⁸ Professor Pederson and his colleague, History Department Chair John Smith, worked together to write briefing material to take to the Legislature as part of the effort to secure grant funding.⁹

State Representative Max Vekich, a fourth generation Washingtonian repre-



senting Grays Harbor, was a key political supporter who helped move the idea toward a working proposal during the heady days before the Centennial Grants' deadline. Aberdeen's replica ships proposal faced competition from other cities: a Bellingham group proposed replicas of HMS *Discovery* and *Chatham*; the Jefferson and Clallam Counties group proposed a lumber schooner, and Seattle enthusiasts wanted to build the schooner *Exact*, which had transported the Denny Party settlers to Seattle in 1851 to establish what was to become Washington's largest city.

The Grays Harbor group was promoted by the Grays Harbor Economic Development Council and a group of enthusiasts calling themselves the Tall Ships Restoration Society. They placed a measure on the county ballot in the fall of 1986 asking voters to fund a portion of the project using countywide bonds. The measure failed, receiving only 47% "yes" votes. But in the city of Aberdeen itself the vote had been 55.9% in favor. The eyes of the project's proponents turned to Aberdeen.

The state had stipulated that their grant would have to be matched by a municipal bond, so City Finance Manager Fred Thurman proposed a "Tall Ships Tax" that would allow the City Council to pass a measure for a municipal bond and pay it back with timber revenues. This enabled Aberdeen's proposal to qualify, and Grays Harbor Historical Seaport Authority was founded in October 1986 as an unfunded municipal non-profit organization. Its first chairman was community college professor John Smith, and he hired Jerry Walen, then associated with Ellison Timber Company, as the first director of the project. Aberdeen would accept the \$500,000 Centennial Grant, matched by local funds, and administer funding to the seaport.

Construction could now begin, but construction of what, exactly? Maritime historians and illustrators had long searched for records of *Lady Washington* and *Columbia Rediviva*, and while no one had found original plans, several 1790 drawings by second mate Robert Haswell show detailed views of the *Lady* as a sloop.¹⁰ (Captain John Kendrick converted the ship from a sloop to a brig or brigantine in 1790.) Hewitt Jackson's diligent research yielded fine conceptual drawings, and when Raymond E. Wallace was selected as architect for the ships in March 1987, he drew on Jackson's work as well as the expertise of scholars Raymond Aker and John Millar.¹¹

[Editor's Note: Mains'l Haul published an article by the late Ray Aker in Spring 2001; an article by John Millar appears in this issue.]

Wallace had the right credentials; in fact, he had already designed a replica of *Columbia Rediviva* for Disneyland's "Rivers of America" in 1955. The new *Columbia* would be the centerpiece; the plan was that "while one ship will remain in port for visitors, the other will serve as a sail training vessel." Like many ambitious plans before and since, it did not work out as planned; the *Lady* alone would be built.¹²

Ray Wallace intended to "create a faithful replica of this famous brig with slight variations and liberties toward her success as a sail training ship in the twentieth century."¹³ He finished his schematic design of *Lady Washington* as a brig on April 8, 1987. A step beyond the careful illustrations of artists and researchers like Hewitt Jackson, it was still far from the detailed plans needed by those who would actually build a modern ship with a mission of taking paying passengers on sail training voyages.

To succeed in this role, a replica *Lady Washington* would need to adhere to Coast Guard regulations that required modifications for the safety of passengers and crew. She would diverge from the original vessel by including an engine, power generator and lights, electronic communications, sonar, and radar. She would differ, too, in her basic material; while Gray and Kendrick's ship had probably been built of live oak, the new *Lady* would use the Douglas Fir native to the Pacific Northwest.



The planned *Columbia* replica, in Ray Wallace's 1986 sketch on the facing page, was never built, although the project's first logos featured both proposed ships. The Seaport considers *Columbia* "postponed."

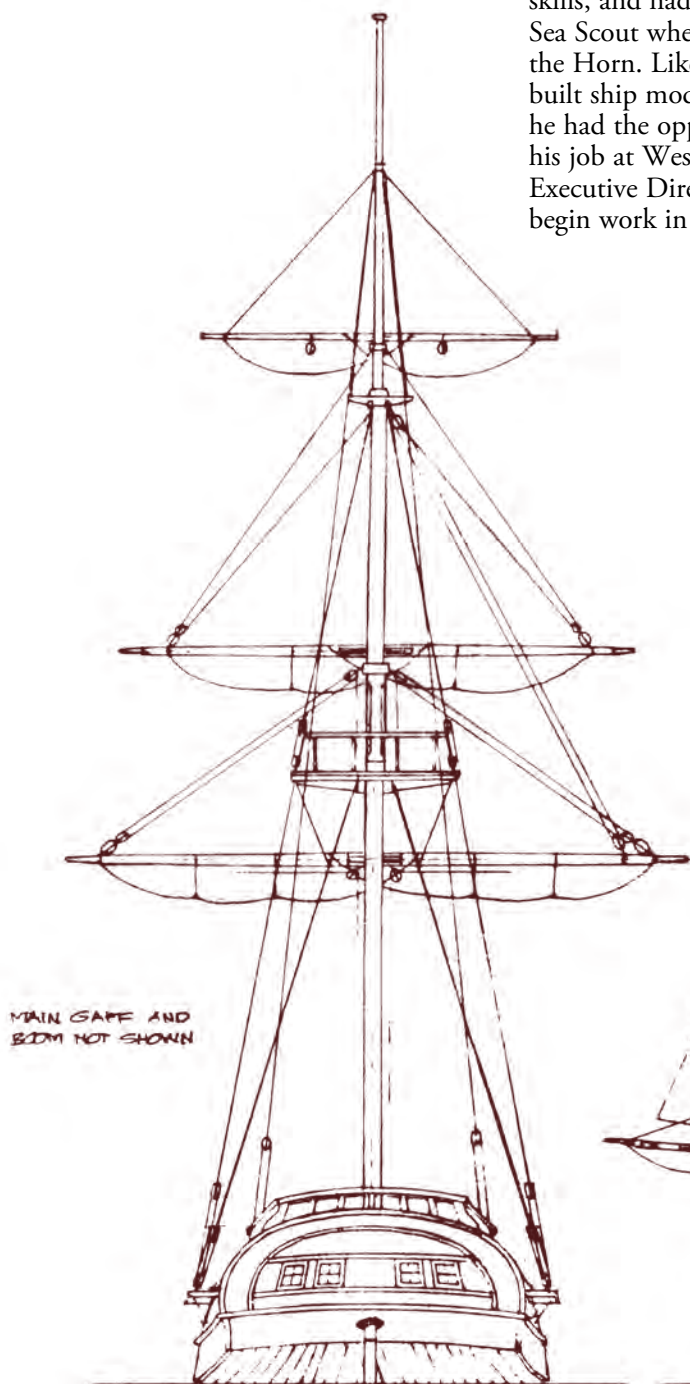
sketch from brochure "Rediscovering Our Destiny;" photo courtesy Grays Harbor Historical Seaport



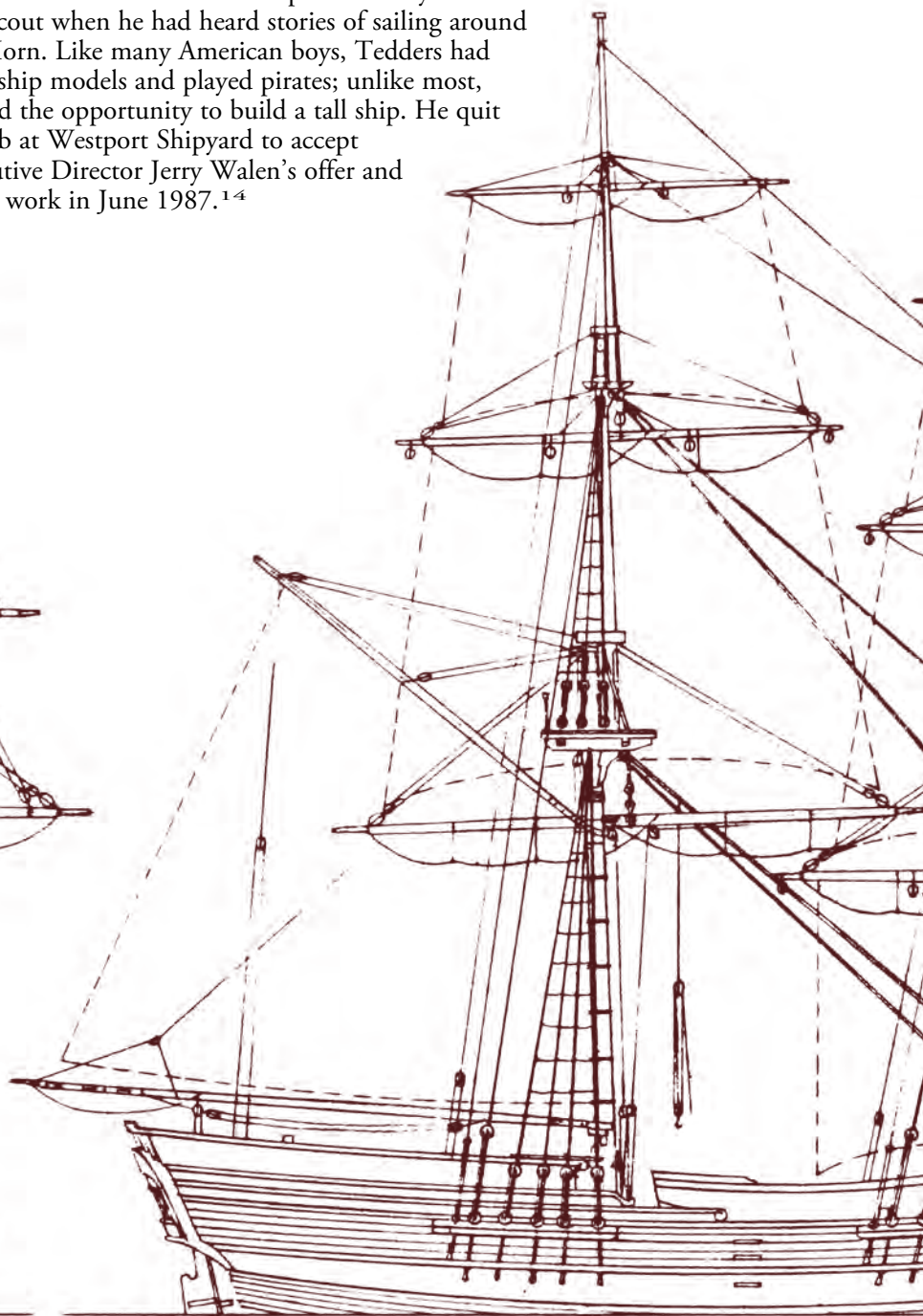
Ray Wallace's 1987 schematic design was released at the same time as his drawings of *Columbia*.

courtesy Grays Harbor Historical Seaport

Local master shipwright Wayne Tedders was hired by Jerry Walen as construction manager. Tedders was working at the time as Supervisor at Westport Shipyard, about twenty miles to the southwest. There, he had been building ninety-six-foot fiberglass yachts, but he had started out as an apprentice building wooden boats. "One of the guys on my crew mentioned that the Tall Ships Society was going to build a replica ship," he recalls, and he immediately knew that he wanted to get involved. Tedders had the necessary skills, and had dreamt of tall ships since his youth as a Sea Scout when he had heard stories of sailing around the Horn. Like many American boys, Tedders had built ship models and played pirates; unlike most, he had the opportunity to build a tall ship. He quit his job at Westport Shipyard to accept Executive Director Jerry Walen's offer and begin work in June 1987.¹⁴



STERN GALLERY & RIG



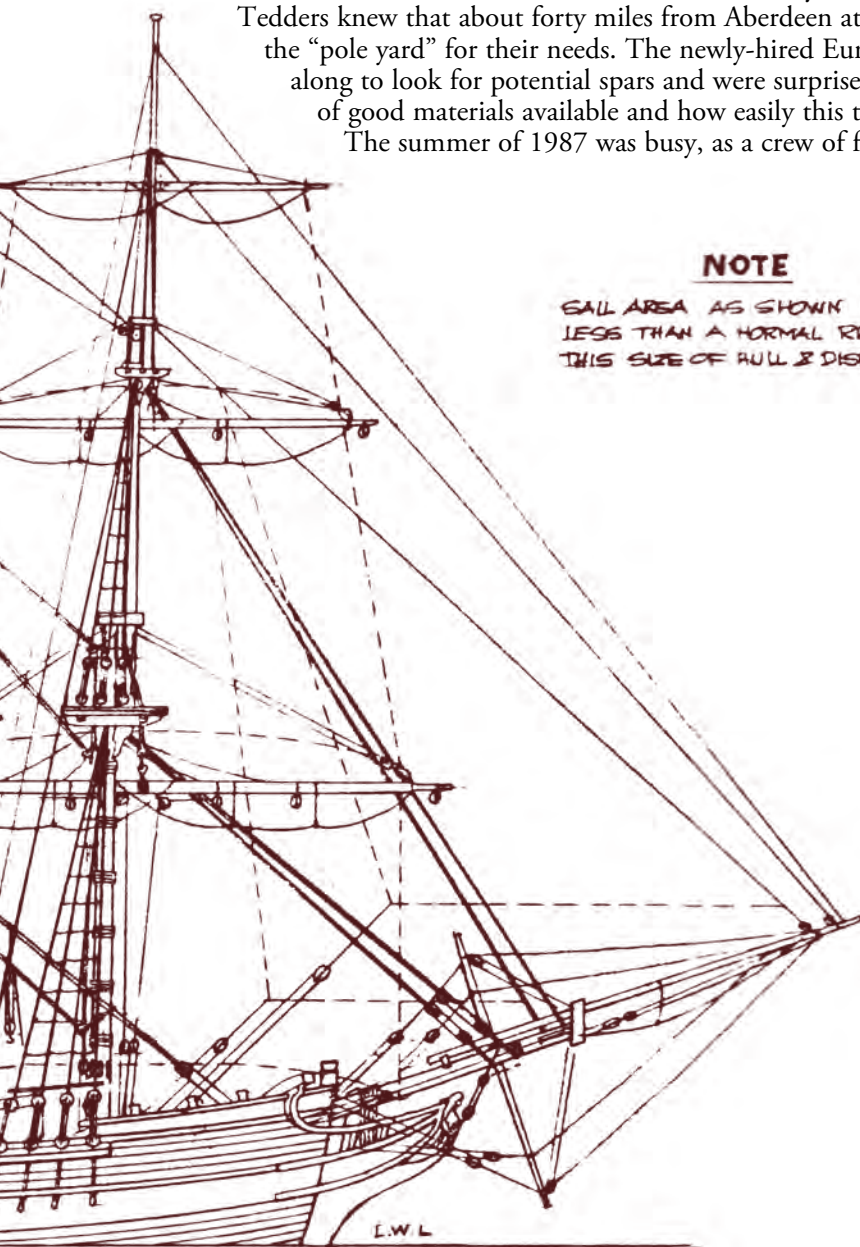
PROFILE, RIG & SAIL P

Tedders immediately began to organize the machinery at the new Seaport and shipyard, located in an old fish processing plant near the confluence of the Wishkah and Chehalis Rivers. Among the items on a lengthy task list was working with architect Ray Wallace on the bill of materials. Tedders remembers Wallace as “a very unique fellow, very knowledgeable—an artist and a capable designer.” Wallace had many stories of other tall ships to share, including his involvement as Master of Ceremonies in the 1976 Bicentennial tall ship parade in New York—the event which kicked off the American craze for sailing old tall ships and building new ones. He impressed Tedders as “someone who had a deep love for the sea and tall ships.”¹⁵

Thankfully for the leaders of the cash-starved project, lumber was not a problem: the forests of the Pacific Northwest were almost literally out the back door.

Tedders knew that about forty miles from Aberdeen at Rochester was just the “pole yard” for their needs. The newly-hired European riggers came along to look for potential spars and were surprised at the quantity of good materials available and how easily this task was completed.

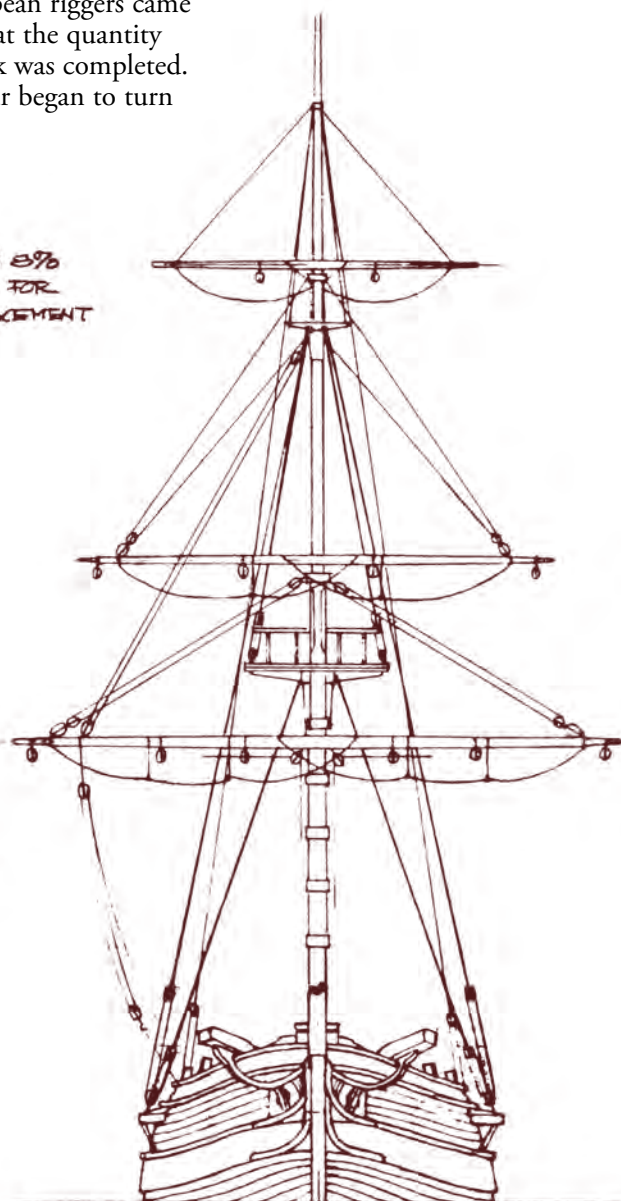
The summer of 1987 was busy, as a crew of four began to turn



PLAN

NOTE

SAIL AREA AS SHOWN IS 87%
LESS THAN A NORMAL RIG FOR
THIS SIZE OF HULL & DISPLACEMENT



BOW VIEW & RIG

MMSD P-11665



out the pieces needed to loft, or lay out at a reduced scale, the lines of the ship on the floor of a building at the former fish plant. The crew worked day and night in the week before the ceremony until about midnight on September 12, 1987, when all was finally ready for the keel-laying ceremony the following morning.

The keel in question was assembled from two enormous timbers felled in nearby forests. Douglas fir was available in large sizes and quantities, but even the finest selected timbers required softening in order to bend them. A forty-foot-long soak tank was built to immerse the thirty- to thirty-five-foot planks in ethylene glycol, heated to about two hundred degrees Fahrenheit. The oak probably used in the original *Lady* is easier to bend because the cell structure is more amenable to softening in hot water, but Douglas fir has more lignins, making it more resistant to water and requiring the ethylene glycol process.¹⁶ Once shaped, however, it makes an excellent material for shipbuilding.

The stress of the first year of construction took a toll on the staff. Executive Director Jerry Walen resigned in August, only weeks before the keel laying. As Wayne Tedders oversaw the laying of *Lady Washington*'s keel, he wondered if the Seaport would be able to continue its dream of building the second tall ship, the larger *Columbia Rediviva*, without Walen, whose energy and money-raising skill had been essential. And great challenges remained in managing the operation once shipbuilding was underway, as did planning for the ship's program once she left the dock.

Although Tedders had a difference of viewpoint with Walen's successor, Janet Richardson, that prompted him to leave shortly after the laying of the keel, he left his mark on the early development and construction of *Lady Washington* by successfully arguing for building her as a brig, rather than in her original sloop rig. His reasoning was the same as Captain Kendrick's, who had altered the vessel's original sloop rig in 1790 to make her a safer and better-handling vessel in the open ocean.¹⁷

As the *Lady*'s hull was beginning to rise in the shipyard during the fall of 1987, Richard Miles replaced Tedders at the construction shed. Miles, who had previously been Historic Ship Director during *Californian*'s construction, was hired as co-designer to turn Wallace's drawing into a sailing vessel. He was initially subcontracted only to design the hull and balance the rig, and found the former task straightforward. "By simply overlaying Haswell's profile painting with compatible period draughts, we were able to determine the most likely underbody."¹⁸ Miles, however, relished the challenge of historical research into an obscure old ship, which he expressed as his calling: "The historical shipwright is most times alone, his 'blueprints' (if there are any) are most often better than a century old, and the architect is a bit more

than a phone call away. He must rely on his skills as a historian, and through research, reconstruct what once was,” taking as his goal “to discover the original intentions of men long put to rest.”¹⁹

The desire to discover those intentions led Miles to a conclusion about the *Lady*’s rig at variance with Wallace’s. “Throughout the design time, the rig type was an issue of debate. It was not until after the ship was fully rigged as a brig that it was conceded that the original *Lady* was most likely a brigantine,” a conclusion to which he was led by the project’s master rigger, retired merchant seaman Charlie Finger. Finger pointed out persuasively that Captain Kendrick probably would not have been able to manage the difficult conversion of *Lady Washington* from sloop to fully-rigged brig, but likely had simplified by incorporating the sloop’s mast as the mainmast of a brigantine, adding only a foremast and yard. A 1791 account described her conversion “from a sloop to a brigantine, this being the cheapest way he could refit.” This brigantine-rigged *Lady* apparently provided Kendrick with the open-ocean carrier he desired rather than a mere coastal consort vessel, as the sloop-rigged *Lady* had been to the larger *Columbia*.²⁰ The replica, however, was and is a brig—a typical rig for this vessel’s size, type, and period, but perhaps not the one the prototype *Lady Washington* had actually carried.

The new *Lady*, launched in a drizzle on March 7, 1989, is fifty-six feet at the waterline (extending to an amazing 112-foot sparred length after her bowsprit was added), with a beam of twenty-two feet and an eleven-foot draft. Her figurehead, carved by Bob McCausland of Aberdeen, is as worthy of provoking admiration as the original *Lady*’s figurehead had been in 1791. Then, it had impressed Japanese officials at Kushimoto on southern Honshu Island, when she made her only visit to Japan among several trans-Pacific voyages.²¹

It required another month and a half after launching to step the replica’s ninety-foot mainmast and eighty-foot foremast, and to rig them with the two miles of standing rigging and over four miles of running rigging which enable her to carry 4,443 square feet of sail area.²² After the launching in March, the shipyard raced to complete work before the shakedown cruise, planned to coincide with “Discovery Days” festivities in Grays Harbor in May, 1989. When her keel hit the water, however, stormy seas were just beginning for Grays Harbor Historical Seaport. The task of building a ship is very different from the task of operating one. Equally challenging was learning how to run a Seaport while the main attraction was sailing beyond the horizon.

A series of executive directors served short terms until Les Bolton was rediscovered by the board in December 1990; he had previously applied unsuccessfully for the job. Hiring Bolton “was the best decision I ever made,” says former Board Chairman Doug Zimmer.²³ Bolton had run a tall ship charter business and served on the Washington State Centennial Maritime Committee. He had continued to think about

1988 photo; courtesy Grays Harbor Historical Seaport





May 1988 photo; MMSD PC-2528-C

the struggling Seaport's needs, and, anticipating the need before he was hired, prepared a forty-page business plan for operations, which included educational tours for students and charter sailing trips. He proposed, for example, a longboat education program to operate from the Seaport as one answer to the "empty berth problem" when *Lady Washington* was voyaging.

Bolton's hiring came amidst rumors that the Seaport was considering selling the *Lady*. After a 1990 state audit had criticized the organization, he was approached by Secretary of State Ralph Munro, a longtime supporter of the project, and encouraged to apply. There was no longer any thought of building a second ship; Bolton's job would begin with reopening the office that Interim Executive Director Ralph Empey had closed in September 1990 in response to the financial crisis reported in the state audit.²⁴ Since Les Bolton's hiring, the tide of funding has advanced and receded, but never with the tidal-wave-like sense of onrushing calamity that overshadowed the ship's first year of operations.

The *Lady*'s introduction to the world suffered another potentially disastrous setback in a spectacular September 1991 collision with a Columbia River railroad bridge just below the "Tri-Cities" of Kennewick, Pasco and Richland. The automated bridge malfunctioned and lowered the track before the ship had passed safely through, dismasting her, but fortunately no one among the thirty-nine aboard was injured. As Bolton recalls, "it was a sad-looking *Lady* that motored home for repairs."²⁵ The accident demanded that the Seaport undertake a "crash course" in re-masting and re-rigging. It also added new expenses for the organization to manage while the insurance claim was pending, although volunteers devoted thousands of hours to rescuing their *Lady* in distress. Over the winter, staff and volunteers made the ship ready for action on the high seas of historical reenactment.

Far more positive visibility came in 1992. *Lady Washington* was asked to sail as flagship of the International Maritime Bicentennial celebrated by British Columbia and the states of Oregon and Washington, making appearances in the Columbia River to mark the anniversary of its discovery by Gray and the visits of Vancouver's *HMS Discovery* and *Chatham* as they began charting the Northwest coast in 1792.

The Seaport's always shaky finances also found firmer footing in an unexpected place in 1993. Paramount Pictures approached the organization with a strange request: could the *Lady* appear in a futuristic "reenactment"? Thus, a replica late-eighteenth-century merchant ship made her film debut in *Star Trek: Generations*, apparently on the "holodeck" of a Star Fleet spaceship, playing the "original" USS *Enterprise* after which the spacecraft of the *Star Trek* television series and films was ostensibly named. Released in 1994, the film made other Hollywood producers aware of a potential leading *Lady* sailing out of a port conveniently located on the West Coast.

Walt Disney Studios was among those paying attention. *Pirates of the Caribbean: The Curse of the Black Pearl* was a smash box office hit in 2003; the fast pirate ship *Interceptor* in the film was played by the *Lady*, which had voyaged to the Caribbean for filming at the end of 2002. Her pirating adventures on the big screen continue; spring 2005 found the Seaport's carpenters shaping masts, yards, and spars for a sequel, *Pirates of the Caribbean: Dead Man's Chest*, slated for release in 2006. Income from film work has been vital to enable the *Lady* to accomplish her other missions.

The financial cushion of Hollywood work helped the ship survive a near body blow to her operations in 1998 when faced with the loss of her Seaport home. A developer's project at Aberdeen Landing required the Seaport to close its office and the boat yard where she had berthed for nearly ten years. The Grays Harbor Historical Seaport Authority Board of Directors and Advisory Council were unsuccessful in their efforts to find a new waterfront home in Aberdeen, and a site was proposed further up the Chehalis River that offered potential for a shipyard operation but, initially, no waterfront access. The ten-thousand-square-foot shop and two smaller shops, however, were ideal for boatbuilding and there were possibilities of acquiring frontage on the river, so the board voted to approve the acquisition, now called Seaport Landing.²⁶

As her educational programs, port visits, website,²⁷ and film career have flowered, *Lady Washington* has also found an unexpected role as an ambassador between cultures in her native Pacific Northwest. In the shadow of the 1992 Columbian Quincentenary—the anniversary of the European discovery of America, whose outcomes have been much disputed by living Native people—this replica Ship of Discovery has sailed a delicate course. This journey began with the *Lady*'s invitation to a 1992 Makah potlatch ceremony at Neah Bay, Washington, and has continued to unfold since. Most recently, she carried descendants of Captains Gray and Kendrick on a "Voyage of Reconciliation" along the west coast of Vancouver Island, where she was met on July 16, 2005 by three tribal canoes and led toward the site of a village which Gray had ordered burned two centuries before. Robert Gray's descendant William Twombly offered apologies to members of Canada's Tla-o-qui-aht First Nations: "We are sorry for the abduction and insult to your chief and his great family and for the burning of Opitsaht," an apology that was accepted by a tribal representative.²⁸

It is this type of connection between past and present, in which *Lady Washington* serves as a vehicle for truly living history, which makes her more than merely another example of the challenge and art of constructing and operating a replica tall ship. The fact that she was built in a small, economically depressed lumber town, and remains based there two decades later, is unique. The name GRAYS HARBOR chiseled onto the *Lady*'s transom has become familiar to thousands on the Pacific coast from Canada to Mexico, thanks to her active voyaging schedule, and is known as far afield as Japan. The Aberdeen area itself has made something of a comeback from the dark days of the 1980s. Its most famous current resident continues to hoist topsails and fire her guns in ports along the Pacific coast, reminding the world that ambitious and imaginative people in small towns may live to see their dreams realized: making history alive and ready for the contemporary adventurer to step aboard.

NOTES

- 1 Aberdeen Museum Director Dann Sears, interview by the author, 14 July 2005. His source is Larry J. Workman, *Land of Trees: Scannings From Quinalt Country, The Grays Harbor Region, and Beyond, 1774-1997* (Taholah, WA: Quinalt Indian Nation, 1997).
- 2 "Grays Harbor and Pacific Counties Profile," Labor Market and Economic Analysis Branch, Washington State Employment Security Department, Olympia, WA, April 2002.
- 3 John Smith, interview by the author, 4 April 2005.
- 4 Francis E. Cross and Charles M. Parkin, Jr., *Sea Venture: Captain Gray's Voyages of Discovery, 1787-1793* (St. Petersburg, FL: Valkyrie Publishing House, 1981).
- 5 Parkin, interviews by the author, 1 June and 16 July 2005. Parkin had formed the *Columbia Rediviva* Society in Oregon, which unsuccessfully attempted to raise interest in rebuilding that ship.
- 6 Today, the Bulfinch Society is a group of benefactors who raise financial support for Grays Harbor Historical Seaport [hereinafter cited as GHHS].
- 7 Quoted in "Rediscovering Our Destiny" brochure, GHHS, 1986, 5.
- 8 Barbara Caskey, interview by the author, 6 April 2005.
- 9 Lyman Pederson and Smith, "A Brief Sketch of the Discovery and Early History of the Pacific Northwest and the Significance of Robert Gray's Voyages," unpublished briefing paper, Tall Ships Restoration Society of Grays Harbor, November 1985, GHHS Library.
- 10 This drawing is in the collection of the Massachusetts Historical Society.
- 11 Hewitt Jackson, "Lady Washington: Little Known Northwest Coast Pioneer," *The Quarterdeck* [journal of the Columbia River Maritime Museum] 17 no. 3 (Spring 1991): 5-7. Howard I. Chapelle and Samuel Eliot Morison also contributed to Hewitt's work. Wallace was recommended for the project by John Millar. "Ray flew out here and we spread all the drawings I did and his redrawings of them on the dining room table." (Millar to Mark Allen, e-mail, 9 March 2005.)
- 12 "Rediscovering Our Destiny," 7.
- 13 Raymond E. Wallace, "Schematic Design and Concept of the Brig *Lady Washington* for Grays Harbor Historical Seaport," drawing dated 8 April 1987, GHHS.
- 14 Wayne Tedders, interview by the author, 1 June 2005.
- 15 Ibid.
- 16 Smith, interview by the author, 3 April 2005.
- 17 Tedders, interview.
- 18 Richard L. Miles, "Building the *Lady Washington*: The Importance of Research," *Seaways: Journal of Maritime History and Research* 1 (January/February 1990): 29.
- 19 Ibid., 31.
- 20 Ibid.
- 21 Jim Mockford, "The *Lady Washington* at Kushimoto, Japan in 1791," in William S. Dudley and Michael J. Crawford, eds., *The Early Republic and the Sea: Essays on the Naval and Maritime History of the Early United States* (Dulles, VA: Brassey's, 2001), 83.
- 22 Statistics on *Lady Washington*, GHHS.
- 23 Doug Zimmer, interview with the author, 24 April 2005.
- 24 Les Bolton, "Five Years Before the Mast," *Currents* [GHHS newsletter], (Winter 1996): 4. Bolton noted in a 19 July 2005 interview with the author that education programs had originally been modeled on those at Dana Point, California, but differences in vessel design and access made *Pilgrim* an inadequate model.
- 25 Ibid.
- 26 Briefing materials assembled for GHHS Authority Advisory Board meeting, 14 November 1998, GHHS office. Assembled by Dick Ireland, consultant from the Aberdeen firm of Business Solutions, these are a major source of information, and include extensive news clippings from November 1985 to December 1997, videotapes of television coverage, a 1987-1997 financial history of the organization, and a board and staff history. These materials, along with Ireland's interviews with key educators and description of the seaport's education and longboat programs, were intended to provide Board and Advisory Council members insights into planning for the ship's new home.
- 27 As befits a ship from the technologically-savvy Northwest, she has long had a significant online presence. In 1996, volunteer Mark Olsen approached Director Bolton with the idea for a website, putting "I love the *Lady*" material on an unofficial site managed from his office. Olsen's company purchased the domain name "ladywashington.org," and offered to host it at a reduced price. Andrea Aldridge, a professional editor (and volunteer "topman"), offered to climb down and donate time to the website. Soon "*Lady Love – The Lady Washington Home Page*" claimed to be "the largest and most frequently-updated tall ship site on the planet." Impressed with Olsen and Aldridge, Bolton made this the ship's official website. The position of Ship's Steward/Communications Officer has become essential to the daily email updates from the ship developed by Mason Marsh and Mark Olsen.
- 28 "Fur Trader's Descendants Apologize to British Columbia Indians," *Seattle Post-Intelligencer*, 18 July 2005. During his visit to Clayoquot Sound, Gray, fearing attack, took a son of Chief Wickaninnish hostage and ordered First Mate John Boit to burn Opitsaht. No one was killed, but over two hundred houses were burned. Other events of reconciliation in which the replica has played a part include her 2004 sailing to Alaska, in which a member of the Kwakwaka'wakw tribe helped pilot her through tribal waters in Queen Charlotte Strait; arriving at Sitka, she was greeted by representatives of all the peoples of southeastern Alaska. In June 2005, upon crossing the Columbia River Bar and arriving in Chinook tribal waters, the flag of the Chinook nation flew from the foremast to show respect to the people of *Ela-be-kail* (the Columbia River), who in turn escorted the ship in canoes to bid her farewell, before she sailed home to Aberdeen.

Jim Mockford of Vancouver, Washington, is one of many who followed the ship's construction in the media before making a pilgrimage to Grays Harbor with an offer to help. Like others, he was drawn aboard for a longer voyage than anticipated; he recalls that he was soon an Advisory Council member. Sailing in 1992 to a Makah potlatch was the first of many tall ship adventures for him. A software quality engineer at Wacom Technology, and former Director of Washington State's Japan-America Society, Jim is a devoted maritime historian; his articles have appeared in the anthology *The Early Republic and The Sea*, and recently in *Terra Incognitae*.

Lady lies alongside *Berkeley*
on her first San Diego visit,
February 1994.

*Photo by Randall McLachlan,
MMSD P-10480*



Nuovo Mondo: A Sailing *Felucca* Replica for San Francisco

Stephen Canright



The author, center, and co-workers try to master the new *felucca*'s lateen rig as they deliver the boat in 1987. Her design is Mediterranean in origin; the word *felucca* itself is Arabic.

Courtesy San Francisco Maritime National Historical Park

Throughout the second half of the nineteenth century, sturdy double-ended *felucca* fishing boats were emblematic of the San Francisco waterfront. Their distinctive lateen rig was exotic to American and Northern European eyes, but in the hands of Italian immigrant fishermen it was reportedly quite effective, the boats being reasonably weatherly, quite fast off the wind, and rarely known to capsize or broach.

Gasoline engines became available to the market-fishing fleet beginning in the mid-1890s, and the *felucca*'s sailing days were numbered. A decade of development and experimentation led to the production of the familiar "Monterey" power fishing boat hull by about 1915, which quickly came to dominate the market fleet. The last pure-sail *feluccas* were retired by the early 1920s.

By the 1970s, under Curator Harlan Soeten, the San Francisco Maritime Museum somewhat belatedly began to take an interest in local small craft. The *felucca* type, however, was virtually extinct. The State Historic Park got involved with the building of a regrettably conjectural replica in 1976. The boat turned out to lack both freeboard and stability on a brief trial trip: it ended up as an attractive, if not particularly accurate, exhibit piece on Hyde Street Pier.

There were, however, still several original hulls around. Soeten and I became aware of three of them, about twenty miles north on Tomales Bay, tucked behind Point Reyes. They were used in the cultivated oyster fishery run by the Dalmatian Vilichich family out of the town of Marshall. In 1979, the family donated an 18-footer built at San Francisco around 1910 to us. She had been motorized, probably in the 1930s, but after about 1940 was used as an oar-powered skiff, and had later been encased in fiberglass. We took her in and put her in dry storage in the old Haslett Warehouse Building.

The two other hulls at Tomales were another 18-footer which is still afloat, now with a bit of restoration, and a bigger boat perhaps twenty-four or twenty-six feet long. She went to pieces finally, sadly unrecorded, in the fields outside the Marshall Boat Works. We took in one last hull in the late 1990s, a 24-footer once owned by Sausalito artist Jean Varda.

In 1982, we began to get National Park Service project money to deal with the small craft collection. One of the early contracts was with Larry Hitchcock, a San Francisco boat-builder, to restore the Tomales *felucca* hull.

We were guided at that point by a rather naïve desire to see boats restored to a “seamanlike” condition. Our assumption was that with minimal replacement of original fabric we could develop a boat suitable for dry exhibition, returned to a reasonable approximation of her original appearance and rig.

In the case of the Tomales *felucca*, this approach proved unfeasible, and probably conceptually misguided. The boat had been fully encased in fiberglass, so that its true condition was not immediately apparent. As Larry Hitchcock

After peeling fiberglass from the bow of the Tomales boat, Larry Hitchcock (right) began to see the weakness of the museum’s original approach.

photo by Ed Joltz, courtesy San Francisco Maritime National Historical Park





postcard circa 1895-1905; all images courtesy San Francisco Maritime National Historical Park

began to carefully strip off the glass, a wealth of detail emerged as to the original configuration of the boat. The original deck layout was intact, and the mast-partner cutout in one of the midship thwarts proved the boat's identity as a sailing hull. The condition, however, was dismal. All of the iron nail plank fastenings were gone. All of the oak frames and deck beams, and the stem and stern posts, were too rotten to hold fastenings. Any sort of preparation of this boat for exhibition would have involved replacement of better than fifty percent of her existing fabric. Hitchcock became uneasy with the direction of the project and put it on hold

for a time.

We finally decided that the only feasible course was to stabilize the original hull and hold it intact as a type piece. We would then build a replica alongside, holding closely to original construction technique. This could be done for only a modest increase in the original contract price—and would give us a working example of an extinct type for experimentation.

After about six months of work, our replica was finished in late 1987 and was named *Nuovo Mondo* or “New World,” after an original boat Hitchcock spotted in a photograph. The construction meticulously copied the original. Her Port Orford cedar planking was tight-seam, accomplished with help from builder Alan Cameron.

While the hull and deck setup could be copied directly from the original, the rig had to be reconstructed from photographic evidence. Fortunately the Museum has scores of images of *feluccas*, including some very detailed closeups of the boats in their slips at Fisherman's Wharf. We pored over these images, and Hitchcock finally produced a very convincing approximation of the original.

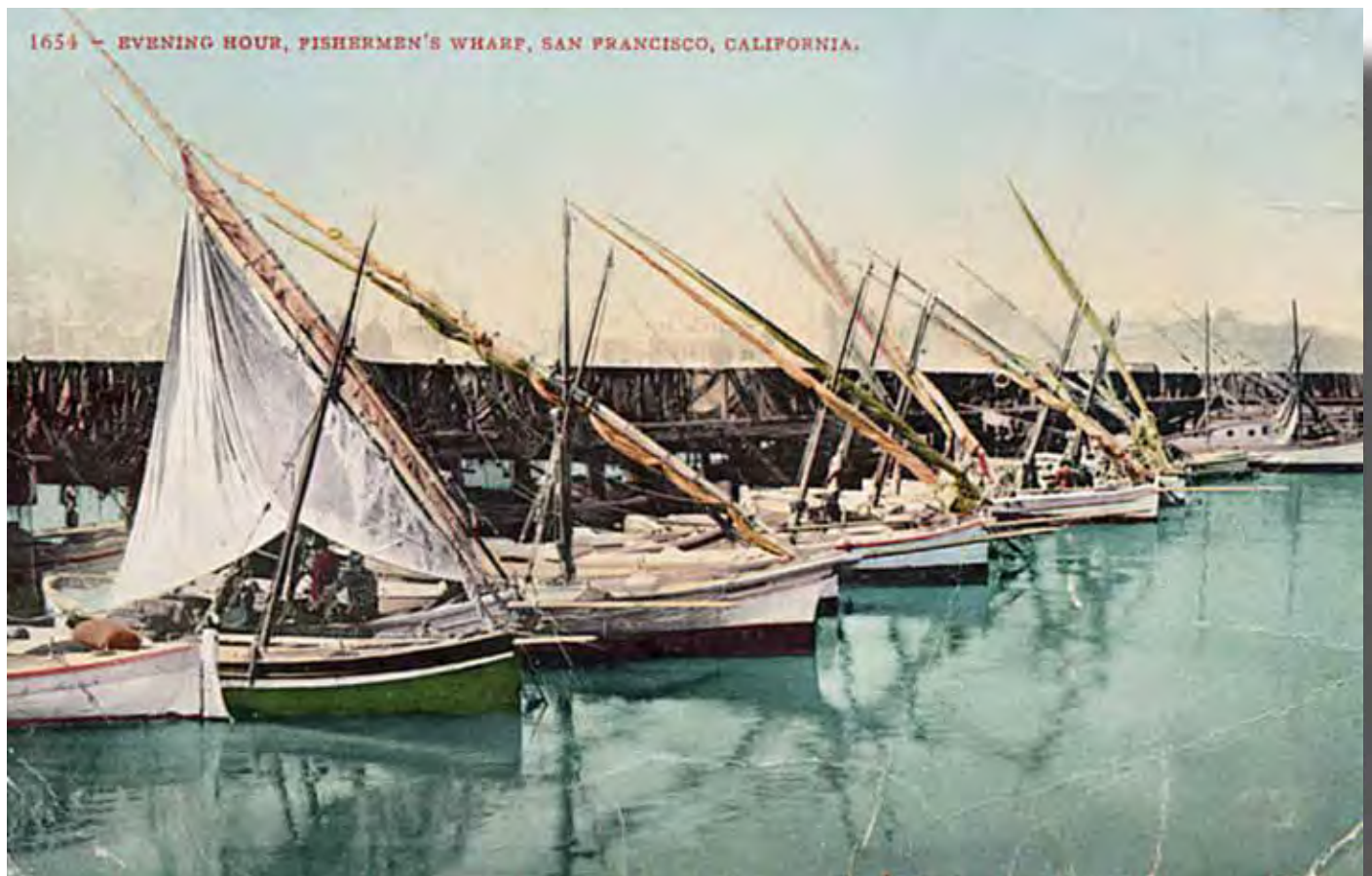
The boat was launched near Hitchcock's shop on the southern Bay Front. After a worrisome first twenty-four hours, her planking swelled enough to begin keeping water out. We delivered the boat under sail to Hyde Street Pier, beginning to get some sense of her characteristics, and learning to use the rig. We were very aware of making history of sorts; it was the first time a *felucca* had been under sail on the Bay since the early 1920s. We sailed her in the Master Mariner's Regatta of 1988, in a gale—and at least lived to tell the tale.

Over the next years, the boat was sailed regularly by staff and volunteers of our Small Craft Department. The performance, however, was always a bit disappointing, especially to windward. In the mid 1990s a group headed by Associate Curator John Muir and volunteer Robert Duncan took a new look at the rig, and came up with refinements including a longer mast, a longer yard or antenna, and a correspondingly larger sail. The shape of the cap on the stem

post, which serves as a fairlead for the tack of the sail, was revised and enlarged, and now makes more functional sense. Duncan has taken the boat on several of the Park's yearly "Gunkhole" expeditions into the Sacramento Delta, demonstrating the improved handling of the new rig.

In recent years, the replica, now sporting an almost jarring trim scheme of yellow and light blue, has become something of an international star. She has been shown at small craft gatherings at Mystic Seaport and on Chesapeake Bay, and has twice been shipped to Europe to participate in events in France and Italy. Traditional boat preservationists in the Mediterranean were surprised and gratified to hear of the existence, and reemergence, of a lateen tradition on San Francisco Bay. John Muir and the little band of staff and volunteers who accompanied the boat have received an invaluable immersion in lateen lore, enabling them to continue to refine and tune the rig.

Now returned home, *Nuovo Mondo* will continue to show the flag around the Bay, and the boat gang will keep deepening their understanding of the nature of these emblematic San Francisco vessels. My colleagues and I can certainly be pleased to have helped a storied design sail back out of the fog of memory.



A New Shrimp Junk for San Francisco Bay

John C. Muir

A Chinese shrimp junk ghosts along the City's waterfront around 1890. Exotic-looking to today's San Franciscans, junks were an everyday sight to their predecessors.

*courtesy San Francisco Maritime National
Historical Park, Shaw Coll., A7.105nl*



From the moment I saw the photograph at left, and a handful of other images of junks on San Francisco Bay a century ago, I felt amazed at their beauty and uniqueness, and surprised at how little was known of them. Their story was barely told in a tiny display at Marin County's China Camp State Park, and in a small permanent exhibit at San Francisco Maritime National Historical Park, where I work as Associate Curator of Small Craft. It seemed amazing to me that, in the century since legislation forced Chinese entrepreneurs from shrimp fishing, no one had attempted to build a replica of their distinctive vessels.

The prospect held great promise, for even a rough copy of these sailing machines was guaranteed to be a thrilling vision. Planked in redwood, built rough and low to the water, sporting the five-batten sail and lug rig of Southern China, with a wildly-humped leech, they were steered by an almost surreal form of rudder. The details, however, of these junks' construction have almost disappeared. The opportunity to reconstruct a vessel so central to the waterborne history of a region, so representative of the story of an entire community, and so nearly erased from the public memory is rare indeed, and proved irresistible to me and to the supporters and volunteers who brought the *Grace Quan* to life.

Rescuing a design from oblivion is fraught with challenges. When the goal is to create as exact a replica as possible, the weightiest pressure is not to make a vessel that floats, or even one that comes in on time and under budget, but to make one that is true to the original. A replica on display at a public institution is subject to the review of thousands of inquiring minds, and I knew that my work would come under close and constant scrutiny. With no existing local junks left, and no one who could recall them, the thread to the past of these marvelous vessels was thin and barely holding. How could we weave an accurate reproduction from this thread?

During a few years of hunting through archives I managed to collect over thirty historic photographs of these junks. They advanced my understanding of the general form of their construction, but each insight they provided was matched by a slew of unanswered puzzles. One challenge the photographic record offered was the fact that they had been taken over a thirty-five year period, from 1885 to 1910, and featured junks from several different companies. No two were exactly alike, no photograph featured every detail, nor were they taken from angles that were friendly to a detail-seeking boat builder. So, from the project's beginning until today, I have played a ceaseless, mind-numbing game of "Photograph Concentration," looking from one image to the next while holding details from other photos in my mind. Of the interior configuration there were only three fuzzy images (including the one at left), separated by at least thirty years. Of the hull below water, aft compartments, mast step, or rudder gudgeons, there were none. Clearly, we needed more data.

You can imagine my excitement when I was told in 1996 of a pair of junks buried in the mud at China Camp State Park. These had been tied to the piers at the shrimp fishing camp in 1913, when fire swept through. The junks burned to the waterline, sank, and were subsequently buried in fine silt on tidal mudflats. A team of State Parks archaeologists discovered them in 1977 during an extreme low tide, on the last day of their land-based survey, and had just a few hours to document them before the water returned. The only remnant of their work I found was an enticing photo of the outline of a vessel as it appeared at the surface of the mud, and a single heavily-smudged measured sketch of what they

had found; definitely not enough to build a replica from. As it happened, though, I was in the middle of graduate work in Cultural Resources Management at Sonoma State University. Promising a low-impact excavation, I managed to talk my professors and State Parks officials into letting me take a crack at uncovering, documenting, and reburying one of the vessels for my thesis project.

Excavating in fine silt while the tide was out, was, to put it mildly, a challenge. To get to the site, my team of volunteers strapped on snowshoes (rented in midsummer under the false pretense of a student film project) and trudged out across the mud, lugging equipment and cameras. Immediately we could see the fine shape and surprising size of the vessels beneath. Next came the Sisyphean task of removing wet mud from the hull with

hand trowels, plastic shovels, and, eventually, our hands. Water gushed in wherever mud was removed. Tools set down for a moment were immediately swallowed up and lost. While we labored, the documentation team struggled to read their mud-speckled measures and keep their field books clean. On the first of our three days of work, a relatively heavyset worker suddenly found himself exhausted, and sank in the mud to mid-thigh. Half the team spent a precious hour of our four-hour low tide window extricating him using plywood, shovels, and tackle.

The payoff of our struggle in the mud, however, was the almost perfectly intact footprint of a vessel over forty feet long, its wooden hull gleaming a deep reddish brown. The fine, clayey silt had created an anaerobic seal around floor timbers, planks, and keel, and the redwood and fir timber was as solid as new. Our experience of the dig was both exhausting and affecting. At the end of the final day of excavation, just before we reburied the site, I stood in the stern photographing a section while my museum colleague Jason Rucker worked in the bow. Simultaneously we turned to each other and shuddered, momentarily overcome by the sensation of standing in spaces last occupied by long-gone Chinese fishermen. We vowed that the privilege would be repaid with the ves-



The author (in muddy white) and dedicated volunteer Francisco Hernández struggle to make sense of what they find in China Camp's tidal mud.

courtesy San Francisco Maritime National Historical Park.

sel's reconstruction.

The archaeological remains told us that whoever had built the vessel was definitely Chinese. In every section were features that left us scratching our heads in bewilderment. A mast step with two parallel mortises? A daggerboard trunk *forward* of the mast? Triangular notches along the inside of the planking? Other features, like a giant false stem and a free-floating scarf joint we recognized, but never guessed were used in junks. We were also delighted to find that enough of the hull remained to get a good sense of her shape below the water. Our grueling days of muddy work had brought us leaps and bounds closer to creating an accurate replica.

Even after our dig, though, I felt that enough questions remained to warrant a trip to China. The construction of the stern section, and particularly the form of the mast partner, continued to elude me. If close relatives of our shrimp junk survived, then answers to many questions simply lay at the end of a twenty-two-hour flight. My confidence in the usefulness of such a trip was boosted by the fact that

almost all of the immigrants working in San Francisco shrimp camps had come from the same small region, well off the beaten tourist path in Guangdong Province. I arranged a local interpreter, and with him guiding me around the waterfronts, I knew I would be sure to advance my knowledge.

Chairman Mao's Cultural Revolution of the late 1960s and early 1970s, in its tumultuous push to modernize the country, spelled the swift end of the days of sail in Southern China. I had to scour the waterfronts to eventually find two derelict sailing hulks with stern sections resembling those in our photographs. They were a great boon, but even better were active shipyards at the southern reaches of our region. We found one building a variety of wooden fishing vessels, where we were welcomed to observe for over a week. There I watched a master shipwright whacking out familiar triangular notches in the planking; they allowed the builders to nail the planking together along its edges. I spent days watching as he drew out the shapes of frames for a motorized shrimp fishing vessel, working from only a few patterns and his own ideas. I also watched numerous sessions of plank bending, taking exhaustive notes and photographs as the yard tortured huge planks of freshly milled hardwood into new shapes, using fire and different rigs. This had been a big



The author closely observed the Chinese process of fire-bending timbers, as shown at a shipyard in Guanghai. His crew copied the technique on the other side of the Pacific.

courtesy San Francisco Maritime National Historical Park

concern, for we knew from oral histories that our junks had been planked using this method, and it seemed to me that we should bend our planks this way as well. But the concept of setting our very expensive, salvaged old growth redwood directly over a fire worried me some, so I was happy to get a good, intimate sense of the technique beforehand. Our gracious hosts made sure to alert us whenever they were bending, and they patiently withstood our barrage of questions and photograph-taking.

Fresh from the trip, and armed with archaeological data, photographs, four different models, and a set of lines, I felt ready to begin organizing the project. My belief that the construction plans themselves could be finalized during the process, however, proved to be a gross underestimation. Simply to bring the huge bureaucracies of the National Park Service and California Department of Parks and Recreation to a mutual agreement required tenacity and patience. It meant repeated meetings at distant offices, countless emails, even lawyer review. And once the project received a green light, the other duties of fundraising, public relations, team building and project organization fell to me, and the time I had allotted for ironing out final plans was swallowed up by slide shows, meetings, telephone calls, set up, and even timber harvesting. It felt like moving a huge boulder: once it began to move, it was rolling, and had a life of its own. I couldn't slow it down, I couldn't *not* tend to it—and I couldn't dodge out of the way. Finally, in 2003, enough pieces had fallen into place and enough people were enthusiastic that I had no choice but to start, with or without a fully-conceived design. And so we began construction with only a set of lines, a good sense of the dimensions, a lot of questions about details, and a boatload of enthusiasm.

Improvising this way is not for the faint of heart. The pressures of choosing historically accurate and culturally appropriate construction details “on the fly” required constant review of our original sources, and all the steely nerve and focused concentration I could muster. The pressure was amplified by the fact that choices immediately became real and virtually final. Every day, almost all day long, I bounced from one end of the junk to the other at our construction site in China Camp, fielding questions, envisioning details, solving problems, and making choices. It was exhausting, and there were many days when I dreamed of having a detailed set of construction plans that I could simply point to and be done with it.

Improvisation, though, has great advantages. It allowed us to make design decisions based on three dimensions as construction was underway, much as the builders had, with a real and accurate sense of volume, scale, weight, and the nature of the materials. It also had a wonderful and unforeseen effect upon the boatbuilding crew. The daily process of making decisions using historic photographs, pictures taken on my travels to China, and archaeological site plans offered a forum for educating the team about the junk's design and the tradition in which they were building. It also let me draw from their considerable collective experience, perceptions, and talents. I am also certain that their excitement, sense of ownership, and commitment to the project's success flourished because they were so intimately involved in design decisions at every stage. The team of volunteers became almost fanatical as the project progressed, pushing work days into ten-, twelve-, and eventually fourteen-hour marathons of nailing and sawing, planing and fitting. The records for volunteer hours worked worked at China Camp State Park shattered on the beach that summer.



The crew's passion and drive brought the junk to life less than seven months after the laying of the keel. On the last weekend of October 2003, the last sunny weekend of the year, we were ready. The festivities of October 25 were a huge and joyous reward for all of our months of intense work. Lion and Dragon dances by top Bay Area troupes signaled the acceptance of the vessel as a cultural symbol in the community. Hundreds of onlookers watched as, in a traditional blessing ceremony, a huge string of firecrackers was lit, a rope was cut with a swing of the axe by Frank Quan, the Bay's last remaining Chinese shrimp fisherman, and the junk slid effortlessly down the greased skidway to crash into the water. The jubilant crew rowed her to the pier amid cheers and whoops of joy.

But our work was far from over. The next winter was spent on the sail and rig, finishing hand-sewing over four hundred grommets, planing battens, making blocks, and designing the rig. My favorite old game, "Photograph Concentration," was back with a vengeance as we struggled to wring the answers to questions of rigging detail from five or six fuzzy images of junks under sail. We even queried a parade of experienced sailors from the Bay Area's unofficial cult of the junk rig, and sifted their suggestions through our filter of historical images to derive our rig's design. We held our breaths as the sail, with hundreds of hours of work invested, was dipped into a boiling vat of traditional tanbark, and marveled at its lovely color as we hung it up to dry.

The junk rose on the shore not far from the excavation site.

courtesy San Francisco Maritime National Historical Park



Lion dancers of San Francisco's Loong Mah troupe and the Marin Chinese Cultural Association bless *Grace Quan*. The vessel was named after the mother of Frank Quan, the Bay Area's last remaining Chinese shrimp fisherman. The family lived and worked at the site of today's China Camp State Park, where Grace ran the store, bar, and skiff rental business.

Courtesy San Francisco Maritime National Historical Park

Finally, in April of 2004, we hoisted sail and pulled away from the dock. We thrilled as the battens flexed, the sheetlets strained, the hull heeled, and we rounded out onto the Bay. We took turns circling the junk in a Boston Whaler, admiring the sight of the first shrimp junk to sail here in over ninety years. We also had an immediate sense, however, that something was wrong—there was simply not enough speed and responsiveness, given the amount of wind. The wake was troubled, and trailed sloppily off to one side of the stern. Her upwind performance was unimpressive, and she tacked only with a perfect touch on the rudder. Clearly we needed more sail, and we needed more of it forward.

The first year of sea trials yielded other surprises as well. Two different versions of the *yuloh*, the long sculling oar slung over the stern, strained and snapped under the lightest of burdens. The daggerboard

box leaked exactly where we had made our one departure from traditional materials and tried a synthetic sealant. The thole pins for the forward oars were in the wrong place, and crowded the rowers bruisingly. Indeed, the list of needed improvements has grown quite long. As I write, we are working to increase the size of the sail and make a new mast. Replica work, when it consists of more than just appearances, continues well after the launch. We are, after all, attempting to reverse a loss of memory, to regain traditional knowledge and the subtleties of a nautical tradition that evolved over thousands of years, using only a handful of photographs and mud-laden remains. It is an unnatural task, and perfect accuracy is unattainable. But have the years of hard work been worth it? Just the other day, on the Hyde St. Pier here at San Francisco Maritime National Historical Park, I overheard one young Asian-American girl about eight years old say to another: "Junks were built here by Chinese and fished in *this* bay for shrimp!"

I knew I had my answer.

A shrimp junk sails again, off China Camp in 2004. Her sail's color comes from "tan-bark oak"—a native California species, though not actually an oak.

Courtesy San Francisco Maritime National Historical Park



Visitors to the 1915 Panama-California Exposition in San Diego's Balboa Park encountered the world's only Chumash Indian *tomol*, or board canoe. "Without question," pronounced the formidable Smithsonian ethnographer John P. Harrington, "the board canoe is the most unique and culturally intriguing invention to be found among the Indians of California." This one, however, was new—perhaps the first "replica" watercraft in the West. Its builder was a hereditary member of the Brotherhood of the *Tomol*, a traditional craft guild. Fernando Librado (Kitsepawit) loved books and knowledge, and sought throughout his life to learn about the old ways. He found an ideal listener in J. P. Harrington, who brought him to the San Bernardino Mountains to proudly demonstrate and describe his people's boatbuilding traditions. *Tomols* were astonishing craft, built laboriously of hand-hewn boards, each one drilled, then lashed together with fiber and caulked with tule reeds. Their seams were water-proofed with a solution made from asphaltum from natural seeps in the ground, and coated overall with red ochre-based paint. Despite lacking internal structural ribs, they were remarkably seaworthy.

"Gone among those of today are the brave men who venture and navigate the sea," he sadly told his interviewer. Modern Chumash people, however, have happily proved Fernando wrong. His replica was never intended to go to sea, but thanks in part to the knowledge he shared, *tomols* once again are paddling off California's coast.

—the Editor

The First West Coast Replica?

Fernando Librado Talks About *Tomol*-building, 1913

Near the village of Highland in the San Bernardino (where lumber was cheap), bearded Fernando Librado taught ethnographer Harrington, center, a thing or two about *tomols*.

Photo from the Santa Barbara Museum of Natural History, courtesy San Diego Museum of Man



The board canoe was the house of the sea. It was more valuable than a land house...The well-to-do people used to order canoes, having them made at their own expense.

The Indians always had some purpose in going out to sea, for they did not go out just for pleasure. They went out to fish, or to trade with the islands, or to carry passengers, or to travel along the shore.

With their tools the Indians were united in spirit. They had plenty of time to take in their canoe workmanship. The old-time people had good eyes, and they would just look at a thing and see if it was right. No one hurried them up—it was not like the whites. The Indians wanted to build good canoes and they did not care how long it would take. A long time was needed if they were going to make a good canoe....Sometimes it took from two to six months before it was done.

Only the canoe-makers know how to build a canoe....no one else was allowed to hang around.



It was a “patchwork” boat—patched together of many small boards. All the boards were necessarily small because of the driftwood. The only large and wide board used was for the bottom of the *tomol*.

Redwood was the best of the driftwood from which to make a board canoe. It is largely free from knots and can be easily worked to get nice fittings between the planks.

In making planks from a log, they began by examining a log and determining how many boards they could make from it. Then they took their wedges of pine wood, deer antler, bone, or stone, and split the log according to their desire.

All boards used for the *tomol* are of the same thickness. The thickness of the thumb is too much, for it will make the finished boat heavy. The thickness of the little finger is best.

My Highland replica, when the first round of boards had been joined to the bottom board, had a slant...like the sides of a wash basin. The middle of this replica spreads open, while at the prow and stern it is narrow...

Sometimes they...used a bone tool to drill the hole. Holes were drilled into planks for pegging, besides for sewing. I bored the holes in my canoe replica using a knife.

With the gunwale round [the uppermost set of planks in the hull] attached, they have reached the desired height for the *tomol*. Now they make the “ears” and attach them to the prow and stern ends of the canoe. These they make out of boards also. There are four “ears,” each about the size of a person’s buttocks....They are added to dress up the top edge of the gunwale, and so that the *tomol* can cut through the waves well....A *tomol* without ears would not look right.

When sharks were captured and skinned, pieces of their skins were allowed to dry and were later used...like sandpaper to smooth all of their woodworking...



When they have completed the *tomol*, they put it into the sea and row it about, seeing if there is anything wrong with it. They check for leaks and whether or not the canoe is lopsided or sinks too deeply into the water, or if it floats too high on the water.

They row to the rhythm of the song as the *tomol* dips to one side, almost taking water in, but the rowers, swiftly changing sides, rock the *tomol* the other direction....They just keep rowing and singing the same thing—they were smart guys.

Almost every time that a *tomol* comes back from the sea it needs mending, either with boards, with ties, or with tarring....The Indians are always fixing their canoes.

Canoe-faring is dangerous, and drownings are frequent. There [might] be no coming home, for a wind or wave might capsize a *tomol* and a man could drown.

Upon the return of a canoe from a trip at sea, it was the custom for those who came down to the beach to receive the *tomol* to cry. They did this whether there was good news or bad.

They are met in the water by those waiting, for they have come to help unload the canoe there. These men belong to the Brotherhood of the Canoe. Standing in the water, they take hold of the *tomol* just before its bottom would touch the sand. The old men who have been out to sea jump out of the canoe and leave it on the beach where they go to sit down, for they are tired. Meanwhile the others unload...then they carry the *tomol* through the surf to the beach.

A *tomol* can go very fast in the water—as fast as a man can run—but even at that, it will take them about half the day to row across the Channel to the Islands.

The Crossing

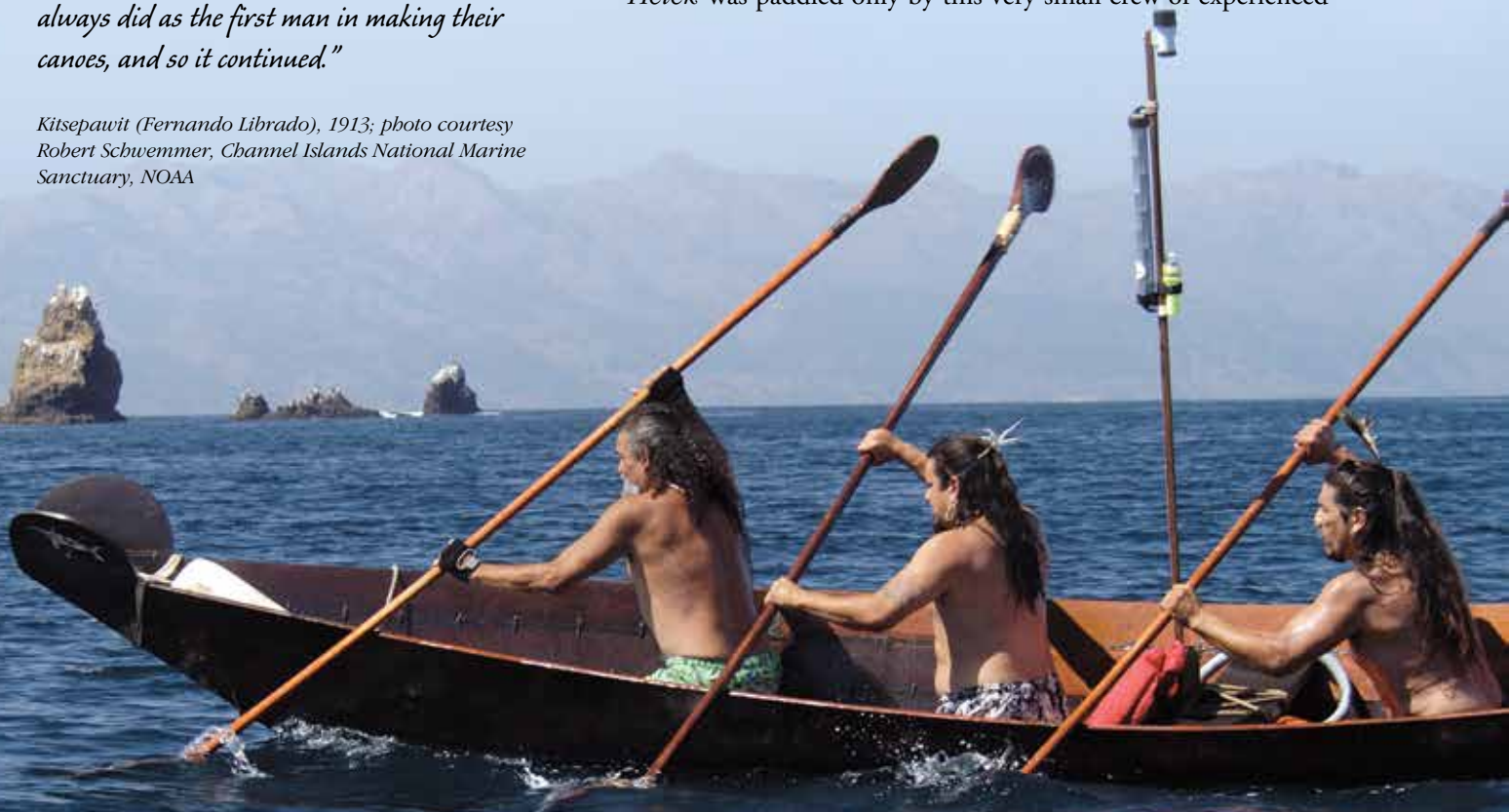
Julie Cordero-Lamb

"The first man in this world said that all the world is a canoe, for we are all one, and what are finishing now is a canoe. When the first canoe was finished, the first man who made it called the others to pay close attention to his canoe-making. Later this maker and his contemporaries died. The next generation remembered how the first man had made a canoe so they too made one. There was always a little difference in their work, so their canoe was a little different from the first one. This generation died and another followed. They always did as the first man in making their canoes, and so it continued."

Kitsepawit (Fernando Librado), 1913; photo courtesy Robert Schwemmer, Channel Islands National Marine Sanctuary, NOAA

The first part of the story of the recent revitalization of Chumash maritime traditions begins with *Helek* and her family of builders, supporters, and seafarers. In 1975, during the establishment of the Brown Power and Native Pride movements, members of the Chumash community participated in building a new *tomol* and named her *Helek*, the Barbareño Chumash word for peregrine falcon, guardian bird of ocean canoe voyages. *Helek's* construction was based on directions given in 1913 by Kitsepawit (Fernando Librado), and was guided by master boatbuilder Peter Howorth. She was the first seaworthy *tomol* built in nearly one hundred years, and the modern-day Brotherhood of the *Tomol* performed one of the more eloquent expressions of the Native Pride movement in taking her to sea. In 1976, the crew of *Helek* made the dangerous crossing between Santa Rosa and Santa Cruz Islands, rough waters known as "the potato patch," for their frequent frothing.

Helek was paddled only by this very small crew of experienced



seafarers, and community participation was limited by financial constraints and safety issues. The Santa Barbara Museum of Natural History sponsored this project, and it was a time remembered by Chumash families as a flowering of a maritime tradition too long buried by oppression and despair. The Brotherhood's efforts will forever remain in a place of honor in the story of Chumash *tomol* and maritime revitalization.

More recently, beginning in 1997 an alliance of Chumash communities have, against all odds, brought back a once-dying tradition. We are a small but significant part of a much larger movement among Indigenous Canoe Nations. Inspired by the renewed spiritual and physical health demonstrated by Northwest Coast Nations and the First Nations of Canada—especially among the youth and elders—members of what was to become the non-profit Chumash Maritime Association rallied other Chumash community members to build a new *tomol*, which many families had desired since the days of *Helek*. That craft had been lost as a living vessel, put on permanent museum display after disagreements and misunderstandings that left lasting enmity behind. In 1997, however, representatives from each of the Chumash tribal territories—Malibu, Ventura, Santa Barbara, Santa Ynez, Santa Maria, San Luis Obispo, plus Inland Chumash people now living mainly in Bakersfield—came together to recognize and bring about a new reconnection of a maritime people with the sea.

With financial support from Channel Islands National Marine Sanctuary, eight members of the Chumash communities (including a Huichol man and a Filipino man who are relatives by marriage) came together every weekend for nine months to build our *tomol*. Other members of the community lent a hand during the more complicated construction steps. During the weeks-long process of detailing the finished hull, the *tomol* builders were joined by many willing and able members of the larger Native American Community in the area. Their experience and high spirits were gifts much appreciated by the *tomol* builders, who were showing signs of weariness after many months of volunteered weekends. Guided through every step by Peter Howorth, who had assisted in building *Helek*, the eight apprentices used power tools and commercially available materials. During each step, the builders constantly discussed which traditional tools and materials would be used for each step of the *next* canoe our community will build—as well as how those natural tools and materials could be acquired sustainably by the coming generations. The Chumash Maritime Association's use of power tools was somewhat controversial, mostly among non-Indian anthropologists and archaeologists who felt that we had lost "traditional" knowledge.

While holding in our minds and hearts the importance of interacting with locally-gathered natural materials for building our next canoe, our employment of power tools, milled lumber, nylon cordage, shipbuilder's epoxy, and some rather unorthodox measuring tools (a Kentucky Fried Chicken bucket) reflected Kitsepawit's observation that succeeding generations' canoes were "a little



"Canoebuilders have a sort of net in which they keep, rolled up, all the things which are necessary for canoe-making. Also kept in this net is a piece of stone shaped in the form of a tomol; it is about six or eight inches long.... These little boats serve as a charm, so that they will always have good luck in fishing."

Kitsepawit (Fernando Librado) 1913; photo of tomol effigy found on the Channel Islands courtesy San Diego Museum of Man

different from the first one.” We knew our time to build the canoes had come, and, with our adopted tools at hand, “so it continued.”

The builders began each day of work with prayers for balance, goodwill, and the support of the larger Chumash community. Strict rules of conduct were adhered to during the entire process. It was imperative that builders take care of themselves by not abusing drugs or alcohol, and no fighting or abusive comments about others were allowed. Menstruating women, in accordance with a practice widespread throughout Native North America, stayed away from the building area and the builders. The canoe builders took care of themselves and each other, creating a bond that grows stronger with time.

Over breakfast at Denny’s, the *tomol*-building crew discovered another place our bond was apparent: nearly all of us involved had thought about, dreamed, or otherwise pondered the name “Swordfish” for the nearly finished *tomol*. Unanimously, and with very little fuss or ceremony, we named the *tomol* ‘Elye’wun (pronounced “el-YEH-woon”), the Barbareño Chumash word for swordfish.

‘Elye’wun’s ceremonial launching took place on Thanksgiving weekend, 1997, and was attended by over

a hundred Native American and Chumash community members. It was a time of great pride in who we are, and in what we are gaining the strength to do together as a community. Chumash teenagers, in their spotless Nikes and baggy jeans, looked on, as yet not quite knowing what to think.

From 1997 to 2001, the Chumash Maritime Association worked alongside several local community and governmental organizations to bring to fruition our visions of a permanent place to build our canoes using traditional and modern techniques and materials, of a place where we can come together and provide programs to mentor Chumash young people, and of an avenue through which to educate the public regarding our people’s past and present maritime activities. As we worked with the people of the local non-profit Community Environmental Council to accomplish the first two goals, the Chumash Maritime Association became partners in the new Watershed Education Center at Arroyo Burro Beach in Santa Barbara. We continued our six-year partnership with the fledgling Santa Barbara Maritime Museum in order to accomplish our mutual goal of educating the public. All our eyes, however, were on the one goal that would weave them all together. All eyes looked



across the Santa Barbara Channel to the ancestral home of the Chumash people, Santa Cruz Island, known to the Chumash as *Limuw*.

As we prepared for the first paddle from the Chumash mainland to *Limuw* in over a hundred and fifty years, our focus on *'Elye'wun* became sharper than ever as we realized how many aspects of our maritime traditions are taught to us by our contact with her. The members of the paddling crew, which grew larger with each passing month, were taught to condition their bodies and minds through attention to nutrition, exercise, and the mental balance necessary to paddle safely as a team on the open ocean. The members of the ground crew learned leadership skills in organizing staging areas and performing the strenuous yet awesomely delicate, heavy-surf landing of our people's one and only 1,500-pound, fully ballasted and manned, hand-sewn plank *tomol*. (*Helek*, drilled with holes and mounted as a museum display, can no longer put to sea.) And, as part of a tradition now in deep practice throughout Indian Country, the members of the Chumash Maritime Association learned to work in the context of strong alliances with our primary supporters, both moral and financial, in organizing a gathering of Chumash people, an event which would take

place on *Limuw* on the second weekend of September, 2001. Funded by the Channel Islands National Marine Sanctuary and by The Seventh Generation Fund, an organization devoted to the interests of Native peoples throughout the Americas, we organizers spent ten months working as a team to make our collective dream a reality.

There is perhaps no communal skill learned by contemporary urban Indian people as complex and necessary as organizing a major cultural gathering. As moderns accustomed to e-mail and cell phones, we were confronted with the reality that these modern tools were limited, if we were going to perform our duties "in a good way"—as this crucially important sense of "old-school" courtesy is rather cryptically referred to throughout Indian Country. We would need to put aside our high-tech tools and set out, offerings in hand, to talk about our plans to the heads of each family *personally*. This invitation protocol was not a special set of rules our parents or grandparents handed down to us. As far as anyone knew, there had never been a return of 150-plus Chumash people to *Limuw*, camping together for days in order to witness the first *tomol* crossing since the Mission period. Miss Manners, we joked, could not help us with this one. Our decision to issue the invitations

courtesy Frank Magallanes and Althea Edwards

"The word replica can be galling to many Native people, when used to refer to items from traditional material culture that were recently created anew. It is an inaccurate term, in that it implies that we are somehow interacting with our traditions merely as weekend recreation, or as commodities—and particularly galling when these traditions were not put aside primarily through our choice to do so, but often by force. The reality that Indian people personify vibrant traditions in the present tense is often met with great resistance from the mainstream cultures. Words like 'replica,' which imply that our traditions are as past-tense as the California Gold Rush, more deeply entrench the false idea that Native peoples are extinct. A copy of William Wallace's sword is indeed a replica. Even Kitsepawit seems to have called his tomol, which made our revival possible, a replica; it was never intended to touch salt water and holds an honored place in the Santa Barbara Museum of Natural History. But Helek, nearby, like the working watercraft 'Elye'wun, is herself a historic vessel, as are the Hawaiian canoes Hokule'a and Hawai'iloa, and as the tomols currently under construction will soon be."

Julie Cordero-Lamb, 2005

personally was common sense in a land where people still know each other. There was no book to refer to, no paper to quote from, no archaeological evidence to guide us, no anthropologist who could offer expert advice, solicited or otherwise, on how to invite Chumash families from violently divided communities to a historic gathering during which their relatives would quite literally risk their lives for love of their traditions. The *tomol* spoke to each one of us of a time when people's intimacy with each other, with the land, with the ocean, and with the ancestors, was all there was in the world.

After ten months of excruciatingly difficult and complex organization, white sage was carefully gathered and tied into gift bundles, and invitations were made. Inter-organizational alliances were initiated and strengthened, travel arrangements were negotiated and paid for, the Park Service campground at *Limuw* was generously donated, and we were given excellent deals on "luxury" tent accommodations for the elders, thanks to the support of sporting goods stores in Santa Barbara. Safety issues were addressed, crew training was stepped up, and RSVP's poured in.

The gifts from the larger community just kept coming. Ed Cassano, director of the Santa Barbara Maritime Museum, arranged for the Museum's boat, *Just Love*, to accompany the canoe as a support vessel across the channel. In an uncanny coincidence, *Just Love* had also been the support vessel for *Helek* when the Brotherhood of the *Tomol* paddled her between the islands in 1976. Cassano had also been responsible, in his previous job as manager of Channel Islands National Marine Sanctuary, for securing the grant that paid for building 'Elye'wun. He has worked tirelessly with the Chumash Maritime Association to bring about this canoe renaissance.

The food was hunted, gathered, purchased in supermarkets, and packed in coolers, and our relatives' pickups were ready to take us to the harbor. At the last minute, word ran through the community that an amazing gift was being sent to the Chumash people. The Nisqually Indian Nation of Washington State had caught, packed on ice, and shipped to Santa Barbara over a hundred and fifty pounds of king salmon for our enjoyment at the feast the night of the crossing. It was a gift, the Nisqually elders said, from another Canoe Nation who understood the importance of what we were doing.

On September 8, 2001, when the crews of *Just Love* and 'Elye'wun left Channel Islands Harbor in Oxnard, it was 3:00 a.m. Twenty-seven miles across the dark and windy channel, at the site of the Chumash village *Swaxil*, many of the waiting families, including mine, had roused ourselves from our tents and assembled on the beach, singing songs of protection and healing, praying for the safety of loved ones about to face the waters that had taken so many of our ancestors before us. We prepared for a day like no other.

The paddlers, too, threw themselves into their day with energy and prayer. Michael Cruz, a member of the *tomol* crew, recalled in *News from Native California* that "I can remember when it was my turn to paddle, around 6:00 a.m."

I climbed into 'Elye'wun and the sun was coming up—you know, the beautiful oranges and pinks—and all the people on the *Just Love* were singing the sunrise song. I could see my sister singing to me, and the islands so close in the fog. It was just so beautiful, I cried; but it was a good cry because I knew that we had connection to everything and that we were going home.

Michael and twenty-one other Chumash and Native American crewmembers took turns paddling for nearly twelve hours over seas that were challenging even for powerboats that day.

Back in the island encampment, two of the younger boys spent the morning on the dock with three of the men, learning to fish with jury-rigged hooks, and lines wrapped around soda cans instead of mechanical reels. When the boys swaggered into camp in mid-morning, loaded down with perch and striped bass, they puffed up their chests and declared themselves men. No one argued with them—their catch was our breakfast. Meanwhile, at the big log by the kitchen tent, several children had gravitated to where I was pounding acorns in a mortar and pestle, preparing acorn flour for the traditional meal of acorn mush, to be served at breakfast the following day. The satisfying thump of the pestle in the acorn flour proved irresistible, and before long all the children had taken a turn learning the technique that had been practiced daily by our ancestors to make this primary staple food. The sound also attracted Park Service rangers, on hand to assist us. None of them, who spent most of their time here on this ancient island home of the Chumash, had ever heard or seen acorn flour prepared in the old way. We agreed that it had been several generations since the hills around *Swaxil* village had resounded with this rhythmic pounding of everyday life. The kids were thrilled to be the first; the adults reflected on the days when it had last been heard.

Elders, young adults, teenagers, and small children set up chairs, beach towels and mats to spend the day on the beach, waiting under gray skies for news of *'Elye'wun* and her crew. Several of the men applied their considerable barbecue skills to roasting rabbit, quail, and the Nisqually Nation's salmon over open fires fueled with chopped wood from downed trees, courtesy of the strong backs and chainsaws of the Park Service staff. The smell of the roasting meat warmed the beach, keeping a smile on everyone's face. No matter what the

*Courtesy Frank Magallanes
and Althea Edwards*



*"Here, many
very good canoes
—in each of which
there is room for
twelve or thirteen
Indians—came
to the ships."*

*Juan Rodríguez Cabrillo, Santa Barbara
Channel, October 9, 1542*

Paddlers pass Arch Rock at
Anacapa Island (and other
landmarks), 2001.

*Courtesy Frank Magallanes and
Althea Edwards*

outcome, we would clearly eat well. The rangers, to their delight, were invited to join the feast.

Relying on Park Service radios for news from *Just Love*, we anxiously prepared for an emergency, having received reports that *'Elye'wun* had sustained a huge crack, and was taking on water almost faster than the crew could bail. Though they were within a few miles of the village, the crew was not at all certain they would make it to land without the assistance of the support boats. The *tomol* captain, Perry Cabugos, after consulting with the crew, made the call to heave some ballast overboard, and to relieve the heaviest crewmember. This left four in the *tomol*, with the other nineteen watching from the deck of *Just Love*, most of them having already put in their time paddling across the rough channel. Only Perry had stayed in for the duration—twelve hours of paddling through the heavy swell. "Every paddle is a prayer," crewmembers were told numerous times throughout their training. On this day, those prayers performed the crossing, and each stroke of the paddles was heartfelt.

On the beach at *Swaxil*, Michael Sanchez, the teenage boy who sat for hours at the top of the hill as the official lookout, ran breathlessly into the village. "The *tomol* is here! They're just around the corner!" This was Michael's first glimpse of any *tomol*, and it was a moment full of pride. The people jumped to their feet and, while assisting the elders to stand and watch, prepared to land *'Elye'wun* and her exhausted crew on the rocky beach. The landing crew stood at surf's edge, while the ceremonial leaders conferred with each other on how best to proceed. Here, we faced another one of those powerful cultural moments for which nothing the books had reported, nothing the anthropologists had constructed, nothing at all in written or living memory had prepared us. What do Chumash ceremonial leaders do when faced with the first community canoe landing ceremony on *Limuu* since the beginning of the colonial period? What those beloved family leaders did was to once again follow the commonsense instincts of protocol—their



practiced ability to do things respectfully, “in a good way.” Ancient songs appropriate to the occasion were sung, scores of voices joined in while several of the small children wearing their traditional regalia danced in the cool spray of the waves. When the *‘Elye’wun* and her four crew members appeared around the rocky bend of the island, everyone fell to pieces and wept and laughed and hugged each other and wept some more. The eldest among us were solemn, some trying to hide the tears streaming down their faces under their sunglasses, others openly weeping.

We had always heard that our ancestors ceremonially wept whenever a *tomol* would depart or land. We had not planned or prepared to enact such a ritual. But now, as we watched while the four paddlers—brothers, husbands, fathers, uncles, cousins, and friends—lifted their eleven-foot redwood paddles straight to the sky in a salute to the village assembled there, we understood the full emotional impact behind our ancestors’ ritual expression. Truly, the *tomol* and her crew were as beautiful “as a flower on the water,” as Kitsepawit had said. Kitsepawit was there at *Swaxil* that day, weeping with us. They all were.

Home at last, the Chumash and our many guests did what came naturally to all peoples on such an occasion: we ate until we nearly burst, we danced, we sang, we told wild tales under the stars, and we remembered.

Substantial parts of the preceding were abridged by the author from her article “The Gathering of Traditions: The Reciprocal Alliance of History, Ecology, Health, and Community among the Contemporary Chumash” in Linda L. Barnes and Susan S. Sered, eds., *Religion and Healing in America* (Oxford: Oxford University Press, 2005).



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Spain's Legacy in the Pacific

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*A Spanish galleon struggles against
“Pacific” winds and seas on a 1622 map
by Hessel Gerritsz, courtesy Bibliotheque
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ship bidding ‘Swing the main yards.’
To loot, steal, or ‘acquire.’”

—John Masefield

DID YOU KNOW?

- that a “ghost galleon” with all aboard dead, was found sailing off the Mexican coast in 1657? (page 20)
- that Spanish missionaries brought a prefabricated chapel to Tahiti? (page 61)
- that Peru’s royal viceroy caused scandal by keeping a *mestiza* opera singer as his mistress? (page 67)
- that the smallpox vaccine was spread to Asia in the arms of Mexican boys? (page 89)
- that these Mexican boys were carried into Acapulco riding in mule saddlebags? (page 89)

Maritime Museum of San Diego

MAINS'L HAUL

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Cabrillo's *San Salvador* rounds Point Loma in 1542, in this 2001 painting by Gordon Miller

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"It was the first in time of the great seaborne empires of Western Europe, for long the richest and most formidable, the focus of envy, fear, and hatred. It was created with astonishing speed, in little more than two generations, by a series of bazardous improvisations, the work of obscure private adventurers who explored vast areas, crossed great mountain ranges and conquered populous and highly organized native kingdoms. Despite the haphazard character of its origin it remained remarkably enduring."

So wrote the great historian of the Age of Discovery, J. H. Parry, in *The Spanish Seaborne Empire*. Indeed, as the notion implicit in his title indicates, the Spanish Pacific empire would endure only as long, and no longer, than the sailing ships of Spain continued to plow its vast expanse unimpaired. Case in point: the first of the Manila galleons crossed the

Pacific in 1565, barely a generation after the great conquests; the last galleon made her final landfall in 1815, just as Spain's vast American territory was dissolving into a revolutionary collage of autonomous states.

At the moment of its apogee, the Spanish Empire was far and away the most expansive empire to date. It became so because at a formative moment in world history Spanish seafarers mastered the greatest technological innovation to date, the oceanic sailing ship, and very quickly employed it to also gain mastery over the world's greatest geographic feature, the Pacific Ocean. They attained this prize long before knowing the Pacific's full extent, or even some of its most important contents, and they did it by uncovering the direction, force, and distribution of winds across its complex geography. By harvesting the energy of this enormous field, discovered at great cost in lives and hardship, they made themselves

FROM THE HELM

by Ray Ashley

Maritime Museum of San Diego Director

A "Spanish" walled city (the quarter of Manila still known as *Intramuros*) slumbers in the tropics, 7,250 miles from Madrid. Its seaborne lifeblood clusters beside the arsenal and shipyard of Cavite in the foreground. Behind the ships lie Filipino neighborhoods, while Chinese suburbs sprawl across the Pasig River at left.

Detail from a 1647 Dutch drawing, courtesy Österreich Nationalbibliothek



economic masters of much of the world's population. They achieved this mastery with a breathtaking economy of effort. The administrative, military, and economic structure of the Spanish Empire was sustained by no more than a few thousand functionaries, factors, soldiers and seamen at any one time. Again the Manila galleon is illustrative: much of the trade of the East was exchanged for much of the silver mined in the New World on an annual basis, all of it conveyed by one or two ships making their solitary way across the Pacific, seeking in its vast expanse the perfect place to conceal themselves from maritime predators for months at a time. Yet, such was the importance of those solitary vessels and the cargoes they carried that fortunes could rise or fall upon a change in their course. The capture of a single ship could have such seismic significance that tremors would be felt in the corridors of the Palacio Real in Madrid.

Facilitated by the sailing ship, the intellectual milieu of this water world absorbed, magnified, and reflected all the major cultural currents flowing from Europe. The medieval European quest for spices,

combined with a crusading ethic, gave pretext for discovery and conquest. Two generations later, the western mercantile quest for a favorable balance of trade encouraged the efficient administration and exploitation of the lands taken by the conquistadors or discovered by the navigators. More than two centuries further on, the advent of the European Enlightenment gave new impetus to seaborne discovery in hopes that the great oceanic space rationalized through cartography and scientific investigation would remain, to the degree possible, a Spanish space for the expansion of empire—at a time when few imagined that Spain's empire was on the wane.

All of this speaks to the necessity of understanding maritime history if one is to really understand the modern world. The Spanish legacy in the Pacific is not a peripheral story of how the Pacific world of our time came to be, it is in many ways *the* story. The chronicles of the Spanish ships and sailors who, over three centuries, boldly risked the greatest of all oceans is certainly maritime history, but it is also *world* history, for indeed the two are the same.

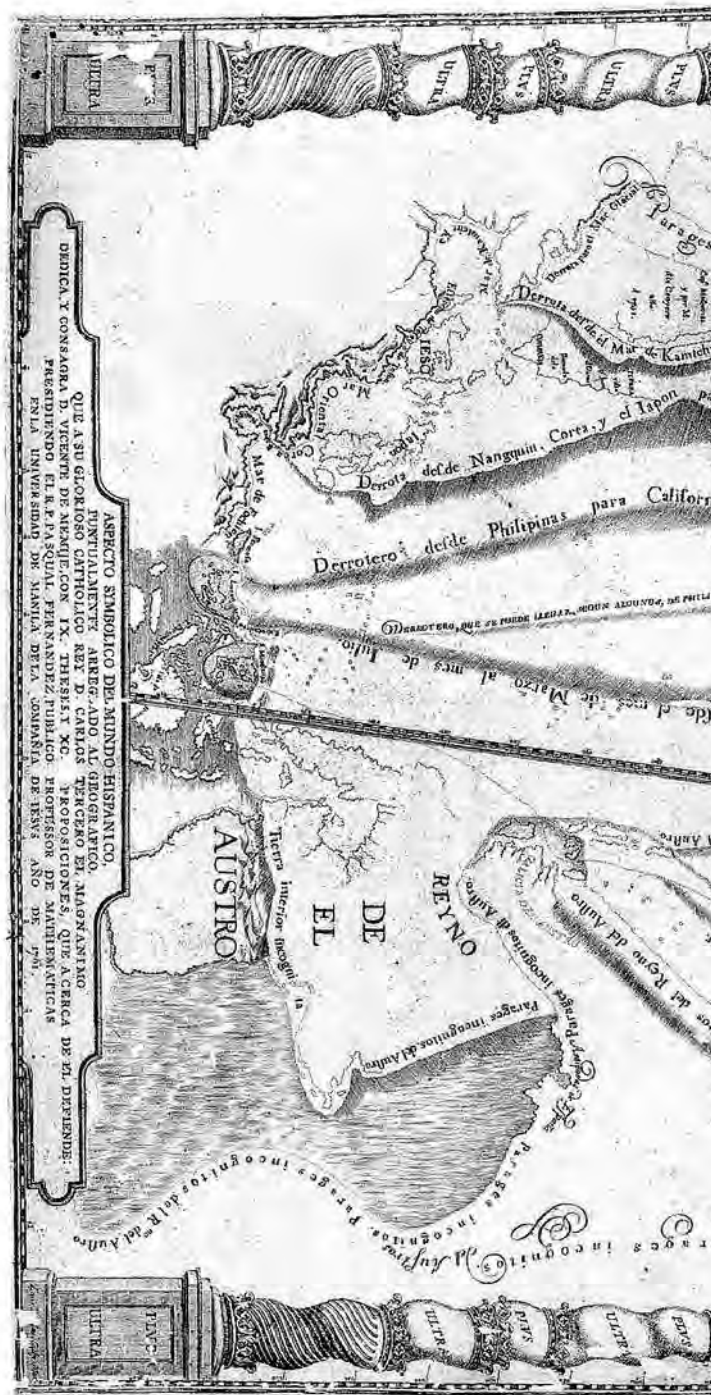


Spain and the- Pacific

Voyaging into Vastness

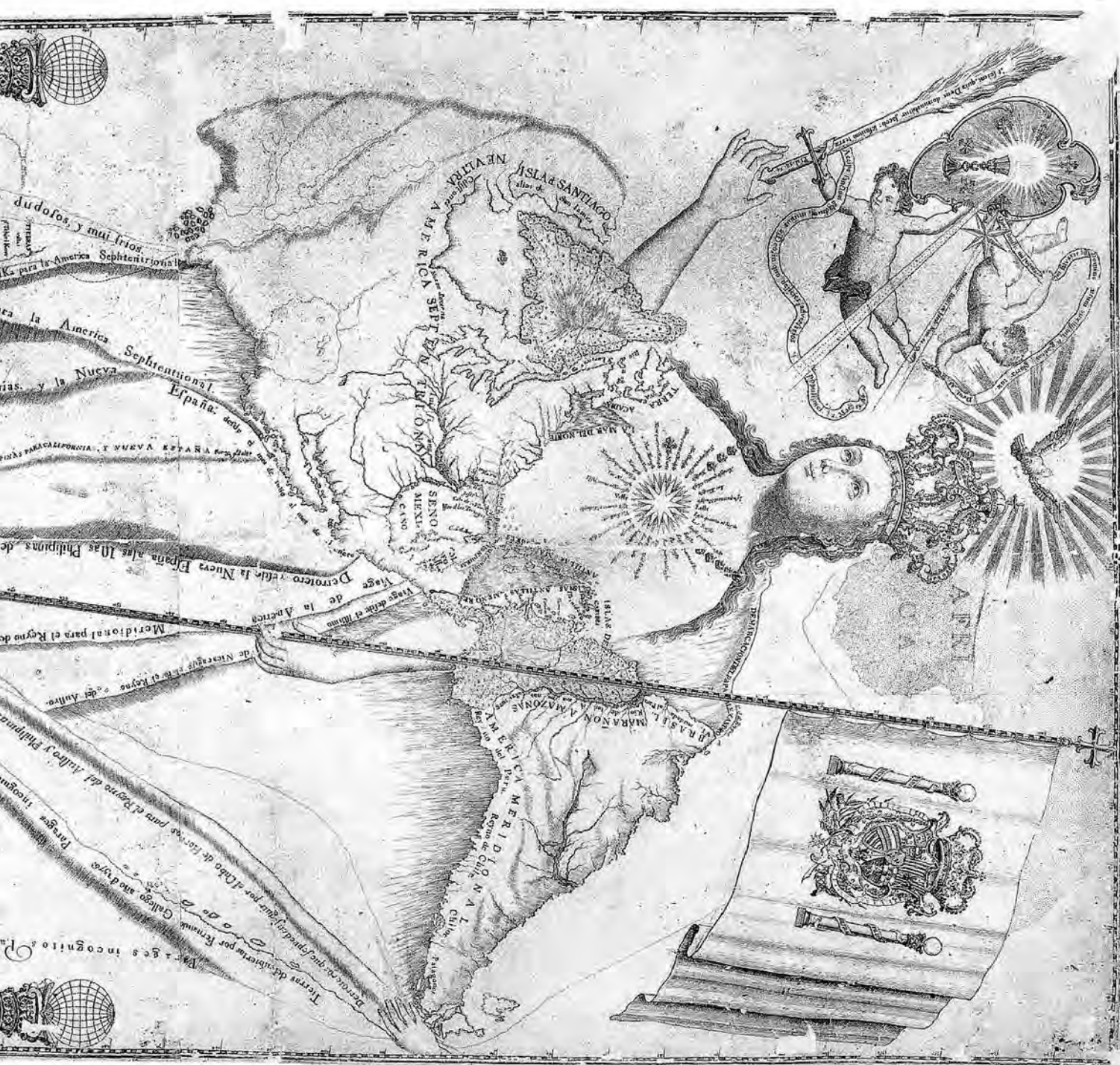
Carla Rahn Phillips

*"Then felt I like some watcher of the skies
When a new planet swims into his ken;
Or like stout Cortez when with eagle eyes
He stared at the Pacific—and all his men
Looked at each other with a wild surmise—
Silent, upon a peak in Darien."*



John Keats captured the portent of that moment of discovery in Darien, near Panamá, although it was *not* stout Cortez who stood atop that hill in 1513 but a thirty-eight-year-old from Extremadura named Vasco Núñez de Balboa. Those eagle eyes may have betrayed a hint of incomprehension, for how could he know that the ocean under his gaze dwarfed anything that his people had encountered on earth? In fact, as Dr. Phillips emphasizes on the following pages, the relationship that developed between Spaniards and the Pacific may be characterized as an ongoing struggle with the planet's largest geographical feature. Until their empire crumbled nearly four centuries later, Spaniards struggled to come to grips with the Pacific, to derive benefits from it, and to keep their long lines of communication and trade open as they attempted to maintain a truly global empire in the Age of Sail.

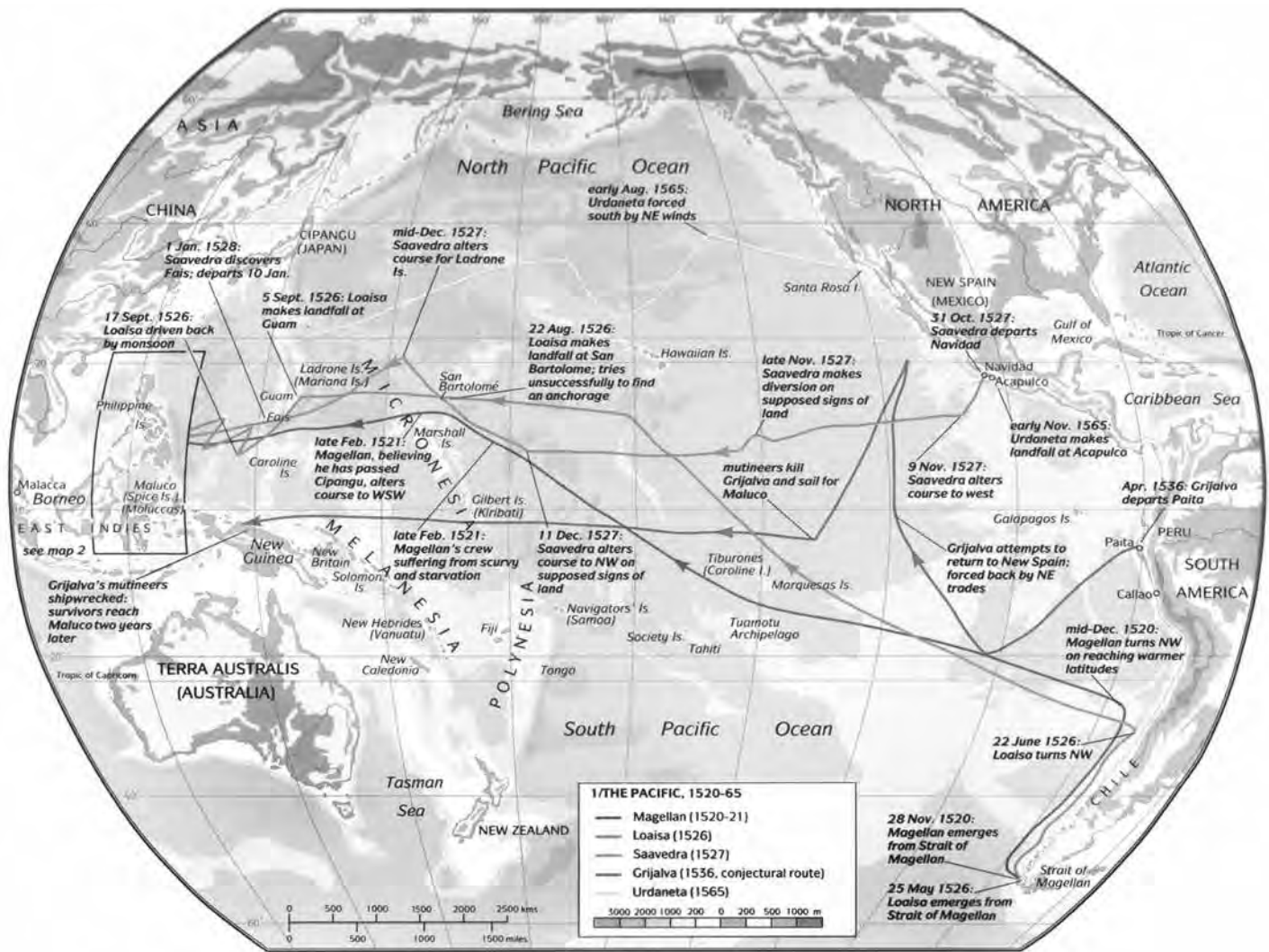
—the Editors



Spaniards reached the Pacific in the early sixteenth century, but they were latecomers to that unbelievably vast primordial sea.¹ Polynesian navigators had explored much of the southern and western Pacific in ancient times, with the peak of their activity probably occurring at the start of the fifth century in the European calendar, more than a millennium before Europeans arrived in search of a westward route to Asia. Christopher Columbus pioneered the route westward across the Atlantic Ocean for Spain in 1492-93, but his plan to reach Asia was thwarted by the unexpected presence of two huge continents in the Western Hemisphere. To solve competing claims to these so-called new lands in the Ocean Sea (as Spaniards referred to the Atlantic), Spain and Portugal agreed that Portugal would have exclusive rights to

The woman personifying Spain's empire may appear prostrate, but when this map was drawn in 1761 she was very much alive. Empire grasps the equator as her staff, her crowned head rests in Spain itself, and the folds in her robes mark transpacific trade routes. Her feet are securely planted on the Philippines, the home of the Jesuit who created this elaborate symbolic map.

Map by Vicente de Memije,
courtesy of the Centro Geografico
del Ejército, Madrid



From The Times Atlas of Exploration

Carla Rahn Phillips is Union Pacific Professor of Comparative Early Modern History at the University of Minnesota. A former San Diegoan, she specializes in the history of Spain and overseas exploration. Carla has published over 47 scholarly articles and six books, including her prizewinning 1987 *Six Galleons for the King of Spain*.

explore south and eastward of Iberia, and Spain would have exclusive rights to explore westward. The papacy brokered the deal, which both countries ratified in the Treaty of Tordesillas in 1494. To keep peace between the Iberian powers, it was important for Spain to avoid encroaching on the Portuguese sphere, and vice versa, but both Iberian powers aimed to establish trade and to convert Asians to Christianity. To avoid the Portuguese, who had established a sea route to Asia by going eastward around Africa, Spanish ships sailed West instead.

Neither Columbus nor any other European had any idea of the size of the land masses in the Western Hemisphere, and it would take decades before they accumulated enough geographical information to gauge their new lands' true extent. In the meantime, exploration by sea continued. **Vasco Núñez de Balboa** was part of the flurry of Spanish expeditions that followed Columbus's first voyage, all of them looking for a route through the western lands so as to resume the voyage toward Asia. Núñez de Balboa joined an expedition in 1509 exploring the Gulf of Darién at the juncture of Central and South America—a potential opening to the west—and helped to set up Spanish settlements in the region. In September of 1513, after crossing the Isthmus of Panamá, Núñez de Balboa and his companions were the first Europeans to gaze upon the ocean that Magellan would name the Pacific, after its seeming tranquility. Assuming that Asia lay a short sail farther on, Núñez de Balboa had no idea of the vastness of the Pacific. That same inability to form an accurate sense of the Pacific's true

size confounded European explorers and mapmakers for over 250 years, even as they became experienced Pacific mariners.

Scarcely three decades after Columbus's first voyage, the Portuguese explorer **Ferdinand Magellan**, sailing for Spain, pioneered the route around South America and across the Pacific, whose size he too continually underestimated. The expedition had already reached Guam in the spring of 1521, even before Hernán Cortés completed his conquest of the Aztec empire in México. Magellan was killed in the Philippines after intervening in a local power struggle, and his second-in-command, **Juan Sebastián Elcano**, carried fewer than two dozen survivors from the expedition back to Spain in one ship, by way of the Indian Ocean and around the southern tip of Africa.² To sail back across the Pacific—in other words, to stay within the Spanish sphere and avoid confrontation with the Portuguese—would have been more prudent, but they did not know where to find winds and currents that could carry them eastward. Consequently, Elcano and the remnant of Magellan's expedition continued to sail westward, avoiding contact with the Portuguese. When they arrived in Spain in 1522, they had accomplished the first voyage around the world. Elcano wrote to King Charles I that “we have discovered and encircled the entire world; going to the west, we have returned from the East.”³

Had Magellan lived, he would presumably have followed the same route. He understood the monsoon patterns in the Indian Ocean and had sailed on Portuguese voyages to India and back. The fame of having circumnavigated the globe, however, was in a sense accidental—his expedition chose the route for its practicality. The fame actually sought by Magellan and his companions would come from the wealth and prestige that were sure to accompany royal favor. The main purpose of the voyage from Spain's point of view was to stake out Spanish claims in a part of the world where the Portuguese were already established. In other words, for the parties involved, the first circumnavigation was a means, not an end in itself.



King **Charles I** (1516-56) is more widely known by his other title: Holy Roman Emperor Charles V.



With an angel apparently balanced on the bowsprit, Magellan's *Victoria* leaves South America behind on her voyage into the unknown.

Detail from Abraham Ortelius's 1589 Pacific map; courtesy Michael Stone

We have discovered and encircled the entire world; going to the west, we have returned from the East.

The members of the Magellan-Elcano expedition did not discover any connections between Asia and the lands that the generation that succeeded Columbus had been busily exploring, nor did they find a route back across the Pacific. They did, however, find a westward route to Asia, giving Spain the right to explore and claim lands on the other side of the globe without violating the Treaty of Tordesillas. To make the westward route profitable, however, Spain needed to find a return route across the Pacific to keep this new trading link with Asia completely outside the Portuguese sphere. It made sense to launch Pacific voyages from the lands in the Western Hemisphere that Spain was already colonizing, primarily New Spain (México) or Perú. However, repeated failures to find a viable return route back across the Pacific forced survivors from a series of Spanish expeditions to return to Europe via India and Africa, along routes dominated by the Portuguese, sailing around the world by default. Of the many voyages after Magellan and Elcano, several stand out, if only for their bad luck.

García Jofre de Loaisa led an ill-fated expedition across the Pacific in 1524, just a few years after the first epic circumnavigation. Loaisa lost three of his seven ships to mishaps and desertion early in the voyage, before even attempting to cross the Pacific. Shortly after emerging from the Strait of Magellan in June of 1526, the caravel *San Lesmes* vanished in a storm, never to be heard from again, though persistent oral traditions suggest that some survivors settled on various Polynesian islands.⁴ The expedition continued to be plagued by misfortune—Loaisa himself died during the Pacific crossing—but the remnant of his expedition made it to the Moluccas, or Spice Islands. One of the ships that had deserted Loaisa at the Strait of Magellan carried news of the expedition's troubles to Hernán Cortés in his new capital in México. After hearing the story, Cortés himself funded a voyage across the Pacific in 1527, led by his cousin **Álvaro de Saavedra**. Saavedra was supposed to locate and reinforce Loaisa's expedition and find out if the Portuguese were encroaching on the part of Asia that Spain claimed under the Treaty of Tordesillas.

With three ships and one hundred men, Saavedra left the Mexican coast in November of 1527 and ran into a fierce storm in late December that scattered the tiny fleet. Only Saavedra and his flagship reached the Moluccas.⁵ The other two ships were never heard from again, though various writers have claimed over the years that the storm might have blown them to Hawaii, given the position of the fleet when the storm hit, and the direction of the winds.⁶ In the Moluccas, Saavedra and the remnant of Loaisa's crews worked together against the Portuguese and managed to buy a shipload of spices, and then attempted a return voyage across the Pacific. They failed to find a southern route in the latter half of 1528 and turned back to make needed repairs to the ship. Sailing northward in mid-1529, the ship reached 31° North, the latitude of Japan's southern tip, before giving up the attempt and returning to the Moluccas.

Saavedra himself had died at about 26° North, though it is not clear exactly where. Like the "lost caravel" of Loaisa's outbound voyage and the two missing ships from Saavedra's outbound voyage, the latter's failed attempt to return by a northerly route has inspired claims that the ship reached some part of the Hawaiian Islands.⁷ No evidence has been found in the written record to support any of those claims, however. The one certainty is that a series of Spanish expeditions from Magellan onward failed to find a way back across the Pacific.



How do we humans learn to imagine “new” worlds? Drawing maps is one way: how little-known a place was indicated by the fancifulness of the illustrations, like this merman and mermaid embracing near the Solomon Islands. The formidable creature beneath is a shark, above whom is *Isla de los Tiburones* (Shark Island), named by Magellan.

Detail from a 1593 map by Cornelius de Jode, courtesy Michael Stone

study, Urdaneta picked up what is now called the Kuro-Shio or Japan Current, sailing from the Philippines far to the northeast to intersect the North Pacific Current, which carried his ship across the vast emptiness. Reaching the eastern shore, he followed the currents southeastward along the coast of North America, all the way to New Spain.⁸ His voyage took a mere four months. It is worth remembering the decades of failure that preceded Urdaneta’s success, however. Whereas Columbus had discovered the prevailing winds and currents in the Atlantic on his first voyage, generations of explorers had been thwarted by the vastly greater size and complexity of the Pacific.

Trans-Pacific trade began directly after Urdaneta’s return voyage, as ships carried silver from Spanish America to the bullion-hungry markets of Asia, exchanging it for the silks, spices, and porcelains for which Asia had long been famous. The so-called “Manila Galleon” trade would last for more than three centuries, enriching the merchants of New Spain and injecting American silver into Asian markets.

Urdaneta’s successful return inspired a new wave of Pacific exploration, especially into the South Pacific. **Álvaro Mendaña y Neira** left Perú late in 1567, with the support of an uncle who held several important jobs in the colonial government. Young and inexperienced, Mendaña had the advice of Hernando Gallego and the important cosmographer Pedro Sarmiento de Gamboa, but the three of them did not get along, and contention marked the voyage from beginning to end.⁹ Although the expedition discovered the Solomon Islands, tropical ailments and battles with the islanders soon forced them to head for home. Following Urdaneta’s route, they arrived back in Perú in September of 1569.¹⁰ Mendaña spent the better part of the next three decades planning another voyage, this time to colonize the Solomons. He made the voyage in 1595 but died soon after arriving, without fulfilling his dreams, like so many others before him.

The pace of Spanish exploration in the Pacific slackened once viable trade routes had been established, despite the fact that much of the ocean itself and its island chains remained undiscovered by Europeans. Even along the established routes, the scale of the Pacific continued to defy comprehension, and, in the absence of accurate ways to calculate longitude, even the most experienced

mariners tended to underestimate the distance they had traveled. That was the case with the Spanish expeditions under the Portuguese **Pedro Fernández de Quirós** and **Luis Váez de Torres** in 1605-06, which covered more of the Pacific than any others of their day.¹¹

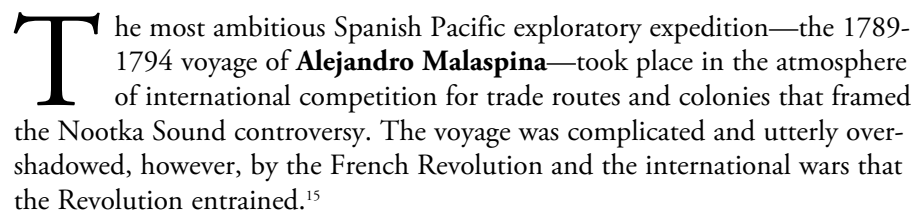
The heyday of the “Manila Galleon” trade actually marked a low point in Spanish exploration of the Pacific, as Spain concentrated on commerce and struggled to help its always expensive Asian possessions prosper, or at least survive. The evangelistic impulse came rather late. While a desire to spread Christianity had motivated Spaniards to explore since the fifteenth century, missionary efforts in the Pacific islands began only in 1668, more than a century after Urdaneta’s historic voyage. When Father **Diego Luis de Sanvitores** arrived on Saipan in 1668 to begin the long process of evangelization, he was greeted by shipwrecked sailors from the trading galleon *Nuestra Señora de la Concepción*, who had spent the past thirty years marooned there.¹²

Other European powers had challenged Spain’s position in the Pacific from the late sixteenth century on, but they became a serious threat only in the eighteenth century. English, French, Dutch, and other expeditions contested the indefensible vastness of Pacific space with Spain and with one another. From the 1750s on, the Spanish government struggled to meet the challenge from European rivals in the Pacific by building fortresses and administrative outposts on many islands that they had previously ignored.

Of necessity, the viceroys of New Spain and Perú bore most of the burden of projecting Spain’s presence into the Pacific. One of the most active of those viceroys was **Manuel Amat** in Perú, who worked to combat British claims in the Pacific in the 1760s by sending out expeditions and taking the lead role in presenting Spain’s possessions around the Pacific rim as part of a unified entity of global dimensions. The Spanish government promoted that vision of unity, which seems to have been widely shared among bureaucrats such as Amat and missionaries as far afield as the Philippines. The 1761 map on page five of this publication offers a glimpse at that worldview: on it, a map of the world is superimposed on a female figure representing the global empire of Spain.

In the Pacific Ocean, however, the stunning voyages of Captain James Cook and others overshadowed the Spanish presence in the late eighteenth century. Those voyages are often categorized as “scientific,” though they all had a strong political component, just as earlier Spanish voyages had pursued scientific, as well as political, economic, and religious goals. Unquestionably, Cook’s voyages made the totality of the Pacific Ocean better known to Europeans than ever before. Cook produced accurate maps of the Pacific, domesticating its vastness somewhat through his ability to accurately calculate longitude for the first time, by using the newly developed chronometer. Moreover, he made one of the last great discoveries in the Pacific—the Hawaiian Islands—in 1778, despite the fact that Spanish ships had been sailing north and south of the islands on their trading routes for over two centuries.¹³

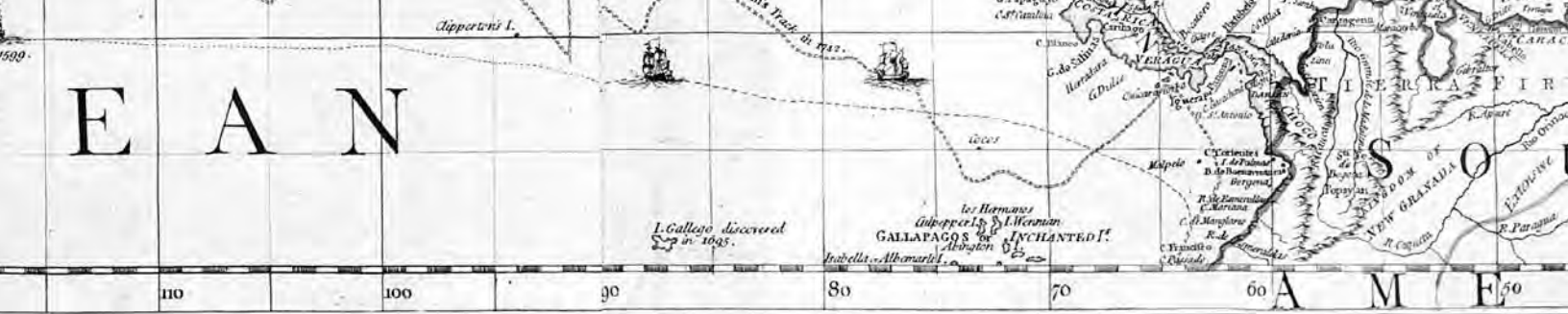
With the Pacific properly mapped and manageable at last, competition for trade and empire escalated. Apart from official naval voyages, private investors felt confident enough to launch expeditions looking for profitable opportunities overseas, just as Columbus’s financial backers had done three centuries earlier. Explorers such as John Meares were financed by businessmen in England to search out opportunities for profit in the Pacific Northwest, where they clashed with Spanish authorities intent on keeping rivals out. One such clash became a major international incident in 1789, centering around remote Nootka Sound on what is today Vancouver Island.¹⁴



The Revolutionary and Napoleonic Wars in Europe left Spain reeling and had lasting repercussions in the Spanish empire, as communications began to break down and the flow of money and supplies waned. During the wars, Spanish administrators in the Pacific continued to build fortifications and carry on with their jobs. In the aftermath of the wars, however, leaders of the fifteen million or so residents of Spanish America launched rebellions, broke from Spain, and created two dozen new republics by 1824. The Spanish political presence in the Pacific declined steeply, although missionaries maintained a religious presence for the whole of the nineteenth century. The loss of the Philippines in the Spanish-American war in 1898 marked the end of Spain's Pacific empire.

Long after the end of Spain's imperial presence in the Pacific, however, reminders of its cultural legacy remain in the Spanish-speaking cultures along Latin America's Pacific shore, and in the deeply-rooted Roman Catholicism across the ocean in the Philippines. Reminders of the Spanish empire also exist closer to home. To support claims to extensive territories on the Pacific rim of North America, Spain launched an energetic effort in the late eighteenth century to plant *presidios*, missions, and *pueblos*. A real Spanish presence of soldiers, missionaries, and settlers pushed northward from México to northern California. The towns planted by Spain, and those that grew around the missions and presidios, became the cities of San Diego, Los Angeles, Santa Barbara, and San Francisco, among many others in California and throughout the American Southwest.

12



When Vasco Núñez de Balboa first glimpsed the Pacific Ocean in 1513, he had no idea of the vastness of that ocean space, but he knew that other Spanish expeditions would follow him, extending the limits of knowledge and his people's claims to dominion. The enormity of the Pacific would thwart all such claims by Spaniards and others, but Spain's 500-year presence in the Pacific left a vital cultural legacy that continues into the present.

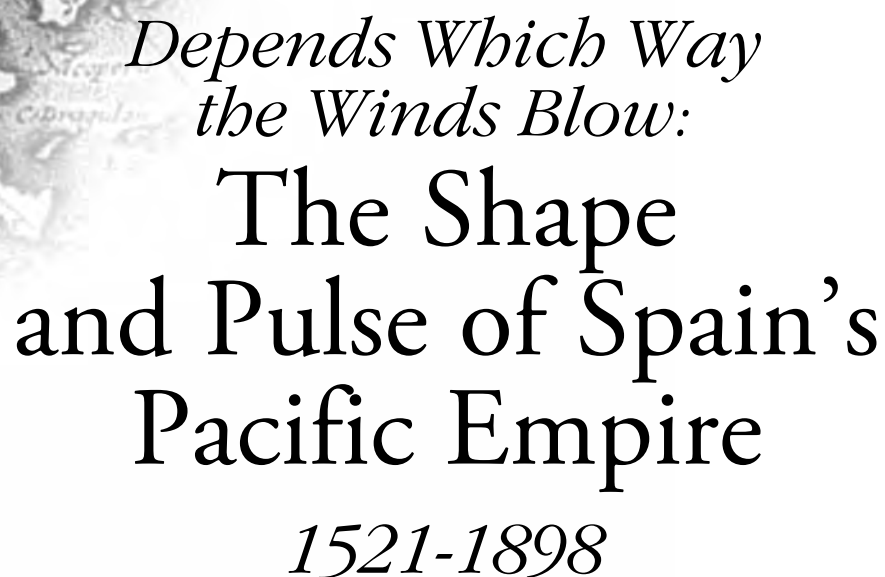
NOTES

- 1 The following titles regarding Spain's presence in the Pacific provide excellent introductions: Carlos Martínez Shaw, ed., *Spanish Pacific from Magellan to Malaspina* (Madrid: Spanish Ministry of Foreign Affairs, 1988); Felipe Fernández-Armesto, ed., *The Times Atlas of World Exploration* (London: Times Books, 1991); Andrew David, Felipe Fernández-Armesto, Carlos Novi, and Glyndwr Williams, eds., *The Malaspina Expedition, 1789-1794, 3 vols.* (London: Hakluyt Society, in association with the Museo Naval, Madrid, 2001, 2003, 2004); and, for those who read Spanish, Amancio Landín Carrasco, et al., eds., *Descubrimientos españoles en el Mar del Sur*, 3 vols. (Madrid: Banesto, 1991).
- 2 The best recent biography of Magellan by far is Tim Joyner, *Magellan* (Camden, Maine: International Marine, 1992).
- 3 Quoted in Joyner, *Magellan*, 238.
- 4 Robert Langdon, *The Lost Caravel* (Sydney: Pacific Publications, 1975).
- 5 Saavedra's expedition is documented in the Archivo General de Indias (hereinafter AGI), Patronato, legajos 37, 43. A copy of the report of Saavedra's expedition is in the Archivo General de la Marina (hereinafter AGM), MSS 141, doc. 8, fols. 100-112.
- 6 See Carla Rahn Phillips, "Spaniards in Hawaii Before Cook? Myths, Legends, and History," *Mains'l Haul* 38, nos. 1 & 2 (2002).
- 7 See, for example, Salvador Bernabéu Albert, *La aventura de lo imposible. Expediciones marítimas españolas* (Madrid: Lunwerg, 2000), 78-80, and the map on p. 80.
- 8 Landín, et al., *Descubrimientos españoles*, vol. 2, 502-512. Ironically, deserters from the López de Legazpi expedition actually arrived before Urdaneta, once they knew the route he planned to take, but history has rightly credited the discovery to the Augustinian monk.
- 9 The disputes between Mendaña and Sarmiento continued at law for decades. See Landín et al., *Descubrimientos*, 2:542-549.
- 10 *The Discovery of the Solomon Islands by Álvaro de Mendaña in 1568*, trans. and ed. by Lord Amherst of Hackney and Basil Thomson, 2 vols. (London: The Hakluyt Society, 1901), 2nd. ser., vols. 7-8.
- 11 Fernández-Armesto, *Times Atlas*, 168-69.
- 12 Omaira Brunel-Perry, "Los misioneros españoles en las Marianas," in *Islas del Pacífico: El legado español* (Barcelona: Ministerio de Educación y Cultura, 1998), 45-48.
- 13 It is possible that Spaniards might have washed up in Hawaii; oral traditions and artifacts suggest that was the case. No record of such early contact has been found in European archives, however, and discovery in the strict sense of the term requires the dissemination as well as the acquisition of knowledge. The European discovery of the Hawaiian Islands belongs to Cook. J. C. Beaglehole, ed., *The Journals of Captain James Cook on his Voyages of Discovery: The Voyage of the Resolution and Discovery, 1776-1780*, 2 vols. (Cambridge: Hakluyt, 2nd ser., 35, 1967).
- 14 John Meares, *Voyages Made in the Years 1788 and 1789 from China to the North-West Coast of America* (London, 1790); James Colnett, *A Voyage to the South Atlantic and Round Cape Horn into the Pacific Ocean* (London, 1798).
- 15 A recent English translation of the expedition's reports and illustrations has belatedly brought it the attention it deserves. David, et al, *Malaspina Expedition*.



Charles III (1759-88) ruled a Pacific increasingly being revealed by scientific exploration. During his reign, Spain made its last great push outward, moving into California and founding San Diego in 1769.

Detail from Robert Sayer's 1775 "CHART, Containing the Coasts of CALIFORNIA, NEW ALBION, and Russian Discoveries..." courtesy Michael Stone



surface water with them. It was this pathway through the seas that Ferdinand Magellan discovered during his epic voyage of 1519-21 and along which others followed. Pacific winds and currents would become the determinants of Spanish imperial ambitions, right down to the final act of Spain's *imperium* in the Pacific, her claims to the remote Caroline Islands in 1885. Then, the fact that these islands lay along traditional trading routes largely determined by prevailing winds and currents was assessed to be more telling than their actual occupation by the Germans.² Prevailing wind circulations were not only responsible for the routes that linked these far-flung outposts of empire together but also for ensuring the axis of imperial governance (Mexico—Manila—Guam), the trans-Pacific galleon trade that carried much of its commerce, and the progressive evangelisation of its peoples.

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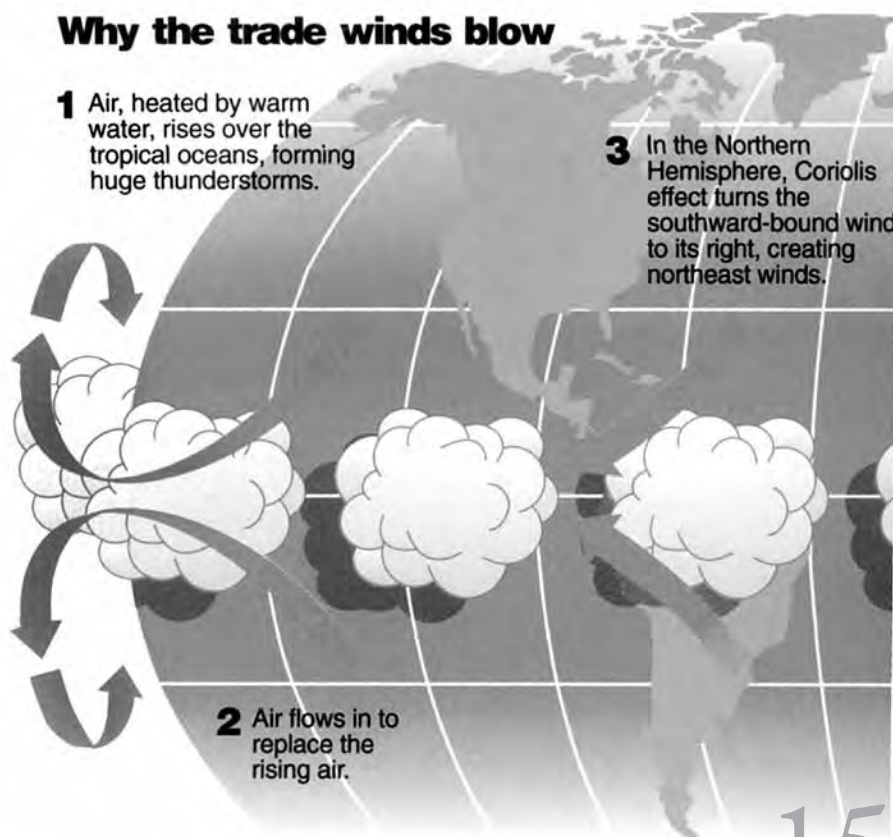
The Way the Winds Blow

The global wind pattern or “general circulation” splits the surface winds of each hemisphere into three belts: the easterly-blowing polar winds, the prevailing westerlies between 30-60 degrees of latitude, and the tropical easterlies between 0-30 degrees of latitude. While one might expect winds to consistently spill from areas of higher pressure to areas of lower pressure, in fact, as a result of the earth's rotational motion, winds are deflected at right angles away from any straight northward or southward path. They are always deflected to the west in the Northern Hemisphere and to the east in the Southern. This spinning force is known as the *Coriolis effect*.

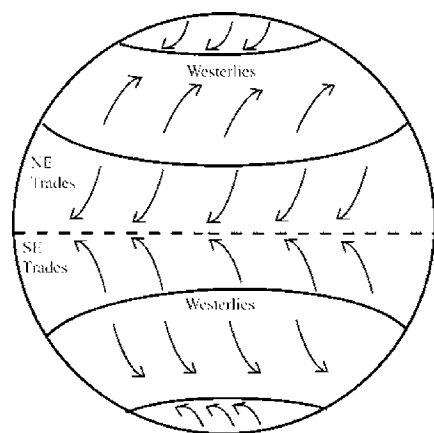
From Jack Williams, The Weather Book

Air diverging from a high-pressure region spirals outward—clockwise north of the equator and counter-clockwise in the south. The horizontal effect of this force varies in proportion to the latitude; it is strongest at the poles and vanishes altogether at the equator. Moreover, near the equator the easterly trades of both hemispheres move towards each other to form a narrow zone of low pressure, cloud, and humid conditions known as the Inter-Tropical Convergence (ITC) where winds alternate between being fitful and strong.³

The pattern of winds just described provides only a rough approximation of the actual atmospheric circulation. In reality it is considerably modified by the unequal distribution across the globe of continents that constitute significant thermal and topographical barriers,



since land masses become much hotter in summer and colder in winter. The seasonal variation of solar heating, depending on the tilt of the earth's rotation, means that areas of high pressure tend to build up over cold continental land masses in winter, while low-pressure development takes place over the relatively warm oceans. Exactly the opposite conditions occur during summer, although to a lesser degree. These contrasting pressures over land and water are the cause of the monsoon winds. Also superimposed upon the general circulation are many lesser disturbances, such as the common storms of temperate latitudes and the typhoons or hurricanes of the tropics. These generally move along the path of the prevailing winds but maintain within them their own circulatory pattern.⁴



While the wind system over the Pacific conforms to this general model of circulation, the region is also characterised by startling periodic changes due to a distinctive phenomenon known as the Southern Oscillation. Variations in atmospheric pressure over the Indian Ocean (in the west) are mirrored by the opposite changes over the south-eastern Pacific (in the east), so that if the barometer in one region is falling, the barometer in the other is invariably rising. This phenomenon's most important effect is known as *El Niño*, named by Peruvian fishermen during the Spanish Colonial era after the Christ Child, because of its seasonal manifestation in December. An *El Niño* event is a combination of interrelated oceanic and atmospheric processes that occurs every two to seven years when atmospheric pressures shift and the normally easterly trade winds slacken and even temporarily reverse.⁵ Wind intensities are affected too, especially close to the equator. One may encounter unexpected variations in the strength of the usually predictable northeast and southwest monsoons as well as more localised fluctuations in direction and speed influenced by the local island topography.⁶

The ocean's currents, too, are largely dependent on the way the winds blow. Oceans are certainly not inert bodies; they have their own complex circulatory systems. Surface currents tend to conform closely to the prevailing wind system, especially along the equatorial belt that girdles the globe. There, two surface currents, the North and South Equatorial, flow westward, blown by the trade winds, separated by an eastward-flowing surface equatorial countercurrent.⁷ Near the western margins of all oceans, however, the cumulative flow of the equatorial currents pile up warm water against every continent's eastern shore. A portion of this surplus water returns eastward via the surface and subsurface countercurrents. Most of the water, though, forms deep, narrow, fast-moving western boundary currents that are guided poleward by the margins of the continental shelves at speeds of between three and five knots. In the western North Pacific, the Kuro-Shio Current (also known as the Japan Current and *corriente negra* or black current) off the northeast coast of Japan flows eastward at around 36°N, near the latitude of Tokyo, in the direction of the prevailing westerlies as far as about 160-170°E.⁸ Similarly, the prevailing westerlies are also responsible for creating continental currents off the coast of North America around latitude 40°N, one that flows towards the North Pole and another, the California Current, that heads south at least as far as Acapulco.⁹ Any change to the way the winds blow, such as occurs during an *El Niño* event, will affect the surface ocean currents, causing sea levels in the western Pacific to fall and warm water to slip back towards America with corresponding effects on local climatic conditions—and on ships at sea.

Winds of Colonization

Superimpose a map of the Spanish *imperium* in the Pacific on a chart of the atmospheric circulation over that ocean and there is a remarkable “fit” between the prevailing winds and the form and extent of Spanish colonisation. The routes that the initial explorers took, and therefore the landfalls they made, were largely dictated by the trade winds. The shape of the Manila-Acapulco galleon trade—the economic lifeblood of the whole Spanish endeavor in this part of the world—was likewise dependent on the westerlies for the passage out to México and on the northeast trades for the westward return route to the Philippines. Islands that served this purpose fell within the Hispanic mantle, those that did not were left for others despite their initial “discovery” and preliminary attempts at colonisation by Spaniards. Even the settlements on the west coast of North America owe their rationale partly to the dictates of this æolian economic system. Likewise, islands like Hawai’i that one might expect to have come within the orbit of Spanish influence remained unknown or were ignored because of their location in relation to such winds. On the other hand, those places that lay on the appropriate latitudes were eventually to experience the full force of Hispanic cultural influence. Nor was this experience confined to just the sixteenth and seventeenth centuries; it remained an important factor influencing cultural development right up until the late nineteenth century. It is in this way that one can talk about there being “winds of colonisation” blowing across the Pacific during the days of sail.

The correlation between prevailing winds and colonization begins with the initial epic European crossing of the Pacific in 1520-1521. Ferdinand Magellan appears to have first headed north along the South American coast to reach warmer weather, then struck out away from land at about 32-34°S.¹⁰ He may have been influenced in his decision to leave the mainland behind by encountering the prevailing southeast trade winds that blow in a generally west-northwest direction. At all events, running before such winds he was carried across the Pacific. Needing to obtain fresh supplies en route, he landed on Guam. Naming it Isla Ladrões—“Island of Thieves,” after the inhabitants’ proclivity to make off with everything they could—he sailed on, now driven by the northeast trades, till he reached the Philippines a week later. Thus, from the first the pivotal reference points of Spain’s *imperium* in the Pacific were largely set by the general circulation over the ocean: the Philippines as a base in the East (and not Japan to the north or the Indonesian islands to the south), and Guam as a primary way-station.

Early Spanish enterprise in the region was dominated by the need to find a practical easterly passage back to the Americas, the elusive “turnback”—*la tornavuelta*, or *vuelta*. The Treaties of Tordesillas (1494) and Zaragoza (1529) that divided the world between Portugal and Spain ensured that Spanish mariners returning from Asia would do so by sailing across the Pacific, and not by way of the Cape of Good Hope through Portuguese dominions. Although four efforts to find a way back ended in failure and the loss of many lives, much useful information was learnt and the importance of sailing north to encounter the westerly winds around the 30° parallel was realised. The successful accomplishment of this task was left to the expedition commanded by Miguel López de Legaspi. As soon as he had gained a foothold in the Philippines in 1565, he lost no time in dispatching his nephew, Felipe de Salcedo, and the veteran pilot Friar

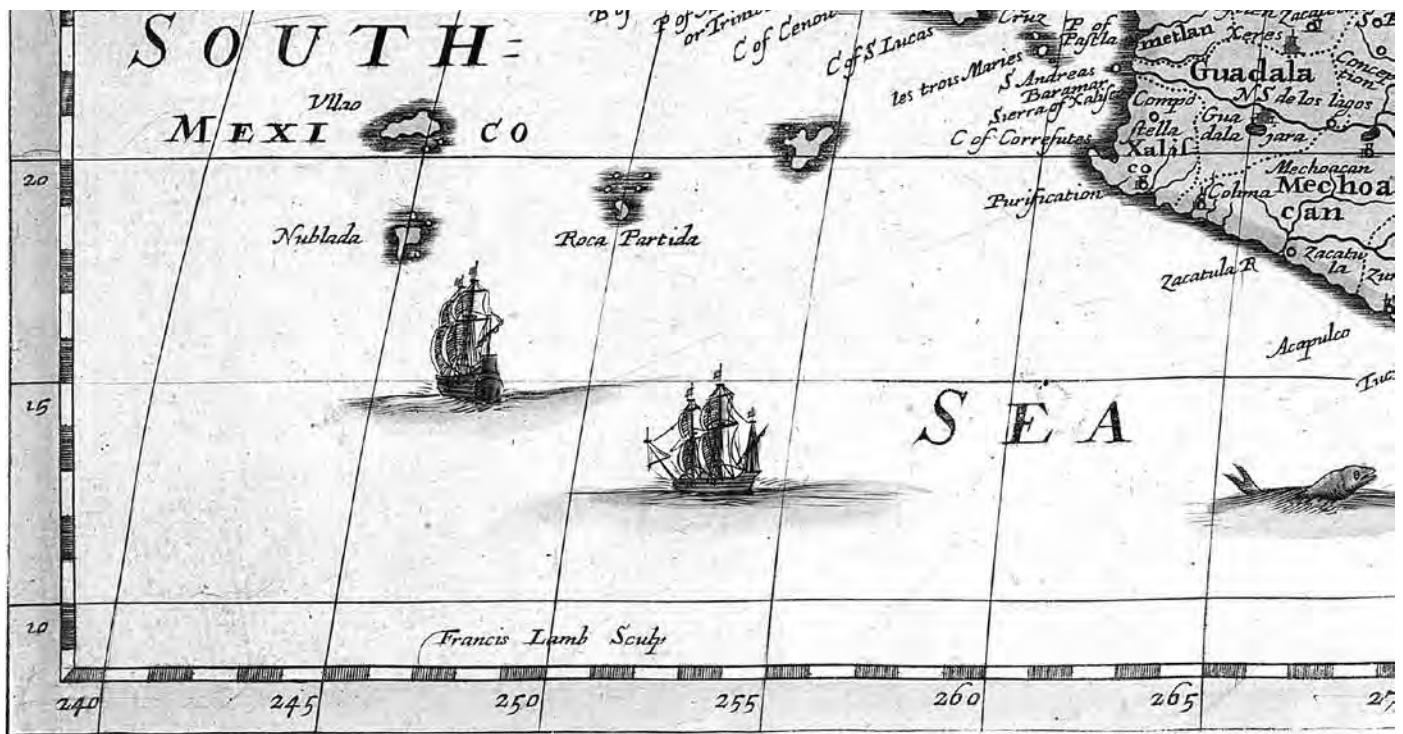
Andrés de Urdaneta, to re-establish connections with New Spain.¹¹ Clearing the archipelago through the Straits of San Bernardino, they rode the monsoon north and continued in a general northeasterly direction until, at about 15°N latitude, they encountered the prevailing westerlies that carried them across the ocean to the American coast, near which the California Current helped them south. This passage came to be known as “Urdaneta’s route” and was approximately the one followed during the ensuing 250 years of the Manila-Acapulco galleon’s history.¹²

Thus the contours of the Spanish empire were established with the discovery of this eastward passage across the Pacific. The galleon trade that this discovery enabled served as the feeder line servicing Manila as the entrepôt of the Pacific, where the silver of New Spain was exchanged for the luxuries of the Orient—Chinese silks and porcelains above all.¹³ On the north-bound tack, however, ships encountered more variable winds or storms that might prolong the passage, or even drive them back in distress to the Philippines. This calamitous event was known as an *arribada*, and it happened repeatedly between 1602 and 1617, when six galleons were forced to return to Manila.¹⁴ Beating to the north of the Marianas, the galleons then fell in with the eastward-flowing Kuro-Shio Current and the prevailing westerlies in the vicinity of 37-39°N that propelled them across the Pacific within a few degrees of latitude. Making landfall around Cape Mendocino, California, ships steered south, keeping no nearer to the inhospitable shore than was necessary to discern landmarks, until they anchored at Acapulco.¹⁵

The westward route from Mexico to the Philippines was more direct and much quicker. Leaving Acapulco, galleons dropped to between the tenth and fourteenth parallel, where they picked up the northeast trade winds that carried them across the ocean to the Marianas, then on to the Philippines.¹⁶

Spanish contact with the Marianas remained fleeting for the first century of Spain’s Pacific empire, except for the occasional visit of Manila-bound ships, an abortive evangelisation mission in 1595, and the wreck of two galleons on Saipan in 1600 and 1638. Though delayed, the physical occupation of the islands could not be ignored indefinitely and it fell to the Jesuit missionary Diego Luis de Sanvítores to effect its realisation in 1668.¹⁷ A royal decree of the same year ordered the galleons to call at the island on their return passage from Acapulco, and watch-fires were kept lit on the highest points of Guam and Rota during the month of June to guide the ships thither.¹⁸

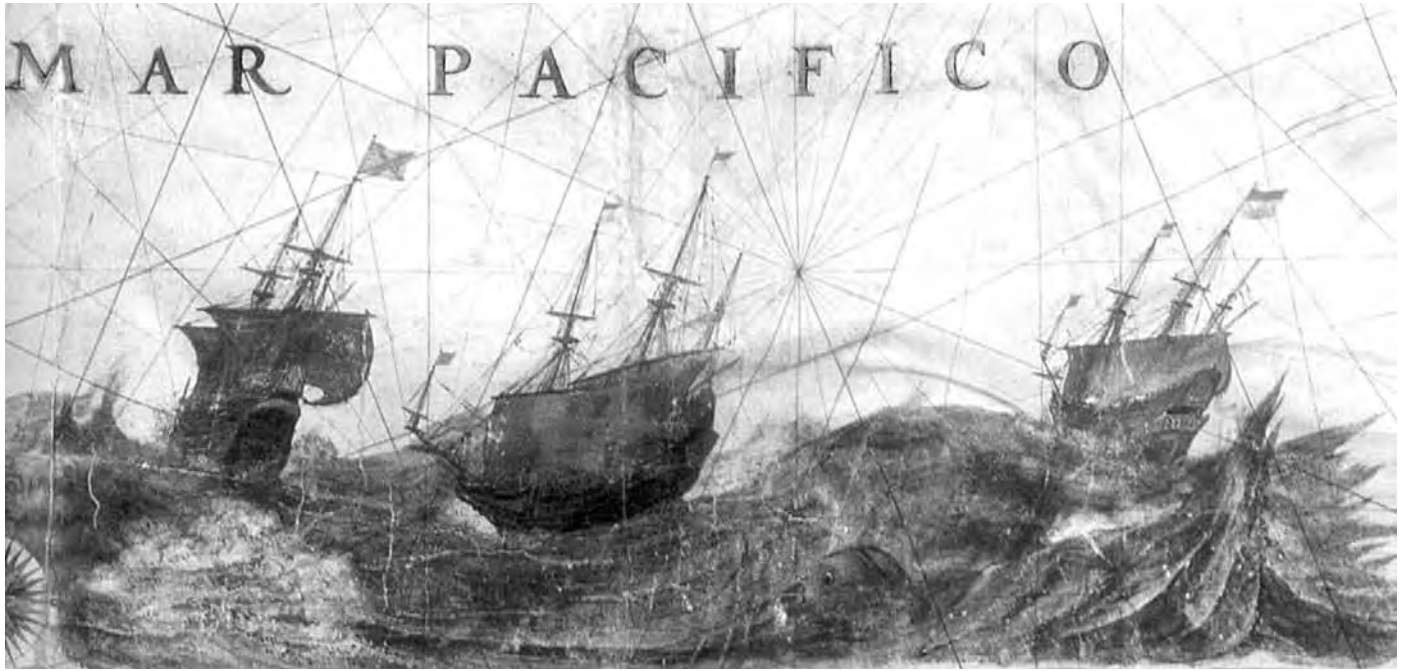
On the eastern side of the Pacific, the rationale of protecting Spain’s trans-pacific trade was likewise a significant factor influencing the settlement of Alta California. The long duration of the eastward passage meant that crews were in dire need of fresh water and provisions by the time they neared the coast. This manifested itself as early as 1602. One of the tasks assigned Sebastian Vizcaíno in his voyage of coastal exploration was to seek California ports in which galleons could resupply and, in 1606, Philip III ordered a way-station established there for ships originating from the Philippines.¹⁹ Some of the impulse for the occupation of California came from Governors-general of the Philippines, who in 1732 and 1734 gave direct orders to the captains of the galleon to put in to Baja California’s existing missions and reconnoitre the coast for other suitable ports, and who in 1748 advocated the settlement of Monterey.²⁰



Just as those islands and peoples that were eventually incorporated within Spain's Pacific dominion depended for their inclusion to a great extent on the way the winds blew, so those that were not incorporated were equally determined by the pattern of the general atmospheric circulation. Spanish mariners' apparent inability to locate the Hawaiian Islands, when their situation mid-way between the Philippines and America made them a potentially ideal place to replenish stocks of food and water, fails to take into consideration their position in relation to the prevailing wind patterns. Their geographic coordinates mean that they lie outside the prevailing westerlies in the North Pacific. Likewise they are situated near the furthest extreme of the northeast trade winds, which are weaker than their southern hemispheric counterparts, which blow freshest at about 15°N, well south of the Hawaiian Islands.²¹ This is why the galleons dropped to 10-14° degrees of latitude after leaving Acapulco on their westward passage, thus effectively leaving the islands in the middle of the two sailing paths and well out of the anticipated compass of passing ships. There is, in fact, speculation that Spanish seamen may have sighted the archipelago, since maps of the period occasionally show indeterminably situated islands bearing names such as La Mesa, Los Monjes, and La Desgraciada ("The Table," "The Hermits," and "The Unfortunate One").²² Similarly dependent on the prevailing winds were the fates of Spanish endeavours to the Southwest Pacific: the remarkable voyages in Melanesia of Alvaro de Mendaña y Neyra in 1567-1568, of Mendaña again and Fernández de Quirós in 1595 and of Quirós alone in 1605-1606, who sailed among the Solomons and the New Hebrides (Vanuatu) and even established a temporary settlement on Santa Cruz.²³ In these latter cases, of course, the islands' location south of the path of the northeast trades and the North Pacific westerlies meant that the supply, maintenance or even the existence of a Spanish presence were of little consequence and proved far too costly for the stretched resources of an empire whose primary focus was elsewhere.²⁴

Galleons westbound from Acapulco pass imaginary islands scattered off Mexico's Pacific coast in this detail from a 1669 map.

From "A New Mapp," courtesy Barry Lawrence Ruderman, www.raremaps.com



Pulse of Empire

The ocean is hardly pacific on this 1622 map. Winds, whether fierce or nonexistent, shaped Spain's Pacific empire.

Detail from a map by Hessel Gerritsz

Not only did the prevailing winds set the routes and therefore the form and extent of the *imperium*, they also established the seasonal beat or pulse at which it operated. The great trade fair that was held annually at Acapulco in February, for example, was timed to the rhythm of the winds that brought the galleon. Likewise, the departure from Manila depended on favorable winds for its timing. The capriciousness of the atmospheric circulation around the archipelago and its seasonal variations made it advantageous that the galleon commence its outward passage before late June.²⁵ This month was certainly the best one to navigate the Straits of San Bernardino and to better avoid the storms and typhoons that become more frequent as the year advances. Captains and pilots struggled to be underway at least before the end of July, when the northeast-blowing monsoon began fading, and the voyage northward would likely be extended beyond the two months it usually took, or become completely impractical when the winds blew in the contrary direction.²⁶ Failure to do so could lengthen the crossing from four months to more than eight months, as the unlucky crew of the *San José* experienced in 1662.²⁷ Such a delay could have serious medical consequences leading to disease, famine, and death on board. This presumably accounts for the appearance of a “ghost” galleon off the coast of Guerrero in 1657 with not a single member of its crew or passengers left alive after a year at sea.²⁸ Mortality rates were always high even at the best of times and could range to as much as fifty percent of the crew.²⁹ Greater variation than is customary in the wind system of the Western Pacific, such as occurred during the seventeenth century, exacerbated matters, and considerably lengthened the voyages undertaken between 1640 and 1670.³⁰

Since the northeast trades that returning galleons utilized on the westward passage vary seasonally, blowing more strongly during the months of March through May, the date of departure from Acapulco was also a matter of critical importance. The galleon had to be underway by March, and most endeavored to do so by the end of that month.³¹ In the Western Pacific, the Southeast Asian monsoon begins to dominate the circulation in May, reaching its maximum intensity in July and August. A ship approaching the Philippines before the end of June (when the trade winds still extend

all the way across the ocean) would generally enjoy an easier westward sailing than one arriving during the following months. The monsoon trough that is located midway between Guam and the Philippines shifts eastward in July, so that ships making a later passage had to contend with southwest winds for the latter part of the crossing. In addition to unfavourable winds, galleons had also to face the heavier weather associated with tropical convective systems. Weather conditions in the Western Pacific seem to have been the main factor in determining the length of the passage from Acapulco.³²

Winds, then, were a significant factor in determining both the shape and the pulse of Spain's *imperium* in the Pacific. They do not, of course, explain why Spaniards went there in the first place. It was the general circulation in the Northern Pacific, however—the direction and flow of the north-east trades and westerlies—that primarily decided which islands and peoples would experience the Spaniards' desires for God, Gold and Glory firsthand, and those which would not. To a large extent, the Philippines, the Marianas, the Carolinas and Palau were affected by Hispanic culture because that was the way the winds blew. If the *imperium*'s shape was attributable to the winds, then its continuing maintenance that way was due to the innate conservatism of an empire extended beyond its resources, where unnecessary risk-taking came to be looked upon with disfavor and even aversion. Once set, Spain's empire in the Pacific did not expand, if one discounts the peculiar circumstances of her occupation of the Carolinas and Palau in the late nineteenth century. Hawaiian islanders, therefore, were able to enjoy another two centuries of undisturbed development in their islands "between the winds" before being "discovered" by Captain Cook in 1778. While the Pacific is predominantly an aqueous environment, its life and history have been largely determined by the winds and currents that give shape and rhythm to the human endeavors within and upon it.

N O T E S

- 1 Nor was this phenomenon of wind-driven culture an exclusively European one: Chinese, Arab, Malay and Polynesian peoples were among those who also achieved degrees of mastery over this element, but never perhaps with the pertinacity or with the same ends in mind as the mariners of Western Europe.
- 2 Spain's claims to *las Islas Carolinas* were adjudicated in her favor by papal arbitration on the grounds that she had exercised sovereignty "since ancient times" despite the absence of any settlement. Rafael de Gracia y Parejo, *Consideraciones acerca del derecho de España sobre las Islas Carolinas* [Considerations on the Rights of Spain over the Caroline Islands] (Madrid: Establecimiento tipográfico de Gregorio Juste, 1885). On Spanish colonialism in the Carolinas, see David Hanlon, *Upon a Stone Altar: A History of the Island of Pohnpei to 1890* (Honolulu: University of Hawaii Press, 1988) and Francis Hezel, *Strangers in Their Own Land: A Century of Colonial Rule in the Caroline and Marshall Islands* (Honolulu: University of Hawaii Press, 1995).
- 3 While the circulation is similar in both hemispheres, the southern climate is affected by the colder mean climate of the troposphere over Antarctica (which is due to the deflecting *albedo effect* caused by its perpetual ice cover); this displaces all southerly climatic zones to the north. Thus the ITC mainly lies several degrees north of the geographical equator in all oceans, a circumstance that greatly reduces the frequency of typhoons in many places but increases the intensity of the prevailing westerlies in the Southern Hemisphere.
- 4 This discussion of atmospheric circulation is based mainly upon William van Dorn, *Oceanography and Seamanship* (Centreville, Maryland: Cornell Maritime Press, 2nd ed., 1993).
- 5 Philippine Atmospheric, Geophysical & Astronomical Services Administration (PAGASA), *Primer on El Niño/Southern Oscillation (ENSO)* (Quezon City, Philippines: Climatology and Agrometeorology Branch, PAGASA, Department of Science and Technology,

- 1997), 2; Maxx [sic] Dilley and Barry N. Heyman, "ENSO and Disaster: Droughts, Floods and El Niño/Southern Oscillation Warm Events," *Disasters* 19, no. 30: 181-182; United Nations Environment Programme (UNEP), *The El Niño Phenomenon* (Nairobi: UNEP/GEM Environment Library No. 8, 1992), 14-15.
- 6 While the dynamics of El Niño/Southern Oscillation (ENSO) are now reasonably well understood, meteorologists are still unable to explain what upsets the normally balanced cycle of wind and water (see UNEP, *El Niño*, 9). It is considered possible that the amount of snowfall in the Himalayas may provide the trigger that initiates a warm or cold event; see G. Diokno, "Coping with the El Niño of the Century," *Canopy International* 23, no. 5 (1997): 1, 6-9. Or they may be linked to the number of sunspots; see David B. Enfield, "Historical and Prehistorical Overview of El Niño/Southern Oscillation," in Henry F. Diaz and Vera Markgraf, eds., *El Niño: Historical and Paleoclimatic Aspects of the Southern Oscillation* (Cambridge: Cambridge University Press, 1992), 95-118; and Neville Nicholls, "ENSO, Drought and Flooding Rain in Southeast Asia," in Harold Brookfield and Yvonne Byron, eds., *South-east Asia's Environmental Future: The Search for Sustainability* (Oxford: Oxford University Press, 1993), 159-165.
- 7 There are also subsurface equatorial countercurrents that flow eastward beneath the surface currents.
- 8 Van Dorn, *Oceanography*, 101-104, 107-109. Beyond 160-170°E, the Kuro-Shio Current (sometimes also known as Kuroshio or Kuroshiwa) becomes too diffuse to be any longer identifiable.
- 9 Francisco Santiago Cruz, *La Nao de China* (Mexico City: Editorial Jus, 1962), 98.
- 10 There is considerable dispute over Magellan's exact route. Oskar Hermann Khristian Spate, *The Spanish Lake: The Pacific since Magellan*, vol. 1 (London: Croom Helm, 1979), 47-49.
- 11 On the early history of Spain in the Philippines, see John Leddy Phelan, *The Hispanization of the Philippines: Spanish Aims and Filipino Responses 1565-1700* (Madison: University of Wisconsin Press, 1959).
- 12 Spate, *Spanish Lake*, 104-106, and William Schurz, *The Manila Galleon* (Manila: Historical Conservation Society, 1985; originally published New York: E. P. Dutton & Co., 1939), 178-182.
- 13 Spate, *Monopolists and Freebooters: The Pacific since Magellan*, vol. 2 (Canberra: Australian National University Press, 1983), 279-289. In 1813 the Cortes de Cádiz issued a decree ending the trade. The last galleon sailed in March 1815. On the galleon trade, see also José María Francés, *México y Manila (Historia de dos ciudades)* (Mexico City: Secretaría de Educación Pública, Departamento de Bibliotecas, n.d.), 31-36; Rafael Bernal, *México en Filipinas: Estudio de una Transculturación* (Mexico City: Universidad Nacional Autónoma de México, 1965), 75-86; John Hoyt Williams, "Tapping the Orient: Voyages of the Manila Galleons," *Oceans* 15 (1982): 44-49, and Ostwald Sales Colín, *El Movimiento Portuario de Acapulco: El Protagonismo de Nueva España en la Relación con Filipinas, 1587-1648* (Mexico City: Plaza y Valdes Editores, 2000), 81-110. For a complete list of all Pacific sailings through Micronesia, see Rodrigue Lévesque, "Ships through Micronesia" in *History of Micronesia* (Gatineau, Quebec: Lévesque Publications, 2002), vol. 20, 377-646.
- 14 Galleons are known to have been forced to return to Manila in 1593, 1602, 1616-1617, 1663, 1672, 1682, 1687, 1795 and 1806 (Cruz, *Nao de China*, 136).
- 15 Schurz, "The Manila Galleon and California," *Southwest Historical Quarterly* 21, no. 2 (1917):109.
- 16 Cruz, *Nao de China*, 101. Often the westward route was almost a straight line, with the galleons dropping southwest from Acapulco (16°51'N 99°55'W) to the vicinity of 12°N where they then headed due west to the Straits of San Bernardino. On the role of weather in the galleon trade, see Rolando R. García [sic], Henry F. Díaz, Ricardo García Herrera, Jon Eischeid, María del Rosario Prieto, Emiliano Hernández, Luis Gimeno, Francisco Rubio Durán and Ana María Bascary, "Atmospheric Circulation Changes in the Tropical Pacific Inferred from the Voyages of the Manila Galleons in the Sixteenth-Eighteenth Centuries," *Bulletin of the American Meteorological Society* 82, no. 11 (2001): 24-36.
- 17 Father Sanvitores accomplished his mission to the Marianas with much subsequent loss of life, due partly to intermittent warfare and much more to the introduction of virulent diseases like smallpox, which decimated the indigenous population to the point of virtual extinction. The Chamorros of the inhabited islands of Guam, Saipan and Tinian declined from an estimated 80,000-100,000 in 1668 to 3,197 by the census of 1710, and had utterly disappeared by 1887. Spate, *Monopolists*,

114-118. See also Andrés A. de Ledesma, *Mission in the Marianas: An Account of Father Diego Luis de Sanvitores and his Companions, 1669-1670*, trans. with commentary by Ward Barrett (Minneapolis: University of Minnesota Press, 1975); Francisco F. García, *Sanvitores in the Marianas* (Guam: Micronesian Area Research Center, University of Guam, 1980); and Emilie E. Johnston, *Father Sanvitores: His Life, Times and Martyrdom* (Guam: Micronesian Area Research Center, University of Guam, 1993). The significance of wind power to the Spanish mentality is suggested by the alternate name often given to them before colonisation: Islas de las Velas Latinas, "Islands of Lateen Sails."

18 Cruz, *Nao de China*, 101.

19 Michael Mathes, *Vizcaino and Spanish Expansion in the Pacific Ocean, 1580-1630* (San Francisco: California Historical Society, 1968), Schurz, "California," and Schurz, *Manila Galleon*, 190. Though no California colonization materialised for more than a century, and the establishment of *presidios* and missions that began in 1769 had as much to do with the seventeenth century missionary endeavors of Eusebio Francisco Kino and with imperial fears of British and Russian encroachment, the Council of the Indies did decree in 1773 that galleons must put into port at Monterey, and imposed a fine of 4,000 pesos on captains who ignored such directives. On Spanish settlement of Alta California and the Northwest, see also Irving I. Richman, *California Under Spain and Mexico 1535-1847* (New York: Cooper Square, 1965); John J. Kendrick, *The Men with Wooden Feet: The Spanish Exploration of the Pacific Northwest* (Toronto: NC Press, 1985); Warren Cook, *Flood Tide of Empire: Spain and the Pacific Northwest, 1543-1819* (New Haven and London: Yale University Press, 1973); David Thomas, ed., *Spanish Borderlands Sourcebook: Native American Perspectives on the Hispanic Colonization of Alta California* (New York: Garland, 1991); and George Phillips, *Indians and Intruders in Central California 1769-1849* (Norman: University of Oklahoma Press, 1993), 32-64.

20 Schurz, *Manila Galleon*, 198.

21 Van Dorn, *Oceanography*, 74.

22 Cruz holds that the Hawaiian Islands had been sighted as early as 1542, based on von Humboldt's study of the galleon's route. Cruz, *Nao de China*, 107. See Alexander von Humboldt, *Political Essay on the Kingdom of New Spain* (London: Longman, Hurst, Rees, Orme & Brown, 4 vols., 1811), vol. 4.

23 On the voyages of Mendaña and Quirós, see William Amherst and Basil Thomson, *The Discovery of the Solomon Islands by Alvaro de Mendaña in 1568* (London: Hakluyt Society, 1901); Celsus Kelly, *La Australia del Espíritu Santo: the Journal of Fray Martin de Munilla and Other Documents Relating to the Voyage of Pedro Fernández de Quirós to the South Sea (1605-1606) and the Franciscan Missionary Plan (1617-1627)* (Cambridge: Hakluyt Society at the University Press, 1966); Clements Markham, *The Voyages of Pedro Fernández de Quirós, 1595 to 1606* (Nendeln, Liechtenstein: Kraus Reprint, 1967).

24 Spate, *Spanish Lake*, 119-143. On Spanish influences on other parts of the Pacific, see Robert Langdon's controversial studies *The Lost Caravel* (Sydney: Pacific Publications, 1975) and *The Lost Caravel Re-explored* (Canberra: Brolga Press, 1988).

25 Indeed, a royal order decreed that galleons should set sail before 1 July. Prevailing winds in the Philippines blow from the east between mid December and March, north to south from April to May, southeasterly June through August, northeasterly from late September to October, and from the north and northeast from the end of October to the beginning of December (Cruz, *Nao de China*, 103).

26 Cruz, *Nao de China*, 130. There was much discussion and even gubernatorial directions on occasion to have the galleon take the much more direct route up the west coast of Luzon and around Cape Bojeador, with claims that ships could reach the 20°N parallel in two to three days and so reduce the voyage to Mexico from five or six to three months (Schurz, *Manila Galleon*, 183-184).

27 Ibid., 138.

28 Ibid., 140.

29 Ibid., 125-126. Cruz enumerates the following deaths among crew sizes that ranged from 60-100 in the first galleons to upward of 400 on the largest: 80 in 1606, 99 in 1620, 105 in 1629, 114 in 1643 and 82 in 1752 (Ibid., 140).

30 García et al., "Circulation Changes," 2448-2450.

31 Ibid., 2442.

32 Ibid., 2447-2448.

A beast from the Deep passes *Los Mongos* (often *Los Monjes*) and other mythical islands, whose origins may lie in stories of distant sightings of Hawai'i.

Detail from the 1593 "*Quivirae Regnu*," courtesy Michael Stone





Imagining “The Spanish Lake” in the Sixteenth Century: Explorers and Visionaries in the Service of Empire

Kevin Sheehan

If we were to seek a symbolic date for the conception of Spain’s colonial enterprise in the Pacific Ocean, we might well begin with September 29, 1513. On that day Vasco Núñez de Balboa waded into the waters of the Gulf of San Miguel near present day Panamá and claimed the “seas and mainland and coasts and ports and southern islands, with all their districts, kingdoms and provinces” for the monarchs of Castile. In doing so he proclaimed their lordship of “these Indies, islands and mainland—both northern and southern—with their seas both in the Arctic and Antarctic, on both sides of the Equator, both inside and outside the tropics of Cancer and Capricorn... both now and in all times, as long as the world endures until the final day of judgment of mortal man.”¹ Rarely in the annals of European exploration and discovery has a more grandiose claim been made to territorial possession.



The expansive claims of this possession ceremony belied the fact that in 1513 no European had ever proceeded beyond wading depth into the waters of this newly named sea. The mental image Balboa and his companions appear to have held regarding their discovery is found in early-sixteenth-century cartography predating the voyage of Magellan. In these representations, a relatively narrow body of water separates the western coast of the Americas from the islands along the coast of the Asian mainland.² It must have seemed a relatively straightforward task to negotiate this sea and to reach the riches of Asia. In reality Balboa and his companions had little or no inkling of the vast extent of the territory they now claimed exclusively for the Crown of Castile. Nor did they imagine the difficulties later generations of explorers would encounter in attempting to capitalize on this act of possession. The history of Spain in the Pacific in the sixteenth century was an ongoing attempt to construct an imperial reality approximating the parameters established by Balboa's possession ceremony.

Thus Spain attempted throughout the sixteenth and early-seventeenth centuries to gain control of the Pacific through the construction of images and ideals. Beneath the quest for islands of unimaginable wealth lay Spanish ideals: a complex web of intellectual currents which encompassed both their ruminations concerning the possibility of finding an undiscovered continent in the Southwest Pacific, and their search for unknown peoples. Despite the constraints imposed by the realities of nautical science, cosmology, and politics, the many would-be discoverers persisted in their hopes that the Spanish Pacific promised by Balboa would eventually become a reality.

Balboa levels his sword at the Pacific, perhaps in challenge to this alarming new foe, in N. C. Wyeth's 1927 imagining of the scene.

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As the Spanish expanded their empire in the Americas, and particularly as they took control of the coastal regions of South America, their images of the Pacific evolved. The result was a vision still linked to the acquisition of fortune. New possibilities of where that fortune might be found, however, now emerged. In place of an exclusive focus on the Spice Islands, speculation grew concerning the possibility that other parts of the Pacific—particularly its southwest corner opposite the coasts of Perú and Chile—might contain hidden islands promising fortune to the intrepid discoverer. The advantages offered by this new corner of the Pacific were obvious. Rather than contend with Portuguese opposition, the Spaniards hoped to find uncontested regions promising an even greater profit in gold and silver.

The development of these Spanish images of the Pacific during the first half of the sixteenth century was the direct result of information gleaned from indigenous American sources. In the 1530s Captain Francisco de Cáceres received information from an Inca source intimating that islands lying to the west of Peru and Chile bore the name “Salomón.”⁶ To Spanish ears and imaginations, this must have sounded remarkably like the place from whence the biblical king Solomon had brought vessels laden with gold to adorn the newly constructed temple in Jerusalem. This new vision of the hitherto hidden islands of the Pacific became widely disseminated by the middle of the century. The most pronounced literary example of this image of the Pacific is found in the writings of the historian António Galvão, who based part of his 1563 *Tratado dos Descobrimentos* upon information gathered in Chile in 1538. The text vividly describes the existence of a Pacific island temple housing 2,000 priests, of Amazons and their queen, and of the island of Salomón.⁷ These influences created a speculative hydrography, by focusing on the exotic wealth now believed to be within a few weeks’ sail of the South American coast.

It is not difficult to imagine the impact of such accounts on the descendants of the original *conquistadores*. Such tales found an avid audience in Lima, the capital of the viceroyalty of Perú, in the early 1560s. Speculation concerning the origins of the wealth of the biblical King Solomon reached new heights, including the sponsorship of a voyage in search of the islands in 1567, under the young Alvaro de Mendaña. The archipelago now known as the Solomons was duly found in the Western Pacific, and their position subsequently recorded on seafarers’ charts. Solomon’s gold, however, proved elusive.

The encounter between Spanish aspirations and indigenous testimony indicates something of the creative processes at work in the formation of mid-century images of the Pacific. As information was gleaned from local sources, the Spaniards’ interpretative horizons carefully filtered and systematized indigenous geographical knowledge. In this way, indigenous oral testimony was interpreted within the context of current European cosmologies. The result was the production of a highly speculative geography, intimately linked to the quest for personal fame and fortune. What distanced this image from that of Cortés and his generation was a broader focus on the possibilities that the Pacific might offer the explorer, particularly in its southwest reaches.



When **Philip III** (1598-1621) was crowned, his empire had already begun declining.

Opposite, a detail of the California coast from "Quivirae Regnu," 1593, courtesy Michael Stone

The Pacific and the Politics of Iberian Expansion

As Spaniards gazed toward the distant Western Pacific, it seems their speculation concerning what might lie beyond the horizon knew few bounds. The aspirations of Spanish navigators, however, were further complicated by the politics and diplomacy which had shaped the theoretical contours of the Spanish and Portuguese empires in the western Pacific and Southeast Asia in the first half of the sixteenth century. A Spanish Pacific, as imagined by Balboa and his inheritors, was forced to contend with the idea of an Iberian Pacific divided by lawyers and diplomats.

This divided Pacific was a product of longstanding imperial rivalry between Portugal and Castile. The division of the new discoveries between the two crowns was promulgated in a series of papal bulls in 1493 by Pope Alexander VI, subsequently renegotiated through the Treaty of Tordesillas in 1494, and further refined at Elvas and Badajoz in 1524. This established an Atlantic line of demarcation. Both Spaniards and Portuguese resorted to the expert opinions of cosmographers in order to confirm the exact location of where the same line fell on the Pacific side of the globe. This was a crucial question, for the spice-rich islands of the Moluccas were situated in the vicinity of this line in Southeast Asia, and Spaniards and Portuguese both believed these islands lay on their respective side of the line. The matter appeared to be settled definitively with the Treaty of Zaragoza in 1529 and Charles I's abnegation of Spanish claims to the Moluccas in return for considerable compensation. In theory, Zaragoza set a definitive limit for Spanish dreams and aspirations in the Pacific.

Spanish visions of grandeur, however, proved difficult to extinguish; Spain continued to seek access to the wealth of the East. In 1574, Juan López de Velasco, the cosmographer and chronicler of the Indies, completed his monumental compilation of the geography and hydrography of the lands and seas pertaining to the Crown of Castile.⁸ Prefacing his descriptions of the western Pacific and East Asia, Velasco informed his readers that the entire region—particularly the Spice Islands—fell well within the demarcation of the territories of Castile. While noting that the Portuguese used different conventions to draw the line of demarcation through one of the islands in the Moluccas, Velasco stated that Castilian geographers (with great diligence and the application of celestial observations) had concluded that the line should be placed further to the east near Malacca.⁹ Velasco was in fact attempting to resurrect earlier claims which found their original cartographic representation in the first map to depict the discoveries of Magellan. Nuño García de Toreño's planisphere produced in Seville in 1522 had placed the line of demarcation well to the west of the Moluccas.¹⁰ According to Velasco's resurrection of this claim, some of Portugal's most cherished Asian entrepôts and trading posts, including Macao, Nagasaki, and the Moluccas, were rightfully the possession of the Crown of Castile.

Despite Velasco's considerable influence at Court, the idea of a Spanish Pacific implicit in his geography never gained official sanction during his lifetime. Once again the dream of Spanish dominion over the western Pacific would be tempered by political realities. The union in 1580 between the Crowns of Spain and Portugal under the Spanish Habsburg Philip II led to a new, more reserved imperial project in the Western Pacific. As monarch of



both kingdoms, Philip II promised to safeguard the territorial and juridical integrity of the Portuguese portion of what had become a truly global imperial patrimony.¹¹ In practice this meant that the Spanish settlement in the Philippines established by Legazpi in 1564 would remain, for the time being, Spain's only presence in a region the Portuguese had long been accustomed to call their own.

From Searching for Imaginary Islands of Wealth, to Seeking an Imaginary Continent

The reign of Philip III, which began in 1598, provides a new chapter in the history of Spanish designs in the Western Pacific, influenced in no small part by the young king's desire for a spectacular success to mark the beginning of his reign.¹² The coupling of Portuguese and Spanish colonial possessions into one global dominion inspired the imaginations of those who sought in these events a preamble to an equally global spiritual dominion characterized by the willing conversion of new peoples to the Catholic faith. Many Spaniards believed that the vocation of their empire, the foremost Catholic power, was to oversee this process of conversion. Within this context some visionaries turned to the Pacific frontier as the hope and fulfillment of Spain's mission. Once again then, the Pacific became an idealized realm, albeit of a very different order to that which had inspired Cortés and his generation. For where the early *conquistadores* had looked primarily for gold, silver, and spices, a new generation of Spanish idealists focused upon the foundation of a utopian society and a harvest of souls in the Pacific.

The vast southern continent described in contemporary cartography as stretching from the Strait of Magellan to New Guinea became the obvious place to found such a society. The contours of this land were largely the product of developments in speculative Pacific hydrography during the last decades of the sixteenth century. Most surviving examples of the cartography of the Pacific produced during the first half of the sixteenth century demonstrate little interest in regions to the south

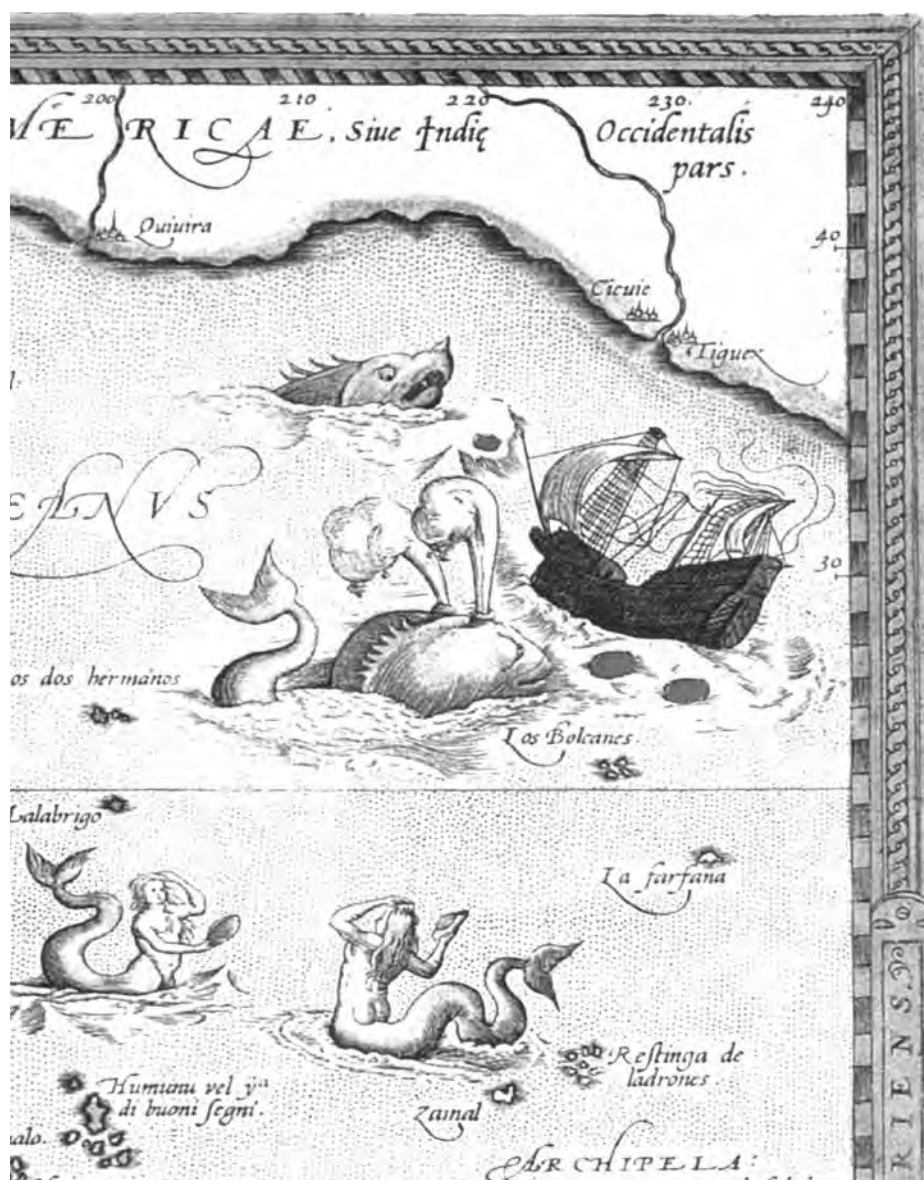
of the Moluccas or New Guinea.¹³ However in 1569 Gerard Mercator published a map of the world depicting a southern continent, *Terra Australis*. This image of the unknown continent was subsequently popularized by Abraham Ortelius's atlas of 1570.¹⁴ By the end of the century, despite the fact that no account existed of its discovery, the Spanish Jesuit José de Acosta stated as a matter of fact that "It is enough for us now to know for certain that there is land in this part of the South, and that it is as large as all of Europe, Asia and even Africa."¹⁵ Notwithstanding the reasoned descriptions of geographers like Acosta, or the confidence with which cartographers like Ortelius traced the contours of *Terra Australis* on their maps, the physical possession of its shores remained an elusive goal for Spain at the end of the century of expansion initiated by Balboa's bold proclamation.

In 1605 Pedro Fernández de Quirós, a Portuguese mariner in the service of the Spanish Crown, was commissioned to find and claim *Terra Australis* for Spain. Here surely was a project that had the potential to fulfill the substance of Balboa's possession ceremony. The Quirós voyage is a unique event in the history of sixteenth- and early-seventeenth-century Spanish seafaring, for it is the only example of a trans-Pacific voyage during this period with specific instructions to cross the line of demarcation and explore regions subject to the Crown of Portugal. After exploring the Pacific coast of *Terra Australis*, Quirós and his fleet of three vessels were ordered to proceed through the Moluccas to Manila. Having replenished their supplies, they were then to proceed southward beyond the Moluccas to continue exploration of the continent, before returning to Spain via Portuguese India and the Cape of Good Hope.

Quirós was undoubtedly the most visionary of all Pacific explorers. The crowning achievement of his voyage was the founding of the city of the New Jerusalem on May 14, 1606 on what he believed to be the coast of *Terra Australis*, which turned out to be the rather more prosaic island of Espiritu Santo, in present-day Vanuatu.¹⁶ In the vision of Quirós and his circle of supporters, the city was intended to be the capital of a utopian New World designed to stem the tide of decline in the Spanish empire.

This South Sea utopia proved to be short lived. Within weeks the settlement was abandoned, and Quirós and his vessel became mysteriously separated from the remainder of the fleet, which would lead to Quirós facing charges of misconduct in Spain. Nonetheless, the project for the foundation of a Spanish presence on *Terra Australis* was not rejected outright. Official deliberations turned towards what the members of the Spanish Council of State termed a "Portuguese solution" to the problem of how to secure a settlement on the southern continent.¹⁷ Rather than found what would have amounted to another Spanish viceroyalty in the Southwest Pacific, the king's advisors suggested the establishment of series of small trading posts modeled on those used by the Portuguese in parts of Asia. Ironically, the Portuguese empire in Southeast Asia, which had been so problematic for Spanish expansion in the region, now offered a model for Spanish designs in the Southwest Pacific. Facing a serious shortage of funds, however, and hard pressed on their established frontiers by the growing maritime power of the English and Dutch, the Spanish eventually conceded that even this minimalist approach would overextend their increasingly scarce resources. Ultimately, this final idealized vision of a Spanish Pacific succumbed to the pressures of imperial priorities.

The Spanish ideal of a Pacific empire never achieved the grandiose parameters laid down for it by Balboa in 1513, Velasco in 1574, or Quirós in 1606.¹⁸ The challenge presented by the Pacific to Spanish empire-builders in the sixteenth century was not simply one of its sheer physical size, or the power of its winds, waves, and currents. The Spanish were also faced with the challenge of incorporating new territories while avoiding antagonism with their Iberian neighbors, the Portuguese. To this end the agents of Spain's territorial expansion in the sixteenth century proved themselves adept at creating images of the Pacific which might, through resourceful planning and courageous effort, be translated into imperial reality. Despite a general interpretation of Habsburg Spain as a place of increasingly narrow intellectual horizons, there is something profoundly dynamic and creative in the way in which Spaniards were able to meld disparate sources—from Peruvian narratives to European hydrographies—into imagined spaces and potential possessions. For Spaniards in search of royal sponsorship for their explorations in the early seventeenth century, the Pacific offered a seemingly limitless horizon, and the opportunity for Spain to fulfill its mission through the creation of yet another New World.



A whale and less-familiar creatures surround a damaged ship, lost among mythical Pacific islands.

From Thomas Suárez's Early Mapping of the Pacific, courtesy of the author

NOTES

- 1 The Spanish text is reproduced in Francisco Morales Padrón, "Descubrimiento y toma de posesión," *Anuario de Estudios Americanos* 12 (1955): 343. For an English translation see O. H. K. Spate, *The Spanish Lake* (Minneapolis: University of Minnesota Press, 1979), 33.
- 2 See for example Pedro Reinél's chart of the Indian Ocean and the East, c. 1517, reproduced in *A Cartografia Portuguesa do Japão (Séculos XVI-XVII): Catálogo das Cartas Portuguesas* (Lisboa: Fundação Oriente, [1996]), 61, plate 3. Also Lopo Homem, *Planisphere*, in *A Cartografia*, 62, plate 4.

- 3 Some authors, such as Juan Gil, see in the first Spanish expectations of the Pacific a direct link to mentalities associated with Columbus' plans for westward voyage in search of new trade routes to India and Cipangu. See his broad-ranging study *Mitos y utopías del descubrimiento*, vol. II: *El Pacífico* (Madrid: Alianza Editorial, 1989), *passim*.
- 4 Hernán Cortés, *Tercera Relación* [Coyoacán, 15 May 1522], in *Cartas de Relación*, ed. Ángel Delgado Gómez, (Madrid: Editorial Castalia, 1993), 432. English translation in Cortés, *Letters from Mexico*, trans. and ed. Anthony Pagden (New Haven: Yale University Press, 1986), 267.
- 5 Jorge Reiné, *Planisphere*, c. 1519, in *A Cartografía*, 67, plate 6.
- 6 *Relaciones de las yslas que llaman de salamon* [ca. 1531-1540], Archivo General de Indias, Sevilla, Patronato 18-10-1.
- 7 António Galvão, *Tratado dos Descobrimentos* [1563], ed. Visconde de Lagoa (Pôrto: Livraria Civilização-Editora, 1944), 260.
- 8 Juan López de Velasco, *Geografía y descripción universal de las Indias*, ed. Justo Zaragoza (Madrid: Real Academia de la Historia, 1894).
- 9 López de Velasco, *Geografía*, 569.
- 10 Nuño García de Toreño, *Planisphere* [1522], in Felipe Fernández-Armesto, *Atlas de los Descubrimientos* (n.p.: Plaza & Jane's, 1992), 165, plate D.
- 11 For a general orientation to Spanish expansionism in East Asia see C. F. Boxer, *The Christian Century in Japan* (Berkeley: University of California, 1951), 257. A more balanced view of Spanish aims is found in John M. Headley, "Spain's Asian Presence 1565-90: Structures and Aspirations," *Hispanic-American Historical Review* 75 (1995): 623-646. See also Horacio de la Costa, *The Jesuits in the Philippines, 1581-1768* (Cambridge: Harvard University Press, 1961), 51.
- 12 Patrick Williams, "Philip III and the Restoration of Spanish Government, 1598-1603," *The English Historical Review* 88, no. 349 (October 1973): 751.
- 13 See for example, Lopo Homem's *Planisphere* of 1554, in *A Cartografía*, 96, plate 21. A notable exception to this rendition of the southern Pacific is found in the Dieppe school of cartography. See Helen N. Wallis, "Java la Grande: The Enigma of the Dieppe Maps," in *Terra Australis to Australia*, ed. Glyndwr Williams and Alan Frost, (Melbourne: Oxford University Press, 1988), 39-81.
- 14 A brief commentary is found in Robert Clancy, *The Mapping of Terra Australis* (Macquarie Park: Universal Press, 1995), 67, 70.
- 15 José de Acosta, *Historia natural y moral de las Indias* (Madrid: Historia 16, 1986), 77.
- 16 Pedro Fernández de Quirós, *Relación*, in *Historia del descubrimiento de las regiones australes, hecho por el general Pedro Fernández de Quirós*, ed. Justo Zaragoza, (Madrid: Gómez-Tabanera, 2000), vol. I, 313.
- 17 *Parecer del Consejo de Estado* (Madrid, 2 May 1609), Archivo General de Simancas, Estado 219.
- 18 For a further discussion on the nomenclature of the Pacific and its evolution see Spate, "'South Sea' to 'Pacific Ocean': A note on nomenclature," *Journal of Pacific History* 12 (1977): 205-211.

A Taste for Spices:

Spanish Efforts at Spice Production in the Philippines

Paula De Vos

Virtually every American schoolchild learns that Columbus “discovered” the Americas accidentally, while trying to find a new route to the Asian spice trade. Spices, we were taught, were valuable because they enhanced Europe’s monotonous cuisine and served to preserve some foods—or cover up the noxious flavor of those that had spoiled.¹ The idea that spices provided the initial motivation for Spain’s maritime empire persists, but few realize that the Crown’s desire for direct access to spices did not end once it became clear that Columbus had landed not in Asia but on the islands of a continental landmass hitherto unknown to Europeans. Indeed, the Spanish Crown’s persistent efforts in pursuing the discovery, cultivation, and trade of spices in its Asian colony of the Philippines spanned the entire colonial period. These efforts reached their height in the mid-to-late-eighteenth century, when Enlightenment ideas about agriculture and development spurred several grandiose projects to cultivate spices.

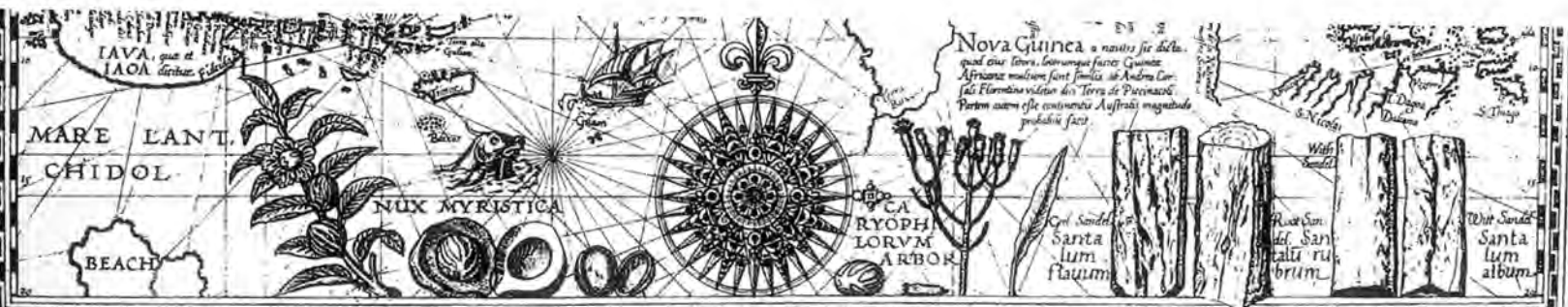
Spain’s legacy in the Pacific largely revolved around its claiming and colonization of the Philippines in the sixteenth century and the trade that resulted from it.² This colonization was motivated chiefly by the search for

spices. The main purpose of Magellan’s circumnavigation of 1519 to 1522, for example, was to gain a foothold in the Pacific and thus establish a Spanish presence in the spice trade.³ Indeed, Magellan’s voyage was conceived of as a reprise of Columbus’s aim to discover a more direct route to the East Indies and the Spice Islands (the Moluccas) in particular. Although the Spanish were not ultimately successful in taking over those islands, they did claim and colonize the “Western Islands,” an archipelago north of the Moluccas identified by Magellan and later named the Philippines, after King Phillip II.⁴

Though the Philippines may have seemed a second-rate prize compared to the Moluccas, early explorers and Crown benefactors had high hopes for the islands’ potential as another set of “islands of spice,” where spices could be cultivated for export or obtained in trade. Early accounts of the islands portrayed this potential in glowing terms: one of the islands was said to produce so much cinnamon that it was used as firewood.⁵ This aspect of the promise of the Philippines, however, went unfulfilled. Despite early intentions, the lure of the fortunes to be made in maritime trade overtook the more mundane tasks

The alluring spices of the East are arrayed across the bottom of a 1594 map. From left are nutmeg, clove, and two varieties of aromatic sandalwood.

From Early Mapping of Southeast Asia, courtesy the author, Thomas Suárez





The distance from Spanish Manila, at upper left, to the Portuguese Moluccas at bottom was not great, but the “spice gap” seemed great to the Spanish. The outsized word MOLUCCAS, in this detail from a 17th century map, suggests the importance of these small “Spice Islands.”

Detail from P. M. Coronelli's 1691 map of Asia, courtesy Michael Stone

of agriculture for Spaniards in the Philippines. Thus domestic development in the islands languished, and by the eighteenth century they were plagued by a host of economic problems, including the encroachment of Dutch and English trade. The Crown's answer to these problems was to turn once again to spices, and colonial officials pursued a series of projects to stimulate research and development of native Filipino cinnamon and pepper. These projects are a testament to the Crown's long-standing desire to cultivate a self-sufficient mercantile economy that was part of an empire-wide strategy to maintain overseas imperial hegemony.

The Problems of Unfulfilled Promise

Despite early promise, however, spice production in the Philippines did not flourish, largely due to the establishment of regular trade between Manila and Acapulco. From the end of the sixteenth century through the eighteenth century, the Manila Galleon trade dominated the economy of the Philippines, and commercial interests of Spanish merchants in Manila revolved more around the movement of luxury goods in trans-Pacific trade than around the economic development of the islands themselves.⁶ The natural resources that the Philippines had to offer failed to capture the interest, investment, or labor of colonists who could reap spectacular profits through commerce on the Manila Galleons.

Some spices did reach Manila for export, including pepper and particularly cinnamon, and were occasionally shipped to Acapulco. However, the majority of spices continued to reach México from Spain, where they arrived via the traditional route around the Cape of Good Hope.

The anticipated cultivation and export of spices, therefore, did not take place, and although the Galleon trade provided great wealth for those whose trans-Pacific gamble paid off, the islands themselves (at least according to Spanish administrators there) remained in a state of poverty and neglect for most of their colonial history. They were, in fact, an economic drain on the Spanish treasury, which sent a yearly subsidy, the *situado*, to Manila in order to maintain the colonial establishment.⁷ By the middle of the eighteenth century, the Philippines' problems were numerous. In 1754,

the Governor of the Philippines lamented to the Crown that domestic agriculture in the Philippines had reached “a state of almost total abandonment.”⁸ This failure could be attributed, he argued, to two things: the “Indians’ lack of application in their work,” and the “indolence” of local Spanish officials in enforcing cultivation and development of the region.⁹ Francisco de Viana, treasury officer of the high court of Manila, similarly informed the Crown in 1765 that the islands were in a “deplorably wretched state.”¹⁰ In addition to expressing frustration at the ever-increasing amount required for the *situado*, he fumed that the Islands were inhabited by a “miserable” and “disrespectful” native population who suffered from “continual and pernicious slothfulness” despite the fact, doubtlessly frustrating to a treasury official like Viana, that they “eat and drink without paying any . . . impost.”¹⁰

Along with these domestic problems, there was the ever-present threat of Portuguese and later Dutch and English encroachment, and the fact that by the mid-seventeenth century the Dutch controlled virtually all of the spice trade, a situation of which Crown officials were painfully aware.¹² The problem with foreign control over the spice trade was twofold: not only was Spain not reaping the financial rewards that the trade provided, but Dutch control over spices led to Spanish dependency on a foreign power for an arguably necessary resource.¹³ Such dependence was anathema for a mercantile empire which sought to be wholly self-sufficient in matters of subsistence and to maintain a positive trade balance.¹⁴ Especially galling to Spanish entrepreneurs and officials alike was the continual drain of silver out of Spanish hands resulting from the purchase of spices. According to Nicholas Norton Nichols, an Englishman who spent many years in Manila (and eventually became a naturalized citizen), Spaniards consumed more cinnamon than any other nation, and in 1759 bought from the Dutch more than 111 million silver dollars’ worth of spices.¹⁵ “What a shame,” chided Nichols, that

so many millions of silver are permitted to leave these Dominions and go to the Dutch each year. It is the same as giving to these people the arms they need to make war . . . The Spanish are maintaining them, paying for their troops, their forts, and their garrisons.¹⁶

In addition to fiscal worries, Nichols and other would-be entrepreneurs were concerned about the constant threat of invasion. According to Francisco de Viana, the lack of agricultural and industrial development had led to abject poverty among both the Spanish and native population, a lamentable state that led to disrespect of Spanish authority, and diminished the military ability of the province to repel any invasion. With the forts of Manila and Cavite in disrepair, Spanish settlements were ever more vulnerable to the “ferocious and inhuman enemies” who surrounded them, particularly the English, who ransacked Manila in 1762. Most “inhuman” were the *moros*—both the Muslims who inhabited the southern islands of the archipelago and Muslim merchants from Arabia who vied to retake the spice trade from the Europeans and sought to spread Islam (or their “diabolical inclination,” in Viana’s words) to native islanders.¹⁷

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Enlightened Answers: The Spice Solution

Thus the Philippines were plagued by a host of problems that both stemmed from and further hindered the lack of domestic production and development. By the mid-eighteenth century, a variety of statesmen and local entrepreneurs began to respond to the islands' predicament by proposing solutions which revolved around the stimulation of domestic agriculture, often with spice production as a primary goal.¹⁸ Echoing the hopes of their sixteenth-century predecessors, they once again spoke enthusiastically of the Philippines' promise, due to both its geographic location and its potential for internal development. Despite his negative assessment of the islands' present state, Francisco de Viana was quite enthusiastic about what he saw as their almost unlimited potential:

As is admitted by all nations, these islands are the most fertile, abundant, and rich, and the country the most delightful, in all India; and no other region is so well suited for a flourishing commerce, on account of their situation. With greater reason would they be able to increase the wealth of Spain, if in these islands were cultivated their many valuable products, which are greatly esteemed . . . and if these products found there the market which foreign goods now enjoy.¹⁹

Indeed, for many the Philippines were an ideal place to promote internal agriculture and industry and were referred to as “the most precious jewel of Asia: larger than the British Isles, and if they were as populated and developed, would be richer as well.”²⁰ Moreover, its location between “the two Indies, which are the wealthiest countries of the universe,” was ideal for promoting commerce.²¹

Not surprisingly, these statesmen had a host of suggestions as to the measures needed to promote development and thus solve the Philippines' problems. The measures reflected the larger context of Enlightenment ideas which had infiltrated Spain in the eighteenth century, particularly during the reign of Charles III, which began in 1759. Although much of the anti-absolutist and anti-clerical rhetoric of the French Enlightenment found little support in Spain, “Enlightened” ideas about political economy and state support of industry and agriculture were adopted and implemented as policy in Spain.²² The Crown's desire to do the same in the Spanish colonies is clear in the measures adopted in the Philippines to stimulate development—and in the very idea that the key to its problems lay in the stimulation of agricultural production.²³

In order to stimulate development, Philippine colonizers followed the example of Enlightenment-era Spain, particularly during the tenure of Governor José Basco y Vargas, when reform reached its heyday.²⁴ He began his term in 1778 firmly committed to exploiting the islands' agricultural potential and spent most of his nine years in office attempting to do so. Basco y Vargas was instrumental in stimulating spice production and in establishing the Economic Society of Manila in 1781, whose express purpose was to improve agriculture, industry, and commerce.²⁵ The

Economic Society, the first to be established in any of Spain's colonies, followed the model of a number of similar societies established in Spain after 1763. These societies encouraged experimental agriculture and new technologies by publishing pertinent works in "political economy," supporting individual researchers, and holding meetings to share findings. In addition, the Economic Societies often gave out prizes for the best papers presented or the most original innovations suggested.

Another institution, the Royal Philippine Company, was intended to support internal development of the Philippines along Enlightened lines as well. This trading company, established by the Spanish Crown in 1785, was a result of the recommendation of Francisco de Viana. Viana had strongly encouraged the cultivation of spices and other cash crops, and argued that the best way to increase Spain's control over Asian commerce lay in establishing direct trade between Manila and Spain. Until this time, Asian goods reached Spain via Acapulco, and this commerce remained the purview of the merchants who controlled the galleons in Manila, not the Crown. A Crown-chartered company would bypass these merchants, allow for royal monopoly control over Asian commerce, and increase the overall efficiency of the trade between the Philippines and Spain.²⁶ Thus the Crown established the Royal Philippine Company in 1785, which met with little favor from merchants involved with the galleon trade. Colonial administrators, however, hailed it as one answer to the islands' economic troubles, since in exchange for extensive commercial rights, the Company was required to expend four percent of its earnings on the internal development of the islands. To do this, the Company employed a full-time botanist, Juan de Cuéllar, to investigate the natural resources and agricultural potential of the Philippines and to compile biennial reports on his findings to the Crown. Not surprisingly, Cuéllar spent much of his time investigating varieties of spices, mainly cinnamon, on the islands.²⁷

The Crown sought to spur the development of a variety of products, but for reformers, the key to development lay in the cultivation of spices. The spice trade would be more valuable than any silver mine—indeed, as Viana argued, "commerce is the safest of mines, if products which our provinces yield up are promoted, cultivated, and developed."²⁸ In this way, spice cultivation was part of an empire-wide strategy to diminish dependence on foreign—particularly Dutch—trade and to prevent Spanish silver from funding its enemies' overseas dominions. In the context of the Enlightenment, institutional and financial support from the imperial government combined with local power to encourage elaborate proposals for growing spices that would, literally, bear fruit. And although in the end these enterprises also failed to meet the hopes of their creators, they indicate the way in which spices, particularly pepper and cinnamon, continued to play a dominant role in the Spanish Crown's imperial aspirations with regard to the Philippines.²⁹ They were, in fact, the heart of Spain's policy of trans-Pacific mercantile development in the eighteenth century.



*From 1691 map by Coronelli, courtesy
Michael Stone
C2850, MMSD Postcard Coll.*



Pepper, from a 1612 drawing by Manuel Godinho de Erédia
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Cultivating Pepper

Efforts to stimulate the cultivation of pepper provide an example of the “Enlightened” attempts to promote development in the Islands. In 1759, the Crown issued an order to the Governor of the Philippines requiring all “tributary Indians” to plant a ten-foot plot of trees each year, either coconut, cacao, betel nut (known as *bonga*), or pepper trees. The plantings would be overseen and enforced by *alcaldes mayores*, “under certain penalties” that these local Spanish administrators would be empowered to impose.³⁰

This scheme for stimulating the cultivation of pepper trees was put into effect through the 1770s and 1780s largely under the direction and impetus of Governor Basco y Vargas. He directly targeted pepper cultivation through a series of measures reflecting Enlightenment values and practices, for which the Council of the Indies congratulated him in 1781. The governor had printed a set of instructions for the “planting, cultivation, and development of Pepper on these islands” that was distributed to “all classes of people.”³¹ These instructions included directions on how to sow and tend to the pepper plant, how to collect and harvest the seeds, and finally, how to wash them with warm water (which gave them their distinctive black coloring) in order to prepare them for marketing.³²

In order to further motivate native Filipinos to plant and grow pepper, the governor also offered a series of incentives “which would give them no excuse to be negligent” in doing so. First, the Tribunal of the *Consulado* of Manila, an association of local merchants, would offer a five-year deal to native producers in which they would guarantee to buy the pepper at a price that was “substantially advantageous to the harvester.”³³ Second, they would give out pepper seeds for free, and third, the Economic Society of Manila would “even offer an appropriate prize to any who excelled in producing an abundant harvest.”³⁴

Such promising incentives as offered by the *Consulado* and the Economic Society proved to be untenable. Pepper did meet with some moderate success; between 1785 and 1802, the Royal Philippine Company traded 272,180 pounds of pepper produced on the islands.³⁵ But merchants complained that the pepper produced was too “hollow and inactive” to be of much worth,³⁶ and weather problems and natural disasters apparently limited cultivation on a large scale. At the turn of the nineteenth century, pepper production had diminished greatly and by 1820 it had virtually disappeared.³⁷ The Economic Society experienced a similar decline. Though it was very active through Basco y Vargas’s governorship, Society members stopped meeting in 1787, and the Society was abolished in 1809 and remained inactive through the Spanish American wars of Independence. It was reestablished by royal decree in 1819 and remained in place until 1890, but never again reached the level of activity of its heyday during Basco y Vargas’s governorship.³⁸

Cultivating Cinnamon

These apparent failures, however, did not stop further endeavors. According to Nicholas Norton Nichols, who presented a treatise in 1759 to the king outlining the best ways to develop the Philippines, cinnamon was the answer to all problems. In order to spur development, Nichols claimed, “we do not have to make castles in the air, or rely on imagination.”³⁹ According to Nichols, there was more than enough fertile land on the islands to support the cultivation of cinnamon. Moreover, its cultivation would soon make the islands self-sufficient and yield enormous profits for the Crown and thus benefit “His Majesty, his Dominions and Vassals, Spaniards as well as Indians.” Norton predicted that the islands would soon produce enough cinnamon to supply the entire Empire, so that the Dutch would no longer receive Spanish silver in exchange for it.⁴⁰ And finally, the lack of dependence on foreigners for spices would diminish competition and conflict in the region and allow the Spanish “to secure solid and permanent peace at little cost and to spread our holy mission without risk.”⁴¹ Cinnamon would thus solve most, if not all, of the problems presented by the colonization of the Philippines.

Crown response to Nichols’ proposal was favorable—Governor Vargas himself was committed to cinnamon—and Nichols was granted rights to cultivate it on government land in Mindanao and to export it duty-free.⁴² Although this promising venture was cut short by Nichols’ accidental death in 1763, cinnamon cultivation was not abandoned. Another entrepreneur, Francisco Salgado, transplanted a number of Nichols’ trees to his plantation near Manila and went about cultivating them and sending specimens to Madrid for examination throughout the 1770s. Salgado’s cinnamon initially met with success; early reports claimed that its flavor and properties were as good or better than the celebrated cinnamon of Ceylon, over which the Dutch had a trade monopoly.⁴³ Cultivation continued to thrive through the 1780s and into the 1790s. In 1783, Salgado had 395 trees and by 1789, the number had exploded to 18,735 trees along with 25,510 seedlings sown the year before.⁴⁴ Salgado calculated that by 1790 he would have more than a million plantings and by 1795 would be producing enough cinnamon to supply the entire Spanish Empire.⁴⁵

Like pepper cultivation, however, cinnamon cultivation did not in the end live up to the promise it held for authorities and entrepreneurs. Though Salgado’s plantation produced hundreds of thousands of trees, his calculations proved overly optimistic. In 1791, he had only 590,382 trees, far fewer than the million that he had predicted.⁴⁶ The culprits were the weather—large storms destroyed many of the seedlings—and a severe lack of funds. Although Salgado applied for a loan of 30,000 pesos from local merchants and the Royal Philippine Company, and Cuéllar petitioned the Malaspina expedition for help and support, sufficient funds were not forthcoming and thus further planting and harvesting on the plantation became too expensive. In addition, the cinnamon’s properties appear to have been inconsistent, as subsequent examiners claimed that it was too bitter to have widespread appeal. These conflicting reports contributed to doubts over the Philippine cinnamon’s ability to rival the Dutch trade in Ceylon and led to lack of support for funding further operations. By the nineteenth century, cinnamon cultivation too had been largely abandoned.

The cultivation of spices indeed failed to meet the hopes and expectations of the colonizers. This failure, however, does not negate the significance of the efforts made, or detract from their meaning. For it is in the efforts themselves, not the outcome, that Spain's imperial intentions may be known. And those intentions indicate an imperial policy that was increasingly shifting toward the economic goal of colonial self-sufficiency. By generating all the products that its subjects would ever need, the Spanish Empire would be in a position of strength in the world market; its silver would no longer go to fund enemy endeavors, and Spain would be dependent on no one. In the context of the European maritime rivalries that plagued the eighteenth century, and particularly with the experience of the Seven Years' War and the humiliating English capture of both Havana and Manila in 1762, those ideas seemed very attractive indeed. Thus, the efforts of a few botanists and planters on these remote Pacific islands take on a greater significance—they testify to a particular political and economic strategy of empire for the Spanish Crown in the Age of Enlightenment.

N O T E S

- 1 For more general histories of spices, see Wolfgang Shivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants* (New York: Vintage Books, 1992), Henry Hobhouse, *Seeds of Change: Five Plants that Transformed Mankind* (London: Sidgwick & Jackson, 1985), and Giles Milton, *Nathaniel's Nutmeg, or The True and Incredible Adventures of the Spice Trader Who Changed the Course of History* (New York: Farrar, Straus and Giroux, 1999).
- 2 For English-language histories of the Philippines under Spanish rule see Nicholas Cushner, *Spain in the Philippines* (Quezon City: Ateneo de Manila University, 1971); John Leddy Phelan, *The Hispanization of the Philippines: Spanish Aims and Filipino Responses, 1565-1700* (Madison: University of Wisconsin Press, 1967); Robert R. Reed, *Colonial Manila: The Context of Hispanic Urbanism and Process of Morphogenesis* (Berkeley: University of California Press, 1978); Qinghe Chen, *The Chinese Community in the Sixteenth-Century Philippines* (Tokyo: Centre for East Asian Cultural Studies, 1968). Spanish-language works are more plentiful. Some of the more recent general works include two volumes by Antonio de Molina, *Historia de Filipinas* (Madrid: Ediciones Cultura Hispánica del Instituto de Cooperación Iberoamericana, 1984 and 2000).
- 3 Royal instructions to Magellan stipulated that he "make a treaty of peace or trade" with native leaders in the Spice Islands and that that he negotiate the best terms possible for Spanish goods in exchange for spices. Antonio Pigafetta, a member of the expedition who wrote an account of the voyage, duly noted the botanical characteristics of spices on the various Pacific islands they encountered, including cloves, ginger "which is eaten green," nutmeg, pepper, sandalwood, camphor, rhubarb, and cinnamon. See Ian Cameron, *Magellan and the First Circumnavigation of the World* (New York: Saturday Review Press, 1973); Pigafetta, *The Voyage of Magellan*, trans. Paula Spurlin Paige (Englewood Cliffs, NJ: Prentice-Hall, 1969) and "De Moluccis Insulis" in Emma Helen Blair and James Alexander Robertson, eds., *The Philippine Islands, 1493-1803* (Cleveland: A. H. Clark, 1903-09) [55 vols.], 1:330-335.
- 4 For further reading on Spanish exploration of the Pacific and Spanish imperial aims, see O. H. K. Spate, *The Spanish Lake* (Minneapolis: University of Minnesota Press, 1979) and John M. Headley, "Spain's Asian Presence, 1565-1590: Structures and Aspirations," *Hispanic America Historical Review* 75, no. 4 (1995): 623-646.
- 5 Letter sent from Sevilla to Miguel Salvador of Valencia, printed in Barcelona in 1566, in Blair and Robertson, *Philippine Islands* 2:227.
- 6 William Lytle Schurz, *The Manila Galleon: The Romantic History of the Spanish Galleons Trading Between Manila and Acapulco* (New York: E. P. Dutton, 1939). The way in which the Galleon trade dominated the colonial economy of the Philippines is a central theme in Schurz's work. The merchants strongly resisted attempts by the

colonial government to develop the islands' natural resources throughout the centuries of Spanish rule there, and thus the Galleon paradoxically worked to the detriment of the colony's development.

- 7 According to Nicholas Nichols, the Philippines "had always been extremely costly to Spain." See Nichols, "El Comercio de Manila: Las Conveniencias, Beneficio, y Utilidad que las Islas Philipinas deben de dar assi a S.M. (quien Dios guarde) como a sus Vasallos," Biblioteca de Palacio Real, Madrid, II/2817 (Microfilm 968), fol. 269. This treatise has also been translated in Blair and Robertson, *Philippine Islands*, "Commerce of the Philipinas Islands," 47:251-284, although I have used the original here.
- 8 Archivo General de Indias, Sevilla (hereinafter AGI/S) Filipinas, 345, Legajo 16, fol. 278. The document does not identify the Governor in question. There were two different governors of the Philippines in 1754, José Francisco de Obando y Solís, in office from 1750 to July 1754, and, from July 1754 until 1759, Pedro Manuel de Arandía Santisteban. The document likely refers to the latter, as, in the tradition of the *residencia*, he would have begun his term by making a survey of the state of the islands and suggesting possible reforms, mainly as a method of evaluating his predecessor's performance.
- 9 The local authorities referred to were *alcaldes mayores*. AGI/S Filipinas, 345, Legajo 16, fol. 279.
- 10 This was the title to his Memorial of 1765, "Demonstration of the deplorably wretched state of the Philipinas Islands..." in Blair and Robertson, *Philippine Islands*, 48:197-338.
- 11 Such designations were common in several treatises but most apparent in Viana's "Memorial." See Ibid., 48:199, 228.
- 12 For an overview of the spice trade and European rivalry over Indian Ocean trade routes, see Carla Rahn Phillips, "The Growth and Composition of Trade in the Iberian Empires, 1450-1750," in James D. Tracy, ed., *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350-1750* (Cambridge: Cambridge University, 1990), 34-101.
- 13 Though spices have often been characterized as luxury items, they were widely used as medicines, and pepper in particular was used to preserve meat. See Cameron, *Magellan*, 72-73 and Paula De Vos, "The Art of Pharmacy in Seventeenth- and Eighteenth-Century Mexico," (Ph.D. Diss., University of California, Berkeley, 2001), chapter 2.
- 14 For eighteenth-century concepts of mercantilism, see Richard C. Wiles, "Mercantilism and the Idea of Progress," *Eighteenth-Century Studies* 8, no. 1 (1974): 56-74 and D. C. Coleman, ed., *Revisions in Mercantilism* (London: Methuen, 1969).
- 15 Nichols, "El Comercio de Manila," fols. 263v and 267v.
- 16 Ibid., fol. 263v.
- 17 "Memorial of Francisco de Viana" (hereinafter "Memorial"), Blair and Robertson 48:202 and 200, note 116.
- 18 Because my focus here is on spices, I have emphasized and described those schemes directly related to spice cultivation; these authors often also heartily advocated the production of a number of other products including cotton, anil (indigo) dye, silk (through the planting of mulberry trees) and sugar, and the mining of gold and iron.
- 19 "Memorial," 206.
- 20 *Cultivada* is translated here as "developed." AGI/S Estado, 47, N. 1, fol. 2v.
- 21 Quoted in María Lourdes Díaz-Trechuelo, "Eighteenth-Century Philippine Economy: Commerce," *Philippine Studies* 14 (1966): 253.
- 22 On Enlightenment economic policies in Spain and the idea of improvement through agriculture and industry, see Richard Herr, *Eighteenth-Century Revolution in Spain* (Princeton: Princeton University Press, 1958) and Jean Sarrailh, *La España ilustrada de la segunda mitad del siglo XVIII*, trans. Antonio Alatorre (Mexico City: Fondo de Cultura Económica, 1957). More recent works treating the development of science in the Enlightenment are Francisco Javier Puerto Sarmiento, *La ilusión quebrada: Botánica, sanidad y política científica en la España ilustrada* (Barcelona: El Serbal/SCIC, 1988) and M. Sellés, J. L. Peset, and A. Lafuente, eds., *Carlos III y la ciencia de la Ilustración* (Madrid: Alianza Editorial, 1988).
- 23 The turn toward agricultural production is addressed in Díaz-Trechuelo, "The Economic Development of the Philippines in the Second Half of the Eighteenth Century," *Philippine Studies* 11 (1963): 195-231.
- 24 In chapter 8 of *Spain in the Philippines*, Cushner provides a broad description of the reforms enacted at this time, particularly by Governor Basco y Vargas, but he does not relate the reforms to spice cultivation. The reforms that led to increased spice cultivation are taken up by Díaz-Trechuelo, "Eighteenth-Century Philippine Economy: Agriculture," *Philippine Studies* 14 (1966): 65-126, in impressive detail, but she conversely does not link attempts at spice cultivation to the larger context of the Enlightenment or Bourbon reforms. She does so briefly, however, in "The Economic Development of the Philippines," 195-196, and provides



Ginger root, drawn in 1612 by Manuel Godinho de Erédia

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- useful background and biographical information on successive governors of the islands, particularly of Basco y Vargas.
- 25 R. J. Shafer, *The Economic Societies in the Spanish World (1763-1821)* (Syracuse: Syracuse University Press, 1958), 146-151. The Society of Manila was divided into four commissions: natural history, manufacturing, internal and external commerce, and industry and popular education. Members worked on cultivating and exporting indigo, cotton, cinnamon, and pepper, and silk. The Society also published an edition of a popular work on political economy, and its members read treatises by Spanish political economists.
 - 26 See "Memorial," and a discussion of it and the Royal Philippine Company in Schurz, *Manila Galleon*, 54-57 and Appendix I, 409-418, and Díaz-Trechuelo, *La Real Compañía de Filipinas* (Seville: Escuela de Estudios Hispano-Americanos de Sevilla, Consejo Superior de Investigaciones Científicas, 1965) and "Commerce," 253-279.
 - 27 There is a large literature on Cuéllar's work in the Philippines, including Francisco de las Barras y del Aragon, "D. Juan de Cuéllar y D. Francisco Xavier Salgado y su tiempo en Filipinas en el siglo XVIII," *Las Ciencias* 17, no. 1: 129-174, which also includes a bibliography of de las Barras's other numerous works on the subject. See also Manuel González-Serna, "Don Juan de Cuéllar y la Historia Natural de Filipinas," *Boletín de la Sociedad Española de Historia de la Farmacia* (1956): 1-70. A more recent work incorporating new research into Cuéllar is that of María Pilar de San Pío Aladrén, ed., *La expedición de Juan de Cuéllar a Filipinas* (Madrid: Real Jardín Botánico, Consejo Superior de Investigaciones Científicas, 1997).
 - 28 "Memorial," 215. Díaz-Trechuelo stated nearly that it was the reformers' "unanimous opinion that the Philippines could have been the world supplier of spices, or at least could have given Dutch enterprise stiff competition in this field." Díaz-Trechuelo, "Economic Development," 200.
 - 29 The importance of agricultural products, and particularly spice production, has been the subject of recent interest among historians of science, particularly of natural history, in the early modern period. According to Londa Schiebinger in "Prospecting for Drugs: European Naturalists in the West Indies," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, Schiebinger and Cladia Swan, eds. (Philadelphia: University of Pennsylvania Press, 2005), 119 and in *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Cambridge: Harvard University Press, 2004), 7, and Jorge Cañizares-Esguerra in "How Derivative Was Humboldt?" in *Colonial Botany*, 163, there was a general shift in European imperial mentalities toward the idea that agricultural products, more sustainable and reliable than mineral wealth, could be a source of riches. This kind of thinking engendered what these authors refer to as "green gold." *Colonial Botany* includes a section on spices and their importance to the early modern economy. Similarly, Lisbet Koerner's *Linneaus: Nature and Nation* (Harvard University Press, 1999) discusses Linneaus's ideas about "cameralism," the idea that Sweden had no need for foreign commerce but could supply all its needs through the acclimatization of "exotic" plants—particularly spices—to domestic soils. Although the Spanish Crown's mercantilist policies differed from Linneaus's cameralism in that the Crown could draw on colonial resources, the intent was the same: to eliminate dependence on foreign trade. Thus agriculture more generally and spices in particular were very much a part of eighteenth-century economic solutions to the perceived problems associated with free trade. See also Alix Cooper, "The Indigenous versus the Exotic: Debating Natural Origins in Early Modern Europe," *Landscape Research* 28 no. 1 (2003): 51-60.
 - 30 "Bajo de varias penas" is the phrase used. AGI/S Filipinas, 335, Legajo 17, fol. 217.
 - 31 AGI/S Filipinas, 337, Legajo 20, fol. 321.
 - 32 Díaz-Trechuelo, "Agriculture," 94.
 - 33 AGI/S Filipinas, 337, Legajo 20, fol. 322.
 - 34 Ibid.
 - 35 Cushner, *Spain in the Philippines*, 194.
 - 36 Díaz Trechuelo, "Agriculture," 94.
 - 37 Cushner, *Spain in the Philippines*, 194.
 - 38 Shafer, *Economic Societies*, 150-151.
 - 39 Nichols, "El Comercio de Manila," fol. 260v.
 - 40 Ibid., fol. 263r.
 - 41 Ibid., fol. 267r.
 - 42 Díaz Trechuelo, "Eighteenth-Century Philippine Economy," 67-70.
 - 43 Ibid., 75.
 - 44 Ibid., 78.
 - 45 Ibid., 84.
 - 46 Ibid., 89.

Facing page: a modern copy of an 18th century portrait of Quimper, courtesy Maritime Museum of British Columbia

If History is the life story of all humankind, insightfully retold, it is built on the solid foundation of the life stories of individual humans. Without carefully-researched biographies like the following, in which one man's story illuminates aspects of Spain's Pacific empire, history would come unmoored from human experience, drift towards theory, and become merely "a fable, agreed upon," as Napoleon supposedly asserted.

—the Editors

A Spanish Naval Tourist in Hawai'i: Manuel Quimper

James B. Tueller

When Manuel Quimper Benítez del Pino died in 1844, what he called, with true understatement, an "interesting career" finally drew to a close.⁴³¹ Quimper had been born in colonial Perú, was the first Spaniard known to have visited Hawai'i, had learned Polynesian languages, sailed as a Spanish naval officer in both the Atlantic and Pacific, defended Spanish shores in the Iberian peninsula, México and Perú, worked as a colonial governmental official in low-lying Veracruz and in a mile-high town in the Andes Mountains, and fought in the wars for Latin American independence.

He also wrote two books. His first, published in Madrid in 1821, poetically described the role he played in the Wars of Independence that wracked South America in the early nineteenth century—neatly written in ten-line stanzas of eight syllables apiece.⁴³² Quimper's second book, about his 1791 voyage to Hawai'i, was entitled *The Sandwich Islands: A Succinct Description of this Archipelago, Whose Name was Given by the Celebrated Discoverer Captain Cook, Rediscovered by the Frigate Lieutenant of the National Armada*—in other words, Quimper himself.



His background as a naval officer had been relatively undistinguished. After a voyage to Tahiti, he spent most of his twenties on a naval transport shuttling between Callao and Guayaquil, until being promoted in 1780 and transferred to another transport, between Callao and Talcahuano. His early experience in the Pacific was rounded out with a mapping voyage to Juan Fernández Island and a posting to Valparaiso, where he produced naval maps. The colonial-born Quimper visited Madrid

in 1786, and was promoted there to *teniente de navio*. He spent three years in Cádiz manning shore defenses, until competition between the British and Spanish to locate the fabled Northwest Passage led Charles III to order more explorations north to Nootka and the Juan de Fuca Straits. With over ten years of experience in sailing the southeastern Pacific, Quimper was a natural choice to be among the seven naval officers sent by Minister José de Gálvez to the Pacific coast of México.

While historians have long debated whether Spaniards "discovered" Hawai'i, clearly it was only after Cook's 1779 death that Spanish-speaking

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Hawaiians investigate Captain Cook's ship at Kealekekua Bay.

Courtesy of the artist, Herb Kawainui Kane

arrivals, beginning with Manuel Quimper, are documented.^{443 444} From that point on, connections grew, which is hardly surprising given the islands' location midway between Spain's colonies of México and the Philippines. Francisco de Paula Marín, for example, served in the court of Kamehameha I until his death in 1837.⁴⁴⁴⁴⁴ Hawaiian leaders likewise invited experienced *vaqueros* from México to manage their growing herds; the Hawaiian term for cowboy, *paniolo*, is the local pronunciation of *español*.^{44 445}

In 1791, *Teniente de Fragata* (Frigate Lieutenant) Manuel Quimper sailed from the port of San Blas to Manila in command of the single-masted sloop *Princesa Real*. His orders were to investigate these newly opened islands discovered by Cook in the midst of the Spanish Pacific.^{446 44} He sailed among the islands between March 20 and April 17, 1791, and became one of the first Europeans to write about them. When he anchored at the island of Hawai'i (in a harbor he named Ulloa), he reported seeing many double-hulled and outrigger canoes, some larger than his own sloop and carrying more than fifty people.⁴⁴⁴⁴⁷

After their forty-seven-day voyage, his men were treated to an abundance of tropical produce: sweet potatoes, sugar cane, squashes, watermelons and other melons, pigs, and chickens. In return, they gave the people iron bars, carried aboard expressly for that purpose.

Two days later, Quimper met the future King Kamehameha I, the "chief of the island who has the title *ery*," according to his succinct report written a few months later in Manila. Quimper could not have known that future events would make Kamehameha the "Napoleon of the Pacific," but his account offers hints of the chief's trading savvy. After the exchange of food and supplies, Kamehameha gave Quimper a "cloak and a crested helmet made of exquisite feathers." The chief himself placed the clothes on Quimper, who then offered Kamehameha an iron box. Declining it, Kamehameha pointed out that earlier visitors had given him firearms, so Quimper felt compelled to present a "useless pistol to satisfy his desires." Again Kamehameha refused the gift, so Quimper, writing later of his embarrassment, reported that he was "placed in the precise obligation" to also give the chief a musket.⁴⁴⁴⁴⁸ Kamehameha would later unify the Hawaiian Islands by warfare and negotiation, but perhaps his strongest characteristic was the degree to which he was aware of the value that his island home and his resourceful people would have to foreigners, and his ability to use that awareness to achieve his own ends.⁴⁴⁴⁴⁹

Quimper continued his voyage beyond Kamehameha's purview, meeting other chiefs and stopping at other islands. When he left port on March 30, he intended to continue sailing west, but a storm pushed him back to the big

island of Hawai'i, where the *Princesa Real* took shelter at Kealekekua Bay. Here, where Captain Cook had been killed only a dozen years before, the Spaniards narrowly avoided an international incident with an English merchant ship. Her captain was James Colnett, whose 1789 arrest by the Spanish at Nootka, on what is now known as Vancouver Island, had sparked a major international incident. Indeed, Quimper's ship had until the previous year been the British *Princess Royal*, captured in the Juan de Fuca straits. After the Nootka controversy had been solved diplomatically, the two nations agreed that the controversial ship would be returned to British owners in Macao. Quimper's orders were to sail the sloop to Macao, and there to sell off the sea otter furs obtained in the previous winter. Colnett passed messages through the Hawaiians to Quimper, demanding instead that the ship be returned immediately. Quimper, however, demonstrated wisdom and patience; he disregarded Colnett's insults, remained calm, and insisted on following his orders.⁴⁵¹⁰ ⁴⁵ A Hawaiian story adds that Quimper and Colnett came close to opening fire (with encouragement from various Hawaiians) but wiser chiefs prevailed and prevented the two ships from coming close to one another, by placing their canoes in the way.⁴⁵¹¹ ⁴⁵

On the tenth of April, the *Princesa Real* tried to anchor off Oahu, but the sandy bottom would not hold the ship and an easterly wind created heavy waves. A number of the inhabitants and their chief, Manono, sailed out in their canoes, bringing water, wood, pearls, floor mats and blankets. Again, Quimper felt forced to exchange a pistol for the goods, writing later that "it was the only thing that satisfied him."⁴⁵¹² ⁴⁵ Two days later, Quimper and his men arrived on Kauai, in the harbor where Cook had first landed in 1777. His ship took on supplies (including pigs and "delicious" cabbages) and despite the fact that he had only axes, adzes and iron bars to exchange, Quimper reported that he was treated perfectly by the Hawaiians. He spoke with a leader whose name he transcribed as "Trajuitotoa," although the principal chief was a ten-year-old boy named Tamu, who was carried everywhere on the shoulders of his men. Finally on the sixteenth of April, Quimper made his final Hawaiian stop at Ni'ihau, where a Hawaiian tried to convince him that a twisted tree root was really an anchor from a wrecked ship.

Thirty years later, Quimper found his Madrileño audience intrigued enough by his experiences in Hawai'i to justify publishing a book about his month there. He also compiled a Spanish-Hawaiian vocabulary list that still proves useful for the pronunciation of pre-contact Hawaiian, since the orthography of Spanish is simpler and more regular than English spelling and pronunciation. (The island of Oahu, for example, he wrote as *Guaju*.) His interest in the Hawaiian language may have sprung from earlier experience with Tahitian, for although Quimper's name does not appear in the diaries and histories of the voyages sent out by Peruvian viceroy Miguel de Amat, Quimper wrote that he had been on the 1774 return voyage to Tahiti.⁴⁵¹³

In 1793, after his return from the Hawaiian expedition, Quimper was back at the port of San Blas in temporary command while his better-known superior, Jose Francisco Bodega y Quadra, recovered from an illness. Quimper, however, also became incapacitated and had to request a leave of absence, which grew so long that doctors were called to certify his condition, which they diagnosed as a herpes-like affliction "somewhat like the syphilis virus born in seaports."⁴⁵¹⁴

He evidently recovered sufficiently so that by late 1795, Manuel Quimper and his wife were a well-to-do couple living in Madrid.⁴⁵¹⁵ His sailing career as a Spanish naval officer was over, and his career as an office-holder and imperial administrator began.

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Captain Cook's first printed map of Hawai'i unveiled a new "paradise" to Europeans.

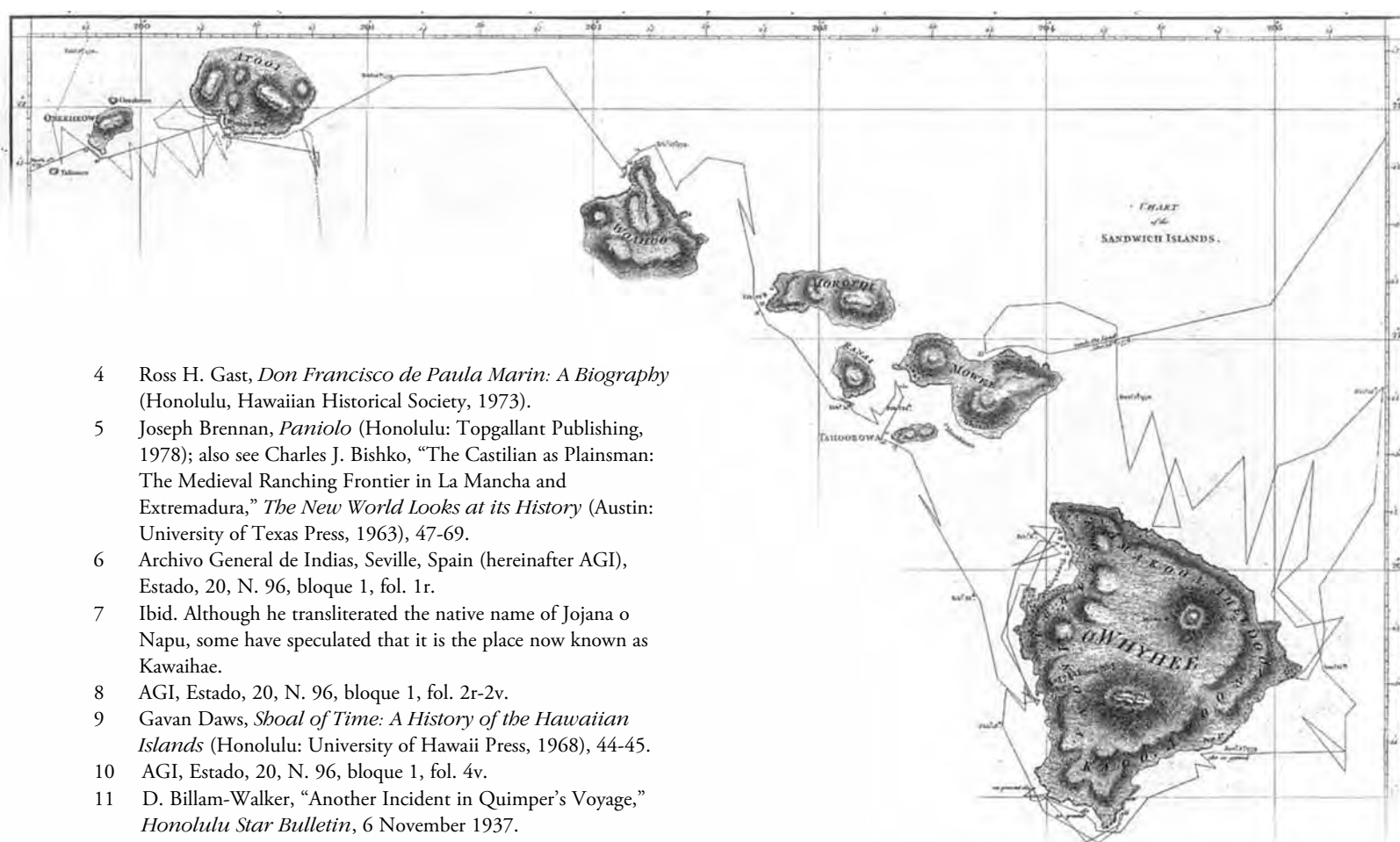
From Early Mapping of the Pacific, courtesy of the author, Thomas Suárez

By 1801, he returned to New Spain as the Royal Minister of the Treasury of the Veracruz Funds, in México's principal Caribbean port of Veracruz.¹⁶ Although he supervised a large staff, the everyday work required in the pestilential port of Veracruz was not easy, and on several occasions he requested positions closer to his old home of Perú.^{4617 46} Even as early as 1788, before his voyage to Hawai'i, he had requested a posting in Lima so that he could support his widowed mother and two sisters. All the spots were filled, so the request was denied, but he kept trying.^{4618 46} Finally, in April 1805 the King appointed Quimper as administrator in charge of public works, finances, justice, military preparation and promotion of economic growth at Huamanga in the Andes Mountains, at a salary of 60,000 pesos.^{4619 46} The wheels of government moved very slowly, however, and when Quimper reached Perú by 1808, this job of intendent at Huamanga was filled, and only a posting in Puno on the west side of Lake Titicaca high in the Andean *altiplano* was available.^{4620 46} Puno, over 12,000 feet above sea level and best known for its alpacas and llamas, was certainly an exotic berth for a former naval officer. By 1811, Quimper had become the area's governor, although in 1815 he was still trying to transfer to Huamanga.⁴⁶⁴⁶²¹

In the midst of the Peruvian independence movement, Quimper's request to transfer to Huamanga came through at last, and he found himself preparing for the invasion of Perú by the forces of Generals José de San Martín and Simon Bolívar. In 1819 he was in Madrid, where he wrote his books, but evidently he left a son or relative who bore his name behind in Perú, for during his absence a Colonel Manuel Quimper faced the invasion of Chilean forces under San Martín and Lord Thomas Cochrane. By 1823 the elder Manuel, about fifty years old, returned to his Peruvian homeland, and, in a surprising turn, settled once more into a career at sea. By 1827 the young Republic of Perú appointed him as a frigate captain, and later a ship's captain.²² When he died, at over eighty years of age in 1844, it had indeed been an "interesting career," and one which, from exploration to independence, had touched on many aspects of Spain's presence in the Pacific.

N O T E S

- 1 Manuel Quimper Benítez del Pino, *Islas de Sandwich: Descripción Sucinta de Este Archipiélago, nombre que les dió su Celebre Descubridor el Capitán Cook, Reconocidas por el Teniente de Fragata del la Armada Nacional* (Madrid: E. Aguado, 1822), iii-iv, 31-32.
- 2 Quimper, *Laicas Vivacidades de Quimper: Antorcha Peruana Acaecimientos del Perú en Civiles Guerras, Promovidas por el Reino de Buenos Ayres desde el Año de 1809 hasta el de 1818* (Madrid: Imprenta de Alvarez, 1821).
- 3 The first notable partisan of the Spanish discovery theory was Abraham Fornander, *An Account of the Polynesian Race: Its Origin and Migrations and the Ancient History of the Hawaiian People to the Times of Kamehameha I* (Rutland, Vermont: Charles E. Tuttle, 1969), 109, 158-159. Notable twentieth century doubters include E. W. Dahlgren, whose 1916 critique of this thesis was re-published as Dahlgren, *The Discovery of the Hawaiian Islands* (New York: AMS Press, 1977). See also John F. G. Stokes, "Hawaii's Discovery by Spaniards: Theories Traced and Refuted," *Hawaii Historical Society Papers* 20 (1939): 39-113, and, for a more recent view of the question, Carla Rahn Phillips, "Spaniards in Hawai'i Before Cook?," *Mains'l Haul* 38 nos. 3 and 4 (2002): 10-18.



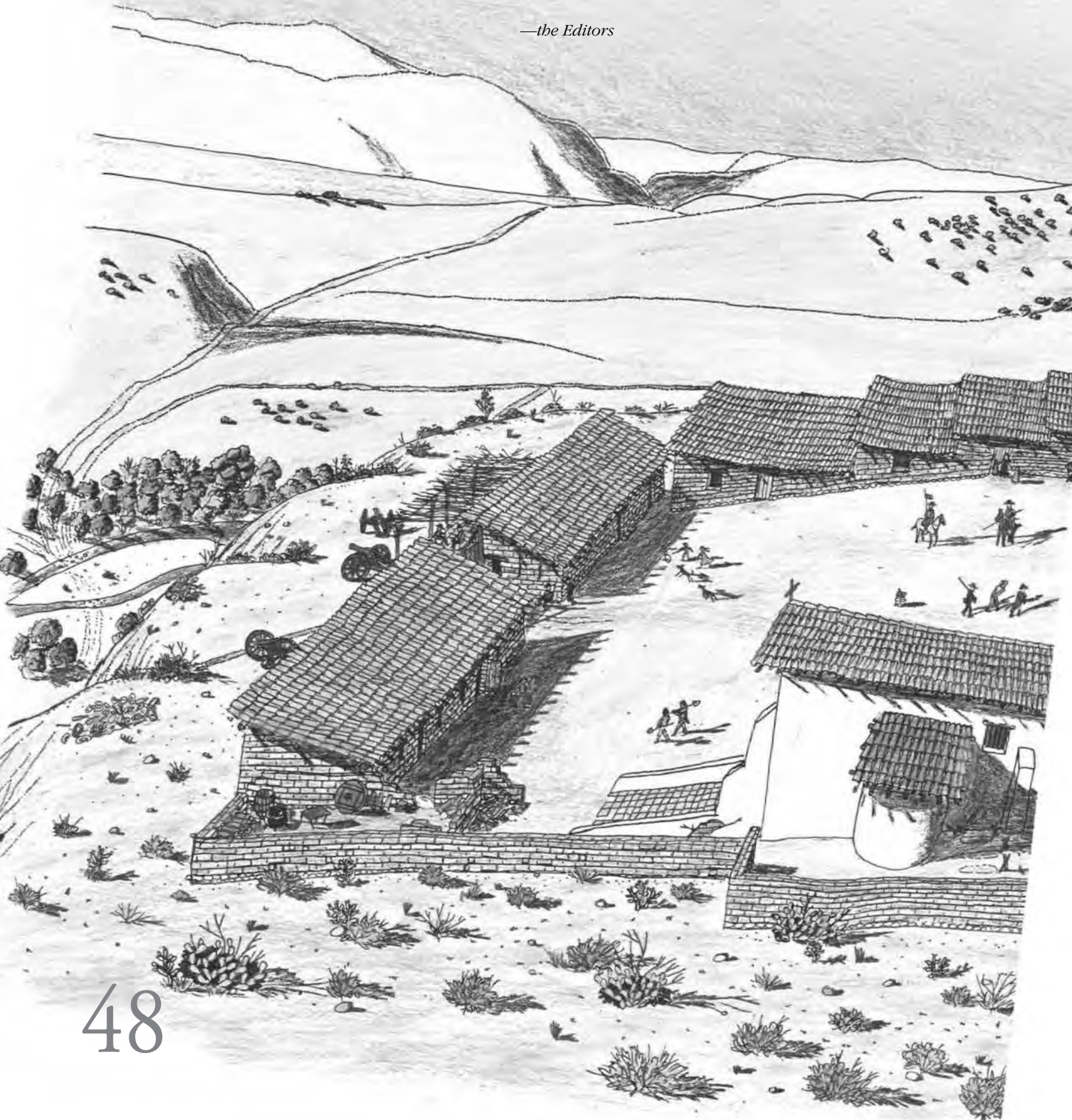
- 4 Ross H. Gast, *Don Francisco de Paula Marin: A Biography* (Honolulu, Hawaiian Historical Society, 1973).
- 5 Joseph Brennan, *Paniolo* (Honolulu: Topgallant Publishing, 1978); also see Charles J. Bishko, "The Castilian as Plainsman: The Medieval Ranching Frontier in La Mancha and Extremadura," *The New World Looks at its History* (Austin: University of Texas Press, 1963), 47-69.
- 6 Archivo General de Indias, Seville, Spain (hereinafter AGI), Estado, 20, N. 96, bloque 1, fol. 1r.
- 7 Ibid. Although he transliterated the native name of Jojana o Napu, some have speculated that it is the place now known as Kawaihae.
- 8 AGI, Estado, 20, N. 96, bloque 1, fol. 2r-2v.
- 9 Gavan Daws, *Shoal of Time: A History of the Hawaiian Islands* (Honolulu: University of Hawaii Press, 1968), 44-45.
- 10 AGI, Estado, 20, N. 96, bloque 1, fol. 4v.
- 11 D. Billam-Walker, "Another Incident in Quimper's Voyage," *Honolulu Star Bulletin*, 6 November 1937.
- 12 AGI, Estado, 20, N. 96, bloque 1, fol. 7r.
- 13 Quimper's claim of having voyaged to Tahiti is quite plausible, since he was from the Lima area and studied nautical mathematics at the Pontificia Universidad de San Marcos, as did others on these voyages. About Spanish voyages in the region, see, for example, Bolton Glanvill Corney, *The Voyage of Captain Don Felipe Gonzalez in the Ship of the Line San Lorenzo with the Frigate Santa Rosalia in Company to Easter Island in 1770-1771* (London: Hakluyt Society, 1908); Corney, *The Quest and Occupation of Tahiti by Emissaries of Spain During the Years 1772-1776 and Other Contemporary Documents* (London: Hakluyt Society, 1913), xxxiv; and Liou Tumahai, "Retour aux sources espagnoles," *Bulletin de la Société des Etudes Océaniques* 284 (Février 2000): 2-15.
- 14 His wife also had suffered a miscarriage, so the couple spent recovery time in Guadalajara and México City. Quimper's own medical condition was diagnosed as "a herpes-like cutaneous affect of the farinaceous type situated on various parts of the body, principally on the hypogastric region and the upper interior of his thighs . . . a bloody *silioso* temperament combined with a suppression of hemoirrodal discharge." Archivo General de la Nación, Mexico City (hereinafter AGN), Provincias Internas, 165, Expediente 12, fol. 269, author's translation. For a review of the career of Quimper's important contemporary Bodega y Quadra, see Freeman Tovell, "Planning for Discovery: The Career of Juan Francisco de la Bodega y Quadra" in *Mains'l Haul* 36, no. 1 (2000): 23-37.
- 15 In the spring of 1795 he turned down a posting on a ship bound for Nutka, and was still recovering from his illness in Mexico City. That April he received 482 *pesos*, four and a half *reales*, a significant reimbursement, from the Armada for a skiff he had

ordered built in Manila when he commanded the *San José de Animas* on a return voyage to San Blas in 1793. In September, 1793, he and his wife sailed for Cádiz on the ship-of-the-line *Santiago* with 6,000 *pesos*, silver, gold and jewelry totaling over 10,000 *pesos*. AGN, Provincias Internas, Volumen 214, Expediente 8, 370, and Correspondencia de Virreyes, Volumen 182, 328. On his retirement to Madrid, see also AGN, Provincias Internas, Volumen 165, Expediente 12, 254v, and AGN, Real Caja Volumen 34, Expediente 19, 350.

- 16 AGN, Reales Cédulas, Volumen 183, Expediente 141. In 1803 he was partner in a scheme to collect pearls from his position in the office of the Royal Treasury at Veracruz, for Queen María Luisa. These were not actually sent to Madrid until 1809, when María Luisa's fortunes had changed drastically and she was exiled in Napoleonic France. AGN, Californias, Volumen 61, Expediente 25, fol. 235-236.
- 17 In March, 1804, he wrote to the Supreme Tribunal of Accounts, pleading for more time to submit his two-year backlog of required reports, since eight of his staff members were ill. AGN, Real Hacienda, Volumen 105, Expediente 6, fol. 325v.
- 18 AGI, Secretaría de Guerra, Legajo 7093, Expediente 44, fol. 1v.
- 19 AGN, Reales Cédulas, Volumen 195, Expediente 118, fol. 252.
- 20 AGI, Estado, Legajo 73, N. 121.
- 21 AGI, Cuzco, 2 and AGI, Diversos, 4, A. 1815, R. 1, D. 100.
- 22 Eric Beerman, "Manuel Quimper: Un Marino Limeño en la Costa Oeste del Canadá" *Derroteros de la Mar del Sur* 4 (1997).

"A *presidio* was like a whole town in itself," elderly Mariano Vallejo explained to an interviewer not long after California was absorbed into the United States. Today, virtually all that remains of California's four presidios—the walled military outposts that guarded New Spain's northern frontier from foreign attack or Indian uprising—are buried ruins. San Diego's presidio, shown in this conjectural reconstruction, lies beneath grassy slopes in its namesake park. Virtually every time archaeologists move soil to peer beneath, they find fragments of porcelain. To those who patiently record them, these broken pieces speak of Chinese kilns whose fires went out centuries ago, of Spanish galleons laboring for months across the Pacific, and of scurvy-ridden sailors anxiously scanning the sea for signs that they were nearing shore. They also remind us that even when California was a remote colony, it was tied commercially to the rest of the Pacific Rim. Today's cities of San Diego, Santa Barbara, Monterey, and San Francisco grew out of presidios that depended wholly on the sea, and Asia, for all but their most basic necessities.

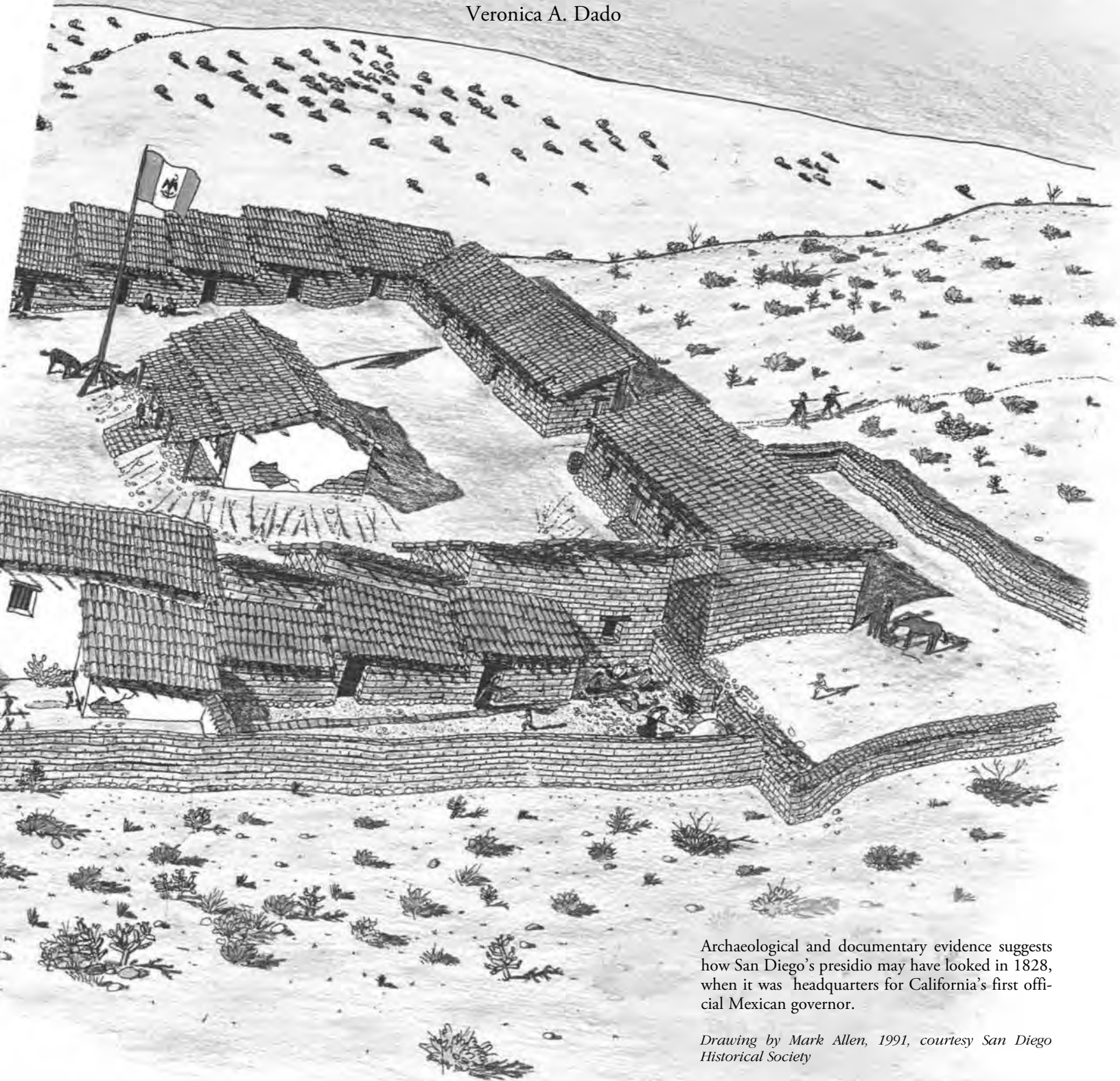
—the Editors



From Urban Manila to Frontier California:

Asian Goods and California Presidios

Veronica A. Dado



Archaeological and documentary evidence suggests how San Diego's presidio may have looked in 1828, when it was headquarters for California's first official Mexican governor.

Drawing by Mark Allen, 1991, courtesy San Diego Historical Society

Manila...

is the center to which flow the riches of the Orient and the Occident, the silver of Peru and New Spain, the pearls and precious stones of India, the diamonds of Narsinga and Goa, the rubies, sapphires and topazes, and the cinnamon of Ceylon, the pepper of Sumatra and the Javas, the cloves, nutmegs and other spices of the Moluccas and Banda, the fine Persian silks and wool and carpets from Ormuz and Malabar, rich hangings and bed coverings of Bengal, fine camphor of Borneo, balsam and ivory of Abada and Cambodia, the civet of the Lequios, and from Great China silks of all kinds, raw and woven in velvets and figured damasks, taffetas and other cloths of every texture, design and colors, linens, and cotton mantles, gilt-decorated articles, embroideries and porcelains, and other riches and curiosities of great value and esteem, from Japan, amber, vari-colored silks, escritiores, boxes and desks of precious woods, lacquered and with curious decorations, and very fine silverware.

- Jesuit historian
Francisco Colin, 1663



Significant quantities of Asian goods have been discovered in the sites of the *presidios* of California, the earliest deposits of which are tell-tale remnants of the cargoes of the galleons that brought the “riches of the East” from Manila to Acapulco.¹ Most of these goods came to frontier California by way of the Philippines. Because of its geographical location, that archipelago had attracted trade from its Asian neighbors long before the coming of Spaniards, and the people of the Philippines traded with China, with the surrounding islands from Japan to “the Javas,” and with Malacca and the Indo-Chinese kingdoms of the mainland. Thanks to geography and economic enterprise, Manila was already a major Asian nexus of trade prior to the Spanish conquest. Besides being accessible to all sources of Asian

goods needed in the Americas and the Iberian Peninsula, it boasted a superb harbor. Goods were delivered to Manila, packed, and loaded aboard the galleons for their long voyage to México and the Americas.

Since the galleon trade was a long-established commercial venture by the time Spain's settlement of Alta California began with the establishment of San Diego in 1769, goods from the galleons naturally found their way into the presidios. Some galleons called at California ports after the long Pacific crossing to load fresh provisions and water before proceeding to Acapulco, their destination.² Normally, however, Asian goods arrived at the presidios aboard supply ships from San Blas, México, which typically arrived annually.

Most of the goods delivered to the presidios and missions were basic necessities for life in recently established settlements. These supplies included fabrics, food items, medicinal supplies, military provisions and armaments, church requisites and priests' vestments, provisions for these frontier soldiers' wives and children. A large quantity of luxury goods, however, also arrived on the supply ships—and the proportion of luxury goods rose dramatically after the California settlements became able to feed themselves about 1785.

Asian goods appear in documents from California's Spanish era. These documents are either *memorias*—requisition lists of goods needed, which were written at the presidios—or *facturas*, receipts for goods actually issued. A large percentage of these goods were Chinese in origin. Textiles, especially silk, made up the majority of the Chinese goods requested by Californians. Silk in every stage of manufacture and of many varieties of weave and pattern were requested: *seda torcida* (twisted silk), *medias de seda* (silk stockings), *revosos de seda* (silk shawls), *revesillo de seda* (silk netting or silk yarn), *seda floja* (silk floss or fine thread), *seda lanquin* (silk with satin stripes), *medias de capillo* (coarse silk stockings), *piquin* ("Peking silk," a silk fabric made with combinations of other fabrics, copied in France after 1760), and *sayasaya*, Chinese silk cloth. *Sayasaya* was the textile most frequently requested; it was used in garments for soldiers, officers and civilians, church vestments and services, curtains and draperies, and colorful decorative swags.³

There were other kinds of fabrics: *bombacies de China* was a stout twilled cloth made of cotton and flax, while *coleta de China*, or nankeen, was a buff-colored cotton fabric.⁴ *Quimon de China* was chintz or cotton fabric, usually glazed and printed with bright colors and designs.⁵ There was also *ninfa de China* or nimfa cloth, a spun fabric; *lanquines de China*, durable cotton "lanquin" cloth which may have been used for undergarments; *toman de China*, another type of cotton cloth; *coco de China*—*percale* or muslin cloth used for shirts—*xaman de China* or white fabric; *paliacates de China* or multi-colored kerchief fabric, and *manta colada de China*, the bleached common cloth used for cheap garments.⁶ By contrast, the requests included delicate gauzes and crepes, chambray, velvets and taffetas, fine damasks and heavy brocades, and even *pañuelos de polvos de China*—handkerchiefs, whose name suggests their use either in lieu of a powder puff, or in the taking of snuff. Fabrics were measured in *varas*, approximately equivalent to a yard, or in *piezas* (cuts) which would make one garment.

Also immensely popular—and evident in the thousands of porcelain pieces uncovered by archaeologists at the presidios—were shipments of *losa de china*: porcelain dinnerware sets. Asian metal plates and flatware, ivory combs, carved religious images and furniture, were also unloaded on California beaches.

Veronica Dado completed archival research on Spanish documents at the Presidio of San Francisco during her internship with the US-International Committee on Monuments and Sites in the summer of 2003 and fall of 2004. Veronica has an M.A. in Art History, and is currently Chief Curator of the National Historical Institute in Manila.



Chinese laborers inspect silkworm cocoons.

Details from a goache drawing from about 1805 courtesy of the Kelton Foundation, and at left, a detail from the 1640 "India Orientalis...," courtesy Michael Stone

The documents tell us that those people who could afford to live up dusty frontier lives ordered luxury manufactured goods, including covers for full-size and cot-size beds, linen sheets, bed canopies, silk handkerchiefs, fine shirts with cuffs, wrist ruffles, silk and cotton stockings, sleeveless jackets, tablecloths and napkins, and skirts and petticoats. The most fortunate women, presumably from officers' families, wrapped themselves in typical "Spanish" shawls—actually *mantones de Manila*, woven and embroidered on the southeastern coast of China.

Goods originating in the Philippines themselves were rarely indicated in the *memorias* and *facturas*. One reason may be that Spanish traders in Manila were reluctant to inform the merchants of Cádiz and Seville of the potential resources the Philippines themselves offered. Rival merchants in Europe might conceivably have used such information as a pretext to secure a prohibition of trade in Chinese silks, which undercut demand for European textiles. Manila merchants often falsified entries in the ships' registrars to minimize the importance of Philippine goods shipped on the galleons.⁷

Philippine goods did reach the presidios, for there were orders for *Mantas de Ylocos*, a sturdy cloth manufactured in the northeastern provinces of the Philippines. *Mantas de Ylocos* were used as blankets, bed sheets, bed canopies and coverlets, tablecloths and napkins, as well as for the sails of the galleons themselves. *Abaca*, or Manila hemp, was considered the finest cordage for shipping use.

Lampotes, or gauze cloth, was manufactured in the southern Philippine province of Cebú. Other fabrics of cotton base were used for petticoats and clothing apparel. Beeswax cakes, gathered from the forests, were also in the *memorias* and *facturas*.⁸

The Philippines did not produce spices in sufficient quantities to warrant their export to the Americas. From other Asian countries came a wide assortment of spices: cinnamon from Ceylon, pepper from Java and Sumatra, various spices from the Moluccas, camphor from Borneo, balsam from Cambodia, saffron, cloves and cumin from Ternate, Tidore and Halhamera in the Spice Islands. There were also the so-called "drugs" of the Orient: musk, used as a stimulant and antispasmodic; borax, a mild antiseptic used in salves for burns





ORIENT
Tartaria li-
mites.
CHINGIAE
REGNI
PARS.

ASIAE
Cequin
Molua
Nucheo
Foquiem

In China regione, Iapania aliisque
insulis vicinis, multis multa Chry-
stianorum, quorum indies novae co-
lonie ducuntur, patribus societatis
Iesu fidei operariis.

Canton
Sundochio
Cincho
Lequie grande
Lequie parvum

Islas de Luccois.
Cubo
Mindoro
Palu
Papel
Terera
Maluc

Philippinas.
Die Agrippe
Sancti Mandotes
Y de los corales
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Isla de Plata.
Arripa hoc
forte anti-
quorum

Iapan ins., nuper ad Fi-
den Christianam conversa.
Y de Ladrones
Las Hermanas
Calabry

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AMERICA SEPTENTRIONALIOR PARS.
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MAGNIFICENTIA
CUM QVOD T

NOVA
Circulus Capricorni.

TERRA AUSTRALIS,
SIVE MAGELLANICA, NON-
DUM DETECTA.

GENIO ET INGENIO NO-
BILI DN. NICOLAO ROCCOXIO,
PATRICIO ANTVERPIENSI,
EIVSDEMQUE VRBIS SENATORI,
Abrahamus Ortelius Regie M^{ae} geographus
lub. merito dedicabat.

1589

MARIS PACIFICI,

(quod vulgò Mar del Zur)
cum regionibus circumiacentibus, insulisque in eodem
passum sparsis, novissima descriptio.



Previous Page:

Exacta & Accurata delineatio cum orarum
maritimarum...

J. van Linschoten,
The Netherlands, 1595
Courtesy Michael Stone

Does this "Orient" look disorienting?
The convention that North on a map is "up"
was not universal in 1595.

The Philippines are well-known, but
much remains mysterious. (Note the island
of "Corea.") Blank expanses could be hid-
den; the cartouche covers the region where
Europeans would soon encounter Australia.

Adventurer Jan Huygen van Linschoten
sailed around Africa to India on a Portuguese
ship. He later copied details "from the most
correct charts that the Portuguese pilots now-
adays make use of"—valuable information to
Dutch traders, "stolen" by their competitors.
This map was copied by English engravers,
who (following the procedure that produced
most maps in this publication) scratched the
mirror-image of his design on a copper plate,
and inked it to print their own maps.

At Left:

Maris Pacifici
(quod vulgo Mar del Zur)
A. Ortelius, Antwerp, 1589
Courtesy Michael Stone

The first printed map devoted to the
Pacific was drawn by the man popular-
ly considered the "Father of the Atlas."
Cartography was an international profes-
sion (his friends included Gerard Mercator)
so he Latin-ized his name from Ortelus to
the impressive-sounding Ortelius. Spain
ruled his hometown of Antwerp, and this
Protestant knew the dark side of Spanish
might when he fled the "Spanish Fury" of
religious persecution.

Overleaf:

America Settentrionale Colle Nuovi Scoperte
fin all'Anno 1688...

V. M. Coronelli, Venice, 1691

Featured in the 2005

Maritime Museum exhibit

"When California was an Island"

Courtesy Barry Lawrence Ruderman
www.raremaps.com

California appears here as an island,
although mapmakers guessed its true shape
a century before. Beginning in 1622, it
remained an island on many maps for a cen-
tury, because explorers were thought to have
reached the Pacific by sailing up the Gulf
of California—a myth that endured among
Europeans despite being regularly disproved
by Spanish explorers and missionaries.

and wounds, and red lead, an astringent also used in ointments to treat swellings. Camphor was used as a painkiller, anesthetic, antispasmodic and mild astringent, a respiratory and circulatory stimulant, an expectorant, and as a carminative to expel intestinal gases.

The *memorias* and *facturas*—simple lists of peoples’ everyday wants, and the goods they received—reveal that these seemingly isolated outposts were actually enmeshed in the trans-Pacific trading web of Spain’s empire. At the Presidio of San Francisco, those transcribing and translating these documents have found an unexpected picture. Today, when so many of the domestic objects in San Francisco homes are marked “Made in China,” the circumstances are not so different than the situation at the city’s birth.

N O T E S

- 1 The substance of this paper is based on the author’s transcription and translation of notes from microfilm reel five, compiled from records of the Archivo General de la Nación in México City, at the Presidio of San Francisco, Golden Gate National Recreation Area, cited below as *memorias*. On goods supplied to the presidios, see Giorgio Perissinotto, ed., *Documenting Everyday Life in Early Spanish California: The Santa Barbara Presidio, Memorias y Facturas, 1779-1810* (Santa Barbara: Santa Barbara Trust for Historic Preservation, 1998). It is important to note that most of the post-1790 Asian material found in presidio deposits was brought by English, American, and other foreign vessels.
- 2 Benito J. Legarda, Jr., *After the Galleons: Foreign Trade, Economic Change and Entrepreneurship in the Nineteenth-Century Philippines* (Quezon City: Ateneo de Manila University Press, 1999), 47. A royal decree (19 August 1606) addressed to Governor Pedro de Acuña called for the establishment of a way station for Philippine vessels on the California coast where they could be repaired and reprovisioned. On 22 June 1773, the galleons were ordered by the Council of the Indies to call at California ports.
- 3 For *seda torcida* see, for example, Documents 82, *Memoria*, San Francisco, 28 de Febrero de 1798, and 209, *Memoria*, San Francisco, 25 de Febrero 1805, both in Microfilm Reel Five, Presidio of San Francisco collection (hereinafter MR5/PSF), among other documents. For *medias de seda* see Documents 82 and 209, MR5/PSF. For *revosos de seda* see Documents 4, *Memoria*, Presidio de Santa Barbara, 14 de Junio de 1782 and 45, *Memoria*, Santa Barbara, 31 de Enero de 1805, in Perissinotto, ed., *Documenting Everyday Life*, 66, 334. For *revesillo de seda* see Documents 1, *Memoria*, Monterey, 19 de Julio de 1779, and 14, *Factura*, San Blas, 25 de Enero de 1789, *ibid.*, 52, and also Documents 128 and 102, *Factura*, México, 8 de Junio de 1796, MR5/PSF. For *seda floja* see Documents 6, *Memoria*, Santa Barbara, 14 de Octubre de 1783, and 26, *Memoria*, Santa Barbara, 31 de Marzo de 1793, in Perissinotto, ed., 72, 220. For *seda lanquin* see Document 39, *Memoria*, Santa Barbara, 3 de Febrero de 1801, *ibid.*, 308. For *medias de capillo* (or *capullo*) see Documents 2, *Memoria*, San Gabriel, 29 de Octubre de 1781, and 23, *Memoria*, Santa Barbara, 10 de Mayo de 1792, *ibid.*, 60, 206. For *piquin* see Documents 260, *Memoria*, San Francisco, 1 de Enero de 1808, MR5/PSF; and 39, in Perissinotto, ed., 310. For *sayasaya* (also *saia saia*, *sayasaia*, *saya saya*, or *saysaya*) see Documents 102 and 209, and also 237, *Memoria*, San Francisco, 30 de Enero de 1810, MR5/PSF.
- 4 For *bombacies de China* see Documents 237 and 260, MR5/PSF. *Bombaci* (also *bombasi*, *bombazi*, *bomvaci*, *bonbasi*, *vombasi*, or *vombasi*) was bombazine or dimity. The word comes from *bombaceae*, family of plants and trees from which the fine, lustrous fibers are obtained. For *coleta de China*, see Document 102, *Memoria*.
- 5 For *quimon de China*, see Documents 8, México, 31 de Marzo de 1785, and 49, *Memoria*, Santa Barbara, 14 de Enero de 1808, in Perissinotto, ed., *Documenting Everyday Life*, 84, 350.
- 6 For *ninfa de China*, see Documents 10, *Memoria*, Santa Barbara, 25 de Agosto de 1785, and 20, *Factura*, Ciudad de México, 9 de Diciembre de 1791, *ibid.*, 96, 180; for *lanquines de China*, see Document 26, *ibid.*, 218; for *coco de China*, see Document 82, MR5/PSF; for *toman de China*, see Document 39 in Perissinotto, ed., *Documenting Everyday Life*, 308; for *xaman de China*, see Document 43, *Memoria*, Santa Barbara, 31 de Enero de 1804, in Perissinotto, ed., 324; for *paliacates de China*, see Documents 209 and 257, *Noticia de los efectos y viveres ...*, Presidio de San Francisco, 30 de Enero de 1808, MR5/PSF; for *manta colada de China*, see Document 49, *Memoria*, Santa Barbara, 14 de Enero de 1808, in Perissinotto, ed., 350.
- 7 *Ibid.*, 45.
- 8 These references appear in *memorias* and *facturas* studied by the author, including those cited above.



A California Girl in imported finery, 1791.

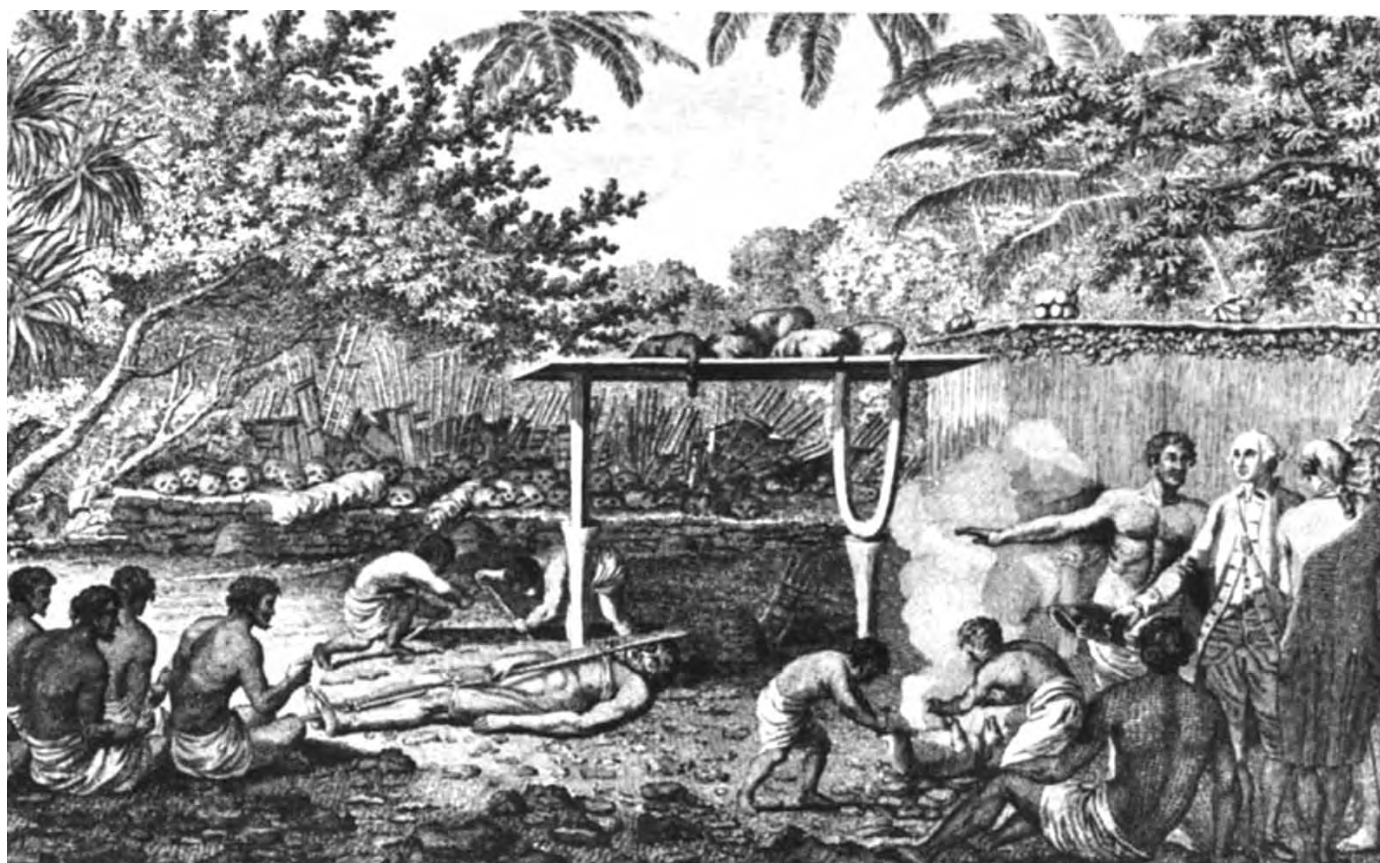
José Cardero drawing courtesy Museo Naval; at left, detail from a 1691 map courtesy Michael Stone

Storytelling is history distilled to its essence, but the storytelling skills of most historians have grown rusty. Instead of teasing out the meanings of a story in the telling, many prefer to analyze ever-smaller aspects of history, taking old narratives apart to pry out new meanings. The following article is different. In it, a distinguished New Zealand scholar recreates a “lost” narrative, by retelling this story from the perspectives of both the explorers and the explored-upon. We gain a richer, fuller understanding of the past by listening to both sides.

—the Editors

Cross-Cultural Voyaging: The First Spanish Visits to Tahiti 1772-1776

Dame Anne Salmond



At the heart of the Pacific Ocean lies Tahiti, a jewel of a tropical island—jagged volcanic mountains of black rock rising out of a blue-green sea, waterfalls tumbling through forests of flowering and fruiting trees, bright birds flying across the clearings. The island, one of the Society group, is edged by a rim of flat land dotted with clusters of thatched houses, groves of coconut palms and large, twisted trees, and encircled by lagoons where brilliant fish dart through the water. These lagoons are protected by a ring of coral reefs, where the surf thunders during stormy weather.

The early Tahitians were voyagers and explorers who saw the ocean as a vast watery plain, joined around the horizon by the layered spheres of the sky, encircling its clusters of known islands. The sea was also a *marae*, a sacred place where people went to cleanse themselves in times of spiritual trouble. At the beginning of the world, it is said, a generative source had produced darkness, and then space, the shooting stars and the moon, the sun and comets. As the star ancestors emerged one by one they sailed in canoes across the sky, and on their voyages of exploration, new stars were created. A star god eventually created “the kings of the chiefs of the earth” and “the chiefs in the skies,” each with their own star, whose boundaries were each marked by a *marae*—a great stone temple.¹ The arched heavens were supported by star-pillars between sky and earth, and some of the carved boards on *marae* represented the stars that stood above them. Thus when Tahitian navigators sailed from a *marae* at the edge of the land, they were retracing the sky voyages of their star ancestors.²

In the mid-eighteenth century, a *marae* on the island of Ra’iatea, called Taputapuatea, was dedicated to the war-god, ‘Oro. From this temple, his followers carried the worship of ‘Oro from island to island. They were led by the *arioi*, an exclusive society of priests, warriors, orators, famed lovers and voyagers.³ The war god demanded human sacrifices, and his *marae* were dark, awesome places, regarded with dread and terror. As the cult was taken across the archipelago, south to the Cook and Austral Islands, north to the Marquesas and east to the Tuamotu islands, Taputapuatea became the centre of a far-flung voyaging network.⁴ When they traveled to the rituals at the great *marae*, their fleets of large, carved canoes carried images of the gods, and pairs of dead men and sea creatures (including sharks and turtles) lay on their prows as sacrifices for ‘Oro. As the priests landed, drums and conch trumpets sounded, and the bodies of ‘Oro’s sacrificial victims were hung in trees by ropes strung through their heads, or laid as rollers under the keels of the sacred canoes as they were dragged up the beaches.

Although the ‘Oro cult spread rapidly, some islands held fast to their old gods, and in about 1760, when warriors from Borabora attacked Ra’iatea, they chopped down one of the great trees which sheltered the sacred temple. Distraught at the desecration, a priest named Vaita entered a trance and announced that a new kind of people were coming to the islands:

*The glorious offspring of Te Tumu
will come and see this forest at Taputapuatea.
Their body is different, our body is different
We are one species only from Te Tumu.*



Dame Anne Salmond is Professor of Maori Studies and Pro-Vice Chancellor at the University of Auckland, New Zealand. She is the author of the 2003 *Trial of the Cannibal Dog*, a new perspective on Cook’s explorations in the South Pacific.

At far left, Captain Cook appears momentarily overwhelmed by the remnants of sacrifices to ‘Oro at a Tahitian *marae*. Temples like it, and the example on this page, marked the boundaries of the Tahitian cosmos.

Captain Wallis's *Dolphin* emits
thunder and lightning in 1767.

From Hawkesworth's *Voyages*



*And this land will be taken by them
The old rules will be destroyed
And sacred birds of the land and the sea
Will also arrive here, will come and lament
Over that which this lopped tree has to teach
They are coming up on a canoe without an outrigger.⁵*

News of this prophecy flew around the islands, and in June 1767, when the first European ship, the *Dolphin*—a “canoe without an outrigger”—arrived at Tahiti, Vaita’s prophecy was vindicated. Many Tahitians thought that this strange vessel must belong to ‘Oro, the great war god, for all the signs pointed in that direction. Thunder and lightning were the signs of his power, and human sacrifices were his tribute. When the British commander of the *Dolphin*, Captain Wallis, fired his cannons, there were loud noises, clouds of smoke and brilliant flashes of light, and many people were torn to pieces. Red was ‘Oro’s colour, a sign of his presence; the *Dolphin*’s marines wore scarlet coats, just as the *arioi* wore red bark-cloth garments and the high chiefs wore the *maro ‘ura*, the red feather girdle. This frigate, with its thunder and lightening, and its red-painted gun carriages and striped sides, seemed a larger version of ‘Oro’s sacred canoe, *Rainbow*.⁶

After the *Dolphin* departed, more of these “canoes without outriggers” arrived in rapid succession. First came a French expedition led by Bougainville, followed by a second British expedition commanded by Cook, and in 1772-6 came several Spanish expeditions from Lima, sent by an anxious Viceroy, Manuel de Amat, who had been warned that the British intended to settle the island. Each of these expeditions had their own character. Whereas Wallis’s voyage was a purely imperial venture, searching for the Unknown Southern Continent in order to claim its wealth for Britain, Cook’s and Bougainville’s were

Enlightenment-era voyages, combining scientific with imperial aspirations. They carried astronomers, botanists and artists as well as sailors and marines, and scientific equipment as well as cannons and muskets. The Spanish voyages, however, were quite different, combining imperial and scientific ambitions with religious zeal, which linked their expeditions to an older voyaging tradition dating back to Columbus.

As this succession of ships arrived in Tahiti—each with its distinctive crew, uniforms, weapons, equipment and language—flags were raised, gifts presented to the ruling chiefs, and commanders vied to claim sovereignty. Wallis named the island King George III's Island, after the British monarch; Bougainville called it New Cythera after the island of Aphrodite, Goddess of Love; the pragmatic British explorer James Cook called it by its local name, Tahiti; while the Spanish commander Domingo Boenechea named it Amat's Island after the Viceroy of Perú—an illuminating choice in each instance.

The English made their base at Matavai Bay to the north, the French at Hitia'a on the east coast, and the Spanish in Vaiurua and Vaitepiha to the south. In this way each imperial power associated themselves with the ruling families of each district, who in turn tried to profit from these alliances.

Taio, or ceremonial friendships, were forged between Tahitians and their visitors, and some of the sailors were tattooed, learned Tahitian, and had love affairs with local women. When Bougainville left the island, a young aristocrat, Ahutoru, went with him to Paris. When Cook sailed on the *Endeavour*, the high priest and navigator Tupaia was on board, piloting the *Endeavour* through the Society Islands, then sailing with his shipmates around New Zealand, up the east coast of Australia and to Batavia, where he died of dysentery. When the Spaniards arrived in 1772, at least eight Tahitians went with them to Lima, and some returned to the island. As these Polynesian or European travelers brought home news of the places they had visited, sharing songs and stories, or charts, journals, specimens of artifacts, plants and animals, even people, the boundaries of the home society were expanded. As the contests between European monarchs were played out on this island, the histories of Tahiti and Europe tangled inextricably together.



VIEW of part of the West side of GEORGES ISLAND taken from the Ship at Anchor in ROYAL BAY

The Spanish Voyages to Tahiti

Although the Pacific was already inhabited, the Pope had granted Spain exclusive rights to the seas west of the Cape Verde Islands, and the Spanish were anxious to protect their claims against incursions by other nations, particularly France and Britain. In the mid-eighteenth century, they correctly suspected the British of ambitions to establish a settlement in this region, either in the Falklands, on the west coast of South America, or on a Pacific island. News of the voyages by Wallis and Cook raised these suspicions to a fever pitch, and in 1772 Viceroy Manuel de Amat was commanded to send an expedition to discover whether a British settlement had in fact been established on Tahiti or Easter Island, and if so, to expel them and to dispatch some Franciscan friars to examine the islands for the site of a potential Catholic mission.⁷

The Spanish were intent that this voyage should be kept secret, and when the *Aguila* sailed from El Callao on September 26, 1772, its commander, Domingo de Boenechea, was told not to open his sealed orders until he was ten leagues off the coastline. The sailing directions for Tahiti were unknown, since neither the French nor the British had published its precise location. The ship headed west, and a month later at sunrise they made their first sighting, the atoll of Tauere in the Tuamotus—a new discovery for Europe. At Mehetia, they picked up an islander who guided them to Tahiti. When they finally landed at Tautira, at the southern end of the island, the sailors were greeted by a joyous crowd of Tahitians who stood unarmed, welcoming them with evident pleasure. When they returned to the ship, one of the local men came with them.

The next morning, the high chief of southern Tahiti, an elderly man named Vehiatua, sent out an envoy to greet them. By this accident, the Spaniards became affiliated with Vehiatua and his southern people, who were at war with northern Tahiti. The launch was sent around the island to chart its coastline and harbors, and when it returned from its circuit five days later, Boenechea was already preparing to leave Tahiti. An influenza-like epidemic had stricken many people in the southern districts, including Vehiatua's stepfather, and perhaps rightly the Tahitians blamed the *Aguila* for this illness.

The officers decided to take four Tahitians back with them to Lima, so they could learn more about the island. Because they could speak little Tahitian, the Spaniards had learned very little about local customs and histories during this brief visit, which they found frustrating. The volunteers included Pautu, a man about thirty years old who proved to be a skilled navigator, Tipitipia, about twenty-six years old, Heiau, a “lump of a lad” of about eighteen, and a young boy about thirteen, Tetuanui, who travelled with his father's consent. They sailed on December 20, 1772, reaching Valparaiso one month later, where Tipitipia died soon after their arrival from a “malignant calenture” (fever).

When the three surviving Tahitians arrived in Lima, the Viceroy lodged them in his palace, providing them with food and clothing. Amat was a cultivated man who had established a university and built a bullring and other fine buildings in Lima. (He had also scandalized the local elite by taking a young *mestiza* opera singer, La Perricholi, as his mistress.) Heiau caught smallpox and died. A month later, the navigator Pautu and the young boy Tetuanui were baptized in the cathedral, the latter taking the Viceroy's own name, Manuel. Maximo Rodríguez, a young marine in his twenties from the *Aguila*, helped to look after the Tahitians and learned to speak their language, while they learned

some Spanish. Intrigued by what the interpreter had learned from the two Tahitians, Viceroy Amat drafted a list of one hundred questions to be answered during the next Spanish expedition to the island—by far the most detailed set of ethnological instructions to be issued by any nation during this period of Pacific exploration.⁸

On September 20, 1774, the *Aguila* sailed again under Boenechea's command, this time accompanied by a storeship, the *Jupiter*. Two Franciscan friars joined the expedition, charged with establishing a mission on the island. Pautu the navigator, Manuel, the Tahitian boy who had been baptized with the Viceroy's first name, and their companion Maximo Rodríguez went with them, although Manuel fell ill with smallpox almost as soon as they left Lima. Five weeks out, the *Aguila* sighted a previously undiscovered atoll, followed in quick succession by others in the Tuamotu Archipelago. As the ship's pilot charted these islands, adding them to others previously discovered, Pautu watched with avid interest, explaining that he had visited most of these places.

When they realized that Pautu was an experienced navigator, the Spaniards were fascinated, and during this voyage they collected some of the best information ever recorded on Polynesian navigation. During the *Endeavour* voyage, the high priest-navigator Tupaia had done his best to explain Tahitian navigational techniques to Captain Cook and Joseph Banks, listing over seventy islands and helping to draft a chart which showed their locations, but unfortunately Cook misunderstood the cardinal points, reversing north and south and thus confusing the position of many islands; none of Tupaia's descriptions of these places were recorded. By contrast, after almost two years with the

Europeans, like the man in the foreground seated next to skeletal remains, were fascinated by the human sacrifices strewn around Tahitian *maraes*.

1792 drawing by Alfred Tobin, State Library of New South Wales



Europeans explore the *marae* shown on the preceding page, drawn here from the seaward side.

1792 drawing by Alfred Tobin, State Library of New South Wales



Spaniards, the navigator Pautu could communicate quite well in Spanish, and Maximo Rodríguez had become reasonably fluent in Tahitian. Pautu gave the Spaniards a detailed description of Tahitian navigational methods, dictating a list of forty-two islands which gave brief descriptions of many of the places which Tupaia had mentioned, including most of the Society Islands, some of the Tuamotus, one island in the Marquesas, Atiu and Rarotonga in the Cook Islands, and several in the Australs. He also described a place he called *Pounamu*, an island with very high mountain peaks, few fruits, many fish and savage inhabitants—almost certainly the South Island of New Zealand—and *Whenua Teatea*, possibly the North Island, known as *Aotearoa* by its Maori inhabitants.

On November 15, 1774, when the *Aguila* returned to Tahiti almost exactly two years after leaving the island, hundreds of canoes came out to welcome the islanders back from their extraordinary voyage. On shore, Pautu regaled an awestruck crowd of islanders with tales of his adventures, but when they heard about the deaths of Tipitipia and Heiau in Peru, rejoicing turned to sorrow; their kinsfolk burst out crying. When Manuel's family anxiously approached, they were told that he was confined to the ship, weakened by an attack of smallpox; they also began wailing. Amid the deafening clamor, Pautu and his companions made their way through the crowd to the boat. There, the Tahitians told them that Tu, the high chief of the island, Ti'itorea and his stepson—the son of the old local chief Vehiatua—were at Tautira to the north, where Cook had anchored a year earlier. The Tahitians urged the Spaniards to sail north and see them.

During the Spaniards' absence, Tu and his warlike uncle had attacked south Tahiti from their home on the north of the island but, in a bloody battle, had been defeated by Vehiatua's father. Tu made peace with the old warrior, who died shortly afterwards and was succeeded by his son, also known as Vehiatua, who was about eighteen years old. Tu and young Vehiatua had befriended

each other, and they greeted the Spaniards together. As they approached the high chiefs, the Tahitians bared their heads and chests in homage. Maximo, the interpreter, spoke for the Spaniards and Tu took him as a *taio*, or ceremonial friend, changing names with him and declaring that he was his brother. After this, the high chiefs boarded the *Aguila*, where Boenechea gave each of them an axe in the name of the King. In response, Tu embraced the commander, presented him with his own cloak, and gave him the title of *ari'i*, or high chief.

When the ships anchored, Boenechea told the high chiefs that the two Franciscan missionaries would stay on the island with Maximo. Tu and Vehiatua seemed overjoyed, saying that their people would help to erect the missionaries' dwelling. Upon landing, a site was selected which belonged to Vehiatua's mother, and she gave permission for the prefabricated house to be erected. That afternoon, the father of Manuel, the boy who had traveled to Lima, boarded the ship and embraced his son, weeping, and listening with gratifying astonishment to tales of his adventures in Lima.

Over the following weeks the site for the mission was cleared (including the removal of several houses), and trees were felled, including a number of breadfruit trees, which caused some consternation. The Tahitians relied on these trees for food, and were aghast when they were cut down for firewood. They watched in wonder as iron tools were used to shape timbers for the house, and parts of the prefabricated chapel were put together. During this period, although relationships between the local people and the Spaniards were amicable, tensions arose on a number of occasions. When one of the sailors, whose shirt had been stolen, threatened that he would cut the throats of the Tahitian culprits and shoot them with muskets, the islanders prepared to flee the district. Lieutenant Thomas Gayangos, who had exchanged names with Tu's mother and become her *taio*, got them to identify this man, and then took him on board for punishment. The chiefs, however, begged that he should not be flogged, so his punishment was commuted and he was clapped into irons.

Soon afterwards, when a number of the local people, including members of the chiefly families, fell ill, Vehiatua complained to Boenechea that his sailors had affronted the gods, who had punished his own people with this epidemic. The Spaniards had eaten fruit from the sacred trees that sheltered the temple, breaking the *tapu* or ceremonial restrictions. They also brought cattle and horses, and when grass was collected to feed them from the grounds of a *marae*, further *tapu* were broken. Boenechea tried to argue that the sickness was caused by the Tahitians' habit of swimming out to the ship, and then baking themselves in the sun. The high chief was appropriately skeptical and spent the rest of the day at the funeral of his uncle, who had died from the illness. Maximo went too, because according to what Tu's mother had told him, the dead man was his adoptive relative, and "I must share in their sorrow." During the funeral, Maximo was asked to tell the gathering about Spain and its imperial possessions, and when he described how the Spanish fought, they were deeply impressed. When the talk turned to religion, however, Tu remarked that their priests had the power to strike a person dead, or swell his testicles by enchanting the victim's spittle. Maximo disputed this, and challenged him to make a trial of this power. Reluctant to hurt his adoptive brother, Tu said that no priests were present, but asked one of his men to imitate the procedure. As this man began to chant, Maximo began to laugh, ridiculing the ritual, and Tu was left perplexed—and thoughtful.

When a sailor who had been robbed of some clothes hit a Tahitian, and in his turn was knocked unconscious, the Tahitians fled. When Boenechea sent a message ashore, commanding Vehiatua to deliver up the assailant, Vehiatua refused, saying he was too afraid to meet the Spaniards. According to one of the lieutenants, Vehiatua had been discovered

that morning in the *Aguila*'s sergeants' mess, sodomising his servant, and the disgusted sailor who found them had hit the servant with a stick and punched the chief with his fist—a dreadful insult. There was a standoff until Boenechea sent Lieutenant Gayangos ashore to tell the high chief that he was no longer required to deliver up the assailant. Relieved by this news, the next morning Vehiatua presented a hog and some plantains to the lieutenant. In this way, a peace of sorts was restored and their friendship re-established, although Tu still stayed away, evidently terrified of the Spaniards.

Despite the fracas, work had continued on the mission house, and on December 31 the building was finished. That night the Franciscan missionaries slept ashore for the first time. The Tahitians were fascinated by the ceremonies surrounding the founding of the mission. On New Year's Day, the launch landed, and the marines lined up on the beach. Soon the boat came in bearing a large cross, and as the friars came to receive it, chanting the Litany of the Saints, the marines fired a volley. As the cross was erected, a second volley was fired, Mass was said, and *Salve*

Regina! chanted. The ceremony ended with a third volley of musket fire, and a twenty-one-gun salute from the frigate. Several days later, Boenechea and his officers met with Vehiatua and the other chiefs, except Tu, who was ill, and signed Articles of Agreement proclaiming the King of Spain *arii* over all of the island. Once Tu signed the Articles, a portrait of King Charles III was affixed to the front of the mission house. The next day, the two ships left to visit the island of Ra'iatea, leaving behind Maximo, the friars, and a party of sailors at Vaitepiha.

During the ships' absence, Maximo went off to look for a Spanish bull that was doing a lot of damage to crops in another district. While he was away, the frigate and the storeship returned to Vaitepiha. Bonaechea had been stricken with a sudden illness, and just after Maximo's return, he died on board the *Aguila*. The next day, his body was brought ashore, and buried with full military honors in front of the mission. That night, two Spanish sailors deserted from the *Aguila*, but were quickly brought back by the Tahitians. Early the next morning the ships sailed, taking four more Tahitians with them, and leaving behind Maximo, the two Franciscans, and a sailor who had been left to look after them, "pretty woesbegone," according to the friars' diary, "in our solitude, with no other refuge than God."

During their ten months' stay on the island, the mission party had some remarkable adventures, but there were continual quarrels between the friars and their two companions. In order to escape these fractious priests, Maximo



spent much of his time with Tahitian friends, twice traveling completely around the island, and collecting a remarkable sacrificial stone bowl that is now in the National Museum of Archaeology in Madrid. Although he upset the chiefs by arguing against their sacred beliefs, Vehiatua as well as Tu adopted him as a brother. Maximo learned to drink *ava*, the intoxicating island drink, and make love with Tahitian women—or so the Tahitians later told Cook—and certainly the friars accused him of both sinful behaviors. The friars, on the other hand, had little respect for their chiefly hosts, refusing both Tu and Vehiatua hospitality on occasion, failing to reciprocate their gifts of food, timber and labor, and trying to force their people to work for them. They were probably attempting to replicate the Peruvian colonial system to which they were accustomed, which treated the Incas and other indigenous groups like serfs. Tu soon left the district in disgust, although he remained fond of Maximo.

When the friars insisted on using stones from the sacred *marae* to pave the mission house floor, Vehiatua, Maximo's "brother," became ill, suffering from convulsions, fever, pains in the legs and coughing. Maximo tried to heal him, telling his family to send away the *tabua*, or local priests since they were not helping him. Maximo ordered Vehiatua's attendants to wrap him warmly, instead of fanning him and putting him outside on a platform, and treated him with an array of Spanish foods and medicines. Vehiatua seemed to recover, but when he suffered a relapse, the local priests took over, ordering human sacrifices to be offered at his *marae*. After months of suffering, Vehiatua died, but not before the friars had refused him access to their own medicines. Maximo held Vehiatua in his arms on his deathbed, and although his distraught mother railed at the friars for their neglect, she told Maximo that she regarded him as a son, as the sacred *taio* relationship between the two friends dictated. The Spanish ships arrived shortly after, and the friars abandoned their mission, refusing to stay on the island, which they regarded as inhospitable and dangerous.

Because Maximo had learned Tahitian, he was able to exchange ideas and information, and forge real friendships with individual Tahitians. Although he remained a Catholic, and tried to dissuade the Tahitians from some ritual practices, Maximo learned a great deal about Tahitian life. The detailed journal he kept survives, but his account of their customs was unfortunately lost some time after his return to Lima. As a reward for his service in Tahiti, when he returned to Lima he was appointed to the Viceroy's bodyguard.

The friars, by contrast, found their time on the island a miserable ordeal, and kept only sketchy notes. One can see that these missionaries must have found many Tahitian customs unbearable—*aroi* ceremonies included acts of public sex, phallic dancing and female exposure. On the other hand, the friars had been sent to undermine and destroy Tahitian beliefs and ritual practices and supplant them with Catholicism, and this led to acts of desecration which terrified the Tahitians. The Spaniards' constant breaches of *tapu*, coupled with the unfamiliar diseases they brought with them, seemed to shake the foundations of the Tahitian cosmos. For Vehiatua, and a number of other islanders, this conjunction proved fatal. As for Pautu and Manuel, the two survivors of the journey to Perú, they found the Spaniards' conduct intolerable. Once they returned to Tahiti, both rejected Christianity, ran away from their Spanish companions, and were harshly punished by them.

In these cross-cultural exchanges, travel was not innocent. European exploration was not simply about charting islands and describing their inhabitants for science. Islands and their peoples were pawns in wider imperial strategies. Europeans brought new diseases, and, in the case of the Spaniards, a fervent determination to destroy and displace ancestral beliefs. At the same time, they brought a genuine curiosity about the local inhabitants, and some travelers, like Maximo, forged relationships with islanders and spoke of them as real individuals.

The islanders, too, were fascinated by their visitors, and curious about their homelands. Like the Europeans, they were voyagers and explorers, determined to see what was over the horizon. They asked innumerable questions about Spanish America and Europe, and many expressed a desire to visit these places. They adopted some of the visitors as ceremonial friends, showing them affection and trying to instruct them in proper behaviour. For, in spite of imperial hubris, charts, and competing claims of sovereignty, the new names on the old coastlines were still rhetorical. The European visits were fleeting; these remained Polynesian islands. When *tapu* were broken, the priests chanted, and the gods still showed their power, although the old order was cracking.

In the stone temples at Taputapuatea, Vaita's prophecy echoed through the shadows:

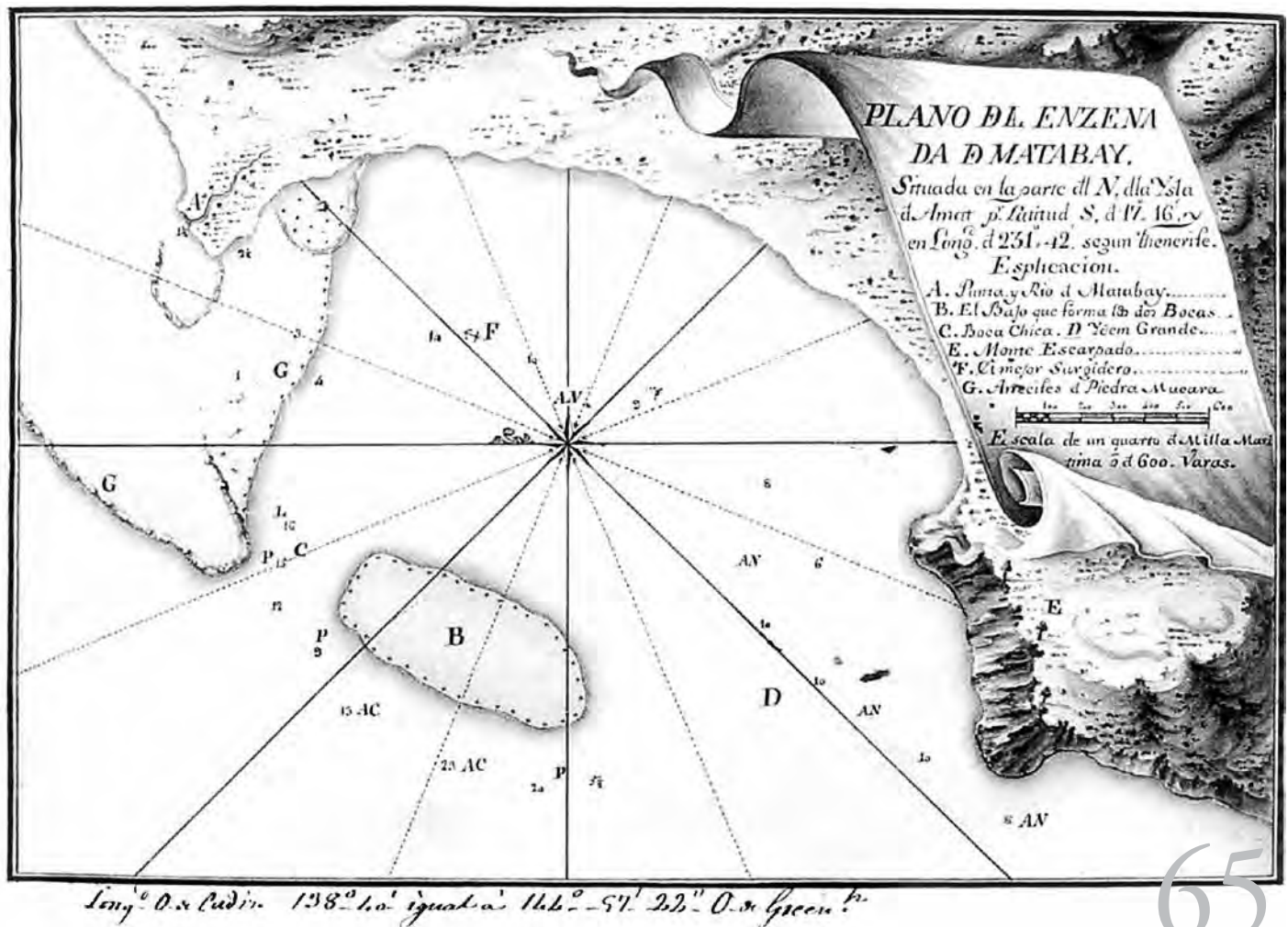
*Their body is different, our body is different
We are one species only from Te Tumu.
And this land will be taken by them
The old rules will be destroyed
And sacred birds of the land and the sea
Will also arrive here, will come and lament
Over that which this lopped tree has to teach.*

N O T E S

- 1 Teuira Henry, "Tahitian Astronomy. (Recited in 1818 at Porapora, by Rua-nui [Great-pit], a clever old woman): Birth of the Heavenly Bodies," *Journal of the Polynesian Society* 16 (1907): 101–4.
- 2 For accounts of Polynesian navigation, see Ben R. Finney, ed., *Pacific Navigation and Voyaging* (Wellington, New Zealand: Polynesian Society, 1979); Finney, *Hokule'a: The Way to Tabiti* (New York: Dodd, Mead, 2000); Finney, "Nautical Cartography and Traditional Navigation in Oceania" in D. Woodward and G. Malcom Lewis, eds., vol. 3, part 2, *Cartography in the Traditional African, American, Arctic, Australian and Pacific Societies* (Chicago: The University of Chicago Press, 1992); Thomas Gladwin, *East Is a Big Bird: Navigation and Logic on Puluwat Atoll* (Cambridge, Massachusetts: Harvard University Press, 1979); G. Irwin, *Prehistoric Exploration and Colonisation of the Pacific* (Cambridge: Cambridge University Press, 1994); M. Levison, R. G. Ward, and J. W. Webb, *The Settlement of Polynesia: A Computer Simulation* (Canberra: Australian National University Press, 1973); David Lewis, *Daughters of the Wind* (London: Gollancz, 1972), *We, the Navigators* (Canberra: Australian National University Press, 1978), *The Voyaging Stars: Secrets of the Pacific Island Navigators* (London: Collins, 1978); Taonui Rawiri, "Haerenga Waka: Polynesian Origins, Migrations and Navigation," M.A. thesis (University of Auckland, 1994); and Kerry Howe, ed., *Waka Moana* (Auckland: David Bateman Ltd., in preparation, 2006).
- 3 An excellent account of the *arioi* in Tahitian and English is given by Rev. John Orsmond in his unpublished manuscript, ML Ms A2608, vol. 4, *The Arioi Wars in Tabiti*.
- 4 See Douglas Oliver, *Ancient Tahitian Society, Vols. 1-3* (Canberra: Australian National University Press, 1974), 2:666.

- 5 Hank Driessen, "Outriggerless Canoes and Glorious Beings," *The Journal of Pacific History* 17 (1982): 8–9. My thanks to Hank Driessen for access to his excellent unpublished thesis, "From Ta'aroa to 'Oro" (Australian National University, 1991).
- 6 For accounts of the *Dolphin's* voyage, see George Robertson in Oliver Warner, ed., *An Account of the Discovery of Tabiti, From the Journal of George Robertson, Master of H.M.S. Dolphin* (London: Folio Society, Rowe, Newton, 1955); *Voyage to the Amorous Islands: The Discovery of Tabiti* (London: Andre Deutsch); records from the Public Records Office, London: MSS Adm 55/35 Captain Wallis's Journal; Adm 51/4538/97 Lieutenant William Clarke; Adm 51/4541/95-6 Francis Wilkinson; Adm 51/4541/107-108 William Luke; Adm 51/4541/123-4 Anonymous; Adm 51/4541/125 Benjamin Butler; Adm 51/4542/109-10 George Pinnock; Adm 51/4542/111-2 Henry Ibbott; Adm 51/4542/113-4 Tobias Furneaux; Adm 4542/126-7 William Hambly; Adm 51/4539/102-6 George Robertson, Master; Adm 51/4543/115-6 Pender; Adm 51/4543/117-9 Samuel Horsnail; Adm 51/4543/128 Thomas Coles; Adm 51/4544/129 John Nichols; Adm 51/4544/131 Anonymous; Adm 51/4544/132 West; Adm 36/7580 Muster Roll of the *Dolphin*. Many of the men were ill during their stay in Tahiti (including Wallis) and their journal

- entries for Tahiti were written after the events described, so that dates and details given for particular episodes are often in disagreement. On the whole, I have relied on the excellent account given by George Robertson, the ship's master, for the basic chronology of events during the *Dolphin's* stay on the island.
- 7 Primary documents relating to these Spanish voyages to Tahiti are printed in B. G. Corney, *The Quest and Occupation of Tabiti by Emissaries of Spain During the Years 1772-1776, Told in Dispatches and Other Contemporary Documents* (London: Hakluyt Society, 1913-19); José Andía y Varela, *Relación del viaje hecho a la isla de Amat, por otro nombre Otahiti y descubrimiento de otras adyacentes en los años 1774 y 1775* (Barcelona); and Juan Pantoja y Arriaga, an unedited journal about the Spanish presence in Tahiti (1774-1775), ed. Francisco Mellen Blanco, trans. Gwyn Fox, n.d. The narrative in the paragraphs that follow is distilled from these sources.



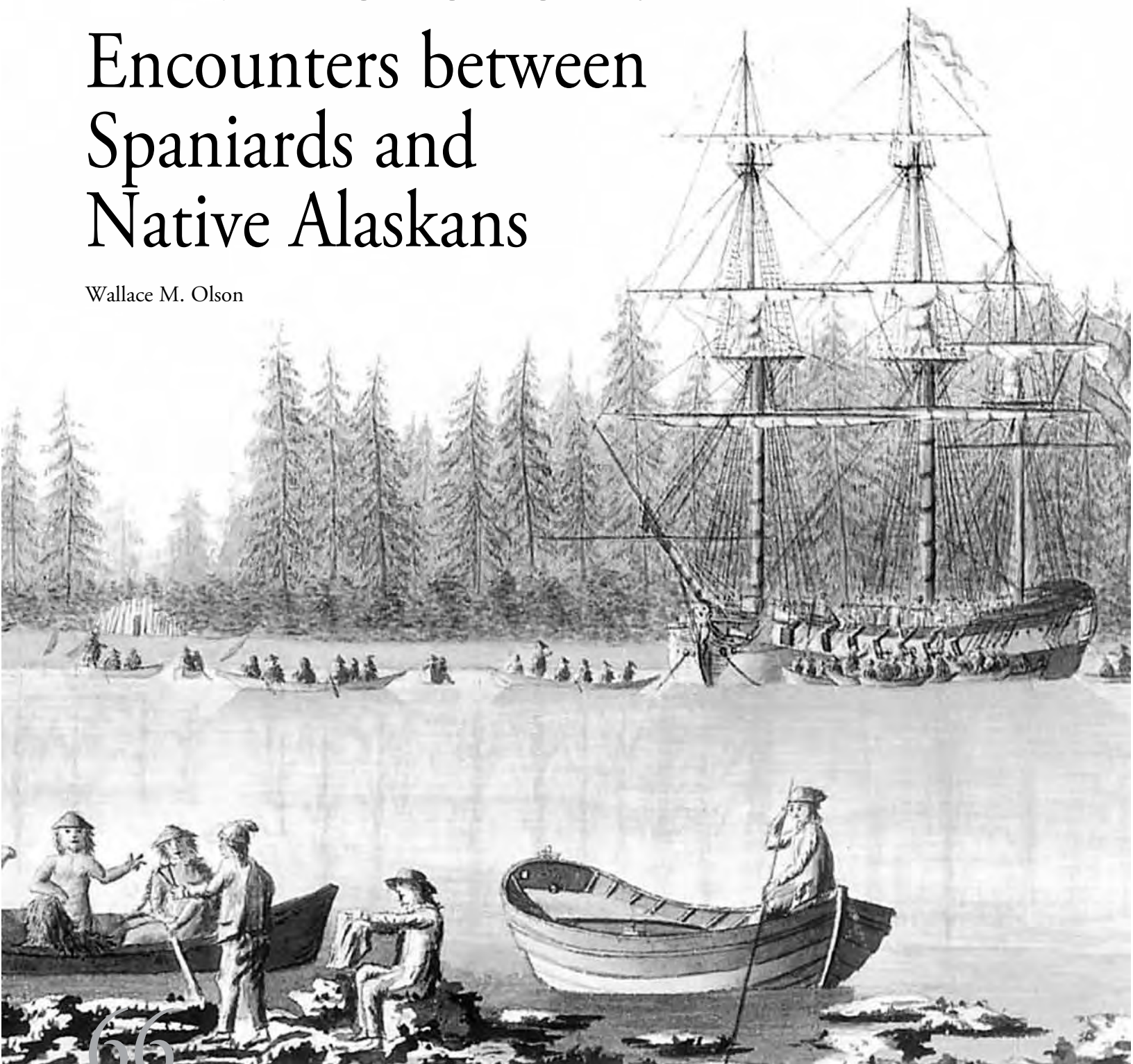
An exciting development in maritime history has been the expansion of its subject matter from a narrow concern with ships and seafarers to consideration of larger topics, especially in the realms of social history and anthropology. This has strengthened maritime history, brought it into closer alignment with mainstream history, and made important contributions to our knowledge of the past. Wallace Olson's article vividly illustrates this trend.

—the Editors

"I can say nothing but great good of these Natives"

Encounters between Spaniards and Native Alaskans

Wallace M. Olson



The expansion of the Spanish maritime empire into the Pacific world led to many Spanish encounters with indigenous peoples. In general, those encounters were destructive, sometimes to both sides, but almost always to the native peoples. In one exception to that pattern, however, along the coast of Alaska Spanish and native cultures encountered each other in the late eighteenth century without the tragedy that usually followed such meetings. This exception to the rule was the work of “honorable” men and women on both sides.

To understand these encounters, one has to understand the culture of the native societies, as well as that of the Spanish officials in the area. It is especially important to understand some key points about the Tlingit people of Southeastern Alaska. In the eighteenth century, Native groups in the north coastal Pacific Northwest were on the move. For example, as the Haida were expanding out of the Queen Charlotte Islands into Tlingit territory, the Tlingit were moving north, forcing the Eyak into a small area on the mouth of the Copper River.

In a time of such pressures between groups, warfare and raiding for revenge or slaves was widespread. In Tlingit oral history, there are many accounts of bloody battles both among the Tlingit themselves and with outsiders. Some European visitors noted that nearly every adult male had scars on their bodies from combat. In the eighteenth century, the Tlingit found it necessary to build sanctuaries (called *Noo* in their language), stockades to which they could retreat during an attack. Among the outside observers who took note of this practice was a Spanish naval officer, Juan Francisco Bodega y Quadra.

Several early fur traders described the Tlingit as arrogant, belligerent and extremely sensitive to any insult or shame. English trader Nathaniel Portlock wrote that

they are very easily irritated, and would very little scruple to kill you when they think themselves injured. More than once I had nearly experienced that fate from some trifling disagreements in trade.¹

British explorer George Vancouver’s men had opened fire on Tlingit who tried to steal weapons and other objects, while the Russians had many battles with them. Thus, when studying Spanish diaries and journals, one would expect to find an account of a battle or attack but in fact, although there were several confrontations, there was no bloodshed beyond the accidental deaths of two Tlingit at Spanish hands.

In order to understand why interactions between the Tlingit and Spanish were *not* characterized by bloodshed, it helps to grasp some essential aspects of Tlingit culture. Then as now, Tlingit society remains based on a moiety system; that is, they are divided into two general groups, the Ravens and Eagles, with large extended families (clans) on each side. Their permanent winter settlements consisted of several large plank houses, capable of holding forty or sixty people, who were related matrilineally—that is, through their mothers’ families. Each house was an independent social and economic unit with its own spokesman. The Tlingit term for these men is *bít s’atti*: “owner of the house,” the highest-ranking individual in Tlingit society. (In the modern writing system for Tlingit, the apostrophe indicates that the preceding sound is much more forceful or “pinched.”) Their authority was limited



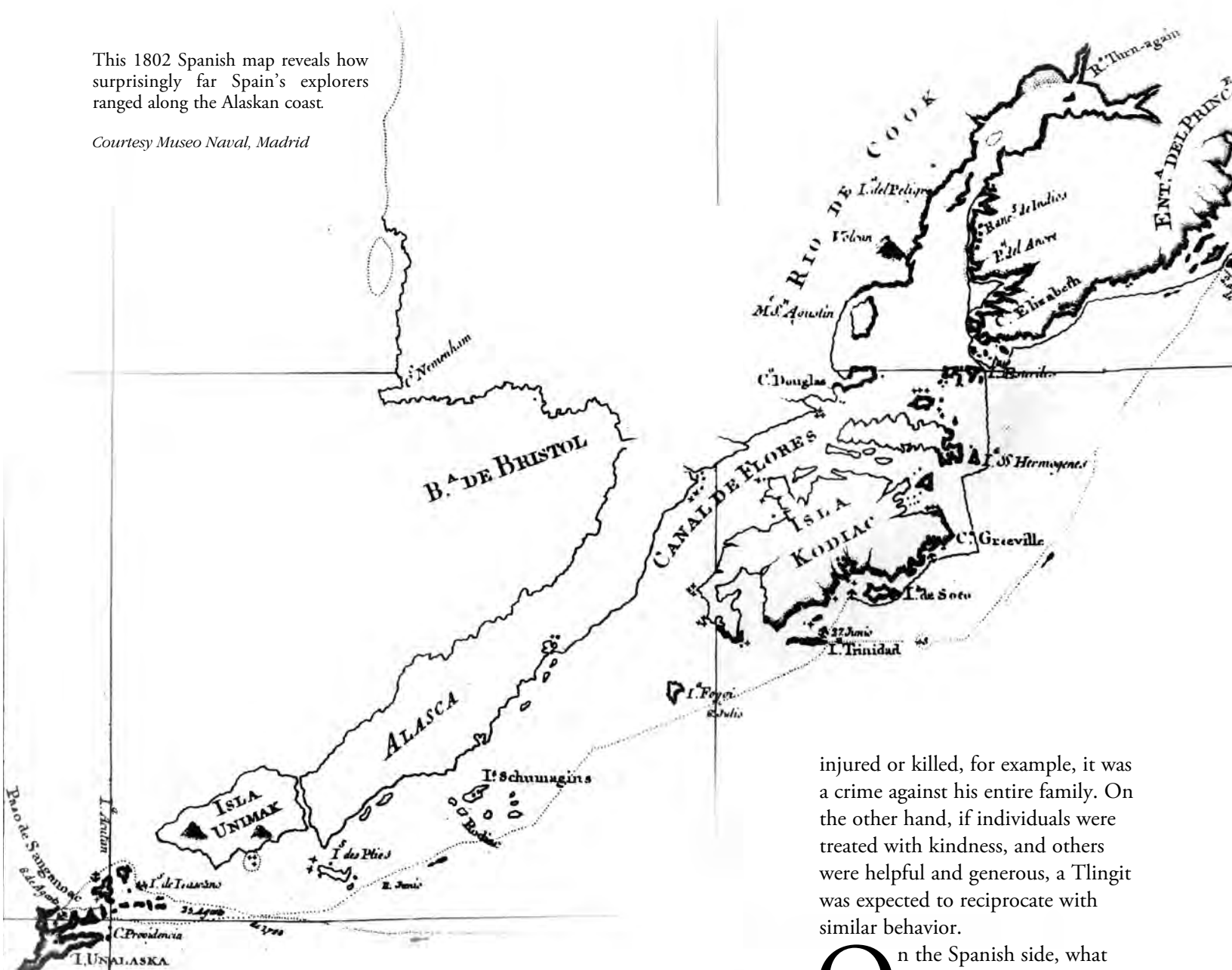
At left, when Alexandro Malaspina and his men visited Port Mulgrave, they met Tlingit people, including the leader above.

Details from drawings by José Cardero and Tomas Suria, courtesy Museo Naval, Madrid

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This 1802 Spanish map reveals how surprisingly far Spain's explorers ranged along the Alaskan coast.

Courtesy Museo Naval, Madrid



to one particular house with no power or authority over any other house; they could only try and persuade others to follow their advice. Within each settlement there could be several *bit s'atti*. Although the Spanish identified some men as chiefs (*jefes* or *caciques*), no tribal, clan or village chiefs exist—which explains why the “chiefs” the Spanish encountered could not simply issue orders as Spanish officers did.²

In Tlingit, aristocrats and house spokesmen are called *aanyátx'i*—“descendants of the land”—and are expected to live up to the highest ideals of honor in Tlingit culture. In almost every case when there was a dispute or confrontation between the Spanish and the Indians, the ones who helped bring about a peaceful solution were *aanyátx'i*. The Tlingit had their own laws and ethical code, with inter-clan relationships based upon group reciprocity. If a man were insulted, humiliated,

injured or killed, for example, it was a crime against his entire family. On the other hand, if individuals were treated with kindness, and others were helpful and generous, a Tlingit was expected to reciprocate with similar behavior.

On the Spanish side, what was responsible for the comparatively peaceful relations? There seem to be several factors involved. At times while they were on shore, the Indians greatly outnumbered the Spanish. As Antonio de Tova of the Malaspina expedition observed in his journal, firearms would have been of limited use in these situations because, “once fired, it would not have been possible to reload before being trampled by the crowd.”³ Secondly, the Europeans did not find any gold or valuable minerals. The only item of

Numero 3.

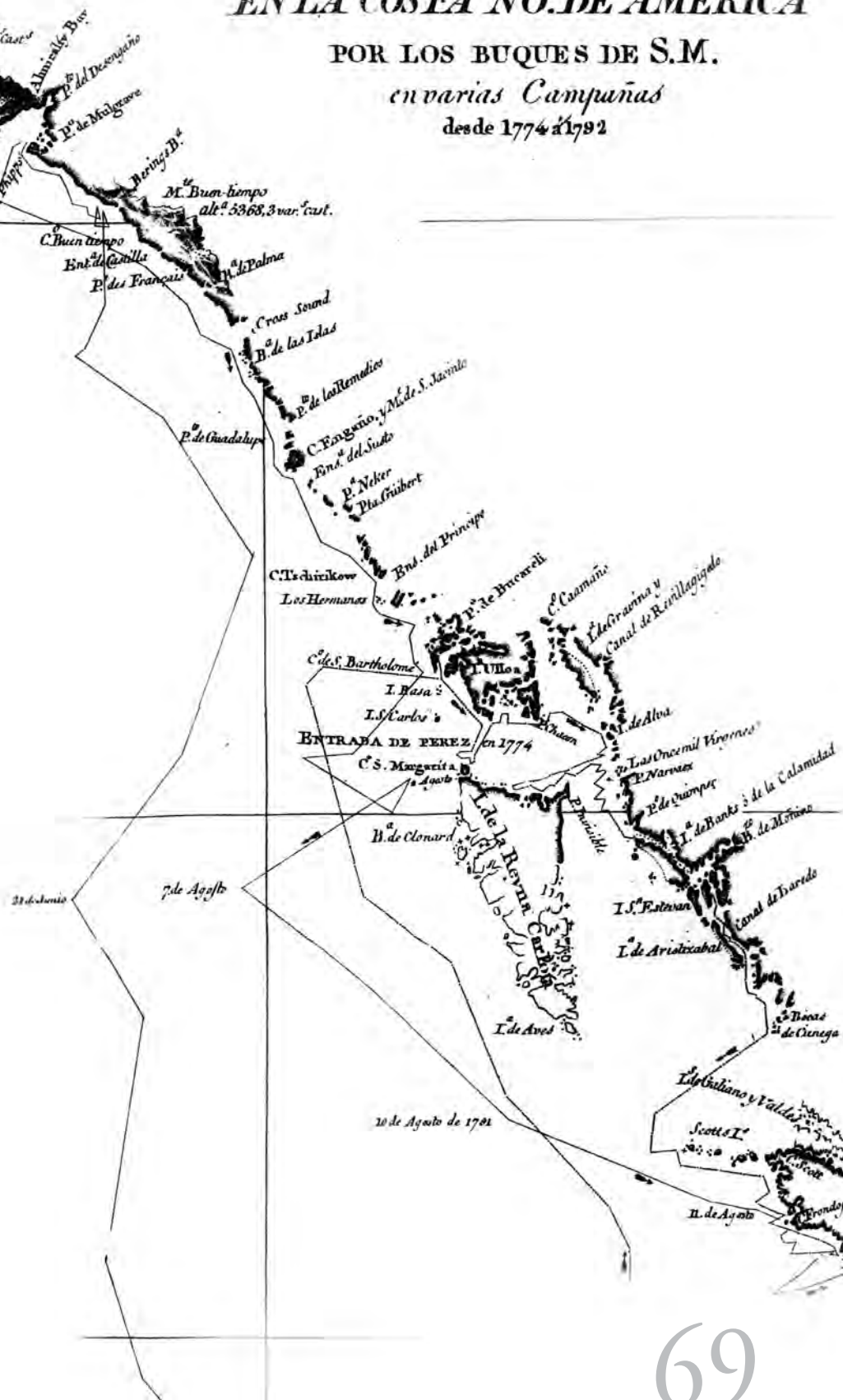
CONTINUACION de los reconocimientos hechos **EN LA COSTA NO. DE AMERICA**

POR LOS BUQUES DE S.M.
en varias Campañās
desde 1774 á 1792

value was fur, especially the pelts of the sea otters that the Natives were willing to trade. In addition, the Spanish did not attempt to establish any permanent settlement as the Russians had done. Both sides were interested in continuing good trade relations.

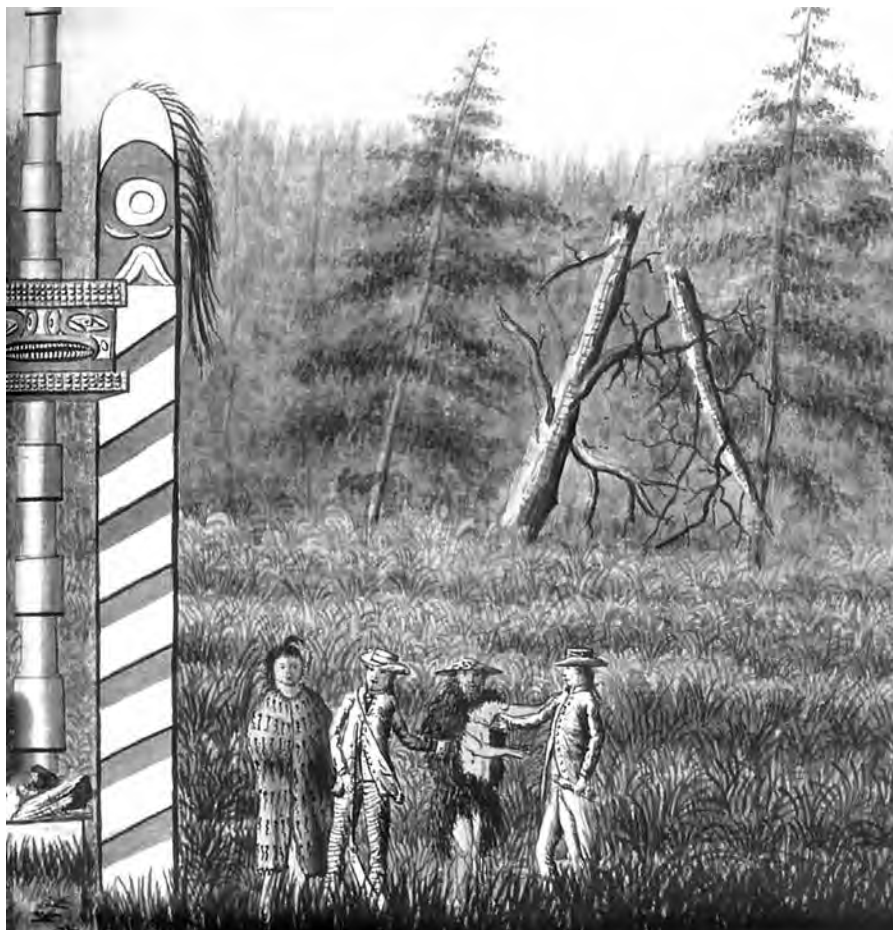
As one looks at the events that took place and the participants in those encounters, however, one is struck too by the caliber of the individuals involved—both Native leaders and Spanish officers. The journals indicate that in the various disputes or confrontations, Native leaders lived up to their traditional cultural values and ethos. Likewise, all of the Spanish commanders of the voyages out of San Blas were well trained, professional and experienced naval officers. The officers and men on the Malaspina expedition were likewise some of the finest in the Spanish Navy. When the Spanish met the Tlingit, both sides had very distinct, and not incompatible, understandings of “honorable” behavior.

Another factor that influenced the behavior of the Spanish officers were their official instructions, whose humanitarian overtones were clearly products of the European Enlightenment. Prior to the first voyage north in 1774, the Viceroy



In an idyllic moment, Spaniards and Tlingit appear to pose for a holiday snapshot alongside the tomb of a local headman at Port Mulgrave. Below right, the Tlingit investigate one of Malaspina's frigates nearby.

Details from drawings by José Cardero, courtesy Museo Naval, Madrid



of New Spain, Antonio María Bucareli y Ursúa, issued a long list of orders and instructions, some of which governed relations with Native peoples. The commander, for example, was instructed not to

take anything from the Indians against their will, but only in barter or given to them in friendship. All must be treated with kindness and gentleness, which is the most efficacious means of gaining and firmly establishing their esteem. Thus, those who may return to these places for the purpose of establishing settlements, if it be so decided, will be well received.

Likewise, the commander must

maintain good order among the crew, looking after them both when sailing and when a landing must be made, in order to prevent lack of obedience or of good treatment of the Indians against whom force will never be used except when it is necessary for self-defense.

“Under no circumstances,” the instructions insist, should he “antagonize the Indians or forcibly take possession of the land.”⁴

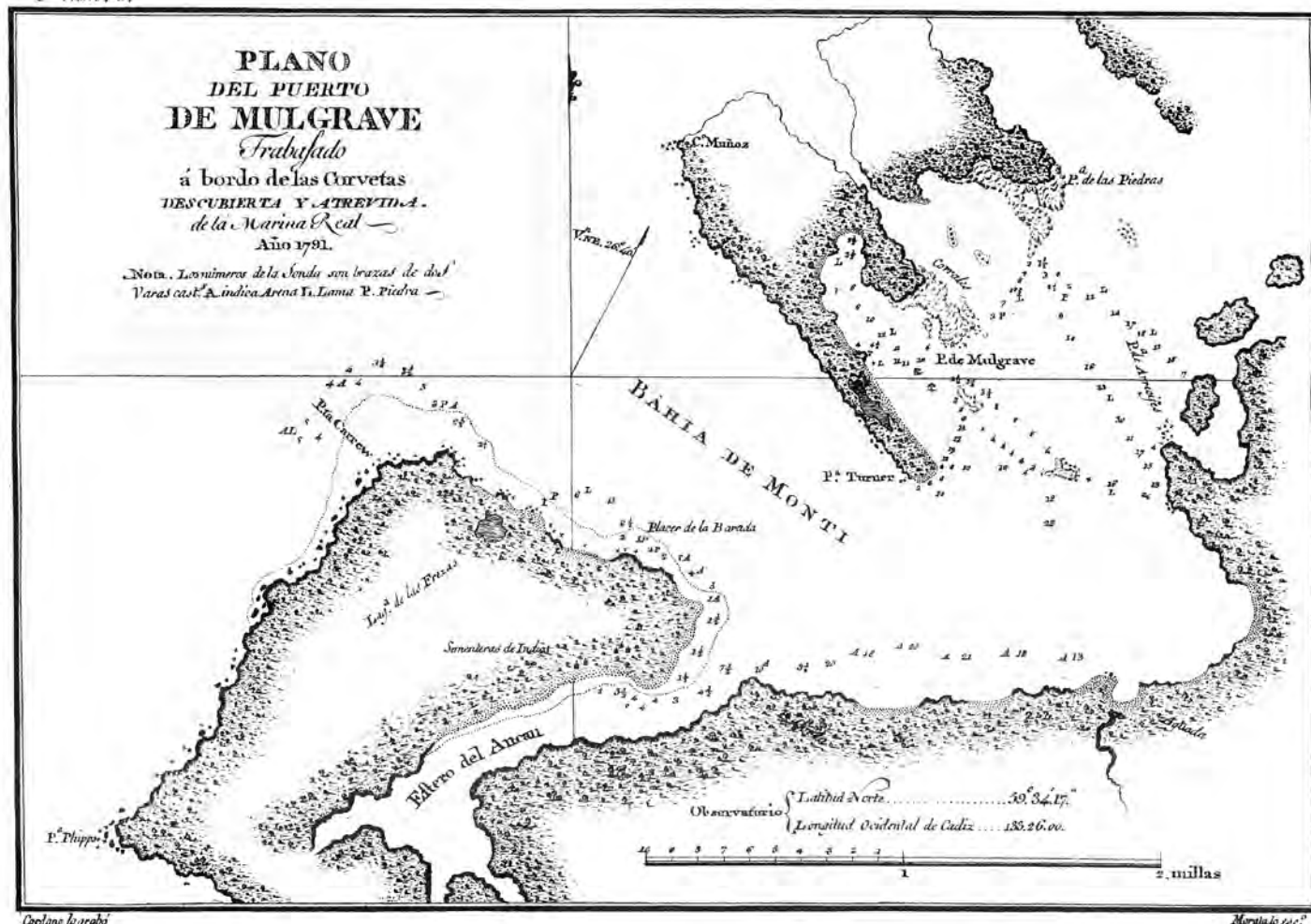
The expeditions of 1774, 1775 and 1779 took place while Bucareli was Viceroy, but on all the subsequent voyages out of San Blas, there were officers in command who had been on previous voyages. It seems that Bucareli’s instructions established a policy and tradition that prevailed on the later voyages to Alaska.

An example of the Viceroy's influence occurred on the evening of June 4, 1779, during the survey of the Bucareli Bay area. The survey party went ashore to cook their supper, but the meal was not yet ready when a large number of Tlingit came ashore, threateningly, from their own canoes. Rather than confront the Indians, the Spanish quietly loaded the half-cooked food into their boats and moved to another location. In his journal, Juan Pantoja explains that the Indians thought it was their threats that drove Spanish away, but

The real reason we left the port to them was the fact that we viewed them with compassion and the orders which had been given to the two First Pilots that we were supposed to treat them with charity as our neighbors 5

Another dispute that could have erupted into a fight, but did not, occurred on June 13, 1779, when several sailors went ashore to do laundry. When they were ready to return to the ships, the men noticed that two of the sailors were missing; they had deserted and intended to stay with the Indians. When the officers learned what had happened, they seized a Tlingit and took him on board as a hostage to secure the return of the deserters. Then an old man (probably a respected *bit s'aati*) came in a canoe and told them the sailors would be returned in the morning. The hostage on board was treated very well. He was given plenty of food, a bed in the officers' quarters, and was even entertained with music. The next morning, several canoes came out and the Indian hostage pleaded with them to return the sailors. The men in the canoes, however, refused to do so. They laughed and jeered at the hostage's request. He became very angry; he was so upset that he could not eat.





Both ships then tried to take more Indian hostages to force an exchange. In doing this, the flagship fired its swivel guns several times. When the crew of the *Favorita* saw Indians climbing aboard the flagship, they mistakenly thought that the Tlingit were attacking and fired a cannon. The Indians in a nearby canoe panicked; some fell overboard, and one, or possibly two, were killed. The ships immediately sent out their longboats to rescue the survivors. The Indians were brought aboard and given blankets, food and gifts. With these new hostages, the deserters were eventually returned.

As the Spanish were leaving the Bucareli Bay area, some Indians came alongside the ship and indicated that there had been a large gathering of Tlingit in the nearby port of Saint Anthony. There had been a quarrel amongst them over something that took place on the day the sailors were returned to the ships, and two men were beheaded. The Spanish could not understand what had occurred or why, although a likely explanation is that the executions were repercussions from the incident in which the hostage, on board the Spanish ship, had pleaded unsuccessfully with the men in the canoes, who had jeered him. According to Tlingit law and custom this was a major insult to the man and his family, one for which someone would have to pay. The two men beheaded may have been either those who had insulted the hostage, or were members of their families or their slaves.

In another case, while at Port Mulgrave Captain José Bustamente went ashore, accompanied by other officers and sailors. A Tlingit picked up one of the sailors and started to carry him off. Bustamente ordered the Indian to release the sailor. He complied, but then drew his dagger and rushed threateningly towards Bustamente, who raised his unloaded shotgun. The Indian called to the others to join him in the attack; some pulled knives and surrounded the Spanish. Bustamente, however, survived to write in his diary that

The *ankau* remained aloof for some time, not wishing to show that he was an accomplice in this matter. However, in the end he decided to speak in a low voice to those most incensed to convince them or diminish their fear. Then he spread out his arms and intoned a hymn of peace. ⁶

Diaries kept by Bustamente and other members of the Malaspina expedition speak of one leader at Port Mulgrave as *ankau*, a transcription of the Tlingit *aankáawu*: a rich man or leader, perhaps the leading *hít s'atti* (house spokesman) in the summer camp. Antonio de Tova wrote in his journal that the “*ankau* was not disposed to stopping the uprising, either because he did not want to compromise his authority or he did not want to do it out of bad faith toward us.” ⁷

There is another explanation for the *ankau*'s behavior, suggested by Malaspina's mention that other Tlingit had come into Port Mulgrave from outlying settlements. The *ankau* was more than likely a house spokesman with authority only over the people of his house. He was not, as the Spanish assumed, the leader or chief of all the people. It may have been that those poised to attack were not from his house, so he may have had no authority, power or control over them. The most that he could do was to try and persuade the others to not start a fight, which he appears to have done by stretching out his arms and intoning a hymn. Fortunately, the Tlingit stepped aside and let Bustamente and his men return to their ship.



An *ankau* pleads for peace at Port Mulgrave.

Anonymous drawing and 1791 map courtesy Museo Naval, Madrid

Relations between the Spanish and Native people could be downright warm, as occurred in 1790. The commander of that expedition, Salvador Fidalgo, treated the Alutiiq Eskimos of Prince William Sound well, and in return, one of their leaders was very helpful:

The character of these people shows that they are quite vigorous, cautious, and that they do not lack courage; they are honest and obedient to their Chief; since, when I gave them to understand that I wanted them to go away to sleep, at the slightest sign from their Chief they departed. They became very friendly with the sailors, since they went to where the sailors were cutting wood, and helped them, taking the axes; and the sailors shared their Rations with them; so that I can say nothing but great good of these Natives, because they served me in whatever I needed, especially in the most northern part of the great Bay, where the Chief of the Villages of that region went as Pilot, embarking in the Launch with the Pilots Dn. Antonio Serantes and Dn. Estevan Mondofia, whom he guided very well, and showed that which one could only explore with great difficulty without a Pilot.⁸

Spaniards chat with their Tlingit hosts beside the newly-built tomb of an *ankau* at Port Mulgrave.

Detail from a drawing by José Cardero, courtesy Museo Naval, Madrid

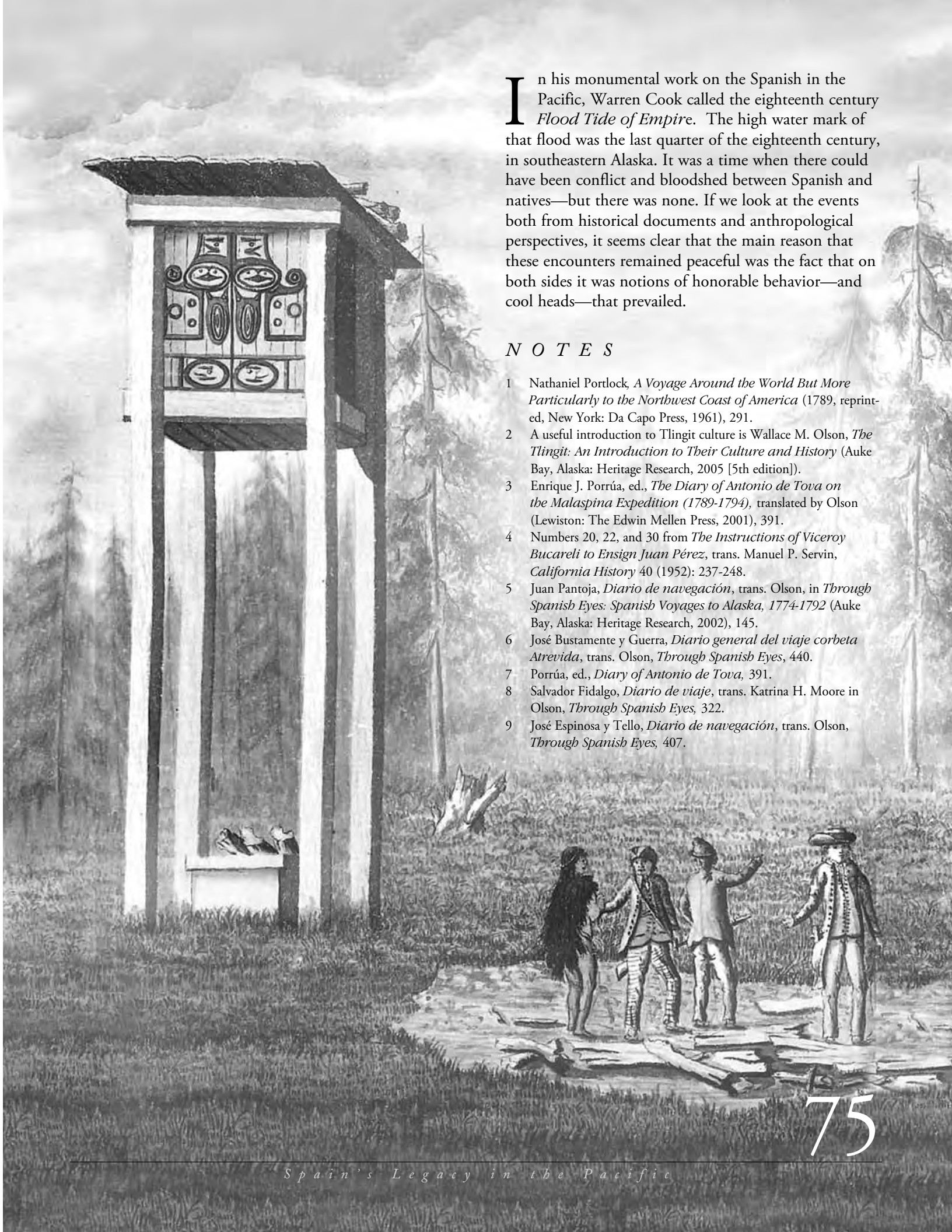
Another important facet of Tlingit culture was the degree to which women were respected. Older women, in particular, often wielded a fair amount of power and authority—and could be as belligerent as the men. For example, when the Tlingit tried to steal guns and other items from Vancouver's survey party, the British began shooting at them. Most of the Tlingit men ran away, but an old woman, who had been sitting in the stern of the canoe, kept urging them to fight.

José Espinosa y Tello described an incident which took place as Malaspina's ships were leaving Port Mulgrave, which illustrated the role of women in Tlingit culture:

We were accompanied along by some natives in their canoes, and in one of them was a woman who carried a baby girl at her breast in her arms. Out of thanks, Don Francisco Flores, our surgeon, threw her some small bells from the stern of the ship, telling her to give them to the child as decoration. He went to the quarterdeck near the gangway and turned to see the canoe, and moved by compassion repeated his presents. The woman, not being able to suppress her thanks, quickly cut in half one of the skins she was wearing, and placing it on the head of the infant as if it were in the child's name, she gave it to the surgeon. Out of gratitude, the spirit of those around was moved and they began to present her with one or the other small gifts. Rather than to accede on this occasion to the dictates of poverty, she preferred to compete with us equally in generosity, continuing her gifts to us with equal commitment, finally she was left entirely stripped of the skins that covered her.

Although the Spaniards' motives may have been mixed in this case, the woman was behaving as an honorable Tlingit. Espinosa y Tello continues, revealing something of his own culture's understanding of honor:

In the end it might be believed that we were the winners in this contest but that would be diminishing the just admiration that the conduct of this woman produced in *us*. It would seem that she not only wished to erase from our memory the little thanks that we had received from her people, but also to remind us that even in these harsh climates, that as a woman, she possessed the sweet character and kindness that distinguish her sex in all parts of the world.⁹



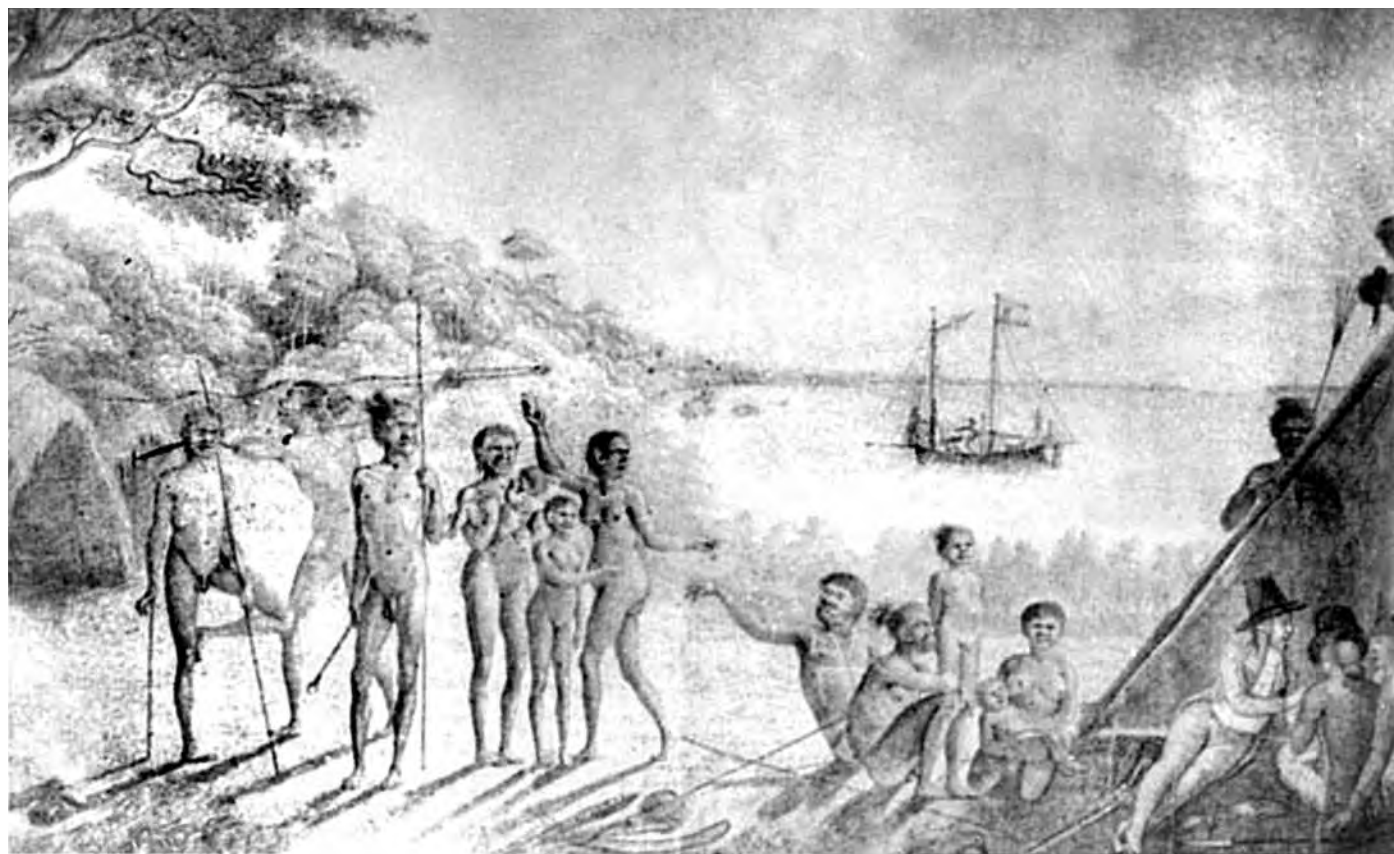
In his monumental work on the Spanish in the Pacific, Warren Cook called the eighteenth century *Flood Tide of Empire*. The high water mark of that flood was the last quarter of the eighteenth century, in southeastern Alaska. It was a time when there could have been conflict and bloodshed between Spanish and natives—but there was none. If we look at the events both from historical documents and anthropological perspectives, it seems clear that the main reason that these encounters remained peaceful was the fact that on both sides it was notions of honorable behavior—and cool heads—that prevailed.

NOTES

- 1 Nathaniel Portlock, *A Voyage Around the World But More Particularly to the Northwest Coast of America* (1789, reprint-ed, New York: Da Capo Press, 1961), 291.
- 2 A useful introduction to Tlingit culture is Wallace M. Olson, *The Tlingit: An Introduction to Their Culture and History* (Auke Bay, Alaska: Heritage Research, 2005 [5th edition]).
- 3 Enrique J. Porrúa, ed., *The Diary of Antonio de Tova on the Malaspina Expedition (1789-1794)*, translated by Olson (Lewiston: The Edwin Mellen Press, 2001), 391.
- 4 Numbers 20, 22, and 30 from *The Instructions of Viceroy Bucareli to Ensign Juan Pérez*, trans. Manuel P. Servin, *California History* 40 (1952): 237-248.
- 5 Juan Pantoja, *Diario de navegación*, trans. Olson, in *Through Spanish Eyes: Spanish Voyages to Alaska, 1774-1792* (Auke Bay, Alaska: Heritage Research, 2002), 145.
- 6 José Bustamente y Guerra, *Diario general del viaje corbeta Atrevida*, trans. Olson, *Through Spanish Eyes*, 440.
- 7 Porrúa, ed., *Diary of Antonio de Tova*, 391.
- 8 Salvador Fidalgo, *Diario de viaje*, trans. Katrina H. Moore in Olson, *Through Spanish Eyes*, 322.
- 9 José Espinosa y Tello, *Diario de navegación*, trans. Olson, *Through Spanish Eyes*, 407.

Science and Spycraft: The Malaspina Expedition in New Zealand and New South Wales, 1793

Robert J. King



The voyage of discovery led by Alexandro Malaspina was perhaps the ultimate achievement of Spain in the Enlightenment—the intellectual and humanistic movement which elevated human reason at the expense of divine revelation. Spain, following the example of Captain Cook’s England, was determined to be a “player” in expanding humanity’s shared knowledge of the globe. In contrast with the expedition’s scientific aims in New Zealand, however, its work in Australia nakedly reveals its geopolitical purpose: to counter foreign threats to “the Spanish Lake.”

—the Editors

In its July 11, 1789 issue, the London *Morning Star* reported on a Spanish expedition shortly intending to circle the globe:

The King of Spain has given orders for a voyage round the world, under the direction of the Chevalier Malaspina, an Italian, and captain of a frigate. The principal object of the voyage is to obtain exact hydrographic charts of the immense shores of the *South Sea*, and the *Archipelago* of the *Philippines*. But, desirous of seconding the efforts of other nations, in the improvement of Medicine and Natural History, as well as Geography and Navigation, the King has extended and enlarged the design of this voyage. Two vessels were ready to sail at *Cadiz*, the beginning of this month, having on board, botanists and painters, with excellent instruments for astronomy, land-surveying, and chemical experiments....Most of the shores of *Spanish America* will be run over, the lands between *Cape Horn* and *Chili*, *Pacific Ocean*, the *Marianes*, the *Carolines*, the *Philippines*; and astronomical charts made of them. The Navigators will also be employed in studying the inhabitants and natural history of each country, in the manner of Capt. Cook and M. de la Prouse.

Alexandro Malaspina's men spent the succeeding five years on their voyage, engaging mainly in these scientific activities but, importantly, in political ones too.¹ His two specially-built sloops, *Descubierta* and *Atrevida*, were named in tribute to Cook's *Discovery* and *Resolution*, and when they called at New Zealand, their purposes were likewise scientific. But once they crossed the Tasman Sea to Australia, the story was entirely different.

Malaspina indicated his intention to carry out gravity experiments at Dusky Sound in New Zealand in a letter he wrote from Acapulco in December 1791, in which he discussed his proposed itinerary.² Upon his arrival in Mexico he received a letter from Antonio Valdéz, the Spanish Minister for the Marine and the Indies. Valdéz wrote that, "As it is being endeavored in France to set up a new system of weights and measures" derived from measurements made from an absolute and constant physical feature of the earth (the oscillations of a pendulum at a specific point on the earth's surface),

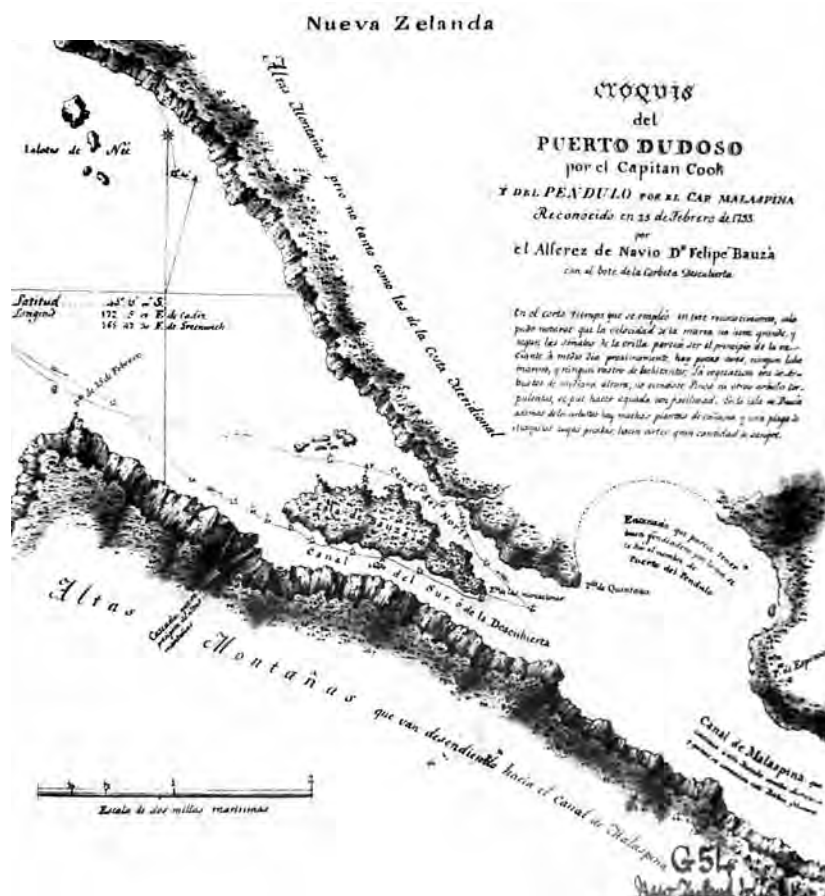
the King has judged it appropriate to take advantage of this opportunity to promote the progress of Geography and resolved that as the course of your voyage enables you to obtain information on this interesting point, you do so at convenient locations....His Majesty has resolved that the observations done at 45° South are to replicate those already carried out at the same latitude North, to link our investigations with those of the French academicians.³

The French initiative referred to by Valdéz originated with a report presented to the French National Assembly by Charles de Talleyrand on March 9, 1790, which had recommended reform and reduction to uniformity of the great confusion of weights and measures traditionally used in France.⁴ Talleyrand was also aware that the reform of weights and measures was a current issue in the young United States, and that Thomas Jefferson, former ambassador to France and current Secretary of State, was an advocate of reform. Deriving the new metric unit from a physical feature of the earth would, Talleyrand hoped, make it universally acceptable. The final result of the reformers' efforts was the creation of the metric system—although the planned experiments would prove to be a blind alley in the quest for a universal standard of measurement.

At left, artist Juan Ravenet sought to portray aboriginal Australians "in their natural environment." While this Enlightenment project in early anthropology is happening in the foreground, the *Descubierta's* launch, behind them, is charting the potential enemy territory of Botany Bay.

Courtesy State Library of New South Wales

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Puerto Dudoso was a translation of “Doubtful Harbour,” the name bestowed by Cook, who was dubious about its safety.

Courtesy Lt. Cdr. Andrew David, Councillor of the Hakluyt Society and of the United Kingdom Hydrographic Office

Back in Europe, naval officer and astronomer José Mendoza y Ríos was already working closely with the French *savants*, having been sent to France and several other European countries as leader of a delegation of Spanish officers charged with obtaining information on advances in astronomy and navigation. Valdéz said in his letter to Malaspina that it was on Mendoza’s recommendation that it had been decided to add the task of measuring the figure of the earth to the expedition’s mission. Mendoza procured in London the specially-made pendulum that Valdéz sent to Malaspina in Mexico.⁵

Anticipating his arrival in New Zealand, Malaspina wrote in his journal on February 12, 1793 that, “In a Latitude so close to that of 45 degrees as was Dusky Bay, and even more so Doubtful-Bay which I intended to examine, our Experiments must be considered to be highly useful for the proposed objective of a common measure for all the European Nations.”⁶

On February 25, 1793, the two ships of the expedition found themselves off the entrance to Doubtful Sound, but, according to ships’ officer Antonio de Tova, an island at the mouth of the Sound hid its interior from view, and “presented to our view were only two arms or channels, which appeared to lead on one side or the other into it.” He explained:

The high, steep configuration of the terrain close to the entrance, the narrowness and winding of the channels and, as well, finding no bottom after sounding to a depth of 120 *brazos* [about 120 fathoms], were reason enough to make it imprudent to attempt to enter this port, which otherwise would have been suitable because of its situation so close to the 45° parallel for conducting the experiments with the simple pendulum proposed by the Commander.⁷

On the afternoon of February 25, while *Descubierta* remained off the entrance, Malaspina sent the expedition’s cartographer, Felipe Bauzá, with the *Descubierta*’s pinnace into the Sound to survey it.⁸ Bauzá produced a fine chart of the lower parts of Doubtful Sound, assigning the name “Puerto del Pendulo” to what he thought was a deep bay but is in fact the junction of two arms with the main body of Doubtful. On modern charts this area is called Pendulo Reach. The upper part of the Sound, which he did not have time to survey, he named “Canal de Malaspina.”⁹

The place names left by Bauzá have had a long life, for his chart of Doubtful Sound became the basis for British Admiralty charts.¹⁰ The New Zealand Geographic Board has restored Spanish place-names that had been displaced by later surveyors, and today these form a unique cluster of the only Spanish names on the map of New Zealand: Febrero Point, Bauza Island and the Nee Islets, Pendulo Reach and Malaspina Reach.¹¹

In the first published report on the results of the expedition, in the *Gazeta de Madrid* of December 12, 1794, the gravitational experiments and their anticipated contribution to the establishment of a new metric system were given particular mention:

The experiments on the gravity of bodies, repeated in both hemispheres and at various latitudes, will conduce to important verifications of the non-symmetrical figure of the earth, and will be the basis of a universal, verifiable measure, as constant as the laws on which it depends, that is intended to be established in Europe.¹²

Malaspina understood that the pendulum experiments were “not only for a Regulation of Measures which would depend on the consistent Observations which would in due course be verified in Europe exactly on the Parallel of 45°, but also in order to carry on the investigations as to the true figure of the Earth in which there was suspected, not without basis, to be some variations from one Hemisphere to the other.”¹³ The observations of gravity that were made during the course of the expedition at fifteen locations in the northern and southern hemispheres enabled the voyagers to confirm that the figure of the earth was not symmetrical in both hemispheres, since it was possible to detect with the pendulum a stronger gravitational pull in the south. This finding invalidated the premise which underlay the French decision to derive the universal measure from an arc of the Meridian of Paris, based on their assumption that it was exactly the same as every other meridian of the earth.¹⁴

The visit of the Malaspina expedition to New Zealand was driven purely by scientific motives. The expedition’s visit to the English colony in New South Wales, however, was inspired by other reasons which had more to do with the broader political and strategic considerations which underlay the venture.

In April 1793, Thaddeus Haenke, the expedition’s naturalist, wrote a letter to Sir Joseph Banks, the famed botanist who had journeyed with Cook. Writing from Sydney Cove in Port Jackson, New South Wales, Haenke reported that, “On the eleventh of March 1793, having been driven away from New Zealand by an extraordinary storm, we beheld with unanimous delight the coast of New Holland.”¹⁵ The following day *Descubierta* and *Atrevida* anchored in Sydney Cove, where they stayed from March 13 to April 12, 1793. In an oddity of imperial timekeeping, Malaspina and the English assigned differing dates to the arrival and departure of the expedition, because Malaspina did not adjust his timekeeping to take account of the hours his expedition had been accreting (at the rate of four minutes of the day for every degree of longitude he had sailed through) since he began his westward voyage from Cádiz. As he sailed back eastward across the South Pacific his “error” corrected itself, and by the time he reached Peru he was again in concordance with the local date. In the days before such a convention as the International Date Line, the Philippines, as a dependency of New Spain, kept the same date as México, and hence was a day behind Sydney.

At the time of the visit of the Malaspina expedition to New South Wales, the Acting Governor of the five-year old colony was Major Francis Grose. He had seen service in America during the Revolution, where he was present at the battle of Bunker Hill, and was wounded at the storming of Fort Montgomery and at Monmouth Court House.¹⁶ Grose may have read the

description of the purposes of the Spanish expedition in *The Morning Star* of July 11, 1789, which had been drawn from a letter Malaspina had written to Sir Joseph Banks in January 1789.¹⁷ He wrote again to Banks (in English) in July 1789:

Our Charts of the European Spanish Coasts, and the publication of our last Expeditions to the Straights of Magellan may be a warrant, that Spain is so much interested at this time in the improvement of public knowledge, as any other European Country, and the Plan of this Voyage will shew to the Public, that all Misterious Systems are over....and that the Sciences are the constant object of the King's Protection."¹⁸

Malaspina's disclaimer that "all Misterious Systems are over" and that the objects of the expedition were purely scientific ignored the fact that his plan for the voyage specifically proposed that the expedition investigate and prepare a confidential political report on the English colony at Botany Bay.¹⁹

The coincidence is striking between the scope and objectives set out in the plan and followed in the voyage, and those set out two years earlier in a memorandum from the military governor of Concepción in Chile, the Irish-born Ambrosio Higgins. In particular, Higgins's concern to prevent foreign encroachment on Spanish dominion in the Pacific was paralleled in the plan by the proposal to investigate and prepare confidential political reports on the English settlements that were being formed there. Higgins was stimulated to write his memorandum by the visit of the expedition of the French explorer Jean Francois de La Pérouse to the Chilean coast in March 1786. Reflecting on the circumstances that had led to the French expedition, Higgins had strongly recommended to his superiors in Lima and Madrid that the Spanish Government send out an expedition similar to those of Cook and La Pérouse.²⁰

In February 1787, just a few months after Higgins sent off his memorandum and while he was still military governor at Concepción, Alexandro Malaspina had called there in command of the frigate *Astrea* in the course of a voyage to Manila under charter to the Royal Philippines Company.²¹ This voyage was one of two that had the aim of determining whether the best direct route to the Philippines from Spain was by way of Cape Horn or by sailing around the Cape of Good Hope. Malaspina was nominated to command the *Astrea* in June 1786, and carried out the voyage to and from the Philippines for the Company, going out by the Cape Horn route and returning to Spain by the Cape of Good Hope.²² Presumably during the stay at Concepción, Higgins and Malaspina discussed the concept which, following the *Astrea's* return to Spain, led to the production in September 1788 of Malaspina's proposal for an expedition along the lines set out in Higgins' memorandum.

On October 14, 1788, Minister Valdéz wrote to Malaspina informing him of the Government's acceptance of his plan; its adoption within such a short time indicates how well it fitted Government priorities that had already been decided. Confirmation of the influence of Higgins's memorandum on the Government comes from José de Espinosa y Tello, the hydrographer with the Malaspina expedition. In a memorandum on Spanish voyages to the Northwest coast of America he had prepared in 1791 prior to leaving Spain to join the expedition in México, Espinosa stressed the importance of the information sent by Higgins in stimulating the Government to initiate an extensive program of exploration in the Pacific.²⁵



Vista de la Colonia Inglesa de Sydney en la Nueva Gales Meridional.

The inclusion of the proposal to prepare a confidential political report on the English settlement at Botany Bay in Malaspina's plan was prompted by a memorandum on the new colony from one of Malaspina's fellow naval officers, Francisco Muñoz y San Clemente. Muñoz had commanded a frigate under charter to the Philippines Company on a voyage to the Philippines from Spain by way of the Cape of Good Hope, intended to complement Malaspina's voyage in the opposite direction in the *Astrea*. After his return from his voyage, Muñoz went to Madrid. Malaspina was in Madrid to prepare and present his plan at the same time Muñoz was there.²⁴ It was during this time that Muñoz wrote and submitted his memorandum on the English colonization of New South Wales. Muñoz's memorandum, which foreshadowed many of the points that Malaspina would make in his own report on the English colony, considered the advantages which settlements in New South Wales offered to the English, such as enhancing their lines of communication by sea between the new colony and India, China, the Philippines and South America. He also indicated the dangers that it posed to Spanish possessions in peacetime, due to the development of contraband commerce, and in wartime, as a base for British naval operations. He concluded with a warning:

The colonists will be able to fit out privateers so as to cut communication between the Philippines and both Americas; they will think perhaps of extending their possessions, or they may influence some revolution which will diminish ours....In sum, it all announces to us ill consequences for the future, worthy of occupying all the attention of our Government in order to forestall them in good time.²⁵

Apart from Muñoz's treatise, comment on the Botany Bay project published in the English press should have aroused Spanish curiosity and suspicions. The *Gazeta de Madrid* carried reports from the English press on the projected colony. An article that appeared in a number of London newspapers in mid-October 1786 said:

On the peninsula behind the ship at center (some decades after this drawing was made), the city of Sydney built an opera house.

Drawing by Fernando Brambila, courtesy Museo Naval, Madrid

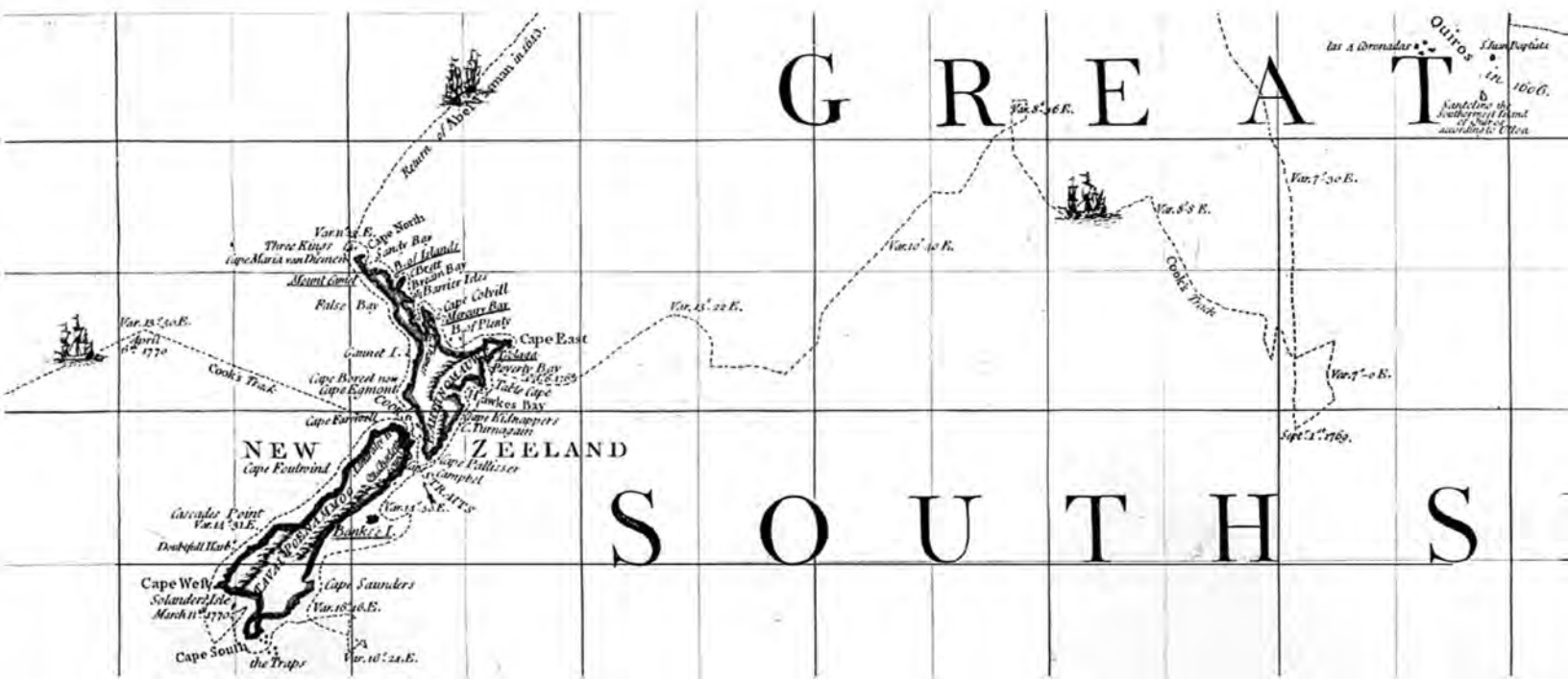
When this colony from England is established, if we should ever be at war with Holland or Spain we might very powerfully annoy either State from the new settlement. We might....invade the coast of Spanish America, and intercept the Manila ships. Thus this check would, in time of war, make it a very important object, when we view it in the chart of the world with a *political eye*.²⁶

This article was, in fact an excerpt from the proposal drawn up by James Matra under the guidance of Sir Joseph Banks for the formation of a colony in New South Wales that had formed the basis of the British Government's plan for colonization.²⁷

The memorandum from Muñoz, together with the reports from the Spanish Ambassador in London, presented irrefutable reasons for Spain to send her own observers to obtain firsthand, accurate information on the colony.²⁸

By the time the expedition left the Philippines in late 1792, Malaspina had learned that a second English settlement had been formed on Norfolk Island.²⁹ The island had been seen in England as a hoped-for provider of naval timber and flax for cordage and sailcloth, an alternative to the Russian flax upon which the Royal Navy was wholly dependent.³⁰ Malaspina intended to visit Norfolk Island during the run from the Philippines to New Zealand which, as Antonio de Tova recorded in his journal, "would have satisfied our curiosity concerning the progress of the settlers that the English had sent there from Botany Bay," but adverse winds prevented the expedition's ships from approaching the island.³¹

On Tuesday, March 12, 1793, the signal was made at the South Head entrance to Port Jackson for the arrival of the *Descubierta* and *Atrevida*. Major Grose at once sent a captain of the New South Wales Corps in a launch to greet the vessels and assure their commanders of his offer of every assistance the colony afforded.³² Grose and his officers made the visitors welcome, and Thaddaeus Haenke gave a summary of his own and his colleagues' activities during the expedition's visit in his previously cited letter to Sir Joseph Banks. He wrote:





When Malaspina sailed in 1789, revolution was beginning to unravel Europe's old fabric of power and reason. Unluckily for his hopes to leave a legacy like Cook's, Malaspina and Haenke (opposite) returned to Europe during the Napoleonic Wars. Political machinations prevented some of their achievements from becoming known for almost two centuries.

Courtesy Museo Naval, Madrid

Following his visit, Malaspina prepared his confidential report on the English colony. Although Muñoz is not mentioned in it, Malaspina's report addresses the concerns regarding the colony that Muñoz raised in his memorandum of 1788. Norfolk Island, Malaspina said, did "not merit the least attention politically" because of its very small size and lack of an anchorage for ships, which made it "worthless for any scheme." However, he wrote colorfully of the "terrible" future danger for Spain from the English colony at Port Jackson,

from whence with the greatest ease a crossing of two or three months through healthy climates, and a secure navigation, could bring to our defenceless coasts two or three thousand castaway bandits to serve interpolated with an excellent body of regular troops. It would not be surprising that in this case—the women also sharing the risks as well as the sensual pleasures of the men—the history of the invasions of the Huns and Alans in the most fertile provinces of Europe would be revived in our surprised colonies....The pen trembles to record the image, however distant, of such disorders.

While recognizing the strategic threat it posed to Spain's Pacific possessions in time of war, Malaspina wrote: "It is not the concern of these paragraphs to demonstrate in detail the many schemes for these projected plundering raids, so much as the easiest ways of preventing them." He preferred the peaceable approach of drawing attention to the commercial opportunity the new colony offered for a trade in food and livestock from Chile and the development of a viable trade route linking that country with the Philippines. He proposed that an agreement be signed with London for an Association of Traders, and for an agent of the colony to be resident in Chile. Conscious that the policy he was proposing was a bold and imaginative one in the face of Spain's traditional insistence on a national monopoly of trade and other relations within her empire, Malaspina declared that "this affair is exceedingly favourable to the commercial balance of our Colonies," and would have the advantage of calming and tranquilizing "a restless, turbulent and aggressive neighbour....not with sacrifices on our part but rather with many and very considerable benefits."³⁶

Despite these sentiments, Malaspina took the precaution after leaving Port Jackson of going to Vavao (Vava'u) in the Friendly Islands (Tonga) to take possession of it in the name of the King of Spain and the Indies.³⁷ Apart from the act of possession performed at Mulgrave Sound, Alaska, which was intended to consolidate Spain's claim to the Northwest Coast, this was the only territorial acquisition made in the course of the expedition's voyage. The strategic location of Vava'u as a base for blocking hostile operations from New South Wales in time of war was probably the motive for taking possession of it, but no action was taken subsequently by the Spanish Government to consolidate the claim or even endorse it.³⁸

Malaspina was aware that a British proclamation in 1788 claimed that the Friendly Islands, New Zealand and all the islands of the South Pacific were under the jurisdiction of the Governor of New South Wales. This vast territorial aggrandizement revealed, wrote Malaspina in his confidential report, "the real intentions of the British Government."

The Malaspina expedition arrived in New South Wales representing an empire on the defensive and on the point of decline, and encountered there an advanced post of the rising British empire. Malaspina's report

on the colony underlines this geo-strategic development of the last decade of the eighteenth century. Thaddaeus Haenke ended his letter to Sir Joseph Banks from Sydney Cove with a conclusion that must have gladdened the heart of that patrician scientist. Writing in the spirit of “Enlightened” goodwill and scientific cooperation between the powers of Europe, Haenke spoke glowingly to Banks (who had given the colony an official motto that made reference to the foundation of Rome) of the English colonists:

A Nation renowned throughout the world, which has left nothing untried, will also overcome . . . by the most assiduous labour and by its own determined spirit the great obstacles opposing it in the foundation of what may one day become another Rome.³⁹



NOTES

- 1 The Italian Malaspina usually signed himself “Alexandro,” an advantage to him in being pronounceable in both Italian and Spanish (in which his name is rendered “Alejandro”). A true citizen of the Enlightened world, he signed a letter to William Parsons, cited below, as “Alexander.” On the naming of his ships in homage to Cook, see Fermín del Pino Díaz, “Los estudios etnográficos y etnológicos en la expedición Malaspina,” *Revista de Indias* 42, nos. 169-170 (July/Dec. 1982): 407-8.
- 2 Malaspina to Paolo Greppi, 20 December 1791, in Dario Manfredi, *Alessandro Malaspina e Fabio Ala Ponzzone: Lettere dal Vecchio e Nuovo Mondo (1788-1803)* (Bologna: Il Mulino, 1999), 294.
- 3 Letter of Valdéz to Malaspina, 22 December 1790, accompanying the pendulum he sent Malaspina care of José de Espinosa y Tello and Ciriaco Ceballos, Archivo General de Marina (Madrid), Sección Histórico, legajo 45: quoted in Enrique J. Porrúa, ed., *The Diary of Antonio de Tova on the Malaspina Expedition, 1789-1794* (Lewiston, Queenston, Lampeter: The Edwin Mellen Press, 2001), 453. I am grateful to Enrique Porrúa for personally providing me with this and the other extracts cited, which I have translated from the Spanish.
- 4 Talleyrand emphasized that it was necessary for a perfect solution to the problem that the basic standard to be adopted should be referable to an invariable model taken from nature, which could be returned to in case the standard needed to be checked or altered at some future time. Talleyrand gave preference to that which consisted of taking “for the elemental measure, the length of the simple pendulum at seconds in the latitude of 45°. . . as being the mid-term between the Equator and the Pole.” “Proposition sur les poids et mesures faite à l’Assemblée nationale, par M. de Talleyrand-Périgord, évêque d’Autun,” *Archives Parlementaires* (9 Mars 1790), 106-108.
- 5 Valdéz to Malaspina, 22 December 1790; cited in Porrúa, *Diary*, 453. Valdéz to Aranda, 15 April 1792, Museo Naval, Madrid, legajo 2294, doc. 1; cited in Antonio E. Ten, “El sistema métrico decimal y España,” *Arbor*, 134 (1989): 109-10. Juan Vernet Gines, *Historia de la ciencia española* (Madrid, 1978), 160, 172.
- 6 Ricardo Cerezo Martínez and Carmen Sanz Alvarez, *La Expedición Malaspina, 1789-1794*, Tomo II, *Diario General del Viaje por Alejandro Malaspina* (Barcelona y Madrid: Museo Naval, Ministerio de Defensa y Lunwerg, 1990), 2:164; Andrew David, Felipe Fernández-Armesto, Carlos Novi, Glyndwr Williams, *The Malaspina Expedition, 1789-1794: The Journal of the Voyage by Alejandro Malaspina* (London and Madrid: Hakluyt Society, in association with the Museo Naval, 2004), 3:55.
- 7 Porrúa, *Diary*; Lorenzo Sanfeliú Ortiz, *62 Meses A Bordo: La expedición Malaspina según el diario del Teniente de Navío Don Antonio de Tova Arredondo, 2.º Comandante de la “Atrevida” 1789-1794* (Madrid: Biblioteca de Camarote “Revista General de Marina,” 1943; Editorial Naval, 1988), 242.
- 8 Robert McNab, *Muribiku and the Southern Islands* (Invercargill, New Zealand: William South, 1907), 49-56.

- 9 In his journal, Malaspina recorded that he assigned the name “Puerto del Pendulo” to the area below Bauza Island, which he called “Isla de el Medio,” and called the upper part of the Sound “Canal Escarpado.” Bauzá’s “Puerto del Pendulo,” he called “Puerto de Bauzá.” David et al., *Malaspina Expedition* 3 (2004): 59.
- 10 In 1797, Bauzá was appointed Sub-Director of the Dirección de Hidrografía in Madrid, and from 1815 he was its Director, but in 1823 was forced by political turmoil in Spain to flee to England, where he died in 1834. In England, he worked with the Hydrographic Office. Andrew David, “Felipe Bauzá and the British Hydrographic Office, 1823-1834,” in Mercedes Palau Baquero and Antonio Orozco Acuaviva, eds., *Malaspina 92: I Jornadas Internacionales - Madrid, Cádiz, La Coruña. 17-25 de Septiembre de 1992* (Cádiz: Real Academia Hispano-Americana, 1994), 235-242.
- 11 John Hall-Jones, *Doubtfull Harbour* (Invercargill, New Zealand: Craig Printing, 1984 and 1988 supplement); *idem*, *The Fiords of Fiordland* (Invercargill, New Zealand: Craig Printing, 2002).
- 12 *Gazeta de Madrid*, 12 de Diciembre de 1794. It is curious that the article said that the gravity experiments would be the basis of a universal standard. That was thought to be the case when Valdéz sent the pendulum to Malaspina in December 1790, on the basis of the resolution of the French National Assembly of May 8, but on March 26, 1791 the Assembly adopted as the criterion for the universal measure one ten-millionth the distance from the Pole to the Equator as determined by extrapolation from the measurement of an arc of the Meridian of Paris between Dunkirk and Barcelona, which led to the adoption of the meter. *Archives Parlementaires*, 9 Mars 1790, 106-108; 8 Mai 1790, 438-440; *Le Moniteur Universel*, 30 Avril et 10 Mai 1790; cited in Ken Alder, *The Measure of Things: The Seven Year Odyssey That Transformed the World* (London: Little, Brown, 2002), 90-99.
- 13 Ricardo Cerezo Martínez and Carmen Sanz Alvarez, *La Expedición Malaspina*, Tomo II, *Diario General*, 1:271; David et al., *Malaspina Expedition* (2003) 2:66.
- 14 Ciriaco Cevallos to Félix de Tejada, Inspector General de Marina, 28 November 1795, Archivo Naval (Madrid), MS 2296, fol. 228; cited in Virginia González Claverán, *La Expedición Científica de Malaspina en Nueva España, 1789-1794* (Mexico City: El Colegio de México, 1988), 271. The results were published in Josef Espinosa y Tello, *Memorias sobre las Observaciones Astronómicas, Hechas por los Navegantes Españoles en Distintos Lugares del Globo* (Madrid: Imprenta Real, 1809), 1:190-212, “Experiencias sobre la gravedad hechas con un péndulo invariable en ambos hemisferios en la expedición del mando de Don Alexandro Malaspina, calculadas por Don Gabriel de Ciscar.”
- 15 Haenke to Banks, “die 15 Aprilis 1793,” Staatsbibliothek zu Berlin—Preußischer Kulturbesitz (Sig: Sammlung Darmstädter Amerika [2]: Haenke); Victoria Ibáñez and Robert J. King, “A Letter from Thaddeus Haenke to Sir Joseph Banks, Sydney Cove, 15 April 1793,” *Archives of Natural History* 23, no. 2 (1996). The date appears to be a mistake, as the expedition departed Port Jackson on 12 April (local time), the day the letter was apparently written. Dr. Bernd Michael, of the Handschriftenabteilung, Staatsbibliothek zu Berlin, has examined the original manuscript and confirmed that Haenke dated it “die 15 Aprilis 1793,” and that it bears the date of receipt “22 march 1794” written in the margin in another hand (Banks’s?).
- 16 B. H. Fletcher, “Francis Grose,” *Australian Dictionary of Biography, 1788-1850*; Manning Clark, *A History of Australia* (Melbourne, 1962), 1:132-3.
- 17 British Library, Add. MS 8097:216-20.
- 18 Letter in private possession; drawn to the attention of the author by Robin Inglis.
- 19 The reasons were not discussed in the plan, apparently on the assumption that they were sufficiently understood by Antonio Valdéz, the Minister for the Marine and the Indies, to whom it had been submitted. “Plan de un Viage Centífico y Político alrededor del Mundo, 10 September 1788,” Museo Naval (Madrid), MS 316; quoted in Ricardo Cerezo Martínez, *La Expedición Malaspina, 1789-1794*, Tomo I, *Circunstancia histórica del viaje* (Barcelona y Madrid: Museo Naval, Ministerio de Defensa y Lunewerg, 1987), 138-9.
- 20 Higgins signed himself “Ambrosio Higgins,” but his Spanish-speaking contemporaries spelled his name in a bewildering variety of ways. From this perplexing variety, the Royal bureaucracy in 1795 chose the grandiloquent “O’Higgins” for the citation of ennoblement when he was raised to the peerage, after which date he was O’Higgins in public documents. His son Bernardo O’Higgins became a leader in the Chilean independence movement. See Higgins to Sonora, 20 July 1786, Archivo Histórico Nacional (Madrid), Estado, legajo 4289; also at Archivo Nacional de Chile, *Fondo Vicuña Mackenna*, vol. 304, D, fols. 5-26. Published in *Revista chilena de historia y geografía*, 107 (1946): 387-401. Higgins to Valdéz, 2 August 1788, Archivo Nacional de Chile, *Fondo Toribio Medina*, vol. 204; cited in Ricardo Donoso, *El Marqués de Osorno: Don Ambrosio Higgins* (Santiago, 1942), 122.
- 21 Dario Manfredi, *Il Viaggio Attorno al Mondo di Malaspina con la Fregata di S.M.C. “Astrea,” 1786-1788* (La Spezia: Memorie della Accademia Lunigianese di Scienze “Giovanni Capellini,” 1988), 71.
- 22 José de Gálves to Antonio Valdéz, 23 August 1785, Archivo Naval de Bazán; cited in Manfredi, *Viaggio Malaspina*, 26. *Gazeta de Madrid*, 13 de Julio de 1787, 28 de Marzo de 1788, 23 de Mayo de 1788.
- 23 “Noticia de las principales expediciones hechas por nuestras pilotos del Departamiento de San Blas al reconocimiento de la costa noroeste de America, desde el año de 1774 hasta el 1791, extractada de los diarios originales de aquellos navegantes,” Novo y Colson, *Viaje*, 428; cited in Warren L. Cook, *Flood Tide of Empire* (New Haven: Yale University Press, 1973), 115. See also Inglis, “The effect of Lapérouse on Spanish thinking about the Northwest Coast,” in *idem*,

24 “Muñoz and the amiable Greppi are yet in Madrid.” Malaspina to William Parsons, Cádiz, 13
July 1789; in private possession; drawn to the attention of the author by Inglis.

25 “Reflexiones sobre los establecimientos Ingleses de la Nueva Holanda,” San Ildefonso, 20
de septiembre 1788; copy made by Felipe Bauzá y Cañas in British Library; *Additional
Manuscript* 19254; another copy in Biblioteca de Palacio (Madrid), *Miscelanea de Ayala*,
42, fols. 259-75, made by Felipe Bauzá y Cañas, and by the British Museum from Bauzá’s
estate in 1848; translated in King, “Francisco Muñoz y San Clemente and his Reflexions on the
English Settlements of New Holland,” *British Library Journal* 25, no. 1 (1999).

26 *The General Evening Post* of October 10-12, and in other London newspapers on October
13, 1786: *The London Chronicle*; *The Morning Chronicle*; *The Whitehall Evening Post*;
The Morning Post; and *The Daily Universal Register*, 14 October 1786.

27 Matra’s Proposal, Public Record Office, CO 201/1, fols. 57-61; British Library Add. MS
47568, fols. 240-6.

28 Campo to Floridablanca, 4 June 1788, Archivo General de Simancas, Estado, legajo 8145; also
at Museo Naval (Madrid), MS 475, fols. 280-304; quoted in Juan Pimentel, *En el Panóptico
del Mar del Sur: Orígenes y desarrollo de la visita australiana de la expedición
Malaspina (1793)* (Madrid: Consejo Superior de Investigaciones Científicas, 1992), 50-51.

29 Porrua, *Diary*, 481. Sanfeliú, 62 *Meses*, 244.

30 King, “Norfolk Island: Phantasy and Reality, 1770-1814,” *The Great Circle* (Journal of the
Australian Association for Maritime History) 25, no. 2 (2003): 20-41.

31 Porrua, *Diary*, 473.

32 David et al., *Malaspina Expedition* 3 (2004), 67-70.

33 Duke of Leeds to Merry, 2 February 1790, Public Record Office, London, FO 72/16, fols.
87-88.

34 Revillagigado a Malaspina, 19 de enero de 1791, Museo Naval (Madrid), MS 280, fols. 9-11v,
cited in González, *La Expedición Científica*, 96; “An Australian Perspective on the English
Invasions of the Rio de la Plata in 1806 and 1807,” *Sabretache* 44, no. 2 (June 2003): 37-53.

35 Fitzherbert to Leeds, 16 June 1790, British Library Add. MS 28066, fols. 27-28; quoted in V.
T. Harlow, *The Founding of the Second British Empire* (London: Longmans, 1964) 2:634.

36 “Examen Politico de las Colonias Inglesas en el Mar Pacifico,” Museo Naval (Madrid), MS 329,
fols. 57-88v; MS 318, fols. 11-37v (copy by Bauzá); British Library *Additional Manuscript*
17624 (also Bauzá’s copy); Juan Pimentel, *La Expedición Malaspina, 1789-1794*, Tomo
VII, *Descripciones y Reflexiones Políticas* (Barcelona y Madrid: Museo Naval, Ministerio
de Defensa y Lunweg, 1996), 217-236; also in Pimentel, *Panóptico*; trans. King, *The Secret
History of the Convict Colony: Alexandro Malaspina’s Report on the British Settlement
of New South Wales* (Sydney: Allen & Unwin, 1990).

37 David et al., *Malaspina Expedition*, vol. 3, 2004, 98 and 143.

38 Robert Langdon, “They Came to Spy on Sydney,” *Sydney Morning Herald*, 7 April 1962.
John Kendrick, *Alejandro Malaspina: Portrait of a Visionary* (Montreal and Kingston:
McGill-Queen’s University Press, 1999), 77.

39 The motto is “Sic fortis Etruria crevit” (“So strong Etruria grew,” from Virgil’s *Second
Georgic*). Robert J. King, “Etruria: The Great Seal of New South Wales,” *Journal of the
Numismatic Association of Australia* 5 (October 1990).

Courtesy Michael Stone



Most people's mental image of Spain in the Pacific is that of the arrogant *conquistador*, sword in hand for "God, Gold, and Glory." This article challenges that image by showing that the Spanish at many levels could show compassion, and embody the new Enlightenment faith that science could make life better.

—the Editors

Arms Around the World: The Balmis Medical Expedition in Asia, 1805-1807

Thomas B. Colvin



In response to a smallpox outbreak in Perú in 1802, King Charles IV, whose own family had been touched with death and disfigurement from smallpox, asked his advisers what might be done. Between December 1802 and the following July an audacious plan emerged, whose chief architect was the forty-eight-year-old physician to the Royal Court, Dr. Francisco Xavier Balmis, of Alicante. Word about the newly discovered smallpox vaccine had spread quickly throughout Europe upon its publication by English doctor Edward Jenner in 1798. Jenner reported that cowpox, a related disease found in cows but relatively innocuous in humans, yielded fluid that provided immunity from smallpox when it was transferred to human skin.¹ Samples of this vaccine had arrived in Spain, and the King's advisers proposed that the vaccine be transported throughout the Spanish colonies—all the way to Asia.

In 1803, that was no easy task. Efforts to transport the vaccine in dry form or sealed between glass slides were proving ineffective over long distances, especially under

hot conditions. By 1802, the vaccine had reached India, but mostly over short distances in relay-fashion, passed by one doctor to another, its transport motivated primarily by the needs of the British military. Jenner himself had tried to send the vaccine by sea, but failed until he succeeded in sending the vaccine direct to Ceylon in 1803, utilizing troops aboard ship as human carriers.

Balmis proposed a similar strategy, but on an unheard-of scale. Spanish orphan boys, properly supervised, could carry live vaccine to distant colonies in their arms. First, two boys would be vaccinated, in case one did not develop symptoms. After nine days, both would probably develop symptoms as the cowpox virus matured within the boys' fluid-filled sores. At that point, the sores would be pierced and virulent fluid passed on to two more boys, whose arms were scratched with a clean needle to receive the vaccine.

On September 1, 1803, the King issued a royal order announcing a global medical expedition. It ordered his subjects to vaccinate as many children as possible of all classes (particularly including *Indios*), to train doctors how to safely perform vaccinations and how to preserve the fluid over time, and to set up a central board in each

country to oversee the vaccination program over coming decades. ²

Expedition Director Balmis quickly assembled his team. He also recruited twenty-two Spanish orphans, aged three to nine, as well as Isabel Cendala, rectress of the La Coruña orphanage on the coast of Spain's northwestern province of Galicia. Florence Nightingale is celebrated as the first international female nurse for her efforts in the Crimean War, but Isabel Cendala preceded her.

The expedition departed La Coruña on November 30, 1803 on the *Maria Pita* and proceeded to the Canary Islands, Puerto Rico, and then on to Venezuela, where the expedition divided into two components. One division headed into inland South America under the leadership of the expedition's assistant director, Dr. José Salvany, while Balmis led the remainder to Cuba, Guatemala, New Spain and, eventually, Asia. The Asian leg of the Expedition has never been systematically investigated by historians, but its story is a fascinating one. ³

Gathering the Boys

To carry the vaccine across the Pacific from New Spain, Balmis needed more children. Thus, in early November 1804, he set out to spread the vaccine across the highlands of New Spain and to gather his troop of children. Dr. Balmis was received with enthusiasm. When he arrived in the mountain mining city of Zacatecas, for example, he was accorded the honors and adulation which he had come to expect: an official greeting at the outskirts of town, triumphal procession into the town center itself, and official endorsements by local leaders and priests. *Te Deum* was sung in celebratory masses, and marching bands and fireworks heralded their arrival.

Zacatecas town officials presented Dr. Balmis with his first contingent of boys, all aged six and younger. Instead of orphans, Balmis's new recruits were children still living with their parents.⁴ All had been born after the major smallpox epidemic of 1797, which assured that none had been exposed to the disease and so would very likely be susceptible to the vaccine.⁵

One can only speculate about the teary farewells that must have been said by parents unsure if they would ever see their boys again. By late January, 1805, their mule train had climbed the last mountain on the arduous road to Acapulco. They made an unusual sight as they descended to the port; across the backs of the mules were slung specially-made saddlebags for carrying a boy on each side. ⁶

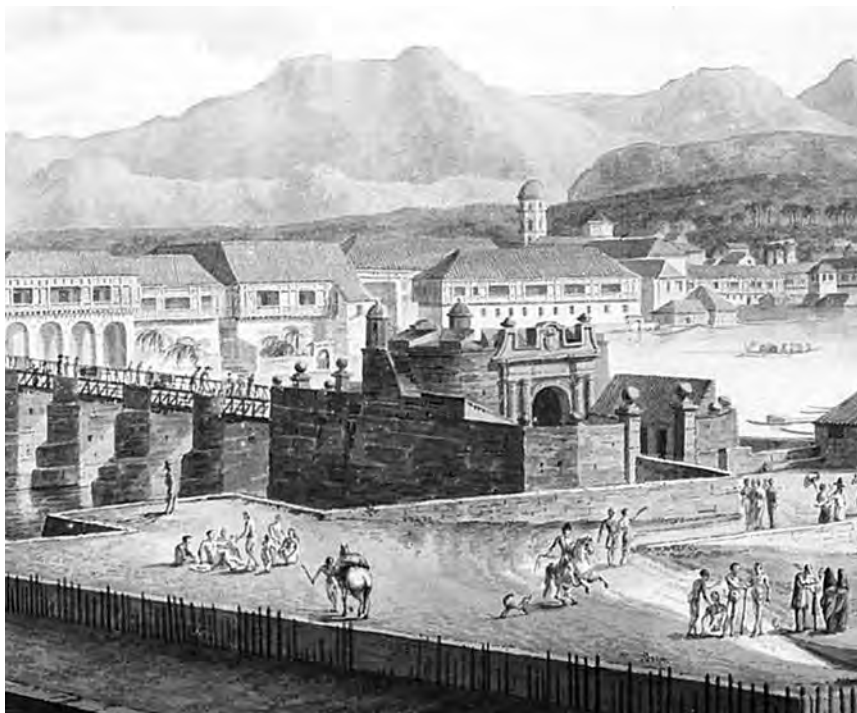
When their galleon, the *Magallanes*, set sail for Manila on February 8, she was so overbooked with passengers that forty European criminals, bound for banishment in the Philippines, had to be left behind. ⁷ The expedition's staff of six and twenty-six boys joined seventy-seven priests destined for posts in the outlying Philippine provinces, plus fifty-four soldiers sailing to protect the islands from a feared impending war with England, along with three of their wives and sixteen relatives. Together with the ship's ten officers and a crew of over two hundred, the *Magallanes* was carrying over 390 people.

Balmis was appalled at the arrangements which Captain Angel Crespo provided for the boys aboard the crowded ship. ⁸ Not only was the boys' food inadequate to maintain their health, there were no separate beds, and no ventilation, as requested. Instead they were forced to sleep together on the floor in the powder magazine, far belowdecks. These sleeping arrangements nearly led

Little-remembered today, Balmis once embodied Spain's merciful side.

Statue in Acapulco, courtesy of the author

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The expedition's members were quartered here in Binondo, across the river from the Spanish enclave of Intramuros.

1791 drawing from the Malaspina Expedition courtesy Museo Naval, Madrid

to disaster when a single night of tossing and turning unintentionally spread the cowpox virus, and thus the vaccine, to seven boys at once. The Expedition's margin of error had vanished, literally overnight; any unforeseen delays in the voyage would jeopardize the success of the expedition if it ran out of boys to carry the live vaccine. Fortunately, the *Magallanes* made very good time across the Pacific, sailing into Manila Bay on the propitious day of Easter Sunday, April 15, 1805.

The Expedition in the Philippines, Phase One

As the Court physician, personal representative of the King, and director of an epochal expedition, Balmis naturally expected a major reception when he arrived in Manila. No one, however, greeted him. Governor General Rafael Aguilar was distracted by other concerns. British warships were lurking in Philippine waters, and Aguilar feared another British assault on Manila, similar to the disaster of 1762.⁹ Furthermore, *Moro* pirates had increased their raids into the Visayas Islands and even into the main island of Luzon itself, taking hundreds of captives and burning villages.¹⁰ Most damaging of all, the galleon had failed for the third year running to bring the annual *situado*, the subsidy on which the colony's welfare depended.¹¹

Over the next few months, Balmis wrote several complaining reports back to Spain, which have formed the basis of previous accounts of the Expedition's troubled experience in Asia.¹² Recently uncovered documents, however, paint a different picture, one colored by the swirling events of the period.

While it is true that Governor Aguilar failed to greet the expedition's arrival with a major public reception, he did, however, invite Balmis immediately to vaccinate his own five children.¹³ As he watched the positive results in his own family, any reservations he may have had about this unfamiliar medical innovation evaporated.

Within three weeks, Aguilar was writing very positive memos about the expedition to government and ecclesiastical officials. In mid-May, he issued orders accepting the *reglamentos* for a central vaccination board proposed by Balmis. Even Archbishop-elect Juan Antonio Zuliabar, who had arrived in the Philippines a few months before, and who was reportedly hostile to the expedition, issued a directive to his priests lauding its work. Aguilar soon appointed a pair of local doctors to supplement Balmis's efforts and undertake extensive vaccinations in Manila and its environs.¹⁴

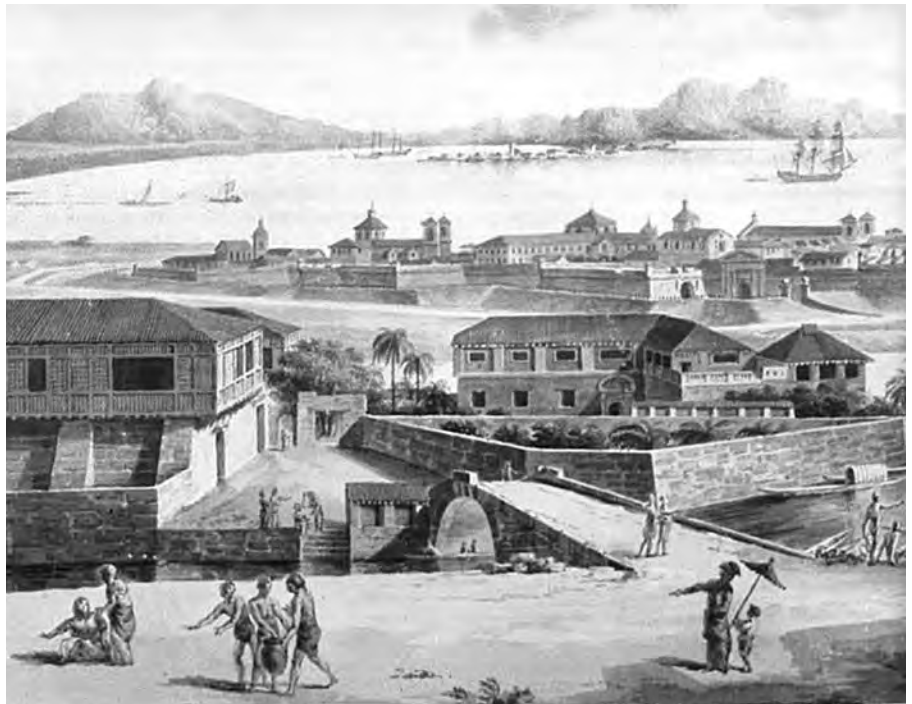
Despite the Governor's growing support, Balmis complained about "dirty

and miserable” lodgings. In the Canaries and New Spain they had been housed in the villas of local nobility, but in Manila they were apparently housed not in the Spanish enclave of Intramuros but across the river in the bustling suburb of Binondo, with its ground-floor shops and second-story residences of Chinese merchants.¹⁵

At any rate, the expedition was well fed; authorities provided bread, meat, milk, fish, vinegar, eggs, rice, tomatoes, bananas, and chocolate, along with wine for the adults and sweets for the boys. They were also given a full compliment of servants.¹⁶ Balmis and government officials alike expected the expedition to wrap up its work in the Philippines by the end of June, with staff and boys returning aboard the galleon to Acapulco. Instead, the difficulties increasingly plaguing all of Spain’s colonies began to intervene. The *Magallanes* was in no condition to sail, and had to be sent across the bay to the Cavite shipyards for repairs.¹⁷ Moreover, despite numerous official letters to the Viceroy in New Spain pleading for shipbuilding funds, no replacement had been provided for the galleon *San Andres*—the “backup” ship that normally sailed the same route as the *Magallanes*—since it sank in 1798.

By the end of June, various officials in charge of government funds began a steady stream of letters complaining that the Philippine treasury could not continue to support the expedition for long. Nonetheless, to the credit of Philippine authorities, they still issued orders continuing financial support. One report, toward the end of the expedition’s prolonged stay, indicated that donations sufficient for a full year’s support had been sent in from Philippine provinces, suggesting the value that people put on its work.¹⁸

With departure clearly delayed for at least several months, officials developed alternative plans for Balmis and the expedition. Partly because of severe health problems of fever and dysentery, partly because of conflict between Balmis and New Spain’s Viceroy José Iturrigaray in Mexico City, Balmis decided to go on alone to Portuguese Macao, where he would board a neutral ship to return to Europe. He proposed taking the vaccine to Macao, too, utilizing a few boys from the Philippines as carriers, despite the fact that Macao was not a Spanish colony. In light of the Treasury’s difficulties, it is remarkable that Balmis was given his entire salary in advance, along with a budget for the boys, who may have been Chinese residents of Manila. Their ship, the *Diligencia*, departed Manila on September 3, 1805, but encountered a huge typhoon just off Macao in which twenty seamen were swept overboard and lost. Balmis and the boys, however, landed safely to a ceremonial reception.¹⁹ He returned to Spain in 1806 via Lisbon on a neutral Portuguese ship, leaving the expedition to continue its work in the Philippines.



Cavite’s shipyards lie in the distance, looking from the suburbs outside Intramuros.

1791 drawing from the *Malaspina Expedition* courtesy Museo Naval, Madrid



The Expedition in the Philippines, Phase Two

Leadership of the expedition in the Philippines now passed to Dr. Antonio Gutiérrez, who had become assistant director when Dr. Salvaný set off from Venezuela to carry the vaccine throughout South America. Since the staff was stuck in the country until the next sailing of the *Magallanes*, officials made plans for an expedition to be sent out into the provinces, headed by practitioner Francisco Pastor and nurse Pedro Ortega. Governor General Aguilar issued a detailed decree on September 24, 1805, outlining the enterprise.²⁰ It was to go immediately to Misamis in Mindanao, and from there onward through the Visayas Islands, accompanied by twelve Filipino boys. Reports printed in Madrid in October of 1806 and in Mexico in August 1807 indicated substantial success; at least 20,000 Filipino children were vaccinated during the expedition's first few months in the country. The report even claimed

that rebellious native chiefs laid down their arms and made peace with Manila after the expedition into the Provinces quickly put down a sudden outbreak of smallpox.²¹

By early 1806, the expedition was again scheduled to depart for Acapulco on the *Magallanes*. The consequences of the faraway Napoleonic Wars, however, intervened, along with the perils of the sea itself.

In June 1805, after the French frigate *Semillante* had sailed unexpectedly into Manila Bay, jubilant authorities commissioned her to sail to Acapulco in place of the ailing *Magallanes* to fetch the desperately needed *situado*. Navigating among the Philippine Islands in August, en route to the Pacific, however, she was intercepted by the British warships, *Phaeton* and *Harrier*, cruising in search of "prizes." The *Semillante* ran for little San Jacinto Bay on Ticao Island, pulling in close to shore under the protection of the bay's small fort. The ensuing two-day fight was certainly the battle furthest afield in the Napoleonic Wars, but neither side prevailed. The British returned to Canton, while the *Semillante* gave up its Acapulco voyage and returned to Manila for repairs.²²

This battle, however, remained in the minds of Manila merchants and mariners, and as a result the departure date of the *Magallanes* was postponed from April 1806 to June, in hopes of avoiding another British warship which was capturing commercial vessels.

Once the *Magallanes* finally set sail under the capable naval officer Juan Vernacci, however, she soon began to leak despite her recent repairs, and was forced to return to Manila.²³ The consequences of an *arribada*, the return of a galleon, were always devastating. Because of the years without the *situado*, this particular *arribada* was especially alarming. In early August, Governor General Aguilar died from a combination of poor health, bad care and stress.²⁴



Juan Vernacci unsuccessfully attempted to depart Manila on the *Magallanes* with the expedition in 1806. Governor Aguilar's palace appears above, a decade before he ordered his children inoculated by Balmis.

Courtesy Museo Naval, Madrid

Next, the Royal Philippine Company, which during these years competed with the long-established galleon traders, sent its *Principe Fernando* to Lima in late August 1806, but she was captured soon after clearing Manila Bay by HMS *Phaeton*, again in Philippine waters after a tip from an American trading ship.²⁵

Along with the catastrophes overtaking Spain's declining empire, the expedition's members suffered their own tragedies: sometime between June and October, before they were able to leave the Philippines, one of the children and nurse Pablo Ortega died.²⁶

Because they lacked a second ship, the desperate Manila authorities were forced to hire a small visiting Danish merchant ship, the *Hardanger*, to sail to Acapulco to fetch the *situado*. Unfortunately, it was too small to take on board the expedition. Soon after it sailed, the Manila merchants, desperate for income, purchased a substitute ship, the Portuguese trader *Esperanza*, to carry part of the *Magallanes'* cargo to Acapulco.²⁷ This vessel was also too small to carry the expedition as passengers, which was fortunate, since she sank six days out of port.²⁸ Manila was reeling from this series of catastrophic events. At the same time, the Provinces were pitching in to pay for the continuing expenses of maintaining the expedition.

There was one positive development for the expedition during this trying period in 1806. Philippine authorities finally implemented the central vaccination board, appointing Dr. Francisco Olivares, surgeon at the military hospital in Intramuros, as chief of vaccination. They finally appointed the full board in December of 1806.²⁹ With these appointments, the three-fold mission of the Expedition was officially completed.

This board would prove to be successful over the remaining decades of Spain's Philippine colony. While there were periodic lapses in administration and subsequent scattered outbreaks of smallpox around the islands, the board managed to conserve active vaccine over the decades. It was able, as occasionally became necessary, to replenish the supply of vaccine in Macao, which in turn was passed on to a team from Vietnam in the early 1820s, bringing protection from the smallpox virus to that country.³⁰

At long last, the expedition departed the Philippines. The *Magallanes* sailed out of Manila Bay in mid-April 1807, almost two years to the day after its arrival. For this voyage, Manila authorities arranged a convoy, employing the forty guns of the French frigate *Canonniere* to protect the *Magallanes* and the *Gertrudis* of the Royal Philippine Company.³¹ The expedition, minus nurse Pablo Ortega and one of the boys from New Spain, finally arrived in Acapulco on August 14, 1807. Sadly, Felix Barraza, now about eight years old, died in Mexico City while awaiting final transportation back to his Zacatecas home. His mother would never learn firsthand of her child's adventures in helping save thousands of lives—although she would sue the Governor for restitution.³²

The Balmis Expedition, a true mission of mercy, was certainly one of the most remarkable enterprises of all time. It is estimated that at least 500,000 children were vaccinated throughout the Spanish colonies, while tens of thousands more benefited from the vaccination boards that the expedition established. Perhaps the most telling assessments came from two leading international scientists. Englishman Edward Jenner, who had discovered the vaccine, wrote in 1806 that "I cannot imagine that in the annals of history there is an example of philanthropy more noble or more extensive than this." German explorer and scientist Alexander Humboldt, who had traveled through most of the colonies visited by Balmis, would write that "this expedition will permanently remain as the most memorable in the annals of history."



Today, the almost-forgotten doctor is commemorated in a rather forlorn Acapulco plaza.

Courtesy of the author

Twenty-Six “Niños Heroes:”

An Honor Roll of Boys who Carried Smallpox Vaccine to Asia in their Bodies

Spanish boys born in México were *criollos*. *Mestizo* boys had mixed European and indigenous Mexican ancestry, while the lone *indio*, five-year-old Josef Maria Ursula, was born to indigenous Mexican parents. Their ages were listed when they joined the Expedition in November and December, 1804.

Boys Recruited from Zacatecas

4-year-old *criollo* Martín Marqués
5-year-old *criollo* Felix Barraza
5-year-old *mestizo* Pedro Nolasco Mesa
5-year-old *criollo* Josef Mariano Portillo
5-year-old *mestizo* Josef Antonio Salazar
6-year-old *criollo* Teofilo Romero

Boys Recruited from Fresnillo and Sombrete

4-year-old *criollo* Buenaventura Safiro
5-year-old *criollo* Josef Teodoro Olivas
6-year-old *mestizo* Juan Amador Castañeda
6-year-old *criollo* Josef Francisco
(an orphan)
6-year-old *criollo* Josef Felipe Osorio
Moreno
6-year-old *criollo* Jose Catalino Rivera
14-year-old *criollo* Josef Delores Moreno

Boys Recruited from León and Querétaro

5-year-old *criollo* Guillermo Toledo y Pina
5-year-old *indio* Josef Maria Ursula

Boys from Valladolid, Morelos, who joined Balmis in Querétaro

5-year-old *criollo* Josef Antonio Marmolejo
5-year-old *criollo* Josef Silverio Ortiz
5-year-old *criollo* Juan Josef Santa María
(an orphan)
5-year-old *criollo* Juan Nepomuceno
Torrescano
5-year-old *criollo* Josef María Zarcehaga
(an orphan)
6-year-old *criollo* Laureano Reyes

Boys from Guadalajara

4-year-old *criollo* Josef Feliciano Gómez
5-year-old *criollo* Josef Mauricio Macias
5-year-old *criollo* Josef Agapito Yllan
5 1/2-year-old *mestizo* Ignacio Náxero
5 1/2-year-old *criollo* Josef Lino Velásquez

N O T E S

- 1 On the history of this disease, see Donald R. Hopkins, *The Greatest Killer: Smallpox in History* (Chicago: University of Chicago Press, 2002 [originally published in 1983 by University of Chicago Press as *Princes and Peasants: Smallpox in History*]) and Paul Saunders, *Edward Jenner: The Cheltenham Years 1795-1823* (Hanover and London: University Press of New England, 1982).
- 2 Archivo General de las Indias, Sevilla [hereinafter AGI], “Indif. Gen.,” Leg. 1.558, II, 34 fs., also in Archivo General de la Nación, Mexico City, Reales Cédulas, vol. 196, f. 298.
- 3 The only prior research into the Pacific leg of the expedition was done by Jose P. Bantug, who assembled and transcribed some original documents available in Spanish archives. Unfortunately, he did not provide precise citations for these documents. See Bantug, “Carlos IV y la introducción de la vacuna en Filipinas,” *Anuario de Estudios Americanos*, Tomo II (Sevilla, 1955): 75-128. See also Bantug, *Bosquejo Historico de la Medicina Hispano-Filipina* (Madrid: Ediciones Cultura Hispanica, 1952).
- 4 Francisco Fernández del Castillo, *Los Viajes de Don Francisco Xavier de Balmis*, 2nd ed. (Mexico City: Sociedad Médica Hispano-Mexicana, 1985), 252-253. Originally published in 1955, this study remains one of the significant accounts in Spanish.
- 5 Armando González Quiñones, *Zacatecas y Filipinas: Miscelánea anecdótica de una lejana historia común* (Zacatecas, Mexico: INAH/UAZ [Instituto Nacional de Antropología e Historia/Universidad Autónoma de Zacatecas], 2002), gives a detailed account of the expedition’s reception.
- 6 AGI, Balmis to Cavallero, Acapulco, 6 February 1805, “Indif. Gen.,” Leg. 1.558, I, f. 1.
- 7 For a complete passenger list of the *Magallanes*, 8 February 1805, see Archivo Alvaro de Bazán [Archivo General de la Marina Alvaro de Bazán], Legajo 38, Expediciones a Indias - Año 1805.
- 8 AGI, Balmis to Cavallero, Manila, 6 February 1805, “Indif. Gen.,” Leg. 1.558, I, fs. 1-2.
- 9 Mexican authorities were alerted about British ships in the vicinity of Balambangan Island near Zamboanga in a letter dated 20 February 1804, Philippine National Archives [hereinafter PNA], Cartas 1802-1806, Exp. 80, fols.13-18. In July of the same year, Philippine authorities responded to royal orders to prepare for the defense of the islands against the British. PNA, Cartas 1802-1806, Exp. 109, fol. 59.
- 10 For exhaustive examination of Moro piracy and activity, see James Francis Warren, *The Sulu Zone: 1768-1898* (Quezon City: New Day Publishers, 1985), and *Iranun and Balangingi: Globalization, Maritime Raiding and the Birth of Ethnicity* (Quezon City: New Day Publishers, 2002).
- 11 The importance of the *situado* to the Philippines is discussed in Leslie E. Bauzon, “Mexican Financial Aid: The Situado,” *Philippine Historical Review* (1971): 68-96.
- 12 For references to the Balmis correspondence and his various complaints, see Michael M. Smith, “The ‘Real Expedición Marítima de la Vacuna’ in New Spain and Guatemala,” *Transactions of the American Philosophical Society* 63 (1974): 56-59.
- 13 PNA, Cartas, Exp. 25, fol. 52., Aguilar to Cavallero.
- 14 The Archdiocesan Archives of Manila (hereinafter AAM) hold several documents from Gov. General Aguilar and Archbishop Zulaibar from the latter part of May 1805, including Aguilar’s endorsement of the expedition to the Archbishop and the Archbishop’s lengthy message directing parish priests to encourage all parents to have their children vaccinated. See AAM Shelf 1, Row B, Box 4, Decretos, Oficios, Consultas (1747, 1768, [1771], 1804-1896): Folder 3 Oficios (Zulaibar) 1804-1817; Folder 5 Decretos (S. R. Zulaibar Libro de Gobierno, Consultas y Oficios L. G. E. 1804-1817) (Abbrev. and duplicate) 1804-1822.
- 15 This location is deduced from addresses on documents written by expedition staff.
- 16 PNA, Cédularios, 1803/1805-1807, SDS 713, Exp. 21, fol. 103-103b.
- 17 For details of repairs and their costs, see PNA, Cédularios, 1803-1806, SDS 580, Exp. 42, fol. 71-72b, 23 December 1805, and in the same folder, Exp. 43, fol. 72b, 2 January

- 1806.
- 18 PNA, Cedularios, 1799-1808, Exp. 21, fol. 98-108, 23 January 1807. See also PNA, Cedularios, 1799-1808, Exp. 61, 131-132b, 28 January 1807.
 - 19 Smith, "Real Expedición Marítima de la Vacuna," 59.
 - 20 Transcription in Bantug, "Carlos IV y la introducción de la vacuna en Filipinas," 115-117.
 - 21 Supplement to the *Gaceta de Madrid*, 14 October 1806. The expedition in the Philippines was still ongoing, but this account reports on peace treaties in the Philippines with native chieftains. See also *Gaceta de Mexico*, 26 August 1807: 556. The Governor's decree called for very detailed accounting of results, but unfortunately, no such report has yet come to light. Documentation about smallpox in the Philippines is very scant prior to the last half of the 1800s. For a thorough review of data and a severe critique of the Vaccination Board in the latter half of the century, see Ken de Bevoise, *Agents of Apocalypse: Epidemic Disease in the Colonial Philippines* (Quezon City: New Day Publishers, 1995), chapter 4.
 - 22 AGN, Expediciones, Legajo No. 43, fol. 7-7b, Barcaistegui to Lemus, 6 June 1806, and *ibid.*, fol. 9-10, 9 December 1806.
 - 23 Vernacci's ill-fated voyage is well documented in a record from the Archivo Alvaro de Bazán shared with me in private correspondence with the Esperanza Project. The document is located in the legajos entitled Expediciones a Indias and dated 9 December 1806.
 - 24 PNA, Cartas, 1804-1808, Exp. [no file number], fol. 89-94.
 - 25 *Ibid.*, Exp. 53, fol. 97, 9 Dec. 1806.
 - 26 His name was not on the manifest of passengers for the return voyage in 1807, and Balmis, upon his return to Spain, wrote a letter requesting funds for his widow and children.
 - 27 PNA, Cedularios 1803-1806, SDS 580, Exp. 74, fol. 127-130, 13 Oct 1806.
 - 28 PNA, Cartas 1804-1808, Exp. [no file number], fol. 108-108b. The author would like to thank the administrators of the Esperanza Project for sharing considerable documentation about the 933-ton *Magallanes*.
 - 29 PNA, Cartas 1809-1811, Exp. 53, fol. 74-75, Manila, 25 April 1809.
 - 30 For newly reported information about the continuing vaccine link between Macau and Manila, as well as the eventual spread of that vaccine to Vietnam, see Michele Thompson, "Mission to Macau: Smallpox, *Vaccinia*, and the Nguy n Dynasty," in *Portuguese Studies Review* 9:1 and 9:2, *The Evolution of Portuguese Asia, 1498-1998* (2001). Additional information is forthcoming in Michele Thompson, "The Introduction of *Vaccinia* to the Court of the Nguy n Dynasty 1820-1," in *Caging the Speckled Monster: A History of the Global Experience of Smallpox*, Peter Skold, ed. (London: Wellcome Institute for the History of Medicine, n.d.).
 - 31 The *Canonniere* came into Cavite in late 1806 needing substantial repairs. PNA, Cartas [1804-1808], Exp. 52, fol. 95-96, 9 December 1806. For letters regarding assignment of *Canonniere* as escort, see PNA, Cartas 1804-1808, Exp. 59, fol. 104, 13 April 1807, and Exp. 60, fol. 105-107. The

Canonniere provided unusual additional service, departing Acapulco on 16 October 1807 bound for Manila and finally carrying the annual *situado* for the Philippine authorities. See AGN, Expediciones, Legajo 43, fol. 2, 28 November 1808. The *Magallanes* did not undertake its return voyage from Acapulco until 22 April 1808. See AGN, Expediciones, Legajo 43, fol. 4, 28 November 1808.

- 32 González Qui ones, *Zacatecas y Filipinas*, 39-40.

Charles IV holds his lifesaving royal proclamation out over the heads of modern *Manile os*. Few have any idea why.

Photo of 1828 statue courtesy of the author



Spain's legacy in the Pacific—in language, religion, commerce, scientific studies, and politics—was vast. That legacy also took the form of an outpouring of texts and maps, which led to the legacy of worldwide scholarship you see on these pages. All of these scholars have poured themselves into studying the Spanish Pacific, and one of their most distinguished predecessors was Henry Raup Wagner.

—the Editors

Exploring the Pacific from a Scholar's Desk: The Bibliographic Adventures of Henry R. Wagner

Stephen A. Colston

Historians and bibliophiles have long recognized Henry Raup Wagner as one of the preeminent figures in the field of Western American book collecting and bibliography. While his scholarly reputation remains most closely associated with his two principal bibliographies of Western Americana, Wagner's erudite contributions to the study of early European voyages in the Pacific form a significant part of his legacy.¹

Wagner was in the truest sense of the term a "gentleman scholar." Born to a wealthy Philadelphia manufacturer in 1862, he was a Yale-educated attorney who worked as a mining executive until he retired in 1920. Business matters, he came to realize, had too often intruded upon his love of book collecting and bibliographical pursuits, prompting him to retire at age fifty-eight.²

Wagner produced more than three dozen publi-



cations about early European voyages in the Pacific, most of them about Spanish enterprises. Some he crafted by reworking his earlier works, a procedure that ultimately culminated in the creation of his two-volume 1937 masterpiece, *The Cartography of the Northwest Coast of America to the Year 1800*. The evolution of Wagner's scholarship over the nearly twenty year period that led to the production of *The Cartography* can be divided into three stages. First came the development of works that led to the creation of his 1929 book *Spanish*

Voyages to the Northwest Coast of America, followed by the production of works published after 1929, which research was later incorporated into *The Cartography*, and lastly the crafting of *The Cartography* itself.

One of the critical factors that contributed to Wagner's success in the field of Pacific maritime history and bibliography was the opportunity that his status as an official in the California Historical Society offered him to publish many of his articles in that organization's *Quarterly*. Wagner's own considerable financial resour-

es as a retired executive provided him with other avenues of access. His assets allowed him to travel extensively abroad in pursuit of his interests, and to hire research assistants who would seek out, duplicate, and in some cases translate original manuscripts and maps. Moreover, he used his own funds to print two of his early bibliographies, which were instrumental in establishing his reputation as a scholar by the time he began pursuing research on Spanish voyages. This status facilitated his access to librarian-scholars who welcomed him as a peer, and who shared their opinions on technical bibliographical matters. Wagner continued self-publishing, printing three of his four books on early European voyages in the Pacific himself. Finally, his resources enabled him to pursue book-collecting activities that in turn gave him access to prominent book dealers in Europe, Latin America, and the United States. A number of these dealers were scholars in their own right, and they offered Wagner insights on bibliographical subjects that he would sometimes use to enrich his own work. They also supplied him with reproductions of maps and manuscripts, and secondary sources from their reference libraries and book stock.³

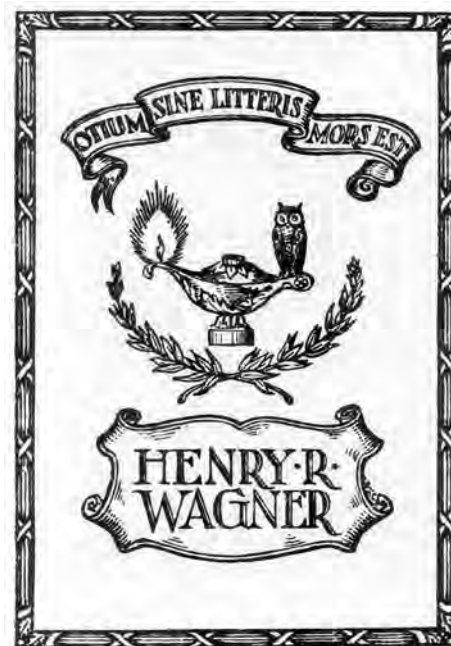
Spanish Voyages to “The Northwest Coast”

Wagner’s interests were often shaped by the locations where he resided in the United States, Europe, and Latin America. This was never more apparent than in 1918 when he purchased a home in Berkeley, California. While he had interests in California books before that time, his pursuit of Californiana intensified after he moved to the Bay Area. His growing commitment to studying California’s past was reflected by his activities as a founder of the San Francisco-based California Historical Society in 1922, and his service as the organization’s first vice president and member of its publications committee.⁴

Just as he was setting up his Berkeley household, Wagner was invited in the summer of 1918 to attend a meeting of the Sir Francis Drake Association in Marin County. The speaker at this event based his comments on Zelia Nuttall’s *New Light on Drake* and echoed that author’s assertion that Drake had envisioned planting a New-England-like colony on the West Coast.⁵ Wagner was incredulous that anyone could take this notion seriously, yet, he remarked, “here were one hundred or more people who seemed to swallow it without difficulty, in fact, apparently liked the taste of it.”⁶ He returned home after the meeting and immediately began studying his copy of Nuttall’s book. He found its thesis “to be a thin tissue of misrepresentations, mistranslations, and misconceptions,” and drafted an article for the purpose of “showing it up.”⁷

Wagner believed he had to conduct research in English and Spanish archives to complete his article on Drake, but recognized that his business commitments would prevent him from travelling abroad for that purpose. But even after he retired, other commitments—most notably completing *The Plains and the Rockies* and supporting the founding of the California Historical Society—delayed his travels to European archives.

To help launch the first issue of the Society’s *Quarterly* in July 1922, he contributed the modest twenty-page article “The Discovery of California.”⁸ It was Wagner’s first venture in Spanish maritime history, and a logical extension of an interest in Colonial Spanish Southwest bibliography that he had



In his San Marino study, at left, Wagner measures distances on a map in 1931. The motto on his bookplate quotes Seneca: “Leisure without study is death.”

Photo from the Automobile Association of Southern California's October 1931 Touring Topics

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been cultivating since 1917.⁹ In this article, he provided an overview of sixteenth-century Spanish explorations to The Californias that included a discussion of the original associated texts and maps. It was Wagner's first work to manifest his talent for melding maritime history, historiography, and bibliography. His seamless joining of these three disciplines characterized his subsequent work on maritime history, and stands in contrast to the exclusively historiographical-bibliographical approach he used for developing *The Plains and the Rockies* and *The Spanish Southwest*.

It is doubtful that Wagner possessed any self-confidence in writing maritime history, for he had no nautical experience upon which he could draw, as Samuel Eliot Morison would when he wrote his 1942 Pulitzer Prize-winning biography of Columbus.¹⁰ One reason that Wagner turned maritime historian may be his recognition that maps had to be carefully situated within their historical contexts if any meaningful cartographic study was to emerge. The study of cartography from historical perspectives is one that often examines the intellectual content of maps as well as their physical production within historical contexts, and Wagner clearly reiterated his understanding of this principle in his many publications about early European voyages to the Northwest Coast.¹¹

By the fall of 1922, he was sufficiently free from encumbrances to voyage to Europe for the purpose of gathering material to complete *The Spanish Southwest* and his article on Drake.¹² During his research there, he began to acquire materials relating to Spanish voyages to the "Northwest Coast," a region he would define as extending from Cape San Lucas on the southern tip of Baja California to the northernmost limits of European exploration.¹³ While his "Discovery of California" article, which appeared in the *Quarterly* just before he departed for Europe, established his interests in these new subjects, his research on Drake pulled him further into Spain's archives and deeper into its maritime history.¹⁴

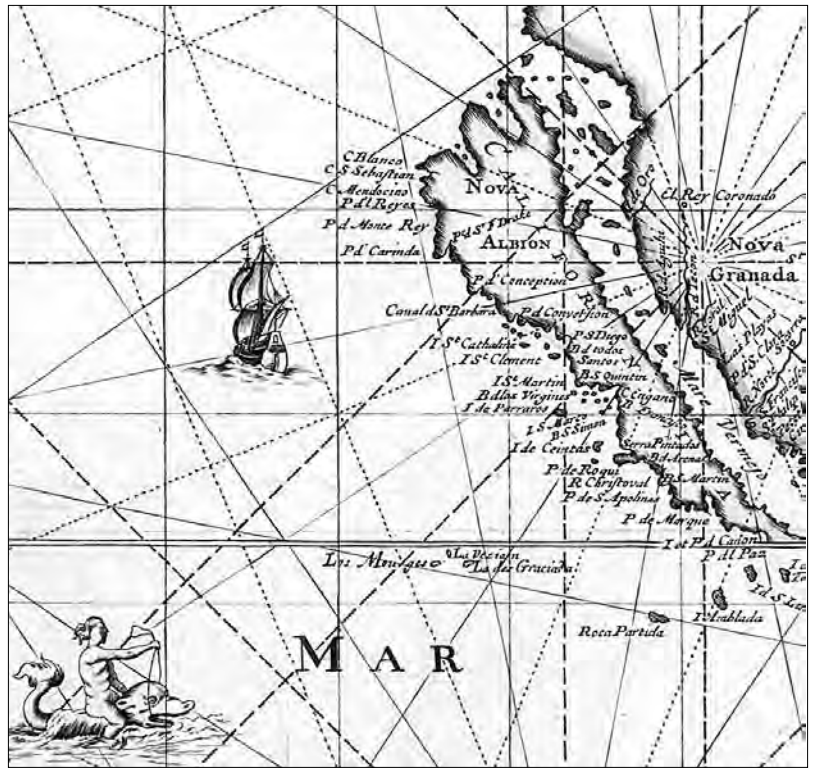
Wagner became relentless in his pursuit of manuscripts on Northwest Coast cartography in Seville's Archivo General de las Indias:

When I was in Seville I went through the entire correspondence of the Viceroy of New Spain down to sometime after the year 1600 and made a close examination of all the *legajos* [bundles of documents] which contain material which might have any bearing on the subject of voyages to the northwest coast. ¹⁵

After he had located these materials he arranged for the texts to be photostatted and the maps to be photostatted or photographed.¹⁶ When he returned home, he supplemented these materials with reproductions of maps that appeared in auction catalogs, such as Sotheby's.¹⁷

Sequestered in his Berkeley study, Wagner wrote what he described as the "first fruits" of his research in Seville's great archives: the introduction to his translation of Pedro de Unamuno's account of his voyage to California in 1587. Published in the July 1923 *Quarterly*, this article would be a model for many of Wagner's subsequent studies. It demonstrates his adroit fusion of history, historiography and bibliography, and also exhibits his effective use of history in introducing his translation of a primary source. Wagner followed this article with others in the *Quarterly* that likewise consisted of studies of mariners in the service of Spain, coupled with translations of associated original accounts. Among these were 1924 articles on the voyages of Sebastian Rodríguez Cermeño and Francisco de Ulloa, and 1928 articles on Juan

In one respect, his 1929 *Spanish Voyages to the Northwest Coast of America in the Sixteenth Century* is ill-titled. While Wagner indeed devoted most of it to sixteenth century voyages (starting with Ulloa and ending with Rodríguez Cermeño), he extended his coverage to the seventeenth century by treating the expedition of Vizcaíno and subsequent plans to occupy Monterey, California. As in his previous articles, Wagner discussed sixteenth-century and early seventeenth-century voyages, and provided translations of selected primary documents as well as reproductions of maps. His endnotes include voluminous commentary on primary textual sources and maps, and constitute a historiographical and bibliographical *vade mecum* that anticipates the essence of *The Cartography*.



Wagner's study of Drake would lead him into the study of cartography itself, and would serve as a resource for both *Spanish Voyages* and *The Cartography*. With the material he amassed about Drake from English and Spanish archives, he realized that, rather than writing an article-length "destructive criticism" of Nuttall's book, he could produce "a constructive book on the voyage, its aims and achievements."¹⁸ Privately printed by John Howell in San Francisco, it appeared in 1926 as *Sir Francis Drake's Voyage Around the World*.¹⁹ Wagner decisively refuted Nuttall's assertion that Drake had planned to colonize the West Coast, and included an extensive collection of primary sources and a probing study of the cartographic materials.

Published Studies After *Spanish Voyages*

After *Spanish Voyages* was published in 1929, Wagner produced several publications that he used as sources for his *Cartography*. One of these interim works was his examination of the atlases relating to the Americas by sixteenth-century Genoese cartographer Battista Agnese. Wagner had moved from Berkeley to San Marino, California in 1928, principally to be near the Huntington Library, and his interest in the Agnese atlases evolved out of his research in the Huntington's collection of early navigational charts of the Americas.²⁰ Working largely from photos of Agnese atlases that he had secured from Italian and American contacts as early as November 1928, Wagner examined these items from a strictly bibliographical perspective and arranged to have his manuscript published as a monograph by the Bibliographical Society

of America in 1931.²¹ Reflecting on this study a decade later, he remarked that it was “perhaps the most finished piece of work which I ever turned out.”²²

By the late 1920s, Wagner began to investigate eighteenth-century Spanish expeditions to the Northwest Coast, and over the next five years he wrote several studies on them that he would use as sources for *The Cartography*. In 1930 he remarked that “the later period of northwest coast exploration follows naturally from my interest in the early period. I have been gathering information regarding the documents, their location and relative importance for some time.”²³ In 1928, G. R. G. Conway, a contact in Mexico City, located in the Archivo General de la Nación the manuscript of Fray Benito de la Sierra’s 1775 account of the Northwest Coast. Conway transcribed the document, and A. J. Baker, Conway’s business associate, translated it.

Wagner did not want to take the time to translate the Sierra manuscript himself, probably because he was concentrating on completing *Spanish Voyages*.²⁴ Adding only a few introductory remarks and footnotes to the translation, Wagner sent a draft in January 1930 to Carl Wheat, a cartographic scholar and chairman of the California Historical Society *Quarterly*’s Committee on Publication.²⁵ Wheat believed Wagner had produced a valuable work, but suggested making the document more useful to a wider audience through further editing, asking if “a considerable portion of the merely technical sailing directions and similar material might not be profitably eliminated or be summarized in some manner in order to save space for the more valuable portions of the journal.”²⁶ While Wagner recognized that portions of the Sierra text were so embedded with technical details that most readers might find them tedious, he nevertheless believed they should not be cut because, he argued, “there is always someone interested in that part.”²⁷ Wagner remained inflexible, and the *Quarterly* published his translation of the full Sierra account in September 1930.²⁸

Two years after this article appeared, Wagner issued his first book on eighteenth-century Spanish voyages. Utilizing material he had collected in the Provincial Archives of Victoria, and copies of documents obtained in the United States and Europe, he privately printed *Spanish Explorations in the Strait of Juan de Fuca*, another interim publication that he would use as a source for *The Cartography*.²⁹

Wagner’s intention in publishing *Spanish Explorations* was to draw attention to the mariners who plied northern waters in Spain’s service before the famous George Vancouver. “My aim,” he wrote in the Foreword, “is to do justice to the Spaniards who preceded him and who have left us accounts of their experiences just as vivid and entertaining as his.”³⁰ Perhaps because he had designed this book principally as a collection of translated original texts and maps, he limited his historical and bibliographical discussion to only one-quarter of its length.³¹ For that reason, *Spanish Explorations* lacks the rich historical and bibliographical commentary that is so characteristic of his other Northwest Coast studies. Yet, from Wagner’s perspective, the book was a necessary building block for constructing a larger edifice. “It was,” he remarked, “one more step on the way in my plan to publish my *Cartography of the Northwest Coast*.”³²

Wagner next edited Tomás de Suria’s journal about Malaspina’s 1791 expedition to create another interim publication. In June 1935, he had received a photostat of the Suria journal from a major collector of Western Americana, William Robertson Coe. Although Wagner found it difficult to read the manu-

script, he had nearly finished his translation by October 1935, but had trouble developing explanatory notes for Suria's descriptions of the Yakutat Indians. Wagner wrote to anthropologist W. A. Newcombe of Victoria's Provincial Museum for assistance. Newcombe provided him with the desired notes, and Wagner published the article several months later in *The Pacific Historical Review*.³³

Crafting *The Cartography*

Just after *Spanish Voyages* appeared in print in mid-September 1929, Wagner formulated a plan of synthesizing all the cartographic work he had gathered into a single book:

I am turning my attention to the evolution of the Cartography of the north-west coast of America. I am putting it in some sort of shape, with a view to publishing it if I ever get far enough along with it. Naturally I want to make it as complete as possible and for that purpose I want to get all the assistance that my friends may be able to give. I think I have found about all the prime sources down to at least the middle of the Seventeenth Century, but of course it is always possible, and indeed even probable, that some may escape me.³⁴

Within a year after he articulated this scheme, he was thoroughly immersed in writing the study that he called, echoing the words of his original plan, "The Evolution of Cartography of the Northwest Coast of America."³⁵ By March 1934, he had completed about three-quarters of the required research.³⁶ While he drew upon sixteen of his own previous publications, he nonetheless had to incorporate a great amount of new research material, and relied heavily on notes and copies sent to him by contacts in Europe.³⁷ "When I was there in 1923," he lamented, "I made extensive notes of maps but as I was then chiefly interested in looking for Drake material I no doubt passed over a number which would be of more interest to me now, or else took inadequate notes."³⁸

Wagner began assembling his *Cartography* during the summer of 1934. The seventy-one-year-old scholar's health was then temporarily impaired, and he grew concerned that because so much of his manuscript remained unfinished he might not be able to complete it.³⁹ Yet he continued to work, and by early January 1935 had drafted what he believed was "some semblance of a real book."⁴⁰ Wanting the assistance of a qualified student, he consulted Herbert Eugene Bolton, the great Spanish Borderlands historian at the University of California. On Bolton's recommendation, Wagner hired Charles E. Stewart, a Bolton doctoral student investigating Northwest Coast explorations, to help him compile the bibliography of maps and list of place names.⁴¹ By the summer of 1936, Wagner judged his manuscript ready for publication.⁴² He considered publishing the book himself but "wished to be rid if possible of all the trouble connected with it," so he sent it to the University of California Press.⁴³ He advanced the Press money toward printing the book, with the understanding that he would be repaid with forty percent of the revenue earned from net sales.⁴⁴

By the time Wagner's draft was in press in late October 1936, editor Samuel Farquhar decided to cut part of the original title, leaving it as "The Cartography of the Northwest Coast to the Year 1800." Wagner agreed to this



The consummate "gentleman amateur" looks justifiably pleased with himself on his eighty-ninth birthday in 1951.

Courtesy of the Bancroft Library



change, but on all other content-related matters he steadfastly maintained control.⁴⁵ During the summer of 1937, Wagner finished correcting proofs, and the book was issued that October.⁴⁶

The first volume of *The Cartography* consists of chapters in which Wagner ingeniously intertwines history, historiography, and bibliography to interpret the development of the cartography of the Northwest Coast over three centuries. Like his previous publications that he drew upon to create it, *The Cartography*'s emphasis is on Spain's maritime explorations and their cartographic fruits. It opens in 1507 with the globes of Martin Waldseemüller, and closes with Isidoro de Antillon's 1802 "La América Septentrional." Wagner included full or partial reproductions of forty-one maps. For the second volume, he compiled an annotated bibliography of 901 maps with their locations in repositories internationally, plus lists of "Place Names Still in Use" and "Obsolete Place Names."⁴⁷

The Cartography garnered Wagner many accolades. One reviewer asserted that "this work is an eminently fitting climax to a series of scholarly and important studies," while another concluded the book was, in a word, "monumental."⁴⁸ Specialists throughout the world sent Wagner laudatory letters, typified by the response from R. W. G. Vail, Librarian of the American Antiquarian Society:

Your splendid two volume work on the cartography of the northwest coast of America just arrived at my desk, and we are exceedingly grateful for it. I am very pleased that you have been able to bring together in one work your many valuable monographs on the various phases of this fascinating subject. It will be a monument to your unrivalled scholarship in this field and will be the standard work on Pacific Coast geography for many years to come.⁴⁹

No work is without flaws. One notable criticism appeared twenty years later in *Imago Mundi*, when Wagner was faulted for leaving "unnoticed the works of Russian mariners," a criticism that has merit, given that he limited his chapter on the subject to only two pages.⁵⁰ "It is not part of the scope of this work," Wagner averred, "to enter into the subject of the later Russian explorations, since that requires separate treatment."⁵¹ Reflecting his own research strengths, Wagner was clearly at his best in *The Cartography* when he discussed Spain's achievements.⁵² Even this analysis, however, was impaired by his minimal reliance on the eighteenth-century maps housed in Madrid's Museo Naval.⁵³

In spite of these shortcomings, specialists continue to regard *The Cartography* as a fundamental reference tool.⁵⁴ In the words of Ruth Frey Axe, his secretary for three decades, *The Cartography*

was the top of the tree which had so carefully been rooted and branched by Mr. Wagner in his previous cartographical works. It was the culmination of his grand design to depict the exploration of the Northwest Coast.⁵⁵

In researching Spain's maritime legacy, Henry R. Wagner produced a masterpiece of historical cartography that, after more than three-quarters of a century, continues to be one of his most enduring legacies. Wagner's magisterial work has provided scholars a significant window into Spain's transpacific empire since 1937, and is itself a legacy of Spain in the Pacific.⁵⁶

Detail from "America Novitur," 1630, courtesy Michael Stone

- 1 Henry Raup Wagner, *The Plains and the Rockies: A Contribution to the Bibliography of Original Narratives of Travel and Adventure, 1800-1865* (San Francisco: John Howell, 1920 and 1921) and *The Spanish Southwest, 1542-1794: An Annotated Bibliography* (Berkeley: James J. Gillick & Co., 1924; the Quivira Society, 1937). His most significant non-bibliographic study of the frontier was *Peter Pond: Yankee Fur Trader and Explorer* (New Haven: Yale University Press, 1955). He also wrote the brief unpublished "Remarks on Early Western Exploration," n.d., Henry R. Wagner Collection, Bancroft Library, University of California, Berkeley (hereinafter after HRW-UCB).
- 2 Wagner was employed by Daniel Guggenheim's American Smelting and Refining Company. In his autobiography, *Bullion to Books: Fifty Years of Business and Pleasure* (Los Angeles: Zamorano Club, 1942), he describes at length his transition from full-time businessman to unfettered bookman. Wagner's biography is briefly treated in Stephen A. Colston, "Henry Raup Wagner: An Overview of His Life and Writings," in Ruth Frey Axe, *The Published Writings of Henry R. Wagner* (New Haven: William Reese Company, 1988), 5-27.
- 3 See, for example, Martinus Nijhoff to Wagner, 11 December 1924, and Wagner to Otto Lange, 16 November 1928, Henry R. Wagner Collection, Honnold Library, Claremont Colleges (hereinafter HRW-Claremont). Wagner requested that Lange "gather up articles on portolan atlases and maps lately described in magazines and the bulletins of the Geographical Society in Italy, or other Societies, interested in the subject." Wagner to Lange, 16 November 1928, HRW-Claremont. Axe describes Wagner's extensive correspondence with book dealers in Axe, *Henry R. Wagner: An Intimate Profile* (Clifton, N.J.: AB Bookman Publications, 1979), 20-21.
- 4 Colston, "Henry Raup Wagner," 13, 16; Zelia Nuttall, *New Light on Drake* (London: Hakluyt Society, 1914).
- 5 Wagner, *Bullion to Books*, 266.
- 6 Ibid.
- 7 Ibid., 267.
- 8 Wagner, "The Discovery of California," *California Historical Society Quarterly* 1, no. 1 (July 1922): 36-56.
- 9 Wagner, *Bullion to Books*, 266-67. Wagner's earliest documented interest in maritime history was when he was in London from 1903-07: "I bought a lot of titles on voyages around the world, especially if they had any possible connection with gold or silver." Wagner, *Sixty Years of Book Collecting* (Los Angeles: Zamorano Club, 1952), 10.
- 10 Samuel Eliot Morison, *Admiral of the Ocean Sea: A Life of Christopher Columbus* (Boston: Little, Brown and Company, 1942).
- 11 Wagner would follow this principle of combining history (in this case, biography), historiography, and bibliography to create *The Life and Writings of Bartolome de las Casas*, with the collaboration of Helen Rand Parish (Albuquerque: University of New Mexico Press, 1967). Wagner had drafted this study as early as 1947.
- 12 Wagner, *Bullion to Books*, 275. His first priority was to complete his bibliography of Spanish Southwest Americana.
- 13 Wagner, *Bullion to Books*, 274-75.
- 14 See Wagner's unpublished manuscript, "Spanish Correspondence," in the bound volume *Drake Expedition - Comments on Sources*, Henry R. Wagner Collection, North Baker Research Library, California Historical Society, San Francisco (hereinafter Wagner-CHS).
- 15 Wagner to F. C. Wieder, 30 January 1930, HRW-UCB.
- 16 Wagner, *Sixty Years*, 32-33. L. C. Karpinsky to Wagner, 13 October 1927, and Wagner to Lange, 16 November 1928, HRW-Claremont.
- 17 Wagner to Edward Heawood, 27 September 1938, HRW-Claremont. Axe describes other book dealers' catalogs Wagner maintained in his library as research materials in *Henry R. Wagner*, 36.
- 18 Wagner, *Bullion to Books*, 294.
- 19 Wagner, *Sir Francis Drake's Voyage Around the World, Its Aims and Achievements* (San Francisco: John Howell, 1926), 19-20. Wagner reiterated his criticism of Nuttall with more piquancy in "Mrs. Zelia Nuttall," unpublished manuscript in *Drake Expedition*, 2.
- 20 See Wagner, *Bullion to Books*, 310-11; "The Portolan Atlases of American Interest in the Henry E. Huntington Library and Art Gallery," in *Essays Offered to Herbert Putnam by his Colleagues and Friends on His Thirtieth Anniversary as Librarian of Congress 5 of April 1929*, William Warner Bishop and Andrew Keogh, eds. (New Haven: Yale University Press, 1929), [498]-509.
- 21 Wagner, *Sixty Years*, 34; "The Manuscript Atlases of Battista Agnese," *Papers of the Bibliographical Society of America* 25 (1931); Wagner to Lange, 16 November 1928 and 7 May 1930, HRW-Claremont.
- 22 Wagner, *Bullion to Books*, 317.
- 23 Wagner to Edward S. Meany, 12 September 1930, HRW-Claremont.
- 24 Wagner to G. R. G. Conway, 29 September 1929, HRW-Claremont.
- 25 Conway to Wagner, 13 November 1928, and 28 August 1929; Wagner to Conway, 29 September 1929, HRW-Claremont.
- 26 Carl Wheat to Wagner, 13 January 1930, HRW-Claremont.
- 27 Wagner to Wheat, 16 January 1930, HRW-Claremont.
- 28 "Fray Benito de la Sierra's Account of the Hezeta Expedition to the Northwest Coast in 1775, Translation by A. J. Baker [Introduction and Notes by H. R. Wagner]," *California Historical Society Quarterly* 9, no. 3 (September 1930): 201-42.
- 29 Wagner, *Bullion to Books*, 318-19.
- 30 Wagner, *Spanish Explorations in the Strait of Juan de Fuca* (Santa Ana, California: Fine Arts Press, 1933), iv.
- 31 In contrast, Wagner devoted around half of *Spanish Voyages to his discussion of the voyages. Wagner, Spanish Voyages to the Northwest Coast of America in the Sixteenth Century* (California Historical Society, 1929).
- 32 Wagner, *Bullion to Books*, 319.
- 33 Wagner, "Journal of Tomas de Suria of His Voyage with Malaspina to the Northwest Coast of America in 1791," *The Pacific Historical Review* 5, no. 3 (September 1936): 234-76. Wagner to Eberstadt, 14 June 1935 and 25 May 1936; Wagner to W. W. Newcombe, 10 October 1935; Newcombe to Wagner, 9 November 1935; Eberstadt to Wagner, 5 June 1936, Henry R. Wagner Collection, Beinecke Rare Book and Manuscript Library, Yale University (hereinafter HRW-Yale).
- 34 Wagner to Ernest Heawood, 19 September 1929 (HRW-Claremont).



Spain and America seem shocked, and slightly embarrassed, at the sight of each other. At right, the world's largest geographical feature, still mostly unknown, dominates this 1680 polar projection.

Map at right by Cassini courtesy of Michael Stone

- 35 Wagner to Meany, 12 September 1930, HRW-Claremont.
- 36 Wagner, *Bullion to Books*, 317-18. Wagner to Perry Worden, 7 March 1934, HRW-Yale.
- 37 Wagner, *The Cartography of the Northwest Coast of America to the Year 1800* (Berkeley: University of California Press, 1937) 2:542-43.
- 38 Wagner to Ruth L. Butler, 28 February 1935, HRW-Yale.
- 39 Wagner, *The Cartography* 1:vii.
- 40 Wagner to E. L. Stevenson, 3 January 1935, HRW-Claremont.
- 41 Wagner, *Bullion to Books*, 322.
- 42 Ibid.
- 43 Ibid.
- 44 Wagner, *Bullion to Books*, 322. Wagner advanced the Press \$2,100 that ultimately earned him a profit of roughly 33%. Wagner, *Published Writings*, 18.
- 45 Wagner to Harold A. Small, 15 April 1937, HRW-Yale; Wagner to Librarian of Congress, 10 July 1936; Wagner to Eberstadt, 15 October 1936, HRW-Claremont. Wagner to Samuel Farquhar, 26 October 1936; Wagner to Small, 6 October 1936, 15 April 1937, and 10 June 1937; Wagner to George P. Hammond, 14 November 1936, HRW-Yale.
- 46 Wagner to Small, 30 July 1937; Wagner to Farquhar, 26 October 1937, HRW-Yale. Wagner, *Bullion to Books*, 323. Mrs. Wagner had an advance copy bound for her husband, which he was given before he received his author's copies. Wagner to William A. Garrett, 7 October 1937, HRW-Yale. This copy, bound in white vellum, is now in Special Collections, San Diego State University Library. For Wagner's own account of the production of *The Cartography*, see Wagner, *Bullion to Books*, 316-24.
- 47 Harry Kelsey notes: "It is difficult to say how much of this book is the work of Henry R. Wagner, who admitted 'that most of the actual writing of this . . . book has been done by my secretary, Mrs. Ruth Frey Axe.'" Kelsey, *Juan Rodríguez Cabrillo* (San Marino, California: Huntington Library, 1986), 177. In fact, Wagner did not "write" most of this work. Instead, Wagner typically composed by dictating; Axe typed Wagner's 1929-1957 studies, including *The Cartography*. Axe, *Henry R. Wagner*, 12-14.
- 48 A. Curtis Wilgus, "Review of Henry R. Wagner's *The Cartography of the Northwest Coast of America to the Year 1800*," *The Hispanic American Historical Review* 18, no. 2 (May 1938): 199; Wheat, "Review of Henry R. Wagner's *Cartography of the Northwest Coast of America to the Year 1800*," *The Pacific Historical Review* 7, no. 4 (December 1938): 378-80.
- 49 R. W. G. Vail to Wagner, 2 November 1937, HRW-Yale.
- 50 Obituary by unidentified author [Leo Bagrow?], *Imago Mundi*, 14 (1959), 119; Wagner, *The Cartography* 1:156-57.
- 51 Wagner, *The Cartography*, 1, 157.
- 52 Wagner's cartographic coverage may be said to have weakened as it extended northward. Robin Inglis, conversation with author, 24 September 2004.
- 53 A recent catalog of this collection lists 124 maps, fifty-seven of which do not appear in *The Cartography*. Luisa Martín-Merás, "Fondos Cartográficos Españoles de la Costa Noroeste de América en el Museo Naval de Madrid," *Nootka: Regreso a una Historia Olvidada*, Mercedes Palau, Carmen Fauria, and Marisa Calés y Araceli Sánchez, eds. (Madrid: Ministerio de Asuntos Exteriores de España, 2000), 68-74.
- 54 See, for example, *ibid.*, 68.
- 55 Axe, *Henry R. Wagner*, 50.
- 56 Another of his legacies to cartographic scholarship is the Henry R. Wagner Collection on deposit in the Honnold Library of the Claremont Colleges. Wagner deeded his collection of materials used for writing *Spanish Voyages*, *Spanish Explorations* and *The Cartography* to Pomona College in November 1935. Wagner, *Bullion to Books*, 314; *Sixty Years*, 40-41; Axe, *Henry R. Wagner*, 41-42. The collection consists of some 700 titles and more than 600 maps, mostly photostats and facsimiles, and is described in Mario C. Schnitzler, "An Annotated Bibliography of the Henry Raup Wagner Collection of Early Hispanic-American History and Geography," M.A. thesis, Claremont Graduate School, 1955. The contents and acquisition history of the collection are briefly discussed in Susan M. Allen, "The Henry Raup Wagner Collection," *Meridian* 10 (1996): 23-28.



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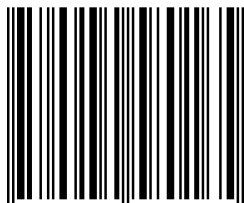


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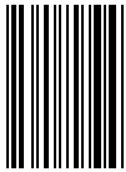
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