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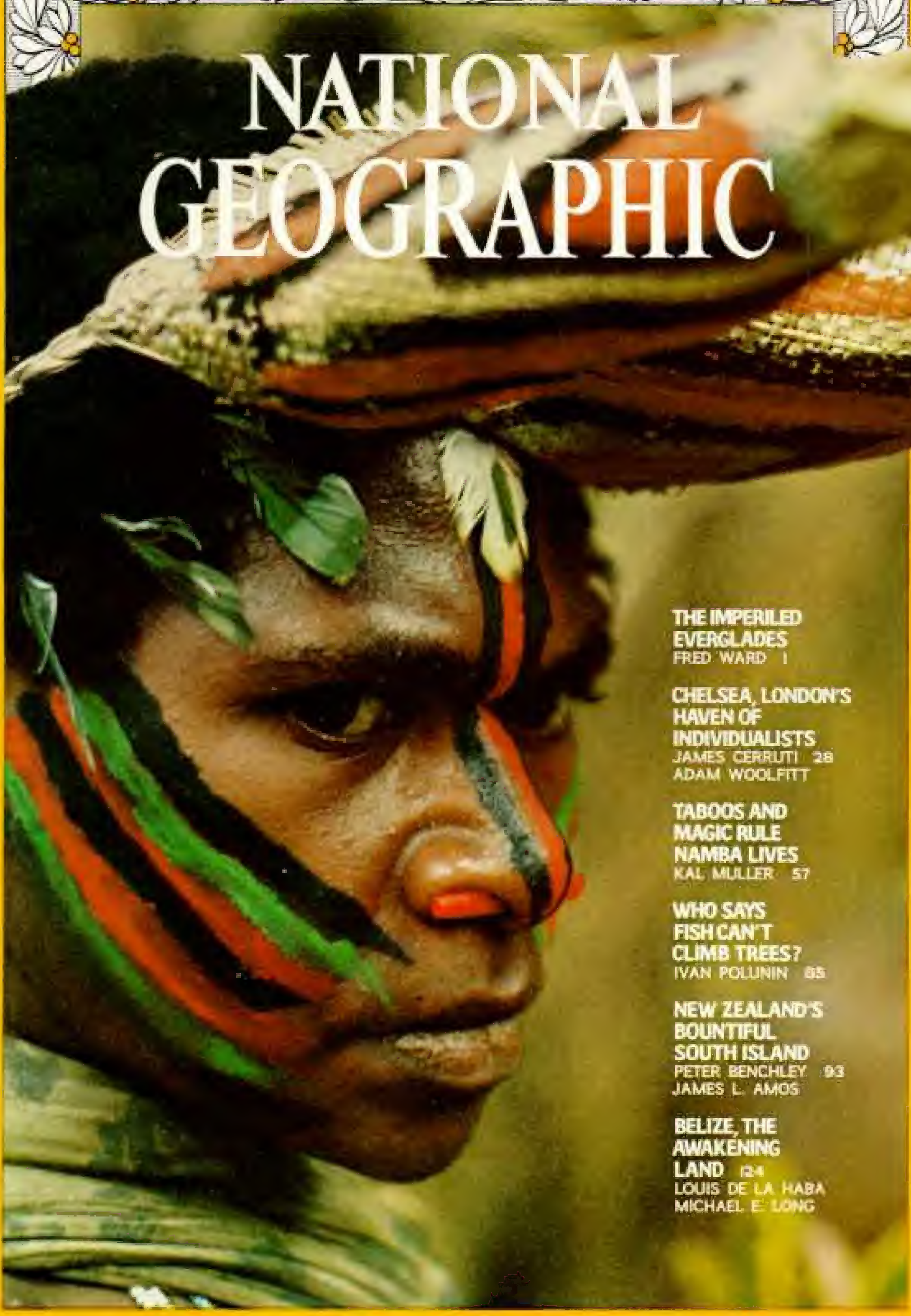
NATIONAL GEOGRAPHIC



OFFICIAL JOURNAL OF THE NATIONAL GEOGRAPHIC SOCIETY WASHINGTON, D. C.

COVER: Paint, plumes, and fiber horns beautify a Small Namba woman in the New Hebrides (page 761). BAL MULLER

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Stalking the mudskipper for science

"People told me to stay out of the mangroves because of snakes," says Dr. Ivan Polunin. The advice could only intrigue the Singapore physician-teacher, whose insatiable curiosity leads him repeatedly into Malaysian swamps to report on little-studied life there. Slithering over tidal flats on a "mudboggan" (**above left**) or perching offshore in a sampan, he produces observations and photographs of value to science.

Among his favorite subjects is the amazing little mudskipper (**above right**). The stalk-eyed, mosquito-plagued fish scurries over land with the speed of a lizard. Through his telephoto camera lens, Dr. Polunin witnesses epic mangrove-root battles between the miniature monsters (**below**). An even more agile genus of mudskipper climbs trees, as seen on pages 84-86.

To assist the London-born specialist in his science-serving excursions, the National Geographic Society has awarded a grant furthering his research on the region's synchronous fireflies. Introduce your friends to the exciting world of Dr. Polunin; nominate them below for Society membership.

RICHARD TENEA (UPPER LEFT) AND IVAN POLUNIN

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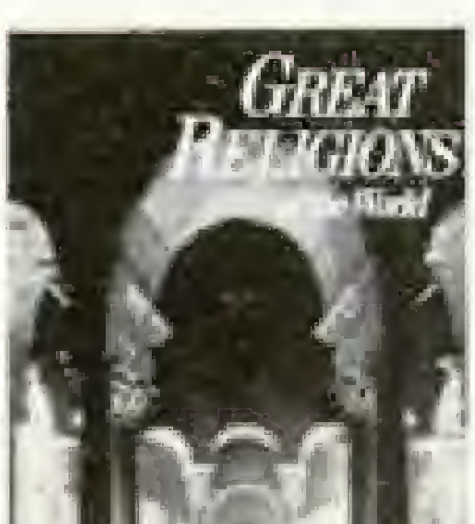

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NATIONAL GEOGRAPHIC

January 1972

The Imperiled Everglades

ARTICLE AND PHOTOGRAPHS BY
FRED WARD, BLACK STAR

Racing to safety, fire fighters flee 30-foot-high flames that in one day last May destroyed 21,000 acres of Everglades saw grass and burned within 12 miles of downtown Miami. Florida's worst drought—less than two inches of rain in six months—spawned some 568 fires that charred more than half a million acres before arrival of late-summer and fall rains.

Last year's devastation gave harsh warning that man's pell-mell development of south Florida threatens its ecological collapse, not only as habitat for its unique wildlife but also for human beings.

BELOW US, all south Florida seemed to be burning. Pilot Terry Gough banked the Cessna, and we turned toward a wall of smoke billowing from the Big Cypress Indian Reservation.

"The ground itself, the muck, is burning," Terry said, leaning close to my ear because of the roar of the engine. "Right now, 21,000 acres south of Lake Okeechobee are on fire. They will keep burning and starting new fires until a heavy rain, at least five inches, quenches the last sparks. That won't happen for weeks, and the whole Everglades may be burned up by then."

I had gone back home late last spring to see at firsthand the havoc of the worst drought in southern Florida's recorded history—and to inquire into a larger story. For behind the thousands of smoldering acres that swept under our Florida Game and Fresh Water Fish Commission plane was half a century of development that has posed for Florida, and for conservationists everywhere, a number of agonizing dilemmas.

Though the fires are now out, water levels continued low into winter, and the alarm bells of last summer's desperate days still ring.

As a northern friend said: "The system

that nature built here, and the system that man has replaced it with, are both under stress. Something has to give. Florida is everyone's second state, and what happens to the Everglades is of national significance."

I grew up near Miami, and I was well aware of the area's cyclical wet and dry seasons. I saw, too, the demands put on the environment by phenomenal industrial and housing development since World War II. This beautiful part of the world had been pushed to the brink of ecological death by men who believe that nature has an infinite capacity to give and forgive.

Water—How Much and for Whom?

South Florida's crisis is water—how it is to be managed, and for what purpose. Few places in the world were so well endowed with water, and few have stretched that endowment so dangerously far.* Last year the region's history finally caught up with it.

A series of disastrous events began in 1970. Plentiful rains had fallen in late spring, and billions of gallons, as usual, had been dumped into the Everglades, the Atlantic Ocean, and the Gulf of Mexico through drainage canals, as normal flood-control practice. But the summer rains stopped early. In the fall the seasonal heavy showers did not arrive.

Then the real drought set in. Very little rain fell in the winter and early spring of 1971. Over the past 31 years south Florida's average rainfall from October through April had been 14.02 inches. Last winter it was 5.05 inches, the lowest ever measured.

Water holes that carry animal life through normal dry periods began to disappear. Ground cracked and wildlife fled to new holes. Those also dried up. Still no rain came, and the water table continued to drop. Lake Okeechobee, a principal reservoir for the Everglades, fell steadily from around 15 feet above sea level to only 10.40 feet—a new low reading for May and near the all-time recorded low of 10.14 feet. Then the fires started.

There have always been fires in the Everglades. They are necessary to the life cycle, clearing old growth to make room for young saw grass, the ashes releasing potash to enrich the soil. But the fires of 1971 were different from those of the past, both in extent and lasting damage.

Of the nearly 500 fires flaring in three south Florida counties over the first five months of 1971, all but nine were set, accidentally or deliberately, by man. The effect was devastating. Before man's arrival, when lightning was the only arsonist, the flames swept across the tops of the saw grass, because the plant roots were in water. But development has drained large areas, and today's fires bite deeply into the dried muck, the soil itself, for it is flammable.

"The ultimate damage to this state by muck burns can never

*See "Threatened Glories of Everglades National Park," by Frederick Kent Truslow and Frederick G. Vosburgh, NATIONAL GEOGRAPHIC, October 1967.

Red death rampages through Big Cypress Swamp in south-central Florida, ravaging one of the Nation's last virgin stands of bald cypress. Parched by the drought and drained further by housing developments that invade its flanks, the swamp normally supplies about half the water that forms the lifeblood of Everglades National Park.

be calculated," Florida District Forester Bob Miller told me. "They draw assets from nature's bank, but we have no way to make deposits. Once the muck is gone, only nature can restore it."

Bob offered to show me the dry and burning Glades west of Fort Lauderdale. We stopped at a field and picked our way carefully through the desolation, past small wisps of blue smoke. Periodically, a charcoal-like fire glowed red, a saw-grass stalk burst into flame, flashed for a few seconds, and died back down to smoke.

"Notice how hot your feet are getting?" Bob asked. I had thought of little else.

"Muck is a notable and vital feature of this part of the world," he said. "It's almost pure organic matter, hard-packed saw grass and other plants that have decomposed over the centuries. Once it formed a layer thirteen feet thick in places on top of the hard-rock backbone of Florida. Now draining the land has reduced it by an average of seven feet.

"As you can see, muck burns like peat [pages 14-15]. Be careful to step only on the black areas. The pink and white spots are ashes and that may mean there's still a fire underneath. Animals can't live over a muck fire, even if they could find food and water. It's just a desert until the rains come."

Just then we heard the car's radio crackling with word of a large fire along the multilane Tamiami Trail. "Let's go," said Bob. "They've already got three pieces of equipment fighting it, and more on the way."

South Florida's Water Crisis

Flames devour a bald cypress in Big Cypress Swamp (**left**). Near Miami, headlights help drivers groping through a curtain of smoke along the broad Tamiami Trail (**top**). A two-story billboard, consumed by the blaze, crashes to the ground (**above**), its legs formerly stood in several inches of water.

Of last year's 500 fires, lightning apparently set nine and man caused all the others; most stemmed from carelessly tossed cigarettes, improperly extinguished campfires, and arson. Federal and state officials are intensifying their efforts to educate the public about fire prevention.

As we approached the fire area from the north, the immensity of the blaze was overwhelming. Smoke billowed skyward, and the hot air, cooling and condensing as it rose, formed clouds on top of the inferno.

We drove into the smoke, and visibility plunged to near zero. Even with car windows closed, our eyes burned and watered. At the intersection of U. S. 41 and Krome Avenue, I got out of the car, held my breath, and began taking pictures. A two-story advertising billboard collapsed in embers nearby. Insulation from utility wires high above me melted and flowed into the smoke.

At that moment more than 15,000 acres around us were on fire, with more igniting every hour. The blaze, driven by a brisk wind, was racing toward Miami's suburbs. An attempt to backfire along a levee failed, and now a stand would have to be made along a small coral-rock road just 137 blocks from downtown Miami. If the fire was not quelled here, homes might burn.

"There it comes!" cried one of the men. A stand of willows burst into flame near our road. Bob Miller dashed off with a kerosene igniter to start a backfire. Crews driving Bombardiers, small tracked vehicles equipped with pumps and 400 gallons of water each, kept flames from leaping the road. The backfiring worked, and the blaze slowly died.

In those few hours, more than 21,000 acres of saw grass burned; during the next three days, fire swept another 15,000 acres.

Bob and I drove back onto the Tamiami Trail and inched our way amid the stench and devastation. As the wind blew holes in the smoke, two signs appeared briefly. One admonished motorists, "STAY ALIVE." The other, ironically, bore an arrow pointing to Everglades National Park (opposite).

Nature Builds a Masterpiece

I've loved the park and have been a regular visitor since it opened in 1947. It is all that's left of an almost vanished paradise.

For more than 5,000 years, nature had been building one of the most sensitively engineered ecosystems on earth. A huge wet prairie called the Everglades, saucer shaped and teeming with life, spread south from Lake Okeechobee until it gave way to the mangrove forests that fringe the peninsula's broad tip (pages 24-5).

Through the eastern side of this wild land flowed an almost imperceptible river, only inches deep and 50 miles wide, following a gently curving swath more than 100 miles long. Along the western side, water from Big Cypress Swamp swelled the flow. The Everglades slope of only two inches a mile led the water gently southward. Augmented at times of downpour by spillover from the great central lake, the water penetrated gradually into the peat beds beneath the marshes.

The important thing is that the grass stood in water, the peaty soil remained soaked, and rain seeped down to the porous limestone that underlies southeastern Florida. The Biscayne aquifer, as the stone is called, draws the water in like a sponge. That underground reservoir kept back the salty Atlantic. Water that could not be held by land flowed into the sea (maps, pages 4-5).

It was a land so full of water in the wet season that it was able to survive the regular periods of drought. And it was that water, too much of it, that brought man's intervention. Flood-spawning hurricanes in the 1920's took more than 2,000 lives and cost millions of dollars. To prevent future tragedies, man revised nature's grand design—with unforeseen and often lamentable results.

Piped Water Keeps Animals Alive

When I arrived at Everglades park, hydraulic engineer Frank Nix and research biologist Bill Robertson, both of the National Park Service, were waiting for me.

"Since records have been kept," Frank said, "we've never had a year like this. Right now there are only a few square miles in the park with as much as an inch of fresh water on them. If we weren't keeping the Anhinga Trail area alive by pumping 2,500 gallons a minute into it from local wells, you couldn't find any animals at all in this end of the park."

We watched while large pipes spewed out their precious supply, and gators, birds, and turtles crowded the only pond for miles around. It was hard to believe that this was the Everglades.

In a pit dug to provide rock for road-building, a series of bands indicated the sinking water table. Frank commented: "The U. S. Geological Survey places instruments throughout the park to measure the water table. The water has actually dropped below their gauges [page 16]. They are dynamiting new holes to find out where the water level

really is. In some places we know it is at least a foot and a half below sea level."

"This place is unlike other national parks," Bill Robertson added. "The Everglades is a living system dependent on water—the right quality of water, in the right quantities, at the right season. The park, though, is at the lower end of a 'river,' and we have little control over what happens north of us. When too much water is diverted to other uses, the park suffers droughts. When too much water is diverted into the park, the ecological consequences—to nesting wood storks, for example—can be equally serious.

"Continuing reduction of wetlands accentuates the problem. Everglades water must be managed in an ever-decreasing area, and more violent fluctuations of water levels become inevitable. In 1970-71 we went from land standing under several feet of water to dry soil in six months."

A few days later I toured the park with Dr. Frank Craighead, Sr., a noted ecologist (next page). On our first stop we left the car to walk to a gator hole. Suddenly, Dr. Craighead broke into a run and dove at the ground.

"I missed it," he lamented. Then I saw the five-foot indigo snake slide over the crest bordering the hole. I studied in admiration the wiry 81-year-old man, whose strong features bore the imprint of many outdoor years.

As we drove toward Flamingo, he told me: "When I first came to the Everglades, in 1917, I was tremendously impressed by the lush growth here. Huge trees in the hammocks were festooned with bromeliads and orchids. It wasn't until I returned to live here in 1950 that I fully realized the damage caused by drainage and development.

"Even so, I could still take my canoe out almost anywhere in those days—and I would see alligators everywhere. I estimated a population of about two million in 1950. I believe that poaching and the lack of water have now decreased that number by 98 or 99 percent."

It took no expert to see how dry the park was. At Shark River Slough ranger station, the water hole was crammed with fish that had died for lack of oxygen as the water level dropped (pages 12-13).

"Many life systems in the park couldn't exist if it were completely isolated," said Dr. Craighead. "If development continues right up to the boundaries, conditions within will be so altered that I don't see how the wildlife can survive."

Other worried conservationists, led by author Marjory Stoneman Douglas, who wrote the popular classic *Everglades, River of Grass*, have formed a group called Friends of the Everglades.

"We're trying to convince people that the future of all south Florida and the park depends on new, intelligent management of water," she explains. "Without that, south Florida will be a desert. Much of the Big Cypress must be controlled by government. Overdrainage, more canals, land loss, water pollution, salt intrusion, fires, bad land management, must be stopped. Perhaps we still have time."

Pristine Wellspring of Park Endangered

At Big Cypress, in the heart of southwest Florida, more than half a million acres hold a primitive world. Huge cypresses, some centuries old, shelter quiet waters where alligators glide by like shadows. Still a home of the Seminole Indians,* it is the place that has firmly planted in the American mind the image of south Florida—and is currently the key to the salvation of the Everglades.

*Louis Capron wrote of "Florida's Emerging Seminoles," in the November 1969 GEOGRAPHIC, and "Florida's 'Wild' Indians, the Seminole," in the December 1956 issue.

Smoke became a way of life for weeks last spring on eastern Florida's heavily populated "Gold Coast." When winds drove the acrid haze over Miami, respiratory ailments rose. In recent years such fires have become more frequent and damaging.

"**Something must be done** and done as quickly as possible," says noted ecologist Dr. Frank Craighead, Sr. His concern: the drying up of water holes in Everglades National Park that in former droughts spelled survival. He urges expansion of the preserve by including adjacent marshes where wildlife feeds and breeds. "Farm development should not be allowed to march right up to the park boundaries," he insists. "The creatures can't exist walled in on an island."

At the height of the drought, wood storks from Big Cypress Swamp flew daily round

trips of more than 50 miles to reach the park's Shark River Slough. In a land normally covered by several inches of water, only the narrow canal remained (**below**).

At the Anhinga Trail, park rangers pumped 2,500 gallons of fresh water a minute into the area during the drought. Spreading wings to dry, an anhinga perches beside its namesake trail (**upper right**).

Droughts pose a survival test for the resourceful alligators, which can no longer find water by digging into the saw grass. This group (**lower right**) gathers at one of the rare water holes in the park. In two decades, Dr. Craighead estimates, poachers and a lowering water table have reduced the alligator population from two million to 20,000.

Aggravating the park's problem, shrinking wetlands call for ever more sensitive regulation of the vital water supply, and make rapid fluctuations between low and high levels inevitable. Just as low water brings tragedy, too much water inundates bird nesting areas. Only last year, flooding forced park officials to evacuate starving deer to drier ground.

The park receives 56 percent of its surface water from the swamp. Although many of the large cypress trees have been logged, the unique area is still extremely beautiful.

A threat to its beauty—and ecology—was thwarted last year when citizens halted the building of a huge jetport. A leader in the fight was Joe Browder of Washington, D. C., Conservation Director for Friends of the Earth. He joined me as I toured Big Cypress.

We went out the Loop Road to Robert's Lake Strand, to a pond Joe knew well. It was dry. Watermarks ringed the fascinating array of cypress knees that studded the ground.

Dead from oxygen starvation, hundreds of bream and carp float on a Shark River Slough canal. First to die as the water level sinks are bream and bass; the last are the hardy gar, which can rise to the surface and gulp the air they need. Vultures became surfeited, and park rangers had the noisome task of hauling away the decaying fish.

"I used to swim in this place," he said, "and it was the nicest, clearest water you ever saw." We leaned against a magnificent cypress that Joe estimated to be 500 years old.

"Development has filled the coasts," Joe said, "and is pushing inland fast, toward this last wild place. The area is important from every consideration. The water supply for southwest Florida and the Naples area, not to mention the park, depends on this source.

"The problem is how to save it. Big Cypress's half a million privately owned acres are shared by 22,000 landowners. They can do almost anything with their property. Drain it, sell to a developer, or save it. Conservationists are pressing the Administration to buy all or part of the rights to this land to see that it isn't drained or developed. We're hoping the White House will see that acquisition is the only realistic way to preserve the area."

But modern growth pushes close. New homes rise on a 60,000-acre site on the western margin. As a prelude to building, several firms have dug drainage canals that have lowered the water table in the southwest part of the swamp by two to four feet.

Walking among the great cypresses, I remembered what Nathaniel Reed, Assistant

Secretary of the Interior for Fish and Wildlife and Parks, had told me in Washington:

"Without government control over Big Cypress, the park and southwest Florida will rot. I predict the destruction of the area in 50 years if Big Cypress is developed—and yet I have not found a solution short of buying it."

The cost may approach 170 million dollars. But the government's Land and Water Conservation Fund is still 340 million dollars behind in getting money from Congress for purchases already authorized but not funded.

Rich Soil Vanishes Into the Air

The tide of development that threatens Big Cypress began, many years ago, when land near Lake Okeechobee was drained for farms.

In 1900 fertile muck, as deep as 13 feet in places, combined with a good climate to offer near-perfect conditions for growing winter vegetables, but water stood on much of the land for as long as eight months a year. The lake itself overflowed from time to time, adding to the farmers' misery. So drainage began, with a surprising result.

Nature had created a system in which it took many years to form a single inch of organic soil, when the land stood under water and was lush with saw grass. As soon as farms were drained, however, the growers found that their ground was oxidizing—disappearing—at about an inch a year!

In some places near the lake, more than half the soil has vanished, and some conservationists claim there won't be any muck left by the end of this century.

Agricultural Florida is a salad bowl for the entire East Coast. The markets of some of our largest cities rely upon the drained farmland for winter vegetables. Recently, since the banning of Cuban sugar, increasingly large holdings have been planted in sugarcane—ideal, happily, for this soil and climate. So the stakes for the entire Nation are high.

Drainage for farms was accelerated by the catastrophic hurricanes of the 1920's, which swept water from Okeechobee into residential areas. A partial dike was built around the lake as a safety measure. More hurricanes after World War II led to an urgent call to the U. S. Army Corps of Engineers to build a flood-control system for all south Florida.

For its part, the state created the Central and South Florida Flood Control District to buy land for canals and to run the system. Projects have now drained all land south and

The very earth burns. Rich organic muck—decomposed saw grass and other plants—smolders in the Everglades, a fire fighter searches for patches that could flare into new blazes. Only decades of new growth can replace the destroyed muck. In past years,

DICK SWANSON, LIFE MAGAZINE

fires burned only the tops of the grasses, while standing water protected roots and soil.

Whitetailed deer (**below**) bounds across another recently burned area. Here the fire fortunately did not consume the muck and destroy grass roots. Already the saw grass sprouts ten inches tall; eventually its serrated blades may thrust up ten times that height. Light diagonal tracks at left are those of a swamp buggy. Some scientists contend that the vehicles should be outlawed because of their damage to the Glades.

east of the lake except the park and three water-conservation areas, where rainfall is stored during the wet season (maps, pages 4-5). The conservation areas, incidentally, are open for hunting; two admit fishermen and controversial swamp buggies and airboats that leave damaging scars (preceding page).

Secretary Reed has strong feelings concerning deer hunting in the Everglades. "I do not approve of running an animal down with a swamp buggy and shooting it," he told me. "I believe that large portions of Conservation Area Three should be off limits and kept in a wilderness state. Surely you can improve on a situation where you have five and six vehicles racing around with dogs howling and men screaming and yelling, climaxed by shooting down an 80-pound animal. It borders on the Romans and the lions."

Salt Water Threatens Miami Supply

I drove from Big Cypress to Miami to find out how the water-management system has worked under pressure of drought. Garrett Sloan, Director of the City of Miami's Department of Water and Sewers, looked worried.

As we examined a geological cross-section map, Mr. Sloan pointed to a large gray area. "The Biscayne aquifer is this porous rock substructure running down to about 110 feet below ground level. It has always been charged by local rains, and by water from the three conservation areas. Now they are dry. For the first time in history we are bringing water more than 70 miles directly from Lake Okeechobee through drainage canals to recharge our well fields. We have 29 wells straddling the Miami Canal. By keeping that canal full, we are able to continue pumping.

"If we fail to recharge the aquifer, we get salt-water encroachment. The salt water comes in because it's heavier than fresh water. We have to keep our canals two feet higher than sea level to hold it out [diagrams, page 25]. During this drought, salt water began coming in. We cannot remove salt in our treatment plants. We recently shut down eight wells because of high salt levels. Throughout this century, area communities repeatedly have had to move their well fields west, away from the ocean, in order to have fresh water."

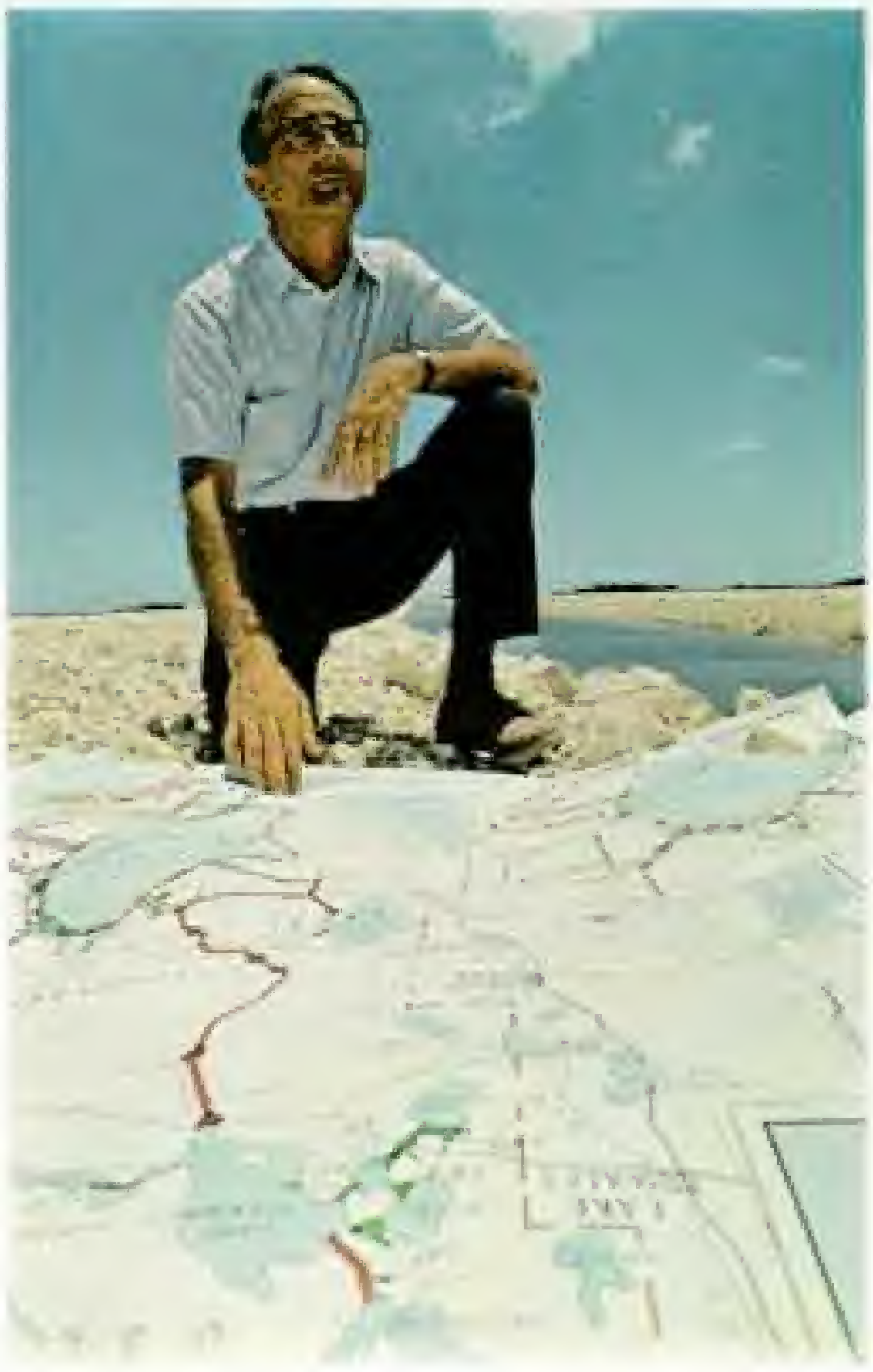
I knew that Miami's water system pumped about 150 million gallons of fresh water a day. About 50 million gallons literally went down the drain daily to carry sewage to a plant at Virginia Key, between Miami Beach and Key Biscayne.

"After neutralizing three-fourths of the harmful elements, the waste is discharged less than a mile offshore in 18 feet of water," Mr. Sloan said. "Except for Miami and Hollywood, the other south Florida areas draining sewage into the sea are dumping it raw."

Many people are concerned about the loss of 50 million gallons a day of fresh water to the sea, when it might be processed and either

A land loses its lifeblood. Seeking the water table at a monitoring station (**left**), Jon Hergert of the United States Geological Survey finds not a drop in sight. Normally this soil lies under two feet of water. Zero mark on the staff gauge in the bottom of the hole is at sea level. Later Mr. Hergert blasted a new hole and finally found water more than a foot below sea level.

Mosaic of marl, dried and cracked, paves an area near the Shark Valley Loop Road in Everglades park (**right**). Deposited by a community of organisms called periphyton, marl is 95 percent calcium carbonate and piles up one to three inches thick in areas under shallow water. In the foreground lies the shell of an apple snail, the exclusive diet of the endangered Everglade kite.



Battling ecologist, Arthur R. Marshall points out on a map three controversial canals proposed for farmlands near Everglades park. The canals would destroy a vital wildlife feeding ground, warned conservationists. As Chairman of the Division of Applied Ecology at the University of Miami's Center for Urban Studies, Mr. Marshall carried the fight to the governor —and won. Work has been suspended.

Lower and lower drops the land, as a fire hydrant testifies in Belle Glade by Lake Okeechobee. In places the drained muck, once as thick as 15 feet, has sunk eight feet. Exposed to air, it oxidizes and disappears at the rate of about an inch a year.

The vanishing Everglades: This subdivision wipes out wild lands near Fort Lauderdale. Screened swimming pools add to the ever-increasing demands on the water supply.

Man's multimillion-dollar dilemma: Two years ago engineers finished "channelizing" large stretches of the meandering Kissimmee River, speeding the flow of water into Lake Okeechobee and thus preventing flooding in central Florida. But the bypassing of the loops made the stream travel so fast that water polluted by fertilizers and wastes rushed directly into the lake, threatening to "kill" it. A proposed remedy would reflood thousands of acres of cattle pastures in the shallow Kissimmee Valley and restore them to marshy wetlands. The river would once again move more slowly, and thus could cleanse itself before reaching the lake.

pumped back into the aquifer or out into the Everglades.

"I think recycling sewage to save fresh water will have to come," Mr. Sloan continued, "and we need pilot plants now. But it's expensive. Moreover, you have to remember this about sewage—it is polluted not only by bacteria. It's also polluted with every type of organic chemical, toxic heavy metals, petroleum products, inorganic salts, greases, fats, oils. When you think of purifying it for drinking, or even for discharge into the park, there are serious problems. One is that sewage coming to us from the Miami Beach area carries 1,200 parts per million of salt that entered the pipes along the way. Those pipes are old, and salt water gets in through the joints."

Canals Drain Away Feeling of Infinity

From Miami I traveled north and looked at some of the main canals that run toward the coast. It is always a little disturbing to me to see great expanses of natural landscape broken by man-made construction. The pancake-flat Glades country seems to want to stretch on forever. The 315-million-dollar canal network mars that vision.

In West Palm Beach I talked with Ed Dail, Executive Director of the Central and Southern Florida Flood Control District.

"We are trying to plan to the year 2000," he told me. "Our mandate is clear—to remove floodwaters, and, in time of water deficiency, to carry water where it's needed. We are also responsible for retarding salt-water intrusion by maintaining a fresh-water pressure head in the canals. We have a lot of critics, of course, and a lot of problems.

"First, the three conservation areas are totally inefficient in dry periods. They're very shallow and evaporate water much faster than we could ever move water out of them. Yet if we built higher levees around them and raised the water, we would totally destroy the Everglades ecology within them.

"In wet periods, like the spring of 1970, we have the opposite problem: great difficulty in discharging the water fast enough to prevent flooding. Then the park gets too much water and doesn't like it.

"Lake Okeechobee is the only reasonably efficient storage area we have. All our hopes are in the lake. Raising its water level a foot gives us an extra 450,000 acre-feet of water. But you have to raise the lake's dikes when you increase the water level. If we had the extra two feet of water authorized in 1948,

which we will get around 1974 after construction has been completed, we would not be in the trouble we're in now. We would have the water to keep the canals up, feed the park, and the rest.

"People have to realize that before man came," Mr. Dail said, "about the only thing you could say about south Florida was that it was a menace to navigation. It was not habitable in its raw form except for the thin coastal strip. We've got about 700,000 people now living on a thousand square miles that were flood prone before we built canals.

"At the present state of the art, though, there is a definite limit to the people, industry, and agriculture that the area can sustain. Somebody has to provide a plan for a slower development."

The people assigned the job of digging the controversial canals, the Corps of Engineers, have a headquarters in Jacksonville. Col. Avery Fullerton, District Engineer, and Oscar Rawls, who had just retired as Chief of the Project Planning Branch, met me in their high-rise office by the St. Johns River.

I asked Colonel Fullerton about the policy of holding enough water in Okeechobee to ease drought conditions. "It takes almost a month to drop the lake a foot," he said, "but we don't know a month in advance when a hurricane might hit, so we simply can't hold extra water. With the lake at 15½ feet, the dike is calculated to be high enough above sea level to prevent flooding during a large storm. Now we are raising the dike to handle 17½ feet and have authorization for 21½ feet. The higher levee would give us a greater margin against drought."

With the present dikes, all water in excess of the 15½-foot level has to be dumped into the oceans during the wet season, despite the fact that the need for it might soon become acute. Thus it could happen, and almost did last year, that within months of discharging billions of gallons, south Florida, in the colonel's words, "might go on severe water rationing, crops might fail, Miami might have to move its well field west again, and we would be in real trouble."

Mr. Rawls added, "But look at it the other way. Given the development of south Florida, if we didn't have the canal system, we'd be in much worse shape than we are now. I believe that the ability of modern Florida to withstand a long drought is much better than it was before the flood-control project, and will continue to get better as we make more improvements. I maintain that this project, with its ability to store water in the lake and the conservation areas, will solve the water ills of this region for years to come."

I asked about Dr. Craighead's research in Everglades National Park that indicated a decrease of marsh vegetation.

"Contrary to public opinion, the park area didn't get much lake runoff normally before the flood-control system was started," said Mr. Rawls. "Our figures show that between 1905 and 1948 there were only five times when the water overflowed the lake. We have provided a means for the park to get water regularly. Canals in fact have been cut there to provide it with water. Without them, the park would have been in much worse shape. We have no reason to believe that the earlier days, before anyone did anything here, were appreciably different from now."

Boats Once Sailed Where Farms Stand

Mr. Rawls' view is strongly contested by ecologists. I asked one of them, Arthur Marshall, to accompany me when I went to see three of the controversial canals—C-108, C-109, and C-110—then being built south of Homestead. He is Chairman of the Division of Applied Ecology at the University of Miami's Center for Urban Studies.

As we passed through dry farmland, Art said, "It is inconceivable to me that people continue to talk about all the water that's being saved by canals: Spanish galleons once filled their kegs from bubbling springs at Coconut Grove. People actually sailed and rowed from Lake Okeechobee to Miami. Military expeditions during the Seminole Wars crossed the Glades in canoes, and not only in the wet season. What we're really talking about is whether we can take an area that was under water much of the year and turn it into a dry vacation wonderland and still keep nature's balance. I'm not so sure we can."

We parked beside a machine that was gouging out a new straight-line canal less than five miles from the park. Art and I walked over to watch. "In my opinion," he told me, "we are suffering because of the policy of flood control district officials to reclaim even the lowest land. Five percent of this area was what we call wetlands—perpetually wet. To drain that 5 percent, they had to lower the water table far too much for the rest of the area."

I asked Art what could be done, as we drove on toward Florida Bay. "To begin with,"

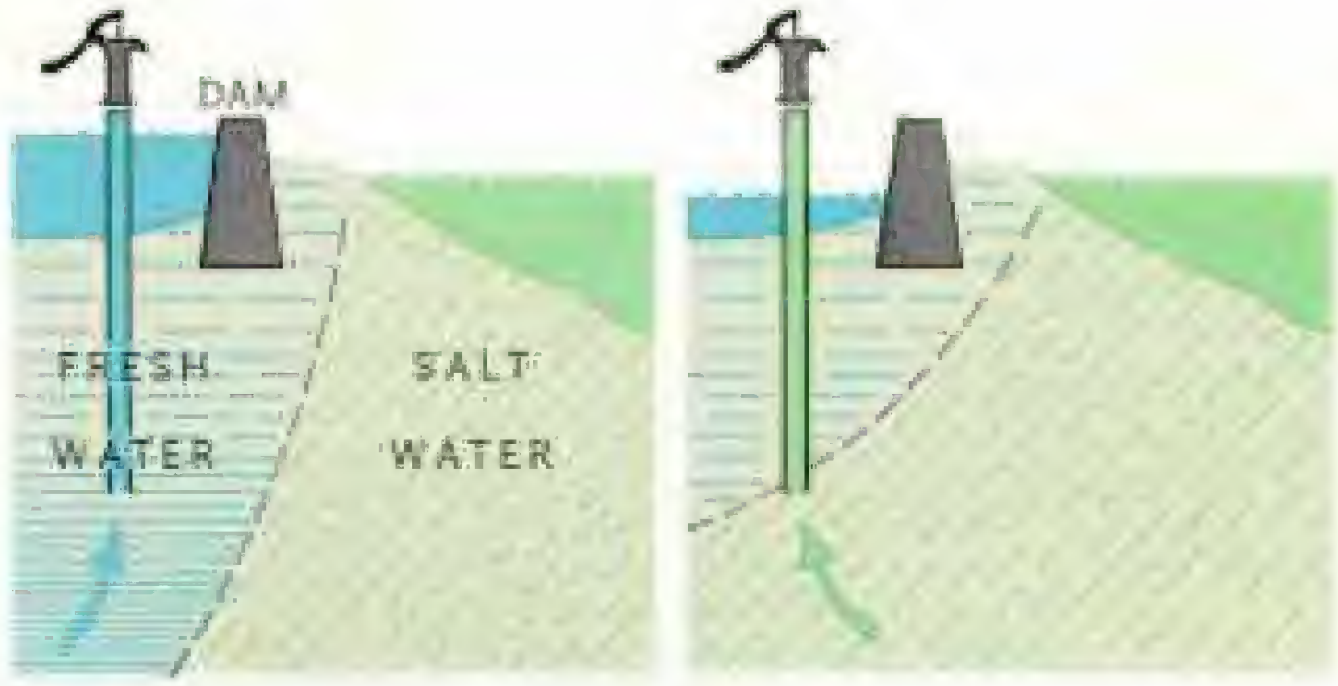
(Continued on page 27)

To irrigate or drain, depending on the season, farmers in south-central Florida are permitted to dig their own canals and connect them to larger existing channels (**left**). These marshy fields south of Lake Okeechobee will sprout with sugarcane. Agricultural experts fear that in less than 30 years overfarming of the Everglades area will make the muck too shallow for profitable cultivation.

Ladder to nowhere on a channel marker attests to the critically low state of Lake Okeechobee. During last year's drought the lake shrank to 10.40 feet above sea level, near its all-time low mark of 10.14. With heavy rains later in the year this major reservoir for the Everglades crept back toward the high-water maximum of 15.5 feet. Levees now under construction will impound two more feet of water.

New roads checkerboard a sector of southwestern Florida where houses will soon rise. On the fringe of Big Cypress Swamp, development firms have dug drainage canals that lowered the water table by two to four feet.

Grazing cattle dot grasslands criss-crossed with drainage canals. The farming explosion worries Florida hydrologist Garald G. Parker. "If we continue to farm the Everglades, we lose them," he contends. "The only solution I see, and one that probably will not be politically practical, is to buy out the farmers, close up the big drainage outlets, and leave the restoration to nature."



Stealthy invader—the sea. In normal times, southern Florida's canals run two feet above sea level, and the resulting pressure in the porous subsurface rock holds back the heavier salt water (**left diagram**). During droughts, when canal levels may fall to sea level or below, the heavier salt water intrudes and turns fresh pump water briny (**right diagram**). Some coastal cities have moved wells far inland to escape salt-water encroachment.

Jungle on stilts, mangroves (**left**) grow from a tangle of arching roots in Biscayne Bay. Once such stands fringed much of the coastline of southern Florida, but increasing urbanization sees them give way to man-made seawalls.

A boat in every backyard, boasts Fort Lauderdale. Gone are the mangroves; in their place stand the concrete dikes of a 20th-century Venice. Naturalists deplore the loss of the trees, whose roots shelter shrimp and oysters, and serve as a nursery area for fish of many species. But the pressure for more housing persists as the appeal of Florida living continues to lure new residents.

he said, "even the engineers admit that the Kissimmee River channelization was a mistake. They deepened and straightened the channel to make it flow more efficiently [page 20]. Now we need to reflood marshes beside the river so that they can cleanse the water coming into Lake Okeechobee, as they formerly did. There is a dangerous buildup of pollutants and nutrients in the lake.

"Second, we can reflood some of the shrunken Everglades, then replant the reflooded areas with native grasses that would make valuable muck. I think, too, we must re-examine the 1,400 miles of canals and levees in south Florida to eliminate those not needed. I personally would plug up several of the new canals" [page 18].

Long-awaited Rain Does Not Solve the Problem

It was getting late in the afternoon, and dark clouds were developing. I wanted to see and be alone with the Everglades once more before I left.

I remember the first time I flew over the Everglades. It all seemed so vast, even endless. Flights in recent years have made me constantly aware of the vulnerability of the region. It is really quite small, as natural wonders are measured. The limits of civilization are rarely out of sight.

I went west across the Tamiami Trail through the sawgrass Glades and watched the birds feeding beside the canal. As I turned north on State Route 29, I saw a flock of wood storks heading toward Corkscrew Swamp. The clouds were growing into billowing black rain machines when I turned back east on Alligator Alley. At milepost 55 I stopped to await the oncoming rain. I looked across the canal at a cross section cut through grass, muck, and rock. Only a few inches of muck remained, and it would go fast now that it was out of water. A great blue heron walked up the shore.

Rain clouds gathered all around: huge, rolling, cumulus clouds so familiar in tropic skies. Their flat bottoms were connected to earth by sheets of rain. This water will mean life to the Glades, I thought, but no amount of rain can ever compensate for the accumulated losses. Then the rain closed in, and I was enveloped by a drenching curtain of water. I peered through it at the arrow-straight horizon broken only by an occasional hammock and thought that this must have been the sweetest rain in the world, for it had brought life. Yet I was saddened by the knowledge that it was only a reprieve. □

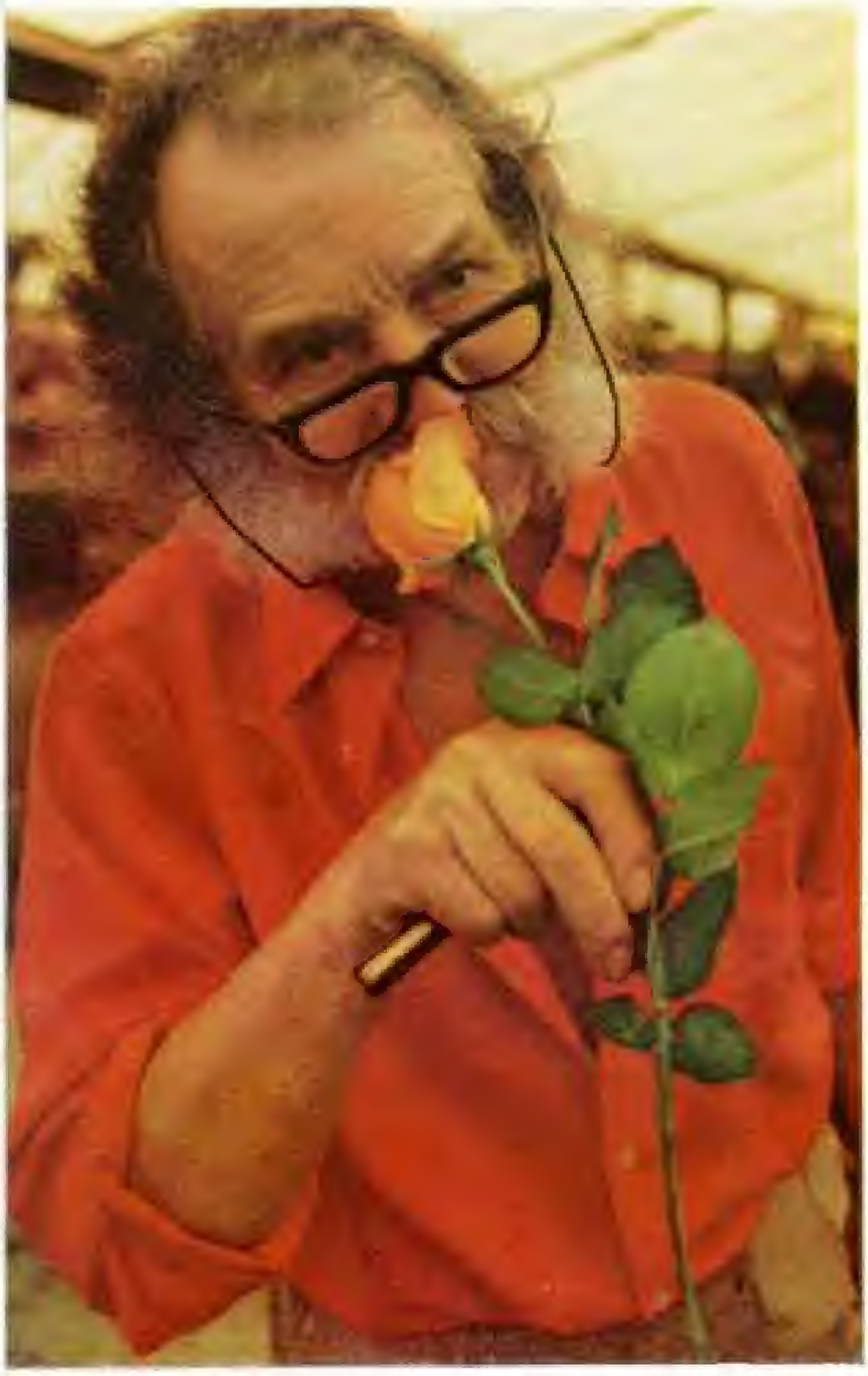
Thick enough for a grackle to walk on, a scumlike growth coats Snapper Creek Canal south of Miami. Warm stagnant water favors the floating plants, called duckweed, and man's litter adds an unsightly garnish. Built as a safety valve to siphon off flash floods to the Atlantic, this canal and others stayed closed during the drought while pollution counts soared to hazardous levels—one more sad consequence of the imbalance inflicted on the area. Last summer's ordeal spurs efforts to reconcile the conflicting needs of a burgeoning population and a fragile wild domain.

Chelsea

London's Haven of Individualists

By JAMES CERRUTI
ASSISTANT EDITOR

Photographs by
ADAM WOOLFITT



TEN MINUTES from London's whirling Piccadilly Circus, by the Tube, as Londoners call their subway, lies a "village" so unlike the rest of London that even other Londoners tour it. Chelsea, though now a part of London, has always remained a place apart, a little world where bold individualism and defiant eccentricity prevail—an enclave where Britannia waives the rules.

From his home in Chelsea Sir Thomas More, author of *Utopia* and Lord Chancellor of England, went to the block for refusing to acknowledge Henry VIII as head of the church after his marriage to Anne Boleyn. In Chelsea Jonathan Swift, scribe of Gulliver's bitter travels, fulminated against the human race. In Chelsea painter James McNeill Whistler immortalized his mother and his mistresses, while his friend Oscar Wilde infused British drama with shocking wit, and was shockingly arrested on a morals charge that ruined his life. Upon Chelsea's dynamic stage, these and many others have played the high tragedy and low comedy that tend to befall people who defy convention—and the whole wide world has come to watch.

Today the flamboyantly beautiful "dolly birds" who stroll the King's Road, Chelsea's garish Main Street, *un*-clad in superminis or flimsy hot pants, embody an obvious, fleeting aspect of Chelsean rebelliousness. The born-and-bred Chelseans, who stubbornly resist efforts to dislodge them from their 150-year-old cottages to make way for tower

NOSE MEETS ROSE as horticulturist Harry Wheatcroft (**above**) sniffs a blossom at the annual flower show in Chelsea, the London "village" where gentility abounds even as eccentricity flourishes. A leather-clad youth (**opposite**) provides his own splash of color as he strolls the King's Road.


ENQUIRIES
TRADITIONAL ELEGANCE

hangs on in flamboyant Chelsea. Rolls-Royce dealer Frank Dale shows a vintage 1934 model to a California couple.

blocks of flats, represent a more deep-seated anti-Establishmentarianism. Though they decry one another, both the dollies and the devoted denizens conform to Chelsea's one conformity: We never will conform.

Author Tom Pocock, a devoted denizen, and son of a devoted denizen, summed up the Chelsean insouciance. "People in Chelsea want to remain individuals and relax. Before the last war, my father said, you could always tell when you'd strolled beyond the Chelsea bounds: If you walked out on the King's Road, any day of the week, wearing your dressing gown—when people began staring at you, you'd left Chelsea."

Today, I think, things would be the other way around. Any stroller on the King's Road so stuffy as to smother his personality in a dressing gown might well be stared at. On the other hand, I was the only person who stared at one man sauntering along clad only in his beard and a paper shopping bag.

Flow Gently, Sweet Sewer

Chelsea, of course, has geographical as well as psychological bounds; and beating these on foot was for me a far-from-pedestrian adventure. The eastern bourne, 11 furlongs west of Piccadilly Circus, was originally formed by the Westbourne River, which generations of real estate development have "drowned." Today the Westbourne runs through Chelsea literally in a tube—and doubly so. At the Sloane Square Tube Station, I descended to the train platform. There, in a riveted iron tube five feet in diameter, crossing 20 feet above the tracks, gently flowed the sweet Westbourne, now a sewer.

The Chelsean bounds form, roughly, a right-angle triangle. The southern leg, about a mile and a half of the roaring Thames Embankment, reaches from Chelsea Bridge, past Albert and Battersea Bridges, to where Chelsea Creek joins the Thames at the triangle's western bound (map, pages 34-5). From its intimacy with its three bordering streams, Chelsea may once have been called Cealchythe: a hithe, or landing place, for chalk.

The hypotenuse of the Chelsean triangle is formed by the Fulham Road and Walton and Basil Streets. There the village of Chelsea ends, but the Royal Borough of Kensington and Chelsea runs on northwestward. When the London boroughs were reorganized in the mid-1960's and the Borough of Chelsea found it was to be lumped in with bigger Kensington and lose its separate identity, Chelseans raised such a howl that the new borough was the only one of all 32 permitted to have a dual name—another triumph for Chelsean individualism.

The notorious King's Road bisects the narrow triangle of the old Borough of Chelsea lengthwise. A country lane until commandeered by King Charles II as the most direct route between his Whitehall and Hampton Court Palaces, it remained "The King's Private Road" till 1830. Today it is for the dolly birds and their dallying boy friends, and, of course, the boutique operators who keep them bizarrely half-clothed.

On Saturday afternoons particularly, the young pour in from all London—indeed, from all the world—to shop the King's Road.

but above all to parade, while staider folk come to enjoy the show. It is the sort of show the police would have closed down when I was a boy. But that would have been a pity, for the King's Road girls, with their elegant long legs and fresh English complexions, must surely represent the highest concentration of feminine beauty on any such mile-and-three-quarter stretch in Christendom.

To me, as a Geographic editor, the great parade suggested the courtship display of nature's own birds. It therefore did not shock me, and I was glad to learn from a "telly" interview that so distinguished a personage as Nobel Prize-winner Linus Pauling seems to share my feelings. In fact, the story he told further implied that the girls' elevated garments may even have moral value. It seems that a lovely young lady in hot pants was victimized by a purse snatcher. But not for long. The thirty fellows who were girl-watching took off as one man and brought the thief down.

The present "trendy" character of the King's Road began in 1954, when a 20-year-old Welsh lass named Mary Quant (page 39) opened her Bazaar boutique on a corner of Markham Square, and became, in her own words, the "Mother of the Mini." To the horror of all devoted denizens, who pine with bitter nostalgia for the good old B.Q. (Before Quant) days, imitators sprang up all along the road, including the "Father of the Hot Pants," Tommy Roberts, who designs under the name of Mr. Freedom.

Now Mary Quant has closed her Bazaar and designs for mass markets like J. C. Penney Company. Mr. Freedom has moved to

SPRIGHTLY LADY, SHAPELY MISS—smiles come easy to young and elderly alike in Chelsea's do-your-own-thing atmosphere. The decorative "dolly bird" (**right**), as Chelseans fondly call a pretty girl, hucksters a trailer-mounted dune buggy on the King's Road, the community's main street. Behind the lady (**left**) a covey of trousered "birds" take in the passing scene.

The human potpourri, a tradition here for centuries, prompted essayist Thomas Carlyle in the 1830's to write, "Chelsea is a singular heterogeneous kind of spot . . ." Carlyle, a Chelsean for 47 years, stands among the foremost of its artistic and literary lights.

London's Chelsea

SWALLOWED by voracious, expanding London during the 19th century, the 660-acre village of Chelsea still retains the vibrant individuality of the rustic riverside community it was for centuries. Although believed to have been the site of important religious councils during the eighth century, Chelsea became widely known only after Sir Thomas More, Lord Chancellor of England and leading figure of the English Renaissance, established residence here in the 1520's. Other elegant mansions soon sprang up nearby, and Chelsea—rural-clean and country-healthful—eventually became known as the "Village of Palaces." From More's time on, the triangular suburb, lapped by the River Thames, has attracted many of London's intelligentsia. Inset map shows Chelsea in relation to its London surroundings

Numerous 19th-century writers and painters, including Rossetti, Swinburne, and Meredith, lived at 16 Cheyne Walk.

Today a museum, 24 Cheyne Row was home of essayist-historian Thomas Carlyle from 1834 to 1881.

Shops whose wares range from antiques to hamburgers line the King's Road, an elongated stage for much of Chelsea's extravagant eccentricity

Oscar Wilde wrote "The Importance of Being Earnest" and other plays during his residence at 16 Tite Street from 1884 to 1895

Begun in the 13th century, Chelsea Old Church was rebuilt after World War II bombing.

Sir Christopher Wren designed the Royal Hospital, founded by Charles II in 1682

Lindsey House, built in the 1700's, sheltered such luminaries as James McNeill Whistler and engineer Sir Marc Brunel, builder of the first tunnel beneath the Thames.

Kensington and grander things. But other hopefuls have kept edging in, naming their boutiques insouciantly—Granny Takes a Trip, Connecticut Yankees in King Arthur's Court, I Was Lord Kitchener's Thing—determined to be the mother or father of the next great fashion breakthrough.

Resignedly, author Pocock said: "This eccentric trend traditionally runs through Chelsea. Probably Whistler and Wilde started it. Their dress was way out, too. Wilde loved velvet suits and giant white bow ties."

"Whistler's Mother" Born in Chelsea

In the Whistler-Wilde era, Chelsea became the premier bohemia of the English-speaking world. Besides Whistler, it drew such other American expatriates as novelist Henry James and portraitist John Singer Sargent. Even Mark Twain lived there during 1896-7.

In Chelsea, in the red-brick house at 16 Tite Street, Wilde wrote *Lady Windermere's Fan* and *The Importance of Being Earnest*. The historian and essayist Thomas Carlyle lived 47 years at 5 (now 24) Cheyne Row. On nearby Cheyne Walk, today part of the Chelsea Embankment, Whistler painted and died. There he created "Whistler's Mother," which he entitled "Arrangement in Grey and Black No. 1: The Artist's Mother." Later he privately described it more candidly: "One does like to make one's mummy just as nice as possible." From several Cheyne Walk studios he poured out impressionistic nocturnes celebrating dusk on the Thames, just beyond his window, a stretch of geography now immortalized as "Whistler's Reach."

But as a maker of local geography, Whistler was a Johnny-come-lately. More than a generation before him, Joseph Mallord William Turner dwelt in Cheyne Walk, painting "Turner's Reach." Crotchety in his old age and always a recluse, Turner lived at 119 Cheyne Walk under the pseudonym of "Mr. Booth," and was known to neighborhood kids as "Puggy Booth." Though many rate Turner as the world's greatest landscape painter, he expressed his unimpressed opinion of his own fame laconically: "Well, painting's a rum thing."

Nevertheless, the Turner Collection is the star of the prestigious Tate Gallery, a mile or so downriver from Chelsea. To its everlasting credit, the museum also hangs three oils by Chelsea's least renowned great painter, the

FORGING FACES from clay, Chelsea portrait sculptor Anthony Gray suggests the style of his idol, the late Sir Jacob Epstein. Here in his studio, Gray fashions a bust of playwright-novelist R. J. Minney.

Other artists who found Chelsea inspiring to creativity include J. M. W. Turner, Dante Gabriel Rossetti, James McNeill Whistler, John Singer Sargent, and Augustus John.

unschooled, half-primitive Walter Greaves, who cadged lessons from Whistler. His humanity-packed genre paintings comprise the most brilliant portrait of Chelsea as a collective personality, in contrast to Whistler's subjective impressions of it.

Born in 1846, Greaves lived obscurely till 1930, passing his last days in a genteel poorhouse. In earlier years, he ran a boathouse on Chelsea Reach, a few doors up from Jimmy Whistler. He adored his waspish, diminutive (five-foot-four) mentor, but, after a quarter century of friendship, Jimmy grew jealous of Greaves and for 15 years cut his pupil dead, right up to the moment of his own death in 1903. Greaves, hearing that his still-beloved Jimmy was dying, went to Whistler's house and rang—but "they wouldn't let me in," he sadly reported.

I saw Greaves's old house, still there on the reach, and several of Whistler's homes. At one Whistler house, 101 Cheyne Walk, I went inside. Miss Lyn Pulford, daughter of the present owner, led me to her front

window, where I could view the modern Whistler's Reach. Below was a houseboat colony, and across the river loomed cumbersome factories, warehouses, and smokestacks (pages 46-7). On this dreary day, the light on the river was leaden, the sort of scene Whistler loved to paint. I could see how it might take genius to capture its romance.

Miss Pulford said: "My uncle used to own this old row of houses, once called Lindsey House [map, pages 34-5]. When Whistler moved out of Number 96 down the street, he left a Japanese cabinet. My uncle gave it to the Chelsea Library, which has lent it to the Chelsea Arts Club. Go there and have a look."

And so I did. The cabinet stands in a snuggery adjacent to the bar, called, naturally, the "Whistler Room." Ley Kenyon, then club chairman, told me, "This is one of the most renowned art clubs in the world. Whistler was a founding member, in 1891."

When, later, I was elected a "temporary honorary member," I held it a high honor. But I had second thoughts when I learned that the last previously elected honorary member had been the club cat, Fred. His name had been expanded for the occasion to F. Runcible Foss—Foss having been the cat of Edward Lear, Victorian author of nonsense rhymes and coiner of the "runcible spoon."

My pride was restored, however, when I was informed that the discoverer of penicillin, Chelsean Sir Alexander Fleming, considered *his* honorary club membership his greatest honor. Edward Halliday, the portraitist of the Royal Family (more than twenty paintings of the Queen alone) and a trustee of the club, told me: "Fleming came into the club often to play snooker. He used to say, 'This is the one place in the world where I feel completely at ease and nobody wants to talk to me about penicillin.'"

In the past the club's great event was the New Year's Eve Chelsea Arts Ball in the Royal Albert Hall, attended in costume by 4,000, including London's "400." In 1960, after 50 balls, the club discontinued the event, which had become a rowdy money-loser.

A society-minded Londoner scoffed when I told him I was doing a Chelsea story: "Why nothing of interest has happened there since the ball was dropped." I heard even worse from others: All Chelsea's best artists have been driven out by the high rents. But I met at least half a dozen Chelsea artists who might someday enjoy high renown.

BLOND CAMEL JOCKEY and aides in Arab garb plod the King's Road to promote a low-cost vacation at a resort village in Morocco. Charles II, during his reign from 1660 to 1685, made the roadway a private route to hasten the 12-mile trip between Whitehall and Hampton Court Palaces. It opened to the public in 1830.

Anthony Gray, a merry sculptor whose grizzled hair stands out bushily, works with the verve of a youth (preceding pages). In the tradition of Sir Jacob Epstein, he has cast powerful bronze busts and heads of such celebrities as Nubar Gulbenkian, the eccentric multimillionaire, conductor Sir John Barbirolli, and pianist Benno Moiseiwitsch.

Though, like most artists, Tony deplored the King's Road scene—"self-exposure just within the limits of the law"—Chelsea painter William Thomson was using the birds as models, and in their maximum self-exposure. "I'm doing a series of nudes, not posing, just totally preoccupied with themselves—and the girls are perfect for that!"

Among the most successful Chelsea artists is portraitist Guy Roddon. At 33 Tite Street, in an elegant lofty studio, once used by Augustus John, just next door to similar studios of Whistler and Sargent, he paints dignitaries like the Archbishop of Canterbury and Dr. Roy Strong, the youthful, mod head of the National Portrait Gallery.

If artists like these will not fill the bill for Chelsea's critics, they might take a swing through the Chelsea School of Art, where some great artist may well be shaping. An avant-garde academy, it is blurring the line between painting and sculpture into a single "3-D" art. I saw "paintings" composed of bedaubed blocks of wood, and "sculptures" consisting of charmingly childlike "paper" planes and boats, which turned out to be white-painted aluminum.

Just across the street from the art school, the Chelsea College of Science and Technology is a reminder that Chelsea has long been a scientific as well as artistic center. The builder of the Thames Tunnel, Sir Marc Brunel, lived at 98 Cheyne Walk, as did his son Isambard Kingdom Brunel, who designed the *Great Britain*, the first big screw-driven steamer, and the *Great Eastern*, launched in 1858, and not surpassed in tonnage for 40 years.

Perhaps it is in the blend of science and art known as applied arts that we should look for the mainstream continuation of Chelsea's creative tradition. The modern Whistler may be wielding a camera rather than a paintbrush. In his studio on Flood Street, fashion photographer Cornel Lucas was doing a magazine cover. A while ago his model had been Suzy Parker; that day it was pert Kathy Simmonds, a lovely cross between Twiggy and Marilyn Monroe, jumping up and down before a wind machine, her blond hair streaming.

THIGH-HIGH SKIRTS earned international fame for Mary Quant, apostle of the mini-look. Epoxy mold of her knees memorializes the daring, baring trend. But—as shown by the designs she ponders in her Chelsea home—the "Mother of the Mini" will go to any lengths to whet the interest of the fashion-conscious public.

FLOWER PEOPLE head homeward with groceries and a potted geranium after shopping along the King's Road (**below**). Weekend invasions of foreign and domestic tourists swell Chelsea's 45,000 population

SPIDERY ALBERT BRIDGE, its delicate tracery strung with lights, has spanned the Thames since 1873. Long-abandoned tollbooths still stand at the bridge's approaches, and signs once warned marching soldiers to break step to prevent dangerous bouncing

TOUCH OF FRANCE. Au Père de Nico (**below**) and other top-rated Chelsea restaurants earn high praise from gourmets. Here waiter Bruno Noro flavors French delicacies with a pinch of convivial conversation.

every jump testing the tensile strength of her black hot pants and over-the-knee socks.

Kathy, once a Chelsea bird, now removed to Chiswick, said, "There are still some back streets where you can hear the birds singing"—she meant the feathered kind—"but Chelsea is getting a bit fast for me. That doesn't mean I don't come back. It still has a clublike charm—the same people going around together, especially in the pubs and restaurants."

Chelsea's restaurants are indeed especially special, even for non-club members like me. Kathy, of course, is not concerned with their standing in the world of *haute cuisine*, but it is impressive. My friend Peter ffrench-Hodges, author of two gourmet cookbooks, claims, in a neat syllogism, that London today has more fine luxury restaurants than Paris, and that, since Chelsea has more fine luxury restaurants than any other part of London, Chelsea is, QED, the new restaurant capital of the Western World.

I assiduously tested Peter's Rule, to such an extent that I must at least cry, "Paris, *en garde!*" Treasonably, Paris's three-star Grand Vëfour has recently opened a Chelsea branch —and it is just as good! Le Beurre Fondu at the Wilbraham Hotel made as buttery an *asperge au beurre* as I have tasted in France. The Santa Croce produced a *fettucini crema* that Rome could not surpass. But the prize of all was Au Père de Nico (preceding pages). The food was high cuisine at moderate prices, and a display of menus autographed by grateful theatrical celebrities—Julie Christie, Vanessa Redgrave, the late Louis Armstrong —attested the restaurant's own celebrity.

Chelsea and the theater have long had close associations. Veteran actress Dame Sybil Thorndike, for whom George Bernard Shaw created the role of Saint Joan, has lived in Chelsea 50 years and, at 89, still lives there, in a Swan Court flat. Mrs. Tom Pocock, whose granny Dame Sybil is, took me to visit her—a small frail lady, but still with an eagle-strong face and rich voice (page 48).

"I'm preparing a recital just now," Dame Sybil told me. "You don't mind your age after 85, but I *am* an old crock. Do you know, Larry Olivier had one of his first walk-ons as my page, somewhere around 1925?"

Chelsea's theatrical tradition continues at its Royal Court Theatre. There the dominant trend of modern British drama began when, in 1956, the Royal Court mounted a play by the young unknown John Osborne, and his *Look Back in Anger* became the rallying point of the "angry young men."

Behind the public Chelsea of theater, restaurants, and shops lies the private Chelsea of secret byways, such as Cheyne Mews, where signs still warn: "All drivers of Vehicles are Directed to *Walk* their Horses while passing under this Archway—BY ORDER." This is the Chelsea the devoted denizens fight to preserve.

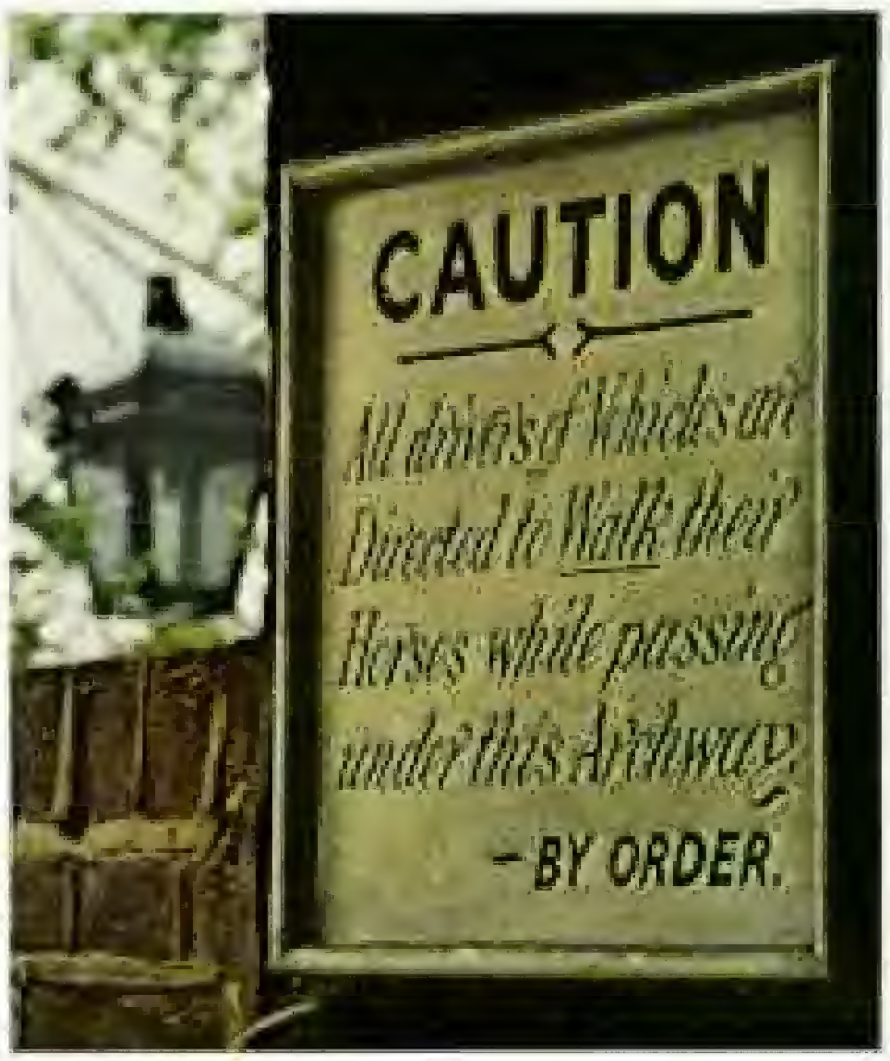
Urban Blight or Robin Hood Scheme?

One of them, Reg Smith, a guitarist and singer, has been publicly taking on Chelsea's biggest landlord, the noble Earl Cadogan (page 45). In his tiny house, one of a terrace of 130-year-old "workmen's cottages" in Christchurch Street, Reg told me: "Some people have lived on this street all their lives, and now they're old, they can't stand to be uprooted. But a few years ago Lord Cadogan tried to demolish the whole street, to build rich men's homes, proposing to put us 'needy' into two sterile tower blocks, 300 feet high. We beat the tower blocks—the Greater London Council vetoed them—but our landlord still intends to demolish our street."

The Borough Councillors generally support the earl. "Land in Chelsea is worth three-quarters of a million of your dollars an acre," Councillor John Yeoman said. "Some of Lord Cadogan's old long-term leases are bringing him returns based on values of 50 to 100 years ago, and the properties are run down beyond repair, like Christchurch Street."

The chairman of the Chelsea Society, Noel Blakiston, taking me to the roof of his home in Markham Square, gave me another view. "I want you to see why most of us are against tower blocks. Look at all those ugly 10-story blocks of flats destroying our small town. When I moved here 40 years ago, I could see St. Paul's and Westminster Abbey. Now I can hardly see past the next square. Can you imagine what it would be if Lord Cadogan had built his 30-story towers?"

Earl Cadogan thought it would be fine. A



COMMANDING NOTICE posted at Cheyne Mews (**above**) recalls the Chelsea of yesteryear, as does the wrought-iron elegance of courtly homes on Cheyne Walk (**opposite**). On the site of this and several adjoining dwellings stood Henry VIII's manor house, where the future Queen Elizabeth I spent much of her childhood. In this illustrious Chelsea neighborhood lived Henry James, George Eliot, Algernon Charles Swinburne, and George Meredith.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SKYSCRAPING APARTMENT complex (**below**) will rehouse 2,500 people in World's End, Chelsea's least affluent neighborhood, takes its name from a pub on the King's Road.

Leading proponent of new construction and owner of about a seventh of all Chelsea real estate, Earl Cadogan (**opposite**) poses before a portrait of a noted ancestor, Sir Hans Sloane, on whose collections the British Museum was founded.

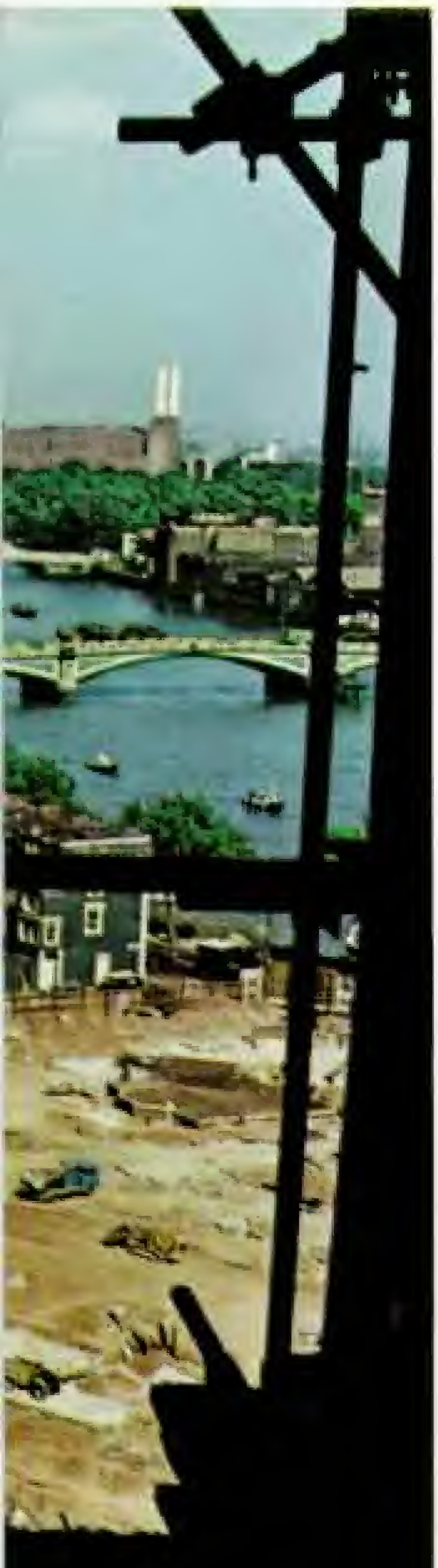
quiet short man with a gray moustache, he told me: "I had a grandiose scheme to put the Christchurch people in tower blocks at the same rent they were paying. The expensive homes I planned in place of the cottages would have subsidized the towers. We called it the Robin Hood Scheme. People accuse me of catering to the rich, but I wanted a happy community of all social classes. Now, with the towers out, I have to rebuild piecemeal. I don't know what will happen to the 'mixed society' everyone in Chelsea seems to want."

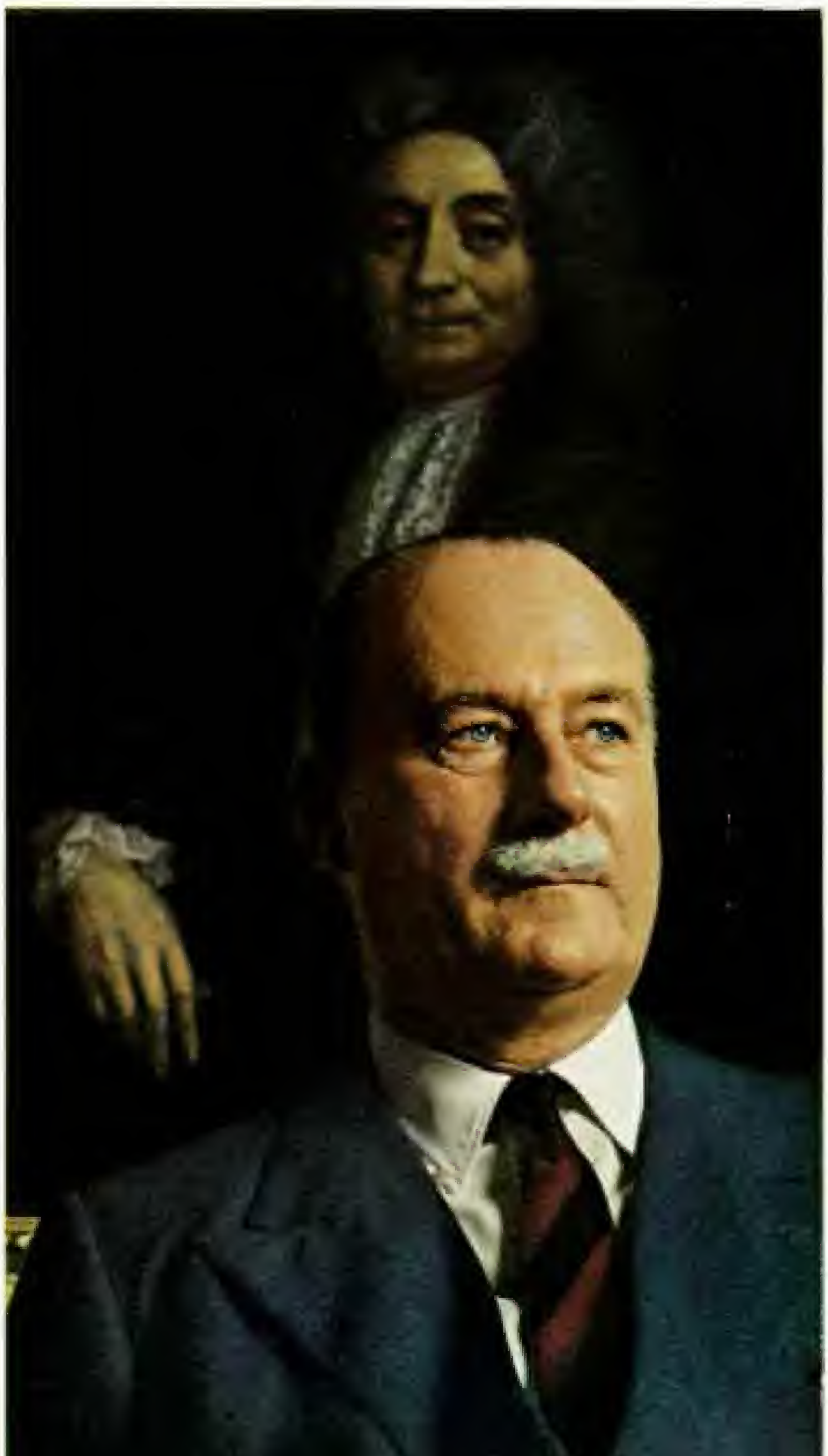
Concern for the mixed society's survival is one of the few sentiments devoted denizens

share with Earl Cadogan. They lament that blocks of flats, which isolate people by income group, and the tinselization of the King's Road are destroying the "neighborhood" quality of Chelsea. "Until all those showy commercial people arrived, Chelsea was still a country town, and the King's Road was our market street—little butchers, bakers, greengrocers," Tom Pocock said. "Then high rents that only boutiques could pay drove most of our shopkeepers out—and now we're being forced to shop in supermarkets!"

Coming from a land where the supermarket reigns supreme, my wife Hannah and I could not fully sympathize. We found far more colorful little food shops in Chelsea than we had seen in decades. At Cobb, the butcher, we acquired a four-pound Aylesbury duck for $1.90 that surpassed ducks we have bought at twice the price. In a greengrocer's we found mushrooms with caps six inches across, and in cheese shops we snatched up Brie, Camembert, and Stilton at prices far below those we are used to paying.

Our Chelsea friends deplored our American extravagance, informing us that of course you could still find small shops if you were a spendthrift. Cobb, they said, was the most expensive butcher in England. They were particularly amazed that we considered our





THAMES-SIDE STRUMMER: Youth practices on his guitar aboard a new houseboat in Chelsea's water colony. The wall design, applied by a decorator in the owner's absence, was painted over upon his return.

HAMLET WITHIN A VILLAGE, approximately 50 houseboats huddled along the Thames give owners the good life of Chelsea at bargain prices. Twice each day the outgoing tide drops the boats onto the mud. Residents roundly object to a proposed riverside highway that threatens their anchorage.

three-room furnished flat on Sloane Street, with two large penthouse balconies, a bargain. When I reflected what comparable accommodations would cost in other great cities, I feared the rent of $60 a week was a mistake. I inquired of Mrs. Lolita Lumb, a director of Universal Aunts, Ltd., our rental agents, and she said, "Well, in season we would ask $72 to $84, but $60 is right for spring."

To escape such "high" rents, about 50 households have moved out into the Thames. The houseboat colony anchored at Whistler's Reach since the end of World War II has achieved not only low-cost housing but also the mixed society (below). At one extreme, I met a young man who described himself as a mystic of minimal income, an Oxford graduate in physics, and a guest of the boat's owner. He told me he had legally changed his name to just plain MEKEM ("because it fits in with the numbers theory of Pythagoras, a very groovy cat"). At the other extreme, my wife and I visited the prosperous family of Geoffrey C. Chapman, a chartered accountant and publisher.

Mr. and Mrs. Chapman invited us to dinner aboard their bright-blue *Trafalgar*. A converted Thames barge, 90 feet long, with a 20-foot beam, it has as much room and style as a five-bedroom house that might cost $50,000 in the Washington area. When the Chapmans built it in 1964, their costs were considerably less than the $24,000 *Trafalgar* would bring today. For $720 annually they rent their piece of foreshore, get postal service and trash disposal, and hook into water, electric, and sewage facilities.

Mr. Chapman said: "Our maneuverability is another advantage. The Greater London Council is threatening to put a motorway feeder road right through our foreshore. If the council succeeds in overcoming opposition to the noise and congestion the road will cause, well, we'll just up-anchor and move upstream."

LILTING STRAINS of the classics, played by music students, compete with the hubbub of an art show (**right**) at the King's Road and Royal Avenue. Stately Georgian houses on Royal lead to Burton's Court, where the first German bomb hit Chelsea in 1940. The bomb was a dud, and Chelseans charged sixpence for a look —proceeds going to a patriotic fund.

STAR-IN-RESIDENCE for 50 of her 89 years, Chelsea actress Dame Sybil Thorndike (**above**) still occasionally performs Playwright George Bernard Shaw, whose numerous openings at the Royal Court Theatre invested the Chelsea playhouse with new life, created the title role of *Saint Joan* for Dame Sybil.

RESURRECTED from the rubble left by World War II, Chelsea Old Church rises beyond a statue of its most famous parishioner, Sir Thomas More (**right**). Dating from the 13th century, the church contains More's tomb, whether his decapitated body reposes there remains a mystery.

The houseboaters have an ally in Earl Cadogan, who thinks they have become a charming part of the Chelsea tradition. "Like most governments, the Greater London Council doesn't look further ahead than their time in office," the earl said. "In my job I've got to look at least 200 years ahead."

I was talking with him in his high-ceilinged office in Cadogan Square, and, as if to reinforce his long view, two portraits, representing almost 300 years of Cadogan ancestry, looked down from opposite walls. One was of William Cadogan, the first earl, who was quartermaster-general to the "First Churchill," John, Duke of Marlborough. The other was of Sir Hans Sloane, a physician and scholar, who, in 1727, succeeded Sir Isaac Newton as president of the Royal Society (page 45). Sloane is honored today as grandfather of the British Museum, founded primarily on his collections of scientific and literary objects, which he offered to the nation in his will—for a mere £20,000.

Sloane, who married a rich widow, bought the house that Sir Thomas More had built about 1520, along with much Chelsea acreage. When he died in 1753, aged 92, he left his holdings to his two daughters, one the wife of a Cadogan, the other the wife of a Stanley.

"The Stanleys now have little property here, but we hung onto ours," Earl Cadogan said. "I think we own more of Chelsea than the Borough Council—about 90 acres."

A ninth-generation direct descendant of Sir Hans, Earl Cadogan has perhaps inherited from the good doctor not only his commercial acumen but also his penchant for demolition. For it was Sir Hans who pulled down More's house in 1740; shortly afterward, Sloane's heirs demolished the manor house that King Henry VIII built after he condemned More to the block and seized his

SCARLET COATS and initialed caps identify these medal-bedecked British Army veterans as Royal Hospital pensioners. Here they congregate in the central courtyard of the old-soldiers' home, which Sir Christopher Wren—architect of London's St. Paul's Cathedral—designed for King Charles II in 1682. More than 400 men live in the building, Chelsea's unchallenged architectural masterpiece. In the club room of the hospital, pensioners [opposite] swap memories and small talk over mugs of their favorite brew.

property. There the young Princess Elizabeth, one day to be the great Queen Elizabeth I, lived as a young girl.

Of the Henry VIII era, when Chelsea was the "Village of Palaces," little remains but Chelsea Old Church, and much of that is a rebuilding, for a parachute mine in World War II leveled the old bell tower (page 48). Ninety percent of the monuments survived, however, among them the tomb of the More family, and, in the churchyard, the tomb of Sir Hans Sloane.

Of the More tomb, Vicar C. E. Leighton Thomson said, "Sir Thomas built it for his first wife in 1532, hoping to be buried here, but whether his body was buried here after his beheading we don't know."

The whereabouts of More's head is more certain, and I made a pilgrimage to Canterbury to pay my respects to it. There under the floor of the flint-knapped Church of St.

Dunstan, the head of Sir Thomas is interred with the remains of his daughter Margaret, who claimed the head at his death.

Masterpiece Planned in Surveyor's Closet

Chelsea's second period of royal grace arrived with Charles II, who used to meet there with two of his favorite courtesans, Louise de Kérouaille and the former orange-seller, Nell Gwyn. Nell was much loved for her tender heart, not only by the king but also by the people, and some believe it was she who persuaded Charles II to build Chelsea's Royal Hospital, the world's most beautiful old-soldiers' home. But Charles was probably only following the example of Louis XIV's Hôtel des Invalides. Since it opened to the first Chelsea pensioners in 1692, the Royal Hospital has been Chelsea's architectural centerpiece, designed by England's greatest architect, Sir Christopher Wren.

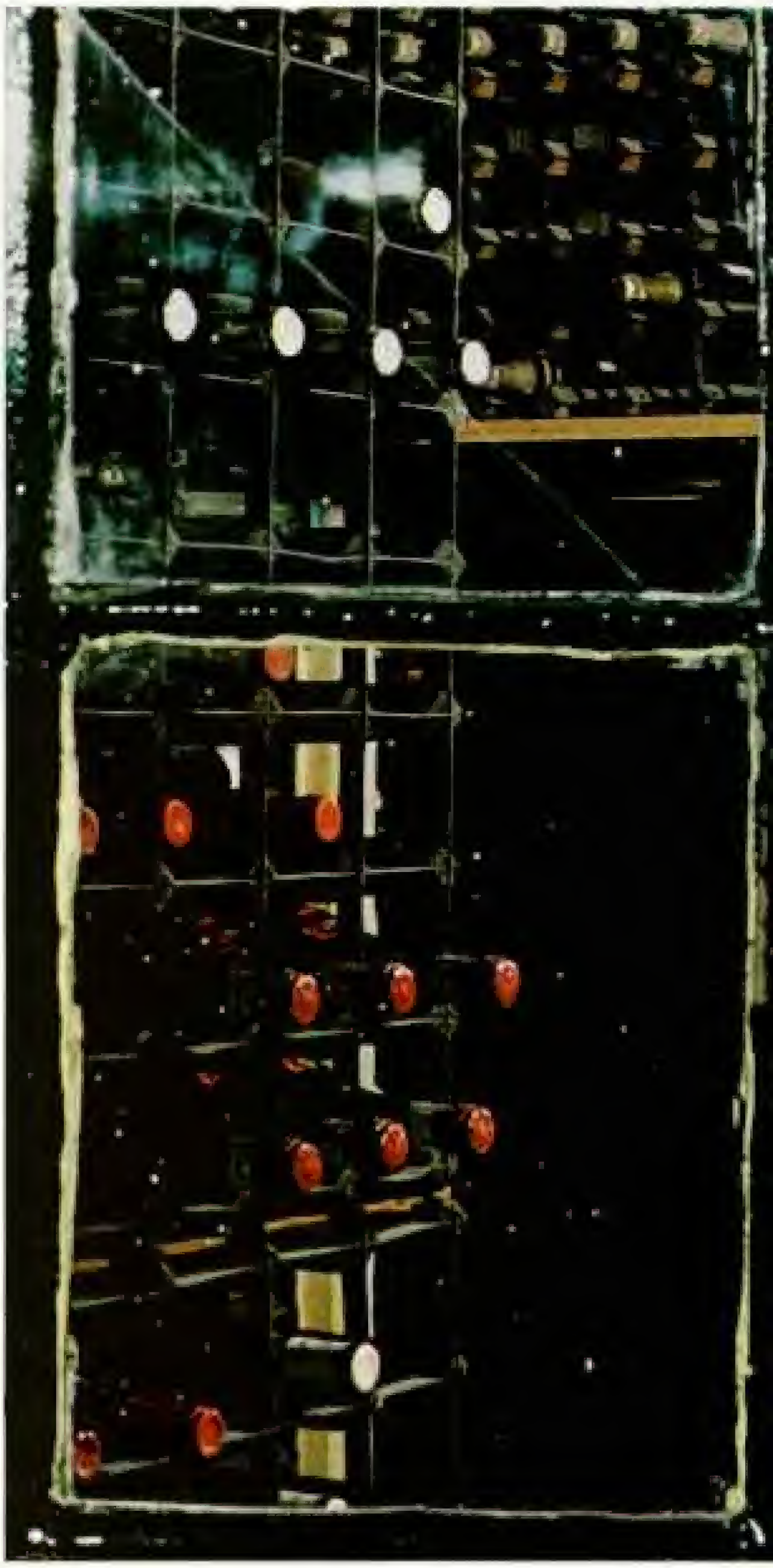
Gen. Sir Charles Jones, governor of the hospital, took me to a room in his apartments called the Surveyor's Closet, and said, "Right here, while he was still supervising completion of the hospital, Wren worked on his plans for St. Paul's Cathedral." I reached out to touch the wall of that hallowed place.

Sir Charles, himself retired from the Sappers, took me round to meet some of the 414 pensioners. We talked first in the infirmary, where the oldest pensioner, 96, felt confident he would outstay a recent predecessor, aged 101. Then, in the Great Hall, with its oak tables and its green-shaded brass lamps, we chatted up the old boys as they had their dinner of roast beef and Yorkshire pudding. Those too feeble to come down we visited in their long wards, where every man has a "berth," like a ship's cabin, in which, by drawing a curtain, he can find privacy.

On a Sunday I attended the Parade Service

CAPTURING THE PAST IN miniature, Harry J. Amey (**right**) of Steam Age adds final touches to a 1909 Burrell tractor. Some of the shop's larger working models carry price tags of several thousand dollars. Managing Director Ivan Scott, to whom "the beat of the steam engine is as beautiful as a Beethoven symphony," turned hobby to profit when he launched the firm seven years ago.

IRISH PUBLICAN Sean Treacy (**above**) watches the swirl of customers from a favorite perch in his tavern, the Queen's Elm, patronized by a host of actors and artists. The pub occupies the site where, legend has it, Queen Elizabeth I once huddled under a tree during a thunderstorm.



MARK OF PRIDE. Royal emblem in the door of vintner H. Allen Smith, Ltd., identifies the firm as a supplier of wine to England's first family. Inside, flanked by a display of antique wine-cellar accouterments, manager Malcolm Caldwell confers with a patron. The company has been named a purveyor to royalty 11 times in the past century.

in the hospital's elegant vaulted chapel—and what a powerful drama it was: the pensioners in their dress red coats, the choir in surplices as snowy as the old soldiers' hair, the organ reverberating in the high chamber, *and* the Band of the Coldstream Guards! At the close, four trumpeters stepped to the altar to sound a fanfare, and then, with such measured pomp and circumstance that even an American could not confuse the anthem with the identical notes of "My country, 'tis of thee . . ." the band struck up a spine-tingling "God Save the Queen."

After the service, I repaired to the pensioners' club (page 51), where I clinked glasses with Sgt. George Reade, aged 82, and Corp. Randolph Churchill Warburton, 78.

The talkative Warburton filled me in on his wounds—"Lost the top of me head in Belgium and most of me hearing." Then, as he spun out the details, Reade said, "Oh, put a sock in it!" Warburton counterattacked smartly: "I'm telling this story, and I'm the biggest liar here."

Finally Reade was allowed to state that he had suffered a crushed leg when he had been

buried alive for eight hours in World War I, but that he'd had an even more horrendous experience in peacetime. "I was married at 70," he told me. "You can't come in here if you have family to support. Well, the governor gave me a fright. 'I see you're married,' he said. 'Yes, sir,' I said, 'but she fell in love with her own daughter's young man and left. 'Twas a great relief to me!' "

Each year two traditional events are staged at the Royal Hospital. On the Sunday closest to Charles II's birthday, on May 29, the pensioners march in the Founder's Day Parade. When I saw those "boys of the old brigade" in their scarlet coats and tricorn hats file past their governor, saluting smartly—unmilitaristic as I am—a lump rose in my throat.

The other event, the Chelsea Flower Show in May, has been for more than half a century as much a social as a horticultural attraction. From the day I saw the Queen visit it, to its close four days later, when many exhibits were sold to the visitors, pageantry never flagged. On that last afternoon, as I watched the public march off, en masse, with its bargain plants—many ten feet high—I quailed as Macbeth did when he beheld Birnam Wood come to Dunsinane, borne branch by branch by just such an indomitable army.

Julie's Just Another Neighbor

To quiet my nerves, I repaired to my favorite Chelsea pub, the Queen's Elm. There the plump, jolly proprietor, red-moustached Sean Treacy (page 52), told me: "The idea of this pub is to keep it looking like an English pub—no thick carpets and chrome plating, no go-go girls. That's why we attract all classes of people—plumbers, writers, clergymen, actors, artists, lords, laborers." He rattled off an astounding list of celebrated customers, ending with the bibulous writer Brendan Behan—"I had to ask him to cool his rough language a bit."

Then, taking thought, he said: "Oh, yes—Julie Christie lives right across the street. Sure, I don't think of Julie as a celebrity—she's just a neighbor, in and out for this and that. Well I remember last winter when she came over on a raw Saturday night.

" 'Sean,' she said, 'I want a bucket of coke.'

" 'And will you be having it with ice, Julie?' I asked.

" 'Why, you poor fool,' she said, 'who would be wanting to drink Coke on a night like this? 'Tis the kind I'm wanting to *burn*, you idjut!' "

Of course, like many, I had fallen in love with Julie Christie as Lara, the beautiful, titanic blonde of the movie *Doctor Zhivago*. To meet her would be drama: to touch her hand, glorious theater.

"Sure, it's easy. I'll arrange it," Sean promised, but the weeks went by and always I had just missed her. Finally, my last night in Chelsea, I was at the Queen's Elm, drinking good-bye at 10:30, when Bill Thomson remarked, "Julie's been in here twice today."

PUCKISH VAGABOND, one of hundreds who pass through each week, flashes the peace sign from a King's Road bench. When his gypsy soul pulls him away from Chelsea, he will take with him the memory of a pulsing village that—as always—conforms to only one standard: nonconformity.

It was now or never; so I walked across the street to a terrace of small row houses and boldly punched the white bell button by Miss Christie's door. It opened and a wispy girl in a flowered muumuu and bare feet let me step into the dimly lit hall.

Thinking it strange that the great actress was served by such a careless-looking housemaid, I presented my card and besought her to carry it to her mistress.

"Oh, Sean told me about you," she said, "but I never give interviews."

"Come on now," I said. "You're not Julie Christie. Please, just ask her for me."

She was so disconcerted she almost stammered. "But I *am* Julie Christie. It is m'self!"

Suddenly she broke into that wide, incomparable grin, and it was indeed herself. But not the larger-than-life Lara—only an elfin, surprisingly small creature.

"In that case," I said, "you must at least let me shake the lovely Lara's hand."

Shyly, she extended tiny fingers. I seized them and held on much too long, while I asked, "Shall I write Sean's story about your coke?"

"What was it?"

I recounted it, and she said, "Well, it's the kind of story they tell about me. I don't remember, but I suppose it's true."

Having lost her fingers, I brashly demanded, "Now you must let me hold your hand once more, while I say good-bye." She offered it and I took it between my palms.

"Next time you're back in London," she said, "let me know and I'll buy you a drink at Sean's." Again, the radiant Julie grin.

Well, that's Chelsea. There's always an end of a rainbow there—for any bold soul that dares to chase it. □

Taboos and Magic Rule Namba Lives

ARTICLE AND PHOTOGRAPHS BY KAL MULLER

"KAL, KAL, YOU COME! Ee got one someting taboo little bit you savvy look!"

A flashlight's gleam jarred me out of sleep. Three villagers, each gripping a burning torch of dried wild cane and one wielding the flashlight as well, stood by my bed of banana leaves.

"You come, you come," they pleaded, repeating their promise to show me something "taboo little bit." I glanced at my wristwatch. Shortly after midnight. Groggy, I grabbed two cameras and stumbled out of the hut.

Hurrying to keep pace with my three guides, while the cool air cleared my head, I tried to learn where we were going and why. "You me go long what em place?" I asked in pidgin. "All same what em?"

"You wait," the lead guide replied. "By and by you savvy look."

We raced along a seldom used trail winding out of the New Hebrides village of Lendombwey. Branches stung my face and thick roots threatened to trip me. I managed to mount a wide-angle lens and flash unit on one camera, and then purposely slipped with a cry of pain that stopped my impatient guides long enough for me to set the aperture. Now I was ready for the unexpected. If a taboo was about to be broken on my behalf, at least I could photograph the event.

I had arrived in south-central Malekula about two weeks earlier to visit a Melanesian people who are perhaps the most traditionalist in the New Hebrides, the archipelago jointly governed by France and Britain (maps, page 59). The island's European copra planters call them "Small Nambas," in acknowledgment of the men's most distinctive adornment, a sort of fig leaf made from strips of banana foliage. *Namba* means "penis wrapper" in the local variety of pidgin English.

The men of a related tribe living in north-central Malekula, whom I visited several times, wear a purple-dyed mass of woven pandanus leaves—attire that has earned them the name "Big Nambas."

Fashion requires false tresses for this Big Namba woman of Malekula Island in the New Hebrides. Should she inadvertently come within sight of one of her husband's brothers, a taboo demands that she crouch and hide her face behind the purple-dyed "hair" of shredded pandanus leaves. The Big Nambas and the Small Nambas—two tiny groups numbering perhaps 250 in all—preserve a vanishing way of life in the mountainous interior. Now tourists have begun to visit the Big Nambas, but Small Namba villages remain remote.

The inhabitants themselves identify each other by their village of origin, such as "Me man belong Lendombwey."

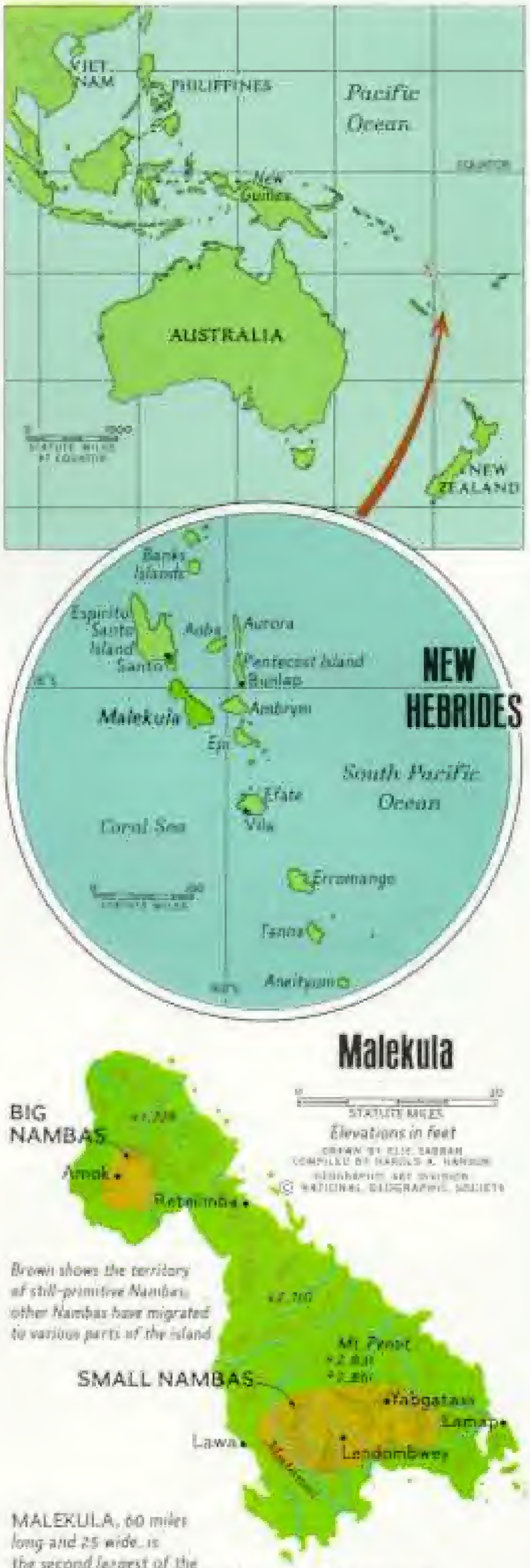
The Namba groups are small. Although Malekula has more than 12,000 inhabitants, I found that only about 250 still live according to their ancient beliefs. Half of these are Small Nambas and half Big Nambas. Most of the others inhabit coastal villages and are Christians.

Huddled Boys Await Tribal Rite

In 20 minutes my three guides and I reached a clearing which was a taboo ground—off limits to those not involved in its rituals. There several men stood with cane torches, while five boys, about 7 to 11 years of age, huddled nearby, their heads wrapped in banana leaves. One of the men, an old chief named Ilabnambinpin, approached us and spoke to my guides in the local language. One of the guides translated into pidgin: "Old fella he tell em all same. Ee got one custom belong pickaninny. You savvy look-look more work em allgetta camera belong you."

The chief was permitting me to photograph a children's ceremony never seen by outsiders. About six weeks earlier, I knew, these boys had been circumcised, and as a visitor I had been barred. Hearing of that event, I explained to Ilabnambinpin that if I were allowed to photograph Small Namba ceremonies, the people of the faraway United States would learn about their way of life.

In this remote area of the Pacific, it helps to be an American. The most isolated inhabitants know about America's activities during World War II, when the New Hebrides was a staging area for the retaking of the Pacific from the Japanese. Several hundred thousand GI's saw these islands on the way to Guadalcanal and beyond, and an important base was established at Santo on the island of Espiritu



In a village compound surrounded by dense forest, Small Namba women shred pandanus leaves to fashion fiber skirts. Some display ash-whitened faces, the symbol of mourning for a dead child in the family. Low fence keeps out wild pigs.

About 125 Small Nambas dwell here in Lendombwey and in nearby hamlets. The Big Nambas inhabit the island's northern highlands, 30 miles away. Rugged terrain limits contact between the tribes, which have different languages and traditions.

MALEKULA, 60 miles long and 25 wide, is the second largest of the New Hebrides. In World War II hundreds of thousands of U. S. servicemen passed through the archipelago en route to Pacific battlefronts. The Nambas and other New Hebrides tribes gained immense respect for the American fighting men. Today Britain and France jointly govern the 70-odd islands.

Santo, about 30 miles north of Malekula. U. S. servicemen left a favorable impression that by now has assumed almost mythical proportions.

Thanks to those soldiers, the Small Nambas now risked breaking a taboo.

The taboo, as it turned out, truly was a "little bit." Hardly eventful, the ceremony consisted of the elders singing frightening songs about whirlpools and five-headed demons, apparently in an attempt to make men of the boys. But the youngsters didn't appear very scared. In fact, I thought as I photographed them, they seemed more apprehensive about my flashbulbs.

Storm Follows Breaking of Taboo

The really frightening aspect came later, and I was the one who was scared. During the ceremony, gathering dark clouds promised a severe storm, and Habnambinpin made me return to my hut immediately. To this day, I'm not certain that the broken taboo wasn't to blame, for never had I seen a typhoon like the one that followed.

It rained all day, and by evening a torrential downpour was joined by a howling wind that slammed into the hut like a locomotive. Each gust, at 20- to 30-second intervals, shook the hut and everything in it, including me.

I sat on my bed of banana leaves, worried about the wind and rain, and wondered whether—assuming I survived this—I would be accused of causing the storm by breaking the taboo.

Between gusts, my translator and friend, Metak, the only man in the village who spoke passable pidgin, blew into the hut, dripping water, and urged me to leave quickly. "Kal, you no savvy stop long place here," he warned. "Close up house here, he fall down. You come wit em me." I covered my photographic equipment and supplies with heavy

Happiness is a father to comfort you when you stub your toe or just feel lonely. A Small Namba lad and his sister share dad's lap. "I never saw anyone spank or threaten a youngster," says the author. "I was impressed by the frequent physical contact between parent and child."

plastic sheets, weighting them down around the edges with rocks, and followed Metak into the dark night.

My shoes slipped in the mud as I dodged falling limbs. We walked doubled over, almost crawling, to resist the wind. After minutes that seemed like hours, we reached Metak's hut, partially shielded by a hillside. Inside three women cowered in a corner with crying children. I located a fairly dry spot and settled down to listen to the wind while I tried to dry off.

Playing my flashlight on holes in the roof, I noticed a log, ten inches in diameter, swaying precariously over my head. I moved, and minutes later it crashed down. A startled woman screamed, but no one was hurt.

When the wind paused for a second, I heard a weak voice from a far corner of the hut. My flashlight revealed the incredibly thin figure of a very old man wrapped in a sleeping mat. Metak noticed him, too, and walked over to me. The man was an old relative, he explained. "Name belong him Tabwibalembank" (page 70).

Metak approached the man, spoke with him briefly, and then returned. "Old fella he look plenty strong wind before," Metak said. "He want em me go long make em house more strong." Taking the man's advice, Metak went out into the storm's fury, cut down a few saplings, and added their trunks to the central beam supporting the roof. Thus reinforced, it held firm, and by morning the wind and rain had stopped.

Weather and Terrain Discourage Visitors

I stepped outside, mud oozing around my shoes, and surveyed the damage. Broken banyan limbs lay everywhere. Most roofs, including a big one over the communal men's hut, had been ripped off. But we were safe and fairly dry, thanks to the old man's advice. Best of all, no one blamed me for the storm.

While the people repaired and replaced roofs and walls, I hurried to inspect my equipment. Fortunately, though my hut was nearly demolished, little water had seeped past the plastic sheets. A few hours in the warm sun dried the cameras, the supplies, and me.

Such sudden, violent weather does nothing to attract visitors; but it is the unbelievably rugged terrain that discourages travel to Malekula. Thus, for centuries, isolation has preserved the tribes' traditional ceremonies, as well as the making of carved slit gongs, and other ritual objects. It was this purity of culture that had drawn me to Lendombwey, one of the Small Namba ceremonial centers.

As the hawk flies, not more than ten miles separate Lawa, which had been our point of departure on the southwestern coast, from Lendombwey (map, page 59). The Nambas travel this in seven or eight hours. But for Jacques Gourguechon, a movie cameraman, and me, this short trip turned into an incredible two-day struggle against never-ending slopes. With all the ups, downs, and detours, the path twists over perhaps 25 miles of mountainous terrain. Frequent downpours transform much of the route into nearly impassable mud slides.

Steep Trail Turns Almost Vertical

Accompanied by nine porters, Jacques and I had left Lawa at dawn, and almost immediately were confronted by a steep slope that gave a foretaste of the trek. Several hours out of Lawa we reached an open valley. The Matanui, a wide creek by our standards but a river by Malekula's, gurgled peacefully at our feet. Vegetation-covered slopes, still to be surmounted, loomed in the mist beyond the valley's gently curving contours.

On the worst slopes, when we grasped tree trunks and branches for handholds and pulled ourselves upward almost vertically while the ground crumbled beneath our feet, even the talkative porters ceased their chatter and puffed for breath.

Once, when the trail leveled off, we came to an abandoned village. We plucked juicy, ripe oranges to refresh ourselves before continuing to Lendombwey.

On the second day, two thatch-covered huts, their roofs weighted down by tree-fern trunks as protection against typhoons, appeared through the thick foliage. We had arrived, finally—apparently the first outsiders to reach Lendombwey. Other huts, hidden in the bush, were strung out over a relatively flat area on the side of a hill. Three villagers, wearing nose plugs, turtle-shell or safety-pin earrings, beaded armbands, and curved pigs' tusks around their necks, spotted us. They smiled a welcome and hurried off to tell their chief.

Ilabnambinpin, grandly attired in his chiefly ornaments, greeted us on the ceremonial ground of the village. His eyes sparkled as we shook hands, and I thought: Here is the most arresting man I have seen in the New Hebrides. I, on the other hand, must have seemed quite insignificant to him. I had no

headband in which to stick my pipe and no tortoiseshell earrings or wooden plug decorating my ears and nose. No wide bark strap topped by a leather belt held up my namba. I didn't even have a namba!

My muddy boots did not compare with his blue sneakers topped by knee-length red-and-white socks (left). He had donned this prized footwear, I learned later, especially to impress his visitors.

Pigs Bring Honor to Namba Chief

I resisted the urge to reach for a camera instead of his hand, but a few minutes later I broke my self-imposed rule of delaying picture-taking until I had spent a few days with my subject. In Ilabnambinpin's case, I couldn't wait.

While Ilabnambinpin looked on like a benevolent grandfather, I read my light meter and set the aperture and focus. Though it's unlikely he had ever seen a camera before, he held a straight face, sensing that was the thing to do. Then, suddenly, he burst into laughter.

"All same what em?" I asked a porter. "For what em old fella he laugh?"

"He like em you too muss," he replied.

Afterward, the old chief laughed often, and always I received the same explanation: He liked me very much. I never figured out why, since we exchanged few words. Ilabnambinpin knew little pidgin, and I didn't know his language.

Ilabnambinpin won his prominence as a leader through the ownership and killing of male pigs on ceremonial occasions. These domesticated pigs earned him higher and higher grades in the *Nimangi*, or graded society, that prevails among Small Nambas and other tribal groups in the New Hebrides. Though Ilabnambinpin cannot impose his will upon others, his high rank in the Nimangi gives added weight to his opinions and assures that he will be consulted on important matters.

As in other parts of the world, it helps in the Small Namba region to have had a respected father. Ilabnambinpin's had been a famous warrior, reputedly immune through magic from bullets and poisoned arrows. He was in great demand as a leader of war parties, and his services were rewarded with tusker pigs that he bequeathed to his son.

Recognizing his prominence, the British-French Condominium Government gave Ilabnambinpin the title of "assessor." As such, he shares the bench with the magistrate in

"His regal manner impressed me," recalls author Muller of his first meeting with Small Namba Chief Ilabnambinpin (**left**).

To greet the visitor—apparently the first outsider ever to reach Lendombwey—the chief has donned his prized sneakers and knee socks, perhaps purchased on the coast. He also wears pig-tusk armlets and a *namba*, or penis wrapper, of banana leaf. Big Namba men wear a bulkier namba of woven pandanus leaves; hence the names of the two tribes.

The strong friendship that developed between the chief and the author aided enormously in Mr. Muller's study of the Small Namba culture. Ilabnambinpin helped him win acceptance from reluctant villagers and allowed him to witness taboo events. Here (**below**) the chief teaches Mr. Muller how to braid a rope of forest vines. Such native skills held great interest for the self-taught anthropologist, who was drawn to Lendombwey and its unchanging way of life.

all government trials involving people of his area. Though his official role is that of consultant, he actually plays an important part in local justice.

Chief's Word Parts Veil of Secrecy

My friendship with the chief greatly facilitated my study of the tribe. Like most people in the New Hebrides, the Small Nambas have been wary of whites since 19th-century labor recruiters sought plantation-worker "volunteers" at gunpoint. Habnambinpin helped me win acceptance, and sometimes persuaded the elders to let me witness taboo events. On the night of the boys' initiation, for example, as on later occasions, villagers would inform me, "Kal, ee got one somting ee taboo little bit, but old fella ee tell em you savvy look-look more take em photo."

Habnambinpin also provided a hut for me at Lendombwey and, with other men, put a layer of banana leaves over the dirt floor. He saw to it that I received bamboo tubes full of water and generous supplies of yams and taro. Often he brought a *laplap*, a pudding made from grated yams or taro and cooked on heated stones. He made certain that Metak visited me often to answer my questions about tribal customs.

Habnambinpin, surely, was my key to the Small Nambas' social world. His thoughtfulness for my comfort went so far that when I washed in a nearby creek, he sometimes offered his service as a back scrubber!

Most of the daily activities at Lendombwey revolve around the yam and taro gardens—plots to be cleared, fences to be built or repaired to keep wild pigs out. To supplement the starchy staples, the men slip into the forest with bows and arrows to hunt the wild pigs, pigeons, and a kind of bat called flying fox. The rivers yield eels, fresh-water shrimp, and various fishes.

Although many Small Nambas are familiar with New Hebridean francs and Australian currency, earned on the coastal plantations, only tusker pigs can buy important things in life—a wife, a higher grade in the Nimangi society, or instruction in rituals. When a male pig becomes a year old, its upper canine teeth are knocked out to permit lower tusks to grow in a graceful circle. The greater the tusks' curvature, the higher the pig's value.

Oddly, a missing tooth denotes a more valuable wife, too. A Small Namba wife who wants to advance to *elingi*, the fourth highest grade in the women's Nimangi, must be willing to sacrifice a front tooth. During the

"I'm a good wife, hardworking and virtuous," proclaims the gaping smile of a Big Namba woman (**left**). At a special ceremony a tribesman knocked out two upper teeth, a sacrifice that established her status as a married woman. For the rite, her husband paid a toll in pigs.

Among the Small Nambas, women lose a single tooth during the agonizing ritual (**right**). Pounding a sharpened stick with a rock, a relative loosens an upper incisor of a young girl so that it can be removed with the fingers. Afterward, a heated plant stem stops the blood as a tear trickles from her eye (**above**).

"Not me!" . . . "Yes, you!" Accused and accuser confront each other during a Small Namba trial in the village of Yabgatass.

Face and body daubed with mourning ash, the father (**right**) of a dead girl points at an old man (**left**) who, he claims, threw "poisoned" leaves that struck his daughter in the chest and caused her death.

The accused, Bialo, already had the reputation of being a sorcerer. He had spent two years in jail at Lamap, after being convicted by a jury of village elders of "poisoning" several Nambas in similar fashion.

Guilty or not guilty? A jury of elders awaits the recommendation of Ilahnambingin (**left, above**), here discussing the case with the father. More than 80 Small Nambas—most of them convinced of Bialo's guilt—listened as the father and Bialo testified. The chief sat smoking, deep in thought. Then he rose and questioned each man privately. The verdict: Guilty. Bialo was fined one tusker pig and Australian currency worth $10, about what the father might have received as the bride-price for his daughter. Penniless, Bialo borrowed the money from the author, and handed it to the father, together with coconut fronds—a tribal I.O.U. for the pig. Sensing ill will, Ilahnambingin had the two men shake hands. And then Bialo vanished into the forest.

painful ritual, the woman's husband or another male relative places a short stick against her tooth and strikes it with a stone, loosening it enough to extract with the fingers. A green stalk, heated on some embers and jammed into the bleeding gap, stops the flow of blood but not the agony (pages 64-5).

Small Nambas fear the supernatural. They feel that ancestral spirits, among a host of other-worldly jungle beings, are responsible for unexplainable phenomena. The "taboo man," or "poison man," can invoke these spirits, some believe.

Even the very powerful taboo man faces social restraints, however. I learned this one day at Yabgatass, a nearby village of 20 people. Word had reached us in Lendombwey that a 9-year-old girl had died of unknown causes—an important event because a child's death seldom is considered a natural phenomenon. The father had accused a taboo man of murder. Three weeks later the taboo man's guilt would be decided by the leading Small Namba men of the region. Habnambinpin invited me to accompany him and Metak to Yabgatass for the trial.

Our three-hour hike to Yabgatass began early one morning. I expected a fairly easy pace, since Habnambinpin, who suffered a slight limp, probably could not walk too well. Taking short, birdlike steps, however, the chief moved at incredible speed, casually cutting overhead branches with his machete and chatting with Metak while I struggled for balance on the slippery, steep slopes. Once I became a bit overconfident and fell down hard in the mud. My companions laughed. "You makim flash [show off] too muss; by and by you fall," Metak chided.

Namba Women Carry the Burdens

Farther along the trail we passed a handful of women, each toting a 50- to 60-pound load of yams and taro in a palm-leaf basket tied to a stick slung over one shoulder. They, too, were going to Yabgatass for the trial.

Traditionally, Small Namba men carry nothing unless their women can't manage by themselves. As the men explain quite simply, "Business belong woman."

When we arrived at Yabgatass, most of the region's men already were waiting, some with their families—about 80 people in all. The trial, one of the more important events for the tribe, would be well attended.

Metak introduced me to several men, including the dead girl's father (above). Like other grieving male relatives, he wore patches of mourning ash on his face and body. The women were covered more evenly with the ash. The father showed me his daughter's funerary structure, a bamboo stretcher that supported her body about ten feet above the ground. A wooden statue of a woman was placed beneath the stretcher, and an open latticework of wild-cane stalks enclosed the structure and carving.

In early afternoon the men gathered before a hut, and the women a few yards away but within hearing, and the trial began. The

accused, Bialo, stood leaning on a cane, his expression sad and worried (page 66).

Bialo aroused my sympathy. An elderly, gentle-looking man, he seemed an easy target, since he already had the reputation of a sorcerer and had been convicted of several poisonings. Once he had been sentenced by fellow villagers to two years in the government jail at Lamap on the coast.

The girl's father, sitting on a fence and pointing an accusing finger at Bialo, began the testimony by blaming him for the girl's death. I could not understand the words, but his eyes were so expressive and his manner so sincere that I was ready to believe almost anything he said. He kept everyone enthralled —including, apparently, even old Bialo, who managed only an ineffectual gesture of protest from time to time.

Metak explained to me that the father was testifying he had seen Bialo throw leaves that hit the girl on the chest. She immediately became ill, and died a week later.

Bialo vigorously denied the charge, but nearly everyone seemed convinced of his guilt. Realizing this, Bialo suddenly staggered and fell, probably from tension, and crawled through the dirt for 20 feet before collapsing.

Confrontation Ends With a Handshake

Through all the excitement, while accusations flew and Bialo sprawled on the ground, Habnambinpin sat impassively next to a fire. Pulling on his pipe in deep thought, he sent out an occasional streak of yellowed saliva between his teeth. Now, finally, he stirred. Everyone fell silent. Approaching first the accuser, then the accused, he sat next to each for a moment, asked brief questions, and heard their replies with a detached air. When he took his place again by the fire, I sensed that the verdict had been decided.

Upon the chief's recommendation, the men found Bialo guilty, and fined him one tusker pig and about $10 worth of Australian currency. Bialo approached me with an anguished plea for the money. Feeling sorry for him, I lent him the sum. He gave this to the girl's father with some coconut fronds that symbolized the pig he would have to furnish.

Old Bialo then started away, shouting that he never again would set foot in Yabgatass. Habnambinpin abruptly called him back and made him shake hands with the father. Bialo barely touched his accuser's fingertips, then hobbled away.

Death and Funeral a Year Apart

Another death occurred while I was away from Londombwey. This time sorcery was not suspected. The deceased was Tabwibalembank, Metak's elderly relative whom I had seen in the hut during the storm. I remembered gratefully that he had saved us from being doused, or possibly worse, with his advice to strengthen the hut's roof.

For a year, the old man's leaf-covered body lay undisturbed on a funerary platform just off the ceremonial ground of the village. Then a funeral took place, coinciding with my return after an absence of several months. Some aspects of the ceremony, I was told, had not been performed since World War II—"time man America allgetta he come long fight," as the people date the war—and were revived in my honor.

To prepare for the ceremony, Tabwibalembank's skull was detached from the skeleton and put on a bamboo framework. Then it was covered with a paste of reddish clay and vegetable fibers and shaped to resemble the dead man's features (page 70). A stylized body was formed under the skull. Patterns of lines and circles painted on the body symbolized the man's rank in the Nimangi society. Several smaller marionette-like figures were fashioned from the same materials.

After ten nights of dancing, the *rhambaramb*, or funerary effigy, was carried in a procession around slit gongs on the ceremonial ground (page 71). The women, forbidden to stand on the grounds, wept and wailed a short distance away.

The next day I joined other spectators at

Hair of cobwebs and flesh of clay encase the skull of a Small Namba hero. During his lifetime Kainpamban, father of Chief Habnambinpin, won renown as a leader in battle; his enemies could not kill him, and other warriors stayed near him to share his immunity. A year after his death and before the final rites, tribesmen detached his skull and molded over it a likeness of the man. Such ritual images remain with the families of the dead, the objects of remembrance and affection. The skull of the mighty Kainpamban is also thought to retain beneficial powers for the village.

In life, elderly Tabwibalembank, left, dwelt with his kinsman Metak, center, the author's interpreter. Metak's wife, fearful of the camera's flash, shields her child's eyes.

"The old man may well have saved the lives of his family and myself," says Mr. Muller. The author took refuge in this hut during a fierce typhoon. As the structure seemed about to collapse, the old man instructed Metak to cut down some young trees and use their trunks to reinforce the roof. Metak did so, and the hut remained intact, although many others in the village tore apart or blew away.

In death—and after his body had lain on a leaf-covered bier for 12 months—Tabwibalembank walks again. Preceding this final ceremony, Metak and others detached the skull and shaped a clay mask (**left**) over it to resemble the deceased. Now the mask rides an effigy (**right**) of the body to the ceremonial ground for the last rites. Designs on the effigy reveal the dead tribesman's rank in the Nimangi.

Before the figure is carried to the ceremonial ground, there must be ten nights of dancing. At times the men dance on wooden planks, making a sound like muffled drums.

Startling climax to the funeral, a grotesque figure emerges from the jungle with bow and arrows in hand (**above**). Fern leaves cover the body. Matted spider webs sheathe the head. Believing that the "spirit" possesses power to do harm, the villagers spend hours in a ritualistic preparation of *laplap*, a kind of pudding made of yams or taro, to be offered at the ceremony as appeasement.

Bizarre female costume disguises a male dancer at a Small Namba rite (**opposite**). He beats on a coconut while cradling a pig-killing stick in his arm. Flowers and feathers radiate on bamboo slivers from the spike atop his mask. A scarab bracelet, probably acquired in trade, adorns his wrist.

the edge of the ceremonial ground, waiting under a brilliant sun for the grand finale. For two hours, while I grew increasingly impatient and warm, nothing happened. Exasperated, I asked Metak, "All same what em? Close up you fella make em one someting?"

"Wait," he replied. "By and by time sun ee catch em on top."

So there was nothing to do but wait until noon. Periodically, the shrill sound of a bamboo flute floated across the grounds, but nothing else happened. Finally, the flute whistled with intensity and something dark emerged from the distant bush, then turned and vanished back into the jungle.

The dark figure reappeared a minute later, and this time came closer. Metak whispered, "Now here you look one spirit."

The "spirit" consisted of a mass of smoke-darkened fern leaves atop two bare feet (left). Smoked and matted spider webbing covered the head, and sticks protruded here and there from the costume, each one impaling a bit of coconut meat which tribesmen would eat during the ceremony to achieve rapport with the spirit world.

Spectators Welcome a Whipping

Three similar figures followed from the bush, then two men who were painted like harlequins, half red and half white. Turning and swaying, the six performers circled the ceremonial ground in single file. The painted men, leaving the others, began whipping spectators across their backs with long stems. This reassured the people that the spirits wouldn't harm them, Metak explained.

A few minutes later the performers received yams from a pile in front of the funerary effigy, to appease the spirits, and left. Then Metak killed a pig with a spear, the tip of which was an old bayonet. The pig was cut up, its parts distributed among spectators and participants, and the ceremony ended.

Small Namba customs fascinate not only outsiders such as myself, but also other New Hebrides tribes. One day I escorted Bong, the chief of Bunlap on the nearby island of Pentecost, on a visit to Lendombwey.* It was Bong's first trip to a Small Namba village and his first meeting with Metak.

Speaking pidgin, since neither man understood the other's language, Bong and Metak spent an enjoyable evening exchanging

*The author told of his experiences with Bong's people in "Land Diving With the Pentecost Islanders," NATIONAL GEOGRAPHIC, December 1970.

Raining blows on a pig, a Small Namba girl tries to kill it for a ceremony. Sacred croton leaves adorn her club and costume. When she failed, a tribesman speared the animal. The highly prized tuskers are slain only for special occasions, such as

stories about their customs and crafts. Metak, for his part, seemed most interested to learn that not all namba wearers live on Malekula. "Ee got plenty man all same you?" he asked Bong. And Bong assured him, "Ee got plenty little bit."

Later during the trip, Bong and I traveled into northern Malekula's steep hills, so that he could visit the once-cannibalistic Big Nambas of Amok. Bong had first met some Big Nambas while working at the huge United States base on Espiritu Santo during World War II. The Big Nambas had not yet come under the control of the Anglo-French Condominium, and a strong hereditary chieftainship provided leadership. The tribe practiced warfare and limited cannibalism until perhaps the late 1940's, when the condominium was able to extend its administration over the area.

Just before we arrived at Amok, Bong turned to me and asked, "Kal, you thing Big Nambas savvy kaikai [eat] you me?"

Though I suspected he was jesting, I assured him that we would be safe. I had visited the Big Nambas several times, and nothing unpleasant had happened. In fact, because these people are easier to contact than the Small Nambas, they frequently receive visitors from the outside and are more accustomed to tourists.

Amok, the only Big Namba village of consequence, with 100 inhabitants, is located about 30 miles from

initiations, funeral feasts, or social grading rites. So tame do pigs become that they lie like dogs at their owners' feet.

Not to be outdone by the festively dressed girls at a Nimangi grading ceremony, a Small Namba boy sports a honeycomb headgear decorated with bright blossoms.

Fiber horns sprout from the forehead of a Small Namba woman at the grading ceremony.

To accent painted face and scarlet nose plug, she tucks feathers in her hair.

Lendombwey. Yet, because of the scarcity of inland trails across their island's rugged terrain, the Small Nambas and Big Nambas have had little contact. Each has distinctive traditions, and the languages are different enough to be mutually incomprehensible. Both groups grow yams as a staple and construct homes and prepare foods in similar ways, but the Big Nambas have been known mainly for the fierce defense of their tribal area on Malekula. The Small Nambas tend to be artistically inclined.

When we arrived at Amok in late afternoon, Virhambat, the chief, greeted us with a smile and handshakes. Then he noticed Bong's Pentecost-style namba and asked, with a startled expression, "What em nambas belong man here?"

"Man here one chief belong Pentecost," I said. Men from Bong's village, though not known as Nambas, wear similar types of clothing, I added.

Virhambat spoke excitedly with the other villagers, pointing at Bong's namba. Then came a flood of questions: What's the name of your village? Are others like you? What kinds of plants and animals do you have? Patiently, Bong answered every question.

Villagers Yearn for the Good Old Days

During hours of discussion, I learned that problems had come to the villages of both men. A money economy had begun to make inroads, and less time was spent raising pigs. There was even a cooperative store in Amok. Virhambat and Bong sighed for the good old days when pigs had value.

The next day Bong met the chief's six wives and a score of his children. Virhambat's very attractive 18-year-old daughter (page 80) especially enchanted Bong. Though tribal custom prohibited his taking such a wife, he later asked me what I thought her price might be. I understood his admiration, and suggested seven or eight pigs, including two tuskers. Big Namba women are quite striking

News of a pig-killing echoes through the jungle as a Big Namba pounds a wooden slit gong. Until a few decades ago such a sound might have announced the slaying of a human. In the late 1940's the Anglo-French Condominium extended its rule over the area, and tribal warfare and cannibalism ceased.

Wielding a leafy wand, a female witch doctor treats a sick child in a Small Namba village (**left**). Concerned parents look on. Malaria and untreated infections account for a high mortality rate among Namba infants.

Clad in low-slung skirts, Big Namba women plant yams in a village garden. "The yams have a bland taste," says the author, "like overcooked potatoes." He usually doused them with ketchup or soy sauce to provide some flavor. Namba men clear the land, but women do most of the gardening as well as the cooking.

in their pandanus skirts and great flowing wigs woven with strips of pandanus leaves.

The unusual headdress serves a purpose. Tradition forbids women from being seen by their husband's brothers, so if a girl happens to be out walking along a trail when one of her brothers-in-law wanders by, she squats beside the path and covers her face with the wig.

For days Bong reigned as the center of interest at Amok, until he was upstaged one morning by the arrival by helicopter of a white man and woman—my cameraman and his wife.

A week before Jacques and Charlene were to fly from Santo, I prepared the Big Nambas for the event. Planes flying high overhead are almost a daily occurrence at Amok, but one landing on their ceremonial ground is another matter. We cleared the area and stacked wood for a signal fire to be lit when the craft came into view.

I had secured the chief's permission for the landing, but everyone seemed apprehensive. "Kal, you tink helicopter savvy kill im dead you me?" a Namba man asked anxiously one day. He, like the

Melanesian beauty, the daughter of Big Namba Chief Virhambat shreds green pandanus leaves for a wig and skirt. Her comeliness has drawn the attention of many suitors, who have pressed her father to name her bride-price—how many pigs he will require for her hand.

Like stage performers, Big Namba dancers engage in last-minute makeup (**opposite page**). Man at center holds a mirror backed with the photograph of a movie star; he probably purchased it in a plantation store. Many Big Nambas work at intervals for coastal copra planters.

Privacy is a wife's privilege: Each spouse of a Big Namba chief occupies her own cottage in his compound (**below**). Bins rising on stilts hold yams and starchy taro root.

others, wasn't convinced that the helicopter —I had taught them that word—wouldn't crash upon us.

"Boss belong helicopter [pilot] ee savvy good road long business belong him," I assured him of the pilot's competence, experience, and our longevity.

The craft didn't arrive on schedule, and two more days passed without word. As each day went by with no helicopter, the Big Nambas began to relax. Bad weather had prevented the takeoff, I learned later, but at the time I worried about the party's fate.

At last one morning, a throbbing hum filled the air. I recognized the sound immediately, and rushed outside to light the fire. Some Big Nambas, shouting and yelling, dashed for the bush. A few paused momentarily to glance over their shoulders at the huge machine descending on them with a frightful noise and stirring up little tornadoes of dried grass. Only Nisai, the chief's 17-year-old eldest son, and another man lingered, torn between panic and fascination.

The helicopter landed and its engine sputtered into silence. Slowly the tribesmen trickled back from the bush, ready to dart into the foliage if the blades started again. Jacques and Charlene emerged from the craft, and I hurried to greet them.

Chief's Son Tries Helicopter Ride

Perhaps reassured by the sight of humans, the Nambas cautiously approached the machine. A few braver ones entered the helicopter and gingerly tried the soft seats. I asked Nisai if he wanted to join me on a helicopter flight. He didn't seem overly enthusiastic, but his pride wouldn't let him refuse.

As we lifted off the ground, I glanced at Nisai, seated beside the pilot. His face was impassive, but he had one arm tightly wrapped around the pilot's leg.

We gained altitude and flew over Virhambat's compound. The women workers scurried out of the open areas and into the forest, their long wigs trailing them. After a quick flight around the village, the helicopter returned to the ceremonial ground and landed. The tribesmen rushed up to greet Nisai, who grinned with pride.

"All same what em?" I shouted above the excited chatter. "You like em helicopter?"

"My word!" he exclaimed. "Someting here him ee strong too muss!—This thing is most extraordinary!"

Narcotic Bolsters Nambas' Courage

That night several men volunteered to board the helicopter—now that it had returned to Santo. Their newfound bravery, I suspected, could be credited partly to kava, a narcotic the Nambas drink.

Bowls of the liquid, made from the root of a bush, *Piper methysticum*, are served on a large bark tray before which each man kneels and drinks with as much noise as possible. Men and boys often gathered in the *nakamal*, the men's hut, to talk and drink kava until morning. At one gathering, I raised the subject of their former cannibalistic practices—a topic they're usually reluctant to discuss.

"All same what em time you kaikai man? —What about the times you ate human flesh?" I asked.

To my surprise, a tribesman responded readily. "Time ee got man belong kaikai small no more by and by man ee full up—When there was man to eat, only a little bit would fill you up."

"You like em kaikai white man?" I asked.

"Meat belong im stink too muss," he replied.

Human flesh was roasted over a fire or cooked into a laplap, a bland baked paste, the tribesmen recalled. But they never killed simply to satisfy hunger. Cannibalism was a ritual, they emphasized, performed to avenge a death or to settle a quarrel.

As they discussed their years as Malekula's fearsome warriors, I detected nostalgia in their tone. If the government had not banned the practice, I suspected they would remain cannibals today.

The thought gave me a few moments of concern until I remembered what one of the tribesmen had said about taste preferences. If they were still cannibals, I decided, they would eat me last. □

Heir to a dying culture, a Big Namba girl affectionately clutches her father's hand. She faces an uncertain future. Like many other Big Nambas, her parents may move from their isolated domain to the coast of Malekula in hope of a better life and schooling for their children. As contact with civilization increases, the tribe's old way of life inevitably fades.

Who Says Fish Can't Climb Trees?

ARTICLE AND PHOTOGRAPHS BY
IVAN POLUNIN, D.M.

STRAIGHT UP a mangrove stem shinnied the little fish, gripping with powerful pectoral fins (**left**). Hard behind came another, as agile as the first. They were four-inch-long mudskippers—land-roving aquatic creatures that abound in the mangrove swamps of Southeast Asia, including Singapore, my adopted home.

Those sweltering quagmires, so ardently avoided by most people, have for a decade nurtured a hobby of mine. When I am not teaching medical students at the University of Singapore, I like to slip away to the waterlogged lands northwest of the city to observe a galaxy of fascinating inhabitants. If time allows, I go farther afield, to the marshlands of the Malay Peninsula or Borneo.

At night in the swamp I am drawn to trees that blink in unison with the soft glow of fireflies. For five years I have studied the insects' synchronous flashings and intriguing social behavior, a project recently supported by a National Geographic Society research grant.* By day, brushing away clouds of mosquitoes, I cruise in a sampan or creep afoot along muddy shores. There I delightedly watch the mudskippers. Scampering over the flats and inching up plants, my favorite swamp residents forage in the mud for shellfish left by the ebb tide. They surprisingly ignore the mangrove periwinkles that share their perch (**left**).

Obviously, a fish that spends more than half its time out of water possesses a specialized breathing technique. Submerged, the mudskipper respires in the usual manner, drawing in water through the mouth and passing it across gill filaments that extract dissolved oxygen. But while most fish cannot keep their gills moist when out of water, and ultimately suffocate, the mudskipper fills its gill chambers with a mixture of air and water when it emerges. This portable life-support system, an "Aqua-Lung" in reverse, moistens the gills during the mudskipper's hours-long sojourns in the world of air.

Early observers, baffled by the mudskipper's land-going ways, concluded that it somehow breathed through its tail by keeping that appendage immersed while lolling on shore—a habit that my observations do not confirm. Later research punctured the tail-breathing legend, but there remains the possibility that an occasional dipping of the tail may moisten the rest of the fish through capillary action.

Despite their abundance, mudskippers excite little interest locally as food for humans. Once I asked a villager why he didn't catch and cook them. His brow creased in puzzlement as he struggled for an answer. "True, it is a fish. . . . But it climbs trees. How can you eat a thing like that!"

Mudskippers frequent the world's tropics, but the number of species is uncertain. I identified my tree-climbing subject as *Periophthalmus chrysospilos*. The generic name refers to its bulging eyes, the specific name to its gold spots.

Of course, the mudskipper is not the only fish that leaves the water. The walking catfish of Southeast Asia that has invaded Florida waddles onto land for short periods.† And Southeast Asia's climbing perch has been observed following a rivulet of rainwater up a slanted tree trunk. But of all fishes, the mudskipper apparently is the most terrestrial, using its forefins like crutches to speed across the mud.

Examining its stubby leglike forefins and unique breathing method, I find it easy to see how the ancestors of land creatures crawled out of the water.

*In "Nature's Night Lights," GEOGRAPHIC, July 1971, Paul A. Zahl reported discoveries by Dr. Polunin. The London-born physician-teacher holds a Doctor of Medicine degree from Oxford University.

†See "New Florida Resident, the Walking Catfish," by Clarence P. Idyll, GEOGRAPHIC, June 1969.

POPEYED JACKS on a pygmy beanstalk, mudskippers crowd a seedling mangrove during high water (**left**): at the approach of my boat, they flipped from the tree and scooted away like ducks. As if riding the surf ashore, another formation of *Periophthalmus* basks on a fallen trunk of a coconut palm (**below**). The stalked eyes, elevated for a panoramic view of predators and prey, mark another adjustment to land life. To help keep the eyes moist when out of water, the fish can rotate them downward for a bath in liquid stored at the bottom of the socket.

Demonstrating the suctionlike grip of their fins, two fish climb the wall of my aquarium (**bottom**). Pelvic fins hold them to the glass while pectorals reach higher.

FLUSHED WITH THE BLOOM of courtship, a male in mating-season hues leaps high to attract a spouse (**below**). By curling his body sideways, then suddenly straightening, the mudskipper can bound to a height of about eight inches. At the peak of his leap, he spreads his dorsal fins before flopping back onto the mud.

In less than a minute the acrobatic display lures an interested female (**upper right**). Now the male begins a game of enticement, leading her to a burrow he has dug in the mud. He crutches toward the nest, stops to display his fins, then moves back toward the hole. Mincingly she follows, pauses to match his display of fins, follows again, then hovers tantalizingly at the brink (**lower right**). At last the pair duck inside the water-filled den, 10 to 20

inches deep. After the spawning and egg fertilization, the young hatch as tiny larvae that later metamorphose into fish form.

I watched fascinated one afternoon as an inspired male vigorously gouged out his lair of mud. Time after time he dived into the shaft, grubbed a mouthful with his tiny teeth, then surfaced and lobbed the mud pellet sometimes half a foot away. At last he completed his nuptial home.

Despite obvious talents for living on land, where it feeds, fin-walks, and finds a mate, *Periophthalmus* seems as much at home in the water as any other fish. Laboratory tests show that the mudskipper can stay submerged indefinitely with no ill effects. Observers of an African species report that it apparently is lured onto mud flats warmed by the sun, much as humans are drawn to sun-warmed seas.

DAUNTLESS DEFENDER of his nest, a mudskipper confronts an armored invader. The crab's powerful pincers give it superior weaponry, but *Periophthalmus* stands his ground, relying on boldness and dash. Raising a dorsal fin like a battle flag, he rears on pectoral fins and puffs out the gill chambers to make the most of his small stature. Several quick rushes and a nip on the crab's leg persuade the intruder to retreat.

Fiercely territorial during the mating season, mudskippers staunchly defend their burrows against males of their own kind. An afternoon on a crowded mudbank reveals constant scrimmaging in the battle for dominance. I have seen many face-offs by males of one genus that are purely ritualistic, with much posturing and backing down. But other contests turn into violent struggles, in which mouths lock and opponents are thrown.

I have observed only two land enemies of mudskippers—a reef heron and a dog-faced water snake. The heron prowls the mud flats, capturing sunbathing mudskippers with a

thrust of its long bill. The water snake invades the burrow. I once observed a water snake devouring a mudskipper headfirst, while a second snake began engulfing it from the tail. Eating from both ends, they met in the middle. The rising tide put an end to this gastronomical race, causing the latecomer to let go to avoid drowning.

The mudskipper is also a hunter, pouncing on small prey with catlike speed. Often the sudden assault ends with the little predator's snout buried in the muck as it lunges after crustaceans. When stalking snails, the fish waits until the mollusk's foot is fully extended, then rips the body from the shell.

Success in hunting, however, brings complications in breathing: As the fish swallows its prey, the vital water and air in the gill chambers escape with a gush. The mudskipper must hasten to the water to recharge its supply. Such problems remind me that, despite amazing adaptations, *Periophthalmus* is still an evolutionary wayfarer between the worlds of water and air. □

NEW ZEALAND'S BOUNTIFUL

South Island

By PETER BENCHLEY

Photographs by JAMES L. AMOS

NATIONAL GEOGRAPHIC PHOTOGRAPHER

IN AN ELOQUENT ATTEMPT to capture the character of the New Zealander, British author Anthony Trollope wrote: "He admits the supremacy of England to every place in the world, only he is more English than any Englishman at home. He tells you that he has the same climate, only somewhat improved; that he grows the same produce, only with somewhat heavier crops; that he has the same beautiful scenery at his doors, only somewhat grander in its nature and more diversified in its details; that he follows the same pursuits and after the same fashion, but with less of misery, less of want, and a more general participation in the gifts which God has given to the country."

Taking Trollope at his word would lead one logically to conclude that the New Zealanders' principal stock-in-trade is braggadocio—if, that is, it weren't for the fact that, even a hundred years later, every one of those apparently outrageous claims is true.

New Zealand consists of two main islands. From the top of the North Island, at about 34 degrees south latitude, to the bottom of the South Island, at about 47 degrees south latitude, the country is scarcely 1,000 miles long. Nowhere is it wider than 280 miles, and usually much less (map, page 97).

Yet within this compact nation there are alps to rival Switzerland's, plains more fruitful than England's, streams and rivers as laden with fish as Scotland's, fiords reminiscent of Norway's, beaches as alluring as California's. The Maoris, who came centuries ago by canoe from somewhere in mid-Pacific, called it *Aotearoa*, the long white cloud, or bright land. The country today is an agricultural cornucopia—first

Rich harvest reaps a smile at sunset from oats cutter J. A. Johnston on the Canterbury Plains. Wheat, barley, and potatoes add to the South Island's abundance, helping New Zealand achieve agricultural self-sufficiency.

Sea of fleece inundates Mount White Station, northwest of Christchurch, at shearing time (**following pages**). The South Island's nearly 30 million sheep wax fat on highland pastures made lush by fertilizers spread by airplane.

Hatted and uniformed in the style of their schools, students await buses in Christchurch. English customs, willow trees, and Gothic architecture flavor the heart of this largest South Island city, founded by Anglican churchmen 122 years ago.

among the world's exporters of meat and dairy products, and second only to Australia as an exporter of wool.

The Dutch navigator Abel Tasman, first European to see New Zealand, had no hint of these potential bounties. In 1642 he was virtually at the end of the known earth: halfway around the world from home, a thousand miles from the nearest landfall in Australia. He had just crossed the sea that would later bear his name when, on a warm December day, he spied the rugged western shore of the South Island.

Neither he nor his crew ever set foot there. Before they could disembark, they fell into a dustup with a band of Maoris. Tasman lost four men, decided to leave well enough alone, and sailed away.

Not until 127 years later did a European, Capt. James Cook, actually land on New Zealand.* And even after settlement had been achieved, life was hardly all marmalade. It would take generations for pioneering New Zealanders not to feel they had banished themselves to the end of the world.

Nowadays, however, New Zealand has grown into a pleasant, peaceful, robust bit of Europe in the far South Pacific. Its three million people live in happy ignorance of poverty, and serious crime is a rarity. The government—a parliamentary democracy based in Wellington, on the North Island—has fashioned a kind of benevolent socialism that has produced an almost classless society—but not, however, any monotonous uniformity.†

Larger South Island Holds Fewer People

"You'll find South and North as different as night and day," said a bearded youth I met on a ferry running from Wellington to Lyttelton, the port of Christchurch, on the South Island's east coast.

Climatically, the difference is obvious. Up at the tip of the North Island, the hint of the tropics is in the air. At the foot of the South Island, there is a pervasive suggestion of the Antarctic ice. Over the years, the North Island has attracted the bulk of the population, and the coming of industry further accentuated the northward drift. Today the North Island's 44,281 square miles hold three-quarters of the country's industry, as

*Captain Cook's world-changing voyages were described in "The Man Who Mapped the Pacific," by Capt. Alan Villiers, NATIONAL GEOGRAPHIC, September 1971.

†See, also in the GEOGRAPHIC "New Zealand: Gift of the Sea," by Maurice Shadbolt, April 1961.

The rugged spine of the Southern Alps, flanked by eastern plains and western fiords, dominates the South Island's varied landscapes. Glaciers and high tussock sheep range, sandy beaches and narrow lakes pattern this Florida-size island of 810,000 people.

NEW ZEALAND

Translucent as stained glass, wafer-thin greenstone pendants, carved from nephrite jade, copy those of early Maori tribesmen.

Baby strollers hook a ride on Christchurch buses (above)—a convenience for mothers in keeping with the city's relaxed and pleasurable way of life. The shady Avon River winds through a downtown park, inviting Sunday dalliance in kayaks (**below**).

Like living palettes, private gardens blaze with color in spring, summer, and fall, belying Christchurch's bleak origins in 1850. The site of the city, writes New Zealander Denis Glover, was "the most miasmal part of the Canterbury Plains," beset with "bog, fog, and mud." But Christchurch burgeoned after its dismal start. Now enthusiastic homeowners regularly vie for best-garden and best-street accolades in a city abloom.

well as 80 percent of its beef cattle, 93 percent of its dairy cows, 55 percent of its sheep, and more than two-thirds of its people.

Only 810,000 people live on the bigger South Island. So in its 58,093 square miles there is land enough to please the most reclusive sportsman. There is also land enough to grow more than 90 percent of the country's wheat and oats.

One of the more successful farmers on the South Island is a tall, rangy 31-year-old named Alister McGregor. I spent several days with him at his Mount Linton Station, near the town of Ohai, where on 28,000 acres he runs 55,000 sheep and 3,500 head of cattle.

I arrived on the day that men of the local freezing works were selecting lambs ready for market. It had been pouring rain since early morning, so Alister and I donned gum boots and slickers before slogging out to his Japanese four-wheel-drive wagon.

The people from the freezing plant were already at work by the time we arrived at the distant field where the culling was done. Four thousand lambs were massed before a long chute. Dogs rushed this way and that, collecting strays, shoving lambs together, pouncing on the backs of the recalcitrant. On either side of the mass, shepherds stood with canvas tarpaulins, gently urging the

bleating lambs toward the narrow opening in the chute.

The drafters, or cullers, stood alongside the chute, gripping thick red chalk markers. As each lamb filed through, a man grabbed it quickly behind the kidneys, feeling for the proper amount of fat, then slashed red chalk across the backs of the chosen. At the end of the chute, lambs with red slashes were guided into one pen; those without went into another to fatten for a few more weeks.

On our way back for lunch, Alister stopped the vehicle before the huge shed where the sheep are sheared. The floor was still littered with the remnants of a recent shearing.

"Once they've been clipped," said Alister, "the sheep come skidding down chutes into those pens. Each pen fills with the sheep that are sheared by one shearer, so we can tally each man's work for the day and pay him accordingly."

"How many sheep can a good shearer clip in a day?" I asked.

"The average is 200, but a really good man can shear up to 400 in a nine-hour day. We pay $14 a hundred—about $16 in your money—so a good man can make a good wage, even though the work is seasonal."

Cup of comfort: Workers at a chocolate factory take a tea break in Dunedin (**above**). The city, renowned for its Scottish charm, is known as the "Edinburgh of New Zealand."

Glass of competition: Timed by a stopwatch, beer disappears down the gullet of a portly contestant at last year's Greymouth Gold Rush Festival (**left**).

Alister's Mount Linton Station lies near the southeastern boundary of the spectacular national park called Fiordland. At its opposite edge is Milford Sound. I flew into the small airstrip there and boarded a motor launch for the ten-mile trip along the fiord. Precipitous mountain faces climbed 6,000 feet above the water. Falls cascaded into high valleys, thundering down and spinning gleaming rainbows. Tuna jumped in front of the boat, and birds dived to snatch small fish driven up by the tuna. Seals played on shoreline rocks.

Suddenly one of the clouds floating overhead discharged its burden of water, and for a few seconds we passengers were drenched. The boat captain, white-haired Jack Darby, grinned as we scurried for cover.

"Barely a heavy mist," he said. "We average about 250 inches of rain a year around here. Our record rainfall for one 24-hour period is 22 inches. In 1969 we had something of a drought—only about 240 inches—but in 1970 we had 300 inches."

And yet just 80 miles to the east, one-twentieth that amount of rain is a normal yearly average. The spine of mountains that runs the length of the South Island acts as a natural barrier. The prevailing winds soak

SHAVING A WHEAT FIELD *of its golden bounty, a combine leaves only straw and wheel-rutted stubble in its wake. New Zealand relies on the lightly populated southern isle for nearly all its basic grains.* 103

the exposed western coast and slope of the mountains, then pass, lighter and drier, on across to the east.

Leaving Milford Sound, our fabric-covered biplane, a 35-year-old de Havilland Dominie, followed a path through narrow gorges, then climbed over the crumpled, glacier-streaked mountains. The day was clear, but every time we neared a peak or ridge we were tossed around like a shred of paper.

The pilot, Dave Wilkes, saw my alarm and laughed. "Don't worry," he said. "You'll have to get used to this kind of flying if you stay around the South Island. It's the only way to get about."

Perhaps more than any other developed nation, New Zealand owes its progress to the airplane. Until the 1940's, much of the South Island's remote "backblock" country was inaccessible except by foot, and even today a trip that takes 15 or 20 minutes by air is an arduous nine or ten hours by car over twisting mountain roads.

But airplanes have provided more than access. A great deal of the island's land is high tussock, barely suitable for grazing hardy Merino sheep. After World War II, New Zealanders invented a process called aerial topdressing—spreading superphosphate and other fertilizers by air—that turns barren land into productive pastures.

Pilot Dubbed Popeye Turns to the Land

Though New Zealand's dependence on its masters of mountain flying is far from over, one of the most renowned practitioners of the art has hung up his wings in favor of moving back to the land. During World War II, Fred Lucas won two Distinguished Flying Crosses for his service with the Royal Air Force, as well as the lasting nickname Popeye (because of the way he used to roll his false teeth and pucker his mouth).

After the war, Popeye Lucas helped found two small New Zealand airlines. But in 1960 he bought a remote sheep station at Cecil Peak, on the shore of Lake Wakatipu, and today he lives there with his wife and five children, raising sheep and cattle and playing host to vacationists.

Cecil Peak Station lies across the lake from Queenstown. As our launch plowed through crystal water, the captain talked about the Maori legend of Wakatipu.

"It's 48 miles long and shaped like an S," he said. "There's a three-inch rise and fall in the water level every few minutes. The

A breed apart: Unlike many youths who desert the backcountry for lively cities, rancher Charles Lucas (**left**) prefers the open air of his father's sheep station at Cecil Peak, despite such rigors as mustering, shearing, and dipping (**below**).

The South Island accounts for almost half the 60 million sheep in New Zealand, which leads the world in export of lamb and mutton, and ranks second to Australia in wool.

Maoris say the motion is produced by the breathing of a giant sleeping in the lake." Scientists ascribe the rhythmic heaving, called seiche action, to atmospheric pressure changes and mountain-funneled winds.

Mr. Lucas was waiting at the dock when we arrived, and he piled us into a bus for the trip to his homestead—a rambling ranch house on a gently sloping field. By New Zealand standards the Cecil Peak Station, with 34,000 acres, is a medium-to-large-size spread. But to me it looked like a mountainous version of Texas's huge King Ranch.

Southland Lures Americans

Popeye's wife Lorie served tea, and we sat around the comfortable living room discussing ranch life.

"We have a terrible time getting young lads to go into this business—most of them head for the cities," said Popeye. "But fortunately, now that they're out of school, none of my four boys want to be anyplace but here [pages 104-5] So what with Lorie and me, our sons, a daughter, a son-in-law, daughters-in-law, and grandchildren, we're not a family any more, we're a tribe."

While we were talking, I became almost uncomfortably aware of the silence around us. The only noises outside were an occasional birdsong and the rustle of wind through the trees. I asked how the children coped with such a remote existence.

"Oh, it's not so remote," said Popeye. "I get to Queenstown every now and then. And when I do," he added with a chuckle, "Lorie has to send the dogs after me. As for the kids —maybe they're missing something, but I don't think so. The way most of the country is developing, we all think we're pretty lucky to have this solitude."

The lure of such a lonely life has attracted scores of Americans to the South Island. Some come to live out their retirement years in relatively inexpensive peace and comfort. Others, like a young businessman named Stockton Rush, have grander designs. Rush operates a new hunting and fishing lodge down south near Lake Te Anau, and has become the object of considerable controversy. Some politicians say he is bent on profiteering—buying land cheap, subdividing, and selling at a handsome markup; others welcome the impetus he is giving tourism.

Rush, a burly, handsome man of 40, met me at Te Anau's landing strip, and we drove toward the mountains in his Land-Rover. As

Windswept solitude envelops a farm overlooking Akaroa Harbour (above). Now peopled by farmers and fishermen, this eastern inlet, an ancient volcanic crater, held a 19th-century whaling station.

Legacy of early settlers, red deer (right) flourish over much of the South Island, where bats are the only native land mammals. Elk, goats, chamois, and game birds were also introduced. Lacking natural enemies, the deer have overrun the bush country; today they are hunted commercially—and controversially—from helicopters.

we sped along, Rush explained what had brought him to New Zealand. After graduation from Princeton in 1953, followed by three years in the Marine Corps, he had become a stockbroker and, later, a rocket-company executive in San Francisco.

"Then one day I decided that the relentless pursuit of money was making me an emotional basket case," he said. "So I came down here and spent months wandering, looking for land. Finally I found 2,000 acres—useless and all but inaccessible. I bought it, put in ten miles of road and ten miles of power lines. And then we built the Takaro Club."

Stags Roar a Song of Love

We turned onto Rush's road, entering a large stand of trees. "These are all Southland beech," said Rush. "At home we'd call it a forest. Down here it's just called bush."

As we rounded a bend, two small, delicate red hinds leaped across the road. Rush stopped the car and stuck his head out the window. He cupped his hands around his mouth and gave out with a low roar—"wroo, cough, cough, wroo, cough, cough." The deer stopped, confused.

"They're looking for the stag," Rush said. "This is roaring season. It goes on until the stags have assembled their mobs of hinds. You'll hear plenty of the real thing tonight."

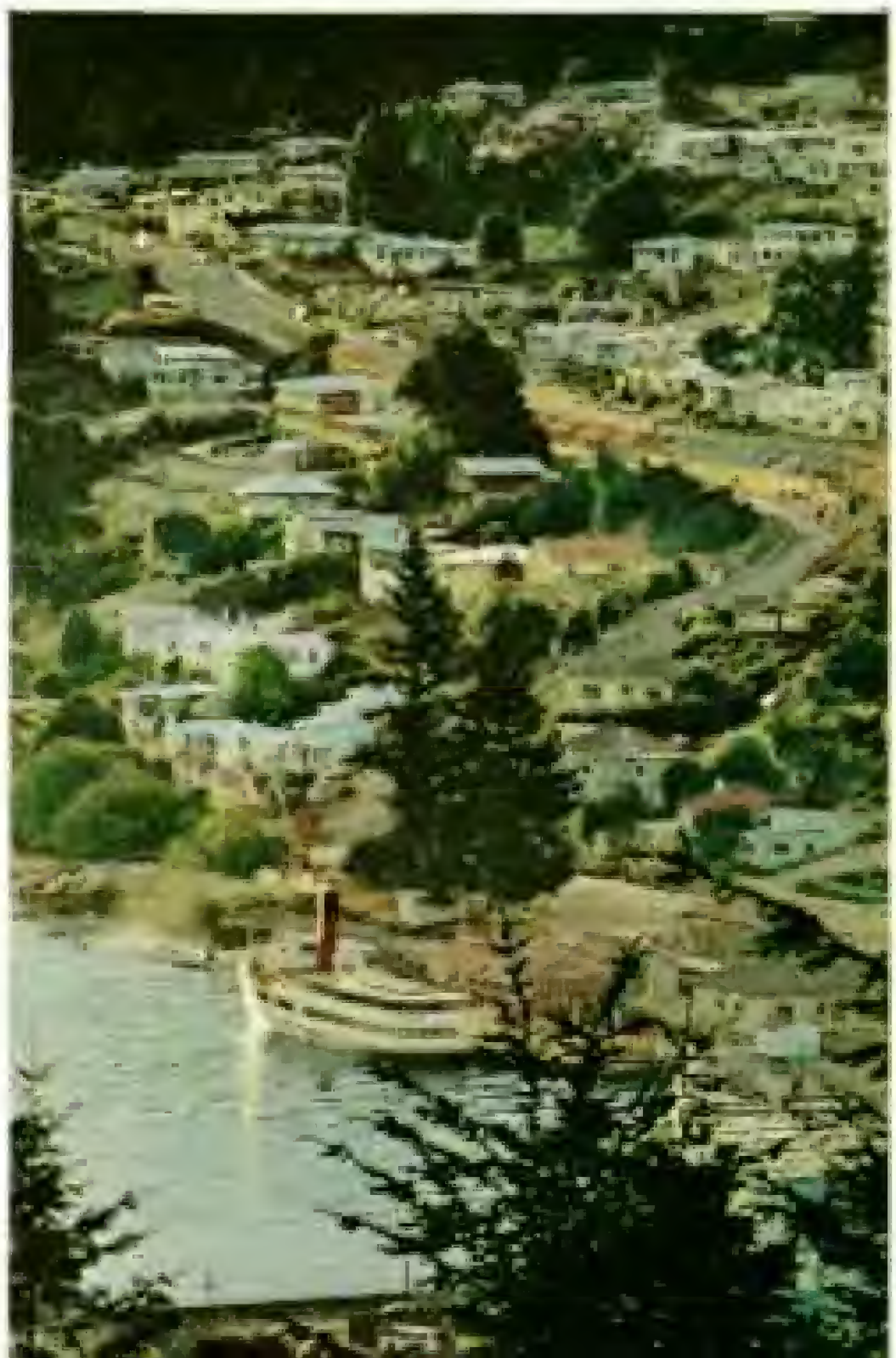
Rush's Takaro Club is a kind of wooded Xanadu sitting at the base of a mountain overlooking miles of open valley. The buildings—guest cottages accommodating 32, plus a central dining and recreation lodge—are built of river boulders and wood, with sod roofs. From the outside they seem a simple, perfect blend with the mountain. Inside, Rush has created rustic opulence—leather and polished wood, European food, gracious service.

When I arrived, the lodge was nearly empty, though this was a holiday weekend and most resort areas were jammed. "It's going to take a while," Rush said, "and we've only been open since October 1970. To provide the services we do—good food, guides for hunting and fishing, skeet range, pool, sauna, the whole bit—we have to charge what are, by local standards, outrageous prices. You know, a yearly income of $6,000—about $7,000 U. S.—is considered quite comfortable here. There aren't many New Zealanders who can afford to spend $115 a day per couple."

After lunch we went for a walk, and Rush spied a car hidden behind a clump of bushes. I saw rage flash across his face.

"A poacher," he said. "I'm tempted to slash his tires. I don't allow any hunting on our property, but poachers still come in and shoot the deer. And because of current laws, there's nothing I can do about it except warn them not to trespass."

There is controversy over the shooting of



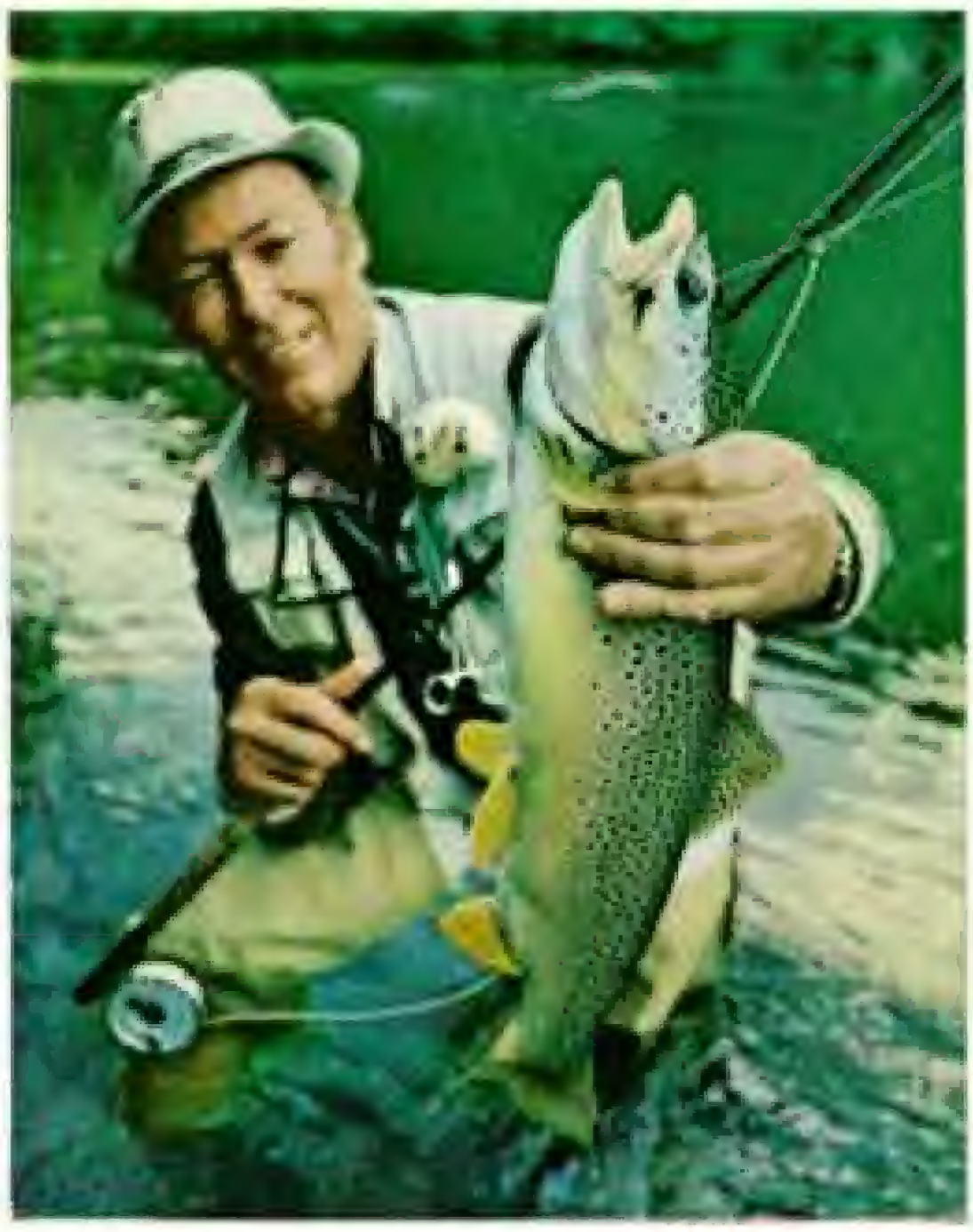
Lawn bowlers ponder a play at Queenstown, on mountain-rimmed Lake Wakatipu. Coal-burning steamer (right) ferries passengers around New Zealand's longest lake and provisions nearby sheep stations. An aerial cableway carries vacationists to a spectacular overlook above the lake.

Queenstown's corrugated countryside draws visitors in nearly all seasons. The electric beauty of autumn colors its hills and byways; skiers glide its slopes in June, July, and August. Most New Zealanders, however, enjoy December and January vacations, when school is out and days are longest and warmest.

Human jetty intrudes into the mouth of the Ashburton River when February fishermen haul in salmon returning to fresh water to spawn (**above**). Landing a 25-pounder is not uncommon.

"Best trout fishing in the world," raves Pan American pilot Stu Apte (**right**), as he admires a four-pound German brown he took from the Hollyford River in Fiordland National Park.

New Zealand offers a host of such little-explored streams, caged between mountains and accessible only by strenuous hiking or by pontoon planes that land on lonely lakes and fiords.



New Zealand's deer—whether to eliminate a pest or conserve a gentle, graceful animal. New Zealand does not have animals to squander, for like many remote oceanic groups, it has no indigenous mammals except bats.

When the first Maoris arrived in canoes, perhaps from the Cook Islands, they brought dogs and rats with them. They balanced this dubious contribution by eventually exterminating the most spectacular of New Zealand's fauna—the giant wingless bird called the moa, which grew as tall as 12 feet. But the famous kiwi, a smaller flightless bird after which New Zealanders have nicknamed themselves, still exists under strict governmental protection.*

The deer was introduced by European settlers, as were the rabbit and an Australian marsupial that resembles and is called an opossum. Since no natural competitors existed to keep the numbers of these species down, they so proliferated that they have been officially designated "noxious animals." The rabbits, which ruined grazing land by tearing up tussock at the roots, have been brought under control by dropping poisoned carrots from the air. The possums destroy trees by eating the leaves and upper bark, but a possum-fur industry helps control them.

Deer, however, remain an unsolved problem. As well as browsing on leaves, they rub off the lower bark of trees with their antlers. Then, when regenerative growth starts, they nibble it off. Eventually the trees die, and bush is destroyed. The government thus allows deer hunting from helicopters. Sometimes a team bags 120 in a day.

"That's why all the deer from the neighboring land are coming down onto our property, where they're relatively safe," Rush said. "Control is one thing, but is annihilation really necessary?"

Guide Knows Each Fish in a Pool

The next morning dawned crisp and cool, and Rush introduced me to Jim Loudon, Takaro's head fishing guide, who has been pursuing brown and rainbow trout for fifty years. A taciturn man, he lives in a trailer and spends his evenings reading books and classical music scores, wishing he had room for a piano.

Jim and I drove to the Whitestone River, some forty minutes away over dirt and gravel roads, and stopped in the middle of a wide gorge, through which the river meandered quietly. "Years ago," said Jim, "people used to catch twenty-pound brown trout around here, and forty-pounders were netted in Lake Wakatipu. But nowadays the average in the Whitestone is about six pounds."

He rigged the flies, and we moved to the edge of a pool. "There are two fish at this spot," he said. "One's pretty big, eight or nine pounds. The other's smaller." He began to cast with pinpoint accuracy. But, for whatever reason, both fish were dieting that day.

We moved upstream from pool to pool, and every time we came to a new one, Jim would announce the exact number and weight of the fish there. I asked him how he could be so sure of the trout population of the Whitestone.

"They say about us New Zealanders that our motto is, 'If it grows, cut it down; if it moves, shoot it,'" he said. "But we're trying to keep the fish as best we can. Last season I don't think I had ten guests who wanted to take their fish home for dinner. The rest we

*Ron J. Anderson described "The Kiwi, New Zealand's Wonder Bird," in the September 1955 GEOGRAPHIC.

Like golf balls scattered over a green, sheep graze a field on the lush Canterbury Plains (**right**). Other plots wave with wheat, ryegrass, and alfalfa in this section west of Christchurch.

Farther north, the land yields diverse cash crops, such as cigarette tobacco. Leaves mature singly, demanding a hand-picked harvest in February (**below**); the tobacco will cure in flue-heated barns. Hops, apples, and raspberries also thrive in the fertile region around Nelson.

released. If you release them, then they're there to fight the next time."

The preservation of the environment is a growing concern in New Zealand, and today almost 8 percent of the country has been set aside as national parkland. One of the catalysts that has forced the South Islanders, in particular, to re-examine their priorities is a new aluminum smelter near the town of Bluff, built to process Australian bauxite.

To provide the power it needed, the government agreed to construct a hydroelectric plant at Lake Manapouri, one of the most beautiful of all the island's lakes. This might involve raising the level of Manapouri—possibly flooding islands in the lake, destroying beaches, seriously altering the breeding patterns of fish, and even backing up its waters into nearby Lake Te Anau.

When they grasped the full moment of the Manapouri Project, both South and North Islanders rose in protest. A quarter of a million people—one of every twelve in the country—signed a petition against lifting the lake level. The government has agreed, for the time being at least, not to raise the lake.

Alan Alsweiler, secretary of the Southland Progress League, put the conflict into perspective for me.

"Conservationists have a good point about the lakes, of course, but look at it this way: New Zealand exists on its agriculture. If that were to go bust, what would we have to rely on? Tourism? Hardly. So we have to attract industry. What do we have that other countries don't? Rain. Hundreds of inches a year in places. Water becomes power, and so we have to offer power—a lot of it at a good enough rate to encourage foreign industries to come this far."

Whalers Settled on Stewart Island

The site of the smelter is about as far south as one can go on the South Island, but there is still more of New Zealand farther south. Stewart Island's 670 square miles, across Foveaux Strait from Invercargill, is the last sizable landfall before Antarctica.

Once whaling brought Scandinavians, Spanish, Portuguese, British, and Americans to settle on the island, so that today its 340 residents are a veritable United Nations. Later, lumbering became the big trade, and now crayfishing is the primary industry, grossing about a million dollars a year.

Since Stewart has no landing strip and I had missed the scheduled amphibious plane, I wangled a lift from a member of the local aero club, who dropped me on the beach at low tide. There, by prearrangement, I met young Michael Goomes, and we chugged off in his ancient De Soto to explore his home island. At the southernmost tip, I stood, wind-whipped under a gray sky, on a bluff overlooking the sea.

"Winter's not far off," said Michael. "You can always smell it here first."

I sniffed the air. "What does winter smell like?" I asked.

Michael pointed off to the south. "Ice."

A Proud People Survive and Flourish

As we drove back, Michael remarked, "Guess you're wondering about my name—Goomes. It's really an Anglicization of Gomez. My great-grandfather was a Portuguese whaler, and my great-great-grandfather was a Spanish fisherman. They both married Maoris. Because of that, I can trace my family back 15 generations. The Spanish and Portuguese didn't keep many records, but the Maoris were almost fanatical about it. They kept what they called a *whakapapa*—a family tree—and they recited it to the kids instead of a bedtime story. So everybody grew up knowing everything about his family."

In almost every second Stewart Island family there is Maori blood—bearing out the fact that more than 220,000 Maoris in New Zealand today live in harmony with their countrymen of European ancestry—the *pakehas*. But intermarriage and equality have not always been the case. Although the Maori chieftains signed the Treaty of Waitangi in 1840, surrendering sovereignty to the British in return for protection of their land rights, white speculators continued to exploit the Maoris. For most of the decade of the 1860's the country was wracked by nasty, bloody guerrilla skirmishes.

What intermittent warfare failed to do to the Maoris, European diseases—to which they had no immunity—did with a vengeance. By the end of the 19th century, Maori numbers were down to about 43,000, and if government health-care and family-assistance programs hadn't been instituted, the proud race might well have vanished. Instead, it is growing faster today than ever in its history, and Maoris are full-fledged

Fast-stepping trotter works out at Roydon Lodge, a noted horse-breeding farm on the Canterbury Plains. New Zealand's pastures—some of them green year round—produce fine pacers and running horses as well. But a severe handicap system that starts fast racers behind the slow sends some of the best to more equal competition abroad.

members of New Zealand's modern life.

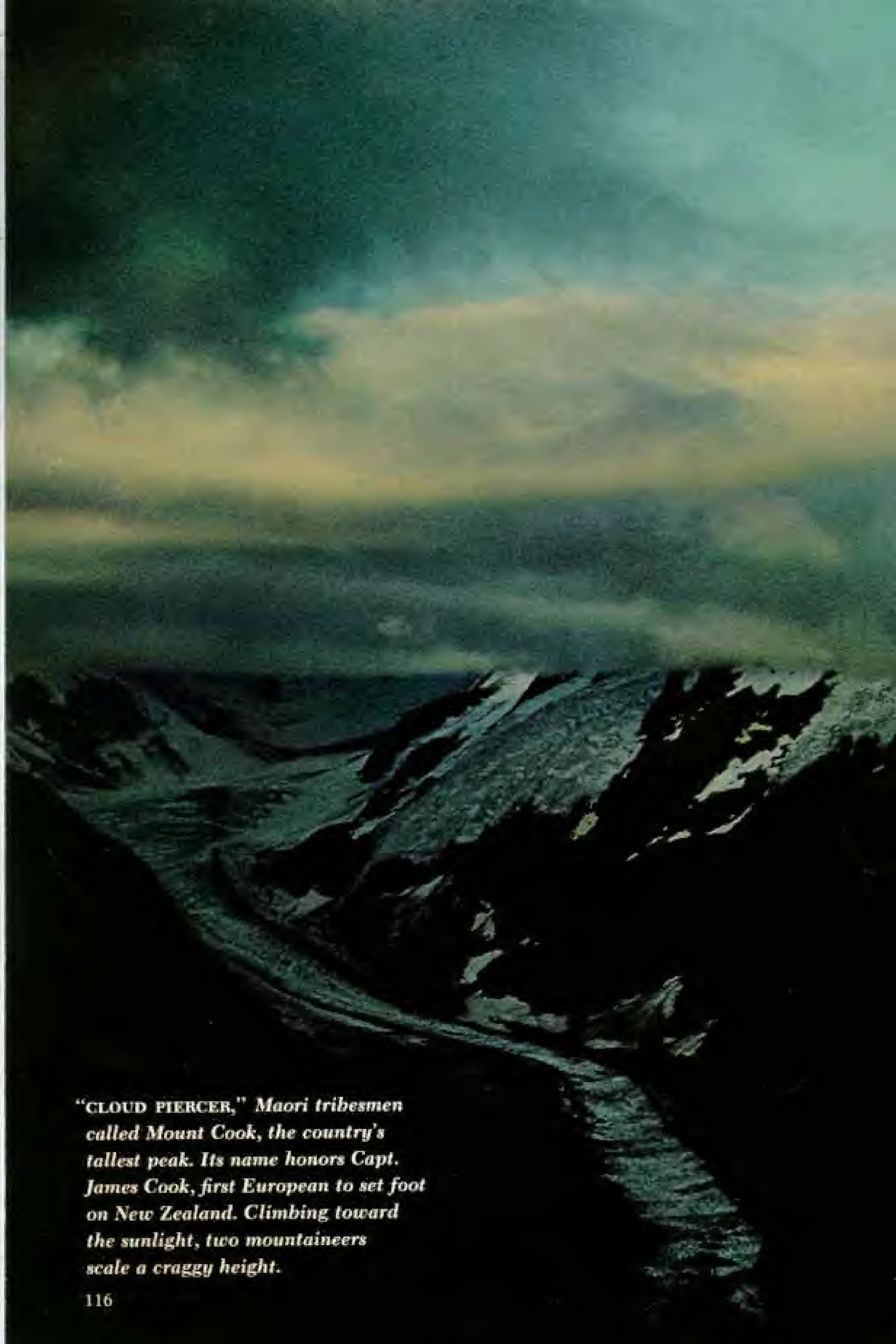
In 1907 the privately sponsored Plunket Society launched a revolutionary concept in health care that continues today. At its headquarters in Dunedin, I called on the society's medical director, Dr. Neil Begg, a renowned pediatrician. He explained the Plunket theory to me. The society virtually blankets the country, he said, with its 109 branches, 566 sub-branches, and 325 trained nurses, so that nearly every New Zealand family can raise its children "by Plunket."

"The initial premise was to involve the people themselves in preventive medicine," Dr. Begg said. "People have to make their own decisions. You can't just issue orders, for instance, that everyone give children fluoride because fluoride is good for teeth. Our nurses go to every home in a community, teaching feeding techniques, giving baths, dispensing advice on parent-craft. But the program goes further, involving the whole family. For instance, if a family lives in poor housing, the nurse will take it upon herself to try to relocate the family—citing the health of the children as the reason."

Another of the society's major achievements has been to aid in development of the so-called New Zealand whole-milk biscuit, a dietary supplement that contains essential amino acids, the building blocks of protein.

"The main health hazard in Southeast Asia," said Dr. Begg, "is protein lack after the cessation of breast-feeding. If we passed out milk, a mother might decide to use it instead of breast-feeding, which would be no improvement. But infants can't chew and toddlers can—so we helped develop the biscuit and began to distribute it in 1964. The program has the potential for creating massive markets for New Zealand in Southeast Asia, if only we could change our dairying emphasis from butterfat to milk protein. No one produces the basic product, milk, as cheaply and efficiently as we do."

Dr. Begg's urging of a dramatic shift in agricultural emphasis reflects a general unease about the agricultural economy. At



"CLOUD PIERCER," *Maori tribesmen called Mount Cook, the country's tallest peak. Its name honors Capt. James Cook, first European to set foot on New Zealand. Climbing toward the sunlight, two mountaineers scale a craggy height.*

Mount Linton Station, for instance. Alister McGregor had told me he was seriously concerned about the future of sheep farming in New Zealand.

"Wool prices have dropped 50 percent in the past five years—from 40 cents a pound down to 20—thanks largely to synthetics. So even though we're producing a lot more than we were, we're doing just about the same dollar volume. Even our lamb brings the grower only 17 cents a pound, which is incredible when you think of what you have to pay for lamb chops in the States—$1.50 and up.

"Perhaps we should increase our cattle holdings, although traditionally $1,000 invested in sheep will return more than $1,000 invested in cattle. But unless we can increase our markets for beef, that's no answer. We can't go into chicken and pork because the big companies, especially foreign ones, can produce more economically than we can. As for crops, Australia and the States—most countries, in fact—are already self-sufficient. So we're in a bind. And if wool prices keep going down, we—and I mean the whole country—could be in very bad shape indeed."

Revolutionary Boat for Shallow Water

Not many farmers can quit and turn industrialist, but C. W. F. (Bill) Hamilton did just that. A technological genius, he numbers among his products the remarkable jet boat. I went to see him in his offices in Christchurch, the South Island's largest city (260,000) and by far the most English. Christchurch, with its Avon River and stately Gothic cathedral, bears out Anthony Trollope's contention that "the New Zealander among John Bulls is the most John-Bullish."

Mr. Hamilton, now well into his seventies, reminisced: "I was looking for a boat to use in our shallow rivers. In some places where you have only a few inches of water, all conventional means of propulsion are useless. Well, I just kept tinkering."

What he created was a jet engine that sucks water through a grate in the bottom of the hull and squirts it out the stern with immense force. The result is a boat that at 20 knots draws only three inches of water, is so maneuverable that it can turn in its own length at almost any speed, and is safer than conventional boats since it can stop remarkably quickly (by reversing the jet flow) and has no whirling propeller to endanger swimmers.

Though the initial purpose of the boat was recreational, it has since been adapted for surf-rescue use in Australia, and, according to Mr. Hamilton, "Within 50 years all high-speed boats—hydrofoil and hovercraft included—will be jet-propelled."

Comely Racer Reverses Her Course

As I left, he said, "By the way, if you want a jet-boat ride, get hold of Kate Archibald. She's been the ladies' jet-boat champion of New Zealand for two years in a row. Besides, as a skipper she's very easy on the eyes."

The blond, beautiful Mrs. Archibald, wife of a Christchurch automobile dealer, offered to run me up the Waimakariri River, just outside the city. When we met by a certain bridge in the early morning, she had already slid her 16-foot boat off its trailer into the river.

"The water's low, so we'll have to pick our way," Kate said. "That's part of the fun."

We sped off up the river, snaking through tiny channels that trickled amid humps of gravel bottom. Kate was intense, reading the water ahead through Polaroid sunglasses, trying to pick out the deeper patches.

"All you need is three inches of water and a lot of speed," she said. "The technique is exactly opposite from that in a car. When you get in trouble, you put your foot down and speed up. You have to—first so you don't lose planing speed and sink to the bottom, second so you maintain some steerage."

We came to a relatively deep pool, and Kate said, "Hold on and I'll show you a Hamilton turn." She gunned the engine—racing the boat to 35 or 40 knots—and suddenly threw the wheel hard right. The boat spun on its own axis. It was all I could do to keep from being catapulted out onto the bank.

Another popular New Zealand sport, harness racing, thrives on the South Island's lush grasslands. Some of the world's finest

As English as Eton. Christ's College requires all students to wear its traditional striped tie. Established and endowed in Christchurch soon after the city's founding, this Anglican secondary school remains a leading educational institution in the country. Christchurch itself is often described as the most English of New Zealand cities.

trotting horses are bred and trained there on the Canterbury Plains, and, for several years, the most eminent stable has been Roydon Lodge (page 115). One day I stopped by to chat with the lodge's head trainer, George Noble. It was late afternoon, and a blacksmith's charcoal fire burned brightly in the dwindling light.

"Wherever our stock goes, it more than holds its own," said Mr. Noble. "There are certain special trace elements in our soil that help us grow good stock. I've known several Australian horses that have come here and improved immeasurably, then gone home and, after a while, been mediocre again."

We walked from stall to stall, discussing the talents of the various horses. "It's a paradox, really," said Mr. Noble, "but we end up having to send some of our best horses away to the States. The handicap system here wipes them out. As soon as a horse gets too good, they handicap him so he can't win. A horse is moved up from class to class as he gets better. After he reaches the top, or open, class,

Largest man-made lake in the nation, azure Benmore spins hydroelectric turbines at the foot of its earthen dam, providing 540,000 kilowatts of energy. Power flows to the North Island by cable under Cook Strait.

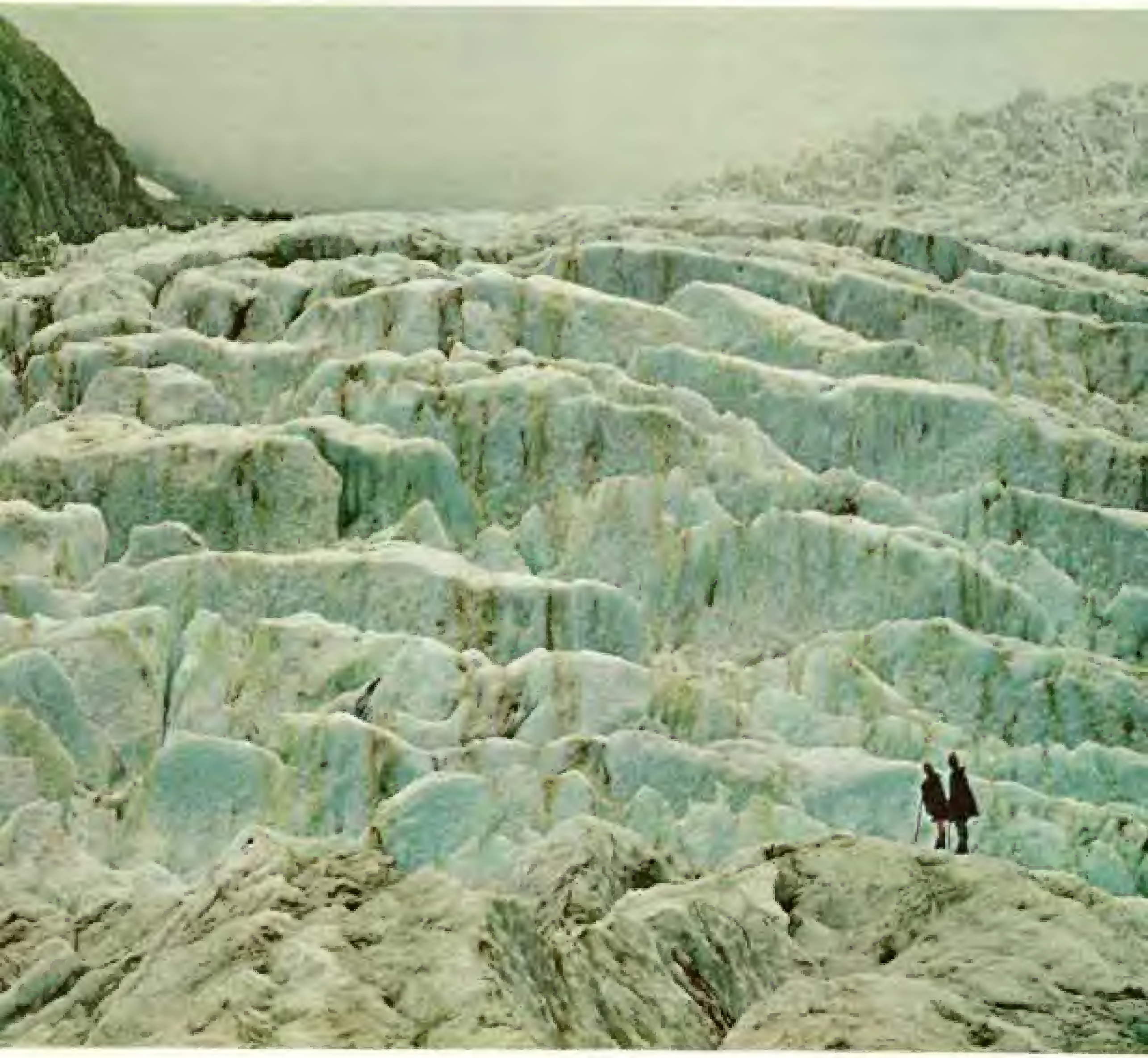
Chaotic icefall at the foot of Franz Josef Glacier feeds the Waiho River on the west coast. Tourists at nearby government hostelries can bus to this or

they move him farther and farther back at the start—12 yards back for every win. The greatest handicap winner I ever had was one that won from a start 168 yards back. After that she couldn't win any more, so we retired her as a brood mare."

Realm of Alps, Ice, and Sky

Until I left Christchurch and headed west, I had had no sense of the approach of winter. But now the air was sharper, the mornings colder, with a hint of frost, and the foliage by the roadsides was taking on its full fall plumage. In the high country, the morning clouds would sit right atop the roads, pouring into small ravines as if spilled by some celestial butterfingers.

I was making for the famous Hermitage, pride of the Tourist Hotel Corporation's chain of first-rate hostelries established by the government in areas too remote to attract private hoteliers. The roads were good and relatively traffic free: except for wandering mobs of indolent sheep, whose immediate



other glaciers to explore the jagged rivers of ice. The erratic Franz Josef draws back in some years, then advances rapidly in others, only to shrink again. Heavy snowfalls in the high Southern Alps feed the ice stream, which is one of the few glaciers in the world to end amid a rain forest.

reaction to an approaching automobile was to dart directly in front of it.

The Hermitage sits on a slope within sight of Mount Cook, at 12,349 feet the country's highest peak, known to the Maoris as *Aorangi*, the cloud piercer (pages 116-17). I arrived just as night was falling, and the snowcapped summit of the mountain glowed purple in the twilight. The only sound in the glacial valleys was the whisper of wind rushing through steep passes, interrupted now and then by the distant roar of tumbling snow.

Westland Gold Gave Way to Jade

Next morning I boarded a ski-plane for a trip to the glaciers—first stop the Tasman, 18 miles of slowly moving ice that in full winter offers a marvelous downhill ski run. Then, as our plane climbed over the mountains toward the Franz Josef and Fox Glaciers, a dazzling view unfolded. Across the jagged range, down the sloping glaciers, lay the west coast and the Tasman Sea, 15 miles away, glittering with the sun's gold.

About 65 miles up the coast is the quiet town of Hokitika, a relic of the gold rush of the 1860's. Prospectors came from as far as California and Colorado. In one year, more than half a million ounces of gold poured out of the Hokitika area.

All that now recalls the boom years is a tourist attraction called Shanty Town, between Hokitika and Greymouth, where visitors can still pan a few grains of gold. A main industry in the region is the manufacture of jewelry from what is known as greenstone—a nephrite jade (page 97).

Westland towns are said to be the source of the most widely told joke about New Zealand, which holds that an Australian model returning home after a visit to New Zealand is asked what she thought of the country. "I don't know," she says. "It was closed."

If the government has its way, Westland will not stay closed, but will be opened to a growing tourist industry.

I drove northward, winding up steep gravel roads through Buller Gorge, across flats spangled with shining yellow-leafed poplars, down onto the plain leading to Nelson, the town that has the most hours of sunshine of any in the country, nearly 2,500 a year.

It was Anzac Day—April 25—a memorial day for war dead, marking the bold and bloody 1915 landing by the Australian and New Zealand Army Corps at Gallipoli in Turkey. The radio blared the moving verse of "In Flanders Fields." Outside a church a local celebrity exhorted a boys' cross-country team to greater victories. On the door of a small house at the edge of town someone—mother? wife?—had posted a hand-lettered sign: "Welcome home, Ned."

To this day I haven't the faintest notion who Ned is or was, but the sign made me pause. Welcome home. In other years, not long past, the sign would have said good-bye, farewell—perhaps to a soldier going off to war, more likely to an ambitious young man who felt his potential could only be realized on more stimulating foreign shores. New Zealand's Nobel Prize-winning Lord Rutherford, who was famous for his studies of the atom, emigrated, as did scores of other talented young men and women.

But now the brain-drain has all but stopped. Even the migration from the South Island to the North has slowed. And many of those who have gone away and sampled the fare of "civilization" have returned.

"What I Wanted Was Here"

I remembered a climber I had met on the Tasman Glacier. She was a pretty girl who had left New Zealand three years before, intending to make her way in New York City. But now she was back for good.

"It wasn't an inability to cope," she said. "I guess it was just that wherever I went, whatever any place had to offer me, I always knew that what I wanted was here: the air, the outdoors, the peace that comes with knowing you can get away and be alone—really alone—whenever you want.

"You say you live near Princeton, New Jersey. Let me give you the name of a friend of mine. Please look her up, and when you find her, tell her Angela finally made it back to the glacier." I said I would.

Welcome home. □

"Land of a thousand wonders," Sir Edmund Hillary describes his native New Zealand. No part of this visually exciting country is more spectacular than the southwest coast of the South Island, where snowcapped Alps plunge to crinkled fiords. Here Sutherland Falls thunders down a 1,904-foot triple drop from glacier-carved Lake Quill.

Belize, the Awakening Land

By LOUIS DE LA HABA
Photographs by
MICHAEL E. LONG
BOTH NATIONAL GEOGRAPHIC STAFF

Veiled by silvery spray, an Indian woman bathes in a stream near her village in the foothills of the Maya Mountains. Today's Maya, like their predecessors in tropical British Honduras, follow the timeless patterns of their ancestors, sustained by small plots of corn and beans.

Elsewhere in this last British possession on the American mainland, change knocks at the door. Independence may come this year; when it does, the new Central American nation will officially become Belize—a name already in use throughout the colony.

"IF THE WORLD HAD ANY ENDS," wrote Aldous Huxley four decades ago, "British Honduras would certainly be one of them."

The statement is still widely quoted, but I disagree. In several visits to the Massachusetts-size colony on the east coast of Central America, I found not the end of the world but the beginning of a nation. I discovered a little country of 120,000 people on the threshold of independence—a polyglot people of many races just now awakening to a sense of their own national identity.

Belize is the name under which they will break their final ties with Great Britain, perhaps this year. When that moment comes, when the Union Jack is hauled down by its halyard and a band blares "God Save the Queen" for the last time, Belizeans will no doubt shout a mighty cheer. They will have been waiting for this for a long time. But there will be many a damp eye, too, I'm certain, for Britain and Belize part ways in friendship.

In the meantime, the Belizean man in the street, looking forward as he does to independence, must be forgiven a slight skepticism while it arrives. It has, after all, been a long time coming. And if, for reasons of state, that uncertain national birthday should be pushed further into the future, the man in the street might well react with that most Belizean of all phrases, "It's no big thing, man," and shrug his shoulders as he goes about his business.

"It's no big thing, man," is more than a local idiom. It is an attitude toward life, a defense against its hardships and its disappointments in this frontier land where life can be hard indeed and disaster may lurk just around the corner.

Belizeans know adversity, and they know disaster. Twice in the past 40 years they have been devastated by murderous hurricanes. The last time was in 1961. The evidence can still be seen today.

Rudolph I. Castillo, a fellow journalist who is the government's chief information officer, showed me some of the scars Hattie inflicted on Belize City. As Rudy pointed to a roof lying on the ground, I could imagine the terror of the moment. Not far away we saw a house, still occupied, that had had its second story blown away, and another, where invading waters had stained the walls halfway up the sides.

"That was Hurricane Hattie," Rudy said quietly.

Belize City was built on a mangrove swamp at the tip of a narrow peninsula only 18 inches above sea level (page 129 and map, page 130). When Hattie howled inland with her 160-mile-an-hour winds, she dragged a 10-foot tide behind her. She badly mauled three-quarters of Belize City, and left Belizeans mourning more than 260 of their own.

Partly because of Hattie, partly because of the poverty of many of its 39,000 citizens, Belize City is not a pretty place. Houses are flimsy and unpainted

Surf's eternal thunder booms against Belize's 175-mile-long barrier reef, second in length only to the great reef that guards Australia's northeast coast. The rampart—actually a series of reefs ranging up to 60 miles offshore—separates shallow waters from Caribbean depths of a mile or more. On beaches thus protected, youngsters frolic (**above**).

Amid a forest of coral, Belizean fisherman Villamar Godfrey spears a jewfish (**below**). Working to nearly 40 feet with only face mask and flippers, the undersea hunter dives for six hours a day. Late each afternoon he cleans and salts his catch for local sale.

in many areas; streets are narrow, and open canals carry sewage out to sea.

Yet I found much to please the eye, and the soul. As I strolled along the waterfront, I saw verandaed residences on streets shaded by red-blooming poinciana. Hibiscus of every color grew in gardens; cream, pink, and red oleanders sparkled from behind whitewashed picket fences.

The faces of Belizeans were full of warmth and dignity. I met Creoles of African descent with skins ranging from lightest tan to darkest brown, Black Caribs—Afro-Indians from the eastern Caribbean—mestizos of Spanish and Indian blood, sharp-featured Maya, Europeans, and a scattering of Lebanese and Chinese.

At night the streets filled with gay crowds waiting for the results of the *boledo*—the lottery. People wore flamboyant colors and fashions; younger women dressed in the latest styles. One friendly stranger stopped me, an obvious foreigner, to ask, "How are you liking our country, sir?"

In the market, a bustling, dark cavern of a building, loggerhead turtles shared stall space with mounds of tropical produce—bananas, papayas, custard apples, red chili peppers, yams, breadfruit. Outside, boats lined the wharf—sailboats in from the sea with their holds full of fish, and dugout canoes in which inland farmers brought fruits and vegetables from their small plots.

At the quayside I bought a ripe banana from a young vendor and offered him a cigarette. We chatted while he smoked, and I asked him about independence.

"It will be good," he allowed brightly. "Oh, yes, it will be good." But he was a businessman as well as a patriot. He reached into his boat and brought up a squirming iguana by the tail. Would I like to buy it for my dinner? I declined with thanks, and left him patting the leathery "bamboo chicken."

A few hundred yards offshore, oceangoing vessels rode at anchor while barges shuttled from land to ship.

"We have no deepwater port yet," Rudy Castillo said, "so ships have to stay out there."

What do they bring?

"I guess we import a bit of just about everything," said Rudy. "And we export sugar, citrus, bananas, cucumbers, papayas, fish, lobster tails, and lumber—mahogany, pine, cedar, and rosewood."

In stores I had seen rows of canned goods—all imported: tuna and salmon, milk, beef. I had read about the richness of the fishing

Out on the town, young people dance away a Saturday night in Placentia, a fishing village. Their dance hall—the post office—also does duty as grocery store and community center.

Nation's hub and former capital, low-lying Belize City each summer and fall faces the perils of hurricane-spawned winds and tides. Hattie, a disastrous 1961 storm, led Belizeans to move their capital inland (pages 134-5). A third of the colony's people still live here. Local industries—clothing and cigarette factories, sawmills, bontyards, a brewery—provide much-needed jobs.

Small traders and fishing sloops speckle Haulover Creek, a branch of the Belize River. Shallows bar entry to the port; deep-draft vessels must send cargoes ashore on barges.

Belize (British Honduras)

TUCKED into a remote corner of the Caribbean, British Honduras prepares to emerge from its colonial status as the new nation of Belize. From the dry and dusty north to rugged forests in the south, Belize remains a frontier land that reserves its rewards for the strong and enterprising. Yet to visitors it offers rest and recreation with its varied scenery, sparkling beaches, and tropical climate.

AREA: 8,867 sq mi. POPULATION: 120,000. ECONOMY: Agriculture, forestry, fishing. LANGUAGES: English (official), Spanish widely spoken. CITIES: Belize City, port; Belmopan, capital.

grounds, the fertility of the soil, and the excellent pasturelands for cattle, and I wondered why so many foodstuffs had to be brought in.

"We have some of these things you've read about. The potential is there, but it hasn't been fully developed. We have problems," said Rudy. "You'll see."

Some of these problems became apparent one afternoon when I went flying with W. Ford Young, a real estate broker in Belize City. We soared over shimmering waters and idyllic cays where tourist development is sprouting a small crop of hotels, cottages, and sport-fishing camps.

Inland, we flew over heavy jungle and flat savanna speckled with palmetto and tropical pine. I saw great fields of sugarcane, a rice plantation that rippled in golden waves, a few cattle ranches, and hundreds of acres planted in cucumbers.

"That's all fairly new," Ford said. "That's what the future can be like. The land here is as good as anywhere in the world. But you have to clear the jungle first."

Southward we droned over dense forests that once were rich in high-quality mahogany. Great waterfalls tumbled down nearly vertical canyon walls.

Ford pointed ahead to the undulating outline of the Cockscomb Range, a quartzite-and-granite massif whose 3,680-foot crest, Victoria Peak, is the highest point in Belize.

As we flew on, I noticed that nearly every town, plantation, and area under active development had its small landing strip. "In the rainy season, especially, when many roads become impassable, we couldn't get along without light airplanes," Ford said.

But developed areas are relatively few. The outstanding impression of Belize from the air is one of emptiness—a land untended, overgrown, unutterably lonely. Yet there are dramatic exceptions.

At Pomona, where a wide, flat valley opens fanlike toward the sea, dark, glossy-green citrus groves spread in orderly patterns. Center of a thriving industry, the valley has the appearance of a garden—neat, almost manicured. Two processing plants belch smoke and steam nearby; one makes frozen orange concentrate for export in bulk, the other cans orange and grapefruit juice and sections.

One night Rudy called to tell me the Premier had invited me to go along on a tour of

the countryside. Next morning at six I met Premier George C. Price at his modest wooden house near the center of Belize City. A bachelor, he lives alone with his books, his classical records, and his work.

Mr. Price bounced down the front steps athletically, and shook my hand with a firm grasp. "Let's go, Jimmy," he called to his driver. We piled into his Land-Rover and headed for Crooked Tree, a village isolated for a good part of the year by a ring of creeks, lagoons, and wet grasslands. This day we would take our chances, attempting to cross a nearly dry lagoon bed.

Premier Looks to the Future

As we drove, people everywhere recognized the Premier and waved to him with warm familiarity. He waved back and called out in Spanish and English:

"*¡Buenos dias!* Good morning!"

Now and then Mr. Price would direct his driver to stop so he could chat with people (page 135). He picked up a few children, too, and we gave them a ride to school. In between, he told me of his country's needs.

"We need to attract more private investment," he said, "and we need, in some areas, to enter into partnership with the capital and skills of our friends from abroad."

He told me about his hopes for the country's future as a geographic bridge between the nations of Central America and those of the Caribbean basin. Belize already belongs to the Caribbean Free Trade Association, composed of British possessions and former colonies in the area. After independence, Mr. Price hopes to pursue closer ties with the Central American Common Market.

"We must build a strong, viable, and diversified economy," Mr. Price continued. "Even now, we have achieved self-sufficiency in such basic commodities as rice and beans and corn.

"Development of the livestock industry should make a substantial impact. Grains will emerge as major exports. And the tourist industry should be a leading contributor."

Mr. Price interrupted his serious discourse frequently and made the driver halt so he could point out a flower—the yellow poppy-like blossom of the wild cotton, an orchid growing in the branches of a fragrantly blooming cashew tree, or a bird—a great kiskadee here, a trogon there.

We had brought box lunches, and we stopped to eat by the side of a narrow dirt road. To our right, covered by rank growth, rose a large mound—a relic of the ancient Maya civilization.

Mr. Price picked up bits of broken Maya pottery that had been scraped from the ground by the bulldozers that carved the road, and talked about Belize's pre-Columbian heritage. "Even the name 'Belize' comes from a translation of the Maya words '*be likin*—road to the east.' At least, that is the interpretation I prefer," he said.

There are other possible meanings of the name, I later learned. One of them is "muddy water," and anyone who has seen the Belize River in flood would recognize its aptness.

At Crooked Tree we visited a large one-room building that houses one of the few government-run schools. Church missions—Roman Catholic and Protestant—operate most of the others, with substantial government aid.

As we entered, the 211 pupils stood up and sang the proposed Belizean national anthem:

"O, Land of the Gods by the Carib Sea,
Our Manhood we pledge to thy Liberty. . . ."

Mr. Price sang lustily with them, but when they finished, he told the children, "Next time sing it faster. It is not a funeral march." Then he gave a brief lecture on civics and closed with a simple exhortation:

"All of us must work hard. When we come home each day, we may have dirt on our hands. But we need not be ashamed, because we are working to build a nation."

We returned to Belize City after clocking some 225 miles. I was worn out. But an aide met Mr. Price with a briefcase full of papers. He would work late that night.

Having heard the Premier's view of what lies ahead, I went a few days later to the residence of the British Governor for his opinion. Sir John Paul spoke confidently.

British Honduras, he reminded me, has governed itself, except for matters of defense, civil service, and foreign relations, since 1964. "There is a high degree of literacy and an efficient civil service. Of course," he added, "there's a problem with Guatemala, which Britain would like to see solved."

The 17th-century British settlers of Belize took over land which Spain claimed but never occupied. After Spain's Central American colonies became independent in the 19th century, one of them—Guatemala—claimed Belize as part of its territory. Britain never allowed the claim, and Guatemala has periodically raised the issue ever since.

Prior to independence, which Mr. Price has told his people will "most likely" come this year, his government hopes to obtain international guarantees of Belize's territorial integrity—in the unlikely event that Guatemala should choose to pursue her claim with anything stronger than words. Such guarantees have so far not been given, thus independence day remains tantalizingly indefinite.

A symbol of independence is Belmopan (pages 134-5), the new capital being built with British aid some 50 miles inland on the Western Highway that runs from Belize City to the Guatemalan border.

Planners of the new capital provided for an eventual population of 30,000. By mid-1971 some 2,700 had moved in. Many people have shown a reluctance to leave Belize City for what they consider "backcountry," although those who have done so—mostly government employees—seem happy in their choice.

My own experiences in the fascinating backcountry of Belize began in the sleepy village of Trinidad in the north. Dozing dogs scattered from the dusty street as an old pick-up truck came bouncing around a corner. A big, burly figure with rugged features jumped out. "Hello, I'm Jackie Vasquez," he said.

Friends in Belize City had told me about Jackie—hunter, woodsman, and authority on wild orchids—and arranged our meeting.

The rear of Jackie's truck was filled with orchids he had just collected. "Look at these," he said. He called off Latin names like a professor of botany. Some 240 species grow in Belize, and Jackie knows them all.

We headed for Jackie's camp near Aguas Turbias—5.2 bumpy miles away—the corner

Ambushed by mud, an oil-exploration vehicle **(left)** succumbs briefly to the rainy season. Riders dismount to winch it out.

Like elephants traveling head to tail, vehicles carrying vibrators churn through murky ooze **(above)**. With heavy oscillating metal plates bearing down on the earth, they create seismic waves whose echoes reveal subsurface topography. No oil-bearing formations have been found inland.

where Mexico, Guatemala, and Belize meet.

We drove past Blue Creek Village on the Mexican border. Across the stream, in Mexico, lay the tiny hamlet of La Unión, where not a soul stirred. On our side, a faded Union Jack hung limply from the flagpole at the police station. The sun beat down relentlessly. At length the road became a mere track. Jackie told me of the animals of his familiar jungle.

Bird Keeps Watch on Jungle Time

"We have deer, monkeys, peccaries, tapirs, and several kinds of cat—big jaguars, jaguarundis, ocelots—and about 500 species of birds. Isn't it beautiful here? You come in and see the leaves falling, all shiny and golden . . ." his voice trailed off. "It's so green you just want to stick your feet in the ground and take root among the trees."

Soon it grew dark. Our headlights would occasionally flush a nightjar from the trail. The birds—also known by the unromantic name of bullbats—fluttered in and out of the beams like porpoises sporting ahead of a ship's bow. Rounding a bend we came to Jackie's camp—three thatch lean-tos without walls. Jackie set about cooking supper over a wood fire. A bird called nearby.

"That's a tinamou," Jackie told me. "He whistles every half hour. In the jungle, when they're around, you don't need a watch."

After we ate, I timed the bird's calls as we talked far into the night. The first interval was 36 minutes, then 28, then 32, 30, 25—not exact half hours, but close.

Now we heard a different call—loud and raucous. I looked inquiringly at Jackie.

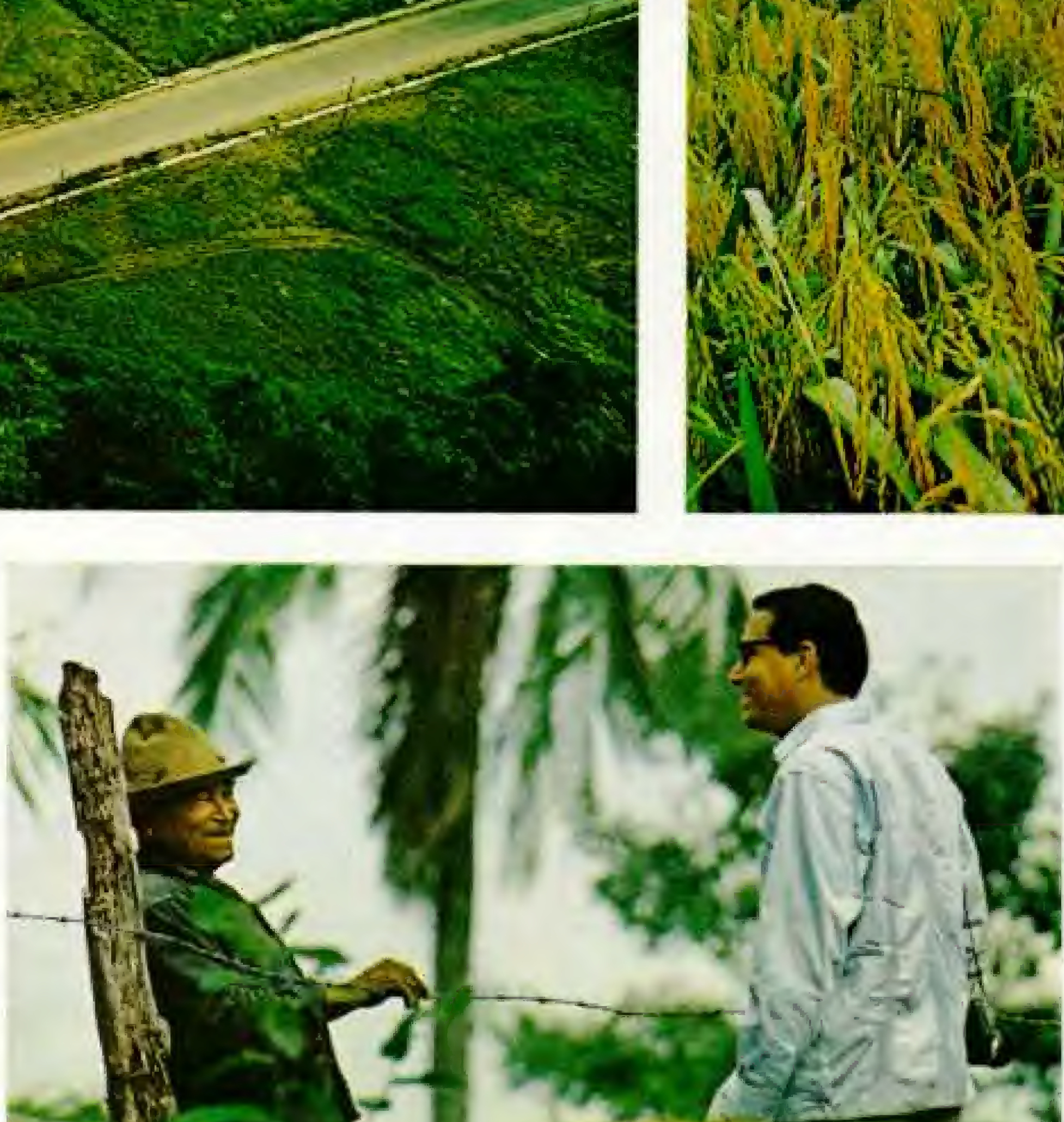
"Chachalaca," Jackie said. "He calls like

Hacked out of the jungle, Belize's new capital has yet to lose its raw edges. But palms and flowering trees will soon soften Belmopan's profile. Government buildings rise at upper right, beyond spreading residential areas. Plans call for a civic center, library, and shopping plaza.

Built with British grants and loans totaling nearly $14,000,000, the new capital now has 2,700 residents, mostly government workers. Planners envision a population of 30,000 within 20 years.

Concern marks the style of Premier George C. Price, right, here chatting with a farmer. The leader's casual tours through villages and countryside—riding in a Land-Rover with his title on the license plate—help him "find out what is really going on." The 53-year-old bachelor became Premier in 1964, when the colony achieved self-government.

Prophets of plenty, former Californians Albert L. Bevis, right, and his son Chuck, spread the gospel of scientific farming in their adopted homeland. Experimenting with rice varieties, clearing land, and digging irrigation canals, the Bevises hope to develop 32,000 acres in ten years. They expect their Big Falls Ranch to harvest 10,600,000 pounds of rice this year—enough to fill local needs as well as bring in export revenues. They also plan to lend their Belizean neighbors technical assistance.



that when there's a change coming in the weather. No better barometer in the world."

That night I climbed into a bush bed—a platform of sticks and logs padded with crackling palm fronds—and thought about *sisimitos*. These legendary manlike denizens of the forest are said to have no thumbs and to wear their feet backward. People of the forest believe sisimitos will kill persons of their own sex, and make prisoners of others. I had heard that the hairy beasts have a taste for human flesh but was not unduly concerned, for I was forearmed with knowledge.

"If a sisimito sees you," a friend versed in jungle lore had told me, "just jump behind a bush. The sisimito will come to look. Puzzled at not finding you, he will glance around. Since his feet are turned backward, he will see his own tracks leading the other way and will follow them, thinking they're yours. That's when you get away."

Next morning we went hiking. After a mile or so we came to a small clearing where a *milpero*—the slash-and-burn farmer of this part of the world—had planted his corn. Jackie motioned. We froze in our tracks, then beheld a rare and beautiful sight: A flock of ocellated turkeys—the wild turkeys of Central America—pecking at the ground beneath the cornstalks. The sun filtered through the leaves and played on the birds' opalescent plumage, turning it now blue, now bronze, now deep rich gold. Sensing us, the big birds scattered on strong, awkward legs.

When we came out of the bush, the weather had turned markedly cooler. A fresh wind from the northwest blew great clouds of dust

(Continued on page 142)

"Plain people" prosper in Belize. Industrious Mennonites, 3,200 strong, carve farmland out of forest and supply Belize City with top-quality dairy products, poultry, and vegetables.

Leaves in the lips bespeak the soul's immortality at a funeral organized by a fraternal order that proudly proclaims, "We bury our dead." Afro-Belizeans comprise 60 percent of the population.

Eager children vie for a nod from Sister Catherine Mary, an American teaching first grade in Belize City. Parochial schools predominate in the colony, where children must attend classes until age 14. Literacy nears 95 percent, though only about one student in ten goes on to secondary school. Belize hopes its tuition-free college for teachers will help increase this ratio.

Peaceful traveler from emerald uplands, the Belize River (**left**) becomes a raging torrent when fed by wet-season rains. The waterway once served as a high road that opened the colony's interior. Here it flirts with the coast before joining the sea near Belize City.

Denizen of the forest (**above**), a male curassow struts with comic dignity. Hissing iguana (**below**) voices its annoyance. Two young hunters shook the "bamboo chicken"—a local delicacy—out of a tree.

SEQUINS ON A SATIN SEA,
coral heads stud the spectacular lagoon of Glovers Reef, 30 miles off the coast. Snapper, grouper, parrot fish, and scrappy bonefish abound in its crystal waters.

off the road. The chachalaca had been right!

It was a lovely wind that promised to blow for days, so I hurried south to Placentia to meet an old friend for a cruise in the waters behind Belize's 175-mile-long reef. Jim Gavagan was waiting for me aboard his ketch *Leprechaun*. We raced out to sea, dodging little black rainsqualls that flew past us like dripping umbrellas. Porpoises darted ahead as we scudded among tiny islets with evocative names like Bugle, Laughing Bird, and Long Coco.

At the helm was Percy Leslie, a 70-year-old bear of a man with railroad ties for arms and mahogany tree trunks for legs, a craggy face, and a beguiling smile. Mister Percy—as he is known—has sailed these waters all his life. Despite failing eyesight, he guided us among the coral heads with a sure hand.

We dropped anchor in the sunset-gilded water of Buttonwood Cay's little bay. Ashore we met a group of fishermen who were busy "dry corning" their catch. Split and cleaned, the fish are salted and placed in the sun. On racks hung chunks of snapper, jewfish, and grouper, and here and there a barracuda.

Next day we snorkeled in the reef amid purple sea fans, cream-colored corals, and rainbows of little fish that skittered out of our way in tiny explosions. Back aboard *Leprechaun*, Jim waved his arms grandly and said, "This has just got to be the greatest country in the world. You could spend a lifetime diving and sailing here." Reluctantly we pointed *Leprechaun* toward the land. I had to travel north that day—by plane and then by car—to keep a rendezvous with a goddess.

Winsome as her tropic home, a girl of Placentia reflects a land whose polyglot peoples live in a climate of racial ease.

Pyramid Yields Priceless Art

The full moon rose directly behind the Temple of the Masonry Altars, outlining the squat truncated pyramid against the tropic night. A damp sea wind rattled the cohune palm fronds overhead, and a pair of nightjars called to each other in whippoorwill voices. Atop the ancient Maya monument two priests watched in motionless silence as the moon goddess Ix Chel began her stately stroll among the stars.

Climbing the vaulted sky, Ix Chel shed a ghostly light over the brooding scene, etching sharp shadows on the silvered grass. Presently, one of the priests bent low. I shivered, feeling like a forbidden witness to arcane rites of a thousand years ago. The figure straightened. I could see a small, dark object in his hand—an incense burner, perhaps, or a jade idol to be shattered on one of the circular altars as a propitiatory offering.

A fearful din suddenly shook me from my reverie: It was the frantic beat of a rock group. The mysterious object at once became a transistor radio tuned to Radio Belize. The "priests" were watchmen guarding a precious archeological dig at Altun Ha (map, page 130).

Two days before, Dr. David M. Pendergast of the Royal Ontario Museum in Toronto had extracted from a tomb inside the 58-foot-high pyramid a magnificently carved jade head (pages 144–45). A representation of Kinich Ahau, the sun-god, it was the largest carved jade object ever found in the Maya area—a region where, in pre-Columbian times, jade was one of the most valuable materials.

Since 1964 Dr. Pendergast, his wife Esther, and a small team of local Maya and Creole

workers had been excavating jungle-covered mounds that contained houses, priests' palaces, tombs, and temples in this small coastal city-state. From the Temple of the Masonry Altars they painstakingly peeled away six layers of limestone construction that had covered, onion-fashion, an impressive structure of the Classic Period, probably built around A.D. 600 (following page).

"The Maya apparently believed that buildings, like people, had a definite life-span," Dr. Pendergast told me. "In some cases they would erect a new palace or temple right over the existing one every 50 years or so."

I asked Dr. Pendergast about the significance of the jade head.

"It underscores something we have suspected for some time—that this was a major trade and ceremonial center," he replied. "The people here supplied marine materials to inland Maya settlements—pearls, shells, coral, possibly also fish bones and stingray spines—things that were ritually valuable. In exchange they received such things as jade and obsidian, which are not found locally."

In his thatch house next to the ruin, he brought out the jade head and let me hold it. It was green and polished, in a way grotesque, with crossed eyes and bulbous nose. But its beauty was magical, mysterious.

How many more such treasures lie buried in Belize, no one can guess. But to retrieve some ancient Maya artifacts an archeologist doesn't even need a spade.

Limestone caves formed by underground streams underlie large areas of the country, especially in the west. The Maya used many of them. My friend Ford Young, an amateur speleologist, told me about a cave entrance he had discovered one weekend.

"I found it too late in the day to explore it," he said. "If you'd like, I'll take you there."

That Sunday we went to Roaring Creek, near Belmopan. With Frank Norris, a cattle rancher and lumber-mill owner originally from Illinois, and Dan Bellini, a farmer in the Cayo District, we drove southeast on the Hummingbird Highway.

We came to a cliffside where ferns, lichens, and mosses grew in the cool dampness. Wearing hard hats with lights, we poked through a small hole in the cliff and slid gingerly down a muddy slope into the cave—a huge chamber bristling with stalactites and stalagmites. Bats fluttered eerily over our heads.

We squeezed past cold, wet rocks and entered a smaller chamber—about thirty feet square—with a sloping roof. Nothing could have prepared me for what I saw: Hundreds of pottery fragments—rims of jars and broken bowls and dishes littered the ground.

"Look here!" Dan called. He handed me a curious hollow cylinder of clay, tapered at one end, broken at the other. Feeling amid the rubble, he turned up the missing fragments. They formed a flaring rim.

A few feet away I found an almost intact clay jar wedged in a rocky crevice. And Ford discovered, astonishingly—for everything around us was broken—two undamaged black pots. We felt certain, from the profusion of Maya artifacts, that no one had been here for hundreds of years.

Finders May Not Be Keepers

Belize considers all Maya relics a part of the national patrimony. Private persons who find such objects may not keep them. So we turned ours over to Dr. Pendergast at Altun Ha, in his capacity as the government's adviser on archeology. Dan's cylinder, he said, was a Maya torch. Until then only about a dozen had ever been found, none whole.

Why had there been so much broken pottery in the cave?

"The cyclic destruction of objects is a characteristic of the Maya," the archeologist said. "One practice, that probably existed throughout the Classic Period, was the extinguishing of household fires at the end of the year and the lighting of new ones. This may also have involved the breaking of household utensils. On a small scale, it's the same idea as their periodic rebuilding."

The ghosts of the past haunted my stay in Belize. Even at Central Farm, the government agricultural station, I had seen Brahman cattle grazing amid Maya mounds. Many of today's Maya, especially the primitive Kekchi in the southern district of Toledo, live in much the same fashion as their predecessors.

With the late Faustino J. Zúniga, who lived for many years among the Mayas, I drove to San Miguel, a Kekchi village nestled in the foothills of the somber, rain-clouded Maya Mountains. On the way we saw people bathing in a stream, and Mr. Zúniga told me of the Kekchis' passion for cleanliness (page 124).

"They bathe at least twice a day, sometimes more often. Their houses are immaculate. But see for yourself."

At the door of a solid-looking thatch hut, 19-year-old Leoncia Coc welcomed us. In the fashion of her people while indoors, she was

bare to the waist and wore a necklace of gold-colored beads and a blue plaid wraparound skirt.

"*Kabaun*—Good morning," Mr. Zúniga called.

"*Okan, hila wahi li ab*—Come in, won't you sit down in the hammocks," she invited shyly.

Her husband, Leoncia said, was cultivating his small farm plot three miles away. She had been making tortillas to go with their supper of beans, grinding the corn on a *kàa*, a stone metate. She formed the dough into thin disks and browned them lightly on a circular iron slab over a wood fire.

The house had only one room, with the kitchen at one end. Hammocks hung from the roof beams, and utensils and personal possessions were placed on pegs in the wall, leaving the clean, hard-packed earth floor uncluttered.

We crossed the street to the thatch-roofed Roman Catholic Church, where villagers were making preparations for Easter. Feathery palm fronds lined the walls and altar rails. A man beat monotonously on a drum in the dim interior. Two others placed a statue of Christ in a little house of woven palm leaves, in which it would be carried in procession through the village on Sunday. A fourth swung a clay incense burner, wafting blue clouds of fragrant copal incense toward the roof.

Outside, Kekchi women offered us calabashes full of gruel made from corn. It was sweet and good. In a simple gesture of friendship, one of the Kekchi men gave me an incense burner like the one I had seen inside the church. I thanked him, and we said good-bye and drove off to Punta Gorda, the district capital.

Mr. Zúniga, though he knew two Maya dialects, Spanish, English, and the local Creole, was a Black Carib—and Punta Gorda is a Carib town. These dark-skinned people are descendants of runaway African

ROYAL ONTARIO MUSEUM (ABOVE)

Glowing treasure from a glorious past: The largest known Maya jade carving (**right**) lay hidden for centuries in a tomb in the Temple of the Masonry Altars (**above**) until unearthed in 1968 by Dr. David M. Pendergast, a Canadian archeologist. Crossed eyes helped identify the 9¾-pound, 6-inch-high head as a representation of the sun-god, Kinich Ahau. The limestone temple broods amid jungle-clad ruins of Altun Ha, a Maya city-state and ceremonial center that flourished 10 to 17 centuries ago.

slaves who intermingled with Carib Indians on the island of St. Vincent in the 17th century. Deported by the British to the western Caribbean island of Roatán at the end of the 18th century, they spread to the coast of Central America. In Belize they settled at Stann Creek Town, Hopkins, Seine Bight Village, Punta Gorda, and Barranco.

I was captivated by the tropical beauty of Punta Gorda, a little community of 2,100. For anyone who visits its waterfront on a clear night, with the soft breeze coming in from the sea, it is sheer magic to watch the sky glow over Livingston, across the Bay of Amatique, in Guatemala to the south.

But clear nights—except in spring—do not come often to Punta Gorda, a town drenched by 170 inches of rain each year. It is a quiet place that lives on fishing, some logging, and bountiful crops of rice, corn, and red kidney beans.

I dined at "Mis' Ben's"—the house of Mrs. Venancia Petillo, a jovial Carib who has a master chef's touch with fish. One of her boarders was a young Peace Corpsman, obviously one of Mis' Ben's favorites, and they had a friendly argument over a laundry bill. Mis' Ben finally agreed that the bill should have been $3, instead of $3.50. Turning to me, she explained, "He don't have plenty of money, you know. He's a volunteer."

Dancers Revive Old Carib Customs

Less isolated than the Punta Gordans are the Caribs of Stann Creek Town, 35 miles south of Belize City. The whole area enjoys a fair measure of prosperity from the citrus industry in the fertile valley to the west.

One night I watched a score of young men and women rehearsing traditional Black Carib dances in the town auditorium. Phyllis Miranda, a comely 22-year-old Carib schoolteacher, had organized the dancers in an effort to regenerate interest in Black Carib customs. Miss Miranda, now Mrs. Roy Cayetano, explained the dance I had just seen, an exciting performance accompanied by singing and the wild beating of big drums.

"That was the *mali*," she said. "It is a ritual in which the dancers plead with a spirit to help someone who is ailing. What you saw lasted only five minutes, but a real mali goes on for three days. All the sick person's relatives come to dance and sing."

I asked about the name of her group, the Uribagabaga. She said it was the Carib word for butterfly.

"To us a butterfly is a symbol of fortune. A black one means bad news, an illness in the family, even death. But a beautiful bright-colored butterfly—that's something else." She smiled and added, "That brings good news."

Spring by now was in full bloom. All over the country the mayflower trees had put out their delicate short-lived pink blossoms, and my stay in Belize had come to an end.

As I flew over the golden cays of the barrier reefs, en route to the still-chilly north, I thought warmly of Miss Miranda and her fellow Belizeans, poised on an uncertain threshold—the adventure of nationhood, with all of its promise, all of its pitfalls.

I hoped that their future would be full of butterflies of many splendid hues. □

Rugged job for rugged men: Workers secure a load of mahogany for a ride to the sawmill. Once-rich forests now yield less of the high-quality wood, although lumber is still a major export. Sugar, citrus, and seafood increasingly support the new Belize.

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