

The Coming of the Polynesians

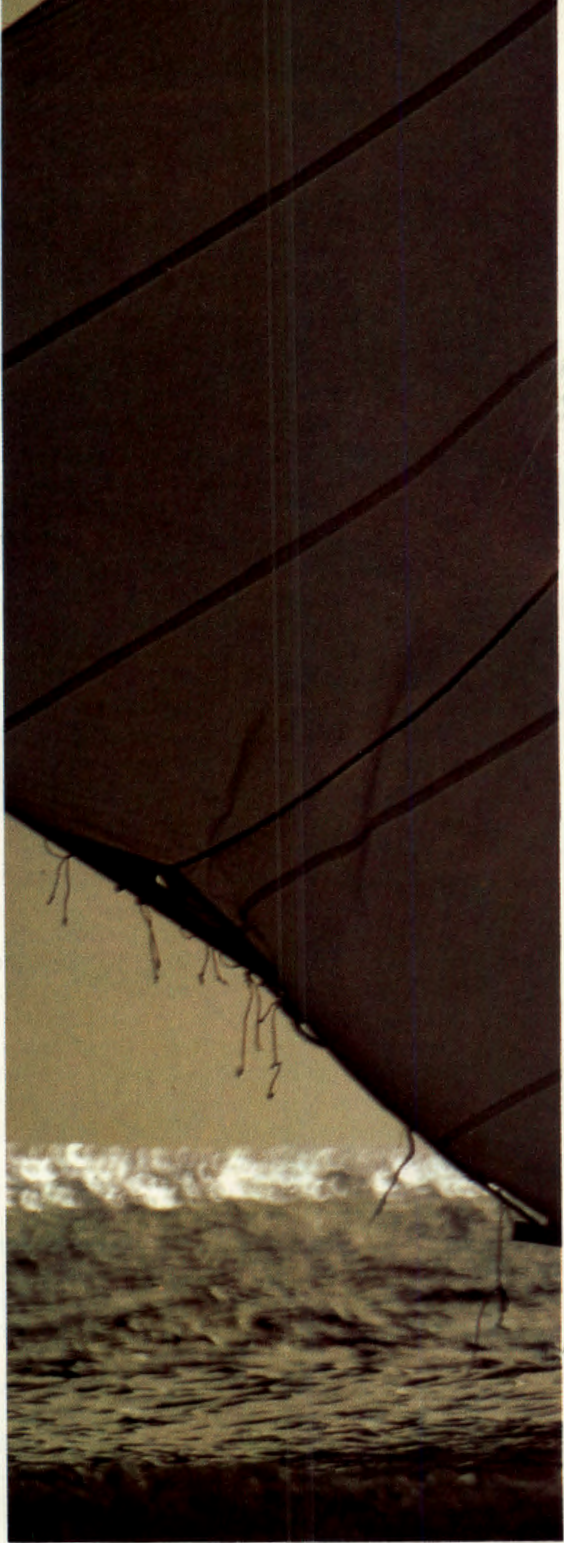
By KENNETH P. EMORY, Ph.D.

THE ISLES of the South Seas—bathed in warm sunlight in the midst of the vast Pacific—were surprise enough to their European discoverers. But more astonishingly, they were inhabited! And the tall, soft-featured, lightly clad people who greeted the Europeans possessed graces they could only admire, and skills at which they could but wonder.

How had these brown-skinned people reached the many far-flung islands of Polynesia? When? And whence had they come? The mystery lingered for centuries.

Not until 1920—the year I joined the staff of the Bernice P. Bishop Museum in Honolulu—was a concerted search for answers launched, with the First Pan-Pacific Scientific Conference, held in the Hawaiian capital. In subsequent years scientists fanned out over the Pacific to salvage whatever knowledge of their past the Polynesians retained. The field was vast, for Polynesia sprawls in a huge triangle, from Hawaii in the north to Easter Island in the southeast to New Zealand in the southwest. I have taken part in many of these expeditions from Mangareva to outlying Kapingamarangi, some 5,000 miles away and beyond the Polynesian Triangle.

After the Tenth Pacific Science Congress in 1961, scientists from New



Nomads of the wind, shipmates drop sail as they approach Satawal in the central Carolines. The past of their seafaring ancestors, long clouded by mystery and

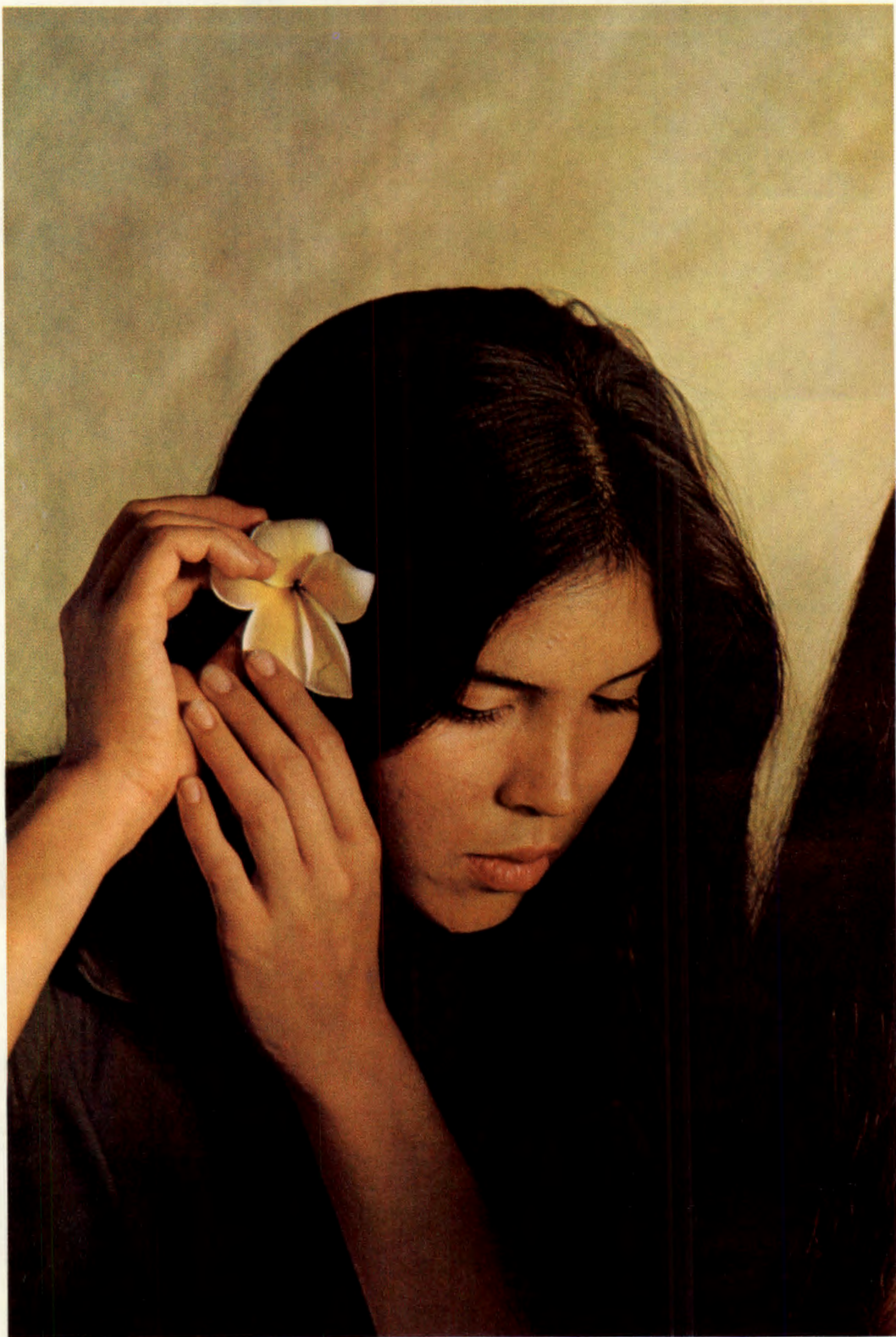


NICHOLAS DEVORE III

legend, now comes dramatically to light after more than half a century of research.

Following the wake of ancient voyagers who sailed eastward from Asia, the

author, dean of Polynesian archeologists, pieces together the story of one of the monumental explorations of all time—the peopling of the isles of Polynesia.



Classic beauty of the South Seas shines from the faces of these girls of Papeete, Tahiti, daughters of an American father

and a Polynesian mother. European voyagers so extolled the Pacific's brown-skinned women that their beauty



THOMAS NEBBIA

became the stuff of legend. Visiting Tonga in 1777 as a surgeon's mate on Captain Cook's expedition, David Samwell wrote

of seeing "great Numbers of Girls . . . who in Symmetry & proportion might dispute the palm with any women under the Sun."



Wherever Polynesians sailed in quest of new lands, they retained the tradition of an ancestral homeland to which their spirits would return after death. Its ancient name, Havai'i, echoes in the names of several islands in eastern Polynesia, among them Hawaii and Samoa's big isle of Savai'i. An emerald necklace of surf-fringed reef adorns this Havai'i—Raiatea in the Society Islands.

Zealand, Australia, Europe, the United States, and Japan amassed a great store of new data on Polynesian prehistory. Their research was coordinated by the Bishop Museum and financed by groups in several nations, including the U. S. National Science Foundation.

Disciplines as diverse as archeology, linguistics, and botany now enable us to sketch the main outline of Polynesian origins, and even fill in many details of this dramatic first conquest of the Pacific Ocean.

The early island dwellers, lacking metals, shaped tools from stone, bone, and shell. We have found such artifacts



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in association with radiocarbon-datable human bone and charcoal from ancient hearths. But nowhere in the islands of Polynesia have we uncovered archeological traces earlier than the Polynesians' own culture.

Had the first Polynesian settlers encountered an earlier people on the islands, one would expect that some vestige of an unrelated tongue would have survived. Linguistic researchers have detected none. They have found, however, that the languages of Polynesia have a common origin with those in Melanesia, Micronesia, and Indonesia. All of them belong to one

great Austronesian family that extends as far westward as Madagascar.

Botanists tell us that of the food plants brought to Polynesia, all but one—the sweet potato from South America—came out of the islands to the west. So, we know, did the Asiatic jungle fowl, the pig, the dog, and the Polynesian rat. There can be little doubt, then, that the first inhabitants of the whole vast Polynesian Triangle came from somewhere to the west.

Human occupation of Oceania—those vast reaches of the Pacific encompassing Polynesia, Melanesia, and Micronesia—began on New Guinea.



There archeologists have dug primitive stone tools and charcoal more than 25,000 years old from campsites used during the last Ice Age, when sea levels were lower and the distances between Australia, New Guinea, and other Indonesian islands were much less.

When melting ice raised the level of the ocean and increased distances between landfalls, New Guinea and its dark-skinned inhabitants—Melane- sians—became more isolated until the coming of the brown-skinned people out of island Asia—Indonesia, the Phil- ippines, and Taiwan. In their outrigger and double canoes with sails of plaited leaves, the latter reached New Guinea and nearby islands about 4,500 years ago, but did not dislodge the Melane- sians they found already living there.

Among the seafarers, who moved eastward in small groups at various times by various routes, were ances- tors of the Polynesians. Using Fiji as a staging area, some eventually sailed on to uninhabited Tonga and Samoa.

To have developed the physical types, language, and culture that the Polyne- sians share in common, these Polynesian forebears must have been isolated for a time in a home group of islands. A chain of archeological discoveries leads us to believe that this isolation started in the islands of Tonga and Samoa roughly 3,000 years ago.

Beginning in 1909 in New Britain, archeologists have found a type of pre- historic decorated pottery at various Melanesian sites. Edward W. Gifford in 1947 excavated samples in Fiji, Melanesia's easternmost extension. Five years later, he and Dr. Richard Shutler, Jr., uncovered the same type at Lapita in New Caledonia. Now called Lapita-style pottery (right), these arti- facts clearly trace the visits and attempt- ed settlements of a maritime people moving along a Melanesian route toward Polynesia.

Lapita pottery was excavated by Dr. Jens Poulsen in Tonga in 1963-64, and has recently been found in Samoa as well—both in western Polynesia.

Tonga is the longest-inhabited island group in Polynesia, with radiocarbon dates as early as 1140 B.C. Thus we



JAMES SIERS, UNIVERSITY OF AUCKLAND COLLECTION; LAWRENCE AND HELEN BIRKS, FROM THE BIRKS COLLECTION (BELOW); NICHOLAS DEVORE III, BERNICE P. BISHOP MUSEUM, HONOLULU (FACING PAGE)

Keys to Polynesian ancestry, Lapita-style pottery shards from the Reef Islands (above), Fiji (below), and other locales document the eastward movement of ancient voyagers through Melanesia to Samoa and Tonga, where some landed as early as 1140 B.C. Here, from a rootstock comprised of perhaps a few families, evolved over a millennium the language, physique, and culture of today's Polynesians.

Dogs' teeth, pearl-shell eyes, and the feathers of hundreds of tiny birds make up the fearsome image of Kukailimoku, the Hawaiian war god (facing page).





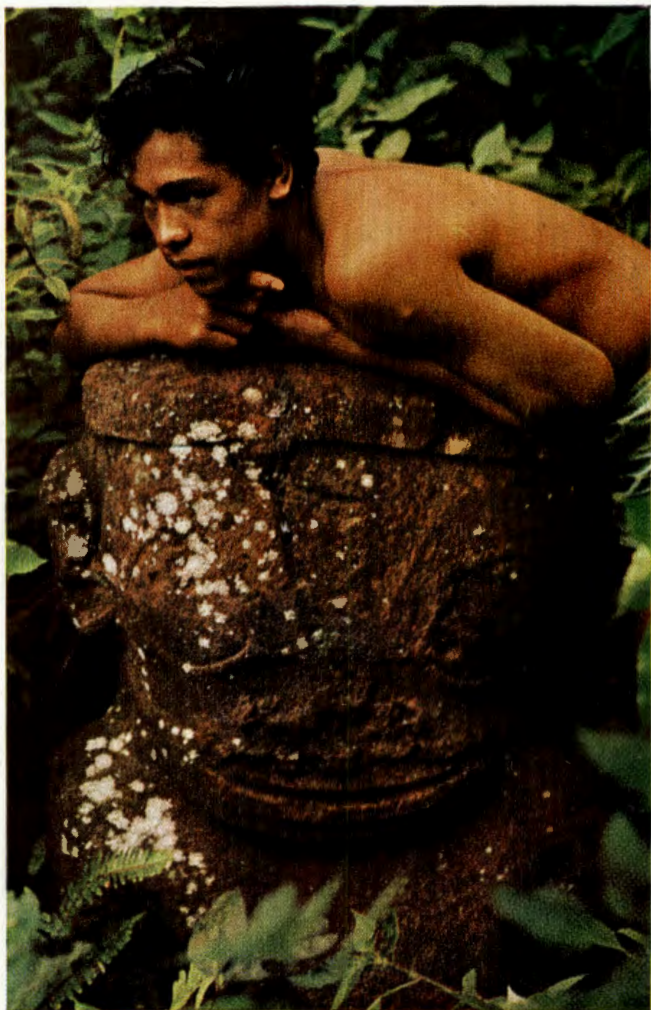
Titans of past glory, three of Easter Island's famed stone statues brood in the glow of a Pacific sunset. On this lonely outpost of Polynesia, early islanders carved hundreds of the monoliths from volcanic tuff, moved them as far as six miles, and erected them on stone platforms.

How they did it was long a mystery. Scholars now conclude that sledges, ropes, and brawn provided the transport and that workers levered the giants to their upright positions inch by laborious inch on supporting mounds of stones.

Island tradition holds that the statues



NATIONAL GEOGRAPHIC PHOTOGRAPHER THOMAS J. ABERCROMBIE



NATIONAL GEOGRAPHIC PHOTOGRAPHER BATES LITTLEHALES



WILLIAM R. CURTSINGER

themselves walked to their locations upon the invocation of the priests' mana, or sacred power—power indeed, for the statues have no legs.

Though separated by nearly three thousand miles of ocean, a stone image from Necker Island in the Hawaiian

archipelago (above) shares the same smile as its counterpart in the Marquesas (upper). Archeologists conjecture that artisans of similar cultures carved the statues, and thus assume one of the voyaging links between the Marquesas and Hawaii.



Awash in lacy surf, Hiva Oa's beach of dark volcanic sand is as tranquil and inviting now as it was when Polynesian voyagers first reached the Marquesas from distant Samoa or Tonga some 2,000 years ago.

As population increased and competition for land and food intensified, descendants of the voyagers set out in search of new islands, an intermittent exodus still under way when Capt. David Porter of the U. S. Navy visited the Marquesas in 1813.

conclude that Tonga's first settlers, the people who made Lapita ware, were the first true Polynesians.

Language ties indicate that this migration continued via Samoa eastward to the Marquesas, where the oldest sites in East Polynesia have been found.

Far to the southeast of the Marquesas lies evidence of a truly remarkable feat—a voyage to Easter Island, some 2,400 miles away, in the face of prevailing winds and currents. Polynesia's easternmost outpost, Easter Island is not only the most isolated inhabited island in the Pacific, but it is also only 15 miles long.

Assessing its chances of being discovered by early Polynesians, we can conclude only that their sailing canoes



BATES LITTLEHALES

were already capable of traversing the breadth of the Pacific, and that on one such voyage Easter Island was fortuitously sighted. Radiocarbon dating in 1955-56 indicates its discovery and settlement as early as A.D. 400—perhaps while the Goths or Vandals were attacking Rome on the other side of the world.

Dr. Yosihiko H. Sinoto, a Bishop Museum archeologist, and I visited Easter Island in 1969. There we were guests of Dr. William Mulloy, who had first been on the island as a member of Thor Heyerdahl's 1955-56 Norwegian expedition. We found Dr. Mulloy supervising the restoration of ceremonial platforms bearing colossal stone statues. These famous monuments have been variously

attributed to inhabitants from a sunken continent and to a white-skinned, red-haired, bearded tribe from Peru.

As we examined the sites on Easter Island, our firsthand knowledge of the archeology and languages of the Society and Marquesas Islands convinced us that the prehistoric culture of Easter Island could have evolved from a single landing of Polynesians from a Marquesan island, fully equipped to colonize an uninhabited volcanic island. Their success in making this windswept 64 square miles, without an edible native plant, not only habitable but also the seat of remarkable cultural achievements, is testimony to the genius of these Polynesian settlers.



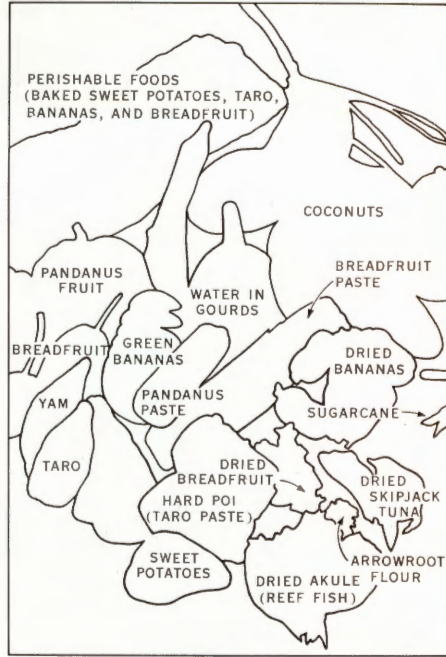
A study of excavated adzes, fish-hooks, ornaments, and other artifacts indicates that Tahiti and the other Society Islands must have been settled soon after the Marquesas. Present information indicates that Hawaii and New Zealand were settled after A.D. 500. Radiocarbon techniques permit us to assign tentative dates to this entire Pacific migration: entry into West Polynesia about 1000 B.C., reaching East Polynesia about the time of Christ, completing the occupation by A.D. 1000.

These ancients were remarkable seamen, and no less skillful boatbuilders to have shaped craft capable of such voyages. Intriguingly, artist-researcher Kane suggests that the seagoing canoe may have helped "shape" the people:

"Its design favored the survival of persons with stamina, muscle, and ample fat to insulate the body from the deadly chill of wind evaporation upon spray-drenched skin. Rigorous selective pressures, oft repeated, may explain the physique and large size that distinguish Polynesians from other equatorial peoples."

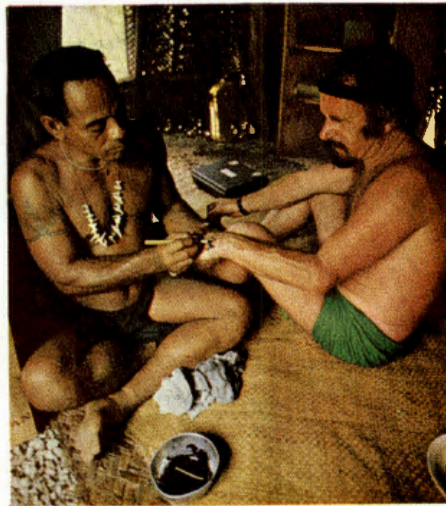
Having reached the Pacific's farthest outposts, the early Polynesians possessed the skills to return. It is doubtful that one-way, or "drift," voyages could account for the early presence in the Hawaiian Islands, for example, of twenty-odd cultivated plants and domesticated animals of Tahiti and the Marquesas. (Computer simulations rule out the drift theory entirely.) Thus we conclude that early Hawaiians repeatedly negotiated the longest sea route in Polynesia, returning to Tahiti and then again to Hawaii, known as "Child of Tahiti."

To reenact this feat, Herb Kane and anthropologist Ben Finney have formed the Polynesian Voyaging Society. The society is building a 60-foot Polynesian double canoe, training a crew, and raising funds for the voyage and related experiments. As a Hawaiian event of the United States Bicentennial Year, this voyage will celebrate the discovery and settlement of Hawaii, and serve to recapture the unique knowledge, skills, and spirit of the Polynesian seafaring pioneers. □



Provisions for sea: Roots, fruits, nuts, dried fish, and water-filled gourds (facing page and key above) enabled the Polynesians to survive passages lasting as long as two months.

No stranger to the sea, David Lewis (below, right) receives a tattoo on Satawal. The physician-turned-mariner visited the western Pacific isle while studying the voyaging techniques of the ancient Polynesians, a fascinating story that begins on page 747. In the December 1973 GEOGRAPHIC, Dr. Lewis told of his storm-lashed voyage from Sydney to Palmer Station, the first solo passage to Antarctica.



WILLIAM R. CURTSINGER; NICHOLAS DEVORE III (FACING PAGE)

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THE ISLES OF THE
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HERMAN MELVILLE once described the relationship between human genius and man's perception of it as a "shock of recognition." I like to think that Melville, who wrote so eloquently of the Pacific and its peoples, would have enjoyed this month's four-part presentation on the Pacific Islands—for it all began with just such a shock.

Author David Lewis made a casual inquiry of a Tongan about sailing directions through a reef-studded archipelago. "I was flabbergasted by his reply," he recalls, "for it meant that the age-old lore of the sea by which the Polynesians had populated the Pacific was still known—by a few, but known."

David devoted three years to the search for that ancient knowledge, and found it, an achievement that helped earn him the Gold Medal of the Royal Institute of Navigation and the Superior Achievement Award of the Institute of Navigation of the United States, a rare double, richly deserved.

To bring this epic tale to our members, our editors, photographers, and writers logged a combined 200,000 miles of Pacific travel—though not without hazard. Photographer William Curtsinger was attacked and twice slashed by a shark while swimming in the lagoon of a remote and uninhabited island. The fact that David Lewis is a physician and had a supply of antibiotics probably saved Bill's life.

His colleague, Nicholas DeVore III, found himself just in time to join a Micronesian crew for an extraordinary canoe voyage of 550 miles across the open ocean. Nick suffered from intestinal flu the whole way: "Nine days on a wet roller coaster." He was alert enough to notice, however, that the crew had added a new element to the ancient navigational repertoire of wind, wave, star, and bird—jet contrails, marking the Pacific sky and pointing the way to land.

Artist Herb Kawainui Kane, who grew up in the steep Waipi'o Valley on the "Big Island" of Hawaii, combines the talents of artist, sailor, and amateur anthropologist. "All Polynesian culture relates to the canoe," claims Herb. He and his friends in the Polynesian Voyaging Society hope to underline that point when they sail a 60-foot double-hulled canoe to Tahiti and back in 1976, using navigational techniques that the world thought were long forgotten.

Several times this past year we had the pleasure of "pulling out all the stops" for an article we thought deserved it—the world-ranging and timely story on gold, the survey of American wilderness at a crossroads moment, the achievement of our frontier in space, Skylab, our account of the glory of the Phoenicians, and that mind-dazzling summary of our new knowledge of the universe itself.

At the moment, our writers and photographers are sailing in the wakes of Columbus and Drake, ranging the new Alaska, exploring the remains of Maya and Celtic civilizations, probing the archives of the American Revolution—but we will let their work speak for itself in forthcoming issues.

It seems a shame that our popular associate in geographic adventure, the award-winning National Geographic Society television series, will be represented by no new programs this year. Word that we had been unable to obtain a commitment from the networks for prime viewing time reached my desk just before the news that one of last season's documentaries had won two coveted Emmy awards. In this case, the shock preceded the recognition.

Silvert H. Brown

ISLES OF THE PACIFIC

I—Coming of the Polynesians 732

Recent research, says famed anthropologist Kenneth P. Emory, finally allows us to reconstruct one of the great explorations of all time—the discovery of the Pacific Islands.

II—Wind, Wave, Star, and Bird 747

Putting away his compass and charts, veteran voyager David Lewis rediscovers the "lost" arts of the Polynesian navigators. Photographs by Nicholas DeVore III.

III—The Pathfinders 756

Two thousand years of Pacific seafaring spring to life in the paintings of Hawaiian artist Herb Kawainui Kane.

IV—Problems in Paradise 782

Even the idyllic South Seas face growing environmental hazards, conservationists Mary and Laurance Rockefeller learn. Photographs by Thomas Nebbia.

SUPPLEMENT: Islands of the Pacific and Their Discoverers, distributed with this issue.

The Enduring Pyrenees 794

Robert Laxalt, himself of Basque descent, and photographer Edwin Stuart Grosvenor travel through the sequestered mountain domain of the French-Spanish border.

The Columbia River 821

Writer-photographer David S. Boyer traces the river that, more than any other in North America, has been tamed to work for man.

China's Newest Treasures 848

A shroud of jade and a flying horse highlight the trove of Asian art now touring the Western World. Photographs by Robert W. Madden.

Caribou: Hardy Nomads of the North 858

Jim Rearden tells of Alaska's still-immense herds of barren-ground caribou—the "buffalo" of the last U. S. frontier.

COVER: "Eyes full and sparkling," wrote Bounty mutineer James Morrison of Polynesia's women. Photographer H. Edward Kim confirms the observation in this portrait of a girl of Bora Bora.