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*Uncle Sam's new island State,  
lighthearted and booming,  
hitches its star to the sixties*

# Hawaii, U. S. A.

By FREDERICK SIMPICH, JR.

*Illustrations by National Geographic photographer THOMAS NEBBIA*

WE CITIZENS of the State of Hawaii sometimes become annoyed with our friends from the other 49. Tens of thousands of them a year come to visit us, but too many of them refuse to take us seriously. For instance:

A friend of mine flew out from Arizona for a visit. From the airport he taxied to a luxury hotel on Waikiki Beach. When I found him, he was already immovably dug in: a reclining beach chair under him, sunglasses and shorts his only attire, long blue combers before him, pretty girls in bathing suits surrounding him, a shaded terrace behind him whence he could, by raising a finger, summon food or drink.

"Wouldn't you like to tour the other islands," I asked without much hope, "and see what Hawaii is really like?"

"Thanks," he said. "I'll stay here."

I tried to tell him of the beauties of our mountains, the variety of our racial cultures, the vigor of our industry. But to compress into a sentence or so the enthusiasms of 25 years' residence in Hawaii proved too much.

So I left him to enjoy the languor of his hotel, so removed from the true life of the islands. Long since returned to Arizona, perhaps he will read this and learn what I wanted to say that day.

## Volcanoes Keep New State Abuilding

Hawaii is a place where sugar cane fields have traffic lights, where the apeape plant throws leaves bigger than a man (page 39), and where the moon sometimes shines so bright we have rainbows at night. In these surprising islands, beach boys massage sun bathers with their feet, and woven feather hatbands costing several hundred dollars are the badge of the old-timer.

This is one State that grows bigger all the time, as active volcanoes vent their lavas toward the sea. Here escalators carry signs warning children, traditionally barefoot, against catching their toes. In Hawaii, Sears, Roebuck & Co. sells orchids, and lunch counters advertise Japanese sukiyaki as prominently as hot dogs and pancakes.

Removed from the west coast by 2,250

miles of water, seven inhabited islands of Hawaii span some 400 miles of the Pacific. From northwest to southeast they carry the music of their Polynesian names: Niihau, Kauai, Oahu, Molokai, Lanai, Maui, and Hawaii (see the 10-color Atlas Map distributed to members with this issue).

These are not so much islands as the tips of tremendous mid-ocean mountains, thrust up by volcanic eruptions. Hawaii, capped by Mauna Loa and Mauna Kea two and a half miles high, is not only the largest of the chain, the "Big Island"; it is the tallest mountain mass on earth, rising from the ocean bottom for a total ascent greater than Mount Everest's (diagram, page 34).

Britain's voyaging Captain Cook, searching for the fabled Northwest Passage, blundered on the Hawaiian group in 1778. He reported of his first encounter with the natives: "Several small pigs were purchased for a sixpenny nail."

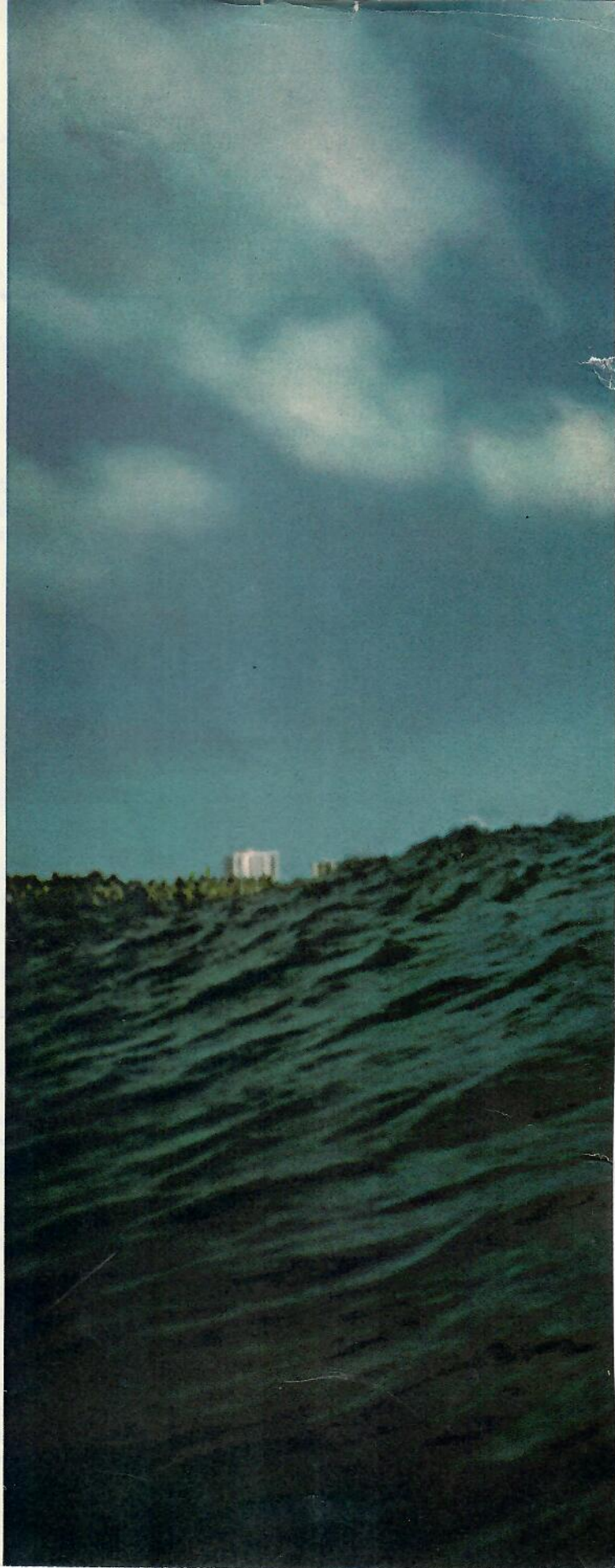
Today pork costs a dollar a pound in Honolulu markets, and there are precious few Hawaiians left of pure Polynesian heritage. Hawaii holds 600,000 resident American citizens, 32 percent of Japanese extraction, 29 percent Caucasian, 11 percent Filipino, 6 percent Chinese, and the rest a blend of other bloods—including 2 percent pure Hawaiians.

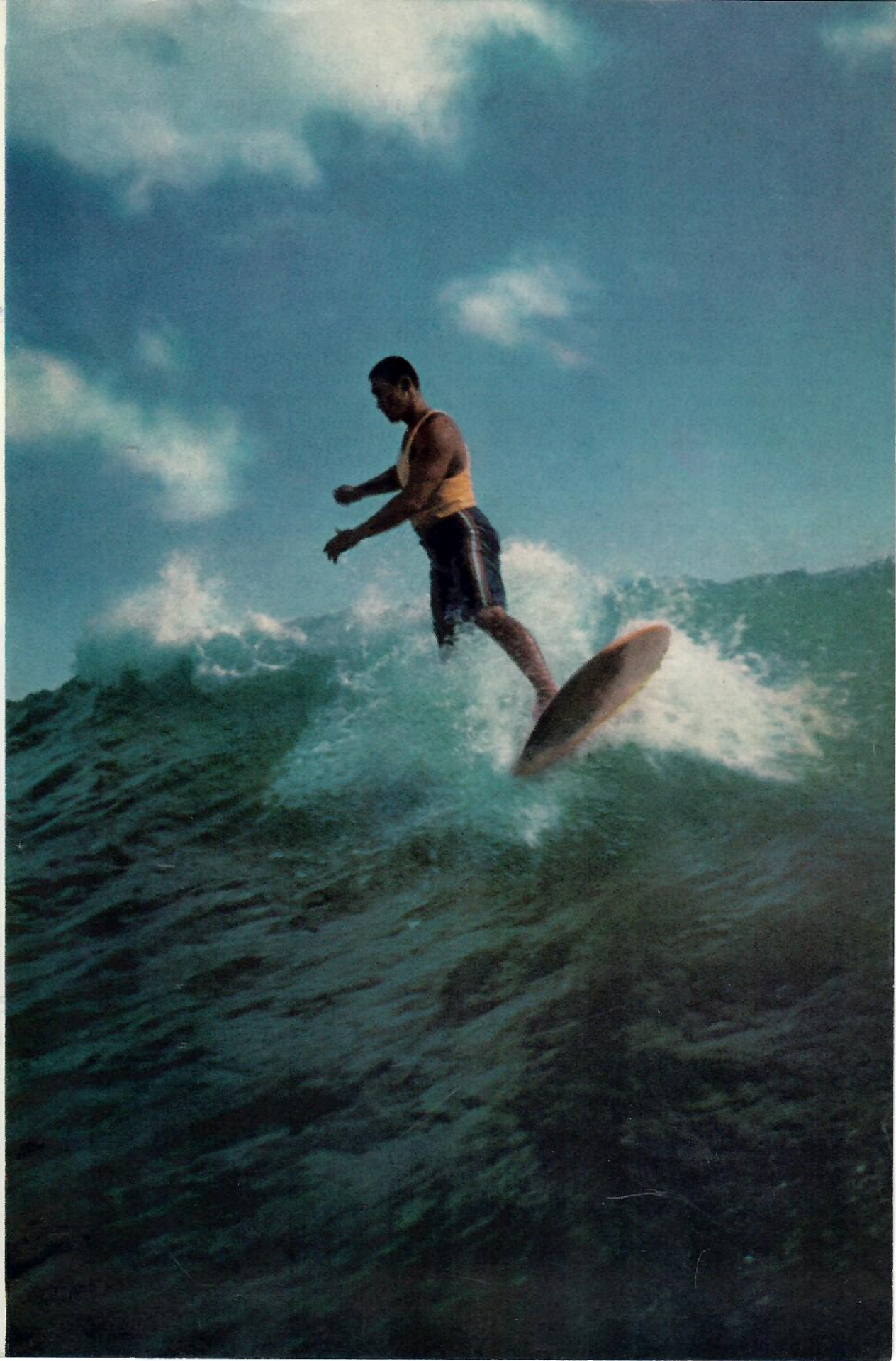
Twenty years after Cook's land-

### **Racing Toward Waikiki, a Surf Rider Teeters Between Sky and Sea**

Sun-soaked beaches, lofty mountains, and balmy temperatures make the Nation's newest State a mid-Pacific paradise. Mark Twain called the archipelago "the loveliest fleet of islands that lies anchored in any ocean."

Braced for a turn, this surfer at Waikiki Beach exhibits championship form at 40 miles an hour.





ing a native ruler, Kamehameha, consolidated a kingdom in the islands that endured for a century.

Kamehameha towered 6 feet 6 inches and was a tremendously powerful man. Adept in warrior sports, he delighted in having javelins flung at him and plucking them from mid-air as he side-stepped them.

He had a canny trader's instinct behind a full-lipped, copper-colored face. Born in a Stone Age society of breechcloth and outrigger canoe, he lived to negotiate with the Western World. At his death he left among his vast properties a flagship of 175 tons and resplendent uniforms of Napoleonic cut.

The "Sandwich Islands," as Captain Cook named them for an English earl, soon became a trading crossroads of the Pacific. New inhabitants arrived in waves.

First there were sailors who jumped ship to savor the gentle life. Then came mis-

sionaries, to save souls and, without intending it, to prepare for ultimate statehood.

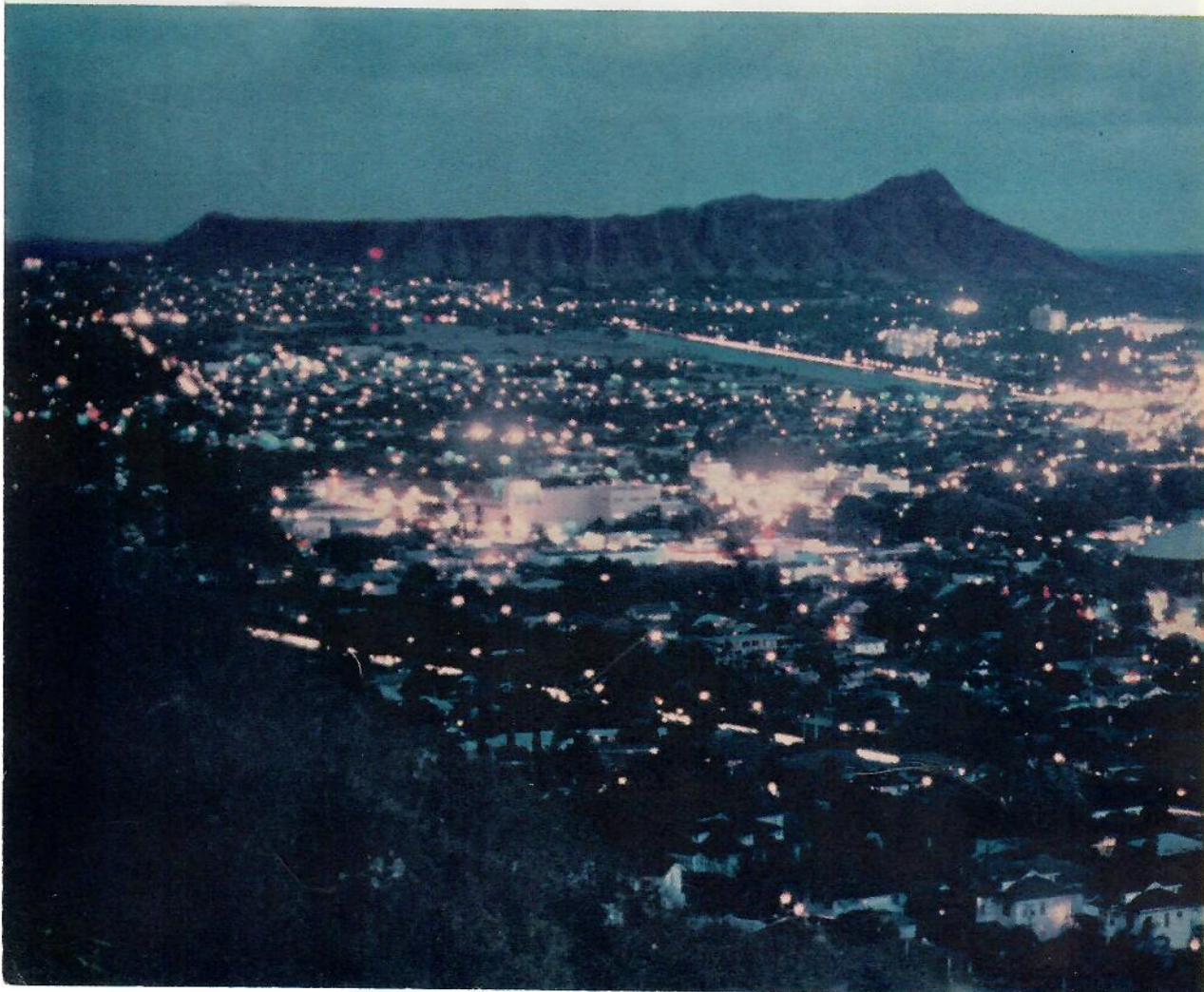
Other Americans, pioneering in planting seas of sugar cane, brought industry to the islands. The plantations soon demanded more labor than Hawaiians, felled by white men's diseases, could provide.

So Hawaii's sugar planters first turned to China for willing hands and strong backs. Later, recruiting agents scoured Japan, even tapped the Scandinavian countries and the Madeira Islands. The Philippines provided the final immigration in 1946, when weed-raddled pineapple and sugar fields, neglected during wartime, demanded restoration.\*

Sugar cane now tosses its tassels over more than 200,000 acres. Hawaii's heavy yields, the marvel of the sugar world, reflect the latest in scientific advance (pages 12-13).

\* See "Because It Rains on Hawaii," by Frederick Simpich, Jr., NATIONAL GEOGRAPHIC, November, 1949.

Dusk silhouettes Diamond Head and kindles the twinkling lights of Honolulu. Viewed



There was a time when the plantations moved cut cane from field to factory by private, narrow-gauge railroad. But the locomotive has long since given way to huge rubber-tired hauling units. I am still startled, during plantation visits, by traffic lights blinking above the waving stalks.

#### "Pines" Add a Prime Crop

If sugar is still king, the pineapple is queen (pages 10-11).

Jim Dole, who lived until 1958 to see his name become synonymous with pineapple, was among the last frontiersmen, the same breed as John Sutter in California and Dr. John McLoughlin in Oregon who helped build a territory. Coming to Hawaii in 1899, after it was annexed by the United States, Dole sensed opportunity in the fact that pineapples grew well on uplands too cool for sugar.

He began with a 64-acre homestead and,

as he once said, with "two horses, a plow, a harrow, a wagon, and a 16-year-old Chinese, complete with pigtail." My father remembered him in the early 1900's as a "long, lanky figure, loping through the fields with a grin on his face and a copy of Hamlet in his pocket."

Pineapple was then little known to America. One of Dole's first ads read, "Pineapple—you eat it with a spoon, like a peach!"

Employing techniques developed for sugar—mechanized cultivation and research—Dole's venture skyrocketed to success. Perhaps his most daring move was to purchase the whole island of Lanai, six times the size of Manhattan, and to convert 15,000 acres of its pastureland to verdant "pines."

Today's fruit canneries—Dole's is one of the world's largest—are among Hawaii's biggest industries. In season some six million pines a day are washed and graded, peeled and cored, sliced or crushed, and canned.

from the rim of Punchbowl crater, resort hotels glitter along the Waikiki shore

KODACHROME © NATIONAL GEOGRAPHIC SOCIETY





KODACHROMES BY ROBERT MOSIER (ABOVE) AND NATIONAL GEOGRAPHIC PHOTOGRAPHER THOMAS NEBBIA © N.G.S.

**Jets tighten Hawaii's ties with the mainland** by slicing to some five hours the flying time between San Francisco and Honolulu International Airport (above). Ten airlines fly to the islands. Tripler Army Hospital sprawls beneath Moanalua Ridge.

**Bright flower necklaces flash aloha** to malihinis—newcomers—disembarking at Honolulu. Dockside lei sellers wear the colorful muumuu, a shapeless Mother Hubbard introduced by 19th-century missionaries. Orchids, carnations, and plumeria make up the garlands, which sell for as little as 50 cents or as much as \$10.

Virtually all the export is canned, since ripe fruit ships badly. (The fresh pineapple sold in mainland stores is picked green.)

No less impressive than the number of pines canned is the roster of generals and admirals headquartered in Hawaii—52 at latest count.

About one-fifth of the islands' population

depends directly on military payrolls for its livelihood. But gunsmiths at Pearl Harbor shipyard, radar technicians at satellite tracking stations, submariners and carrier pilots training off Waikiki are more than a boon to Hawaiian purse strings. The community, having gone through one Pearl Harbor, gains



7







reassurance from the presence of these combat-ready forces.

Their presence also does much to generate tourist travel to the islands. And tourists, or "visitors" as islanders prefer to call them, are soon to become Hawaii's biggest business. They numbered more than 240,000 last year. Increasing by 20 percent a year since the war, tourism is expected to flourish even faster with statehood—and with jet travel, provided so far by three of the ten airlines that fly to Hawaii. Jets bring Honolulu within five hours of the west coast.

Samuel F. Pryor, Pan American vice president, looks to the future. Envisioning 2,000-mile-an-hour aircraft in the next decade, he says, "You'll leave New York and be here in Hawaii, because of the five-hour time difference, two and a half hours before you left."

#### Where Shahs and Stenographers Play

Honolulu is the Hawaiian port of call for transpacific airliners and cruise ships, and its curving beach at Waikiki is the tiara for the tourist trade (pages 22-23.)\* New arrivals are so eager for its sun, sand, and surf that some beach hotels provide special dressing rooms so one can change and "hit the beach" without taking time to unpack.

I recall lazing there one day. To my left lounged the Shah of Iran, amid enough beach umbrellas and courtiers for King Solomon himself. To my right, a lone girl unpacked her matting and ointments.

A mainland teacher or stenographer determined to get her money's worth of tan, I thought. Near her, two servicemen lobbed a beach ball; the girl would not be alone long.

Waikiki's hotels and shops, restaurants and cabarets cater to all tastes. The Hotel Kaihana gives travelers from Japan a taste of home with mat floors and sliding paper doors. Beach shops display silks from Hong Kong beside locally made sportswear. But even cosmopolitan Honolulu was given pause when a Chinese restaurant advertised Italian pizza pie.

Though airliners approaching Honolulu dispense sun-tan lotion rather than history books, some visitors do go looking for evidences of the native culture.

#### Pineapple Fields in Martial Ranks Parade the Flaming Coast of Kauai

Roads 130 feet apart accommodate trucks with 65-foot booms that spray, fertilize, water, and harvest the fruit (next page). Wavy terraces control soil erosion. Iron stains the earth red; paradoxically, the element exists here in a form the pineapple cannot use. Growers must douse the plants with an iron solution.

Iolani Palace, now the State capitol, was once the home of Hawaiian kings. In the room where the House of Representatives meets, red-upholstered thrones are displayed (page 14). Towering above are feathered kahilis, standards of Hawaiian royalty adapted from status symbols of the native chiefs.

Perhaps the most photographed object in all Honolulu, save the towering peak of Diamond Head, is the heroic statue of Kamehameha in the Civic Center. Garbed in the helmet and cloak of the Hawaiian warrior, his figure is so draped with flower leis on ceremonial occasions that only the head emerges (page 18).

Oahu's view No. 1 is from the 1,200-foot-high Nuuanu Pali, a mountain pass behind the city (page 28). Here, in conquering the island, Kamehameha trapped its defenders and, as the popular song goes, "Pushed 'em over the Pali" to their death.

My wife remembers her grandmother telling of being lowered over this cliff in a basket, the only ladylike way to descend. The transit took an hour. Now the cliff is pierced by multilane automobile tunnels, and her granddaughter drives them in minutes.

#### Busy Honolulu Still Honors Boat Day

Bustling Honolulu, living out of doors perhaps more than any other State capital, has always had a form of year-round daylight saving. Office doors open at eight and close at four, though wage earners in this mid-Pacific city of 330,000 now find their free time spent more in traffic jams and crowded supermarkets than in the pounding surf.

Honolulu today is as American as strawberry shortcake. Her policemen hand out tickets as impassively as any on the mainland. Her movie theaters make their money from popcorn. The kennels where we board our dogs send them Christmas cards each year.

Where Honolulu differs from other State capitals, it differs not only because of its climate, but, of course, because of its distance from the main body of the States.

*(Continued on page 15)*

\* See "Honolulu, Mid-Ocean Capital," by Frederick Simpich, Jr., NATIONAL GEOGRAPHIC, May, 1954.

## Where Pineapple Is Queen . . .

**H**AWAII leads the world in growing and canning pineapples. Spiny crowned and pine-cone shaped, the pineapple is not a single fruit, but a cluster of many small ones. Each "eye" develops from a pale blue flower that blooms but a single day.

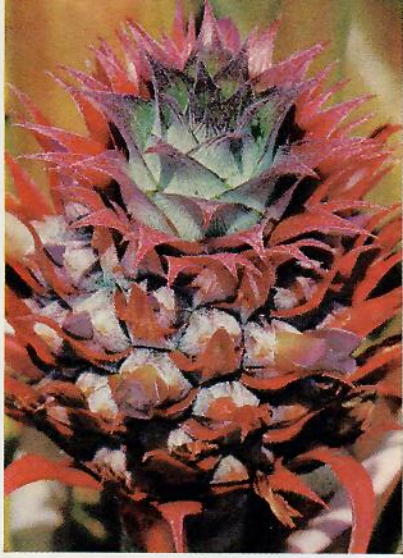
Usually seedless, pineapples grow from shoots taken from a mother plant. After plowing, machines carpet the fields with tar paper to raise soil temperature, save moisture, and check weeds. On each acre some 17,000 shoots are hand planted through holes punched in the paper. The fields bear fruit in about 20 months. Value of the crop exceeds \$120,000,000 a year.

Boom harvesters, like these at the Hawaiian Pineapple Company's Wahiawa plantation on Oahu, speed collection of the fruit. In season, pickers march day and night between the rows, deftly snapping off the ripe "pines" and tossing them onto an endless belt. Goggles shield pickers' eyes from the spiky leaves.

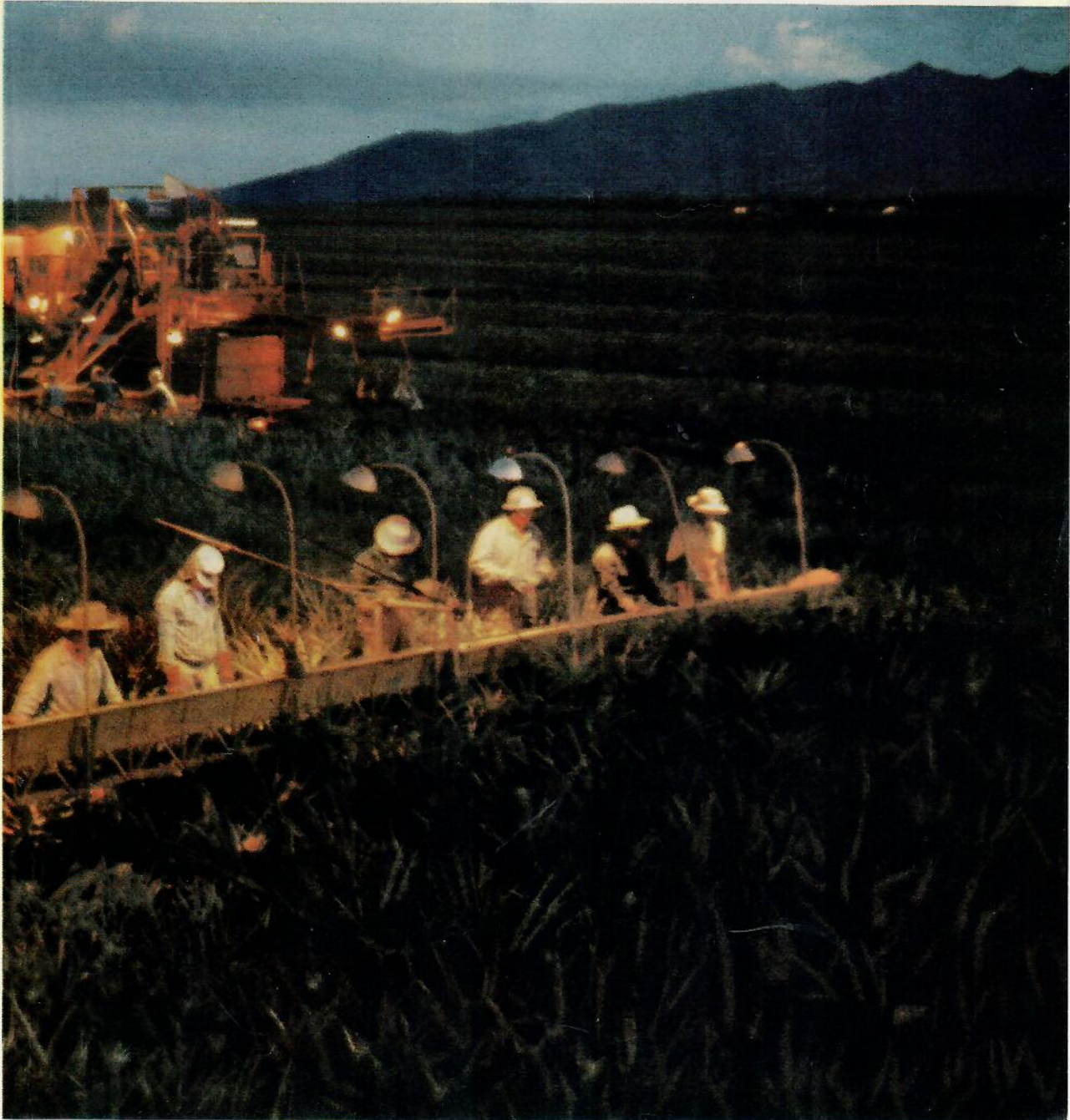
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HIGH SPEED EKTACHROME (BELOW) BY NATIONAL GEOGRAPHIC PHOTOGRAPHER THOMAS NEBBIA; KODACHROMES BY WALTER MEYERS EDWARDS, NATIONAL GEOGRAPHIC STAFF (OPPOSITE, LEFT) AND THOMAS NEBBIA © N. G. S.

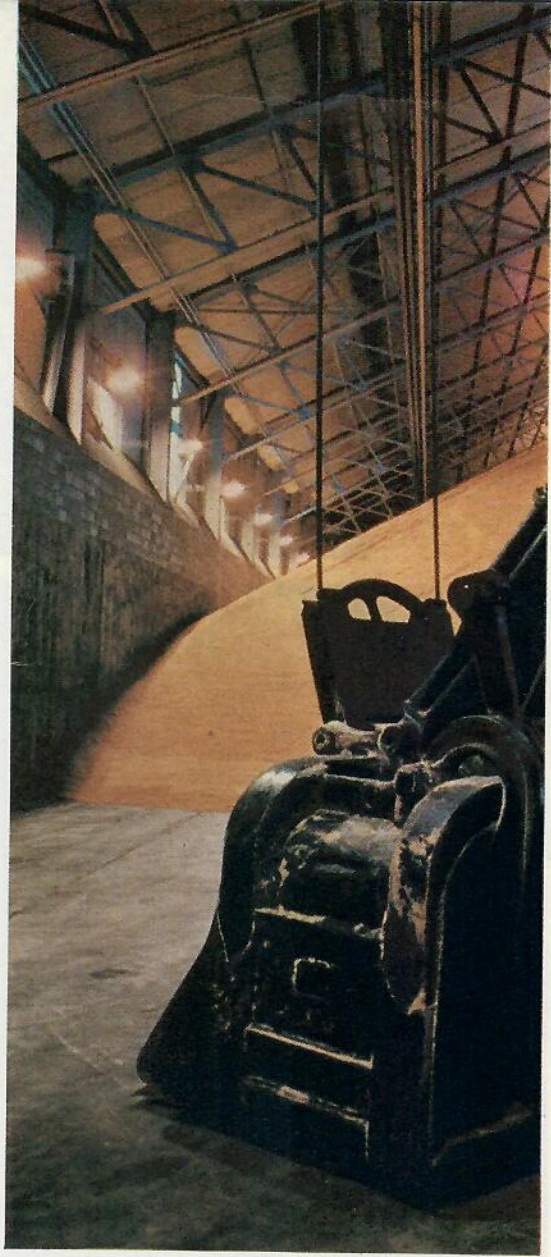
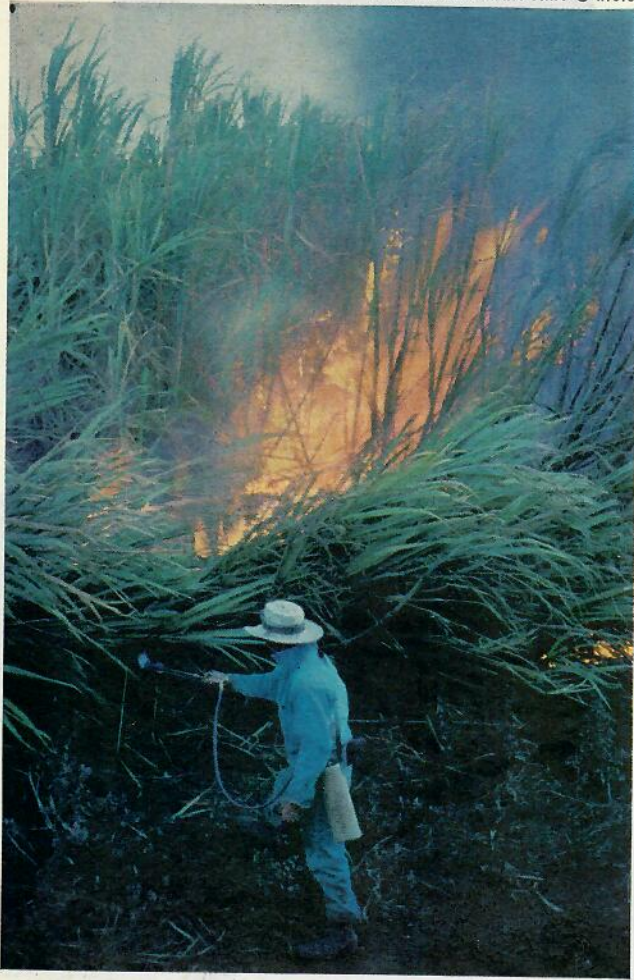




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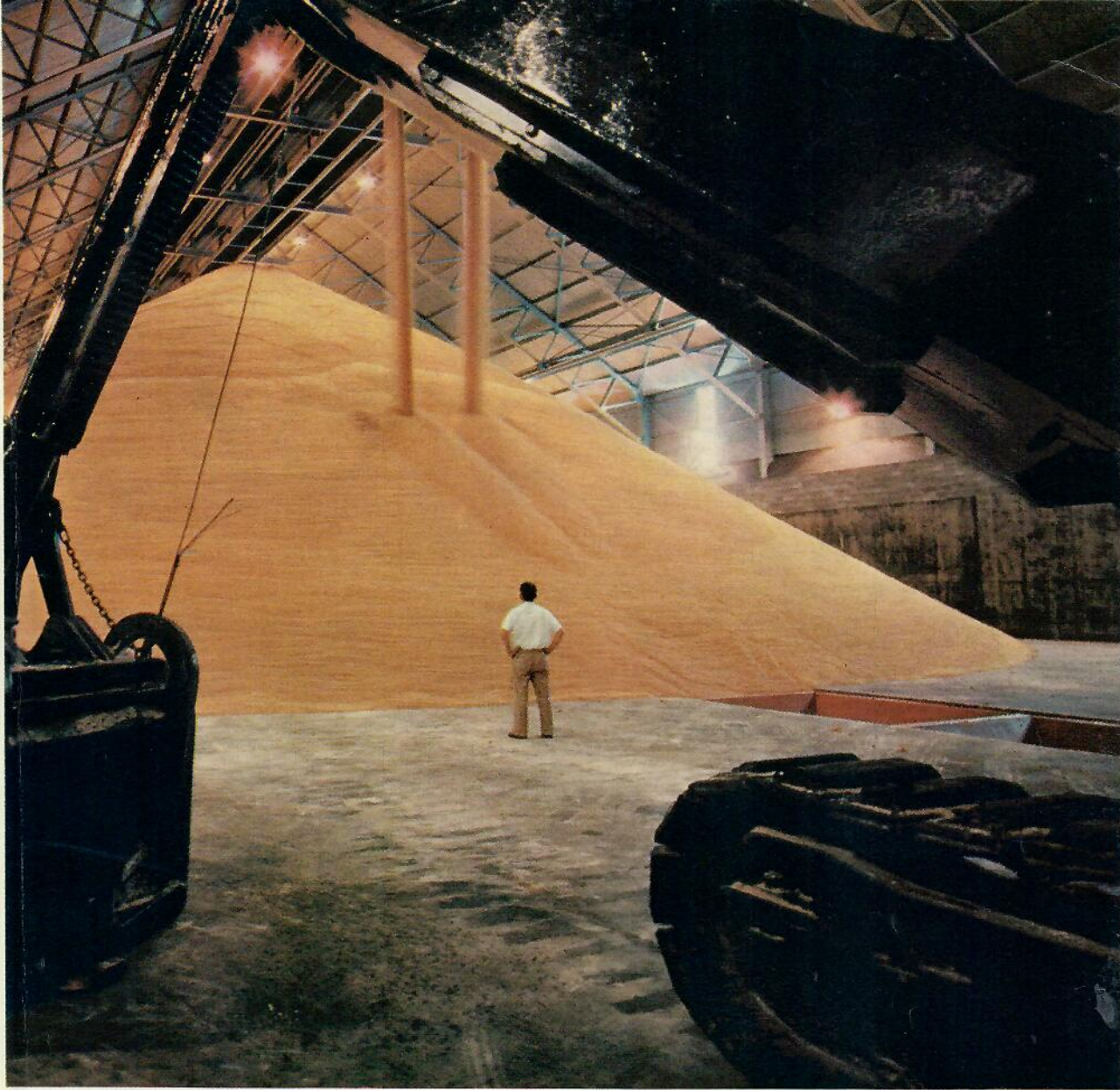


HIGH SPEED EXTACHROME (BELOW) BY WALTER MEYERS EDWARDS,  
NATIONAL GEOGRAPHIC STAFF © N. G. S.



... Sugar Cane Is King





KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

**Twin streams of sugar build a sweet sand pile** in this Honolulu bulk storage plant of the Oahu Transport Company, Ltd. Refiners convert the raw product to snowy crystals for cooking, candy, and the family table. Cane ranks as Hawaii's first crop. Each year the islands produce a million tons of raw sugar worth \$150,000,000. Only a twentieth is refined and used in Hawaii; the rest goes to the mainland.

A member of the grass family, sugar cane needs rich soil, warm weather, and abundant water—all available in Hawaii. Early Polynesians hedged their huts with the bamboolike stalks; cane growing first boomed a century ago to meet Union demands during the Civil War. Today cane fields corrugate Oahu (opposite) and other islands. Furrows serve as canals for irrigation water gushing from flumes, seen here as white lines. To produce a single pound of refined sugar requires a ton of water.

Huge machines dig furrows and plant stalks of seed cane. The plants mature in 18 to 22 months. Dry tangles of leaves shed by the ripening stalks must be burned away (upper left), leaving the ripe cane—87 percent liquid—unharmd.

Mills wash the cane, shred the stalks, and crush out the juice. Twelve hours of boiling and evaporating produce the raw sugar. Leftover cane is called bagasse.

Cane and pineapples do not compete for space. The thirsty cane grows best on the moist lowlands, while pineapples can survive long spells of dry weather in semiarid upland fields. Less than ten percent of mountainous Hawaii's land will raise a crop; the islands' tillable acreage is smaller than the tiny Grand Duchy of Luxembourg.



KODACHROME BY ROBERT MOSIER © NATIONAL GEOGRAPHIC SOCIETY

Relics of royalty recall the Hawaiian monarchy, overthrown in 1893. The Bishop Museum in Honolulu displays the crowns of the last king, Kalakaua, and his queen, Kapiolani; the royal scepter; and a cape fashioned from the feathers of the *oo* and *iwi* birds.

Iolani Palace in Honolulu serves today as the State capitol. The House of Representatives meets in this chamber. Thrones are replicas; the Bishop Museum preserves the originals. Gov. William F. Quinn (left) makes his office in a onetime royal bedroom.



It is this distance that makes "boat day" important. In the time of sail, a lookout known as Diamond Head Charlie was posted on that landmark and galloped his horse into town upon sighting a ship. When radio cost Charlie his job, there was still good reason to shut up shop and go down to see the boat come in.

Then, too, there are special boat days. More than one housewife now living in Honolulu caught the first glimpse of her husband-to-be from the rail of the "teachers' boat." Each year it brings a new crop of teachers for the public schools, to be greeted by a band of bachelor "inspectors." The "school boat" is the sailing in early September that carries youngsters off to mainland colleges.

While the arrival and departure of as many as 234 transpacific aircraft a week have deprived boat day of its past significance, Honolulu still turns out in force for the comings and goings of the graceful Matson luxury

liners (page 22). The white-coated Royal Hawaiian band plays buoyantly at dockside, hula dancers undulate amid paper streamers thrown from ship to shore, and many a tear is shed.

#### Castle Trail Climbs Through History

Visitors who enjoy walking may leave the surf-embroidered beaches and hike up the Castle Trail. It provides an easy ascent of the Koolau Range, a backbone of Oahu.

Recently my wife and I set out upon this trail with our children, Mike and Louli, and our family dog, an amiable boxer named Moki. Starting near sea level amid groves of eucalyptus and Java plum, we followed a series of switchbacks, climbing through guava and lantana, pandanus and wild taro, from which the old Hawaiians made their poi.

Atop what natives call "Pig God" ridge, the trees gave way to hardy koa and kukui, whose oily nuts were once burned for light.

Barefoot balloter votes on Kauai Island in Hawaii's first election after statehood

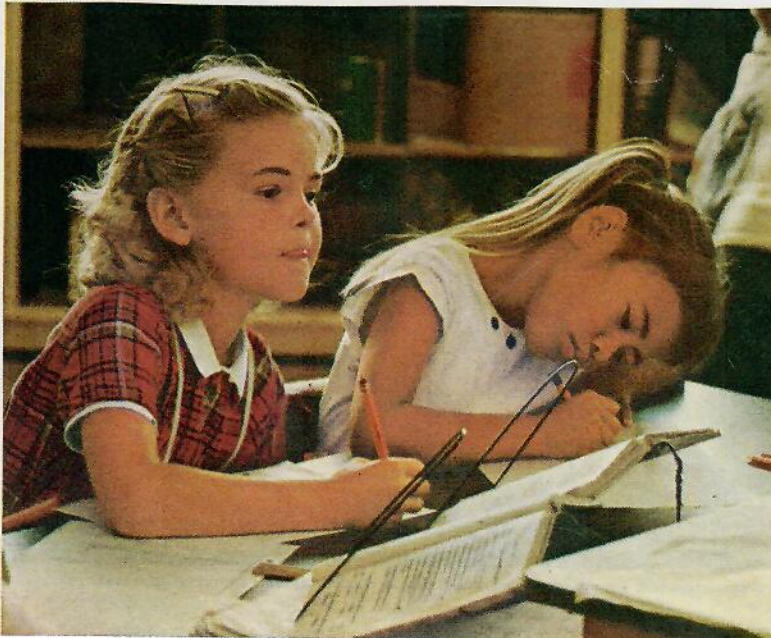




"Lady, lady, turn around. . . ." Rope twirlers chant the count at Oahu's Ewa Beach Elementary School. Glass walls and open-air corridors of the modern building take advantage of Hawaii's bright, pleasant weather. Flag flies at half-mast following Secretary Dulles's death.

© NATIONAL GEOGRAPHIC SOCIETY

Spelling test demands tongue-biting concentration from an Ewa Beach second-grader. Her pony-tailed classmate answers with ease.





Climbing, we came to a forest of ohia, a Hawaiian hardwood, and sandalwood, in the early 1800's the islands' chief export. We paused again to show Mike other plants important to the Hawaiians. The hibiscus was their hedge, we told him. The olona was the fiber from which they wove their nets, the awa root provided their narcotic, and to pick the lehua blossom at the start of a journey was to invite rain.

Suddenly the silence was pierced by furious barking. Running up the trail, we found our boxer set upon by four savage dogs.

I doubt that we could have saved Moki, hard put amid the swirling, snarling melee, if two men armed with rifles had not come running down the trail and helped to break it up. They were hunting the wild pigs that course these mountains, and the dogs were theirs, specially trained to corner boar.

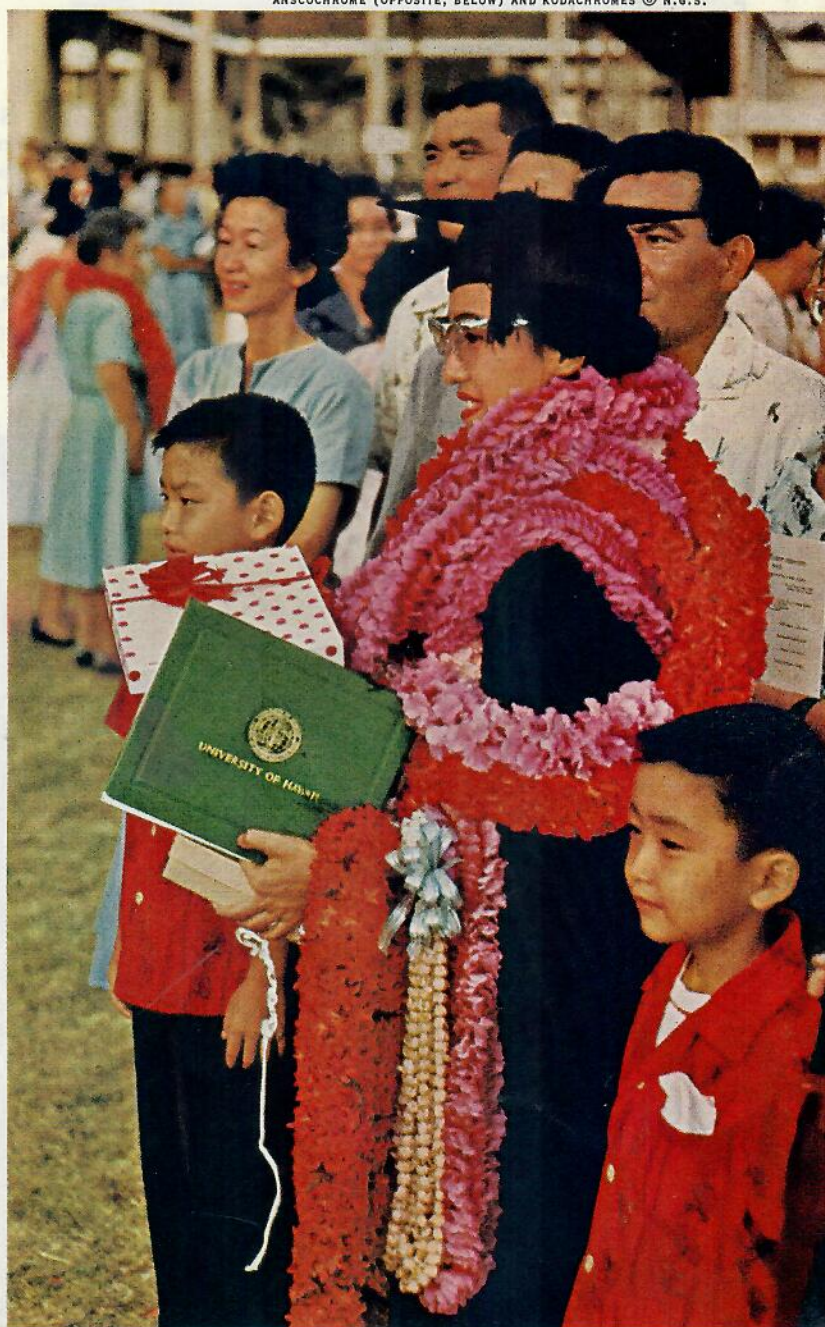
As we started off, Moki followed, disconsolate. We never knew which hurt more—his wounds, or the indignity of being taken for a pig.

There are other byways the visitor can travel to learn why Hawaii is Ha-

waii. Follow the coast road northwest along the white sands of Makaha, where the sea crashes in from western reaches of the Pacific. Waves occasionally run 30 feet high, luring surfboarders from such far beaches as Santa Monica and Sydney's Bondi.

Farther along toward Oahu's westernmost point, Kaena, the road becomes worse, and the swimming, fishing, and shell collecting improve. To spend the night on this wind-swept headland is to experience a side of Hawaiian life rarely enjoyed by tourists. At night the bikinis and surfboards depart, and the beaches come alive with campers. Surf fishermen set

ANSCOCHROME (OPPOSITE, BELOW) AND KODACHROMES © N. G. S.



**Wreathed in leis**, a graduate of the University of Hawaii celebrates commencement day. Some 7,500 students attend this land-grant school in Honolulu's Mānoa Valley. They represent seven major racial groups: Japanese, Chinese, Filipino, Korean, Caucasian, Polynesian, and a mixture called Cosmopolitan.

An international college and cultural center at the University of Hawaii has been proposed in Congress to strengthen U. S. - Asian understanding.



**40-foot Leis Smother  
Helmeted King Kamehameha I**

Islanders celebrate June 11 as Kamehameha Day, honoring the noble who united Hawaii's jealously guarded tribal kingdoms under one scepter a century and a half ago. A four-day festival follows, featuring parades, pageants, and aquacades; the bronze statue in Honolulu's Civic Center wears fresh garlands of scented blossoms day and night.

Swaying to the music of ukulele and drum, grass-skirted students perform a Tahitian dance for their "King" and "Queen" at Hilo High School. The occasion: Lei Day, May 1, when every citizen from governor to beach boy dons a flower necklace, and every school stages a pageant.

18

KODACHROMES BY NATIONAL GEOGRAPHIC PHOTOGRAPHER THOMAS NEBBIA (ABOVE) AND WALTER MEYERS EDWARDS, NATIONAL GEOGRAPHIC STAFF © N.G.S.



their rods in the sands, the lines far out. They tie cowbells to the reels to signal a strike and sit silently for hours by the eerie light of gas lanterns. In near-by pools torch fishermen slish, peering through glass-bottom boxes for mullet or papio by the flickering rays of kerosene flares.

#### Traces of Hawaii's Past Survive

Caught up in world events, the islands have permitted much of the true Hawaiian culture to disappear. But evidences of it remain. In the Bishop Museum you can see the fabulous feather cloaks of warrior chiefs and fishhooks fashioned from human bones.

There is a trace of early Hawaii, too, at Kawaihāo Church. Built of coral blocks by missionaries, it reflects in its stern lines the architecture of New England seaports. This past Christmas we took Mike and Louli there to hear 80 voices render "Hookani A'e"—a chorus from "The Messiah" in Hawaiian.

From whitewashed walls hung bronze plaques, reminders of the mission families that brought Calvinism to these islands.

The magnificent music caught us up. But as might be expected in carefree Hawaii, two events occurred to lighten the occasion. The Hawaiian minister, his white robe and surplice contrasting with the mahogany of his face, left the pulpit at one point to sing "Holy Night" as a solo, accompanying himself on the guitar. Then I looked down to see that Mike, in the manner of Hawaiian boys, had taken off his shoes and socks.

Last resort of the Hawaiians, as a race, is Niihau, the island to the extreme northwest.

Niihau is owned by a single family, the Robinsons. Of Scottish descent, they arrived in Hawaii from New Zealand in 1863 and, like so many of us, succumbed to the charms of the islands. They bought Niihau, and, working with the Hawaiians there, they planted trees, built schools and churches, pad-docks and homes.

They were determined to help the Hawaiians preserve their gentle life on Niihau. That determination continues to this day, and virtually no one goes to Niihau unless he has business there.

I set out for the island one morning not long ago with Aylmer Robinson, manager of the place and great-grandson of the family founder. We sailed from Kauai before dawn in a diesel-powered sampan, and on the way we were treated to a rare and beautiful sight.

A full moon was mirrored in the smooth sea; a bank of clouds lay pillowed over the mountains behind us. And as the moonlight played on the clouds and mist, it formed a glowing lunar rainbow.

We landed on Niihau through a high surf in a longboat manned by Hawaiians—much, I am sure, as Robinson's ancestors landed nearly a hundred years ago.

For the day we were there, I felt a stranger in my own land. All conversation was in the musical cadences of Hawaiian. Except for a few spouses of other bloods, there are only Hawaiians among the 250 people living on the secluded island.

We visited the scene of Niihau's most dramatic event in modern times—the spot where a Japanese pilot crashed his crippled plane after the attack on Pearl Harbor.

Held under guard by the populace for five days, the pilot broke free before troops arrived, and cowed the bewildered Niihauans with the machine guns from his plane. He lost his "invasion" when a shepherd, one Benehakaka Kanahale, though wounded three times by pistol bullets, overpowered him and, lifting him by the neck and one leg, smashed his head against a stone wall!

On the return to Kauai with Robinson, I noticed two big boxes with screened vents in the sampan.

"Homing pigeons," Robinson said. "When no boats are running, we communicate with the island that way. Whenever we take the sampan over, we exchange birds."

But change comes even to remote Niihau. Since I was there, two-way radio has replaced pigeons for interisland messages.

#### Kauai, the Unconquered

That Kauai is the oldest of the islands is attested by its fertility. Abundant rainfall over centuries has converted lava flows to rich soil; erosion has carried this soil from volcanic slopes to enrich the lowlands.

Kamehameha never conquered Kauai, though old-timers will show you the beach where the bones of "his warriors" are still turned up on occasion. The island later joined the kingdom, but its people retain a sense of rugged independence to this day.

Its beaches are the best, Kauai says—else why would the producers of many a movie with a tropic background choose it for their location? Certainly Haena Beach, a *South Pacific* set, is everyman's Bali Ha'i.



But my own favorite view in all the islands is reached through Kauai's mountain quarter of Kokee, above Waimea Canyon. Hiking in this far-from-tropic setting, I have waded through waist-high grasses and strolled along mountain streams thronged with trout so well fed they won't respond to a fly.

A road threads pastures and winds past weather-beaten homes, each with a smoke-charred chimney to remind me that nights in these mountains are cold. Then it leads to the brink of a precipice. Here I can peer through mists down the Napali cliffs to the valleys and beaches of the north shore, 4,000 feet below.

There, in the verdant valleys of Kalalau and Milolii, Hawaiians lived in stubborn isolation until long after Western man settled and cultivated the gentle slopes to the south. From my lookout I can still see the Polynesian system of irrigation terraces.

Eric Knudsen, beloved on Kauai as a rancher and teller of tales, knew these gorges well. He recalled as a boy the occasional emergence from the valleys of the mysterious,

secluded "Napali men" (page 44). He described them as tremendous in size, the color of morocco leather, with long hair falling over fierce faces, and bare feet callused into pads by scrambling over rocks.

Among the entries by land to these valleys is a Hawaiian trail blazed along the cliffs in centuries past. The Napali men guarded their isolation well. At one point a removable fiber ladder linked the precarious trail.

#### Moat of Air Guarded Kauai Valleys

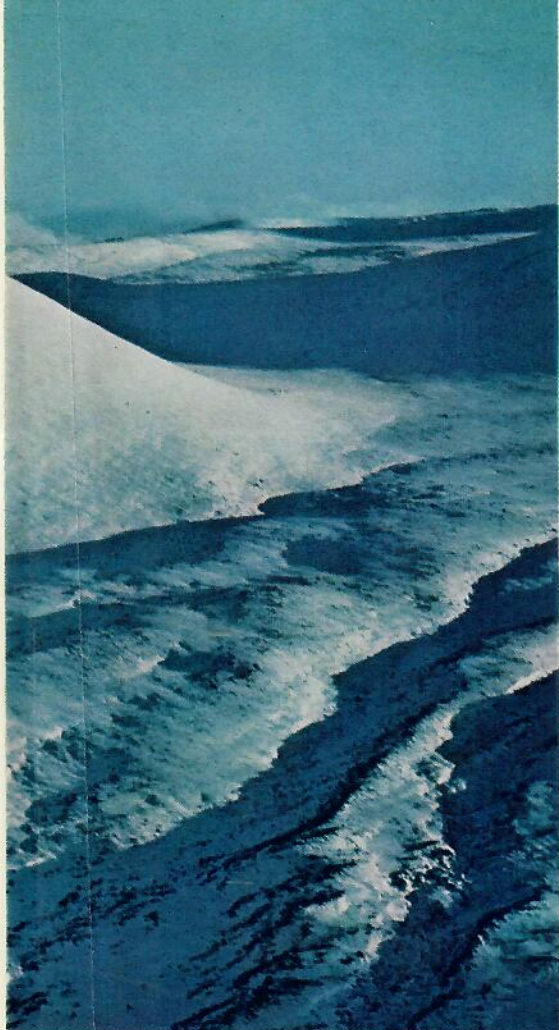
Farther along there is a three-foot gap, with nothing below but 1,000 feet of air. Here a Polynesian Leonidas used to be stationed with a long stick. Any enemy that tried to leap the gap was deflected in mid-air to fall into the void.

Kauai is older than its neighbors lying southeast of Honolulu. The other islands show their youth in fewer scars of erosion.

First of these is Molokai, a ranch with an island around it. The whole west end of Molokai, some 45,000 acres, is owned by one fam-

Tropical snow blankets the cinder cones atop Mauna Kea on the island of Hawaii. Skiers, who reach the slopes on horseback, can schuss these trails almost every day during winter.

Flower-decked, ukulele-strumming snowman delights his creators on lofty Haleakala Crater in the Maui section of Hawaii National Park. The park also embraces the Kilauea-Mauna Loa domes on Hawaii.



EKTACHROME (RIGHT) AND KODACHROME BY ROBERT WENKAM © NATIONAL GEOGRAPHIC SOCIETY

ily, the missionary-descended Cookes, who bought it in 1908. They soon found that pineapple, less demanding of water than cane, would flourish there. Today two firms, Del Monte and Libby, lease and farm 13,000 acres of this rich, red, powdery soil.

C. M. Cooke, founder of the ranch, predicted that someday, with water, Molokai would become the "breadbasket" for Honolulu. That time draws near. Honolulu, 40 miles across Kaiwi Channel, is growing so fast that truck crops are being forced off Oahu.

"We have three possibilities for water," Harrison Cooke, ranch president, told me. "First is to tunnel into the mountains. The government is doing that now with benefit to homesteaders.

"Second, the Department of the Interior is experimenting with converting sea water to fresh. If they ever succeed in doing it economically, all this dry plain below the pineapple fields will become farmland.

"In the meantime," he continued, "we are trying saline agriculture—using brackish

water to irrigate everything from asparagus to papaya. We are already making commercial shipments of alfalfa to Honolulu."

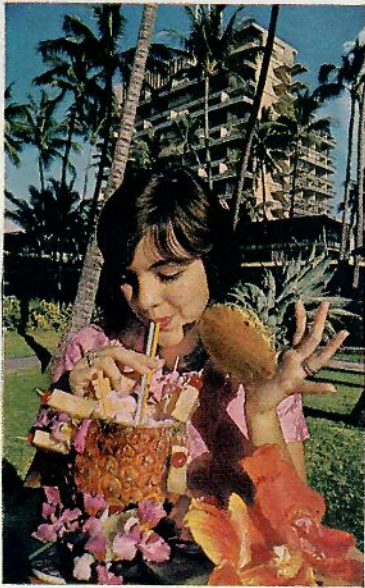
A lonely arm of land thrusting from the rugged cliffs on the windward coast has brought this island its greatest renown. Here stands the famous settlement of Kalaupapa, where Hawaiians stricken by leprosy, or Hansen's disease, once were put ashore and isolated.

In 1864 a Belgian priest, Father Damien, came to Hawaii as a missionary. Shocked by conditions at Kalaupapa, he made it his life's work to care for the outcasts. This dedicated man ultimately contracted the disease himself and died from it.

Leprosy in Hawaii has now been contained, and only advanced cases are isolated. Yet more than 200 patients remain in the settlement, most of them by their own choice.

On neighboring Lanai, 2,300 people live, breathe, and sleep pineapple. It is the island's only product. Dole is sole owner.

*(Continued on page 26)*

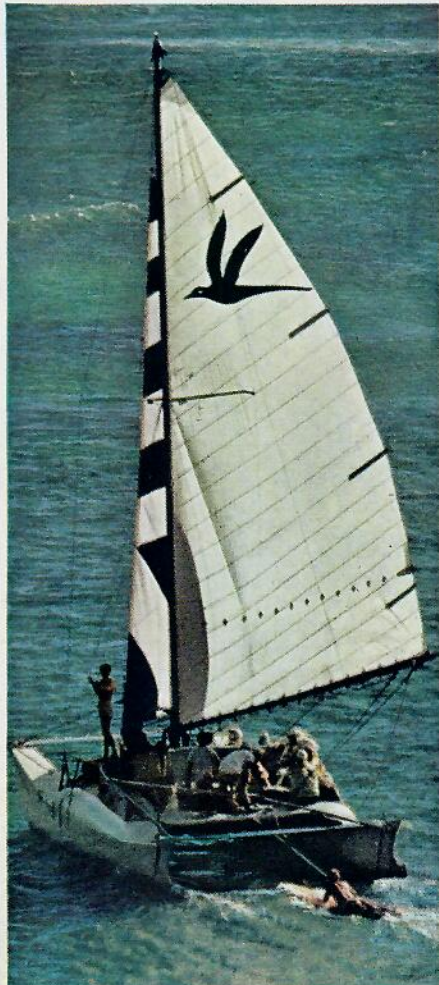
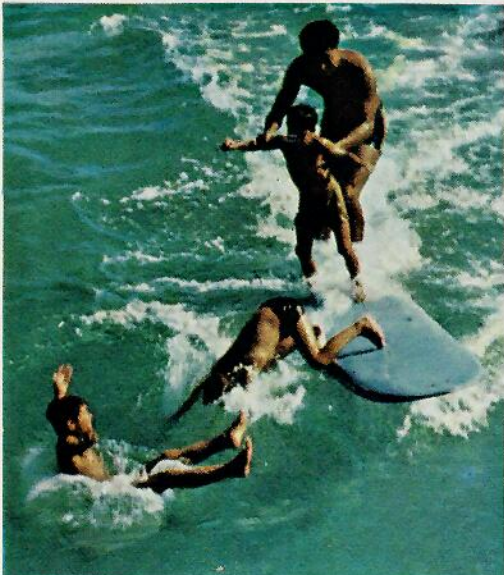


## Waikiki Wonderland

PERHAPS the world's most famous beach, Waikiki lures bathers the year round with warm seas and palm-fringed sands. When surf runs high, the venturesome climb aboard 35-pound Fiberglas slabs shaped like ironing boards and race in on the crests of giant combers. The S.S. *Lurline*, steaming toward San Francisco, may provide the backdrop. Surfing too risky? Then take a seat in a 30-foot outrigger canoe, dip a paddle, and ride a mountain of rolling water. For pure relaxation, step aboard a twin-hulled catamaran and cruise under billowing sail toward Diamond Head. Or bask on the beach and let the tropic sun toast the skin a golden tan, with time out now and again to sip tangy nectar served in a hollowed pineapple. And Waikiki entertains by night as well. Almost every floor show features sarong-clad maidens doing the graceful hula.

KODACHROMES BY THOMAS NEBBIA AND ROBERT WENKAM (LEFT) © N.G.S.











Guests at a **hukilau**, a Hawaiian fishing party, pluck mullet, moi, and weke from the waters off Laie, on the windward coast of Oahu. A leaf-fringed seine nets the catch. The woman wears a flowing muumuu; her companions sport hand-woven palm-frond hats.

Hungry diners watch with mouths watering as chefs uncover two succulent pigs at a luau. Wrapped in leaves and buried amid hot rocks, the pigs have roasted for four hours.

**Bronzed beauty** strides ashore on Oahu.

EKTACHROME (ABOVE) BY HERBERT S. WILBURN, NATIONAL GEOGRAPHIC STAFF; ANSCOCHROME (BELOW) AND KODACHROME BY THOMAS NEBBIA © N.G.S.

25





KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY

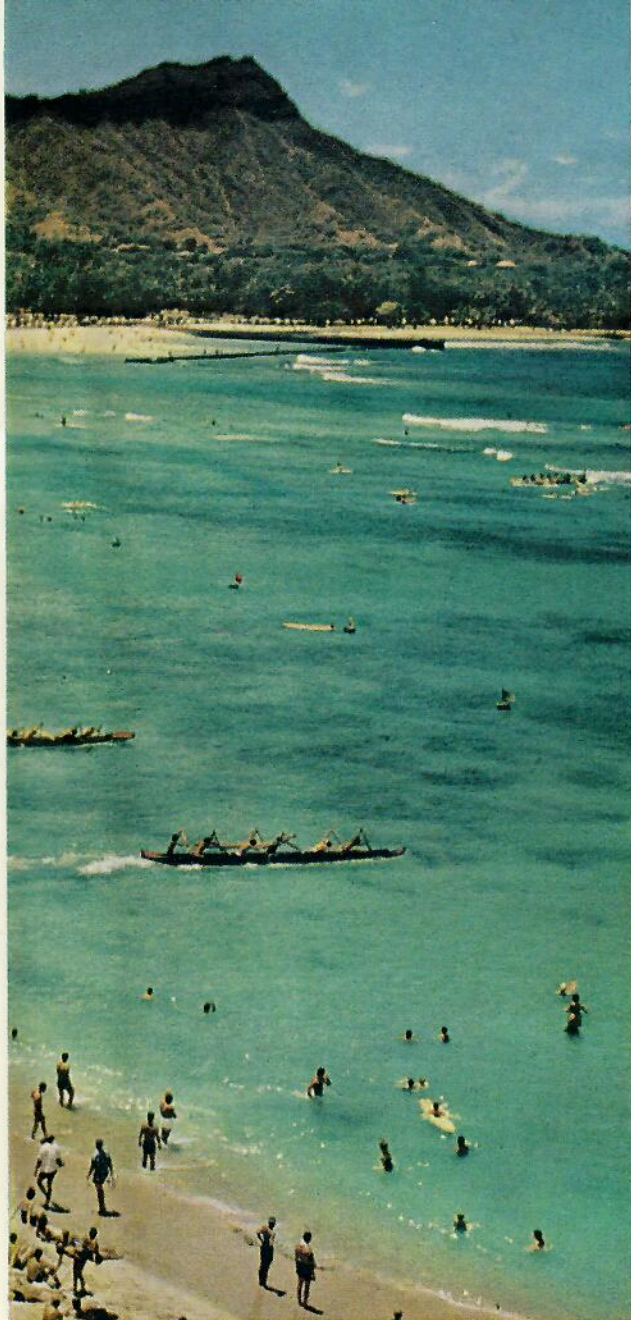
Excitement grips holiday crowds on Waikiki's crescent as Fourth of July canoe races get underway. Waterfront property, once duck ponds and taro patches, now sells for \$50 a square foot. View from the Royal Hawaiian Hotel looks toward Diamond Head.

Here I have watched workmen planting slips through sheets of mulch paper, in soil that has been fumigated against nematodes. The rows hold 17,000 plants per acre, cultivated with the meticulous care of a grandmother tending roses. The pines demand iron at one season, nitrogen at another, weed killers at one moment, overhead irrigation the next; all are supplied mechanically.

Harvesting is partially mechanized, too, with special loaders extending long booms

across the rows. Lines of men, gloved and goggled against the spearlike leaves, follow these machines through the waist-high plants, picking the ripened fruits judiciously and placing them on the boom (page 10). A conveyor belt whisks them away. Green fruits are left for another day.

Walking through the fields with youthful Herbert C. Cornuelle, Dole's president, I asked if there was some chance of mechanizing this laborious picking operation still fur-



ther. "Nothing," he said, "is going to replace the human eye in deciding when a fruit is ripe, or the human hand in reaching into those prickly leaves to break it off."

Fruit from Lanai moves to Honolulu by barge through the tiny port of Kaunalapau. When I first came here, most plantations in the islands had their own shipping points, and lightering cargoes through heavy seas required master seamanship. Kaunalapau is one of the last of such ports, but even here longboats have given way to cranes.

The airplane is the way to travel from island to island now. Even livestock and the kitchen stove move by air. To get the feel of this new commerce, I rode a Hawaiian Airlines' freighter one early morning on its rounds.

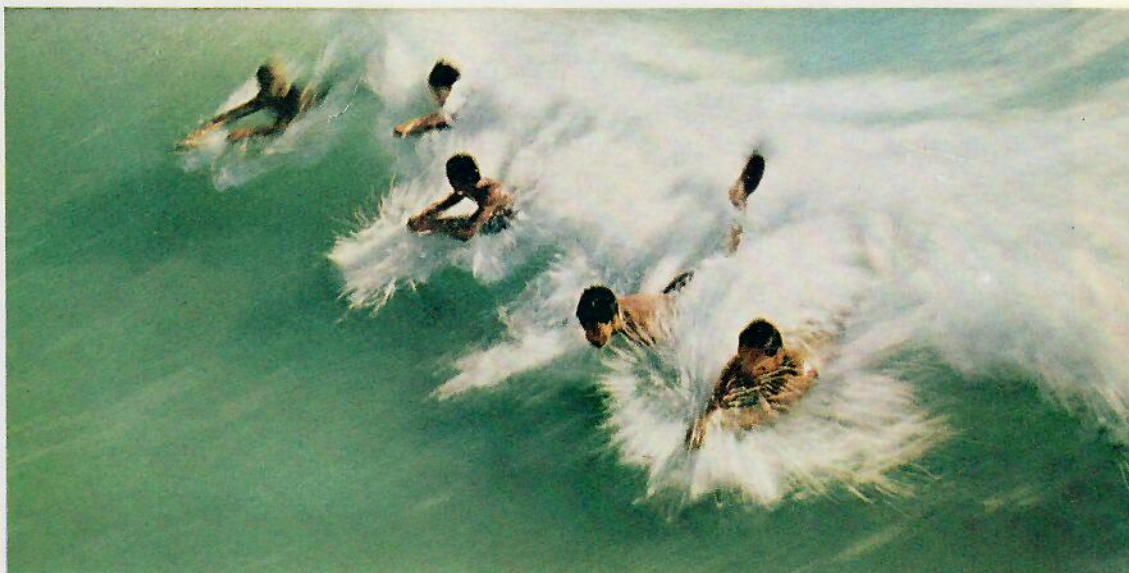
On the floodlit apron of Honolulu airport I watched as lift trucks loaded fresh-baked bread onto the plane. There was a last-minute scamper to put aboard Maui's morning papers. At dawn we were off.

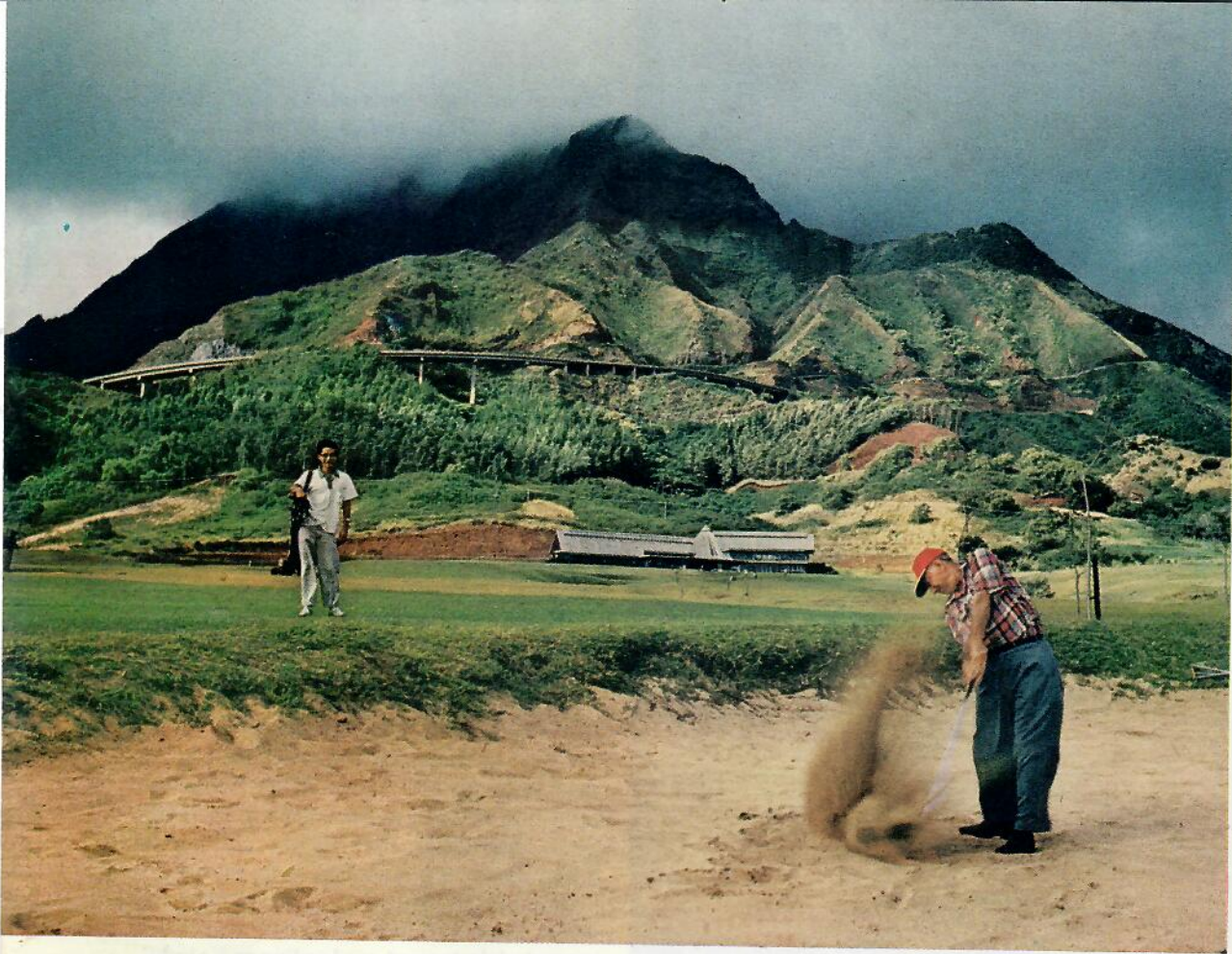
Alone in the cargo-crowded cabin as we flew down the chain, I could see Lanai and outriding Kahoolawe crouching in the early light. The latter, used by the military as a bombing range, supports only wildlife.

Turbulence jostled us as we crossed the Maui coast and flew above the sugar-rich central plain toward our landing at Kahului. Through ages of volcanic building, this plain has become the most fertile in the 50th State. It holds the largest sugar plantation in the islands. The two fac-

**Green seas explode** as body surfers, spurning boards, belly-ride a comber. One swimmer, a split second too slow, risks being caught in the curl and carried under for a "trip to the bone yard."

27





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**Golfer blasts out of a trap at the Pali Golf Course below Oahu's Koolau Range. Cross Island Highway roller-coasts along the ridge.**

**Violent gusts whip Nuuanu Pali Lookout, near where Kamehameha's army pushed defenders to their death. Pali Golf Course lies at right.**

28



tories of the Hawaiian Commercial & Sugar Company extract 140,000 tons of sugar a year, about two percent of U. S. needs (page 42).

We passed over plantation villages, marked by the tall black stacks of sugar mills. From such villages most of the people of this 50th State spring. If they have not experienced plantation life themselves, their fathers or grandfathers did, and their social customs, political views, and personal ambitions reflect the experience.

At wind-swept Kahului Airport we unloaded our bread and papers, and a ground crew wrestled a washing machine from the fuselage, along with machinery parts, a baby carriage, and someone's garden tools.

#### Raft Voyage Threads Mountain Tunnel

Plantation children on Maui, as on other islands, still learn to swim in irrigation ditches, rather than in the sea near by. Some of these ditches, bearing water to the cane fields from far away, tunnel for miles beneath whole mountains. Not long ago, to experience a boyhood adventure of rural Hawaii for myself, I joined *Honolulu Advertiser* columnist Bob Krauss on a raft voyage on one of them.

We started at a fern-festooned tunnel mouth, walking by flashlight perhaps half a mile into the mountain. Climbing down dank wooden stairs, we came upon a chamber where water from the surface cascaded into a dark, churning basin.

Looking at the box of lumber we were to ride, 16 feet long and floated by inner tubes, Krauss complained laughingly, "Not much of a boat—no name, no whistle."

For two hours and six miles we drifted through the blackness of aged lava, an entire mountain over our heads. The only sound beyond our voices was the ripple of rapids at points where the tunnel grade steepened.

Krauss spoke up, "This would be a great time for an earthquake."

Suddenly, in the light of the gasoline lamp we carried, a sign appeared hanging from the roof of the tunnel. I chuckled. In land-short Hawaii, ownership even at 2,000 feet below the surface is important. The sign read, "Boundary Bishop Estate, Territory of Hawaii." Nobody had been down there to change it since statehood.

At this point Krauss observed, "Somebody's missing a great tourist bet. You could make this into the world's longest tunnel of love."

A road follows the entire perimeter of Maui, providing easy access to much of the island's history. Sparkling La Perouse Bay is named for the first French explorer to reach the islands, who refused to make claims of sovereignty. On similar visits Vancouver persuaded Kamehameha to cede Hawaii Island to England, but that country never accepted.

Abandoned pillboxes and rusted iron tetrahedrons on a tree-lined beach are all that remain of "Little Tarawa" and the World War II training here of Marines.

Lahaina, an early white settlement in Hawaii, was later headquarters for a whaling fleet that ranged the Pacific in the mid-1800's. At times hundreds of whalers wintered here, their behavior sometimes outraging missionaries converting pagan Maui to Christianity.

Here the island's capital stood among coconut groves and primitive stone walls that guarded the royal chickens. Tiny Lahaina today drowns around a great banyan tree. Lahainaluna, a school founded by the missionaries in 1831, flourishes now as a part of the State educational system.

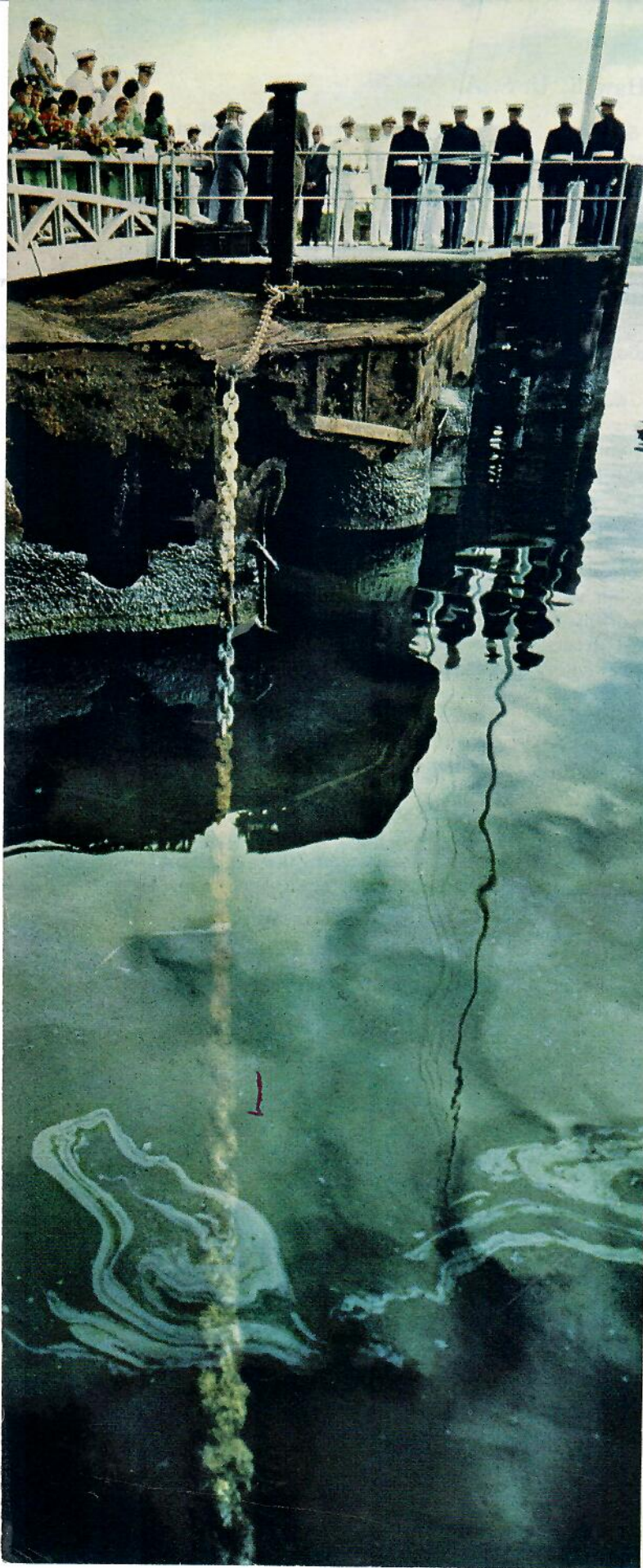
Far on the other side of the island, from the palisades beyond Hana, you can see the great mountains of Hawaii, across 30 miles of open ocean churned white with scud. I crossed it once in a 38-foot fishing cruiser. It may not be rougher than the English Channel, but having suffered through both trips, I can testify that this made me sicker.

#### Island Builds Itself From Within

Hawaii grows bigger with every eruption of its last active volcanic mountains, Kilauea and 13,680-foot Mauna Loa. The latter has been silent over the past decade, but Kilauea has loosed two recent blasts, one from an old crater and one from its slopes. It was near there, early this year, that I saw a town die.

Heralded by earthquakes, Kilauea volcano, which late in 1959 put on the most spectacular display in Hawaiian memory,\* broke out anew. This time the eruption spurted along a rift line among sugar cane fields near the village of Kapoho. In a matter of days, spuming fountains of lava destroyed some five million dollars' worth of land, crops, and structures—schools, a church, and homes (pages 36-37). Later, another village was engulfed.

\* See, in the NATIONAL GEOGRAPHIC, the author's eyewitness account, "Fountain of Fire in Hawaii," March, 1960; and "Volcanic Fires of the 50th State," by Paul A. Zahl, June, 1959.



### **Arizona's Rusty Hulk Hallows the Memory of Pearl Harbor's Dead**

Minutes after the attack began on December 7, 1941, a Japanese dive bomber scored a direct hit on the U.S.S. *Arizona*. The mighty battleship blew up and sank in 50 feet of water. There she rests today, oil still seeping from her tanks, a memorial to the thousand men entombed within her shattered hull.

The Navy treats *Arizona* as if she were still a commissioned vessel. An honor guard daily raises and lowers a flag from a platform over her exposed superstructure.

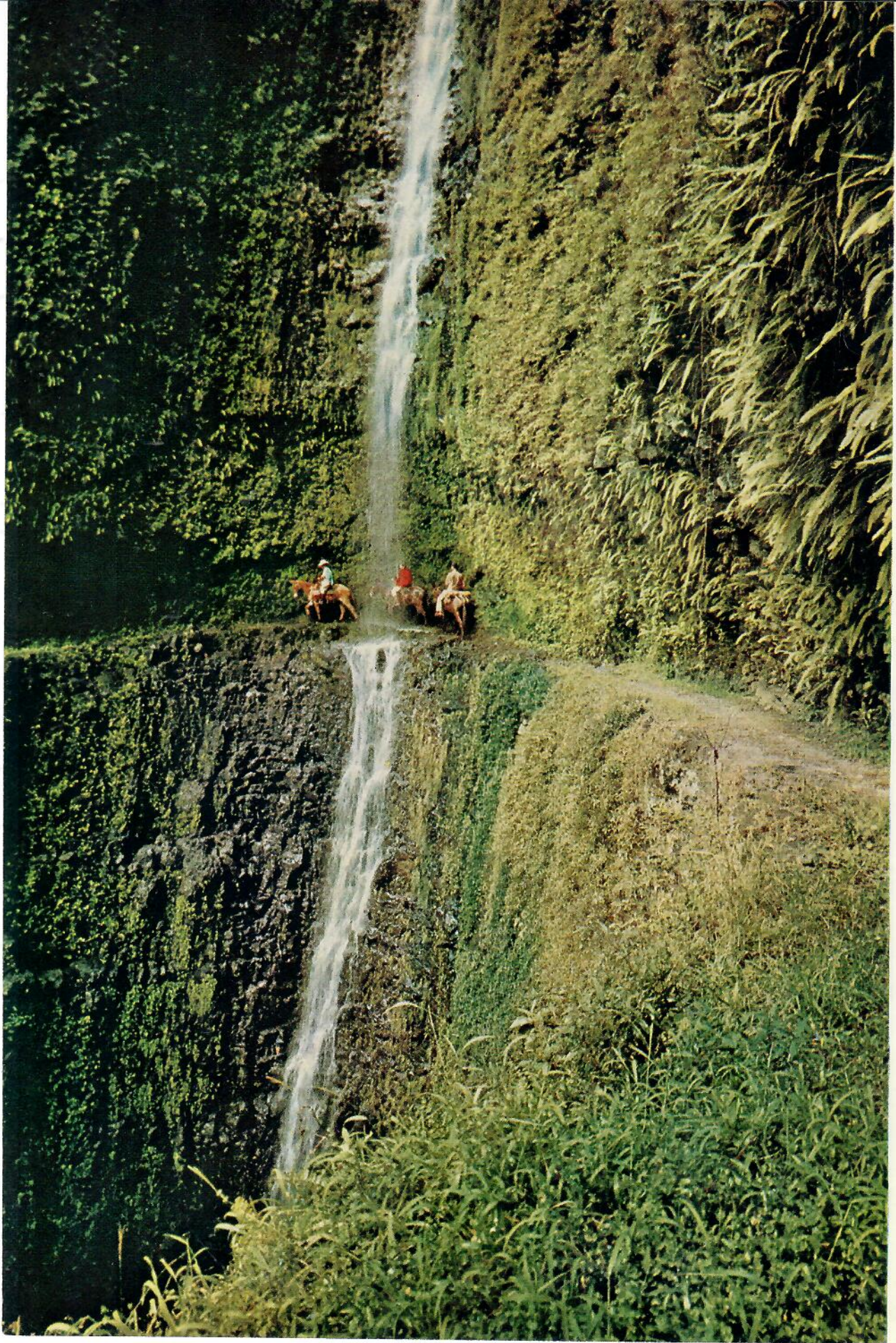
Here services mark Memorial Day aboard the *Arizona*. Navy nurses (below) salute wreaths honoring those lost in the Pearl Harbor attack.



Flag and flowers on Memorial Day mark a hero's grave in the National Memorial Cemetery of the Pacific. Cupped in the Punchbowl, a volcanic crater in the heart of Honolulu, the cemetery provides a last resting place for 13,000 victims of World War II and Korea. War correspondent Ernie Pyle lies here. Many markers recall the valor of Japanese-Americans who served in Europe with the 442d Regimental Combat Team, one of the Army's most decorated units.



KODACHROMES © NATIONAL GEOGRAPHIC SOCIETY





When I flew over the scene with crop duster Bill Stearns, our light plane was buffeted by the hot updrafts of the volcano's breath. Along a mile of coast, red-hot lavas crunched into the sea, building new land as they rolled; steam rose 5,000 feet.

We turned in over the flow and below saw a score of bulldozers, looking like beetles from so high, scraping up soil to form protective dikes. Fine cinder, borne downwind from the fountain, peppered our wings and blackened the roads and fields not yet overrun by lava.

#### Scarecrow Guards Forgotten Fields

Later when I visited Kapoho afoot, I found it smothered in ash as if by a blizzard of black snow. In one abandoned garden a scarecrow stood knee-deep in the stuff, its coat flapping an idle warning to birds that would never feed here again.

On the deserted main street I came upon a Civil Defense fireman, sheltered under the eaves of a deserted building near his parked fire truck. He exemplified the futility of man

against the lava fountain I could hear roaring close by. He was reading a comic book.

Triangular Hawaii is larger than all the other islands combined. Its five mountains rise like massive mounds from the sea, their flanks overlapping one another to form an intricate series of plateaus.

Sugar flourishes along the northeastern coast, where time and an annual rainfall of 100 inches have crumbled the lava into soil. Elsewhere, on drier parts of the island, impervious lavas lie flow upon flow, inert and unproductive under the tropic sun.

Verdant Hilo, principal port of the island and, with 26,000 people, second largest city of the new State, is also its flower basket. It has rained 19 inches in a day here. With all this water, and in surroundings of tropical jungle, Hilo grows orchids and anthurium, tree ferns and hibiscus in such profusion the city itself seems a garden.

Where Honolulu has the bustle of a mainland city, Hilo retains the charming simplicity of an overgrown plantation town. Shops

PHOTOGRAPHS BY WALTER MEYERS EDWARDS © N.G.S.

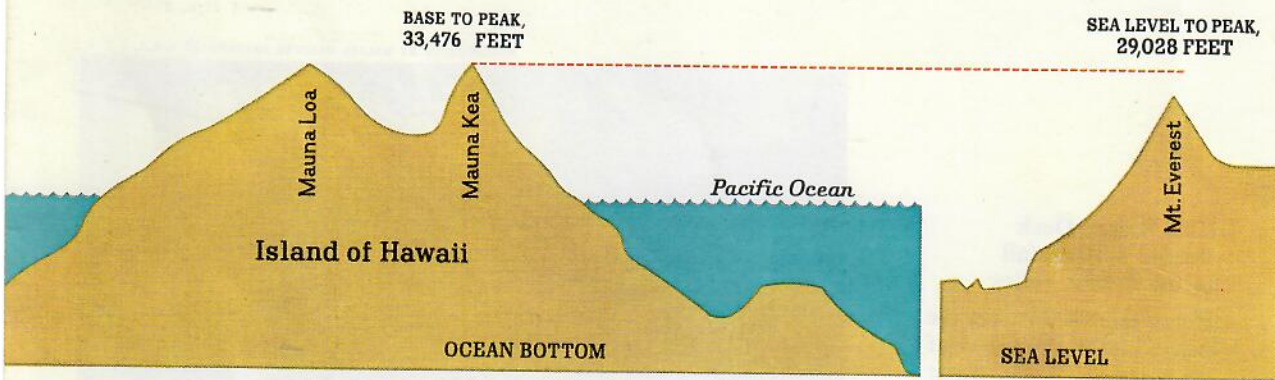
#### Cliff Riders Duck Behind a Waterfall in the Pololu Valley

Heavy rainfall drenches the rugged northeastern coast of the island of Hawaii. Sugar planters pierce mountains to tap runoff for thirsty cane fields. The Kohala Ditch Trail, shown here, parallels one such tunnel.

A nine-hour ride on mule-back carried photographer Edwards over the hazardous path to Kapoloa Falls.

**Bronze plaque** at Kealakekua Bay marks the spot where Hawaiian warriors killed Capt. James Cook, the English navigator who chanced on the islands in 1778. Water covers the plate at high tide.





close early, and people gather at the soda fountain to pick up the latest gossip. And while Hilo teems with tourists, its residents live an unsophisticated life, preferring to fish for lobster along the near-by shoreline rather than frequent its night clubs.

#### One-man Crusade Saves the Nene

Herbert Shipman, head of a ranching and landowning clan, has a deep regard for tradition. Every land lease he writes stipulates that no breadfruit trees are to be harmed, in deference to the old Hawaiian belief that breadfruit must be spared as a source of food. Any Hawaiian artifacts found on Shipman land must be returned to him.

Excavating for his own home, he unearthed

an old burial cave. Respecting native custom, he changed the building plans to avoid molesting the ancient bones. So his basement playroom has a boxlike intrusion that is in fact a mausoleum.

I first encountered a Hawaiian goose, the nene (pronounced nay-nay), when I visited my friend Shipman at his home. From him I learned that these gray-brown birds, somewhat smaller than turkeys, were close to extinction.

The birds I watched—11 specimens—were among the few survivors.

The nenes were native to the island, but as civilization encroached on them, they retreated to the dry uplands and rapidly dwindled in numbers.



KODACHROME BY WALTER MEYERS EDWARDS, NATIONAL GEOGRAPHIC STAFF © N.G.S.

**Cowboys ride herd on bellowing Herefords** on Hawaii's quarter-million-acre Parker Ranch. Hawaiian horsemen call themselves paniolos, after the Spaniards, or *españoles*, who taught the islanders how to ride and rope. Clouds halo Mauna Kea.

**Hawaii's twin giants**, 13,796-foot Mauna Kea and 13,680-foot Mauna Loa, rise 19,680 feet before they break the water.

Measured from base to peak, the two mountains exceed Mount Everest's height from sea level to summit. Drawing exaggerates the vertical scale.

Shipman protected the remainder, less than half a dozen birds in all, and nurtured them through several generations. A flock has been established in England from stock supplied by Shipman, and distribution of the nene has been made to several other countries. There are now more than 100 in captivity, and Shipman is confident the species will survive. Hawaiians, devoted to this hard-pressed native of the islands, have made the nene the State's official bird.

On Shipman land near Hilo one of Hawaii's newer agricultural products, the macadamia tree, is being planted on a plantation scale. Originally introduced to Hawaii from Australia as an ornamental, the tree bears a nut that is bland and crunchy. Its round kernel is the size of a nickel and costs about that much on gourmet counters. Cost notwithstanding, it has become a popular appetizer; plantings of hundreds of acres provide nuts that are sold throughout the mainland.

At Hilo the trees grow from weathered,

crumbled lava. "This is really hydroponics on a big scale," orchard manager John Cross told me. "There is little nutrient in the lava, so we add chemical food. Rain carries it down to the roots."

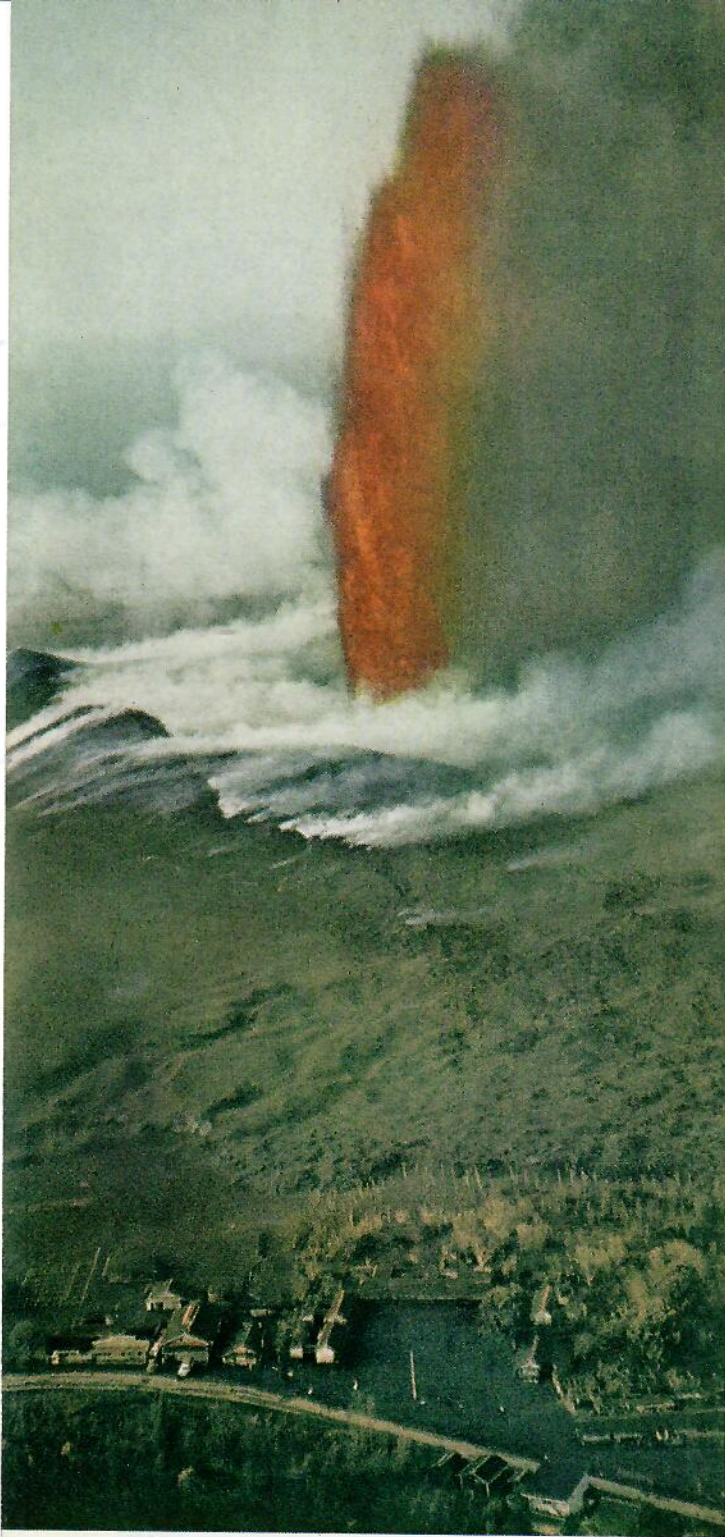
#### **Second Honolulu: Population, Zero**

Reflecting the limitations of the Hawaiian language, the names Kaapahu, Pohakuloa, and Kukui are found on five of the inhabited islands. So limited was the Polynesian tongue that missionaries, in reducing it to writing, used only seven consonants—H, K, L, M, N, P, and W.

At best, Hawaiian place names are uncertain renderings of a strangely melodious language that baffled early settlers. Captain Cook spelled Hawaii, Owhyhee; Niihau, Oneehew; and Maui, Mowee.

On Hawaii there is a second Honolulu. Challenged by the name on a map, I drove a rutted road to see the place.

(Continued on page 41)

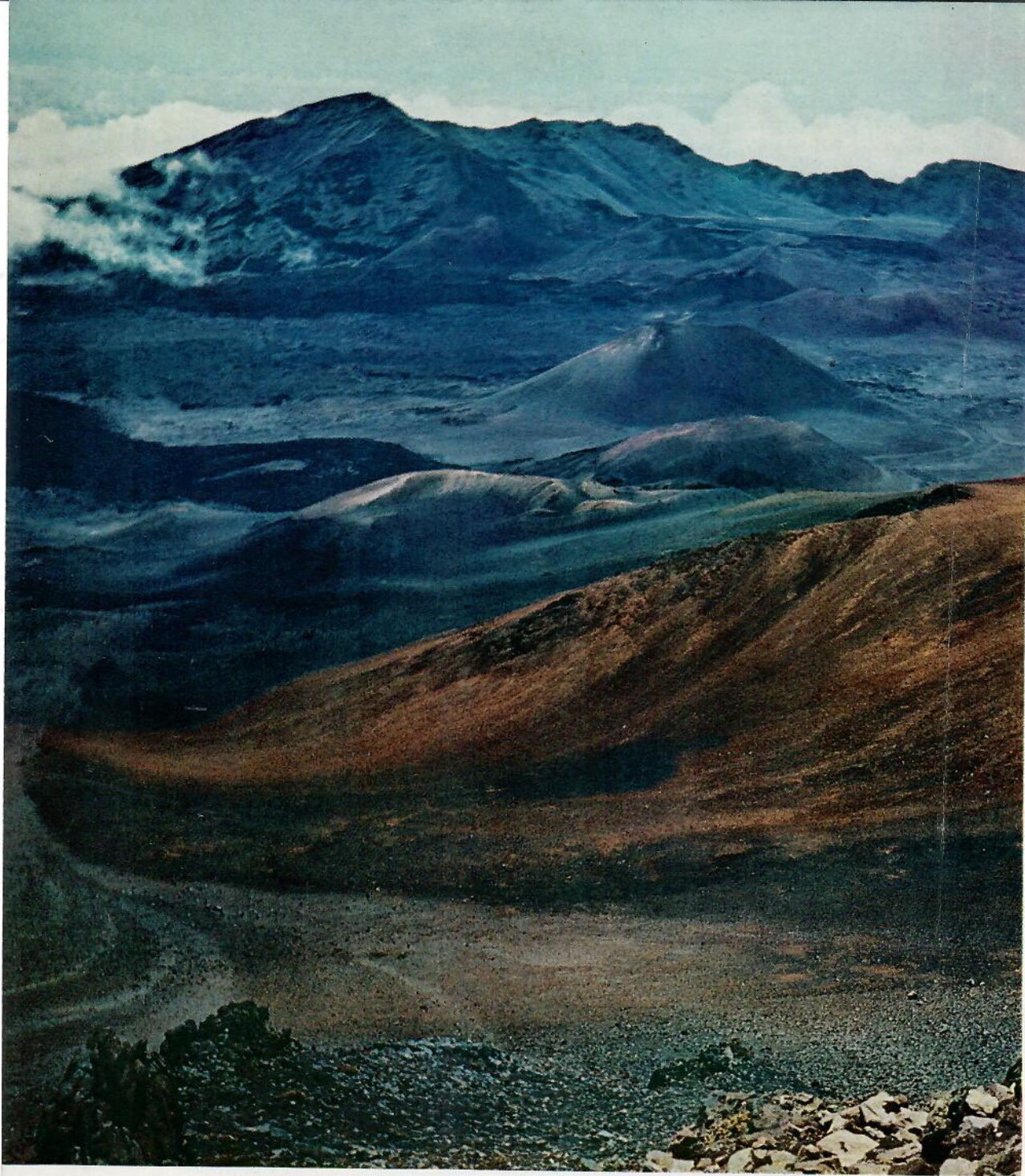


**Fiery Geyser Spouts From Kilauea's Flank;  
Lava Engulfs Homes and Sets the Sea Aboil**

Kilauea volcano, awakening last November after a four-year nap, burst from a fresh vent on Hawaii's eastern slope in January. A roaring fountain leaped 1,700 feet high, showering the surrounding cane fields with scorching pumice (above). Rivers of lava drowned the village of Kapoho; residents fled unharmed. Clouds of steam soared 5,000 feet as the blistering torrent spilled into the sea.





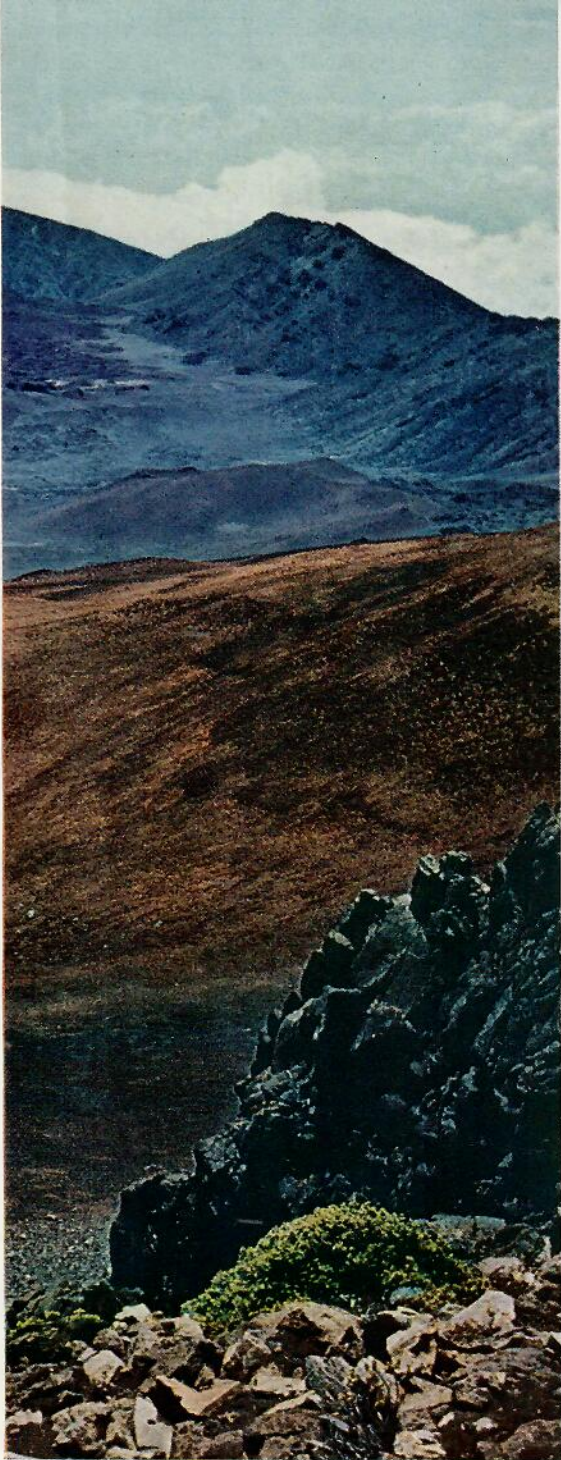


**Dead cones pock the floor** of Haleakala Crater, a slumbering volcano on Maui. Measuring 20 miles around its rocky rim, the half-mile-deep bowl could almost hold Manhattan Island. Erosion probably formed the basin in eons past; subsequent eruptions studded the floor with ghostly cinder mounds. The 10,000-foot volcano's last outburst occurred two centuries ago.

Haleakala, meaning "house of the sun," takes its name from a legendary exploit of the Poly-

nesian demigod Maui. To give his mother enough hours of daylight to do her work, Maui climbed to the top of the volcano, snared the sun, and forced it to travel more slowly.

This view, from an observation post near the end of the highest paved road in the islands, overlooks a lunar landscape. Puu o Maui, largest of the cinder cones, rises some 900 feet at center. Clouds fringe Hanakauhi peak on the far rim. The crater lies within Hawaii National Park.



KODACHROMES BY WALTER MEYERS EDWARDS,  
NATIONAL GEOGRAPHIC STAFF © N.G.S.

**Umbrella-shaped leaves** of the ape-ape plant (*Gunnera petaloidea*) dwarf a hiker in Puohokamoa Gulch, on Haleakala's windward slope. One giant leaf, the photographer reports, measured nearly two yards across. The leaves sway atop tall stems that snake across the ground before ascending. Wind pollinates the conical clusters of tiny brownish flowers.







The obscure track passed under arching mango trees and was all but lost in encroaching guava and lantana. Ramming the car as I would a tank through this underbrush, I finally broke out into a clearing overlooking the sea and surrounded by coconut palms, sure evidence that natives once lived here. And that was all there was of Honolulu.

Southern Hawaii is dotted with such reminders of native life. Fences built of lava rock mark forgotten pig sties. More recent missionary days are recalled by tiny churches, built for congregations of 10 or 15 souls, that raise their New England steeples along the deserted coastline.

The miracles of transpacific navigation performed by early Hawaiians with their calabash sextants are being dwarfed now by a space communications and control station recently erected on the southernmost point of Hawaii, Ka Lae. This wind-swept cape has been suggested as the site for a massive radio-telescope comparable to the one at Jodrell Bank in England. Thus, as our earth revolves, one of these electronic eyes would always be available to track astronauts and scan any point in space.

Near by, casual Kona district is more interested in the price of coffee or the latest marlin catch than in moon shots. For the cherry-red coffee beans grown on 5,500 acres of its slopes have a subtle flavor popular in blends. And on Kona's Kailua Bay centers much of the sport fishing in the 50th State, its lure the giant blue and striped marlin lurking in gentle Pacific swells.

#### Paniolos Ride the Parker Ranch

On the 3,000-foot-high plateau below Mauna Kea, the Parker Ranch runs 33,000 cattle on more than 250,000 acres, making it second in size in the United States only to the King Ranch in Texas (page 35).

Paniolos, as Hawaiian cowboys are called, are a breed apart. Priding themselves on their horsemanship, they live a most untropic life in the cold mists, find their sport in hunting wild goats and boar that roam the rugged mountains, and take part of their pay in raw beef to be cooked, unhung, by campfire. When they come into ranch headquarters at Waimea, they carry themselves with an air that turns the mind back to trappers and mountain men of the early West.

I rode over part of the neighboring Shipman Ranch with one of these stalwart paniolos. Henry Haa, a pure Hawaiian, is as versatile a horseman as the Big Island provides. He can rope a wild turkey as easily as a calf. As we rode along the seashore, I noticed him watching the surf-filled pools.

"What are you looking for?" I asked.

"Mullet," he said.

Shortly he reined in, dismounted, and quickly freed a throw net tied to his saddle. Crouching low, he quietly sneaked up on the rocks that embraced a pool. For minutes he bent motionless there, the bulk of the net over his shoulder with its loose folds in his hands.

#### Cowhand Nets a Silvery Catch

Then, in one graceful movement, his body sprang straight as he cast the net out from him. It soared and fell upon the water in a perfect circle. He jumped from the rocks and slogged after it, pulling in its edges even before I could dismount.

Beaming, he brought his catch up to me, a score of shining mullet, each a pound or more, still writhing in the folds of the net.

From the green rangeland of Waimea, a road leads in 15 minutes down to the sea where, amid the parched rock and dust of tiny Kawaihae town, the Army Engineers have just completed a multimillion-dollar port. Its first cargoes were molasses from the northern plantations, which, their own little ports long ago closed, have had to make the long truck haul to Hilo.

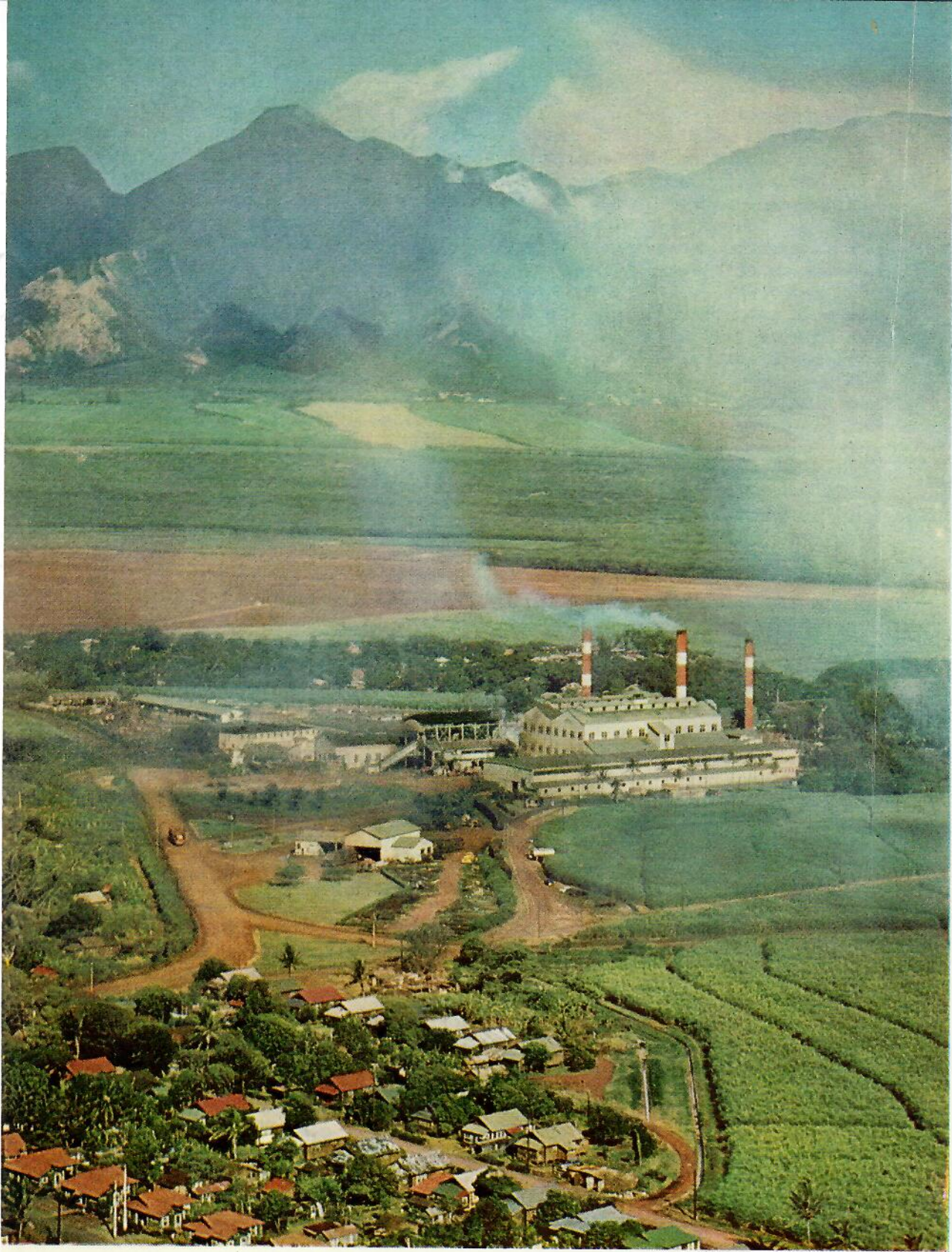
The seas along Kawaihae run diamond clear. Walking the lava cliffs that rise from the bay, I've watched 50-pound ulua disporting themselves over the white sand in as many feet of water. Here and there along the bay are beaches of powdery sand, so remote that the only access is by boat.

An ancient Hawaiian trail leads past petroglyphs carved into the lava, human and animal figures predating the white man's coming. Here, too, hide forgotten burial caves, where parched bones wrapped in robes of tapa cloth, made from mulberry bark, have been found as they were put to rest.

Yet I am able to leave these pagan scenes and be back in Honolulu in an hour of flying by interisland air freighter.

Sand and relics from Hawaii's past seem a

**Beauty and the breeze: her wind-swept perch overlooks Kauai's lacy Opaikaa Falls**



**Smoke From Burning Sugar Cane Signals Harvesttime on a Maui Plantation**

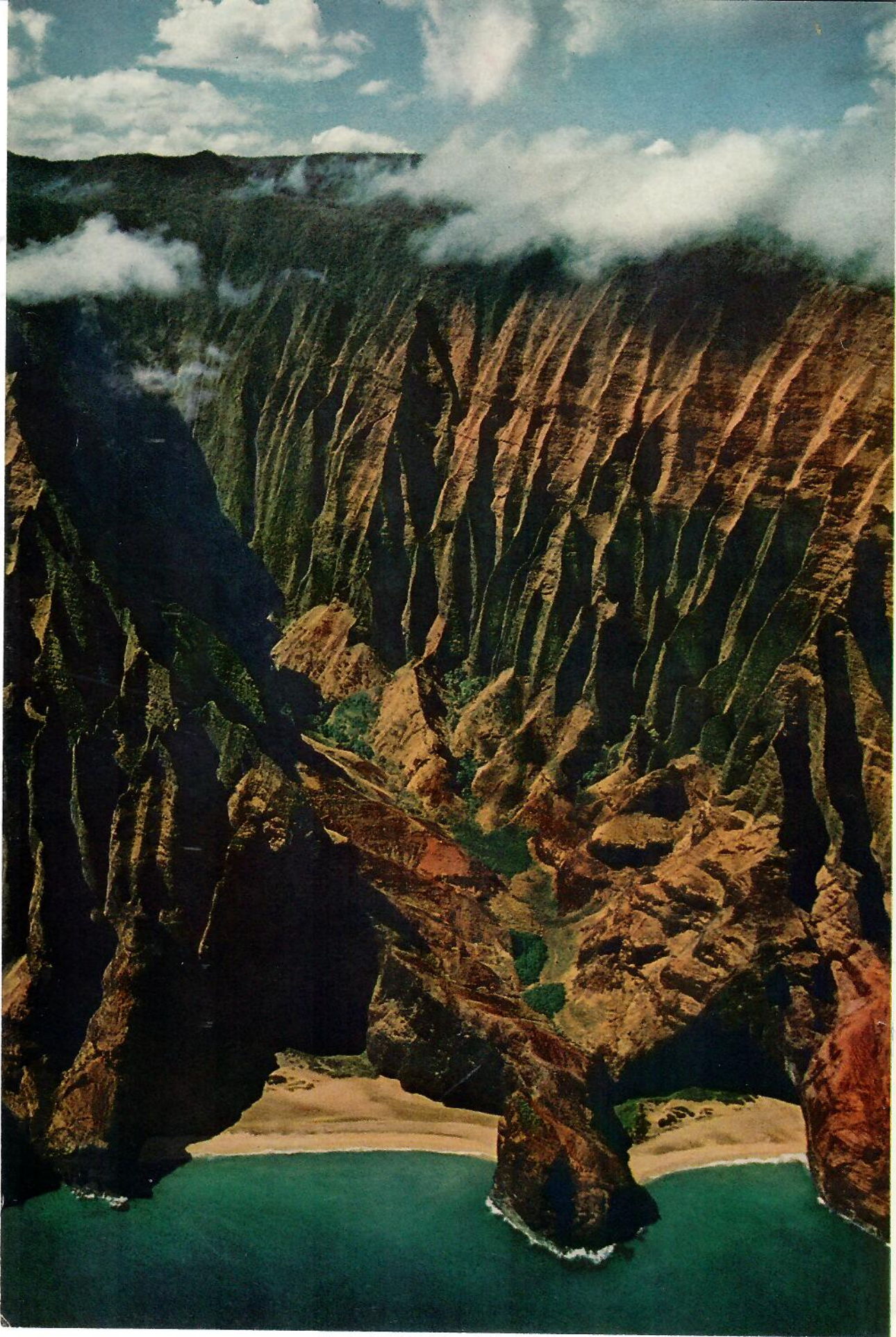
Puunene Mill of the Hawaiian Commercial & Sugar Company, Ltd., crushes cane from the islands' largest plantation, which covers more than 50,000 acres. Each day men burn off and harvest



KODACHROME BY WALTER MEYERS EDWARDS, NATIONAL GEOGRAPHIC STAFF © N. G. S.

just enough to feed the mill. Irrigation ditches trace wavy lines across the fields. Wells and runoff from the mountains provide roughly 370,000,000 gallons of water a day—almost enough

to supply metropolitan London. Homes at lower left house company employees. The communities of Wailuku and New Kahului (right) lie at the foot of Maui's western mountains.



far cry, too, from such industrial complexes as Standard Oil's new \$60,000,000 refinery beyond Pearl Harbor at Barbers Point.

The oil to be refined here will come from distant sources, for Hawaii's abundance stops with rain, sunshine, and fertile soil. Its mineral resources, save for low-grade bauxite which may become important, are of no economic significance.

Nonetheless, this mineral-short State is stirring on the industrial front. Canadian interests have joined with local capital to build a steel mill that is converting scrap to reinforcing rods. Two \$12,000,000 cement plants are being engineered, one by industrialist Henry Kaiser, who is now venturing many millions in resort development in this, his adopted home.

#### Rotating Restaurant to Cap Skyscraper

The sugar people, in partnership with Crown Zellerbach Corporation, are winding up years of research with operation of a pilot plant to make paper from bagasse, the residue of sugar cane. A full-scale mill is under consideration.

Building goes on everywhere. A new \$28,000,000 shopping center midway between downtown Honolulu and Waikiki overlooks the sea. When completed, it will include a skyscraper capped by a rotating restaurant designed to give diners a 360-degree view of Honolulu.

But the biggest growth is in the tourist industry. In addition to Kaiser's lavish Hawaiian Village center, Sheraton has just bought the four Matson hotels and announced plans for more. A local entrepreneur, Roy Kelley, has built his fifth hotel. Hilton International eyes a beach-front site for its operations. Even the slower tempo of the outer islands is responding, with Hanalei on Kauai, Lahaina on Maui, and Kona on Hawaii all scheduled for new development.

In this rapid pace, Hawaiians of Oriental ancestry are not left behind. Soft-spoken Hung Wo Ching, who went to Cornell University for a doctorate and then made a fortune before he was 40, recently took over

control of Aloha Airlines. Already he has brought turboprop service to interisland routes.

On the political scene, two of the three successful candidates for Congress have Oriental origins. One is young Dan Inouye, who fills Hawaii's lone seat in the House of Representatives. He won his Distinguished Service Cross—and lost an arm—while fighting with the Nisei of the famed 442d Regimental Combat Team in the Po River campaign.

"Though their casualties were tragic, the conduct of men like Dan in World War II brought our people of Asian blood to cultural and social maturity," the Territory's last Delegate to Congress, John A. Burns, once told me. "They had proved their loyal citizenship, and in doing so gained the self-confidence necessary to assume a place of responsibility in the community.

"Without their sacrifice, we might never have gotten statehood," Mr. Burns said, "though many others, of course, have contributed to putting the 50th star in the flag."

The Delegate should know, because in the Halls of Congress he himself is given a good deal of credit for bringing statehood to pass.

#### Hawaii: America's Door to the East

When I came to Hawaii 25 years ago, it seemed the end of the line, commercially and politically. All eyes were turned toward the mainland.

Two wars later, all this has changed. Fiji and Sydney, Hong Kong and Tokyo are familiar now. Their aspirations not only for trade but for understanding from America are a vital and real thing to those of us who live here.

The islands' brilliant young Governor, William F. Quinn (page 14), views our role in the Union this way: "We are a solvent enterprise with an expanding future. More than that, Hawaiian statehood gives tangible evidence to awakening millions in Asia and Africa that the United States is no colonial power, but means what it says about equality of races and the democratic process."

#### Napali's Towering Cliffs Wall a Shangri-La Valley Accessible Only by Sea

Ramparts of layered lava soar 3,000 rocky feet almost straight up along Kauai's northwest coast. Junglelike glens tucked amid the ridges offer an unspoiled world for the adventurous. Behind these cliffs lie the secluded valleys of the Napali men, who mysteriously abandoned their settlements at the turn of the century. White sand beaches often disappear when winter's stormy swells pound the shore.

# Watery Hawaii: Fiftieth State Spans 1,600 Miles of Ocean

**T**HE 71 FACES on the opposite page add up to one of the trademarks of Hawaii. Gathered for a happy occasion—graduation day at the university in Honolulu—these citizens of the newest of the United States typify the world-wide mixture of peoples and cultures analyzed in the preceding article.

The wonders of this far-flung State are charted on the new five-section Atlas Map of Hawaii sent to National Geographic members with this issue of their magazine.\* The map, carrying 18 explanatory notes and hundreds of place names in melodious Hawaiian, will guide you to beauties and rarities of nature—whether you travel in imagination or by jet aircraft and outrigger canoe, whether you turn *mauka*, toward the mountains, or *makai*, toward the sea.

The combined land surface of the Hawaiian Islands amounts to only 6,439 square miles, which makes it the fourth smallest State in the Union (after Rhode Island, Delaware, and Connecticut). Yet these islands, flung across the Tropic of Cancer in the middle of the North Pacific, form a chain 1,600 miles long—equal to the distance from New York to Cheyenne, Wyoming, and spanning more meridians than Texas.

What most people mean when they refer to Hawaii are the eight largest islands, shown in detail on the central portion of the new map. A long inset across the top displays 25 islands of the new State, a glamorous mid-ocean strand of beads.

Northwest of the main islands, from Nihoa to Pearl and Hermes Reef, stretches the Hawaiian Islands National Wildlife Refuge. Here one finds probably the only visitors that commute between the 50th State and the 49th: Pacific golden plovers, bristle-thighed curlews, and wandering tattlers, that use Hawaii as a wintering ground or a way station on flights from Alaska, 2,500 miles away.

On Necker and Nihoa Islands are remains of terraces and low stone platforms built by long-vanished Polynesians. Master sailors, they may have abandoned their isles for bigger ones to the southeast. Westernmost islands on the map are Kure and Midway, where Japan's bid to follow up its Pearl Harbor attack was turned back by U. S. naval and air power. Navy-controlled Midway, shown enlarged in an inset, includes an unsinkable aircraft carrier, Sand Island.

On the detailed inset of Oahu, home of the State capital city of Honolulu, you can see some of the odd-shaped markings—rather like bunches of bananas—that indicate coral reefs. Cleared from the entrance to historic Pearl Harbor, they still threaten sailors in some of Oahu's other bays and lagoons.

In Kaneohe Bay, on the northeastern coast, the new State's largest cluster of reefs provides a fabulous field of research for the University of Hawaii's Marine Laboratory. Eternally building, the tiny polyps do their patient bit to change the island's shoreline. Meanwhile, on the island of Hawaii, volcanoes are at work helping to change the 50th State in their own way, with massive overlays of lava.

One simple general rule will add to the enjoyment of this new map. In pronouncing place names, give each vowel its full value. A *kamaaina*, or old island hand, may mark you down as a *malihini*, or newcomer, but he won't get *huhu*, or huffy, about it. Especially now that the oldest *kamaaina* lives in the newest *malihini* to the Union.

\* This new map forms Plate 15 in The Society's Atlas Series and is the 18th uniform-sized Atlas Map issued since the series began in January, 1958.

To bind their maps, more than 230,000 members have ordered the convenient Atlas Folio, at \$4.85. Single maps of the series, at 50¢ each—or a packet of the 14 maps issued in 1958 and 1959, at \$5.50—may be ordered from the National Geographic Society, Dept. 45, Washington 6, D. C. A combination of map packet and Folio is available at \$9.95.





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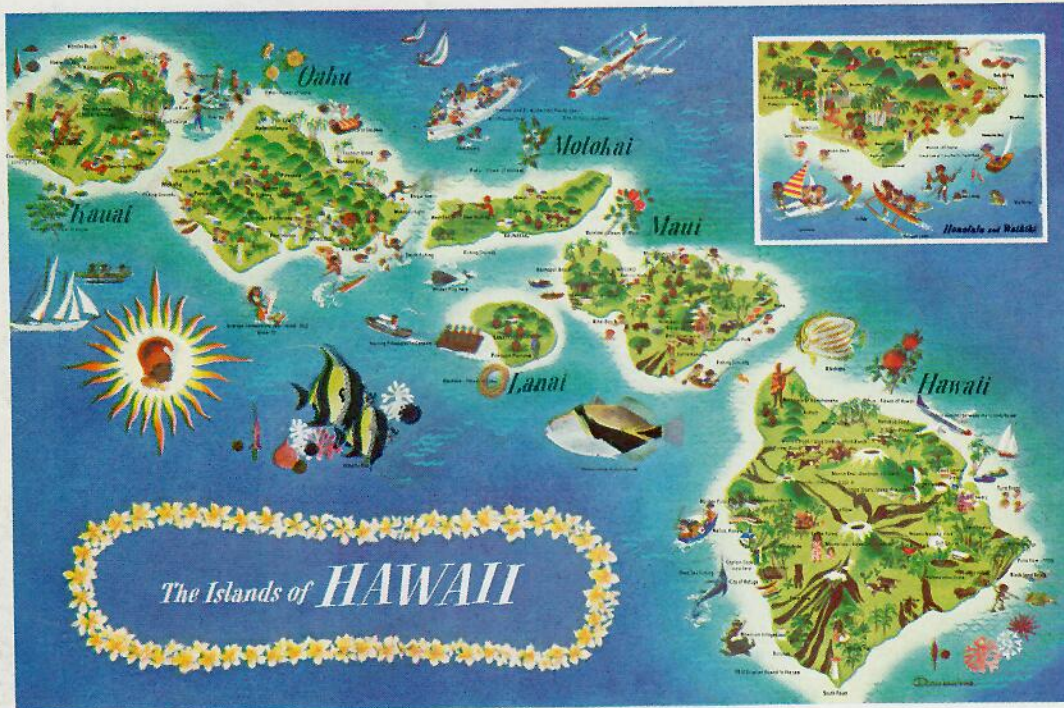
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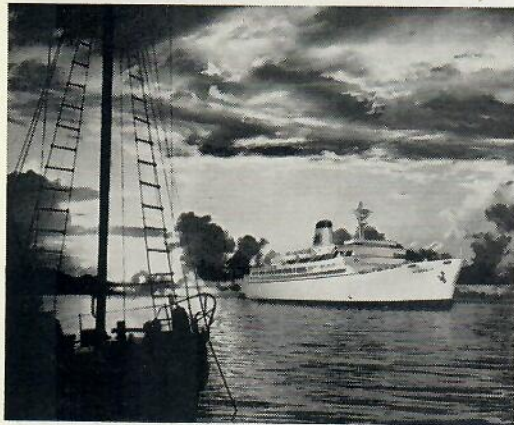
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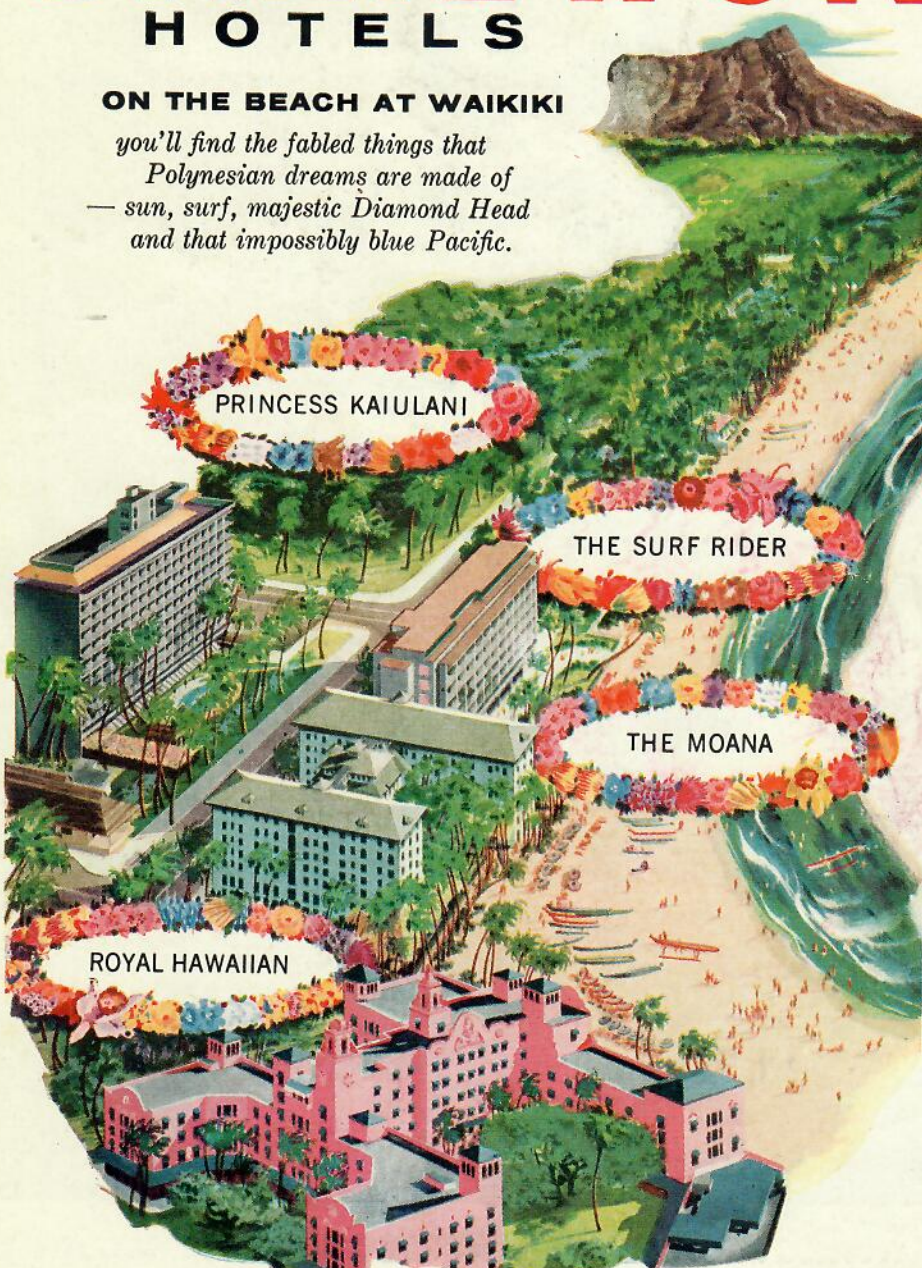
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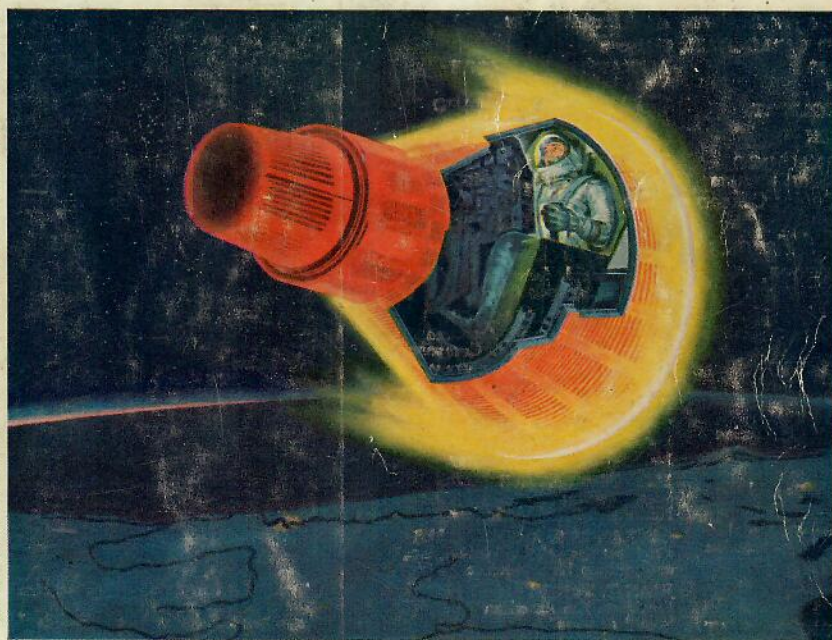
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