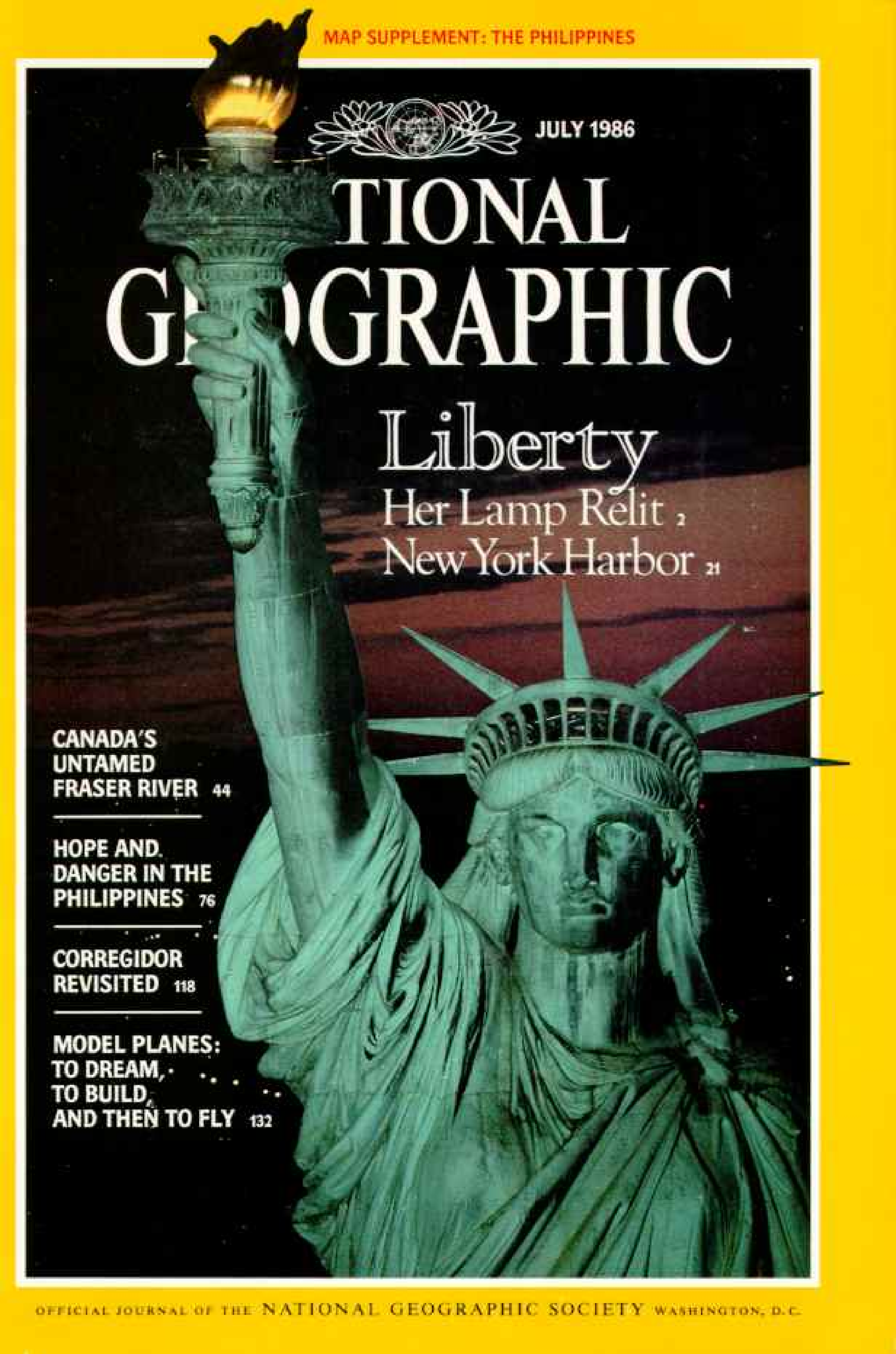


JULY 1986



**NATIONAL  
GEOGRAPHIC**

*Liberty*

*Her Lamp Relit 7*

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# NATIONAL GEOGRAPHIC

July 1986

**I**N CLASSICAL LITERATURE the best known statue is the Trojan Horse. For modern times it has to be the Statue of Liberty. The first will always stand as a symbol for treachery, the other—designed as a gesture of friendship between France and the United States—soon came to symbolize hope, opportunity, and freedom. One hundred years ago it became a welcoming hostess to a land of liberty.

The nation that celebrates the relighting of the torch this July is an ethnic, racial, and religious mix that stands witness to the promise and the promise the statue represents. Not all of us came by choice. Some were brought as indentured servants, others as slaves. Many have come fleeing for their lives. Most eventually have found opportunity, and few have chosen to leave.

Today there are more blacks in the United States than in any country except Nigeria or Zaire. More Poles live in Greater Chicago than in any city except Warsaw. Miami is the second largest Cuban city; New York City has the largest Jewish population. More Americans claim English origins than England's total population. Those claiming Irish blood outnumber the Irish in Ireland 11 to 1. Not even the Census Bureau can be sure, but Hispanics must now exceed 7 percent of our nearly 240 million people.

One thing this nation is not and never will be, however, is a melting pot. People can't be melted down and poured into cultural molds like chocolate soldiers. If a metaphor is needed, we might be called a stew or bouillabaisse, where each ingredient remains unique but adds flavor to the whole.

Even various American Indian groups, whose ancestors first came here 12,000 years ago or more, still maintain their unique tribal, linguistic, and cultural differences.

The ceremonies this July 3 to 6 will rightfully be nostalgic and look back for inspiration. But tomorrow waits with its threat of a Third World population explosion. The need to deal with immigration is obvious. But will we become like the selfish person who hopes the elevator door will close as soon as he or she is aboard? For now, by relighting the torch, we are saying the welcome mat is still out. Who knows what critical talents the next wave of needy may bring to this still young nation?

*Wilbur E. Garrett*

EDITOR

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*The great lady who welcomed millions of immigrants to America celebrates her first hundred years. Her biography—from conception to restoration—is recounted by Alice J. Hall.*

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*Beneath Liberty's gaze, America's historic portal still serves the world. By Erla Zwingle and photographer Bruce Davidson.*

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*Creations as delicate as a feather, as fearsome as a flying dinosaur, take wing when hobbyists practice their craft. By Michael E. Long and photographer Peter Essick.*

**COVER:** *Refurbished, the Statue of Liberty presides over New York Harbor. Photograph by Robert Sacha.*

# Liberty Lifts Her Lamp Once More

By ALICE J. HALL ASSISTANT EDITOR

**A**t once the world's largest metal statue, a tangible pledge of French-American friendship, and a beacon to immigrants, the great lady rising from New York Harbor is much more. In one stunning image recognized around the world, the Statue of Liberty says America. And in this country that so often places its celebrities on a pedestal, citizens have over the years taken Liberty from her lofty perch and into their hearts. That feeling of familial affection was evident among the workers putting up the scaffolding for much needed restoration in anticipation of the statue's 100th anniversary. Tony Soraci (right) summed up their accord, "It's a historic job, something to tell my grandchildren."

Likewise, the improbable tale of the statue's birth is something to remember and pass on. She was conceived by French intellectuals during after-dinner conversation near Paris in 1865. Chafing under the despotic rule of Napoleon III, host Édouard René Lefebvre de Laboulaye proposed a monument to American independence that French men and arms had helped achieve. It would be a gift of the French people for America's Centennial in 1876 and would reinforce ideals of equality and liberty still held by many Frenchmen. One guest, 31-year-old sculptor Frédéric-Auguste Bartholdi, began to plan a design. In 1871 he traveled the United States from coast to coast and spotted Bedloe's Island in New York Harbor: "Here . . . my statue must rise; here where people get their first view of the New World." He would spend the next 15 years turning idea into reality.



# “Liberty Enlightening the World”

So Bartholdi named his copper-skinned goddess, lifting a torch and stepping out of broken shackles. Her tablet, a meaningful symbol to his fellow Freemasons, represents the rule of law and is inscribed in Roman numerals July 4, 1776. To hold this 151-foot statue against Atlantic gales, he called on the brilliant bridge engineer Alexandre Gustave Eiffel for the tallest iron support structure of its day. A tribute to 19th-century technology, the monument has undergone an equally pioneering restoration, described in this color-coded computer rendition.

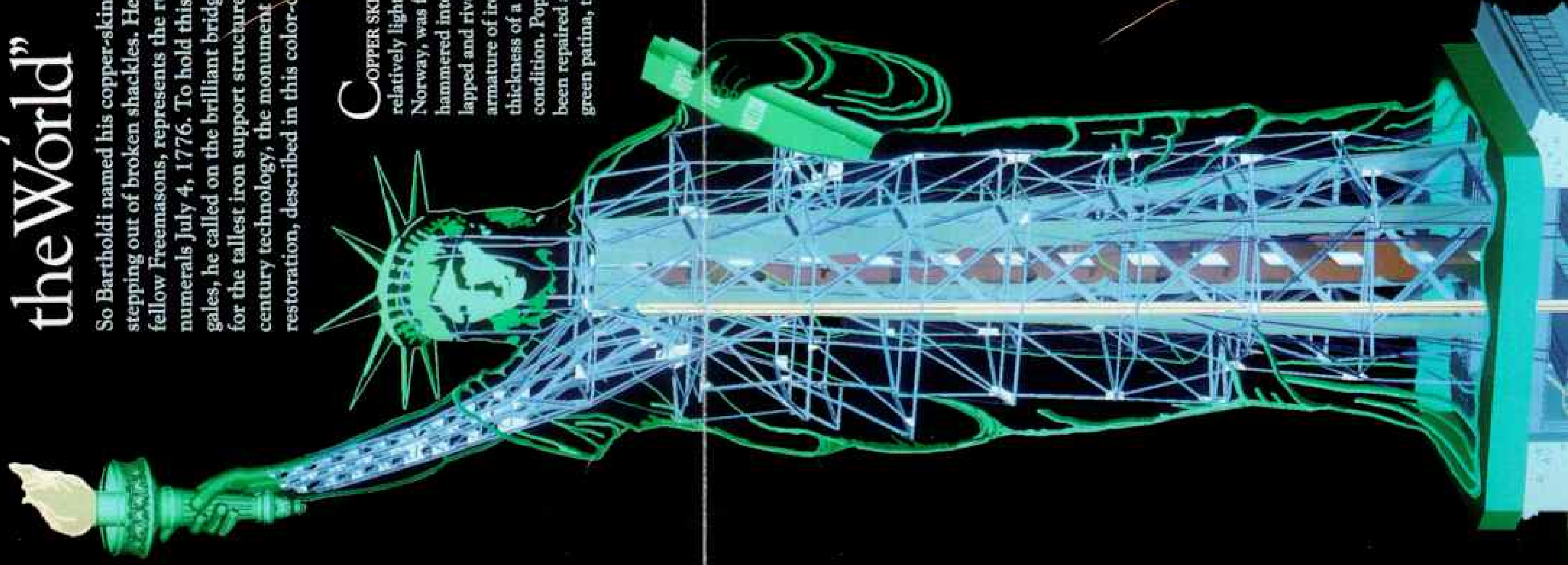
**THE TORCH:** Even before the statue was unveiled, Americans had cut portholes in the flame so that electric light could shine out, under the erroneous assumption that the statue would serve as a lighthouse. After more windows were added over the years, the torch deteriorated so much that it was replaced during restoration by this copy of Bartholdi's original. The old torch and flame will be displayed in the statue's museum.

**THE OFFSET PROBLEM:** The framework in the head and right arm has always been out of alignment. Constructed first, the two parts were displayed for years as part of fundraising activity. Photographs of the period support the theory that when the statue was assembled in Paris, the head had to be set two feet left of center to join properly with the torso. To compensate, the frame for the right arm was reconstructed with an offset of 18 inches. Restorers debated whether to replace the shoulder bracing or repair it and decided to preserve the historical anomaly with repairs.

**STAIRCASE:** The spiral staircase (brown) to the observation platform in the crown has been eagerly climbed by visitors since its installation in 1868. Stainless-steel treads of its 171 steps, an improved railing, and landings for observing the statue's interior were added during restoration. The central column (white) supporting the stairs carries a new heating and ventilating system.

**COPPER SKIN:** Chosen for longevity, flexibility, and relatively light weight, 32 tons of copper, mined in Norway, was formed into 300 sheets. Each was hammered into a distinctive shape, then spliced or lapped and riveted together. The skin hangs on an armature of iron ribs. Today the copper, about the thickness of a half-dollar, remains in excellent condition. Popped rivet holes and other damage have been repaired and the exterior thoroughly washed. The green patina, the soft aging of 100 years, remains intact.

**IRON SKELETON:** Like a great railroad trestle, the central pylon, made up of four cross-braced columns (gray), transfers the weight of the copper skin to the pedestal and the ground. A secondary framework (light blue) is connected by flat bars to the ribs on the skin, permitting the copper to flex as it responds to wind, heat, and cold. Thus the statue seems to float. The concept resembles the non-load-bearing curtain wall of today's skyscrapers. Modern testing of the statue's puddled iron, a type of wrought iron, revealed no internal cracks; it can withstand winds up to 125 miles an hour and has a fatigue life, if properly maintained, of more than 500 years.



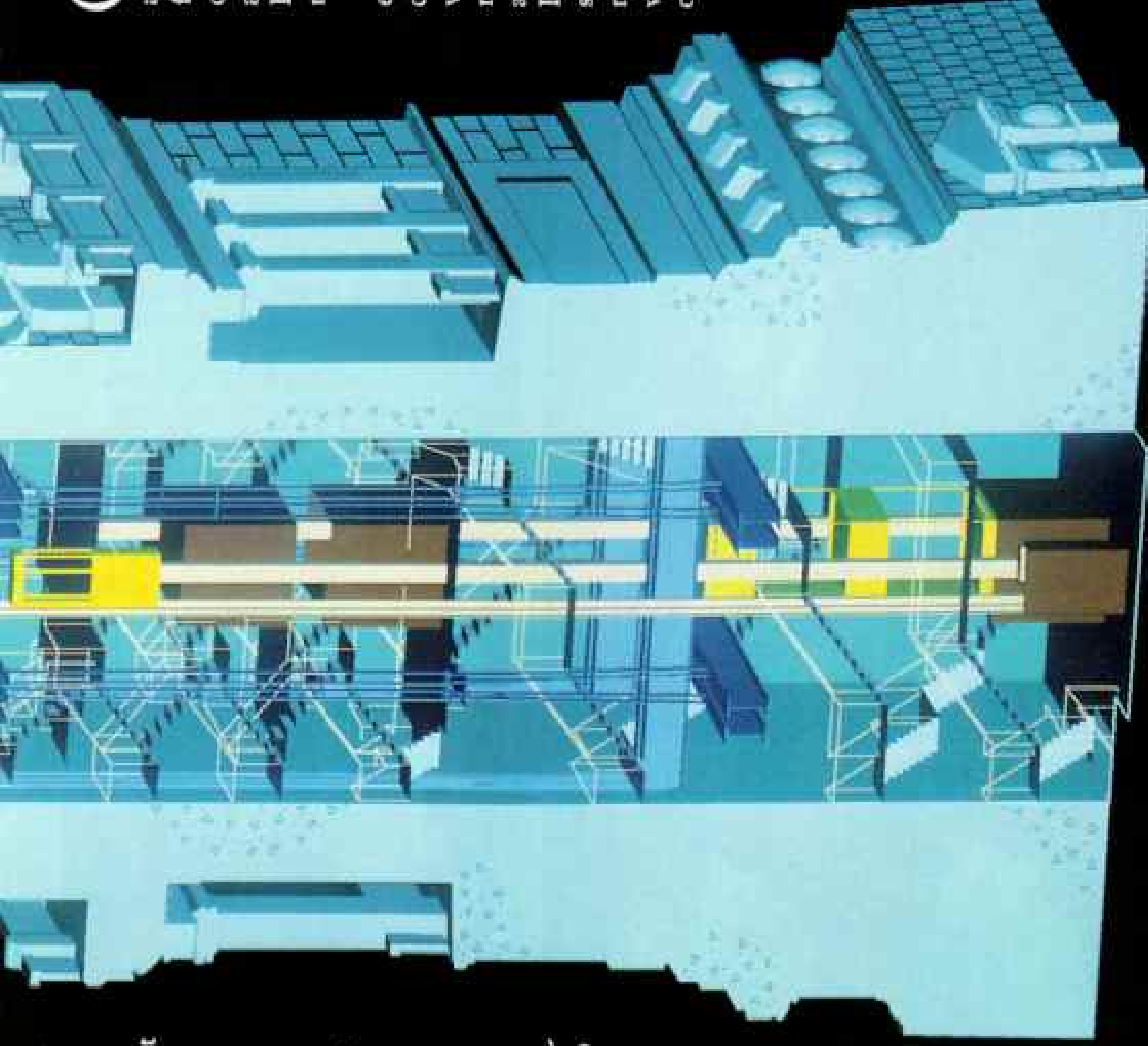
**P**EDESTAL: Designed by New York architect Richard Morris Hunt, built and paid for by Americans, the 87-foot-high pedestal relies on mass to withstand nature's forces. Only the facing is Connecticut granite; the interior is less costly concrete. Massive steel girders (light and dark blue), connected by tie-rods to one another and to the statue, reinforce it against an overturn.

Renovation has opened the pedestal's interior to easy viewing from a new open stairway. A double-deck glass elevator carries visitors to the colonnade level. Closed-circuit television provides views of the statue's interior for those visitors not wishing to climb to the crown, highest point open to the public. A two-person emergency elevator rides a vertical track (cream) to the shoulder.

The pedestal stands on a 53-foot-high concrete foundation—the largest pour of its time at some 23,500 tons—built on the site of an old fort. The museum within is maintained by the National Park Service, as is the statue itself.

**C**OMPUTER MODEL: Few architectural drawings exist from Bartholdi's day, so all parts of the statue had to be measured and analyzed before the National Park Service could begin renovation.

Structural drawings were later entered into a computer-aided design system that permits viewing of all details, down to rivets and gusset plates, at any angle at a one-to-one scale. Printouts can be obtained for study and to aid repair. At the museum a computer terminal will allow visitors to view some of these drawings.



COMPUTER DEPICTION BY BURNS AND ROSE, INC., FROM DATA FURNISHED BY SWARRE HAYDER CORWELL ARCHITECTS, AMMANN & WHITNEY, AND SEGG, WITH SUPPORT FROM THE RESTORATION RECORD PROGRAM OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS.



ANDY LEVIN, BLACK STAR

“Mom, they’ve got Liberty in a cage,” a youngster cried out at the disconcerting sight on television of the statue imprisoned by scaffolding. Last November 25, as a Coast Guard helicopter hovered (right), a crane hoisted the new torch into place, an event marking one of the last chapters in the three-and-a-half-year, 31-million-dollar renovation. It began with an inch-by-inch inspection of the interior.

The worst problems were rust and corrosion. The statue had always leaked, and corrosion due to galvanic action occurred wherever iron ribs were held against the copper skin by copper fastenings, despite an insulating asbestos backing. Where the saddlelike fastenings had fallen off, rivet holes (below) exposed the interior to more moisture.

Squeezed inside the two-foot-wide tablet, metalworker Mark Scola (left) removes one of the 1,800 corroded, paint-covered ribs. Each was replicated in a malleable rust-and-corrosion-resistant stainless steel known as 316L. Scola and Richard Sardina (lower left) used the old rib as a template for the new one, which they here back with Teflon-coated tape to prevent its binding on the skin side and to add insulation between the two metals.

During its earlier life the statue’s interior was “improved” with tar,

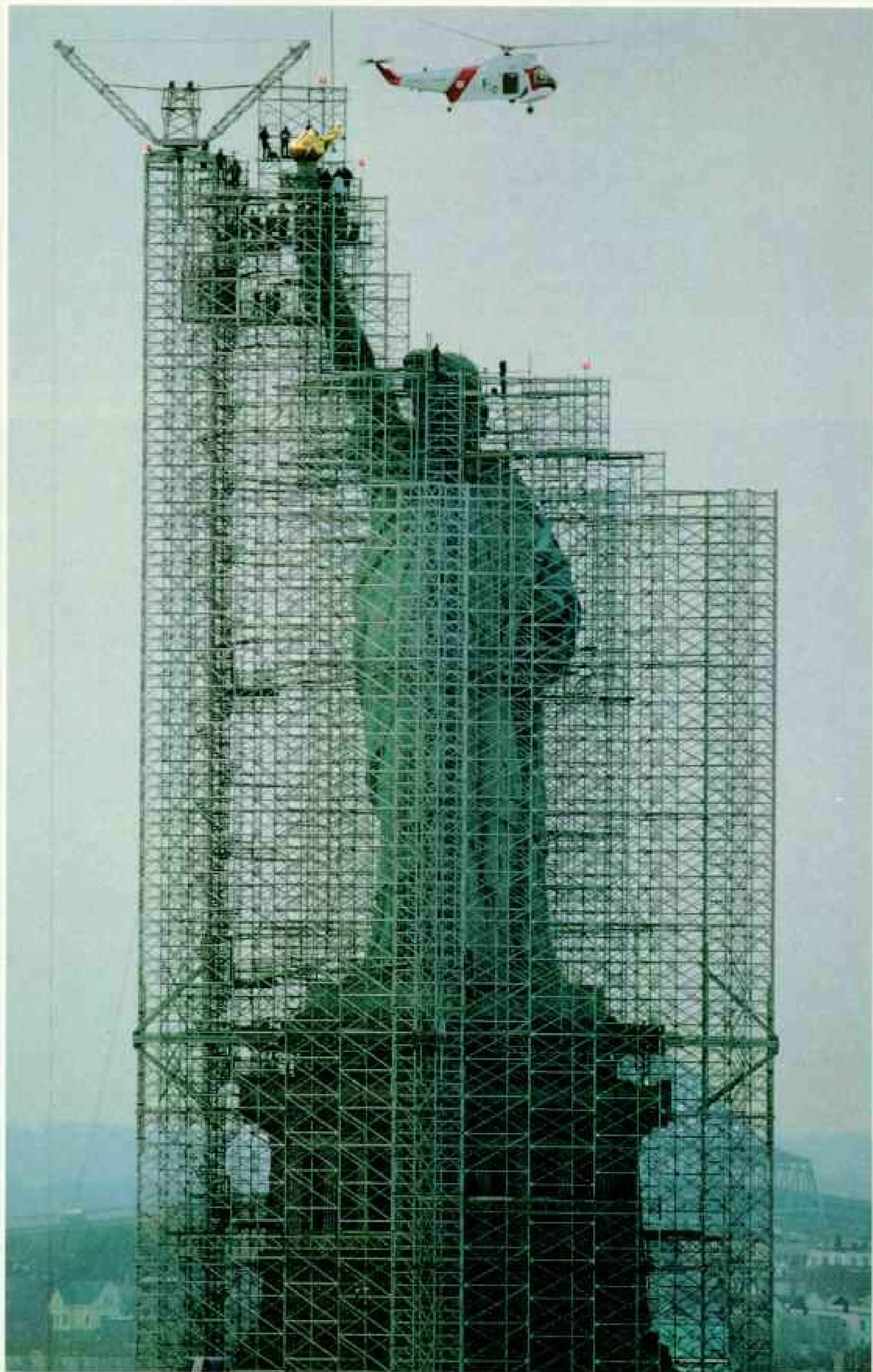


JIMMY HEDRICK



DAK COYNEK, EZRO PHOTOGRAPHICS INC.

probably in an effort to keep out water, and painted at least seven times. Liquid nitrogen was applied to freeze and crack the paint; the tar came off with blasts of gritty sodium bicarbonate, whose residue is seen above during the cleaning process. Stripped bare, the brown copper revealed the hammer marks of its creators.



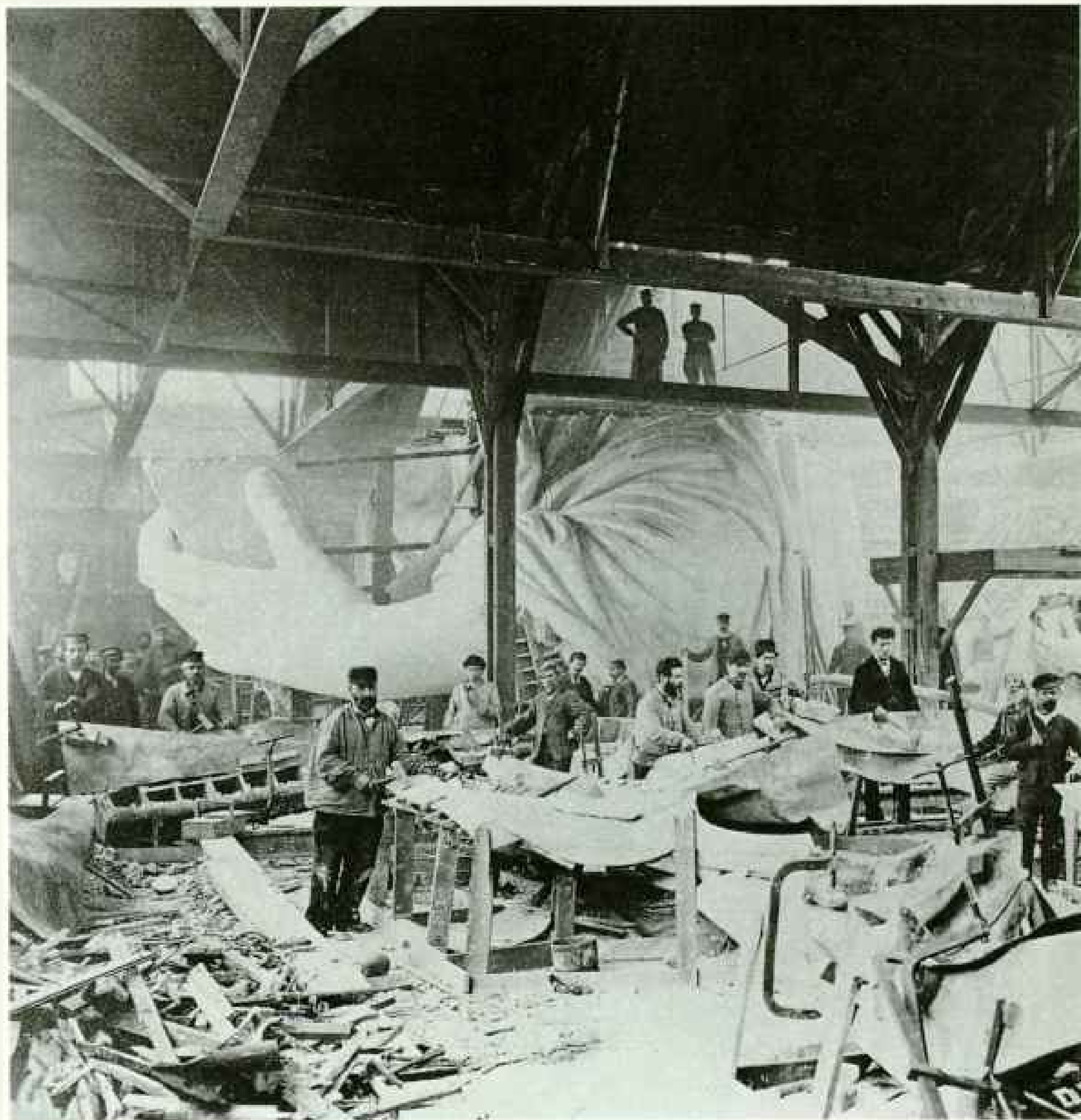


“I will try especially to glorify the Republic and Liberty over there,” young Bartholdi (right) wrote of the U. S., “hoping that I will one day find them back here.” His consuming passion became the creation of a “work of profound moral worth,” and he drew inspiration from stone monuments of Egypt, the Colossus of Rhodes, and a 76-foot copper statue of St. Charles Borromeo in Arona, Italy.

Supporting himself with commissions, such as a statue of Lafayette for New York City, he worked tirelessly, but he willingly interrupted his efforts to answer any call from his



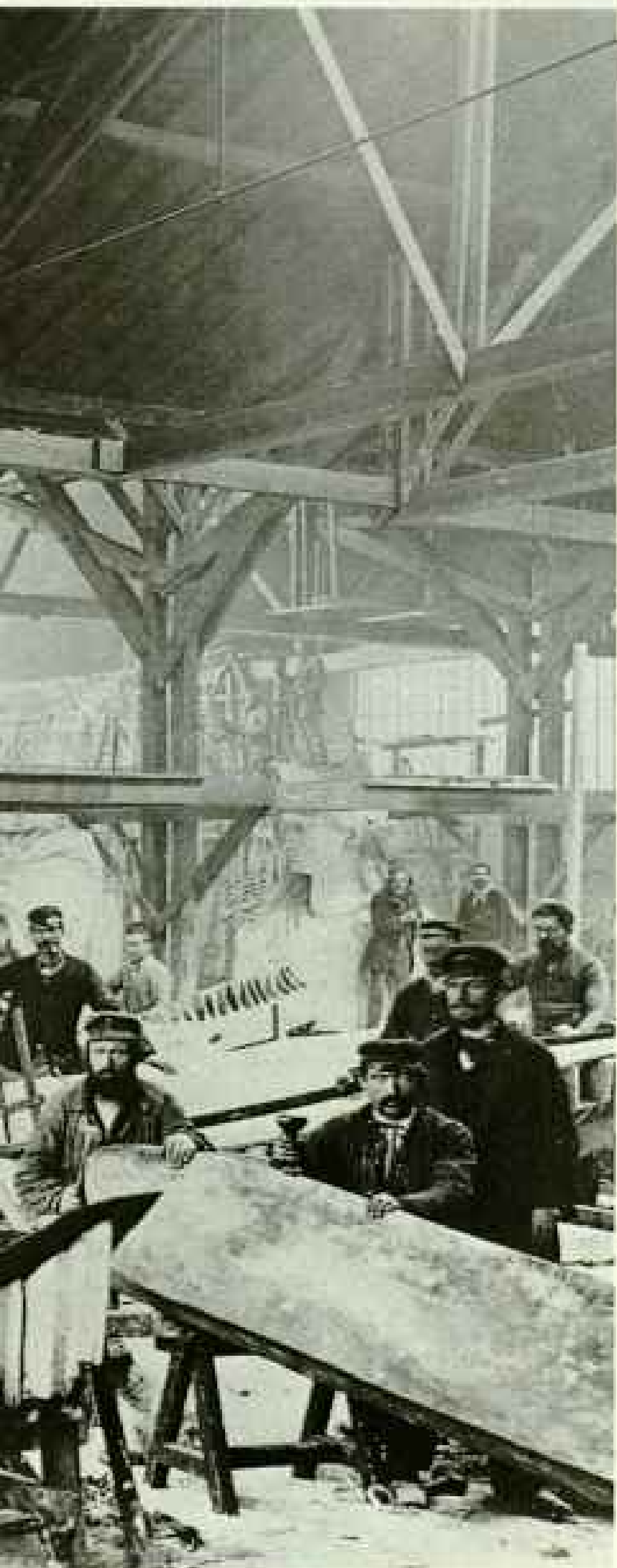
MUSÉE BARTHOLDI, COLMAR, FRANCE



possessive widowed mother. Later an acquaintance saw in her features Liberty's face, an observation Bartholdi neither denied nor explained. But his terra cotta bust of his mother (right) resembles an early model of Liberty.

Wags said that Bartholdi's ladylove, Jeanne-Émilie Baheux de Puysieux, posed for the body, an unlikely rumor since he met and married her during his second trip to America, in 1876. By then the statue was under way.

To build the titan, Bartholdi cut his final 36-foot-high plaster model into sections and enlarged each on the basis of thousands of precise measurements.



LIBRARY OF CONGRESS (LEFT); KEVIN FLEMING, COURTESY MUSÉE BARTHOLDI

Each full-size section, such as the arm (left), was modeled in plaster in the Paris workshop of Gaget and Gauthier. Carpenters carved wood molds to match the plaster shape; metalworkers then hammered copper sheets into the molds until they duplicated the plaster arm. Iron armature ribs were attached with copper saddles and rivets.

Work was sporadic because of lack of funds, but 600,000 francs—\$1.3 million in today's dollars—had been raised by 1880, and by 1884 the last of the copper sheets was assembled over the frame in the workshop yard. The statue was seen at last when it was presented to the U. S. minister on July 4. For months Liberty stared over the Paris rooftops. Then it was taken apart, crated in some 200 boxes, and shipped to New York, arriving June 17, 1885.



LIBRARY OF CONGRESS (ABOVE AND BELOW)



The torch had already traveled once to America. To fire enthusiasm for the unimaginable colossus, Bartholdi displayed the statue in parts. Only the torch was completed in time to appear at the Centennial of 1876 in Philadelphia. For a fee visitors could climb to the balcony (upper left). When the *New York Times* expounded against spending any money on a "bronze female," Bartholdi proposed placing it in Philadelphia. New Yorkers responded by forming a committee to

*National Geographic, July 1986*



BOB SACHA

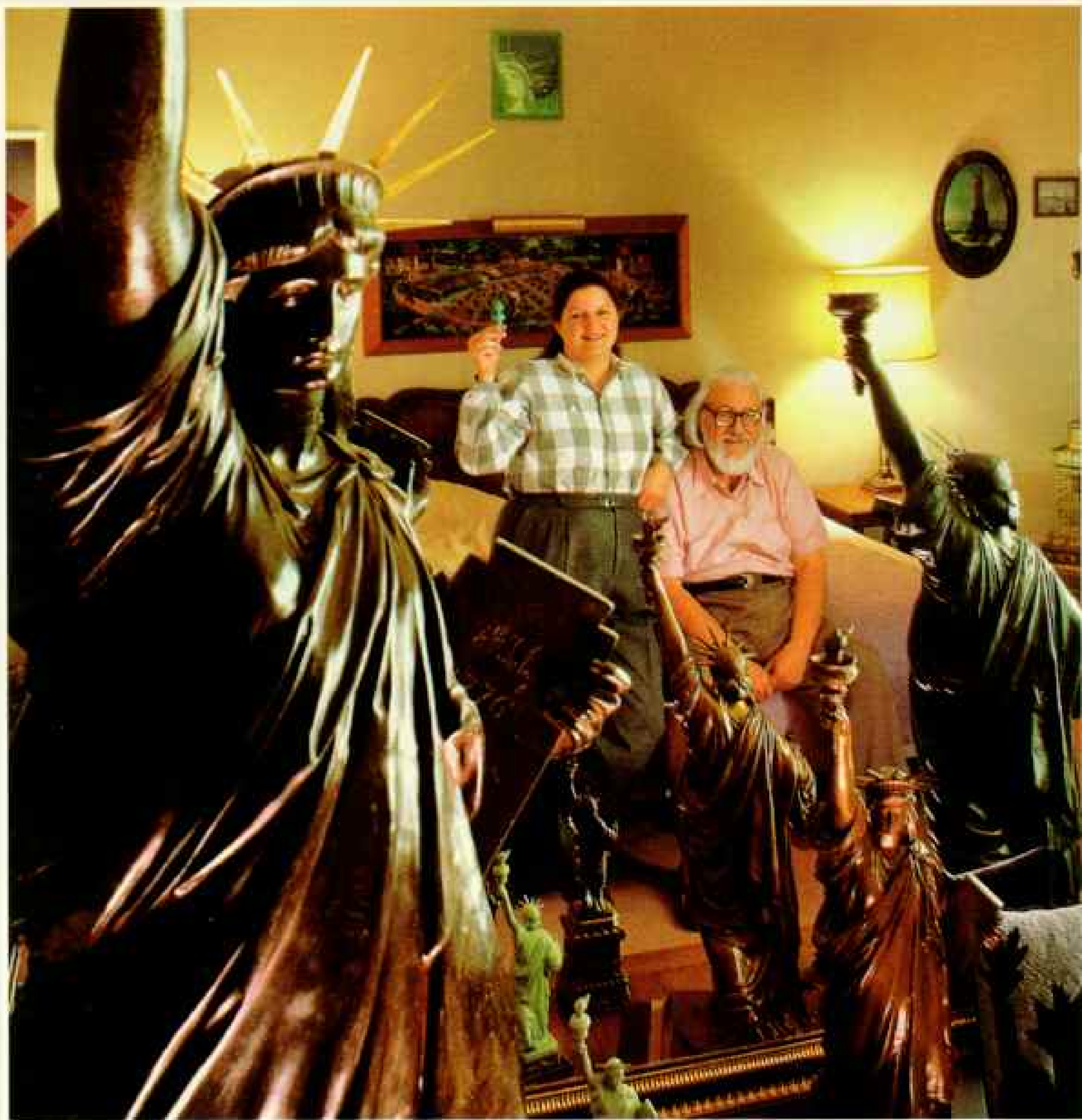
raise funds for the pedestal. Whenever their efforts flagged, other communities—Boston, San Francisco, Milwaukee, and Glover, Vermont—volunteered to give Liberty a home.

In Paris the head (left) aroused great interest at the Universal Exposition of 1878. Fine workmanship showed up especially in the coiffure, a 19th-century style.

Continuing the tradition of artistic metalwork, a team of French craftsmen came to New York in 1984 to replicate Bartholdi's original torch and flame

in copper repoussé. They were followed by master gilders from Paris, Robert and Fabrice Gohard, who applied nearly a pound of gold leaf (above) to brighten the flame. The coating will last at least 20 years and will be easy to touch up when necessary. Lights shining from the torch's balcony will illuminate the flame at night.

The French metalworkers also fabricated actual-size reproductions of the left foot and the face for the statue's museum. These copies will show how the copper was hammered and spliced.



The selling of the statue has occurred continually from the monument's inception, as official committees have raised money for its construction and restoration, while some companies have exploited its image for personal profit. Bartholdi arranged for the Avoiron foundry in France to cast and sell models for 10 percent of the proceeds. Three of these now rare models stand on the dresser of New York collectors Anne Griffiths and William M. Gaines (above). The small model, center,

has a sculptured flame, while larger flanking models were sold with fittings for gas or electric lights.

In the United States, Bartholdi copyrighted his design and granted licenses for model making with proceeds to go to the American committee, but manufacturers were soon turning out unofficial imitations.

No legal barrier stands in the way of reproducing the image, and ingenuity seems the only limit. Souvenir spoons (right) from Miss Griffiths' collection have long sold as collector's items.



BOB SACHA (ABOVE AND RIGHT)

These rest on a print of an Edward Moran painting of 1876. Foam diadems were hawked recently on 42nd Street (above right).

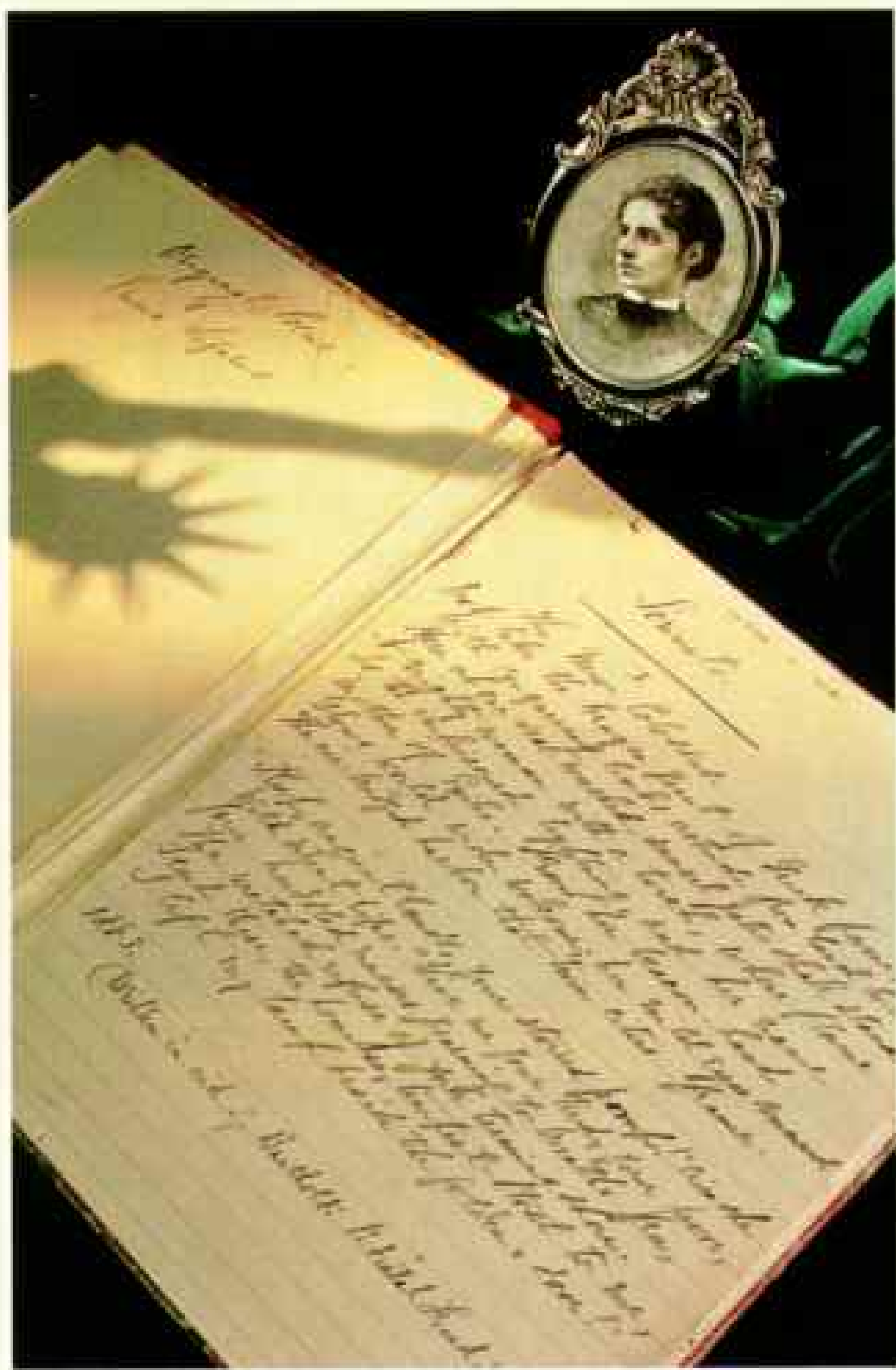
For the restoration of the statue and the historic immigration depot nearby, the official fund-raiser—the Statue of Liberty-Ellis Island Foundation, Inc.—accepted contributions from individuals and corporate sponsors and also granted licenses to select manufacturers in exchange for a percent of the profits, permitting such donors the right to use the foundation's logo.

*Liberty Lifts Her Lamp Once More*



KOBY BORDWAIN





BOB SACHAL. COURTESY THE AMERICAN JEWISH HISTORICAL SOCIETY AND THE NEW YORK HISTORICAL SOCIETY

**T**he sonnet that is synonymous with the statue was penned by an American literary figure to help raise funds for the pedestal. "Give me your tired, your poor, your huddled masses yearning to breathe free," wrote Emma Lazarus (above), identifying the statue not as a classical goddess but as "Mother of Exiles." Her poem was included with works by Walt Whitman, Mark Twain, and Bret Harte in a portfolio auctioned for \$1,500 at an art exhibit in December 1883.

Daughter of a wealthy New York merchant and member of an elite Sephardic Jewish community, Lazarus had been exposed to the effects of persecution when she met Jewish refugees fleeing the pogroms that swept Russia after the assassination of Tsar Alexander II in 1881. Thereafter she

took up the cause of "the oppression of men and women by men and women" everywhere. But her poem slipped into obscurity despite James Russell Lowell's compliment: "I liked your sonnet . . . better than I like the Statue itself. . . . [It] gives its subject a *raison d'être*."

Still the pedestal fund languished, until a prominent publisher turned his newspaper into a fund-raiser. Joseph Pulitzer, who had himself come to America as a penniless Hungarian immigrant, put the statue's image in the logo of his *New York World* and used the paper's pages to shame New Yorkers for accepting "this splendid gift without our having provided even so much as a landing place for it." Appealing to "the people," he wrote, "let us not wait for the millionaires." By publishing the name of every donor in 1885, regardless of the size of the contribution, he raised \$100,000 toward the \$250,000 cost in five months, and pedestal construction moved forward.

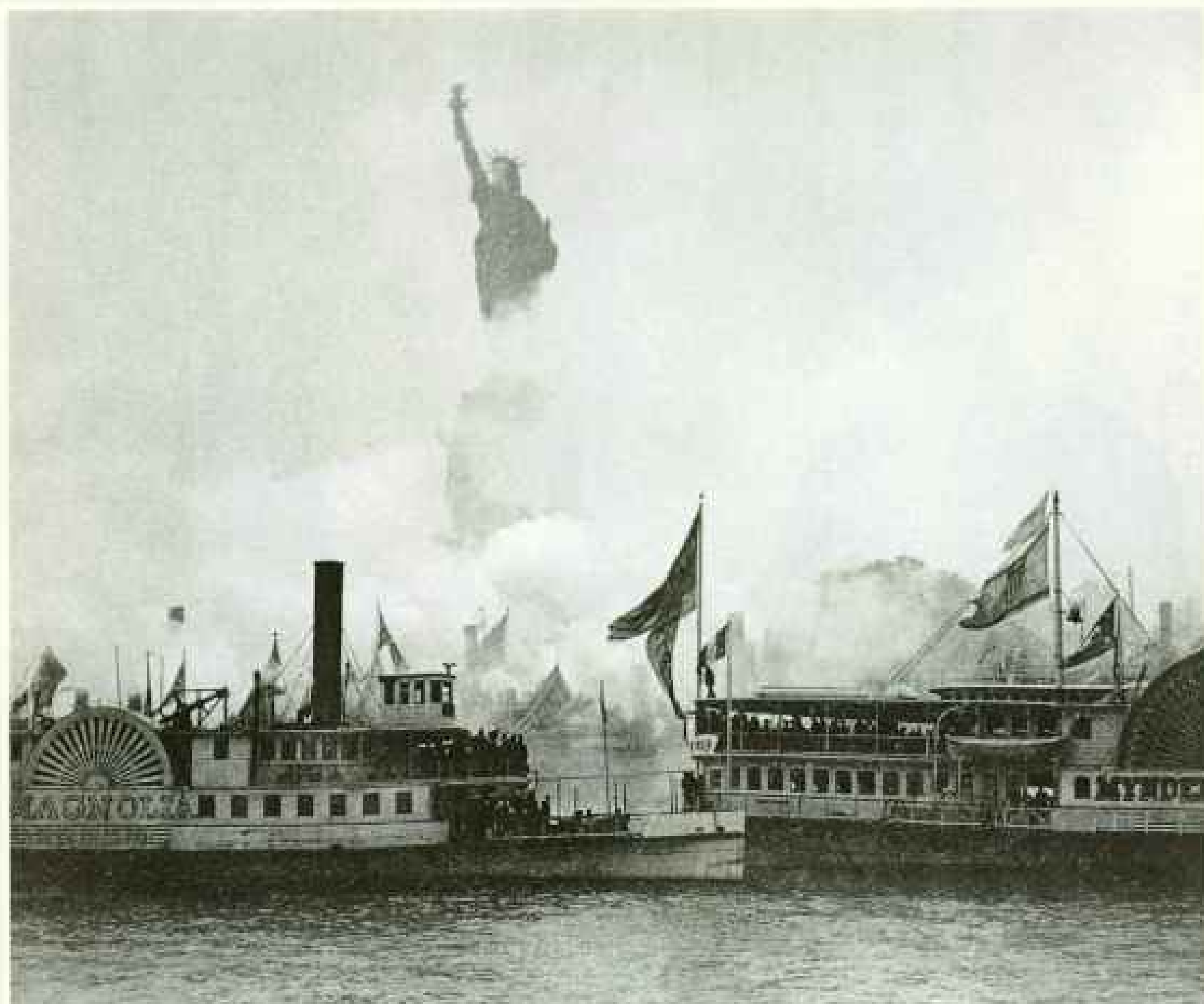
In the years that followed, hundreds of immigrant ships entered New York Harbor, usually landing first- and second-class passengers in Manhattan and carrying third-class arrivals (right) to an immigration station at Ellis Island. For many, their first glimpse of America was the statue. "She was beautiful with the early morning light," one noted. "Everybody was crying. The whole boat bent toward her because everybody went out." Another recalled a "feeling among many of us that isn't it strange that here we are coming to a country where there is complete equality, but not quite so for the newly arrived immigrants. So third-class passengers had to come to Ellis Island."

In 1903 Emma Lazarus's poem was placed on a plaque inside the pedestal by a friend as a memorial to her, but not until the late 1930s did the sonnet move into the mainstream of American consciousness. By then the statue was increasingly associated with the earlier wave of immigration.

Today the plaque bearing Emma Lazarus's poem holds a place of honor in the statue's museum. The main building at Ellis Island that processed more than 12 million arrivals between 1892 and 1954 is being renovated as a museum honoring the immigrants.







LIBRARY OF CONGRESS

Opening-day hoopla saw “everything that floats in New York, Brooklyn or Jersey City—steamers, ferry boats, yachts” and these paddle wheelers crowded around Bedloe’s Island for the dedication on October 28, 1886. A boatload of suffragettes pointed up the irony of the portrayal of Liberty as a woman when American women did not have the vote. It was a drizzly, foggy day, and so much smoke rose from firing cannon that the statue was almost obscured. As President Grover Cleveland stepped onto the island, cannon boomed and steam whistles screamed, joining sirens on shore in wild cacophony; few in the audience heard the speeches. Canal builder Ferdinand de Lesseps made an official presentation, concluding “au revoir until we meet at Panama.” In the middle of the next speech, Bartholdi, who was standing in the crown,

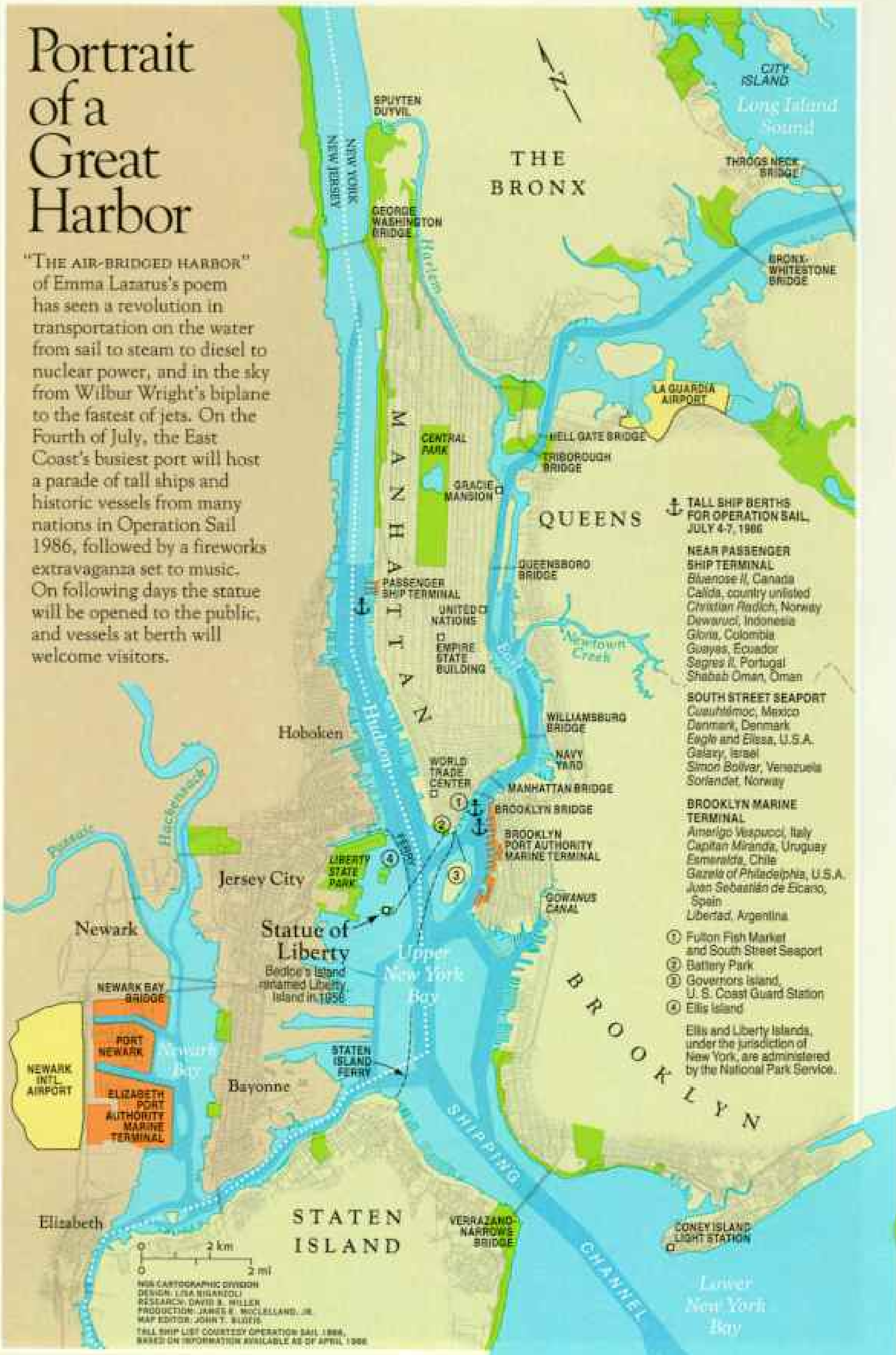
responded to an inadvertently early signal from the ground and dropped the French tricolor that veiled Liberty’s face. Again an incredible din arose.

New York City had declared a public holiday and sponsored a grandiose three-hour parade that included veterans, student groups, Freemasons, culinary societies, National Guardsmen, and volunteer regiments that called themselves the Sons of Lafayette and Rochambeau. Congress had approved \$56,400 for island improvements and entertainment, despite the opposition of congressmen from the West decrying public funding of a “good time for the citizens of New York.” Madame Bartholdi wrote to her mother-in-law, “Our dear Auguste was celebrated like a king.”

This July 3, President Ronald Reagan plans to relight the refurbished statue, setting off a weekend of celebration in the harbor. □

# Portrait of a Great Harbor

"THE AIR-BRIDGED HARBOR" of Emma Lazarus's poem has seen a revolution in transportation on the water from sail to steam to diesel to nuclear power, and in the sky from Wilbur Wright's biplane to the fastest of jets. On the Fourth of July, the East Coast's busiest port will host a parade of tall ships and historic vessels from many nations in Operation Sail 1986, followed by a fireworks extravaganza set to music. On following days the statue will be opened to the public, and vessels at berth will welcome visitors.



- TALL SHIP BERTHS FOR OPERATION SAIL, JULY 4-7, 1986**
- NEAR PASSENGER SHIP TERMINAL**  
*Bluenose II*, Canada  
*Calda*, country unlisted  
*Christian Radich*, Norway  
*Deiwarucl*, Indonesia  
*Gloria*, Colombia  
*Guayas*, Ecuador  
*Sagres II*, Portugal  
*Shabab Oman*, Oman
- SOUTH STREET SEAPORT**  
*Cuxuhtimoc*, Mexico  
*Denmark*, Denmark  
*Eagle and Elissa*, U.S.A.  
*Galaxy*, Israel  
*Simon Bolivar*, Venezuela  
*Sorlandet*, Norway
- BROOKLYN MARINE TERMINAL**  
*Amerigo Vesputcci*, Italy  
*Capitan Miranda*, Uruguay  
*Esmeralda*, Chile  
*Gazette of Philadelphia*, U.S.A.  
*Juan Sebastian de Eicaro*, Spain  
*Libertad*, Argentina
- ① Fulton Fish Market and South Street Seaport  
 ② Battery Park  
 ③ Governors Island, U.S. Coast Guard Station  
 ④ Ellis Island

Ellis and Liberty Islands, under the jurisdiction of New York, are administered by the National Park Service.

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NSM CARTOGRAPHIC DIVISION  
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 MAP EDITOR: JOHN T. BLUETT  
 TALL SHIP LIST COURTESY OPERATION SAIL 1986,  
 BASED ON INFORMATION AVAILABLE AS OF APRIL 1986



# New York Harbor

# The Golden

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# Door

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By ERLA ZWINGLE

Photographs by BRUCE DAVIDSON MAGNUM

**T**his is the gateway of gateways. Walt Whitman called New York Harbor “the great place of the western continent, the heart, the brain, the focus, the main spring, the pinnacle, the extremity, the no more beyond, of the New World.”

It has everything: Protection from storms, enough depth and space to accommodate ships of every size, good holding ground for anchorage, relative freedom from ice and fog, the front door of the Narrows between Brooklyn and Staten Island, and the back way through Long Island Sound, giving easy access to the southern coast of New England. Above all, the harbor has size: The harbors of Hamburg, Liverpool, London, Amsterdam, and Antwerp could all fit into it.

Its earliest explorers would still recognize the harbor's splendid outlines, though centuries of development have obscured its natural network of bays, creeks, inlets, rivers, and kills, or channels. It still surges through Hell Gate, where the East River swells against the waters from the sound, and boils where the Hudson and Harlem Rivers meet at Spuyten Duyvil (map, page 19). This mixture of sea and river, the harbor's lifeblood, has been poisoned where industry has gripped too tightly for too long at Newtown Creek, and in the gangrenous Gowanus Canal. Somehow the harbor's energy overcomes everything.

To enter the harbor is to enter America. In fact and symbol, it is the Golden Door to new life, the outward and visible sign of the covenant America has made with the world, a monument guarded by a monument (left).

In 1524 Giovanni da Verrazano, the Florentine navigator in the service of France who probably was the first European to see the harbor, recorded it matter-of-factly as "a very agreeable site located within two small prominent hills, in the midst of which flowed to the sea a very big river." As a natural and man-made wonder, it has undergone continual evolution. In its early years, sailing ships moored near South Street at the tip of Manhattan in the East River. Between the Revolution and the Civil War the waterfront was "a forest of masts and rigging, as dense and tangled in appearance as a cedar swamp."

Superlatives leapt the centuries as the great city of stone and steel and glass leapt up beside the harbor. "The bowsprits of ships stretch across the footway, and almost thrust themselves into the windows," noted Charles Dickens in 1842. Yet even in that decade, which saw America's famous swift clipper ships sailing from China bearing tea and hauling forty-niners to California's gold rush, the tide of progress was shifting from sail to steam. By 1845, when New York launched its first clipper, *Rainbow*, the British side-wheel steamer *Great Western* had already been making the Liverpool-to-New York run for six years. Shipping began its move to the Hudson and New Jersey shores, where the waters were deeper and there was more room to maneuver.

In the mid-20th century the great containerships arrived, needing wide, deep channels with acres of storage space ashore. So the New Jersey ports of Elizabeth and Newark—invisible from the harbor—took the commercial lead. Yet the harbor itself, the same old heart of commerce, went on beating. Every hour of every day sees the passage of vessels—tankers from Brazil, Spain, West Germany, gorged with chemicals, cement, orange juice; ships loaded with luxury automobiles; Coast Guard buoy tenders; Army Corps of Engineers drift collectors trundling about picking up floating debris; garbage scows heading to landfills and empty sludge tankers returning from the sea; police boats, pilot boats, ferryboats, tugboats, pleasure boats.

A place so fraught with energy should be noisy, yet the harbor is strangely hushed. Immense fuel barges, like entire city blocks gone adrift, pass soundlessly. Barges and ferries to the islands—Staten, Governors, Liberty, and Ellis—are drawn as if by magnets across the gray, crumpled-tinfoil water. Perhaps sky and water, hazily mingling, absorb human clamor. One hears only the gulls, the sonorous freighters, the chatter of helicopters.

The air above the harbor is electric with information—the Coast Guard radar towers on Sandy Hook and Governors Island monitoring ships for traffic updates, intersecting with myriad marine radios sputtering advice. Everyone checks with everyone else. Even New York Harbor has its tight spots, and pilots must make decisions miles in advance. Wrecks and ghosts beneath the waters are a warning to seamen who might not think soon enough or fast enough.

The business of any harbor is trade. In 1985 the Port of New York-New Jersey handled 51.3 million long tons of ocean-borne foreign trade, valued at 48.8 billion dollars. Yet the harbor is not merely a money-maker. It also exists as a realm apart, administered by the Port Authority and the Department of

Ports and Terminals. Seaport-related services employ 192,000 people, who last year earned more than four billion dollars in personal income. Twenty-six unions represent its organized workers on a waterfront that has lived through much turbulence and has not quite lived down a reputation for violence and corruption. Containerized shipping and the virtual demise of the great transatlantic liners has meant fewer jobs for longshoremen.

**S**o the harbor continues to evolve—or perhaps molt is a better word, as abandoned docks and warehouses wait to be sloughed away and replaced by condominiums and yacht marinas. The glossy South Street Seaport complex in lower Manhattan simultaneously saved and killed an 11-block enclave of historic, though decrepit, property. Today the seaport presses hard against its gnarled neighbor, the Fulton Fish Market, where bellowing, cloud-breathing, raw-fingered men labor through the freezing night heaving icy crates of slithering, glimmering, opalescent fish. Comparing the reality of the market to the laminated triviality of the seaport, it seems that the platelets are being pumped out of the harbor's blood and replaced with tinsel.

Sentimental? Nostalgic? Certainly. How can one not love the harbor? It has borne so much of our history, so many of our triumphs and sorrows, farewells and homecomings to us. This was the floodgate of immigration through which generations passed. They were coming in packet ships as early as 1818; between 1892 and 1954 more than 12 million went through Ellis Island; at the turn of the century, 70 percent of all newcomers entered America through this harbor. The Revolution might have foundered if not for the chancy evacuation of Washington's troops from Brooklyn to Manhattan in a flotilla of civilian boats; Governors Island was a Civil War prison camp; the ironclad *Monitor* was built in the harbor, and the Brooklyn Navy Yard produced great and storied battleships—the *Maine*, the *Missouri*. Three-fourths of all the troops and supplies America sent to France in World War I sailed from New York, and Marlene Dietrich, like many another joyous girl, kissed the boys hello on the New York docks when they returned from Europe at the end of World War II.

Before that war, generations of Americans watched movie stars depart the Hudson piers on majestic liners in blizzards of paper streamers and popping of flashbulbs and heroes return to the watery plumes of fireboats, the screeching of ships' whistles, and the grinding of newsreel cameras. Here, in 1942, the glorious *Normandie* burned and sank at her pier, and from here the *Mary Celeste* set sail to mystery and oblivion.

There is no proof that a German submarine ever fired on the Empire State Building from the harbor. But myths persist, and why not? The harbor is romance—noble, serene, beckoning yet mysterious, worldly and innocent. "Nothing is permanent," the harbor seems to say, "but a few things are eternal. I am one."

\* \* \*





*Last keeper of the flame, 70-year-old Frank Schubert is the only remaining civilian lighthouse keeper in the U. S. Since 1890 the Coney Island Light Station has guided ships arriving at America's gateway for millions of immigrants.*





*M*ighty midget docks a liner at the Hudson River passenger terminal, where cheering crowds long welcomed the grande dames of the ocean—the Queen Mary, Normandie, and Ile de France. Today Caribbean cruise ships gracefully recall that romantic era.







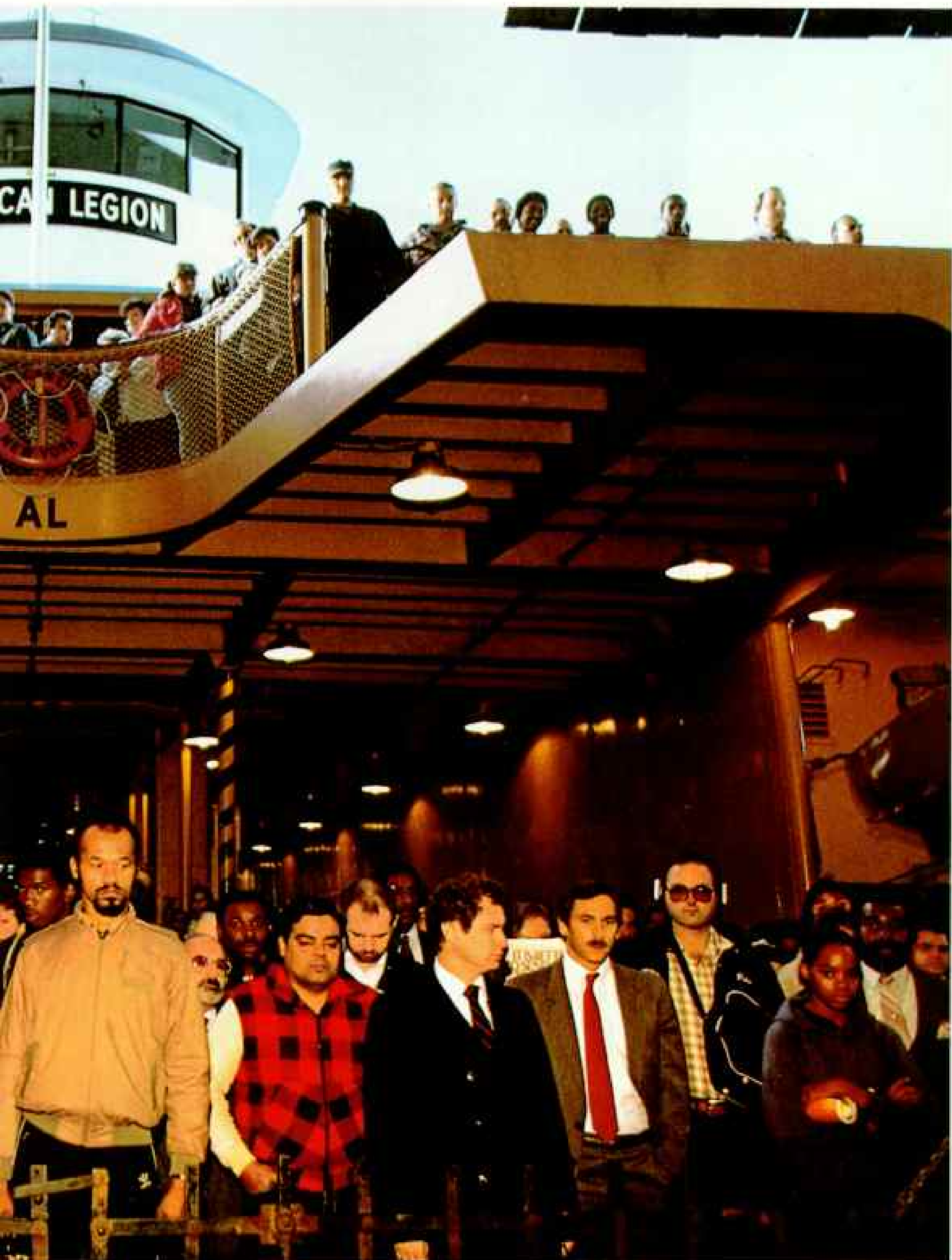
*G*uardian of the harbor since 1790, the Coast Guard oversees vessel safety, pollution control, and ship movement. A color guard flanks Captain of the Port Arthur E. Henn at Castle Williams, an 1810 fort on Governors Island.

*They call him "Pop" on the waterfront, and 76-year-old Jeremiah Driscoll finds it hard to retire. He was captain of the small refueling tanker Kevin D., at left, until the end of last year. Now he helps out as deckhand to the new captain, Walter Wolf, left.*









*Today's "huddled masses" seeking Manhattan's shores are mostly commuters on the Staten Island Ferry, who all seem to be in a world of their own. The famous five-cent fare rose in 1975 to a quarter, paid on the Manhattan side.*



*Lobsters can still be caught—despite widespread pollution—where Long Island Sound meets the East River. John Clavin, a full-time crane operator and occasional fisherman, shackles the claws with rubber bands. His partner, Andy Murphy, stands by the flounder used for bait.*







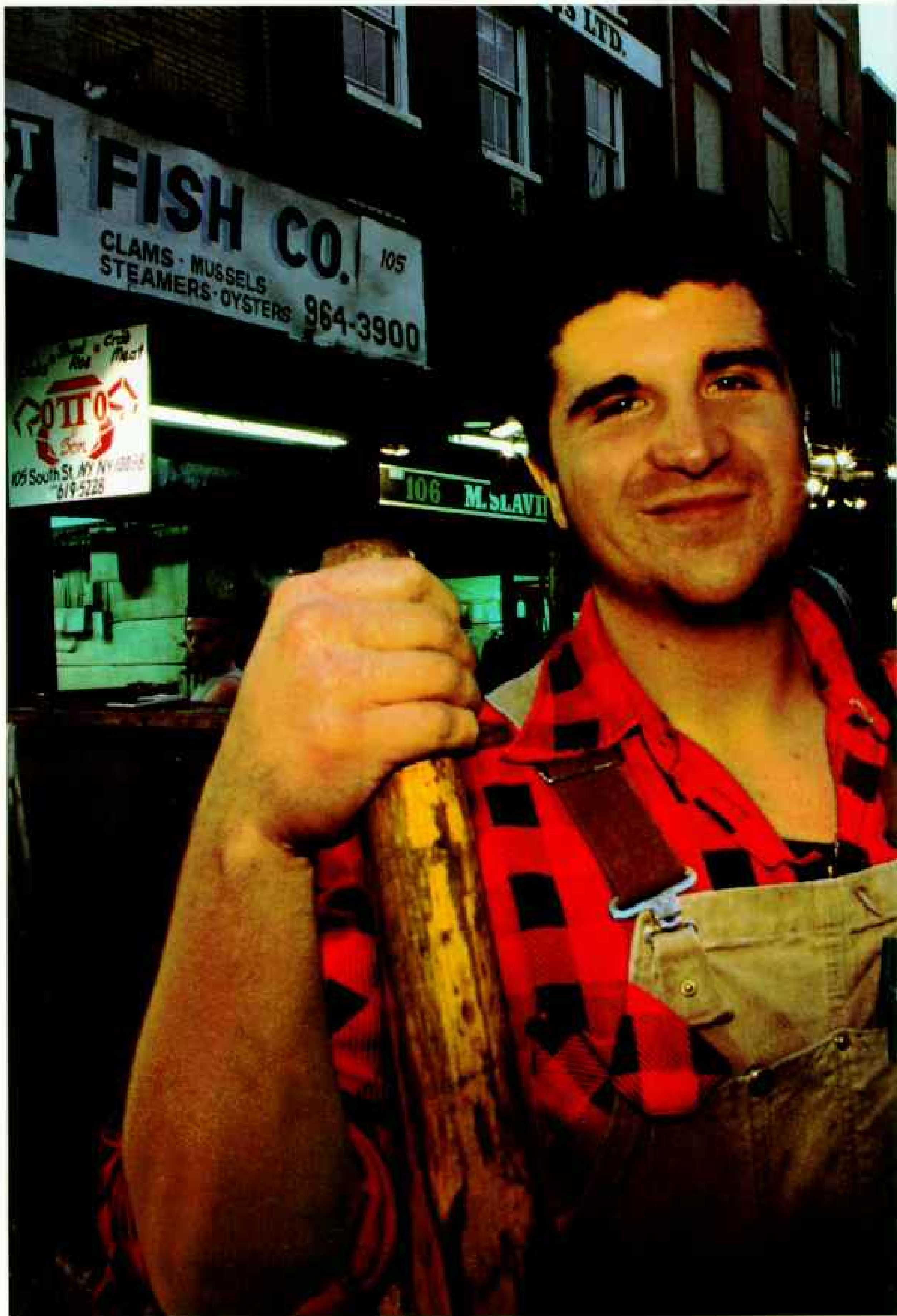


*Last berth for an aged tugboat lies in Witte Marine Equipment Company's Staten Island salvage yard. Transplanted Alabamian Charles Mead helps cut up part of the scrap metal that constitutes more than half of the harbor's bulk exports.*



*P*olice divers Thomas Rowe and Allen Kane are part of a 22-man corps that battles heavy currents and poor visibility to retrieve "submerged persons," says Lt. Bob Hayes. "Also weapons. And automobiles. Quite a few are occupied."





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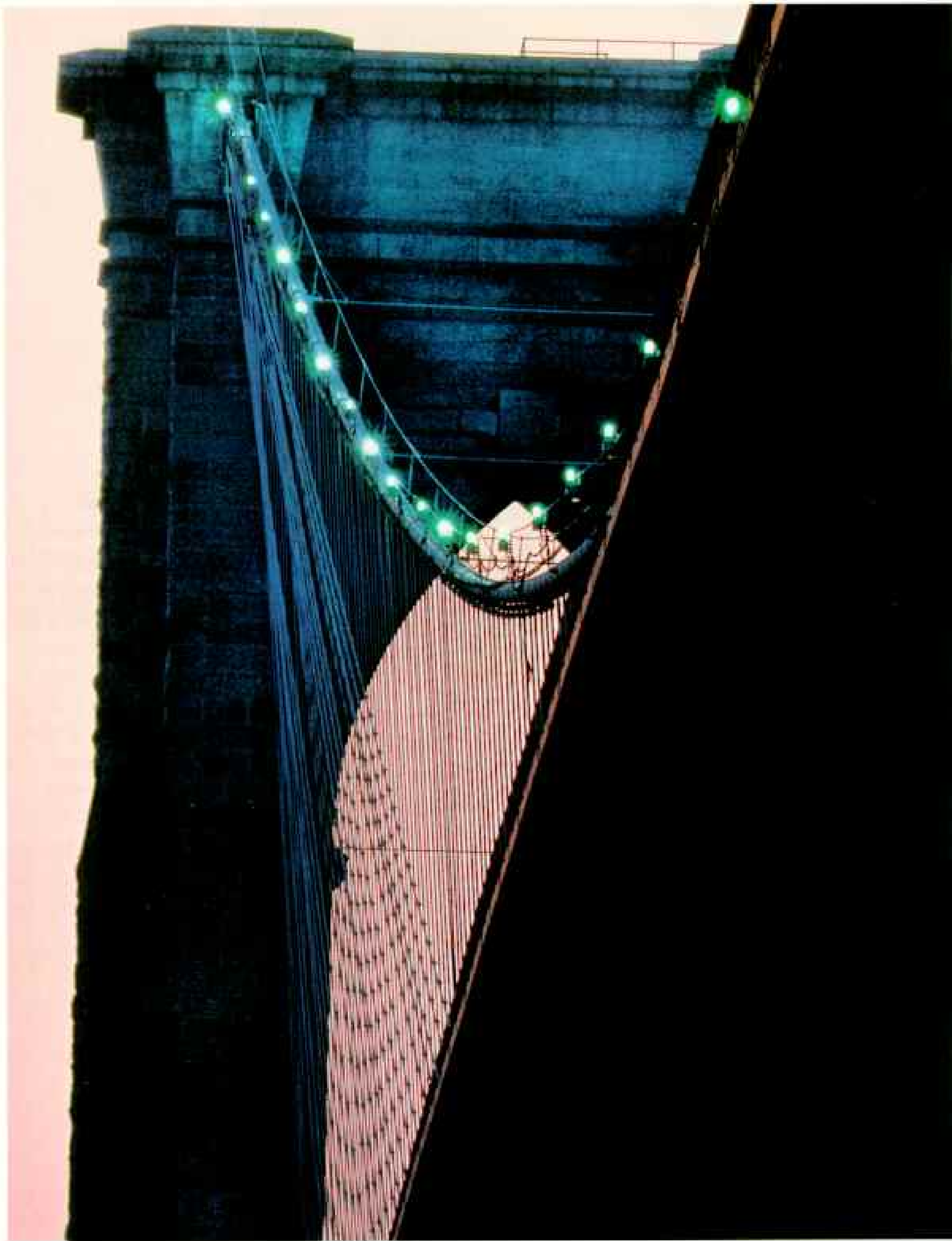
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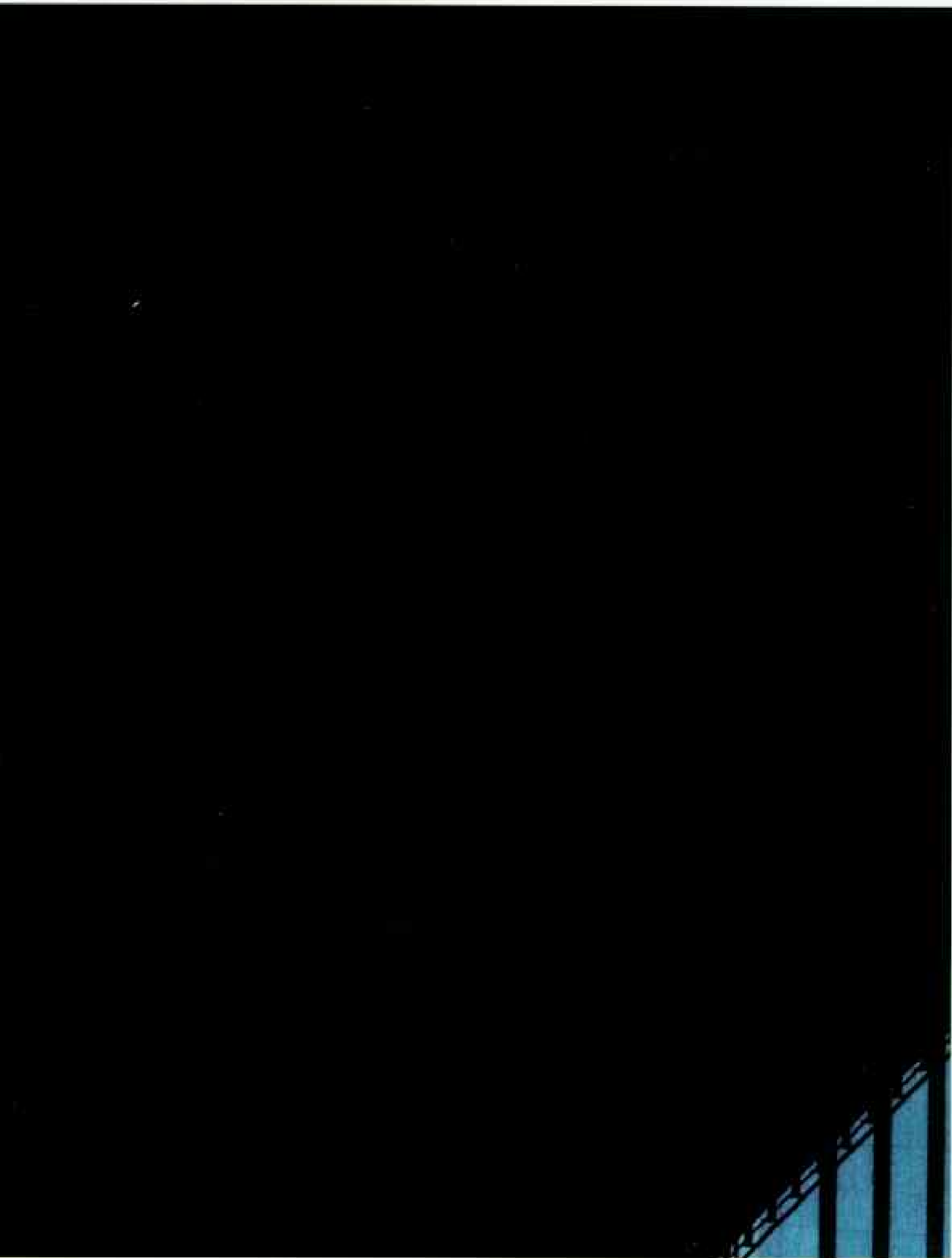


*Dawn's early light is the end of the workday for Mark Parente, the third generation of his family at the Fulton Fish Market. Boats no longer bring the catch; the fish now arrive in trucks from Maine, Florida, and points in between, and by airplane from Norway, South America, and Greece. Pressure in the 1970s to move the market elsewhere met strong resistance; there has been a fish market here since the 1600s.*





*A dream set in stone, the Brooklyn Bridge spanned the East River in 1883, ending Manhattan's insularity. Still firing the imagination, it remains a unifying symbol for the diverse peoples who call the harbor region home. □*





BRITISH COLUMBIA'S LIFELINE

# *The Untamed Fraser*

By DAVID S. BOYER NATIONAL GEOGRAPHIC SENIOR WRITER Photographs by CHRIS JOHNS



AN ULTRALIGHT GLIDES OVER THE FOG-COVERED FRASER AT DAWN NEAR PITT MEADOWS

# *River*

*Nature's glory and man's aspirations have long met along Canada's Fraser River. Finding room for both is increasingly difficult.*





*The frontier spirit is alive and growing and getting a summer afternoon bath in Valemount, near the Fraser's headwaters, where Wendy Kelly gives her son Phillip an open-air scrub. Wendy and her husband, Tony Parisi, do a number of things for a living in this land of seasonal labor. They raise horses, outfit trail rides, cut timber, fight fires. "The more things you do, the better off you are," says Wendy of life in the bush.*



*Following the river's route, railroads linked British Columbia to the rest of Canada and today help*

*National Geographic, July 1986*



*keep the province in business. Yet sparks fly over one railway's plan to expand in this fragile environment.*



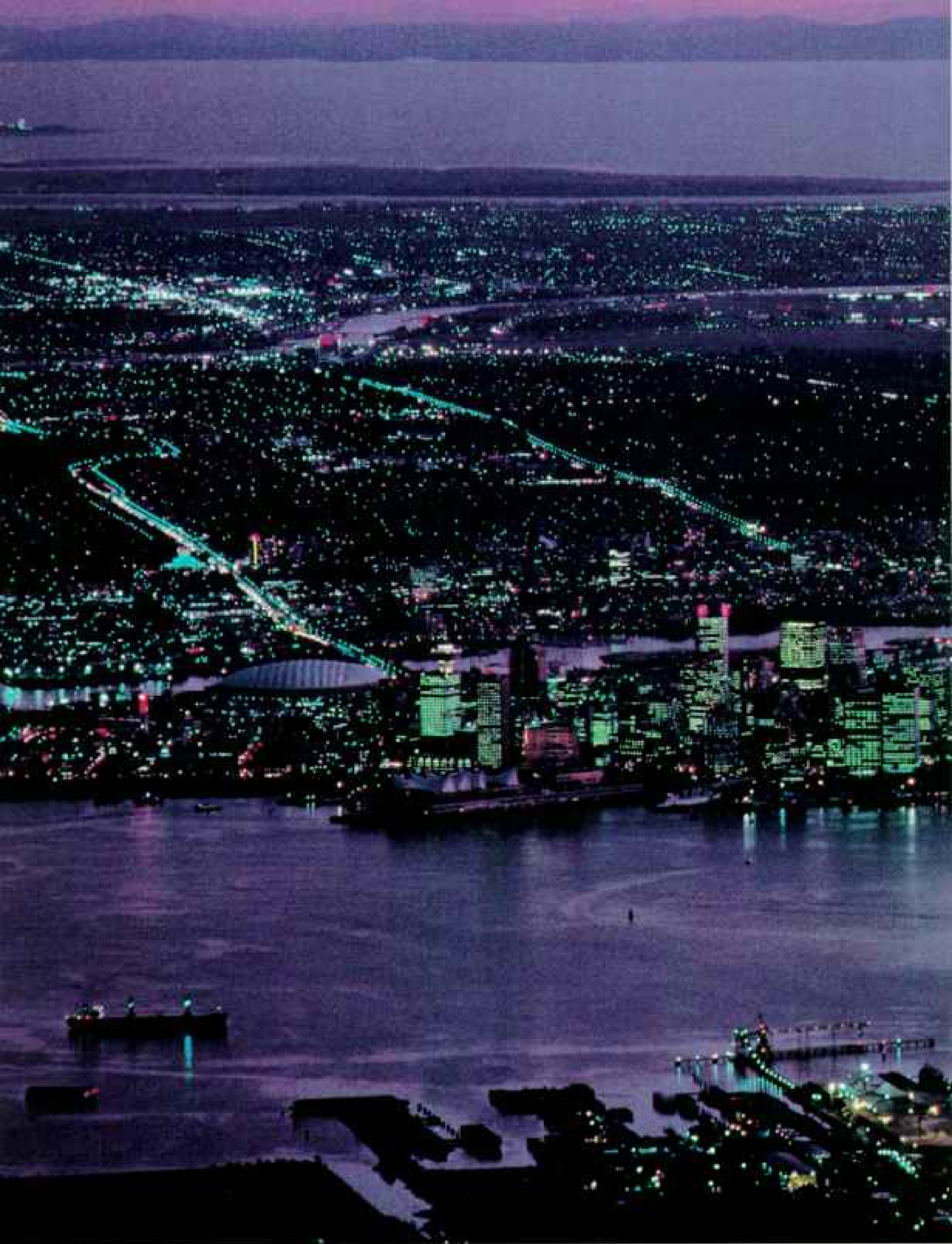


*A do-it-yourself drive-in brings better TV reception for John Adams of Dunster and his mother, Josie.*

*National Geographic, July 1986*

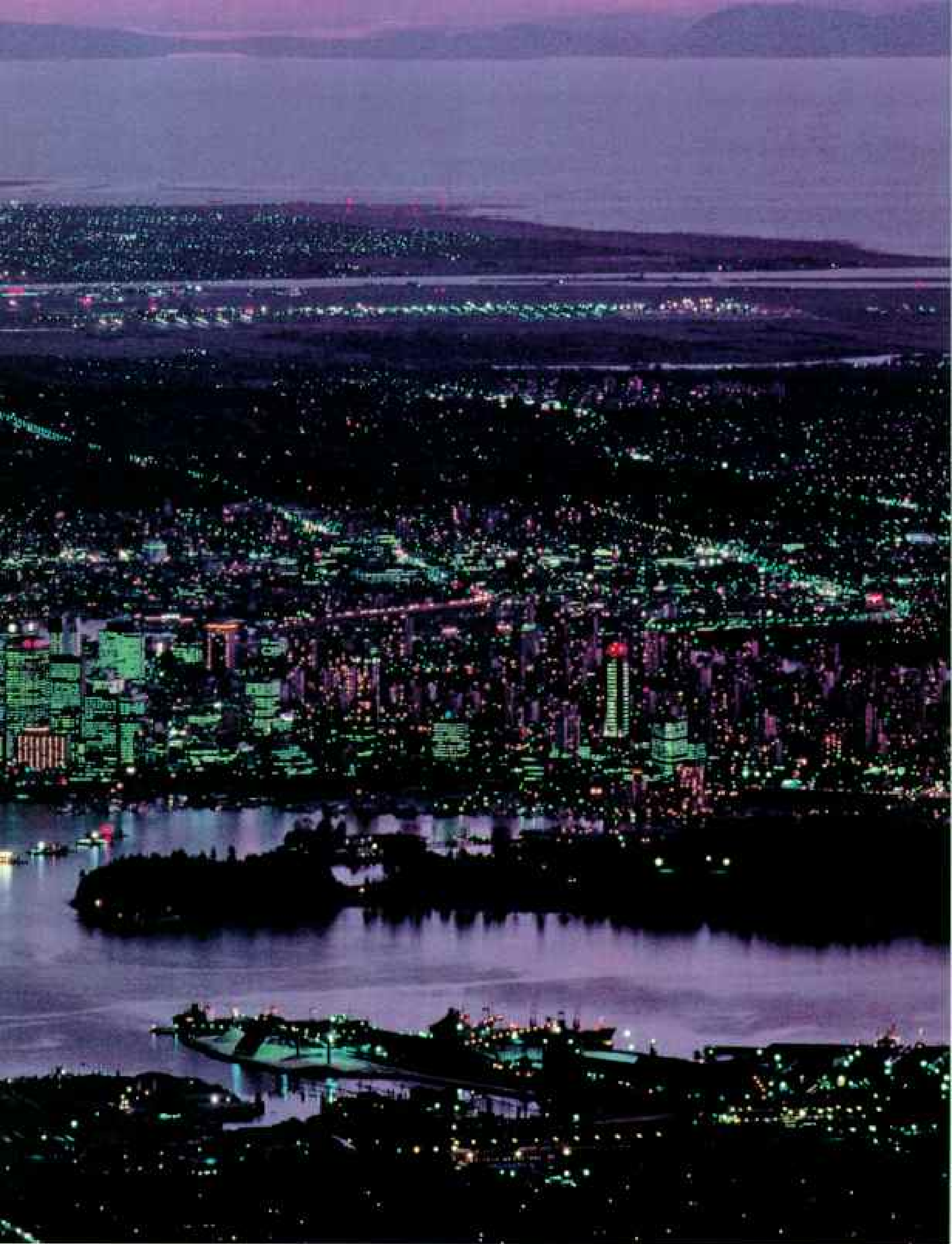


*Adapting is a way of life here, says Adams, whose hilltop theater has lured wolves, moose, and bears.*



*Vancouver's delta of lights spans the mouth of the Fraser between Burrard Inlet, foreground, and the*

*National Geographic, July 1986*



*Strait of Georgia. The city is the hardworking  
mastermind of western Canada's commerce.*

**S**ITTING at the river's edge, Sheila Joseph and I are watching three Indian fishermen downstream from the rapids called Hell's Gate. Every minute, on an average summer day, 57 million gallons of water roars through that 140-foot-deep flume at 17 miles an hour.

"Sometimes I try to imagine how it was before the white man came," she says. "Just a quiet gathering of Indian fishermen—people who look on the salmon as sacred. Thousands of them, from dozens of tribes, here in festive congregation. Nets dipping in the foam. Fish flashing in the water. Rows of filleted salmon, red as sunset, hanging in the wind to dry. At nighttime Indian campfires flickering through the trees."

It was a far different Fraser River then. "No clanking trains. No grinding trucks or whining cars. No raftloads of screaming tourists in orange life jackets. No sightseers' gondolas on cables, climbing the canyon wall, desecrating the view. No souvenir shops or popcorn stands, no garish signs."

The vision fades, her eyes are wet. Stray swirls of jet black hair fall down her forehead. Beautiful and sophisticated, Sheila is college educated. And very, very Indian. Even though, as an adopted child, she never knew her own tribe or whence she came.

No matter. Sheila has adopted all of Canada's Indians as her family. Especially those of British Columbia's Stólo nation—"the people of the river." She has a working kinship as well with the whites of her province, for as a researcher and writer she is fighting to protect the mighty Fraser River. The Fraser and its salmon.

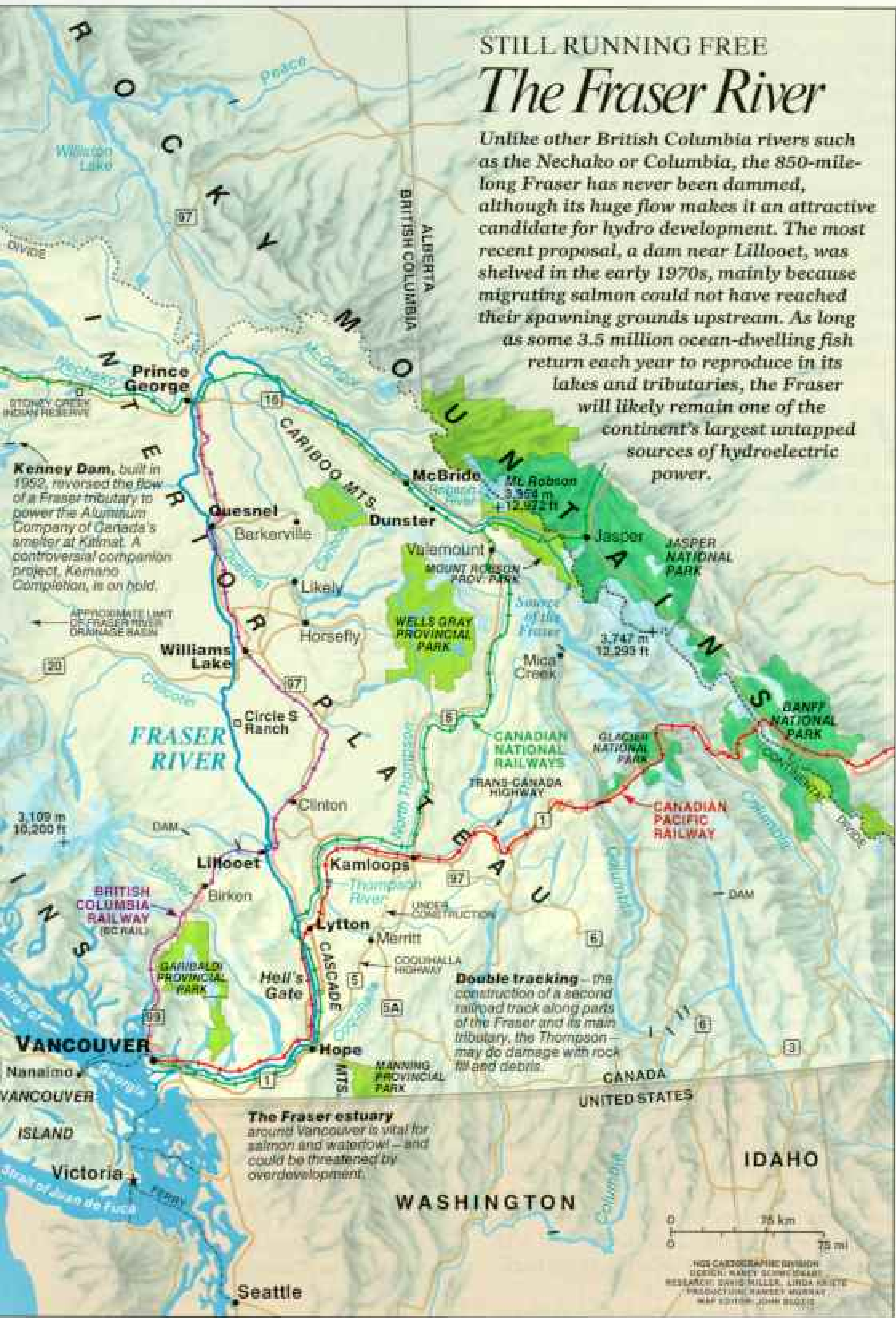
"The hydro engineers have always had their eyes on this river," Sheila tells me, her dark eyes flashing. "They can't dam it, because of the salmon. If we don't save our salmon now, they'll say, 'Well, there's no longer any good reason to save the river, is there?' Then they'll ruin it, like they did the Columbia! Can you picture this roaring river imprisoned? A string of lakes behind concrete walls?"

Fortunately, it's an unlikely



# STILL RUNNING FREE The Fraser River

Unlike other British Columbia rivers such as the Nechako or Columbia, the 850-mile-long Fraser has never been dammed, although its huge flow makes it an attractive candidate for hydro development. The most recent proposal, a dam near Lillooet, was shelved in the early 1970s, mainly because migrating salmon could not have reached their spawning grounds upstream. As long as some 3.5 million ocean-dwelling fish return each year to reproduce in its lakes and tributaries, the Fraser will likely remain one of the continent's largest untapped sources of hydroelectric power.



**Kenney Dam**, built in 1952, reversed the flow of a Fraser tributary to power the Aluminum Company of Canada's smelter at Kitimat. A controversial companion project, **Kemano Completion**, is on hold.

**Double tracking** — the construction of a second railroad track along parts of the Fraser and its main tributary, the Thompson — may do damage with rock fill and debris.

**The Fraser estuary** around Vancouver is vital for salmon and waterfowl — and could be threatened by overdevelopment.

1902 CARTOGRAPHIC DIVISION  
DESIGN: NANCY SCHWEDERT  
RESEARCH: DAVID MILLER, LINDA KRISTE  
PRODUCTION: NANCY MURRAY  
MAP EDITOR: JOHN BLOTT

picture, barring some unforeseen disaster to the salmon that depend on this river to reach their spawning grounds. But should such dams ever be built in this gorge, which is nearly as deep as the Grand Canyon of the Colorado, engineers calculate an incredible number of potential kilowatts. The 850-mile-long Fraser drains a land a third the size of Texas, with 50 times the flow of the Rio Grande. From the ice fields and waterfalls of the Canadian Rockies to the glaciers and rivers of the Coast Mountains fronting the Pacific, the Fraser's tributaries flow together to form the bloodstream of British Columbia.

**I**N HISTORY the Fraser was a lifeline too—it offered the rail route that made Canada a transcontinental nation and saved the Canadian west from being carved up and swallowed by a chauvinist United States.

Much of the region endures as a log-cabin, people-oriented, human-rights-minded, helpful-and-hospitable country. It's pioneer country, individualistic yet tolerant, a land rugged yet enticing in its everlasting hills.

But it's also a region in deep trouble.

"The white man began taking our river away from us long ago," Sheila continues. "For railroads. Now they're widening them. Double tracks along the Fraser and its main tributary. That means dumping more rock, millions of tons of it, wrecking more of these side pools where we set our nets, places where the salmon stop to rest on their journey of death and life."

There is more threatening the Fraser salmon than just dams and railroads. Nearly 300,000 sportfishermen are after them, as well as an oversize and electronically sophisticated commercial fleet that takes 90 percent of the annual harvest.

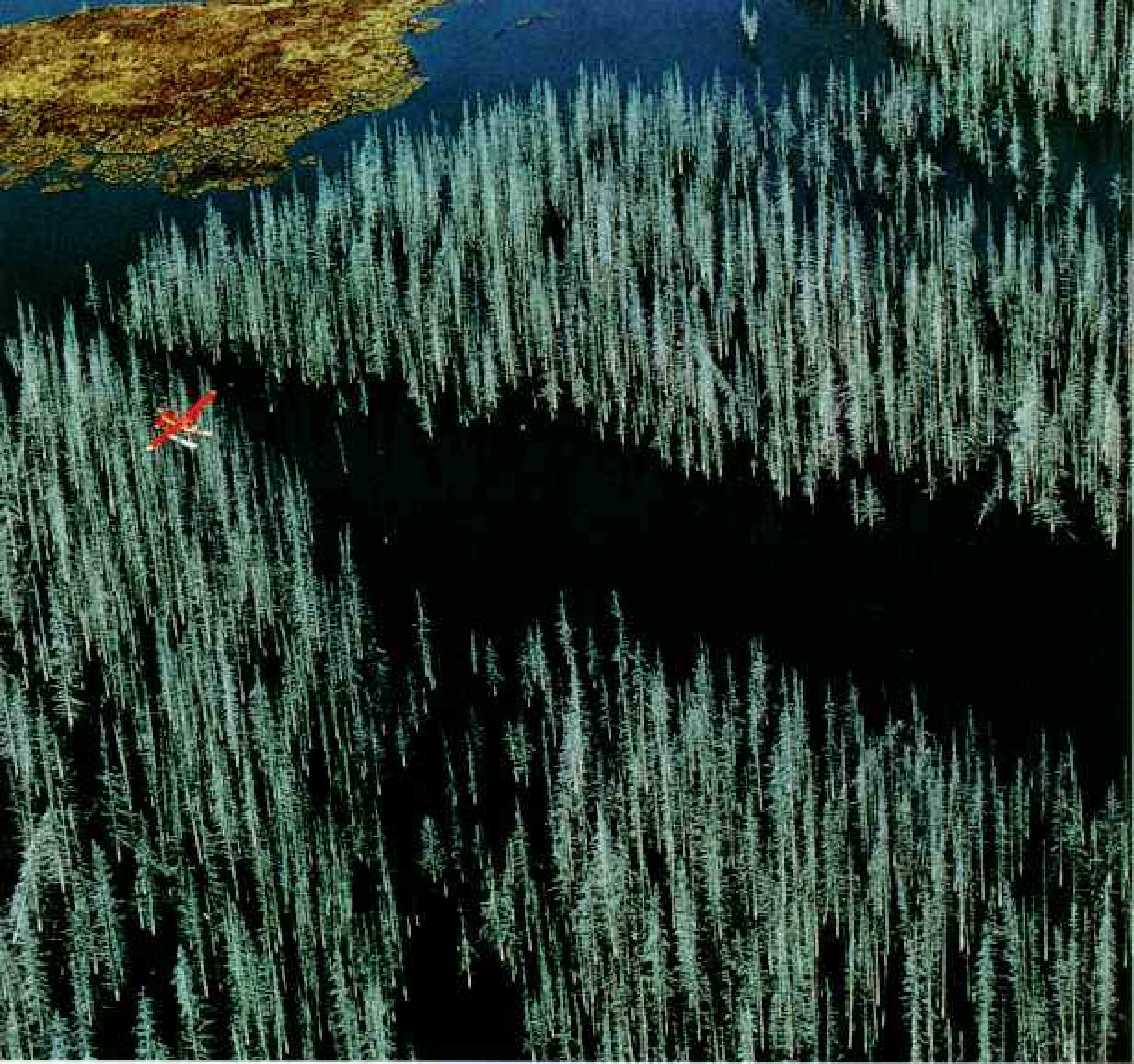
"We thought half of us would go bankrupt," old-timer Fred Kohse told me. "Then last year we had the best run of sockeye and humpback in decades. The situation looks rosy for the next few years, at least. Course there's no certainty in this business. The three other species are still down, and it'll probably be a long time before they get back to what they used to be."

Through the years, British Columbians



*Watery morgue for a long-dead forest, the Kenney Dam reservoir (above) drowned millions of trees. Completed in 1952 by the Aluminum Company of Canada, the project dammed the Nechako River, a tributary of the Fraser, and channeled its waters to power Alcan's smelter at Kitimat.*

*Other casualties include the Cheslatta Indians, flooded out by the project. Pat Edmund (right) was just a few years older than his son Ricky is now when officials told the band that waters were rising and arranged a quick settlement for their lands. The Indians were forced to move to scattered parcels many miles away. "The Cheslatta people died that day," says Edmund quietly.*







BARRY FELSENTHAL

*“Cut and run” was once the prevailing attitude in this tree-covered province. Today, after decades of clear-cutting (above),*

*British Columbia is in some areas running out of trees—and fighting an uphill battle to save the industry that, like a pulp*

*mill in Prince George (right), may sometimes darken the sky but gives off “the smell of money” in the process. The province’s backlog of deforested areas stands at four million acres.*

*The British Columbia government now requires companies to reforest what they cut and refunds the amount spent on growing and replanting trees. A government-funded greenhouse (below) grows some five million seedlings each year under state-of-the-art conditions.*





have overexploited the vast realm of their Fraser, mining out its high-grade minerals, cutting its best timber, and leaving hundreds of square miles of slash. Their roads and industries and cities ate up much of the rich delta farm country, the best of the province's meager arable land. Pollutants have poured into this king of western rivers from tributaries to estuary. Correction and conservation started late.

Sheila Joseph is not alone in losing sleep over her river, and the Indians are not alone in fearing for this sovereign water of their lives.

**N**ORTH WEST COMPANY trapper Simon Fraser explored it for Great Britain in 1808, the first white man to descend the river to the Pacific. At Hell's Gate, Indians helped him around the rapids. Knowing how the torrent dealt disaster to canoes, they had long before strung a precarious passageway of vines and branches against the rock walls.

Today tourists shoot the rapids in giant white-water rafts, but not even these un-sinkable monsters are exempt from danger. Five rafters have drowned here since 1979. Seventeen others, only days before I arrived, had been pitched into this raging water. Thanks in part to helicopters, lifting some of them from rocks and ledges where they had clung, all survived.

Peering through the mists from some explorers' heaven, would Simon Fraser furrow his Scottish brow at so many games of Russian roulette on his river?

He'd be proud, at least, that his journey had strengthened Britain's foothold on the Pacific shore, though the claim was tenuous for nearly four decades. An 1846 treaty finally drew the boundary between two continental giants at the 49th parallel, just south of the Fraser Valley.

By 1858, confronted by a Yankee empire

flushed with western conquest, Britain had dispatched soldiers and judges and a governor from England, their task to control, and then to try to assimilate, an invasion of Americans rousting up the Fraser in search of gold. The question a decade later was whether this improbable mixture of frontiersmen would opt to join the young confederation of Canada or push for admission to the U. S. History would declare for Canada, halting the march of Manifest Destiny.

On his epic exploration, however, Simon Fraser suffered a hitch in his pride. Nearing the river's mouth and finding it at the wrong latitude, he realized he'd discovered



*Stomping out a spontaneous message of joy, members of Hauer's Heroes—a women's softball team—whoop it up during Sport Logging Day in Valemount. The annual event includes contests for climbing, logrolling, and—yes—chain-saw throwing. "They don't start 'em," one observer explains. "They just throw 'em."*

the wrong river. Fraser thought he was exploring the Columbia.

**R**AILROADS down the Fraser made possible the building of Canada from coast to coast. With picks and shovels and mules and dynamite, Canadians dug narrow roadbeds and tunnels along the river's rocky gorge—first the Canadian Pacific in 1885, then the Canadian Northern Pacific (later merged into the Canadian National) in 1915.

As frontier phenomena the railroads were symphonies of engineering, if composed sometimes in terror. They violently ended

the lives of scores of white men and hundreds of exploited Chinese laborers.

Railroad blasting caused stupendous slides of rock in 1913 and '14, so obstructing the river at Hell's Gate that salmon, heading upstream to spawn, pounded themselves to death by the millions. Workers cleared what they could, but it was not until the 1940s that steel-and-concrete fishways were constructed to allow migrating salmon to pass successfully around the obstructed rapids.

The costs go on, millions of dollars spent every year on the salmon fishery, much of it aimed at reviving annual runs crippled by those railroad-building disasters, by natural



rockslides, and by voracious overfishing.

Fearing further tragedy, several Fraser tribes have joined together to confront one of the biggest and wealthiest railroads in the world. The Canadian National has begun building double tracks along one stretch of the Thompson—and proposes doing the same to the Fraser—to accommodate more and longer trains carrying grain, potash, coal, and sulfur from Canada's western mountains and prairies to the world's ships at Vancouver.

The Indians counter: "Send all trains downstream on the CP side of the river, then back up on the CN side. That would allow them to run many more trains. It wouldn't cost nearly as much as double tracking, or disturb the river or the fish. We've got the CN in court, and we're prepared to fight them every inch of the way."

**I**N MOUNTING URGENCY, the province was building a new freeway to bypass a stretch of the Trans-Canada Highway, hoping to complete four lanes through the Cascade Mountains sometime during Vancouver's EXPO 86 tourist invasion. Over the blueprints piled high on his desk in Hope, construction manager Dennis Chisholm spoke of the pressure:

"The timetable was almost impossible. But look at these pictures. Bumper-to-bumper traffic up the Fraser Canyon. Dangerous tunnels. We couldn't cut new ones or widen the highway. Not with railroads and a river down there for the rock to spill on."

Up the parallel valley of the Coquihalla River, the new route may have 30 feet of snow in February, he admitted. "But no terrifying drops like the Fraser. And no tunnels. Sure, they could build a railroad up there too. They already did once, then closed it because the steep grade and all that snow made it unprofitable."

A quirk of climate keeps the Fraser route relatively free of snow. A curving slice of semidesert arcs down through the mountains of British Columbia. Parched and barren hills. A land for lizards, snakes, jackrabbits, and foraging cattle. The little Fraser town of Lytton claims the hottest climate in all Canada—sagebrush country in a land of forests, alpine lakes, and glaciers.

Concern and controversy over the prov-

ince's problems—its rivers and fish, its forests, its railroads and industries and dams, its high wages, prices, taxes, unemployment—have generated a pervading malaise that British Columbia has never experienced before. Its citizens seem to sense that they have been living beyond their means, exploiting their resources while hoping against belief that tomorrow's dawn would bring miraculous new wealth to take the place of yesterday's.

Tomorrow, however, has come with a hangover, and the Fraser basin is at the center of the headache.

To create electricity for a burgeoning land, several tributaries have already been dammed, and more are threatened. To pump money and jobs into the flagging economy, the government has been reviving talk of further development. With its crown corporation, B.C. Hydro, the province already is billions of dollars in debt on power plants. But some politicians are proposing *more* power, for export and sale to the United States.

Over the past 20 years, B.C. Hydro transformed the province's second major river, the Columbia, into a stairway of languid lakes. The prime motivation there too was a deal in U. S. dollars—a deal to hold back spring floodwater and create a steady year-round flow for Americans to run through turbines at their own dams downstream.

**“WHEN IS A RIVER not a river?”** Conservation spokesman Mike Halleran asked me that question, then, his eyes narrowing, answered it himself: “When it runs backward. Like the dammed Nechako.”

“More than 30 years ago the Aluminum Company of Canada reversed this major Fraser tributary system. More than 5,000 square miles of wild rivers. Turned them into lakes laden with the debris of forests. It's a mess that decimates fish and animals alike.”

Mike's normal smile faded as he bit into his subject: “Alcan sent nearly half the Nechako's water backward, through a tunnel and turbines, into the Kemano. Now it wants to double the water it takes, using most of what's left in the Nechako and diverting the Nanika River as well. Three

river systems scrambled! Environmental madness!"

British Columbia's government long ago promised these copious waters to Alcan. Doubling its water would mean that the company could double its electrically smelted aluminum.

I found Bill Rich in his Vancouver office overlooking the Canadian Pacific coast's greatest harbor. He is a vice president of Alcan. "To develop a frontier land like this," Bill told me, "you *have* to rearrange the landscape. Development inevitably changes the environment. We spent years researching the water needs of other interests—fisheries, agriculture, towns—and we've scaled down our plans considerably to meet those needs. For now, the whole project is on hold."

Mike Halleran, on the other hand, is one of thousands of citizens who think Alcan and B.C. Hydro have changed the landscape and the environment far too drastically already.

Mike used to work for Canada's Department of Fisheries and Oceans, which is responsible for the seagoing salmon. Now a consultant to the British Columbia Wildlife Federation, he worries that fish and animals—and people—will pay too high a price for U. S. dollars. He showed me the film that he produced to save another tributary, the McGregor, from being made "not a river." B.C. Hydro had wanted to dam it too, and reverse it to powerhouses on the Peace River.

"We'll have to fight now on at least two fronts. They'll rev up the McGregor scheme again too," Mike says. "Nobody protested much when Alcan flooded the Nechako in the 1950s. It was little-known wilderness then; we didn't realize what damage could result. If they'll stop damming rivers, we can protect the salmon, develop forestry, and expand recreation and tourism. This should be people country—it's too good for just more power and aluminum!"

On an impoverished Indian reserve called Stoney Creek, I met a 36-year-old lawyer with straight black hair and shoulders like a linebacker for the British Columbia Lions. Strong, quiet Edward John was leader of 13 associated Indian bands.

"Alcan gave us the back of its hand in the

fifties," this young superchief told me. "They wiped out Indian homes and villages, wrecked our fishing, ruined the river, and never responded to our plight or our complaints. This time we're determined to save the remnants of our land and rivers, and our fishing and hunting."

With other environmentalists, fishermen, and farmers, Indian associations are part of a tangle of court cases the length of the Fraser and the Nechako and beyond—cases involving fish and rivers, water rights and forests, game and hunting grounds. The Indians maintain that they have aboriginal rights. The cases confront dozens of deep constitutional questions over who—the federal or provincial government, developers, railroads, Indians, other citizens—has what rights to what natural resources.

Today's conflicts may push British Columbians into hard and necessary compromises. Their Fraser is among the last great salmon rivers of the continent. It is also the fulcrum of British Columbia's future.

**A**S THE RAILS and ties of the Canadian Pacific and the Canadian National laced Canada into a transcontinental nation, they left the central Fraser isolated—the historic land of the Cariboo gold rush, the rolling cattle country called the Chilcotin, the lakes and rivers and forestlands of the north. The British Columbia Railway rectified that. In time.

This benighted line, blithely heading northward from Vancouver, staggered for 460 miles and 40 years through the wilderness, confronting an impossibility of mountains and rivers, dugways and rockslides, avalanches and washouts, wrecks and ridicule. In its crazy dream of opening the Fraser backcountry, it aimed toward the frontier settlement of Prince George, founded by Simon Fraser himself.

Preposterously calling itself, at first, the Pacific Great Eastern, it was laughed at as the "Prince George Eventually" and the "Public's Greatest Expense." Len Norris of the Vancouver *Sun*, dean of Canadian cartoonists, lampooned it for years, from its struggling little engine to its Toonerville Trolley caboose. Still, in the end, it became the little engine that could. It opened a multibillion-dollar land, even if it did



*High and dry, the Interior Plateau sprawls across central British Columbia, shielded from rains by the Coast Mountains to the west. It is better known as*

drag a 400-million-dollar debt behind it.

I rode its modern diesel engine all the way, sometimes a frightening 2,000 feet above the Fraser: Bill Rodger and Jerry McIsaac and me, leading a mile of clanking boxcars around precipitous switchbacks—only a few toothpick-like cribs or trestles separating us from eternity—and praying to meet Prince George before our Maker.

Bill Rodger, a jolly old elf wearing traditional striped overalls and cap, was the

hogger. Jerry, the trainman, explained: "The snout of the old steam engines looked like a pig, eh? The engineers got stuck with 'hogger.' That makes me the piglet, eh?"

Recalling pictures of ghastly train wrecks, I cringed at the spindly cribbing beneath us. "What if it gives way?" I asked. Bill and Jerry silently crossed themselves. They knew where engines lay in watery graves below.

"They're upgrading the wooden cribs



*Cariboo-Chilcotin country—land of spectacular ranches like the Circle S, overlooking the Fraser River, where cowboys lead a remuda to pasture.*

with new concrete-and-steel ones,” Jerry said through his handlebar mustache. “These ones we just passed are new. Those ones up ahead oughta be replaced. In the old days the odd one sometimes did give way. The crew either jumped or rode ‘er down. Mind you, it wouldn’t help to know how to swim. Not in *that* river!”

Bill, a former radio commentator, had worked in Europe and the Mideast. “Then I decided to drive trains,” he said. “I’ve

hogged in both the U. S. and Canada. This is the most beautiful run on the continent.”

On a siding sat the triweekly passenger train, two cars long. Bill waved to his counterpart at its throttle. “Almost every day,” he went on, “I see some new thing of wonder. Like airplanes flying far below—insects against a blanket of mist over the river. This country is too big for the senses. After a rain, you can smell the sagebrush. It’s like a transfusion for your lungs.”



Going to town is no picnic for cattleman Gene Mooney (right) or his wife, Carol: Their ranch is 60 mountainous miles from Clinton. On his rare visits, Gene is "ready to get out soon as I get in." Carol doesn't like towns either, but says of living so far back without a phone, "You sure appreciate company." The Lakeview Pub in Williams Lake (lower) has a history of horseplay dating from 1881.

In time, I traveled all the rails and roads of the Fraser and its main tributary, the Thompson. Fraser named that after his North West Company colleague, explorer David Thompson. Thompson did discover and descend the Columbia, though he never laid eyes on his namesake river.

**I**F BILL RODGER had found this a country too big for the senses, I was finding it, in places, sadly tinged with the neon-Teflon-TV trappings and computerized panic of the outside world. White settlers had relegated native Indians to alcohol-plagued reserves and assaulted the rivers and forests. Some farms and ranches look more like junkyards. But mostly the region remains calm and primitive.

Buster and Margie Duncan's ranch near Valemount is tidier than most, for they are in tune with wilderness. They sent their experienced trail guide-daughter Ellen along with ten-year-old horseman Nathan Powell and his amiable wrangler-father, Dan, to lead photographer Chris Johns and me into Fraser headwaters country. We rode for four bewitching days in Mount Robson Provincial Park. The highest and most magnificent of all the Canadian Rockies, Robson loomed over us, rivulets of meltwater from its four glaciers laughing along at our feet and dancing down waterfalls, a ballet of silver and white.

Up here all is still right with the world. Even the sounds are pure—the haunting call of the coyote, the changing song of the wind, the cracking and crashing of glacial ice that reverberates down the canyons like gunfire.

Mount Robson was one of the first parks in British Columbia. "Not even any roads till the 1960s," Ellen told us. "My mum used to have to hop a train to the Saturday night dance in Valemount. When she went to a



hospital in Jasper for my sister's birth, it took an automobile relay to get her home. She had to walk where the new gravel road had washed out."

Outside the general store in Dunster I meet Bruce Cottrell, an unself-conscious backwoodsman. The area is full of them, soft-spoken men and women, lots of them from the States, refugees to this northland, dodging the draft or war, unemployment or employment, or simply civilization. Bruce is a balding young Canadian with a thicket of beard, and, though missing one hand from birth, he can run Fraser rapids in a canoe, wield a chain saw, or ride a horse. For years he was a park ranger, outspoken on conservation.

"Being a conservationist here is like being



a Communist in the U. S.," Bruce laments. "This upper Fraser was solid with cedar and hemlock until sparks from early steam engines set forest fires. Then farmers burned more, to clear the land. Lumber companies cut the rest.

"It wasn't only here. We logged most of our richest valley forests, leaving them choked with commercially worthless deciduous trees. B.C. didn't get serious about reforestation till the 1960s."

The province seems serious enough now: It's going to plant more than 500 million trees over the next three years. Bruce leads one of the planting crews. "But even now that we're replanting, we get poor seedlings," he says. "And they're treated with chemicals. We have to hold our sandwiches with plastic wrap to keep from ingesting the stuff. In a few years we could be candidates for chemotherapy."

**T**HIS UPPER FRASER is the land of the overlanders—gold seekers who trudged across the continent to join the hysteria of the Cariboo gold rush, which followed the frenzy of the California gold

rush. Trying to run the Fraser down to the Cariboo on log rafts, some lost their lives in the rapids. Bushwhacking and rafting their way down the thick-forested Thompson Valley route, others nearly perished from starvation.

Thousands of others—most of them Americans—also reached the goldfields to face the miseries of digging in the mud through the terrible winters in the mountains around the shantytowns of Barkerville, Horsefly, and Likely.

Billy Barker was an English sailor who joined vagabonds from around the world moving up the Fraser in the 1850s and '60s, panning for gold. On an inconsequential creek above the Fraser near Quesnel, Billy sank a shaft through the gravel to bedrock—and struck it rich.

Around Billy's diggings sprang up a wretched town of miners' shacks. Barkerville, they called it, and from the dripping muck of the streambed men were soon feverishly digging 40 pounds of gold a day. Barkerville exploded into shops and saloons and "pleasure palaces" with mirrors and pianos and dancing girls and French champagne.



Beneath its streets, half frozen in their shored-up tunnels, miners were finding fortunes in gold dust and nuggets—quickly spent upstairs.

Barkerville claimed to be the largest town north of San Francisco and west of Chicago. To control this wilderness gone crazy, Britain sent soldiers and bureaucrats. Today the world sends tourists to stroll the finest authentic ghost town on the continent.

Reaching Barkerville right after a March blizzard, I peered through its frosted windows. Silent and lonely, it has whiled away its winters since the gold gave out in the 1870s and the town faded.

In 1868, as thousands fled the flames, Barkerville burned down. "They rebuilt it almost overnight," Gordon McAdams told me. I'd found the assistant manager of this romantic wreckage hovering over old photographs and new restoration plans.

"Those old guys had to jack these shacks up out of the mud every year," he said. "We found the first floor of the old theater 18 feet underground."

After the price of gold skyrocketed in 1979, modern Billy Barkers streamed to the

Cariboo, staking claims on the Fraser's creeks again. I'd shared a beer or two with a few of them gathered around a Saturday-night fire in the ancient hotel bar at Likely. Bruce Deacon, who owns the place, told me how it was:

"Two of us mortgaged our houses back home to buy mining gear. Gold had hit 800 dollars an ounce. Trouble was, it cost us a thousand to dig it. It also cost me a house and a job and a wife. So here I am, bringing drinks to these guys who are still out there digging." He showed me a handful of nuggets. "Look at these. This is all they've got to pay with, just like in the old days."

**F**ROM ITS HEADWATERS down to Hope, some 750 miles, the Fraser offers scores of fine vistas, some of them sheer poetry. The 100-mile-long lower valley, however, though dramatically framed by the Coast Mountains, is so low and flat one discovers its beauty best by helicopter.

Parts of the valley, even some of its towns, would be underwater were they not behind dikes. Some dikes are the work of immigrant farmers from the Netherlands, people

*The iron horse makes an elusive target for Indian children at play (left)—and for protectors of Indian rights. The Canadian National aims to build a second railroad track along parts of the Fraser and its tributary the Thompson. Indian leaders vow to fight the plan to the Supreme Court, claiming sovereignty over tribal fishing grounds that could be ruined by debris from construction.*

*At the Lillooet tribe's ancestral fish camp on the Fraser, 13-year-old Gordon Alec (right) lands a sockeye. Indians fishing for food depend on migrating salmon that escape maritime commercial fleets, which take 90 percent of the catch.*





*“Corn, cabbages, and cows” is the popular notion of what grows in the misty valleys of the lower Fraser (above). It’s true that corn (mostly for fodder), vegetables (including cabbage), and cows (dairy variety) lead the region’s production figures. Farmers can thank the Fraser, which delivers some 20 million tons of sediment to the sea each year and for millennia unloaded rich soils along its valley during flood stage.*

*Farmers now guard their fields, many of them below high-tide level, with a system of man-made dikes—and enjoy the combined effects of coastal moisture and Canada’s longest growing season. Fertilizing liberally, Cloverdale Produce Farms near Surrey grows two lettuce crops a year. To protect immigrant Chinese workers (right), owners issue rubber gloves for field work and post chemical warnings in Chinese.*





*A colorful parade of immigrants gives Vancouver its rich cultural flavor; nearly half of the port city's 1,300,000 residents are of non-British descent. Across the Fraser in Richmond, East Indian Sikhs harvest blueberries by hand at Jagbar Farms, a 150-acre berry farm owned by Ken and Minder Sidhu, brothers who emigrated from Punjab as boys. British Columbia's growing East Indian community numbers some 60,000.*

who've known for centuries how to cheat rivers and oceans of their rightful land. On Canada's richest delta soil, their manicured farms serve as a silent rebuke to the careless attitude shown toward their environment by so many pioneers along the upper river.

One morning, soon after sunrise, I flew into a mist that had captured the entire delta overnight, draping its rounded hills as softly and delicately as a Japanese print.

David Fuller of the British Columbia government was showing me the system of flood-control dikes. "In 1948 we had a disaster," he said. "Both railroads flooded. And the Trans-Canada Highway. Towns were inundated. Fortunately, no lives were lost. We've raised the dikes since then, and we think we're all right for next time."

But as one concern for the Fraser subsides, another continues. Into the river, spread out like a map below, sewage and industrial waste still poured from towns and scores of plants. The province is spending millions of dollars a year treating that waste, however, and the river's tremendous volume quickly dilutes pollutants. Compared with other heavily used rivers, authorities say, the Fraser is remarkably clean.

We watched a bank-to-bank flotilla of quarreling gill-netters frantically fishing the day's run of sockeye salmon. Officials would allow only an hour or so of harvest, permitting thousands of fish to escape upstream to spawn. Fraser Indians would have their chance at them, there in the eddies along the riverbanks, eddies the railroad may or may not be allowed to fill with rocks.

**I**T'S STILL awfully polluted, our river," my favorite Canadian insisted. Bruce Hutchison had known the Fraser as a boy, when it was comparatively pristine. Now, at 84, columnist and editor emeritus of the *Vancouver Sun*, he is editor emeritus too to the nation he has written half a dozen books about—revealing it, criticizing it, worrying about it, and loving it. In my eyes he is also Mr. Fraser River. He wrote *the* book on it, in the late forties. I carried it in my pocket for months.

He has lived through most of civilization's assaults on the Fraser, and he was here in the fifties, as editor of the *Victoria Daily Times*, to fight efforts to dam the mainstream.

"I knew those engineers who wanted to kill the Fraser. I wrote editorials about their madness. The Fraser's whole story, including the Nechako, has been a mess of miscalculation. But it proves how right we were, and still are, in fighting for our river.

"We've come too close to destroying it, wounded it in too many ways. We never should have allowed a single house on its delta, much less any towns or industries. This delta is one of Canada's priceless assets, and we're still frittering it away."

It was a high-rolling railroad, the Canadian Pacific, that firmly welded the west into a Canada that spanned the continent, an achievement Canadians called the national dream. Blasting its incredible way down the Fraser gorge on the heels of the gold rush, the CP planted its terminal on an arm of the sea called Burrard Inlet, rather than on the river itself. It thereby established the location for the largest and most majestic city of the Canadian west: Vancouver, incorporated in 1886.

The railroad's decision spared a lot of the river delta as the city's backyard, to serve today's 1.5 million people with its agricultural bounty.

"God did a marvelous job of preparing this perfect setting for a city," patriarch Hutchison says. "It's too beautiful to be ruined. And so far we haven't totally ruined it, despite our worst depredations."

Set here beside the sparkling sea with its satellite cities against soaring mountains, Vancouver is another part of the Fraser paradox. By day it is a panorama of vistas often enhanced by swirling clouds, by night an explosion of jewels along its waterlines and on its velvet hills (pages 52-3). Its majestic, rain-forested Stanley Park is considered the most spectacular city park in Canada. Cartoonist Len Norris has a local priest telling the visiting Archbishop of Canterbury, come to save Canadian souls: "Our greatest problem is the widespread local belief that this is Heaven."

Well, Vancouver's streets never were really paved with gold, though that has been the vision of immigrants from pioneers to today's newest citizens, from India, Pakistan, Southeast Asia, and Hong Kong.

The truth of recent years, in fact, is that Vancouver and British Columbia have been

staggering through hard times, and still are. High unemployment. Lingering recession. A beaten-down Canadian dollar. And, in this largest tonnage port on the Americas' Pacific coast, exports of income earners such as timber and potash have suffered in a slump of the world economy.

**T**HE CANADIAN WEST as the national dream, however, is not dead. Canada, British Columbia, Vancouver, and their still magnificent Fraser River have set a sensational stage for the start of the west's second century—a year-long hundredth birthday party for Vancouver, and a world's fair.

Through the summer millions of Americans and other foreigners and Canadian outlanders will funnel through an extravaganza called EXPO 86. Part fairyland, part Disneyland, part high technology, it is a window to the future. Communications and transportation are the themes.

For the opening of EXPO this spring, some 50 countries, including the United States, the Soviet Union, and China, sponsored exhibits ranging from sailing ships to satellites. Japan demonstrates a train that can whisk along at 200 miles an hour with no wheels. Canada is displaying a spherical, nonflammable, freight-carrying dirigible that looks like a golf ball for Paul Bunyan. An armada of DC-3s—that aerial packhorse of World War II—flying in from all over the globe brings a cargo of history and nostalgia.

A few years ago you'd have shuddered at the view from today's EXPO site. The shores of False Creek, actually an inlet sluicing in from the sea, were littered with mucky lumber mills, decrepit railroad yards, decaying workshops and warehouses. It was a disaster area of pollution—solid, liquid, visual, and nasal.

A few years hence, the site of EXPO will be reborn again. A multibillion-dollar complex will have taken over: ultramodern offices and shopping malls, fancy restaurants and expensive condos, new theaters and museums, marinas and promenades. EXPO's Canada Pavilion (following page) will become Vancouver's new trade and convention center. Looming like a super-ship, it even seems to catch the Pacific wind, with a glorious set of simulated sails. Some





ANN L. HORN

*Setting sail for the future, British Columbia is banking on EXPO 86 to draw tourists to Vancouver, where the Canada Pavilion sits beneath a roof of Teflon-coated fabric. The province also hopes to reduce its unemployment rate—now 12 percent—by attracting business investors in droves.*

Vancouverites see them as angels' wings.

Sails or wings, they suggest again the Canadian dream, nurtured by a nation still moving westward, still trying to consolidate its resources and human aspirations while living under long shadows of the colossus to the south. Some of the shadows are economic: The U. S. buys three-quarters of all of Canada's exports. And the U. S. dollar buys an extra 25 cents' worth or more of everything Canadian, from Vancouver hot dogs to hotel rooms, from British Columbia plywood to pipelined natural gas. Some shadows are even electronic: seven channels of U. S. TV cabled in from Washington State.

**Y**ET VANCOUVER symbolizes Canada's own international influence. The city, known as the Peace Capital of Canada, invited many world leaders here this April for a Centennial Peace and Disarmament Symposium that would send their "Vancouver Peace Proposals" to the UN and to leaders of NATO and Warsaw Pact countries. As they do every year, the mayor and city council members led a crowd of tens of thousands in a Walk for Peace. EXPO itself includes a four-million-dollar people-to-people peace pavilion.

"We can no longer leave the fate of our cities solely in the hands of presidents or prime ministers or party chairmen," Mayor Michael Harcourt told me earnestly. A socialist and a former public defender, he's proud of having led a common-people reform movement into Vancouver's city hall. "In the process we prevented the tearing down of Canada's largest Chinatown—and maybe a dozen other ethnic neighborhoods as well—for a freeway.

"We have no slums, no warehouses for the poor. Our old-new mixed neighborhoods make almost every corner of this city lively and livable."

He did admit to a problem of petty crime. "Too many unemployed and too many drug addicts," he said. "A port city in a recession is likely to have both. But Vancouver is physically safe, day or night, anywhere. And aside from the constant political squabbling—it's in our Canadian bloodstream, you know—we're a peaceful city."

I had a last breakfast visit with my philosopher-mentor, Bruce Hutchison. He

was looking retrospectively on Vancouver and British Columbia and Canada. And the nation's great western river, the Fraser, that had made all three of them what they are. The title of Bruce's just published book says it: *The Unfinished Country—To Canada, With Love and Some Misgivings*.

"I've lived to watch much of the history of this city, this province, this country, and this river," he said. "I've seen them absorb the best and survive the worst that we Canadians managed to give them.

"Now they are all at a turning point. Maybe a new beginning. Maybe a place to help save the world, as well as a country.

"I won't live to see the future. But till I die, I'll still be hoping." □



*Asian investments are welcome in the Hongkong Bank of Canada's Vancouver offices—and in B.C.'s precarious, resource-based economy.*

# Hope and Danger in



# the Philippines



By ARTHUR ZICH

Photographs by  
STEVE McCURRY MAGNUM

*It was ballot by T-shirt in Manila last February, as hundreds of thousands defied the victory claimed by Ferdinand Marcos in an election that to observers reeked of fraud. Marchers chanted and sang in support of Cory — Corazon Aquino, a political neophyte who took on Marcos's 20-year rule — and prayed for a miracle. The world was stunned on February 25 when Marcos departed peacefully. Now can the new regime defuse Communist and Muslim insurgency and repair a ravaged economy?*

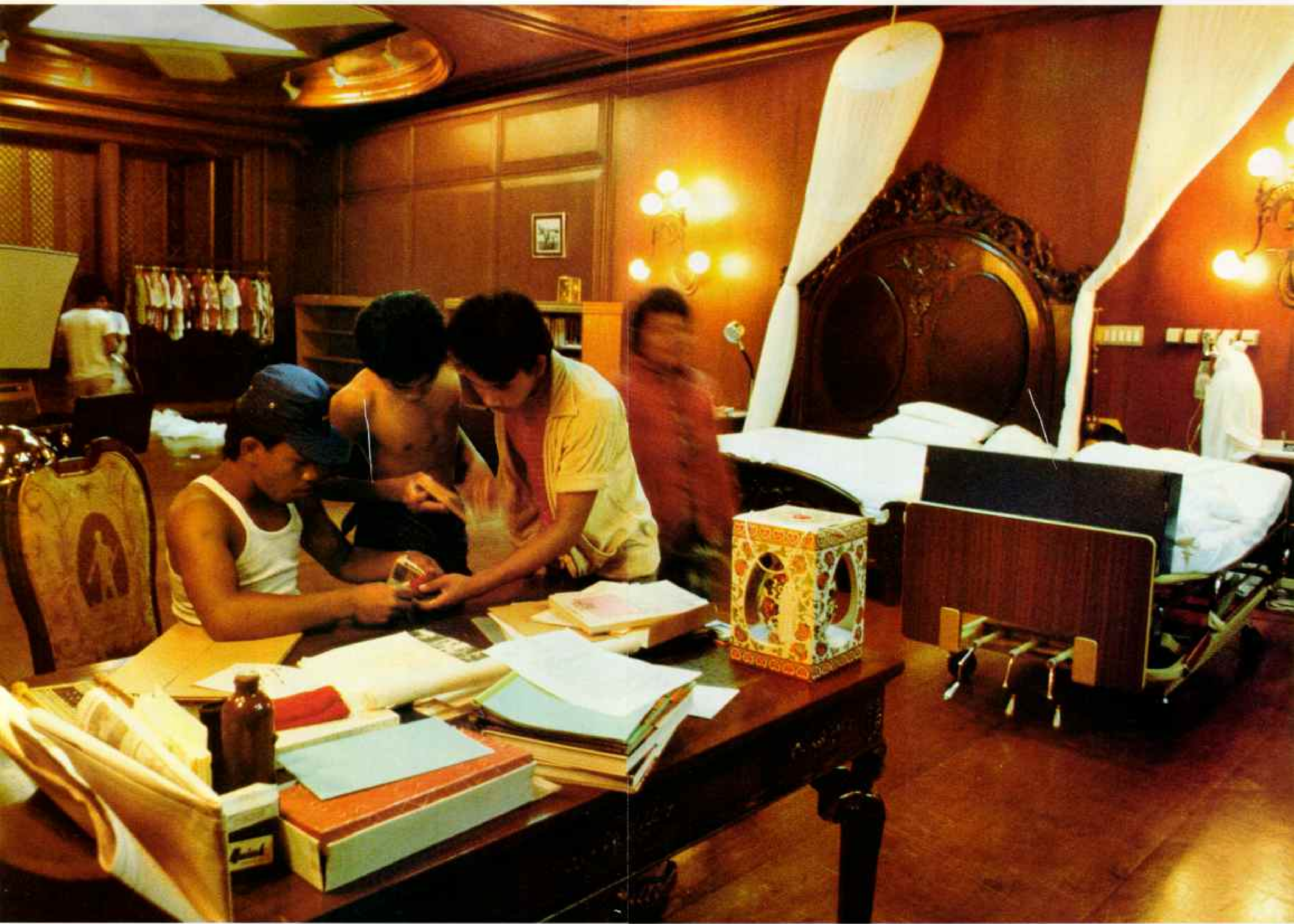




*“Housewife,” Mrs. Aquino listed her occupation when she registered to run – two years after the 1983 murder of her husband, opposition leader Benigno S. Aquino, Jr. Wearing yellow, the color adopted by her movement, she calls for boycotts before 650,000*



*supporters (left) on February 16; the U. S. Embassy complex lies behind an art museum at right.*





*Looters ransack Marcos's bedroom desk in Malacañang Palace (far left) just two hours after his departure. A hospital bed testifies to a degenerative kidney disease believed to afflict him. A smidgen of the opulent wardrobe left behind by his wife, Imelda, shoes and handbags line a closet (left). Romanticized portraits of the Marcoses decorate a private dining room (below). Downstairs, photographer Steve McCurry found "two guys with M16s stuffing stacks of money down their pants."*





**I**T WAS CHRISTMAS, 1979. Former Philippine Senator Benigno S. "Ninoy" Aquino, Jr., was home on furlough from prison, and I had stopped at the Aquinos' modest house in suburban Manila to wish him and his wife, Corazon, season's greetings. Ninoy and I sat at a card table in a daughter's bedroom—the only room in the house, my host said, that had not been bugged by the police of President Ferdinand Marcos.

With his usual verve Ninoy was talking politics, a subject of such interest to him that he could even admire the tactics of the man who had put him in jail. "Marcos has destroyed the old order," he declared. "The golden age of wealth and privilege is over. The rich are going to have to work for a living from now on." Corazon brought snacks, and Ninoy gestured expansively. "This lady never worked a day in her life," he exclaimed, "but all that's going to change!"

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Arthur Zich, who lives in California, has covered the Philippines as a journalist for two decades. Photographer Steve McCurry, there for seven months, relates some of his experiences in this issue's On Assignment page.



Prophetic words. Six years afterward, as I witnessed a historic ceremony in a suburban Manila country club, I remembered them with bittersweet emotion. Wearing a simple yellow dress, yellow-framed glasses perched on her nose, Corazon Cojuangco Aquino, 53, raised her right hand, placed her left on a leatherbound Bible, and in her plain and sensible voice repeated the words of the oath that made her the seventh president of the Republic of the Philippines.

Her husband, who had been regarded as the greatest political threat to a dictator widely perceived as invincible, was dead, the victim of an assassin's bullet. Ferdinand Marcos had been driven from power after two decades by this devout widow and mother of five who had been given virtually no chance of winning. In an election campaign that sometimes seemed more religious parable than the dogged battle for power that it was, Cory Aquino overcame cynics, won the trust of millions of Filipinos whose votes may never be accurately counted, revealed her people's abiding faith in democracy and love of liberty, and reminded the world with a modest smile that significant acts of history are often carried out by those who surprise us simply by doing them.

"I am taking power in the name of the Filipino people," she declared firmly as she accepted her first job. "I pledge a government dedicated to upholding truth and justice, morality and decency, freedom and democracy."

These have been elusive goals for the Philippines, a nation of more than 55 million people living among the 7,100 islands of a gloriously beautiful archipelago that is one of the most strategically important landmasses on earth (map, page 88). Forty-eight years of colonial rule by the United States ended in independence in 1946, but true nationhood and the economic stability and

*Momentum builds as Mrs. Aquino, after being sworn in as president by a Supreme Court justice, names as her armed forces chief of staff Gen. Fidel Ramos (right, at left), who leaps up and salutes her. Marcos, who bowed out later the same day, addresses an earlier press conference (left). By his quick departure, he may well have averted a bloodbath.*

social justice that are its preconditions have evaded one leader after another who came to power promising freedom and progress.

In 1965 Marcos too had been elected on a wave of hope, with a broad electoral mandate to deal with the Philippines' chronic social and economic problems. In 1969 he became the first Philippine president to win a second term—but the corruption and lawlessness and the vast gulf between rich and poor that had always plagued the Philippine Republic were as pervasive as ever. In addition, a Communist insurgency was gathering strength in the backcountry, while a Muslim uprising took a bloody toll in Mindanao. In September 1972, barred by law from a third term, Marcos declared martial law, and many opposition leaders, including Benigno Aquino, were arrested. Later Marcos dissolved the congress and rewrote the constitution, explaining that he was restoring law and order, "preserving democracy," and building a disciplined "New Society."

At first many Filipinos welcomed the change. The economy grew, and with it government revenues; crime fell. But Filipinos began to regret their lost freedoms.

It was the assassination of Benigno Aquino that finally galvanized opposition to the Marcos regime. During eight years in prison Aquino suffered two heart attacks and was permitted to travel to the U. S. for treatment. He remained for three years on fellowships at Harvard and MIT. Finally, in 1983, despite warnings from Mrs. Marcos that his life was in danger and the regime could not guarantee his safety, Aquino elected to return to the Philippines. "We must provide Marcos a vehicle that allows him to dismount the tiger and effect a peaceful transition of government," he told me, shortly before his fateful journey.

Aquino was shot dead as he walked down the steps of the airplane that had brought him home. An independent five-member citizens' panel headed by retired Appeals Court Judge Corazon Agrava concluded that the murder had been planned and executed by a conspiracy that included some of the nation's highest ranking military officers, including Marcos's chief of staff, Gen. Fabian Ver. But after a ten-month trial Ver and 25 others won acquittal. No evidence that the president was personally involved has ever been put forward officially.







*Power of the word, coming from Jaime Cardinal Sin (above), helped defuse bombs and bullets. Defense Minister Juan Ponce Enrile and General Ramos, after turning against Marcos, appealed for support to Cardinal Sin. Over the Roman Catholic station, Radio Veritas, the prelate broadcast repeated calls for the faithful to form a human barricade at Camp Crame, rebel headquarters (left), to thwart loyalist troops. Tanks halted as nuns knelt in their path. The crowd pleaded with soldiers, and many laid down their arms. Afterward the cardinal exclaimed, "Never have I been prouder to be a Filipino!" In a nation 85 percent Roman Catholic, the church may help mediate disputes between civilians and the military in the new government.*

Defense Minister Juan Ponce Enrile, then Marcos's confidant, confirmed to me what was widely rumored: Marcos had the first of two secret kidney transplants on August 7, 1983—just two weeks before Aquino's murder—and was then still gravely ill.

In November 1985, while the trial was in progress, Marcos had called for a "snap" presidential election to renew his mandate with yet another six-year term. Corazon Aquino had little political experience, no effective political apparatus, and no apparent support among those who opposed Marcos. Yet in a matter of weeks she was the unchallenged leader of that opposition. Her chief rival, Salvador H. Laurel, whose father had been president of the Philippines during the Japanese occupation in World War II, had agreed to run as her vice president if she campaigned under the banner of his UNIDO party.

**E**VERY PRESIDENTIAL election in the Philippines is described as the dirtiest in the nation's history, and February's was no exception. "The polls were unparalleled in the fraudulence of their conduct," the Philippines' 100-plus Roman Catholic bishops said in a pastoral letter read from pulpits across the country. But it seemed to me that voter disenfranchisement, vote buying, intimidation, and various other forms of cheating were about on a par with other elections I'd covered in the islands over 20 years. The situation on the northeast coast of Cebu was typical.

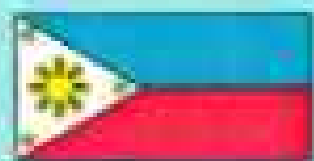
"Welcome to Ferdinand Marcos Country" read the sign on the edge of Danao, a town on Cebu. Someone had removed another sign that used to hang along with it: "Ramon Durano, Warlord of the Territories." Eighty-year-old Ramon Durano, a former congressman, is the political patriarch whose family held two mayoralties and the vice governorship of the province and now owns a half-mile complex of warehouses, a sugar mill, and a cement plant along one stretch of the island's shore.

In Combado *barangay* (the smallest Philippine political unit), located in Tabogon town on a dusty mountain road about 30 miles from Danao, Reynaldo Navarro, a strapping 25-year-old who said he drove the delivery truck for the Durano family's ice



# The Philippines

The nation's 7,100 islands lie astride vital sea-lanes linking the western Pacific to the Indian Ocean. The U. S. has long operated Subic Bay Naval Base and Clark Air Base, today partly to counter Soviet presence in Vietnam. The bases provide 43,000 jobs as the nation's third largest employer. National security is threatened by Communist guerrillas of the New People's Army.



**AREA:** 300,000 sq km (115,830 sq mi). **POPULATION:** 55,600,000. **CITIES:** Manila (capital), metro area 7,000,000; Cebu, 360,000. **LANGUAGES:** Filipino and English (official); 75 indigenous tongues. **RELIGIONS:** Roman Catholic; Protestant and Muslim minorities. **ECONOMY:** Rice, coconuts, timber, sugar, copper, gold. GNP growth rate down almost 10 percent since 1983.

## INSURGENT INFLUENCE

- Communist**
  - Greater NPA activity
  - Lesser NPA activity
  - No major activity
- Non-Communist**
  - Muslim nationalists



plant, was, as he put it, "observing the elections." I asked Navarro if he had given any money to the voters. "Not yet," he replied. In Caduawan barangay, still farther along the road, six men dashed out of the polling place and down a jungle path as I approached. Eulalio Arnoco, the official polling representative for the opposition, was bleeding from his puffed-up nose and mouth. "One boxed me in the face!" he told me, pointing after the thugs. "Then he drew his gun—and I ran away!" Arnoco's assailant, villagers crowding into his little house concurred, was a policeman in the pay of Ramon Durano who came to their barangay every election day to make sure that the vote went just the way the warlord wanted.

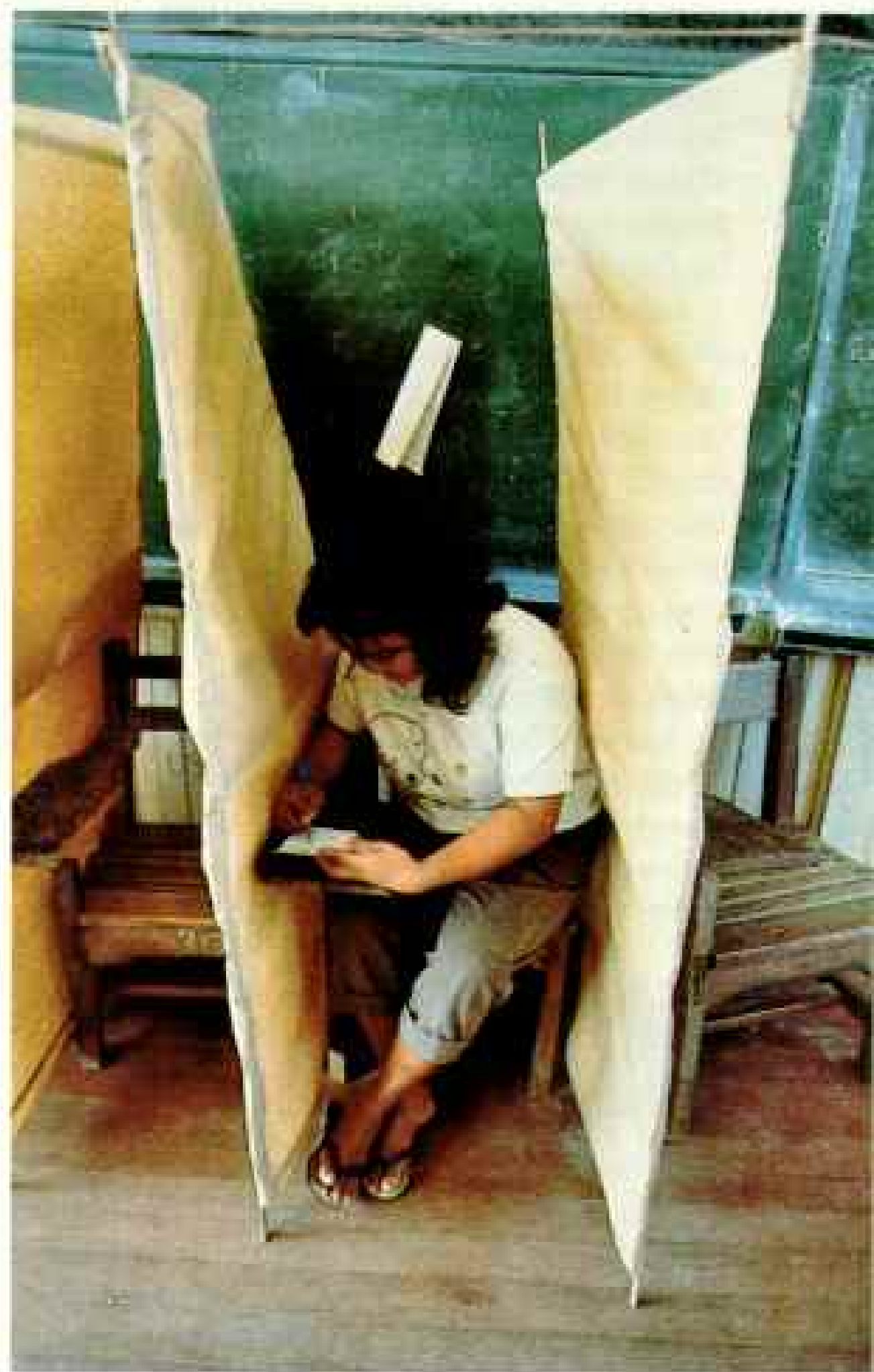
Arnoco explained: "He said, 'You do us a little favor, no? Suppose you just let us vote for the people who are registered but have not shown up yet.' I said, 'I can't do that! I've already done you a favor.'" I asked Arnoco what sort of favor he had done. "They came in this morning buying votes for 50 pesos, and they wanted to make sure the people they paid off truly voted for Marcos," Arnoco replied. "So I let them open the ballots—but that was enough!" And what were they doing when I drove up? "They were stuffing the ballot box themselves."

**T**HERE ARE about 90,000 polling places in the Philippines. Marcos's opponents, the swarm of foreign journalists who descended on Manila, and such detached witnesses as members of an observer delegation appointed by President Reagan agree that votes were stolen, bought, and miscounted on a very large scale throughout the country. Marcos himself told a visitor that his opponents had driven the price of a vote up from 50 pesos to 150. "We couldn't keep up with that!" the president complained.

Ballots were counted unofficially by an organization that was called the National Citizens Movement for Free Elections (NAMFREL), which declared Mrs. Aquino the winner, and by the government's Commission on Elections (COMELEC), which announced a Marcos victory. After the election the National Assembly, controlled by Marcos's party, proclaimed him the winner. Although the scale of the irregularities

probably rendered an accurate tally impossible, most observers believe that Mrs. Aquino was, in fact, elected to the presidency by the voters of the Philippines.

In the end, however, the presidency was won in the streets, on live television before the eyes of the world. In an extraordinary display of what Mrs. Aquino called "people power" (the political movement her husband invented in his jail cell was called *Lakas ng Bayan*, a Tagalog phrase that means "people power"), hundreds of thousands of her supporters poured into the main thoroughfares of Manila.



*Hoping against hope for a fair election, a voter marks her ballot on February 7 in Antique Province on Panay. Former Governor Evelio Javier, a key Aquino aide, was gunned down here four days later, and a pro-Marcos legislator was implicated.*

*"Blow it up!" said a tribe that lost land to a huge bust of Marcos near Baguio, but the new regime spared it as a symbol of injustice. On a similar scale, a mountain of Marcos documents swamps attorneys worldwide on the trail of massive corruption and ill-gotten wealth.*

Marcos ridiculed the movement. But on February 22 his own defense minister, Juan Ponce Enrile, and the deputy chief of staff of the armed forces, Lt. Gen. Fidel V. Ramos, both longtime Marcos loyalists, defected to Mrs. Aquino, together with some 300 members of a military reform movement.

Marcos sent a column of tanks against the rebels. Tens of thousands of Filipinos, bearing flowers and rosary beads, blocked the streets with their bodies. The Philippine troops inside the tanks refused to advance on their fellow countrymen.

In a final effort to save himself and his regime, Marcos tried to convince Enrile to throw in his lot with a coalition government that Marcos would lead as "honorary president." The gambit failed. "I told [Marcos's emissary] to convey two messages to the president," Enrile told me later. "One was that our bottom-line demand was for him to step down. That was nonnegotiable. The other was my fear that in the end he would be harmed by his own men—and he must beware of them. The president was visibly stunned. From that moment on he did not know who around him was his Brutus. I knew we had complete control."

**M**RS. AQUINO has no plans to live in Malacañang Palace. The fourth of six children from one of the nation's wealthiest Filipino families, schooled at Philadelphia's exclusive Ravenhill Academy and Notre Dame School in New York City, graduated in French and mathematics from the College of Mount Saint Vincent on the Hudson, she plans to move closer to the presidential palace but still maintain a private residence. And that seems proper for this patrician lady of the people. Mrs. Aquino is a woman—I say this with no disrespect—who knows when it's time to pray and when it's okay to take off her shoes. She can answer a question with such disarming directness that one is left



feeling a pompous bungler for having asked it. "You have come to symbolize a new moral consensus for the nation," I ventured during a chat we had in her blue-carpeted campaign headquarters in Makati. "How do you propose turning that hope into reality?" "By example," she answered without hesitation, popping a Life Saver. "Leadership by example." Then she shut up, smiled, and waited for the next question.

Behind that smile, however, one senses a steely serenity—Cory Aquino knows herself



and precisely what she stands for. She doesn't retreat. Early in her administration, it was reported, when members of her mostly male cabinet turned an inconsequential point into a windy and posturing polemic, Mrs. Aquino finally heard enough. "Gentlemen, I've had it," she announced, placing her hands flat on the table. "I just have to remind you that I'm the president, and if you cannot respect me, there's no way we can work together." The cabinet fell in line. Said one chastened minister later: "I've never

seen her so furious!" I asked her: Did she ever worry for her own security? Her eyes went to a painting of Ninoy and her and their children. "I'm beyond that," she said.

For the foreseeable future, Mrs. Aquino can count on the support of the church, the armed forces, and the mass of middle-class Filipinos who energized her campaign. She enjoys pledges of increased aid and immense goodwill from America, Japan, and other friendly nations. But she will need to summon all those strengths and then some to



deal with the chaos that she has inherited.

The Philippines is hobbled by a foreign debt approaching 27 billion dollars, on which it has failed to make principal payments since 1983, the last year the nation made money. Since then, the national income has fallen by nearly 10 percent. At best, it may break even this year. Said Mrs. Aquino's Harvard-educated finance minister, Jaime "Jimmy" Ongpin: "This is the worst economic disaster to hit this country since World War II."

**A**LMOST THREE-FOURTHS of Filipinos live below the poverty threshold, defined by Manila's Center for Research and Communications as the equivalent of \$1,000 a year for a family of six. There is no relief in sight. "The purchasing power of the peso will not reach 1983 levels until sometime in the early 1990s," CRC's senior vice president, Bernardo M. Villegas, told me. "We have lost a decade!"

The loss hurts most keenly in Manila. In some places the capital's teeming streets are

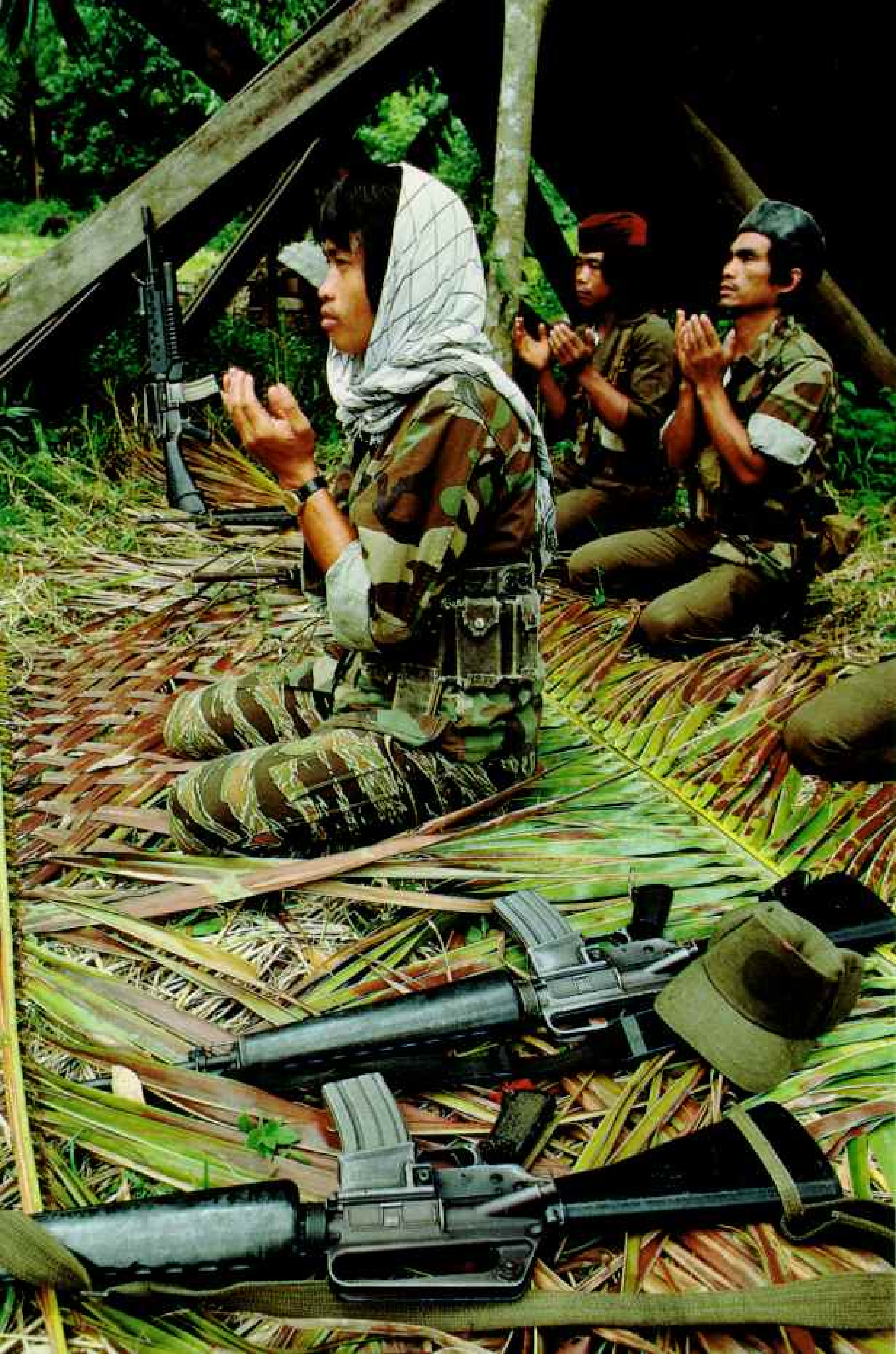
so riddled with potholes that they appear to have been hit by a mortar barrage. The sun-scorched air is choked with exhaust fumes, the gutters and verges stacked high with garbage. At gridlocked intersections, emaciated youngsters rap on car windows and wail, "One peso—for eating!"

In futuristic Makati, one of the city's centers of wealth and power, Carlos "Sonny" Dominguez, a rising young deputy minister of agriculture, told me, "My mother wrote from America wanting to know why I was so mad at Marcos. I said, 'Mom, look: Three years ago, a guy making 160,000 pesos was earning the equivalent of 20,000 U. S. dollars. Today, thanks to inflation and devaluation, he has to make 380,000 pesos to be at that level.'"

The poor already know the economic facts. Leveriza is one of Manila's densest, most dispiriting slums. Here 25,000 people live on one-fifth of a square mile with communal water faucets, only occasional electricity, and no public sanitation whatever. Here I met Nita, a husky, forthright mother



*Filling a void left by government neglect, the New People's Army, totaling perhaps 20,000, offers medical care to a Luzon village (above). Muslims of the Moro National Liberation Front pause for prayer while on patrol in Mindanao (right), where their fight for self-rule has abated since the late 1970s. Although Mrs. Aquino's middle-class revolt politically isolated leftists, Communist resistance continues.*





*Productive for centuries, irrigated rice terraces of Banaue are tended by the Ifugao, probably descendants of the people who built them. Protected by 6,000-foot peaks, the Ifugao resisted control by the Spanish*



*during their rule from 1565 to 1898. Today the Philippines is self-sufficient in rice, thanks to high-yield strains introduced over the past two decades, but they require expensive fertilizers and pesticides, pinching small farmers.*

of ten—five of them married with five more children of their own. Nita's whole family, 24 strong, lives together in a one-room hut. Her husband works as a janitor for 700 pesos (\$35) a month and is grateful for the work: Unemployment in Manila runs more than 20 percent. Breakfast that morning, Nita said, had been coffee and a thumb-size piece of bread. Lunch was sugared rice with the cold leftover coffee. And supper would be one three-peso bag of vegetables split 24 ways. "Things were better a couple months ago," Nita said apologetically. "My son had a job." What happened? I asked. "He got stabbed to death," Nita explained.

**B**Y FAR THE GREATEST threat to Mrs. Aquino and to the nation lies in the Communist insurgency that Marcos, when he declared martial law, pledged to eradicate. He failed. The present Communist Party of the Philippines (CPP) was founded in 1968 as a Maoist breakaway from the old Moscow-oriented Partido Komunista ng Pilipinas (PKP). Its military wing, the New People's Army (NPA), boasted a hard-core strength of no more than 600 armed guerrillas hiding out in northern Luzon when Marcos declared war upon it. Today, by U. S. estimate, the NPA has 20,000 full-time rebels, supported by a mass base of more than a million. Some experts say there are half again that many guerrillas and three times as many sympathizers. The guerrillas operate, often at will, in all 74 provinces. Their Communist Party leaders are considered tough, dedicated, and well educated—mainly former university students radicalized during the martial law era, now grown and determined to eliminate U. S. presence in the islands and overturn the social order. They have established a political presence—among barangay captains and such—in at least a fifth of the Philippines' 41,400 barangays. NPA guerillas often kill local officials and others who refuse to cooperate with them. U. S. analysts give the movement a good chance of seizing

total power by the end of this decade. "Marcos and the military," a Communist Party cadre had told me smugly in Manila, "are our chief recruiting agents."

Near Cagayan de Oro, in the mountain town of Claveria on Mindanao, I first met the NPA. They came, four armed guerrillas, striding boldly up the muddy main street of Pelaez barangay at midmorning, while village women continued their laundry chores at the public faucet. The goateed leader wore blue jeans, flip-flops, and a tan knitted cap. A barefoot teenager in a Nike T-shirt lugged an M16 rifle with a red star on the chamber. Two other young men, pistols in their belts, brought up the rear. They stopped in front of the wood frame house where I was waiting; the leader extended a bony hand. "I am Ka Liber, a code name," he said. Ka, I knew, meant comrade. "Small caliber or large?" I joked nervously. Ka Liber did not smile. "You may find out someday," he replied. Inside the house the young guerrilla kept his rifle pointed at my mid-section throughout the interview.

I had arrived the night before in a chill mountain rain. Augustine Yamit, 50, the wiry, quick-smiling barangay captain, had welcomed me with a warming peg of Philippine rum and a hot meal of *ginamós* (salted-fish-and-tomato stew), grits, and a chocolaty coffee made from soybeans. Then, by the light of an oil lamp, Yamit and his villagers told me about the murder of Jose Pabro, and the way the military had been behaving in the months since.

Pabro had been Yamit's predecessor, and the father of 11 was much loved in Pelaez. In Cagayan de Oro he was an effective labor organizer and so both hated and respected there. Pabro was shot dead on the coast road in June 1985. "Before he died, this was the most peaceful place!" a diminutive, 65-year-old farmer named Sandigan said. "After his funeral, military helicopters came, landed at the grave, and soldiers tore down the funeral banners. Then the killings began."

The NPA, which considered Pabro an

*Tender time in a tough neighborhood, Edmundo Fuertes holds his son George as the family relaxes in their home in Tondo, one of the poorest sections of Manila. Relatively well off, Edmundo operates a garage. Millions of other Filipinos are not so lucky. The unemployment and underemployment rates combined equal about 60 percent, and per capita income is about \$600 a year.*



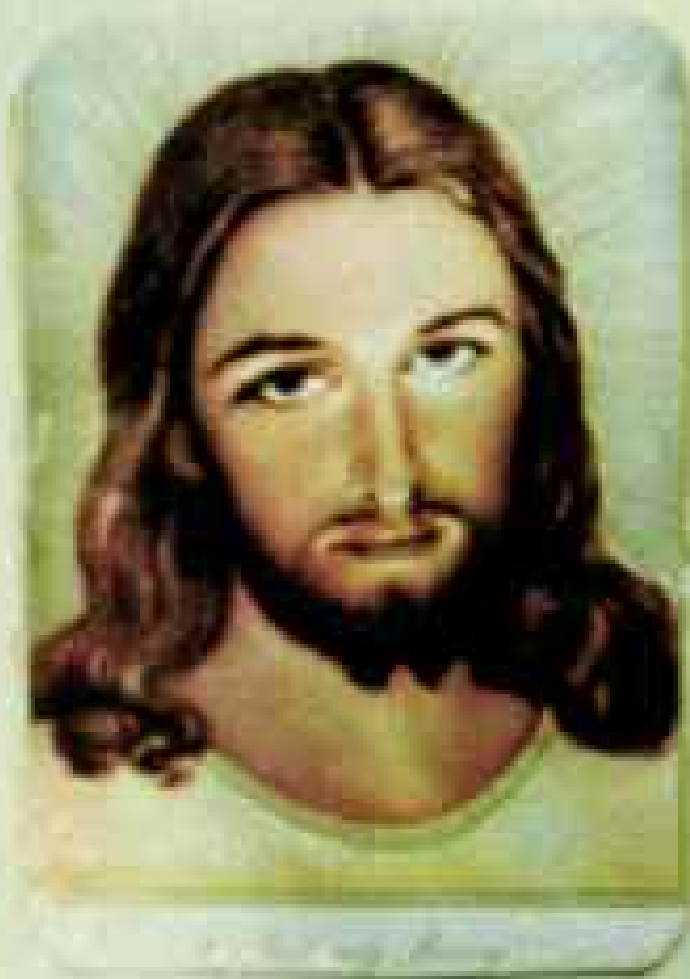


*A fish has no chance where bamboo fish traps strain the waters of Manila Bay not far from Corregidor. Some 725,000 fishermen, many in*



*motorized wooden outriggers, work such coastal shallows, mainly for local consumption, contributing to a national haul of about two million tons a year.*





ally, killed two civilian militiamen. The army set up a food blockade on the Pelaez road to starve the NPA down from the mountains. The blockade also starved Pelaez villagers. "Not one *ganta* of rice, not one kilo of dried fish could be brought here," Yamit related bitterly. I asked him: But did you give food to the NPA? "Look," he replied, "it's Philippine custom to give food to anyone who comes to our house. Besides, what choice did we have? Where was the army when we needed them?"

**A** BATTALION-SIZE search-and-destroy operation followed the blockade. It commenced with a four-hour mortar and artillery barrage. The target area was behind the village; its purpose was to cut off the NPA retreat, army commanders told me earlier at Camp Evangelista headquarters. The villagers said the shells landed all around them. "Luckily, no one was killed," Yamit said. "But why were they doing it? No one was firing back. We were defenseless."

Then the troops moved up the mountain-side. "My soldiers are professionals," the commanding general insisted. "In one *barangay* soldiers killed 34 people," Yamit said. "In another they only shot and took the pigs. In a third they ransacked a store and spilled corn grits out on the ground in the rain. Here in Pelaez they took everything they could carry—our chickens, our pots and pans and rubber flip-flops, even our women's panties off the line! 'Tell us where the NPA have gone, or we'll put a grenade in your mouth,' they said."

"The democracy we have here is Marcos's democracy," Ka Liber had told me. "It's for just a few people—the big capitalists, the U. S. imperialists who support Marcos and supply his military. U. S. imperialism, feudalism, and bureaucratic capitalism—we will fight until all of these are eliminated from our country. Philippine armed forces, U. S. troops—we don't care who the enemy is. We will fight, and keep on fighting!"

Ka Liber, like all sides in Philippine politics, speaks boldly in the name of the people. But nearly every aspect of Philippine life divides its people. "We are bound together," one Filipino told me, "by little more than the sea." The three stars of the Philippine flag

itself denote not union but division: big, populous Luzon up north; the central cluster called the Visayan Islands; wild, frontier Mindanao down south.

Language divides the Philippines. Filipinos speak eight major tongues. Ethnicity also divides them. Predominantly Malay in origin, Filipinos comprise more than 75 ethnolinguistic groups, ranging from Bajau



*A starving child receives intravenous feeding in a hospital on Negros as his grandmother soothes his fears (facing page). When the sugar industry collapsed, the boy's father was among thousands laid off. On Mindanao a farmer tends corn (above). Land reform, ineffective under Marcos, remains a burning issue.*



*Hope for recovery: Workers assemble circuits for foreign firms at Stanford Microsystems Inc. in Manila (above); the semiconductor industry employs 50,000.*

*New rice hybrids are judged for taste at the world-renowned International Rice Research Institute at Los Baños (left), developer of the "miracle" two-crop-a-year strains.*

*On a Quezon Province plantation where coconuts are dried for copra, a tenant shows off a prize gamecock (right). A virtual monopoly of the lucrative coconut trade was enjoyed by perhaps the wealthiest of Marcos's cronies, Eduardo M. Cojuangco, Jr.—a first cousin of Mrs. Aquino—who fled with Marcos. Half the nation's export earnings go to pay interest on a foreign debt close to 27 billion dollars.*



sea gypsies in the south, who, according to legend, only go ashore to die, to Kalinga tribesmen, who live so deep in the northern Luzon *bundok* that the very word denoting the region is the root of the American slang word for the back of beyond—"boondocks." At least seven hundred thousand Chinese—also Filipino citizens—bestride the teeming cities' retail trade.

But it is the moneyed, landed mestizos—of mostly Malay and Chinese or Spanish blood—often American-educated, who are the power brokers of their nation. These mestizos make up some 2 percent of the



*Sea gypsies, a Bajau fisherman and his daughter ply the Sulu Sea (facing page). Like many Bajau, Muslims who once lived entirely on the water, they make their home ashore. Other fishermen crowd an islet in the Bohol Strait (above).*

population but earn 55 percent of the nation's total personal income. According to a study published by Ateneo de Manila University, some 60 mestizo families control most of the Philippine economy. President Aquino belongs to this class. When she named her 15-member cabinet, seven of her appointees were graduates of Harvard and Yale. Much of the youthful leadership of the NPA is drawn from the prosperous urban middle class, and so are many members of every other politically active element in Philippine life, including the clergy. The contact of these elites with the common people, apart from political action, has been limited.

The Filipinos are further divided by religion. The 85 percent of Filipinos who make up Asia's only Roman Catholic majority and the less than 10 percent who are Muslims have seldom been at peace with each other. The Muslim secessionist war in Mindanao, which erupted in 1973, cost the Philippine government the equivalent of 50 million dollars a year and tied down two-thirds of its armed forces, claiming at least 50,000 lives and displacing more than half a million persons before it sputtered to an inconclusive end—or pause—four years later. In 1977 Marcos decreed autonomy for two Muslim regions, but the Muslims still await the keeping of his promise. "Manila rule!" snorts Michael Mastura, Muslim president of the Philippine Amanah Bank. "My people call it *gobierno a sarolang a tao*—'government by foreigners.'"

**N**OR IS THE Catholic Church entirely at peace with itself in the Philippines. Liberation theology, a doctrine of social revolution influenced by Marxist-Leninist theory and practice, has propelled more and more priests and nuns into the struggle for social change—and often into radical politics. By some widely quoted estimates, one out of four Filipino priests at barangay level openly espouses a Marxist-Leninist solution to peasant problems. Most stop short of endorsing the NPA and armed rebellion, but their political sympathies inevitably move them in an anti-democratic direction—and away from the church's conservative tradition.

Not all Catholic activists see the possibility of salvation in Communism. Says Jesuit-



trained, avowedly conservative Vicente Valdepeñas, former director of the National Economic Development Authority, "There are only two kingdoms: the kingdom of God and the kingdom of the devil—and Communism is the kingdom of the devil."

Jaime Cardinal Sin, the witty, rotund, sagacious archbishop of Manila (the 13th child of a Spanish-Filipina mother and a Chinese father who converted from Buddhism to Christianity), allows his flock remarkably free rein. But he makes no bones about his own pro-American sympathies. At his hill-top villa (which he delights in calling the "House of Sin"), set amid rolling gardens in the Manila suburb of Mandaluyong, the cardinal told me of attending Marcos's birthday celebration at Luneta stadium last September. "We released two white doves," His Eminence said. "Marcos's dove flew up in circles and disappeared. Mine—would you believe it?—flew straight to the feet of the American ambassador. The meaning was clear: We need your help."

What, then, binds the Filipinos together? Philippine scholars point to a common set of values centered around a deeply felt sense of honor. "Barangay, which can mean village, is also a word for boat," the Reverend Georges Piron, a Belgian-born priest now a naturalized Filipino citizen, told me on Bataan. "These islands were originally populated by boat people in communities that were small, far-flung, and self-sufficient. Their values still fit that structure—highly personal, flexible, family oriented. A favor bestowed still incurs a solemn obligation called *utang na loob*, or 'debt of honor.'"

"When Filipinos fought alongside Americans in World War II, that was *utang na loob* for democracy," commented David Steinberg, a Philippine historian. Filipinos were the only Southeast Asians who stood with their colonial masters in that war.

No less important is the concept of *compadrazgo*, derived from Spanish tradition and from the Roman Catholic practice of joining the lives of children and their godparents in

the rite of baptism. Filipinos reckon blood relatives down to fourth cousins, and also regard godparents and all the godparents' brothers and sisters and their families as kin. Ferdinand Marcos once told me that by the time he became president, he had no fewer than 4,000 godchildren, and needed a staff of 20 just to keep track of their birthdays.

**T**HE WANING YEARS of Spanish rule in the Philippines had been marked by violent revolt. The prosperous, educated class, called *ilustrados*, favored evolution under Spain. But when U. S. forces seized Manila in 1898, ending 333 years of Spanish control, the *ilustrados* were prepared to accept American rule. A guerrilla army, however, fought on, tying down two-thirds of the U. S. Army in a bloody two-year campaign.

To end the war (and to appease anti-imperialist critics at home), Governor General William Howard Taft created a policy of "attraction"—colonialism based on "a greater and greater measure of popular self-government." Participation called for authority, education, and skills that only the *ilustrados* possessed. The *ilustrados* therefore became the mediators between the Americans and the masses.

Taft's policy worked. By 1941 Filipinos enjoyed a freely elected house and senate, an independent judiciary, and an indigenous civil service. Literacy rose from an estimated 5 percent in 1900 to 50 percent of the population. (Today it is about 88 percent.)

In 1935 the Philippines became a commonwealth under an elected president. Full independence was promised for 1945, but the Imperial Japanese Army upset that timetable, attacking and defeating the U. S.-Philippine garrison and occupying the archipelago for three years. Once again the *ilustrados* played mediator between a foreign occupier and the people.

When independence finally came, on July 4, 1946, the *ilustrados* inherited the nation. They were now an oligarchy, enunciating

*Mirroring a concern to preserve cultural minorities, two members of the Ramon Obusan troupe wait backstage to perform Yakan dances. The troupe exposes Manila audiences to folklore of the nation's ethnic groups, totaling more than 75. Less than 10 percent of Filipinos are Muslims. The lands of all minorities are pressured by population growth and development.*





American ideas of democracy that often conflicted with older concepts of class and privilege derived from medieval Spain and their own uniquely Filipino ethnic consciousness. Lightheartedly, the oligarchs described their colonial experience as having spent "300 years in a Spanish convent and 50 years in Hollywood"—and described themselves as a zany blend of "Malay, Madrid, and Madison Avenue."

In 1949 Senate President Jose Avelino, one of the few officials ever formally censured for corruption, demanded of President Elpidio Quirino, "What are we in power for?" Noting a distinction he said Christ had made on the Cross between "a good crook and the bad crooks," Avelino

proposed that Filipino politicians should endeavor to be "good crooks."

**I** HOPE that I will be remembered not as a warrior but as a reformer," President Ferdinand Marcos told me in an interview at Malacañang Palace a few weeks before his fall, "as someone who changed our society and converted the indifferent and uncommitted souls of the Filipinos into dignified and self-reliant men."

Marcos's face was the same inscrutable mask I recalled from my first meeting with the man, over a midnight steak in my hotel room, in the midst of his 1965 presidential campaign. His words had a familiar ring. But there similarity ceased. The Marcos I



knew in the old days was a brilliant, charismatic man. "I will make this nation great," he told me then, and I believed, with many others, that he had the chance. His eyes held a strange fire, like the nimbus in the eye of a cat caught in a headlight's beam. President Lyndon B. Johnson called Marcos "my right arm in Asia." After an address by Marcos before a joint session of the U. S. Congress, both houses rose and delivered him a tumultuous ovation. And as late as 1981 Vice President Bush exclaimed, "We love your adherence to democratic principles!"

In declaring martial law in 1972, Marcos created the hope that *disciplina*—the watchword of that era—could accomplish what democracy had not. Many believed

that well-planned economic development on a massive scale, primed by foreign capital and deficit financing, could spin the struggling nation through a time warp from feudalism into the modern industrial age. The reality was that Marcos himself was a prisoner of his own cultural past.

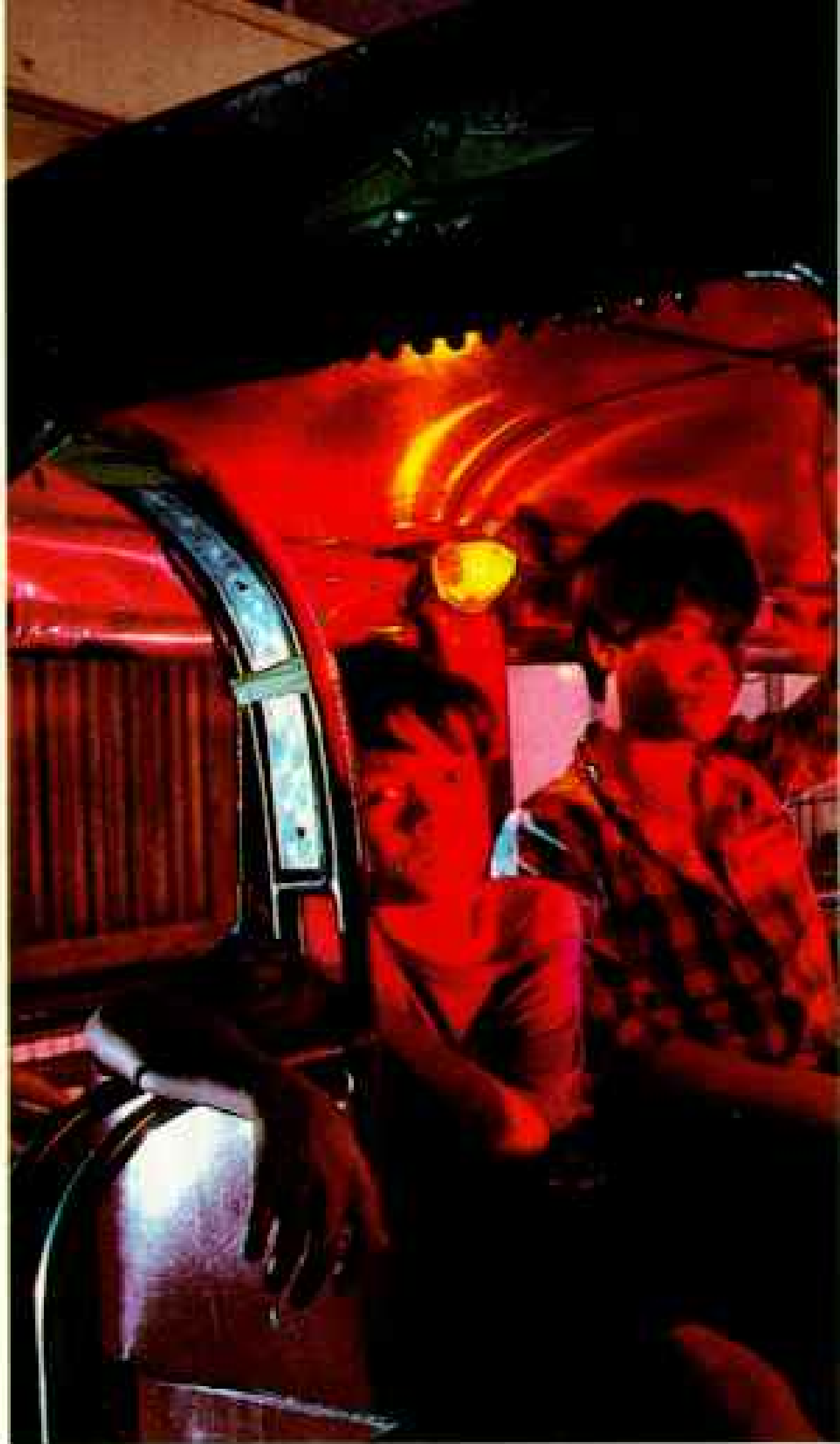
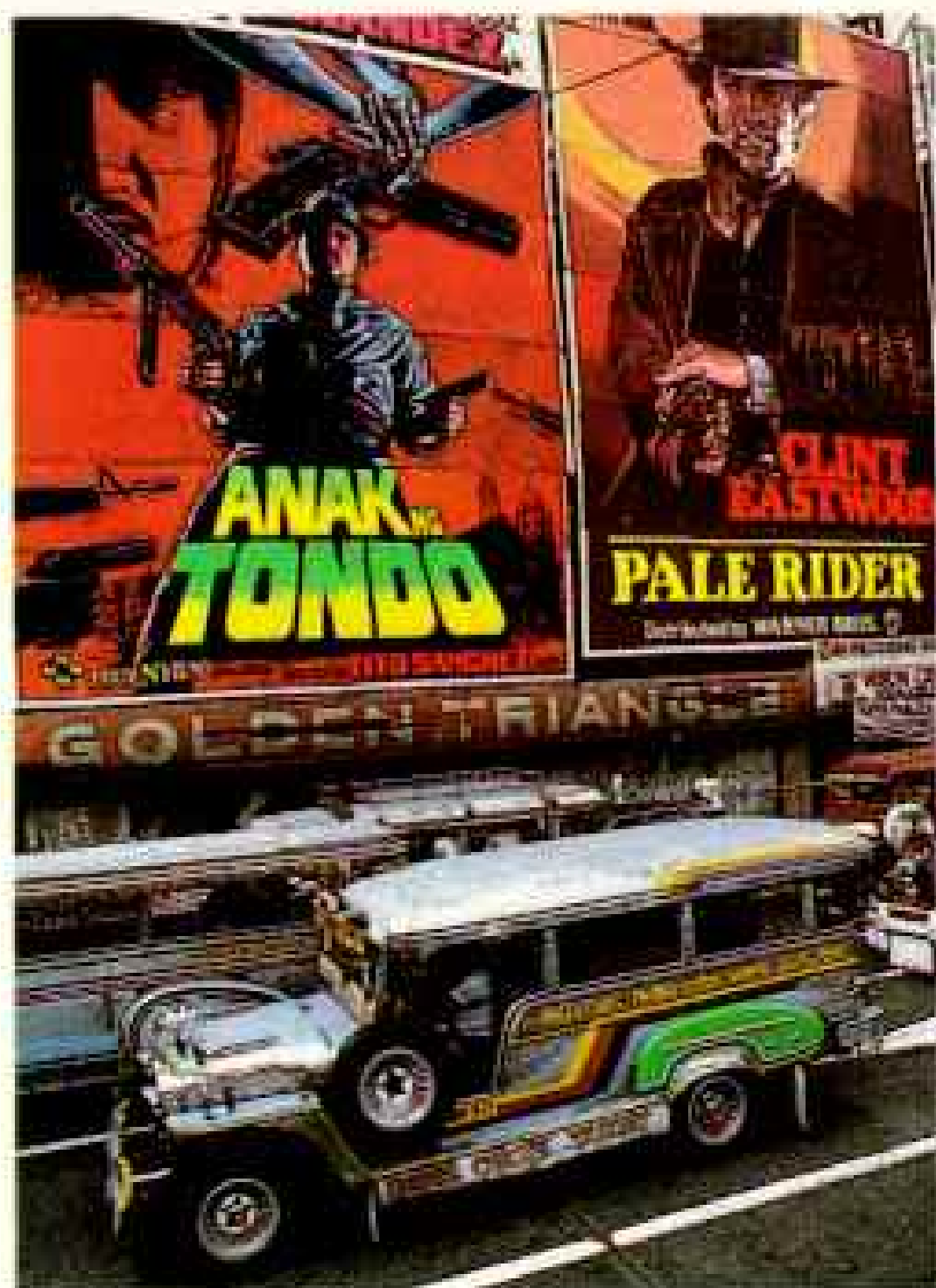
Marcos was not an ilustrado. Rising out of the remote province of Ilocos Norte, on the northwest coast of Luzon, he came from humbler origins. Like other newcomers to power in other countries, Marcos created a new oligarchy as a by-product of his struggle to impose his political will on the old one.

According to Reuben Canoy, a former member of parliament, "Marcos became the epitome of the system he claimed to reform—the supreme godfather," overseeing a nation-strangling web of nepotism and favoritism that was rooted in *compadrazgo* and *utang na loob*. Marcos made his wife governor of Metro Manila and minister of human settlements with a nonaccountable budget of 200 million dollars a year. He also made her chairman of 23 other government agencies and corporations. Mrs. Marcos's brother Benjamin Romualdez became governor of Leyte, his family's home island, then ambassador to the People's Republic of China, and then ambassador to the United States. Marcos's sister Elizabeth Marcos Keon Rocka became governor of Ilocos Norte; his son, Ferdinand Jr., vice governor at 21. A daughter became a member of parliament. His brother Dr. Pacifico Marcos was named head of the Medicare Commission and of 20 private companies ranging from mining and shipping to steel milling and janitorial services. Marcos named Fabian Ver, his cousin and onetime driver, general and chief of staff of the armed forces. Until Marcos's 1965 election Ver had held captain's rank. Marcos and Ver turned the National Intelligence Security Authority into what was, in effect, a secret police agency staffed largely by loyal officers from their home region in northern Luzon.

*No one moves except the grand masters of the street during the daily match in Quiapo, reflecting a national passion for chess. In this Manila district religious fervor peaks on January 9 during the procession of the famed Black Nazarene.*



*Welding Filipino folk art to American know-how, the jeepney reigns as populist people-mover. Jeeps left by U. S. forces were modified, and drivers now compete by customizing; a Manila entry re-creates a disco ambience (right). Another rolls past posters echoing nearly 90 years of U. S. cultural influence (below).*



Marcos handed over the control of entire industries—among them coconuts and sugar—to compadres and relatives. The Construction and Development Corporation of the Philippines, which was entrusted to a golfing crony named Rodolfo Cuenca, borrowed more than 70 percent of the net worth of the Philippine National Bank and ran up government-guaranteed loans and debts in excess of one billion dollars—a sum, Finance Minister Jaime Ongpin noted, that was then equal to 27 percent of the nation's money supply.

With these allegations in mind, I asked Marcos about the forthcoming elections. "If Cory Aquino were elected—heaven forbid—the Communists would probably run the government," he replied. "You see the election then as a matter of . . .," I began. "Of survival!" Marcos shouted. "Survival of our freedom, of our principles

and ideals—survival of American libertarian democracy!"

**A**CROSS MANILA BAY, on the west coast of Bataan peninsula, sits the biggest, costliest project ever undertaken in the Philippines—the Westinghouse-designed Bataan nuclear power plant, officially designated PNPP-1. So far the giant plant has cost 2.1 billion dollars. Interest on the loans is \$355,000 a day. The plant does not now, and may never, operate. "Privately," one of the top officials at the Commission on Audit, the nation's leading fiscal body, told me, "the National Power Corporation management wishes that they could give the damn thing back."

Judging by its annual report, National Power Corporation looks to be a highly profitable enterprise. Second glance reveals a government subsidy half again as large as



the outfit's declared profits. "In other words," one National Power official confided to me, "we're practically insolvent." PNPP-1 is the principal reason why, and the story behind it reveals one of the dangers of a martial law government operating outside the realm of public accountability.

The oil crisis of 1973-74 sent the Philippine government searching for alternative energy sources: The Philippines was dependent on foreign oil for 90 percent of its energy. National Power Corporation invited bids on a nuclear plant. After an early estimate of about 500 million dollars for the cost of construction, the Westinghouse bid came in at 1.1 billion dollars for one 620-megawatt reactor.

The Philippines National Computer Center, set up by Alejandro Melchor, then Marcos's executive secretary, calculated the price to be inflated by at least 75 million

dollars compared to similar Westinghouse plants in other countries. That sum is close to what Filipino investigators now charge Marcos personally reaped from the deal. In 1975 Melchor's office was abolished, and he left the presidential palace. In 1976 contracts were signed between National Power Corporation and a Swiss subsidiary of Westinghouse, and construction got under way.

Then problems began cropping up. The plant was built on the flank of Mount Natib, a long-dormant volcano determined still capable of erupting. Westinghouse incorporated additional safety features and insists that PPNP-1 is safe to operate. But dissenting Filipinos, backed by a number of foreign scientists, have snarled licensing in litigation, and the Aquino administration is considering mothballing the plant.

Sugar, once the source of 20 percent of the Philippines' export earnings, had already

*In a candlelight vigil at a Manila cemetery, families honor their kin on All Saints' Day, November 1. A flag drapes the tomb of a soldier who served with U. S. forces during World War II, when a million Filipinos perished.*

lost its old economic importance as a result of the policies of the Marcos era. The island of Negros is sugar's heartland. Silvery green cane fields stretch away to the deep mauve flanks of Canlaon volcano, which still rumbles now and then, reminding residents what made the earth so fruitful. The specter of famine now haunts this fertile island. In each of the past two years, sugar production has fallen by 30 percent. More than a thousand planters have simply quit the land. At least 250,000 sugar workers—well over half the total force—have been laid off. The Marcos government blamed the collapse of the world market. The world sugar price has been running five cents a pound. Production costs are 14 cents. The planters blame Marcos's "crony capitalism." "Marcos's pals," planter Jose Gonzaga told me, "have mismanaged and systematically looted the industry—and our pockets—of as much as a billion dollars over the past seven years. That's quite something, don't you think?"

**I**N THE CHILDREN'S WARD at Bacolod's Montelibano Memorial Hospital, pictures of Pinocchio, Little Bo Peep, and the saints smile down on small patients with matchstick limbs, frightened, wide-staring eyes, and brittle, light brown hair—the signs of marasmus, kwashiorkor, and the host of other diseases that accompany starvation. Dr. Socorro Gonzaga, 29, told me that the hospital loses two or three children a day. Parents take the tiny corpses home in paper bags for burial.

As she spoke, a baby girl in the bed beneath a portrait of Christ clucked faintly, twitched her tiny fist, and died. The baby's mother pressed her pain-wracked face against the bed and closed her eyes. "Arsenia Hiponia" the baby's card read. "Third degree marasmus. Age, one year five months. Weight, ten pounds."

Abra is in the bundok, but it is not so far away that the policies of Manila have not produced dramatic consequences. Two



hundred fifty miles north of Manila, between the Cordillera Central and the craggy Ilocos coast, it is a wild, rugged land of few roads, deep river gorges, and thick stands of tall Benguet pines—the ancestral land of the Tinguian (or Itneg) people.

Abra was also, when I visited it, a land of sudden, unpredictable violence and fear. "It's different up here," Daphne Remando warned. "When the military kill people up here, they frequently cut off their heads. Of course, they're not supposed to do that. . . ." Daphne was the desk clerk at Baguio's rustic Mountain Lodge, a sensible woman who knew whereof she spoke. A few months



before, a priest who had gone over to the NPA and two rebel women were killed in an ambush and beheaded. The heads were paraded through nearby villages, then buried some distance from the bodies. A constabulary sergeant later admitted he had led the team that had done the deed.

What about the NPA? I asked. "Oh, it's eye for an eye," Daphne assured me matter-of-factly. And indeed, just a week before, the vice governor had been shot dead in Abra's provincial capital, Bangued. The mayor of an outlying town had been killed a few days later by NPA rebels. Fearing for their lives, the mayors of nine other upland

towns had moved into Bangued—and the mayor of Bangued had fled to Manila.

In 1973 and '74 Marcos granted exclusive timber concessions on 500,000 acres of mostly Tinguian lands, plus rights to build and operate a pulp mill outside Bangued, to Celophil Resources Corporation and a sister company, headed by his friend Herminio Disini. Marcos underwrote the firms' foreign financing, committing the Philippine government to picking up the paper if the project failed. Today the Development Bank of the Philippines holds the equivalent of 200 million dollars in Celophil's nonfunctioning pulp mill.





*School is out of the question for an 11-year-old boy with a good job mining gold in the hills of Boringot on Mindanao (above). Others pick through trash for a living in a Manila dump called "smoky mountain" (left). More than two million people inhabit the metropolitan area's shantytowns and squatter settlements.*

The Tinguians opposed the project. The land had been theirs, communally owned, for generations; the spirits of their ancestors resided in its dust and waters. The government turned a deaf ear to their petitions. By regalian legal tradition dating back to the Spanish era, all Philippine lands not privately owned are the property of the state, to be exploited as the state sees fit. The Americans, the Philippine Republic, and the Marcos regime all looked upon the land as a national resource.

Cellophil, with Marcos's backing, pressed on. The local constabulary was beefed up with units of the Presidential Security Command. Government heavy equipment cut logging roads into the backcountry. Government trucks hauled out the logs, and the actual construction of the mill got under way in 1977. Bangued, like the railroad towns of the American West, boomed with bars, restaurants, and brothels catering to construction workers—who were virtually all brought in from outside.

Then the NPA, whose aid the Tinguians had quietly refused two years earlier, came

back. "Very soon," attorney Demetrio Pre related, "trucks were being pushed down ravines, bulldozers burned, camps raided, soldiers ambushed and killed."

"The NPA squeezed 30,000 pesos [\$5,000] a month worth of rice, dried fish, canned goods, and clothes from the company," added Betty Parel Valera, a local newspaper editor and Divine Word College classmate of three Abra NPA leaders. "But that lasted only a few months. The plant closed down in 1980." "The NPA prevented us from getting the logs," Penciano Villaver, the plant's resident superintendent, explained. "To operate, we needed 750 cubic meters of wood a day. We could hardly bring down 3,000 a month. By start-up time we had to import logs from Australia."

Today the plant site is a ghostly ruin. Eighteen road graders, tractors, and bulldozers lie broken in the motor pool. Birds twitter in the eaves of huge, rusting steel towers that were supposed to cook and wash and screen the pulp. Goats graze among the weeds. A graveyard of bone white timber stretches off into a distant wood.



**A**FTER MARCOS'S DEPARTURE I went back to Claveria, where I'd first met the NPA. I had no rosy illusions. Little had changed in the Philippines except the cast and the expectations. As a gesture toward national reconciliation—against the advice of her minister of defense—Mrs. Aquino had released hundreds of political prisoners, including the founder and former head of the Communist Party of the Philippines, Jose Maria Sison. But her calls for a cease-fire and negotiations with the NPA had gone unheeded. More than 400 soldiers and civilians had been killed by NPA guerrillas in the first five weeks of the Aquino administration. "Surrender," Communist spokesman Antonio Zumel told the press, "is wishful thinking."

Great difficulties remain. Parts of the countryside, including Marcos's own Ilocos region, Marawi in northern Mindanao, and Ramon Durano's Cebu, continue to be ruled by warlords still loyal to Marcos. His political apparatus is also still powerful in the cities, and some members of Mrs. Aquino's government were colleagues of the former president. A few of them clearly aspire to the presidency themselves. Her defense minister's 16 years of allegiance to Marcos, his role as an architect of martial law, and his control of the armed forces are imponderables. The alliance between Mrs. Aquino and Vice President Laurel is fragile.

Still, changes have been made. Mrs. Aquino has dissolved the National Assembly and, in effect, is ruling by decree under



the terms of a provisional constitution until a new constitution can be submitted to a plebiscite. She has promised elections within a year. But she is replacing elected officials loyal to Marcos with her own appointees in local and regional governments.

**R**EFORM OF THE MILITARY has begun. A number of "overstaying" generals—field commanders kept on by Marcos after passing mandatory retirement age—have been retired. New commanders—combat veterans experienced in the subtleties of counterinsurgency—have been installed. Training is being redesigned, de-emphasizing conventional war and stressing counterinsurgency. "We'll let you Americans defend us from

outside aggression," Defense Minister Enrile told me. "That's what the bases agreement is all about."

And there seemed to me to be a different feeling on the land—something more than euphoria at Marcos's departure and Mrs. Aquino's succession. In Claveria I stopped at the creaky wood frame town hall. There, written in the police blotter, was an item that caught my eye. Some 1,000 people—men, women, and children the NPA had considered part of their loyal mass base—had gone over to the government side after the election. In reprisal, the NPA had rounded them up, along with their cows, chickens, pigs, and carabaos, and were in the process of herding them toward a forced labor farm in the wilds north of Pelaez barangay when elements of a government Scout Ranger battalion rumbled up and rescued them virtually without firing a shot. Then the Rangers choppered in food and medicine to help the people.

"What a change from last year!" Claveria Mayor Nonisiol Adis, a wiry, wavy-haired man in golf duds, remarked. "We estimate that the NPA up there have lost 50 hard-core rebels since the election." What brought about the change? I asked. "The people are sick of the killing," Mayor Adis replied. "And Cory offers a fresh start."

It was one small incident, one man's view, in one small town. And the task ahead, for Mrs. Aquino and the country, was herculean. As I clung to my jeepney, careening madly down the mountain, I saw one small sign that perhaps the mayor might be right. On a roadside wall splashed with graffiti advertising "*Rebulosyon!*" and "*Boycott!*" and the inevitable "*Mabuhay NPA,*" someone had painted out the NPA and scrawled beneath it, "*PEOPLE POWER!*" □



*Brave new day: In Luzon's traditional mountain fastness a woman of the Bontoc minority watches her school-bound daughter become one with the modern world. In the 1970s the Bontoc forcibly halted a Marcos-ordered dam that would have flooded their lands. Now the nation itself has a chance to control its own destiny, hoping, as Mrs. Aquino declared, that the "long agony is over."*

43 Years After the Siege

# Corregidor Revisited

By WILLIAM GRAVES SENIOR ASSISTANT EDITOR

Photographs by STEVE McCURRY MACDUM

**N**EARLY HALF A CENTURY HAS PASSED NOW, and some of the images tend to blur. Other images remain sharp and clear, such as a summer day in 1941 when my stepfather and I and an old family friend playfully saluted my mother on the porch of our house in Manila. My mother's camera recorded the scene (below) of a 14-year-old standing proudly beside his stepfather with the friend, Adm. Thomas C. Hart of the U. S. Navy.

Within months war would replace such pleasant scenes with darker images—of the same porch converted to a temporary first aid station; of city streets littered with the bodies of bombing victims; of an island fortress named Corregidor, besieged and dying, yet with a grace and courage that were to become legend.

I saw Corregidor for the first time on Christmas Eve of 1941 in notable company—Gen. Douglas MacArthur and his wife and son; President Manuel Quezon of the Philippines with his family; my mother and my stepfather, Francis B. Sayre, then U. S. High Commissioner to the Philippines.

We were all refugees together from the lightning Japanese invasion of the Philippines that had followed the attack on Pearl Harbor far to the east of us. Within two weeks Japanese invaders had seized much of the main Philippine island of Luzon, threatened Manila with imminent capture, and were driving American and Filipino troops toward a last-ditch defense on the peninsula of Bataan.

On that bleak Christmas Eve our group reached Corregidor by PT boat—one of the craft that would later carry MacArthur and his family on their last-minute escape from the island. Since the outbreak of war I had kept a journal in a school notebook that I still have. My principal entry for that voyage to Corregidor concerns neither General MacArthur nor the war, but a memorable PT boat



ELIZABETH E. SAYRE

Dec. 24, 1941. British troops in North Africa seize the strategic city of Benghazi in Libya as German forces retreat.

commander who singled out a 14-year-old passenger for a special honor:

*The captain was a swell guy and he let me sit in the cockpit with him while the others sat on deck.*

I was to find many other swell guys ashore on the Rock, as Corregidor was popularly known. Despite the image of a fortress honeycombed with tunnels, Corregidor had only a few: The major complex was Malinta Tunnel, which housed MacArthur's headquarters, a thousand-bed hospital, and a smaller Navy command tunnel (diagram and map, pages 120-21). With other civilians we were housed in Malinta Tunnel, though MacArthur, Quezon, and my stepfather were also provided with former officers' quarters on a nearby hill overlooking Bataan.

There were nearly 15,000 Americans and Filipinos on Corregidor and three smaller fortresses in Manila Bay. Following our arrival, we found the garrison on Corregidor readying the island for an attack that was certain to come. It came on December 29, and though my diary suffers from all the sins of a teenage journalist, it nonetheless gives a sense of the horror that was to become everyday routine on Corregidor:

*Dec. 29. I don't think anybody on Corregidor will ever go to hell, because we had our share of it today. We all went up to the house and about noon some bombers came over. We watched while our anti-aircraft blowed them all to hell, and that ain't no lie. That was the best piece of shootin I've seen since the war began. They were right inside the formation. We could see the planes being thrown around when the shells exploded. One plane was hit and it broke formation. It must have landed outside of the bay a little ways. After that we got into the car and got down to the tunnel. A little while later they started bombing Topside [the high point of the island]. They were using a bunch of dive bombers and down in the tunnel we felt big vibrations. . . . The air raid ended about 2:15 and during the whole time they were bringing in the wounded and dying. One fellow they carried in [had] no feet, just bloody stumps. The wounded guys are the worst part of war. Almost 50% of the injuries have been limbs blown off by shrapnel. 16 guys died after they got here and they're still out in the hall. One guy was a friend of mine. Just before the raid he offered to take me for a ride in his little Crosmobile. His name was Lt. Kysor. Swell guy. Well, now we know what an honest-to-God air raid is like.*

It was merely the opening round. Later entries in the diary record days magically free of losses and others with casualties on both sides:

*Dec. 30. Few warnings during the day. No casualties! . . .*

*Jan. 4 [1942]. This morning five Japs came over and 3 went back. That's damn good shootin. This afternoon 9 Japs came over and 4 went back. That's a damn sight better shootin. There were. . . 3 direct hits on the cold storage plant. Storage plant still ok. A 300 lb. bomb hit within 20 yards of us. Jesus, what a concussion it made.*

Raids on Corregidor steadily intensified. Eventually, after weeks of saturation bombing following the first

*(Continued on page 122)*

Dec. 25. The British garrison at Hong Kong surrenders to Japanese forces.

Dec. 27. Despite Manila's status as an open city, Japanese bomb the capital, with major casualties.

Dec. 29. German troops maintain pressure on Sevastopol, but fail to take Moscow.

Jan. 1, 1942. Twenty-six countries, meeting in Washington, D. C., sign the Declaration of the United Nations.

Jan. 6. The British Eighth Army completes a successful campaign against Rommel's Panzer group in Libya, with 38,000 Axis casualties.

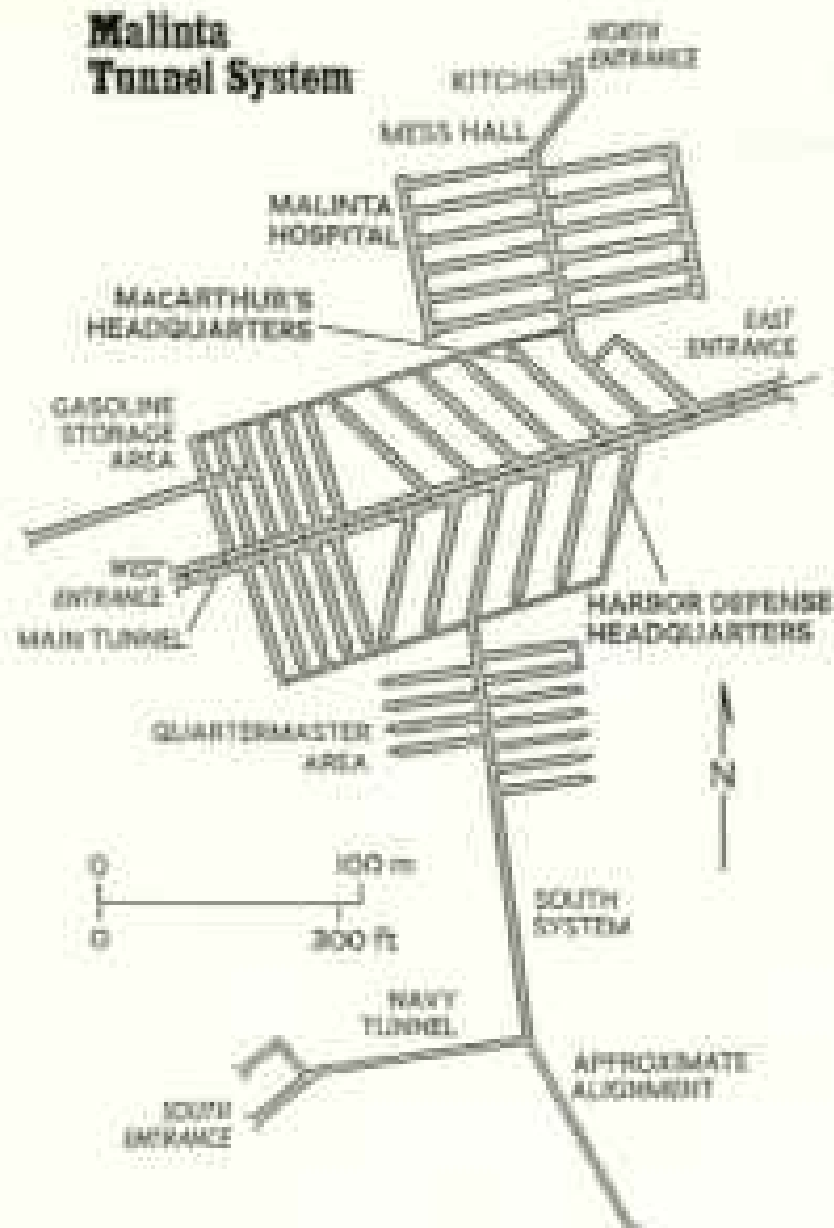
# Corregidor: Island Fortress

Corregidor's high ground, known as *Topside*, held army peacetime headquarters. The post's prewar hospital lay just to the north on *Middleside*. Docks and warehouses sprawled at *Bottomside* by the base of Malinta Hill.

The Malinta Tunnel system, begun in 1922, became a command center for the defense of Luzon. It was launched as a public works project to prevent violation of the Washington Disarmament Treaty of 1922.



## Malinta Tunnel System



MELVILLE JALOPY © TIME, INC. (LEFT); CAPTURED JAPANESE WAR PICTURE (RIGHT)

**G**IANT TADPOLE, the 3½-mile-long island of Corregidor (*top*)—fortified first by the Spanish and later by the Americans—guards Manila Bay.

Island nerve center during the Japanese siege of 1941-42, Malinta Tunnel (*above*) housed Gen. Douglas MacArthur's headquarters,

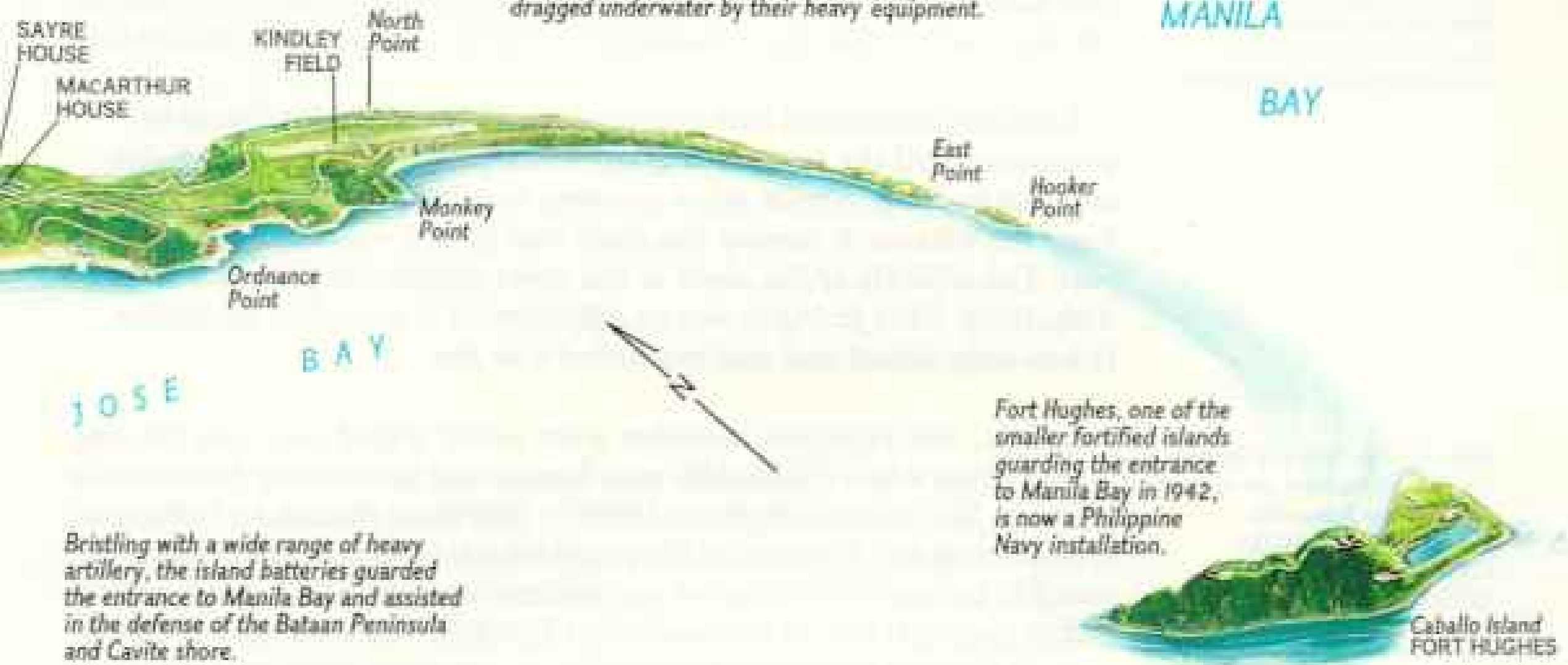
a hospital, and a U. S. Navy command unit.

After five months of saturation bombing and shelling, the island fell on May 6, 1942—a month after American and Filipino forces surrendered on nearby Bataan. Japanese Army photographers forced some of Corregidor's 13,000-man

garrison to pose in surrender outside Malinta Tunnel (*right*). MacArthur called these last-ditch defenders "grim, gaunt, ghastly men, still unafraid."

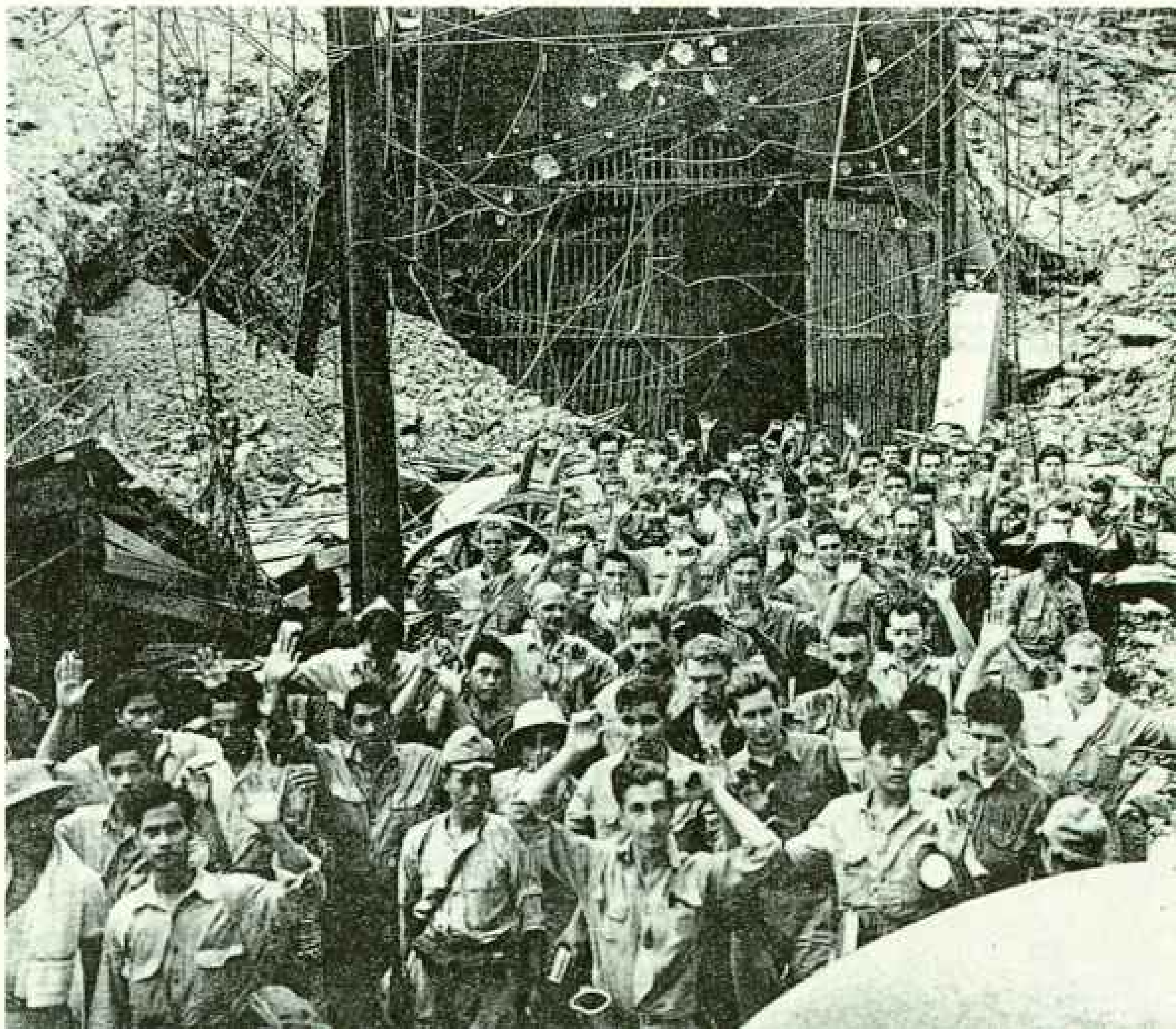
Though mistreated by their captors, prisoners on Corregidor were spared the Bataan Death March, on which 10,000 out of 80,000 died.

Only a third of the Japanese landing force reached North Point after erratic currents moved the fleet within range of beach defense guns. Many of the invaders were dragged underwater by their heavy equipment.



Bristling with a wide range of heavy artillery, the island batteries guarded the entrance to Manila Bay and assisted in the defense of the Bataan Peninsula and Cavite shore.

Fort Hughes, one of the smaller fortified islands guarding the entrance to Manila Bay in 1942, is now a Philippine Navy installation.



Jan. 28. British troops in Malaya begin the retreat from the mainland to a last-ditch defense of the island fortress of Singapore.

Feb. 1. U. S. carriers launch the first American air strike against the Japanese, attacking bases in the Gilbert and Marshall Islands.

Feb. 12. The German battle cruisers *Scharnhorst*, *Gneisenau*, and *Prinz Eugen* run the British blockade off Brest, France, and reach the North Sea.

Feb. 15. Singapore surrenders to the Japanese as almost 100,000 British, Indian, and Australian troops lay down arms.

Feb. 20. Lt. Edward O'Hare becomes the first U. S. naval ace of the war, downing five Japanese planes in half an hour near Rabaul in the Bismarck Archipelago. Chicago's major airport will later be named for him.

attack, the island was said to have an impressive average of one bomb crater for every 25 square yards of territory. In early February the Japanese added artillery fire to the bombing raids, using batteries on the Cavite shore of Manila Bay. Overnight I became an expert on artillery fire:

*Shelling continued this morning until 12:10 and is likely to continue until the batteries (Jap) are wiped out, which we hope will not be long. Shells have an eerie scream or whistle, but if you hear the whistle it means the shell has gone by and it won't hit you. The whistle of the shell is the most frightening thing about a shelling. This firing is not so effective. It is merely a nuisance. It has only killed one and wounded 4 so far.*

In fact, the Japanese batteries were never wiped out, and the day would come when Corregidor was hammered incessantly from nearly all sides. Yet the noose tightened slowly, first upon Bataan and ultimately on Corregidor. For most of February I made few entries in my journal, possibly because even disaster can become routine. Still I recall several events during that crucial month that foreshadowed the final outcome.

Soon after we arrived on Corregidor, the garrison went on reduced rations, substituting two meals a day in place of three. By then nearly all meals came out of a can. The island's prewar supply officer must have loved Vienna sausage and sauerkraut, for I can recall the odious taste of both nearly every day. Then during a memorable bombing attack the Japanese scored a fatal near-miss on one of Corregidor's few surviving mules. Dinner the next afternoon was a unique occasion, featuring tough but unmistakably fresh meat.

There was the curious nightly sensation of listening to our intensely personal, and losing, war as described by radio commentators broadcasting by shortwave from the United States. The news was always good: Valiant American and Filipino forces on Bataan were invariably slaughtering Japanese attackers by the thousands or counterattacking with equal results.

Of course, we knew different. From daily visits by troops between Bataan and Corregidor we knew that in fact our forces were ravaged by disease, near-starvation, and lack of supplies and were holding on only through incomparable spirit.

**G**eneral MacArthur at that time was a puzzle to us, and possibly even to himself. Along with the glowing reports of success on Bataan, the newscasters portrayed MacArthur as a hero of almost superhuman proportions, one whose insight, wisdom, and courage were more than a match for the Japanese.

MacArthur's courage was unquestionable, as those of us who lived with him daily could testify. But for the rest of it, as a Marine rifleman friend of mine put it: "He's just the guy in charge—and not a bad one at that."

Ironically, though we scoffed at the distorted newscasts, we clung to homemade rumors of our own. The most persistent one was the report of a hundred-mile-long convoy that had left, or was on the point of leaving, San Francisco to lift the siege of Bataan. A moment's thought would have revealed the absurdity of such a report. But at the time no one wanted to think, to reason—for to do so was to abandon all hope.

By late February it was obvious that Corregidor was no place for



*Mementos of death, machine-gun rounds are sold to tourists in the hospital area of Malinta Tunnel by Elenita Punzalan.*

*On the day of surrender, hospital routine continued unchanged. Lt. Col. Eunice F. Young, retired operating-room nurse, recalls her first sight of a Japanese soldier. "We were working on a casualty," she says, "when a Japanese appeared with his rifle and bayonet. In my mind I said, 'This is a sterile area—don't you dare set foot in it!' Amazingly, he left."*

civilians. They took up needed space, consumed precious food, and were a burden on those who had more urgent things to do.

Toward the end of the month President Franklin D. Roosevelt secretly radioed my stepfather to leave Corregidor by whatever means possible. There were three means left, all of them hazardous—PT boat, amphibious aircraft, and submarine. General MacArthur and my stepfather talked it over and made a choice. I learned of it several days later:

*Feb. 23. Tonight, after supper, when it was time to go up to the house, I noticed that Mom and Dad were packing some stuff up. This was getting to be a habit. We'd stay in a place just so long and then out would come the suitcases, so I knew we were going somewhere. Naturally, I had to be the one person out of 15,000 on the Rock that couldn't be trusted to know.*

In fact, barely a handful of people on Corregidor knew of our planned departure. After dark that night General MacArthur and some of his staff saw us off via a converted yacht that took us to the Bataan shore and anchored till the moon had set. Then the ship headed for the mouth of Manila Bay to rendezvous with a submarine, U.S.S. *Swordfish*. By then I had been told of the plan and of our destination—the United States, via Australia. No one aboard the yacht was more eager for the first view of the submarine:

*We stopped and waited so the sub could come alongside. About half an hour later, we saw a huge* *(Continued on page 130)*

Feb. 23. The Japanese submarine I-17 shells the Elwood oil fields near Santa Barbara, California, creating momentary alarm but causing only \$500 damage.

Feb. 24. Russian forces encircle the entire II Corps of Germany's 16th Army near Staraya Russa on the northern front.

American naval units launch the first attack on Wake Island, recently seized by the Japanese.



**R**ETAKING Corregidor from the Japanese began with the launching of the American 503rd Parachute Regimental Combat Team in February of 1945. Other assault troops included units of the 34th and 151st Infantry Regiments. A C-47 cargo plane (*right*) drops supplies to troops battling Japanese dug in around Topside. So intense was the bombardment during the invasion that one American trooper remarked, "We had the impression of standing on jelly."

During the 15-day campaign American forces suffered 210 killed and 790 wounded—280 of the latter in landing mishaps. Of the estimated 5,200 Japanese defenders, fewer than 50 were believed to have survived.

On March 2, 1945, the Stars and Stripes flew once more above the parade ground at Topside's "Mile Long" Barracks (*top right*). Parachutes from the airdrop still festooned nearby trees. General MacArthur saluted at center foreground with his back to the camera. On the day of victory Col. George M. Jones, commander of the 503rd, announced to General MacArthur: "Sir, I present you Fortress Corregidor." Replied MacArthur: "I see the old flagstaff still stands. Have your men hoist the colors to its peak and let no enemy ever haul them down."

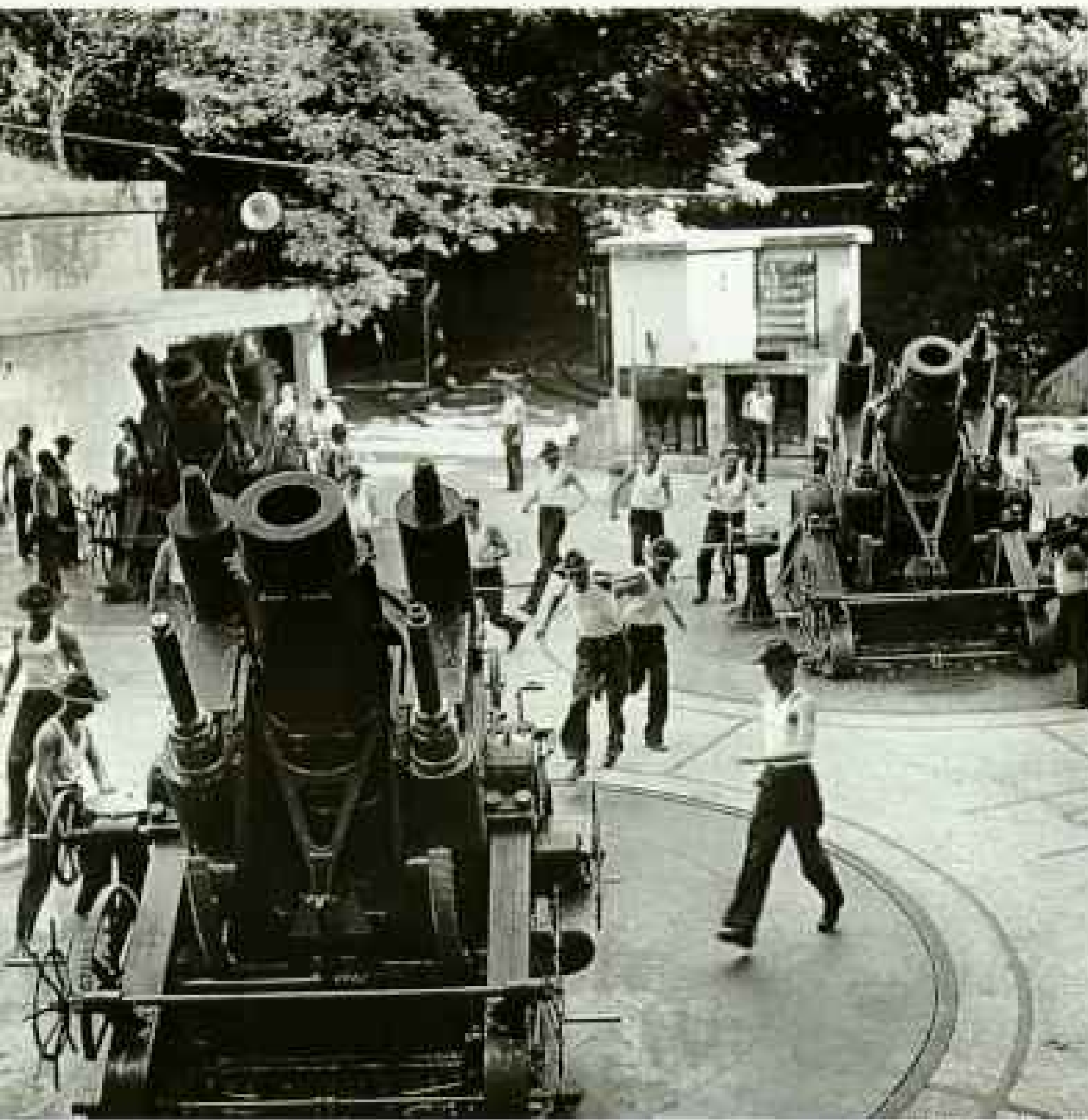
Today the shattered ruins of Topside Barracks (*right*) stand next to the old post theater, a museum, and the white dome of the Pacific War Memorial, built in honor of Allied dead.





U. S. ARMY (ABOVE LEFT); GEORGE ARNOLD, U. S. ARMY (ABOVE RIGHT)





CARL MYTHANS © TIME, INC.

**L**ETHAL PUNCH, a battery of giant 12-inch mortars (*left*) helped to give Corregidor command of Manila Bay until air power tipped the strategic balance. The mortars, each weighing 72 tons, could hurl a 1,000-pound projectile a distance of eight miles in any direction. Several of Corregidor's other huge batteries could not fire toward Bataan, making them useless in the battle for the mainland peninsula.

To fire the huge mortars, gun crews had to stand with knees flexed against the massive concussion. Two of the mortars were destroyed by Japanese artillery, and a third froze up during counterfire.

One battery, named Way in honor of a casualty of the Philippine-American War of 1899-1901, represents a major tourist attraction (*left*).

A fountain of sparks from a scrap dealer's cutting torch (*right*) bathes a six-inch gun mount at Corregidor's Battery Morrison. For lack of funds to maintain and safeguard the island's historic defenses, the guns are being illegally dismantled and sold for scrap ashore. These dealers demonstrated the technique for photographer Steve McCurry. A recent campaign by American and Filipino veterans of Corregidor seeks private funds to prevent further vandalism.



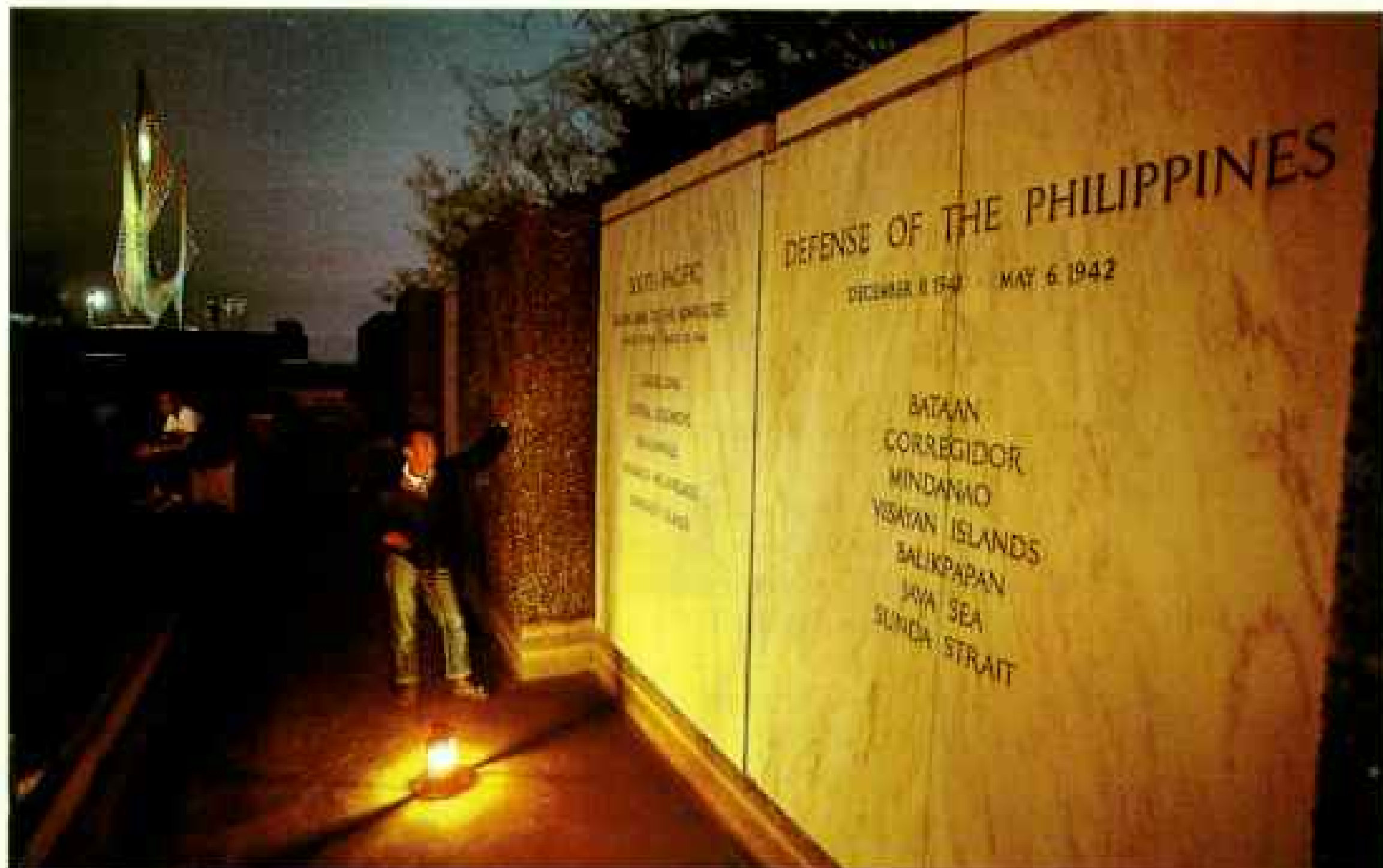




**M**OURNING the past, three Japanese women (right) pray before a wooden marker at Battery Hearn commemorating their fallen countrymen in Corregidor's two bloody campaigns. The soil contains such enormous quantities of shrapnel, bomb fragments, and spent bullets that Boy Scout troops camping on the island find their compasses useless.

Framed by the ruins of his onetime home, former coast artilleryman Al McGrew surveys the overgrown wreckage of Middleside Barracks. Not all the devastation is due to war: Scrap dealers have removed iron reinforcing rods from many of the walls and ceilings, hastening the collapse.

Roll call of honor at the Pacific War Memorial at Topside (below) lists American and Filipino campaigns against the Japanese. The metal sculpture symbolizes an eternal flame.



*(Continued from page 123)* black thing (we found out later it was 310 ft. long) just to the right of us and about 300 yds. forward. In 10 minutes we were on the sub's deck and then we got on the bridge and went down into the conning tower and from there into the main control room. Finally I reached the forward torpedo room, where I was going to live for 16 days. I was pretty tired so I went to sleep. When I woke up, it was about 6:30 and we were traveling underwater. We always traveled that way, on surface at night and under during the day. It's hot as h—l down there when you're submerged.

Feb. 27-March 1. Japanese naval forces inflict a severe defeat on American, British, and Dutch elements in the Battle of the Java Sea, virtually wiping out Allied naval power in southeast Asia.

There was no alternative to the travel routine, for the seas around us were totally controlled by the Japanese, and to run on the surface in broad daylight was suicidal. With ten passengers aboard, five of them women, the 87-man crew of *Swordfish* was ordered to head straight for Australia and to attack no targets on the way. Unfortunately, our enemy had no such orders:

*Mar. 3. Tonight at 10:15 we got a . . . taste of excitement. We were in the ward room (cruising on surface) when suddenly the general alarm went off, all water-tight doors were closed and we dove immediately. We went way down and all fans, motors, everything was shut off and we had to sit still saying nothing. The reason for all this was that a Jap destroyer had been sighted cutting across the moon's path coming full on toward us. . . . We stayed down about ½ an hour, and then the captain ordered us up to 60 ft. to take a look around. The destroyer wasn't in sight, so we proceeded on for the rest of the night on surface.*

March 1-31. Allied merchant shipping losses in the Atlantic and Pacific total more than 800,000 tons—the highest monthly figure to date in World War II.

Until that point I had always considered the submarine service the most glamorous branch of the military. But after one or two similar brushes with Japanese surface ships, I developed serious second thoughts.

On our eighth day under way we crossed over, or rather beneath, the Equator. *Swordfish's* crew singled me out for a mock trial before one of the engineers dressed as Neptune. A list of my crimes was presented, including the shameful offense of "bubble dancing"—erratic handling of the submarine's bow diving planes, which I had been carefully taught to operate.

I was sentenced to swab the control room deck with a damp handkerchief and to serve coffee to the duty watch. The adult passengers were merely presented with forms signed by the captain certifying that they had crossed the Equator. My journal entry that night was scathing:

*Today we crossed the line, and old Neptune came aboard and initiated me. (I was the only one that got a real initiation, while the others fixed themselves up some fancy certificates but they didn't get the works.)*

March 9. All Allied forces in the Dutch East Indies surrender unconditionally to the Japanese.

Though the Japanese controlled the seas south of the Philippines, we managed to slip through the net and reached Fremantle, Australia, on March 11, 1942, after a voyage of 16 days and some 3,000 miles. On that same day, we learned, MacArthur and his family had begun their escape from Corregidor by PT boat.

Less than a month later, on April 9, American and Filipino forces surrendered on Bataan. Corregidor hung on grimly for another month, then fell on May 6.

For nearly three years the island remained in Japanese hands and was liberated at last by the American 503rd Parachute Regimental Combat Team in March 1945 (page 124). Though I returned to Manila that summer with the U. S. Navy's amphibious forces, I never was able to visit Corregidor. Finally in March 1985—43 years after our escape aboard *Swordfish*—I revisited Corregidor with a group of American veterans who had taken part in the island's defense and its surrender to the Japanese.

I was prepared for the devastation but not for the air of neglect. Like Bataan, Corregidor is a symbol to Americans and Filipinos alike of a tragic but gallant chapter in the history of their countries. Yet Corregidor today is one vast untended jungle that chokes the island's shattered defenses, obliterates paths and roadways, and invades the crumbled remains of buildings like tropical growth in a once great Maya metropolis (pages 124-5).

Worse yet, the massive batteries that had defended Corregidor—the 12-inch mortars, the long-range and disappearing guns—are being illegally dismantled by scrap dealers and sold ashore as junk. "The disappearing guns," laments Jim Black, a world authority on the history of Corregidor, "are doing just that—disappearing."

With Jim's help I located the site of our former house near Malinta Tunnel together with that of the MacArthur house next door. All that remain of either building are crumbled concrete steps and the reinforced concrete posts on which the structures rested.

During my stay on Corregidor I was astonished to note several busloads of Japanese sightseers. "Quite a few make the trip from Japan," Jim Black remarked. "Many are descendants of Japanese casualties. After all," he added grimly, "out of some 5,200 Japanese defenders in 1945, 5,160 either perished or committed suicide."

Curiously, the American veterans I was accompanying showed little animosity toward the Japanese, though the latter's studied courtesy reminded one American of his days as a prisoner on Corregidor. "The first thing you learned about Japanese guards," recalled Bill Delich, a retired Army sergeant, "was to back off whenever they smiled."

With virtually no funds to maintain or even to protect Corregidor from vandalism, the Philippine government today looks for help to such private American sources as the nonprofit Filipino American Memorial Endowment in Manila.

But more than private help may be needed. Even the U. S. government's own Pacific War Memorial has fallen into disrepair. I visited it one afternoon at Topside and noted cracks in the walls bearing the names of various Pacific campaigns and a memorial pool long since run dry beneath the central monument dome. Yet the spirit of the memorial remains implicit in the lines engraved on one of the walls and dedicated to all Allied dead of the Pacific:

*Sleep, my sons . . .  
Sleep in the silent depths of the sea,  
Or in your bed of hallowed sod  
Until you hear at dawn  
The low, clear reveille of God.*

□

March 17. Upon his arrival in Australia, MacArthur issues his famous message to the Filipino people: "I shall return."



# Model Airplanes: To Dream, to Build... And Then to Fly

By MICHAEL E. LONG NATIONAL GEOGRAPHIC SENIOR STAFF

Photographs by PETER ESSICK



**N**OW BOARDING for Lilliput. A nine-inch-high pilot appears ready for engine start in *Columbia* (above), model of a Wright-Bellanca WB-2 that flew the Atlantic 16 days after Lindbergh in 1927. The 23-pound balsa-and-pine plane was built by Steve Gray of Kitchener, Ontario, who carefully applied tiny dollops of glue with a hypodermic needle to simulate rivets on the side of the fuselage.

Gray flew *Columbia* by radio control to a third prize at the national model airplane championships, sponsored by the Academy of Model Aeronautics of Reston, Virginia, and held last year at

Westover Air Force Base, in Chicopee, Massachusetts. More than 1,300 modelers gathered for the week of competition.

The roots of their art may go back to ancient Egypt, where a small winged object of sycamore was found in 1898 in a royal tomb. In 1804 Englishman Sir George Cayley fashioned a glider, and in 1871 Frenchman Alphonse Pénard built a stable miniature aircraft powered by a rubber band.

At Westover the rubber band still powers aircraft in a category called free flight. The other two main categories are radio control, in which a craft responds to signals from a transmitter, and control line, where the builder manipulates a handle whose wires are attached to the airplane.

With 77 events, there was something for just about everybody at Westover. Indoor models flitted like moths. Outdoors, sailplanes wafted on thermals while minijets screamed at more than 200 miles an hour. Aerobatic models looped and rolled, U. S. Navy planes landed on a mock carrier, and a hardy handful of mostly Texans engaged in "combat," in which a contestant frantically maneuvers a control-line aircraft to cut a ten-foot streamer attached to the plane of his opponent before his opponent does the same to him.

In late afternoon Charles Caton (right), a cinematographer from Montgomery, Alabama, becomes briefly airborne himself as he launches his plane on a practice flight. Earmuffs shield him from the engine's high-pitched whine.





*Looking like the real thing, a radio-controlled Piper Cub with a six-foot fuselage soars above Westover Air Force Base, puffing decorative smoke. The 20-pound Cub carries a three-pound*



*camera under one wing, plus a three-pound counterweight for balance. Below, spectators walk among various full-size aircraft on display, including a giant Lockheed C-5A at left.*

**T**HE ULTIMATE in flimsy, a balsa ornithopter (*facing page*) weighs 1.25 grams, a little more than two paper clips, without its rubber band. Like a fond parent, Lester Garber releases the frail craft inside a hangar for an assault on the duration record of 8 minutes and 17 seconds.

a balsa-boron-graphite mechanism that resembles the crankshaft and pushrods of a car's engine.

Garber never took his eyes from the ornithopter as it meandered near the dome of the hangar 64 feet above the floor. Losing energy, it slowly descended, its marvelous wings never missing a beat,



The flight was not part of an official event, but Garber, an engineer from Providence, Rhode Island, has a special feeling for these aircraft that fly by flapping their wings. "Birds don't have propellers, do they?" he says.

Like an enormous dragonfly, the ornithopter slowly climbed, propelled by sudden flicks of its diaphanous wings. Garber had spent hundreds of hours designing those wings and the tiny device that coordinates them,

and landed three minutes shy of the record.

Meanwhile, Daniel Belieff (*above*), a sign painter from Wheaton, Maryland, walks carefully by his 1.3-gram propeller-driven craft, which can be affected by the merest whiff of air or even destroyed by a good sneeze. "We've replaced physical effort with anxiety," says builder Raymond Harlan.

The aircraft is covered by so-called microfilm fifteen-millionths of an inch thick,

custom-made by pouring liquid chemicals on water in a bathtub or special form. The builder retrieves the film from the water with a rectangular frame and cures it for a month or so before use. It would take 286 layers of the film to equal the thickness of a dollar bill.

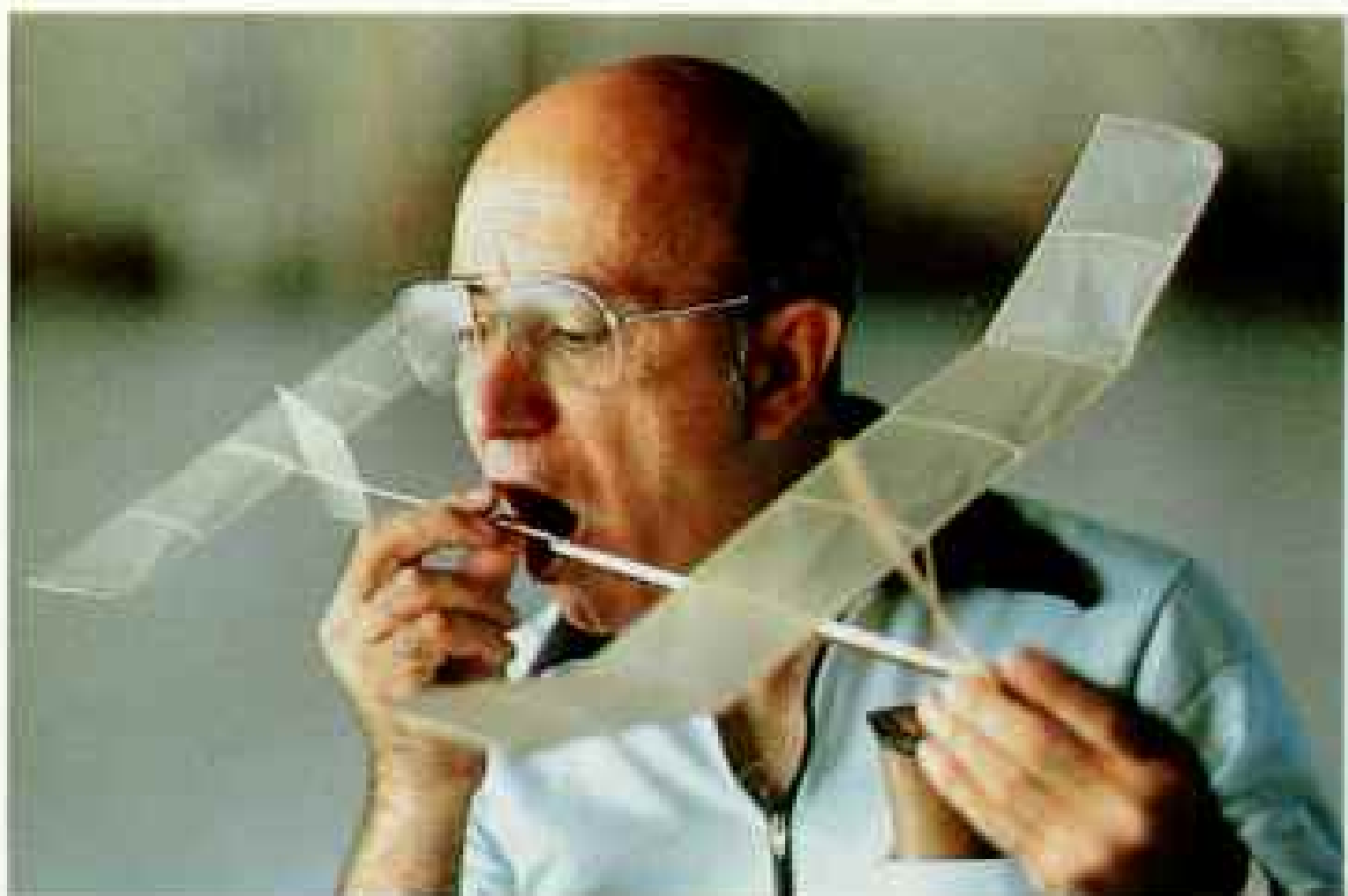
Though these propeller aircraft fly much slower than people walk, they are the longest duration fliers in modeling, with a world record of 52 minutes plus.

You can fine-tune an



airplane's flight characteristics simply by blowing moisture-laden breath on the balsa and giving it a slight twist, as Anthony D'Alessandro (*right*) demonstrates with his Easy B, another type of indoor aircraft.

Unfortunately, the Easy B collided with a hangar window and snagged on a ledge 30 feet above the floor. Despite a valiant rescue by a U. S. Air Force crash crew, time ran out for D'Alessandro, a graphic artist from Richboro, Pennsylvania.



# New wings for an old reptile

**F**OR STARTERS, Dr. Paul B. MacCready built *Gossamer Condor*, *Gossamer Albatross*, and other human- and solar-powered vehicles that brought him fame. Yet the former modeler faced perhaps his toughest challenge when Walter J. Boyne, director of the National Air and Space Museum, asked him to build a model of a giant flying reptile that perished some 65 million years ago. Boyne wanted the pterodactyl to star in the museum's new movie relating natural to mechanical flight.

Perhaps only another pterodactyl could truly appreciate MacCready's stunning achievement (**below**), here seen on its dry lake-bed runway in Death Valley, California. The 18-foot-wingspan, half-size version of the original *Quetzalcoatlus northropi* came to be called QN by MacCready's squadron of aerodynamicists, avionics experts, and paleontologists.

To prevent QN from tumbling head over tail, MacCready designed its wings to move back and forth, just as birds' wings do; a unique

autopilot controlling 13 electric motors directs this and other flight maneuvers. Up-and-down flaps (**right**) are commanded by radio control from the ground.

When a turn is ordered, QN moves its Kevlar head as a sort of forward rudder, twists its latex-covered wings, and extends polystyrene talons on one wing to create drag.

The Johnson Wax company contributed three million dollars to the project and the film, *On the Wing*, now being shown at the museum in Washington, D. C.





TIM LONG (ARROW); ROBERT HAGEDORN





**W**ITH SIX ENGINES turning propellers behind its seven-foot-four-inch wing, a B-36 bomber (*above*) flies a circular pattern. The control-line plane is tethered by wires to a handle that builder Joseph Saitta holds. A carpenter from Brooklyn, New York, Saitta spent \$400 and worked for 14 months on the model.

The balsa-and-plywood craft has electric flaps and drops two dummy bombs. "You can put more bombs in, if you want," says Saitta.

To build the canopy, he first melted butyrate plastic in his kitchen oven and draped it over his own plaster of Paris form, set on a shaping device powered by his vacuum cleaner. Such ingenuity is

typical of modelers; kit-built airplanes just don't have the right stuff.

To keep radio-control pilots from inadvertently interfering with one another's aircraft in competition, transmitters are impounded (*left*). But interference seems inevitable in three-man control-line racing (*right*). Hanging onto airplanes traveling 115 miles an hour, each contestant tries to guide them without jostling—well, at least not too much—his opponents.

A slow pirouette à trois results, creating a three-headed, six-armed giant whose right hand does not seem to know what his other right hands are doing. David S. Kelly, center, a draftsman from Niagara Falls, Ontario, won the event.





*Approaching to land, a radio-controlled helicopter, whose flight path is traced by attached lights, keeps Walter Johnson of Clinton, Connecticut, "pretty busy" manipulating the*



*joysticks of his transmitter. The tricky-to-fly machines can do everything their bigger brothers can, plus one maneuver they cannot—flying upside down indefinitely.*



**O**FF WE GO. . . . At the beginning Peter Bianchini's control line tightened as his lovely Mark IX Spitfire moved for takeoff. Model of a fighter that famed British ace Johnnie Johnson flew in the Normandy invasion in World War II, the Spit became gracefully airborne on its 65-inch wings.

Suddenly the airplane darted skyward, whipped around, and dived as Bianchini tried to regain control. He watched helplessly as the six-pound craft smacked into the concrete. Bianchini

assembled the larger pieces in a pile and trudged around looking for more. Yet the accident investigation failed to pinpoint the cause.

Crash notwithstanding, Bianchini's enthusiasm for modeling remains airborne. "If you don't want to crash 'em, don't build 'em," he says.

Looking forward to another day, another flight, the retired salesman from Yonkers, New York, talks about his new airplane, a Douglas Dauntless dive bomber. He's put 700 hours of work into it already. It's going to be a beaut. □





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## Coming home to real learning

**B**UT WE ARE ALL ALIKE on the inside; we love, we cry, and we feel happiness as we share our beautiful planet Earth." Those are the words of Peter Greenberger, a seventh grader at Alice Deal Junior High School in Washington, D. C., one of the two pilot schools in our geography education program. They come from Peter's prize-winning essay, the prize being a *National Geographic Atlas of the World* that I was delighted to present during an assembly on Geography Day at the school.

It was just a year and a month ago that I lamented in this column the low state of geography education in our schools. Since then, I've reported on our and others' progress in helping to turn that around. Many have been involved all across the country at all levels of education and in all sorts of planning groups, curriculum teams, and teaching faculties. We do not forget, however, that the real payoff is what happens between teacher and students and, finally, in the mind of each student.

On Geography Day at Deal an exceptional former teacher said to the assembly, "You can tell that I am still excited about geography, and I want you to spread the good news that geography is alive and well in the District of Columbia public schools."

That former geography teacher is Dr. Floretta McKenzie. She became Superintendent of D. C. Schools in 1981. On Geography Day 1985—November 20—she went back to the classroom (above) to teach a lesson in current affairs on the Geneva summit. The students responded eagerly and with growing awareness.

Cathy Riggs-Salter, our teacher-coordinator who travels between Deal and Audubon Junior High School in Los Angeles, reports that awareness is growing in both pilot schools. I see it in the first sentence of Audubon student Anne Moore's essay: "Geography is the field of knowledge that studies the Earth as man's home."



PAT LARZA/PHOTO

*Silbert H. Browner*

PRESIDENT, NATIONAL GEOGRAPHIC SOCIETY





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\*Based on 1986 EPA Cargo Volume Index.



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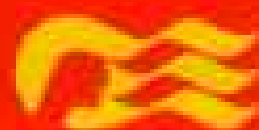


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*Walter Kasper*



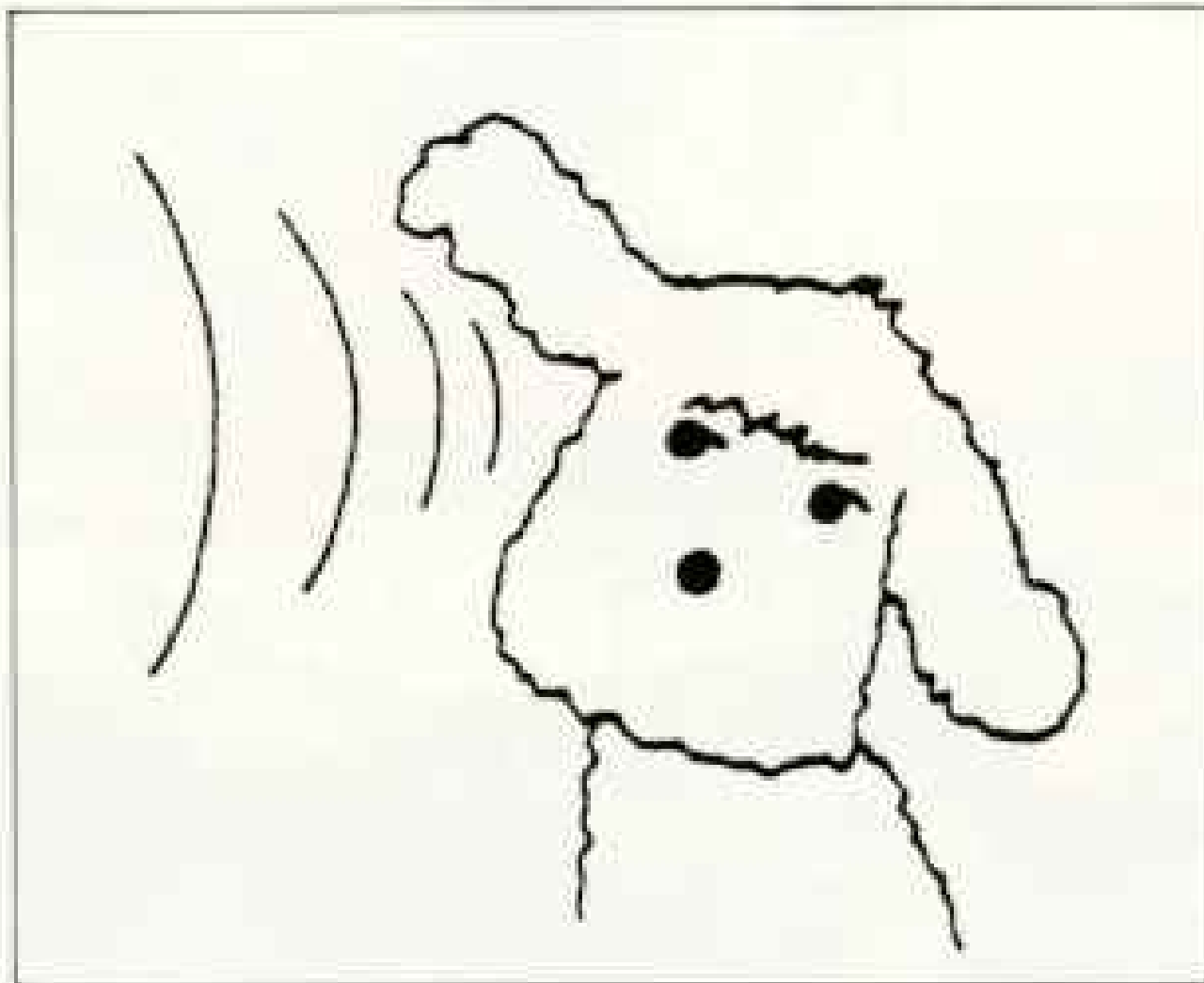
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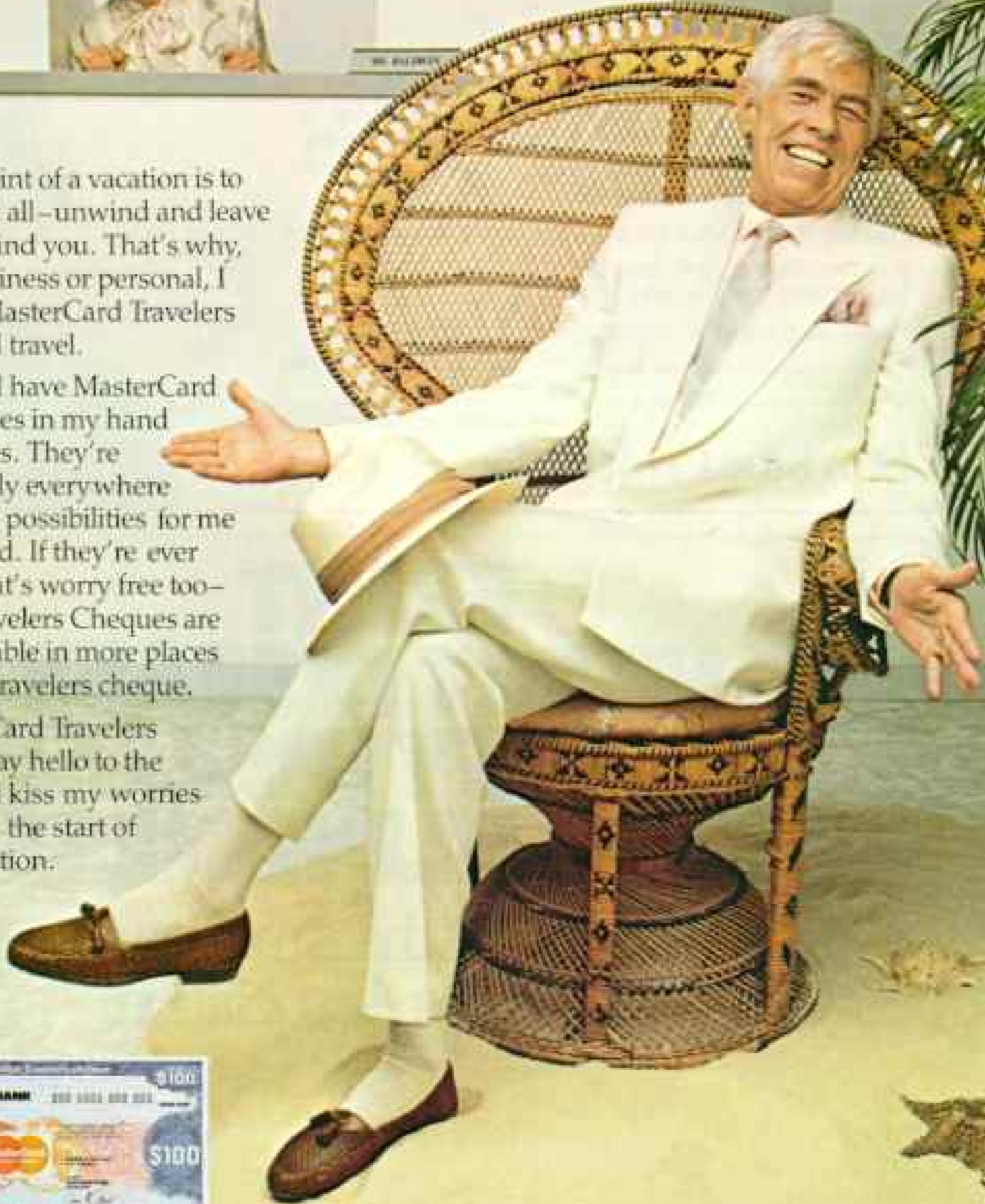
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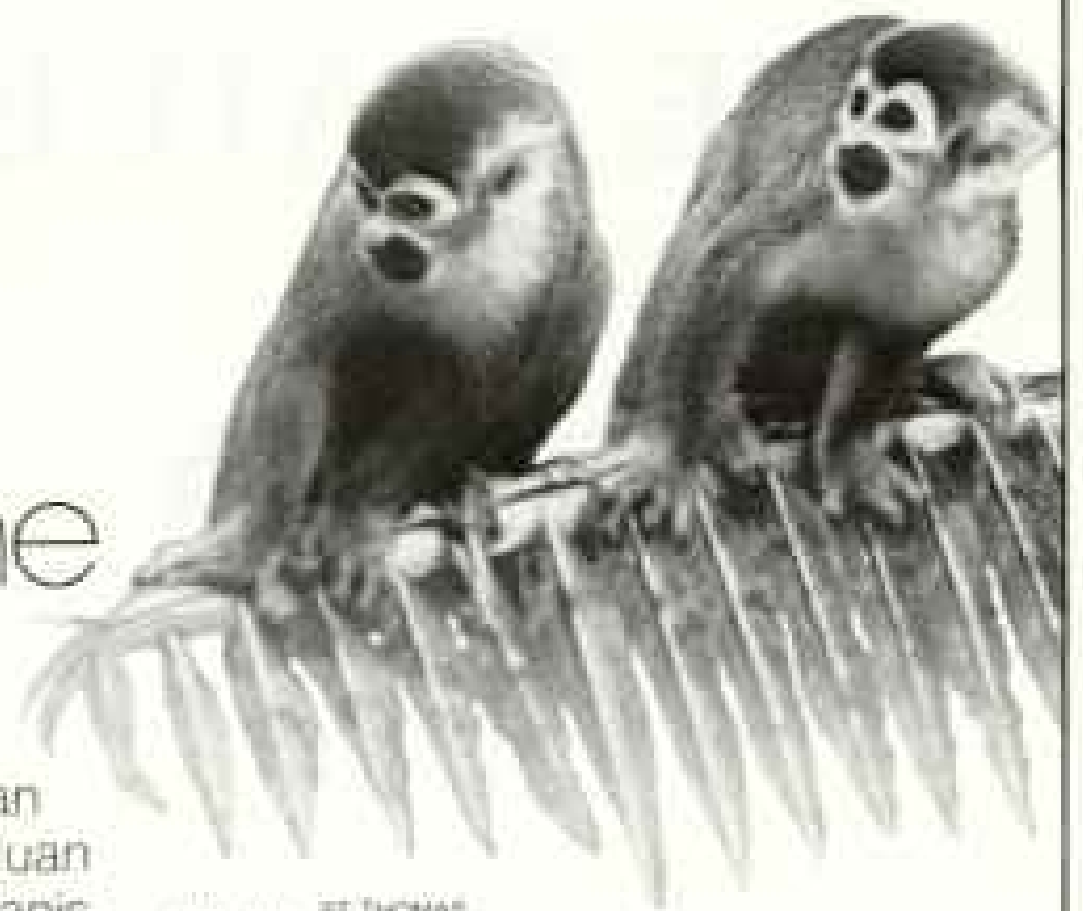
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# Members Forum



## Sam Houston

May I compliment Bart McDowell for the instructive and amusing piece about Sam Houston in the March 1986 issue. My years of perhaps shallow textbook history had conjured up an image of a noble and glamorous legend of the Old West. Your article brings him down to earth—a much more delightful, albeit highly principled, old reprobate than I had ever conceived him.

Robert C. Ransom  
Williston, Vermont

Where was Sam Houston when his beloved friend President Andrew Jackson, in defiance of the Supreme Court decision, sent 13,000 of his Cherokee brothers and sisters on the six-month, 1,200-mile Trail of Tears, which began in October 1838 and took the lives of more than 4,000? Was he really a champion of Indian rights?

Karla "White Owl" Horn  
Anderson, Indiana

*Houston was in Texas struggling to keep that precarious republic from falling apart. Had he been in Washington, D. C., history might be different. Houston's successor as President of Texas, Mirabeau Lamar, made war on Indians; Sam returned two years later and ended the war. He remained loyal to the Cherokee, at some cost politically.*

Mr. McDowell's article on Houston is a fine tribute to this great statesman, and so is Mr. O'Rear's photography. Every country needs a strong political leader to put together all the regional leaders and their efforts into one concerted effort to achieve independence. I have lived longer in Texas than my native Cuba, and I am as proud to be a Texan as I am to be a Cuban American.

Jose M. Sentmanat  
Conroe, Texas

## Texas Map

Down here on the border we appreciated the March 1986 historical map of Texas. However, the statement that legal immigration from Mexico to the United States is restricted to 20,000 people a year is misleading. It is true for Mexicans in the categories subject to limitation. But a far larger number of Mexicans immigrate legally in the "Immediate Relative" categories, which are not subject to numerical limitations. For these spouses, minor children, and parents of U. S. citizens, there is no restriction.

Sally Mathiasen Light  
U. S. Vice Consul  
Ciudad Juárez, Mexico

On your map of Texas, about San Antonio you say, "In 1981 it became the first large U. S. city to elect a Hispanic mayor." I have no idea what you consider a "large U. S. city." Would one the 29th largest in the U. S. qualify?

In 1957 El Paso, Texas, then a "small" U. S. city of 276,681, elected Raymond Telles mayor. He served two terms and was then appointed ambassador to Costa Rica by President Kennedy. In 1977 El Paso, then a "small" U. S. city of 425,259, elected Ray Salazar mayor.

I would be quite surprised if either Mr. Telles or Mr. Salazar felt they were not Hispanic.

H. A. Osborn  
El Paso, Texas

## Tenn-Tom Waterway

Your article on the Tenn-Tom Waterway (March 1986) certainly held my interest. It is incredible to think that plans in the background for 60 years became reality just last year to change the history of the land and people who live there.

Loretta Gates  
Vincennes, Indiana

So the Tenn-Tom *shippers* saved two million dollars in the first year. How about the 100 million plus dollars a year for capital cost alone that it costs the taxpayer (me) FOREVER?

Robert M. Hanft  
Paradise, California

*Capital cost was about \$100,000,000 annually during construction years 1972-84. Operation now costs \$14,000,000 a year, about a third of which is paid by waterway fuel taxes.*

As a native of Mobile, Alabama, I was interested in the Tenn-Tom Waterway article. I am struck by the criticism of its cost by some who seem to have no sense of perspective; the coincidence of the shuttle *Challenger* tragedy reminded me that 1.5 billion dollars disintegrated in a second or so, with the cost to replace the one orbiter probably more than the 1.8 billion dollars of the whole waterway. While the shuttle program has value to us all, the waterway will directly give a chance to hundreds of thousands for a permanently improved life. Even considered as a simple welfare program, that's a good return.

Jonathan S. Bullock  
Oak Ridge, Tennessee

I am especially pleased with the objectivity of your title and text, for the project was fraught with inadequate planning and unjustified claims of benefits. During the early TVA days, as a field geologist, I worked the length of the system, examining alternate routes and sites for locks and dams. Years later I had a hand in scuttling the Corps of Engineers' plan to open the divide cut at Holcut by detonating nuclear explosives.

I do not believe the U. S. or state governments

can make it pay. Unimpeded private initiatives will be necessary to take the project out of the boondoggle category.

Frederic F. Mellen  
Clinton, Mississippi

## Fez

As I read more NATIONAL GEOGRAPHICS, I find an openmindedness that is helping dispel the mysticism surrounding religions. Being a Muslim, I appreciate your articles on Arabic and Islamic cultures. I find that sometimes a distinction is not clearly made between local and Islamic practices. Because culture is so closely linked to religion, most cultural activities are accredited to religious practices. In "Morocco's Ancient City of Fez" (March 1986), I want to thank Mr. Arden for stating that during the feast of Eid el-Kabir local customs permit the men to consume blood from the sacrificial animal. The Koran specifically forbids this act. Eid el-Kabir is a very sacred day celebrating Allah's compassion. He didn't allow Abraham to sacrifice his son. We too are asked to show our compassion by giving a portion of the goat or sheep to the poor.

Fatima Sheikh  
Luxembourg

## Pandas

Regarding your March 1986 article on pandas, we Mexicans share the pride of having the two giant pandas given to our country by the Chinese government reproduce successfully through natural breeding, which I believe is a very rare occurrence. And not once, but twice.

Aldo Monteforte  
McAllen, Texas

*Actually, five cubs have been born in the Mexico City zoo; three survive.*

## Pennine Way

Having been raised on the edge of the Pennines, I was intrigued by your comment (March 1986) that the name Pennine derived from an 18th-century hoax—a bogus history of Roman Britain. Could you enlighten us?

H. C. Fletcher  
Orleans, Ontario

*Professor of English Charles Bertram invented a 14th-century manuscript reporting that in Roman times the mountains dividing Britain were called the Alpes Penina. By the time the manuscript was proved an invention, Bertram's fictitious name had found its way onto Ordnance Survey maps.*

I was very surprised to find that as David Yeaton was walking north along the Pennine Way through "Brontë Country" and arrived at the Yorkshire Dales of Wensleydale at Bainbridge,

he did not mention he was in "Herriot Country"—the western edge to be specific. He must know of the celebrated books James Herriot has written on the Yorkshire country, including *All Creatures Great and Small*.

Jean D. Graney  
Hollis, New Hampshire

## Members Forum

I am writing about the letter (March 1986) that criticizes English country houses (November 1985). Before denouncing the "conspicuous-consumption life-style" of the English gentry, it would be good to remember that two ardent American revolutionaries, George Washington and Thomas Jefferson, were landowners who used *real* slaves to build their magnificent plantations. Many of our Founding Fathers did not want to destroy the landed gentry; they wanted to become landed gentry. Applying our own values to history often results in distorted history.

C. K. Szymanski  
Pittsburgh, Pennsylvania

I was most intrigued by your readers' responses to the article on "Early Man" (November 1985). It was obviously a very popular and controversial article, and I would like to see what all the fuss was about. How can I get a copy of that issue?

Sandy R. Anthony  
Truro, Nova Scotia

*Send \$1.90 with your request to National Geographic Society, Washington, D. C. 20036.*

I was saddened to hear you have lost 100 subscribers after publication of your feature on human prehistory. To help your subscription balance, please bill me for a subscription to below address. I'd like to urge other subscribers to follow my example and enroll a friend in your family of appreciative readers.

Karen F. Davis  
Detroit, Michigan

At first I was puzzled by objections to your "Early Man" article. On reflection, however, they are similar to the letters my other favorite magazine, *Sports Illustrated*, receives after its "bathing suit issue." In the one case, it is a problem of too many bones, and in the other, too much flesh. My condolences to the publishing profession.

Barton L. Smith  
West Reading, Pennsylvania

.....  
*Letters should be addressed to Members Forum, National Geographic Magazine, Box 37448, Washington, D. C. 20013, and should include sender's address and telephone number. Not all letters can be used. Those that are will often be edited and excerpted.*



**Red-spectacled Parrot** Genus: *Amazona* Species: *pretrei* Adult size: Length, 32cm  
Adult weight: Approximately 350g  
Habitat: Araucaria forests in Rio Grande do Sul, southern Brazil  
Surviving number: Estimated at less than 5,000 Photographed by Luiz Claudio Marigo



# Wildlife as Canon sees it: A photographic heritage for all generations.

The red-spectacled parrot once graced most of the forests in southeastern Brazil with its brilliant presence. Today, this colorful bird is scarce and restricted to a few araucaria groves in the extreme south of the country.

Many of South America's other parrot species, some of which are dangerously close to extinction, are also facing the difficulties of severe habitat loss and the pressures of the pet trade. Continued protection of these birds and their forest habitat is imperative for their survival. In such efforts, photography can inspire a greater understanding of the plight of the red-spectacled parrot and the many other beautiful parrots, whose appearance and sounds so typify life in South American forests.

And understanding is perhaps the single most important factor in saving the red-spectacled parrot and all of wildlife.



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\*Based on problems encountered in first 90 days of ownership—1985 J.D. Power & Associates New Car Initial Quality Survey.

\*\*Camry with 5-speed manual overdrive transmission. © 1986 Toyota Motor Sales, U.S.A., Inc.

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# Ford Aerostar... the new shape of versatility.

The all-new Ford Aerostar has the most aerodynamic design of all the mini-vans. It does so many things so well—and looks good doing them.

## The Age of Aerostar.

It's a new age of versatility. It makes Aerostar the wagon for all reasons, all seasons!

Aerostar is fun to drive, easy to maneuver and park. It fits in virtually any garage. And its new technology offers features most mini-vans simply don't have.

## Most aerodynamic mini-van.

Aerostar's unique wedge design gives it unmatched aerodynamics. The sleek shape minimizes interior wind noise and contributes to better handling.

## Powerful new V-6.

For peak performance, Ford introduces an advanced 3.0L V-6 with electronic fuel injection. This new option turns out 145 horsepower\*—30% more than the best of Chrysler mini-vans!

The standard Aerostar



engine is a modern 2.3L Four. Like the V-6, it has multiport electronic fuel injection for quick starts and ready response.

## Tows almost 2½ tons.

With optional V-6, the high-strength Aerostar can be equipped to tow up to 4,900 lbs.† That's nearly 2½ times more than Chrysler mini-vans!

## People plus payload.

Aerostar offers a choice of seats for up to 7 adults.\* Rear seats slide out to create 139 cu. ft. of cargo space. A new optional roof rack adds still more capacity—and versatility.

passenger comfort that most other mini-vans lack.

## The ride of quality.

Aerostar's luxury-car wheelbase contributes to a smooth ride. Yet the overall length is shorter than other mini-vans for tighter turning ratios, convenient parking and easy garageability.

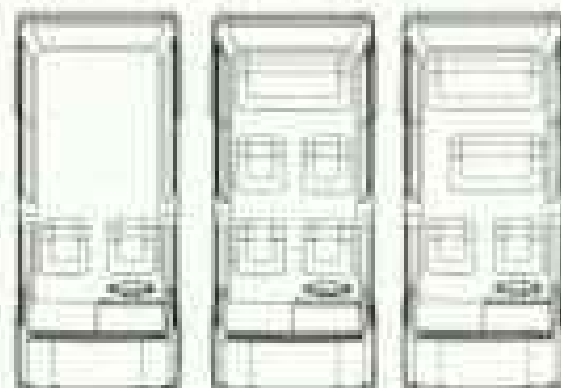
Aerostar is built to Ford's high quality standards, and is designed to fit into your versatile lifestyle...beautifully.

## Lifetime Service Guarantee.

Participating Ford Dealers stand behind their work, in writing, with a free Lifetime Service Guarantee for as long as you own your Ford car or light truck. Ask to see this guarantee when you visit your participating Ford Dealer.

## The driver's mini-van.

Depending on model and options, the driver can have: Captain's Chairs with power lumbar support. A sun roof. Leather-wrapped sports wheel. Electronic instrument panel that reports information from engine rpm to a door ajar.



## The passengers' mini-van.

In addition to luxurious room, rear riders enjoy optional stereo systems with their own controls—plus plug-in jacks for rear headphone listening.

Aircraft-type heater/air option has rear ducting for all-around

## Buckle up—together we can save lives.

\*Horsepower based on SAE Standard J1349.

\*\*With optional rear bench seat.

Ford Aerostar vs. Chrysler Mini-vans

	AEROSTAR	CHRYSLER
Aerodynamic for lower air drag	.37Cd	.42Cd
Standard 4-cylinder engines	2.3L	2.2L
V-6 engine power option	3.0L V-6	None
Bigger cargo space (cu. ft.) <sup>††</sup>	139	125
Extra driver legroom	41.4 in.	38.3 in.
Max. opt. trailer towing capacity <sup>†</sup>	4900 lbs.	2000 lbs.
Longer wheelbase, smooth ride	119 in.	112 in.

<sup>†</sup>Reduced by passenger and cargo weight in towing vehicle.

<sup>††</sup>Based on SAE Standard J1100 Code V-6.





# On Assignment

**I**N THE RIGHT PLACE at the right time, the GEOGRAPHIC was on hand during two watersheds of Philippine history.

After the election last February, as the world wondered if President Ferdinand Marcos would step down or stand and fight, illustrations editor Elie Rogers received an extraordinary phone call from photographer **Steve McCurry**, who was among the first to enter Malacañang Palace after Marcos fled (*below right*).

Steve was calling from Imelda Marcos's bedroom, still overflowing with her sumptuous wardrobe. "Looters were just grabbing things," he recalls. "Some were so loaded down that they could hardly walk." On the president's desk he saw a communiqué from the White House warning Marcos against using force. The palace was strewn with fast-food chicken and noodle containers from a final meal. In a chapel near the entrance Steve saw a poignant scene, the remaining palace staff praying—"and they seemed very frightened," he says.

Steve had spent seven months in the Philippines photographing for this, his seventh article for the magazine.

Recalling a bloody confrontation of 43 years earlier, senior assistant editor **William Graves** returned to Corregidor (*below left*) and found the shattered remains of the quarters of his stepfather, Francis B. Sayre, then U. S. High Commissioner to the Philippines. On Christmas Eve, 1941, in the teeth of the Japanese invasion, Bill's family was evacuated from Manila to Corregidor and housed in Malinta Tunnel, Gen. Douglas MacArthur's headquarters.

Bill turned reporter at 14, keeping a diary as the Japanese pounded the island. He vividly recalls the sinking of President Manuel Quezon's yacht *Casiana*. Earlier he had gaped at "14 pairs of silk pajamas" in Quezon's luxurious stateroom. After the yacht sank, divers salvaged "cases of Scotch, and they gave me a late Christmas present—big chunks of delicious chocolate." On February 24 the family boarded the submarine U.S.S. *Swordfish* for a harrowing escape to Australia.

Bill joined our staff in 1956. He now uses his irrepressible energy to plan and edit articles on adventure and expeditions, such as the *Titanic* discovery and polar treks.



BY JAMES BLACK (LEFT) AND WILBERT VAN EE



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\*National Collegiate Athletic Association



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# Announcing the end of the noisy dishwasher.

Until now, using a dishwasher was a trade-off: Clean dishes for a noisy kitchen.

Now Whirlpool has changed all that—with our newest Power Clean™ Energy Saver dishwasher with the Quiet Wash system. It's much quieter than any dishwasher we've ever built. So you can run it while you watch TV, talk on the phone, even take a quick catnap.

## The secret of our Quiet Wash system.

How did Whirlpool do it? First, we studied the dishwasher and its entire washing system, beginning with a series of our current sound-softening components. We found ways the motor could actually make less noise. That made the dishwasher quieter, but we wanted to do better.

So, we wrapped the dishwasher in an extra layer of sound-absorbing insulation. We think you will be pleased when you hear the results.

## Remarkably clean dishes with less hot water.

But don't let the quiet fool you. This Power Clean Energy Saver dishwasher still

has our patented washing system that gets dishes remarkably clean. And all our Power Clean models use 20% less hot water in the normal cycle than our previous washing system.

Whirlpool® dishwashers also offer a wide variety of cycles. Ones for heavily soiled loads, pots and pans, even an energy-saving drying cycle. Plus a "delay wash" option that remembers to start the dishwasher up to nine hours later. And our models with touch

controls make it easier than ever to wash the dishes.

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Whirlpool also offers the only dishwashers with the silverware basket in the door. This makes it easier to load and unload, and helps prevent items from falling down into the bottom of the dishwasher.

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