VOLUME LXIX NUMBER TWO

THE NATIONAL GEOGRAPHIC MAGAZINE

FEBRUARY, 1936

TWENTY-FOUR PAGES OF ILLUSTRATIONS IN FULL COLOR

New Zealand "Down Under"
With 31 Illustrations and Map — W. ROBERT MOORE

North Island: A Vulcan's Playground, and Peaks and Pastures of South Island
23 Natural Color Photographs

Bahama Holiday
With 30 Illustrations — FREDERICK SIMPICH

Man's Oldest Ally, the Dog
With 13 Illustrations — FREEMAN LLOYD

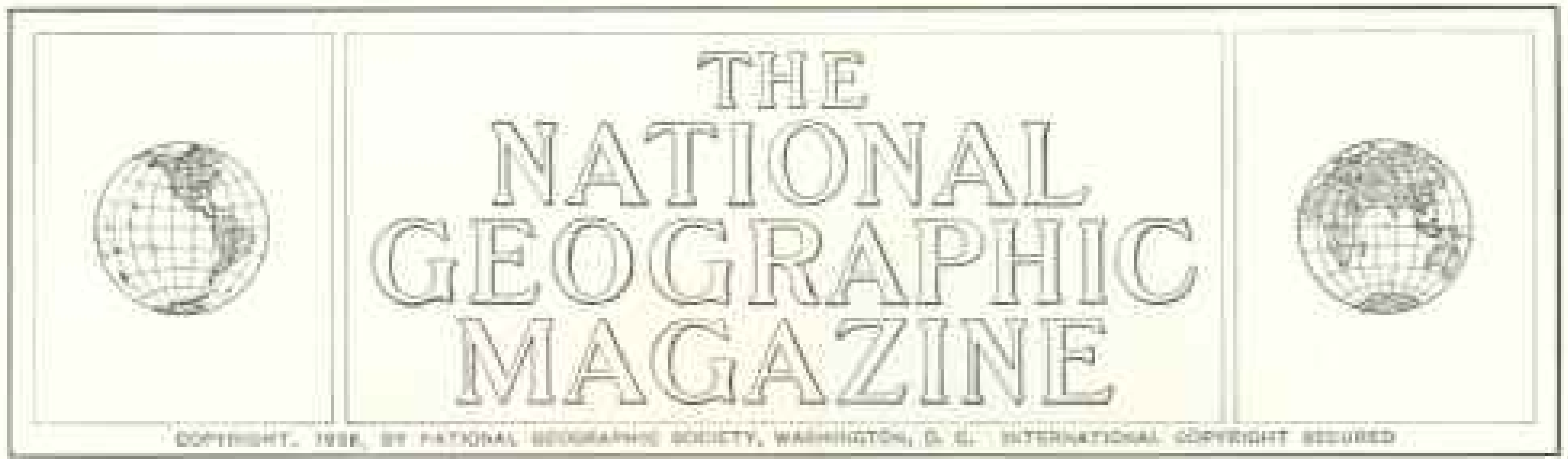
Gallant Sportsmen of the Terrier Tribe
33 Portraits in Color from Life — EDWARD HERBERT MINER

Approach to Peiping
With 25 Illustrations — JOHN W. THOMASON, JR.

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

$3.50 A YEAR — 50c THE COPY

VOL. LXIX, NO. 2 WASHINGTON FEBRUARY, 1936



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NEW ZEALAND "DOWN UNDER"

BY W. ROBERT MOORE

AUTHOR OF "CAPITAL CITIES OF AUSTRALIA," "COASTAL CITIES OF CHINA," "PRESENT DAY SCENES IN ETHIOPIA," ETC.

ON December 16, 1642, Abel Tasman stood on the deck of the *Heemskirk* in the South Pacific and gazed out toward an unknown "great, high, bold land." At the hands of an unimaginative cartographer the new wavy lines added to the map became New Zealand, after the Netherlands Province of Zeeland, to which it bears not the least resemblance. The inappropriateness of its name, however, is not the only paradox of this British Dominion of the Far South.

Captain James Cook, who first explored the islands a century and a quarter later, took possession of them for his country only to have his claims rejected. Britain still later hoisted the Union Jack over the land to prevent French immigrants from settling in the place they cherished (see text, page 191). The country's capital bears the name Wellington, but the Iron Duke stood firm against the annexation.

Many New Zealanders who have never been away from the islands' shores, and whose parents likewise were born in the Dominion, still speak of England as "home."

A MUSEUM OF NATURAL WONDERS

Here in an area approximately the size of Colorado are grouped the snow-mantled peaks of a Switzerland, geysers of a Yellowstone, volcanic cones of Java and Japan, and the lakes of Italy; the mineral springs of Czechoslovakia, fiords of Norway, seacoasts of Maine and California, and waterfalls higher than Yosemite.

Glaciers slip down sharp mountainsides from vast snow fields into subtropical bush. A short ride through a pass in the Southern Alps will take one from impenetrable evergreen forests into barren tussock-covered lands (see Color Plate IX).

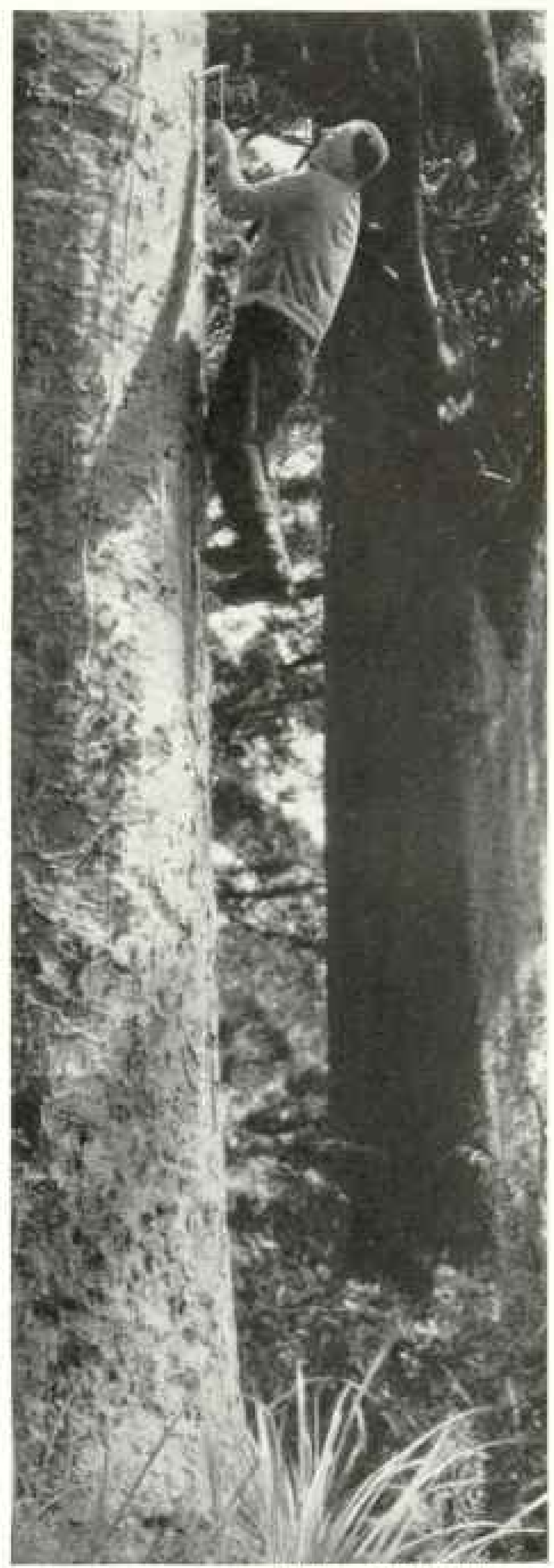
New Zealand is the home of the massive *kauri* pines, some of which measure 22 feet in diameter and have reached hoary ages that rank them next to the sequoias. It also is the home of the smallest known representative of the pine-tree family. Giant fuchsias grow to the height of 40 feet; a white buttercup has blooms four inches in diameter; flax is produced from a lily; man has imported all of the mammals, and many of the native birds cannot fly.

"THE LONG, BRIGHT LAND"

The Maoris were the first-known colonists of these southern islands. Guided only by the stars and a knowledge of the winds and ocean currents, they boldly piloted their slender double canoes from their homeland of "Hawaiki" (probably Tahiti and the Cook Islands) to the shores of New Zealand in the fourteenth century. Legend credits them with having followed the sailing directions of the famous Polynesian navigator, Kupe, who is said to have preceded them by 400 years (see page 175).

To the new land they gave the lilting, vowel-studded name, *Ao-tea-roa*, which is variously translated as "The Long White Cloud," "The Land of Long Daylight," and "The Long, Bright Land."

Here they lived, increased, warred against each other, and cultivated their taro and the more important *kumara*, or sweet po-



Photograph by H. Bridgman

A KAURI STEEPLE JACK GOES ALOFT

Provided with spikes in the toes of his boots and using two sharp-pointed steel hammers, he climbs rapidly up the straight sides of the trees, searching for lumps of gum that may have exuded from wounds in the branches (see page 218).

tato, which they brought with them. Then came whalers, missionaries, and traders; and colonists arrived with gunpowder, conflicting social standards, and the desire to carve out new homes.

Protracted Maori wars, contested land claims, the discovery of gold, land booms, and a heavy depression—New Zealand passed through them all before she settled down to economic equilibrium.

With its 221,300 people Auckland today has more than twice the British population of the whole country in the early 60's of the last century. As a ship nears the end of its 6,000-mile journey from the west coast of the United States, or the 1,200-mile span from Australia, it skirts the islands that stud the cobalt waters of Hauraki Gulf, enters Waitemata Harbor, and finally ties up at the very foot of the thriving city.

The early colonists chose well when they staked out this harborside settlement that once served the country as capital and now is the largest city in New Zealand.

SURROUNDED BY CONES AND THE SEA

Long ago Nature's forces, not man's industry, reigned in this locality. Within a radius of ten miles there are more than 60 burnt-out volcanic cones. Stand on the top of Mount Eden, one of the best-preserved of the craters, which rises like an observation post near the center of the city, and you see the once-fiery throats bulging or forming symmetrical cones on the landscape (see Color Plate IV).

From this same vantage point it is apparent how narrowly North Island escaped being divided in two. The isthmus upon which Auckland sprawls, between Waitemata Harbor, looking out toward the Pacific, and the Manukau Harbor, opening westward to the Tasman Sea, is only eight miles wide. River estuaries and other indentations narrow it in places to a scant mile. Veritably, water seems almost to encircle the red- and green-roofed maze of the city's business blocks and suburban residences (see map, pages 170-1).

Business hovers close to Queen's Street, which leads up from the wharves, and in its adjacent narrow, twisting thoroughfares. But if the people responsible for the city's growth have failed somewhat in town planning so far as the streets are concerned, they have more than exonerated themselves in providing broad park spaces.

Photograph by W. E. Johnson

ONLY TINY BITS OF GOLD REPAY HIM FOR HIS LONG HOURS OF HARD WORK

The prospector puts into a bottle pieces large enough to handle, before he washes the remaining "pay dirt" for gold dust. Depression years and demand for the metal have attracted many men to these old workings along the Clutha River and in other parts of South Island.

The parks seem almost numberless. To them the flush of the subtropics gives perpetual freshness and color. Flowers luxuriate all the year round. Even the race course has an avenue of palms and extensive beds of blooms that would do justice to a botanical garden (see Plate IV).

One cannot move about Auckland long without the new War Memorial Museum claiming attention. It stands out boldly, a massive white Grecian building, above the wide greensward on the heights of the Domain. Here are housed treasures from many lands, but most interesting of all, to me, is the comprehensive collection of Maori objects on display—the homes, elaborately carved storehouses, war canoes, war implements, and handicrafts of that powerful native race.

January may be a month best to appreciate museums when snow covers the ground in northern countries, but not so in New Zealand, for this land "down under" the Equator was, at the time of my arrival, basking in the long, sunny days of midsummer.

So I engaged Cook (a distant relative of the famous Captain Cook who first explored New Zealand) as the pilot of my popular Detroit product and as guide for an extensive tour through the North and South Islands.

Rolling southward from Auckland on the ribbon of concrete and asphalt, we passed soon into smiling open country, checkered with fields. Men were haying and herds of sleek cattle and sheep grazed on a hundred rolling hills and valleys (see illustrations, pages 178, 191, 192).

Agriculture was the task to which the New Zealand colonists first directed their efforts, but in the passing years they have come to rely more and more on pastoral enterprise. An experimental shipment of frozen meat sent to England in 1882 pointed the way out of a pinching depression that had followed the collapse of a land boom.

Today New Zealand butter and other dairy products have attained world-wide distribution. Of more than 4,300,000 cattle pasturing on the land, nearly half are dairy stock. More than 28,600,000 sheep also range North and South Islands, making

New Zealand the world's seventh largest sheep-producing country and the fifth largest in wool production (see Color Plates X and XIII).

Near the little town of Mercer was the old frontier between Maori and colonist. The whole region is historic ground, for here in 1863-4 the Maori warriors tested the best mettle of the British troops and long made pioneering a perilous venture.

Today, instead of a battleground, the district is a peaceful, English-flavored countryside. Upon a hill now stands the St. Stephens Maori Boys College, where Maori youths are being trained for useful pursuits.

Just beyond Hamilton, the largest provincial town in Auckland Province, we ran into peat fires that were smoldering and eating into the black soil in many places. The continued dry, hot summer weather had caused an outbreak of many of these destructive fires. Choking, pungent smoke hung in a heavy pall over the district, and when I returned weeks later the fires were still burning on many fronts and countless acres had been rendered useless.

A few miles to the west of the main road that leads to Te Kuiti are the fascinating Waitomo Caves.

A GLOWWORM WONDERLAND

As caves, these underground caverns do not elicit much enthusiasm, yet no other caves that I have ever visited have made such a vivid impression upon me.

The reason hinges on a tiny worm—an unusual carnivorous glowworm—scientifically, the *Boletophela luminosa*.

The Glowworm Grotto is a magically uncanny spot. Floating along in a boat on the stillness of a subterranean stream, one looks up at myriads of these tiny creatures, with their lamps alight, that cover the roof of the cavern like a dense, greenish-blue Milky Way. The placid surface of the river also mirrors the constellations of splendor, so that the whole underground tunnel becomes a glowing wonderland.

Cradled in a filmy web, from which hang sensitive filaments seemingly beaded with tiny seed pearls, the larvae lure tiny midges and other insects with their fantastic illuminations (see illustration, page 177). When a victim touches the sticky threads and struggles to get free, the glowworm, good fisherman that he is, reels in his line and consumes the catch.

It is said that any noise made by visitors would cause the insects to extinguish their tiny tail lights. But I venture to say few people can vouch for that fact, because the weird spectacle is such that even the noisiest are silenced in awe.

Indeed, this unique glowworm feature, peculiar to the Waitomo Caves, is much more memorable than any display of stalactites and stalagmites, however fantastic and colorful, that I have seen.

Leaving Waitomo, we sped on over undulating country, twisted through hills, and looped through the winding Awakino Valley to the seacoast.

THE FUJI OF THE ISLANDS

Far beyond, stately Mount Egmont rose like a misty Japanese Fujisan pattern on azure silk. The resemblance of Egmont to the Japanese landmark increases as one nears it. In traveling down the coast over Mount Messenger toward New Plymouth, I could well imagine myself again on the historic east seacoast route in Japan (see Color Plate VII, and illustration, page 194).

Later, as we skirted around its base, past cultivated fields and rolling pastoral lands beyond New Plymouth, its similarity to Fuji persisted, even to the volcanic knob on one side of its slopes that destroys the perfect symmetry of the isolated cone.

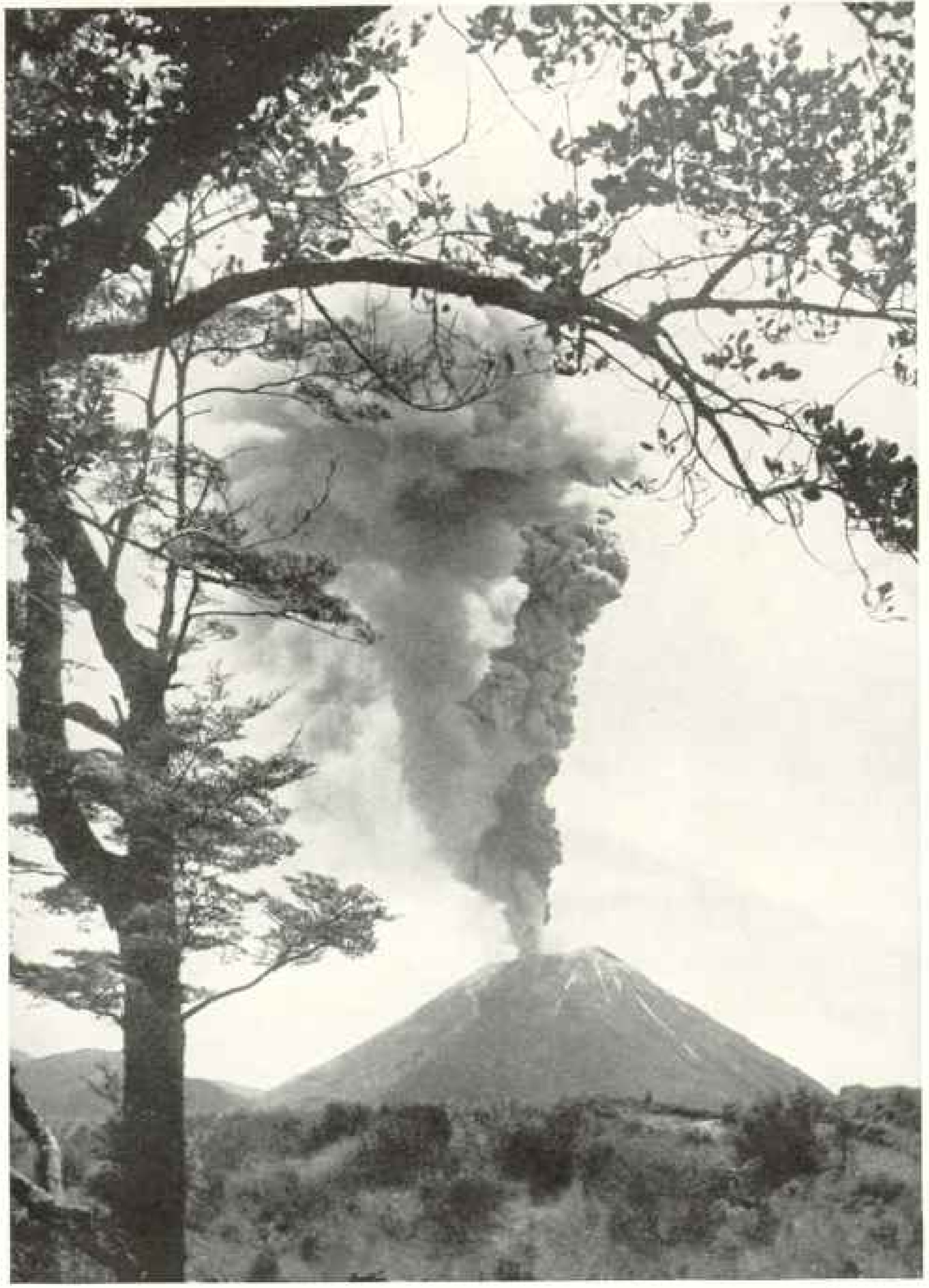
Maoris call Mount Egmont "Taranaki," and that name has been given to the province. Another popular term for the majestic spent volcano is "Puke-o-Naki," because of the rich Maori comparison of its graceful lines to those of a beautiful Maori woman.

During the Taranaki War of 1860, the mountain served as an emblem on the Maori flag and its slopes provided them refuge. Countless folk tales cluster about its summit, which for several months of the year is mantled in snow, as is the peak of sacred Fuji.

"When you see the top of Egmont, be prepared for rain; when you can't see it, it is raining!" is a popular saying of the region. That expression reveals the reason for the choice farms that spread out from the base of the 8,260-foot sentinel.

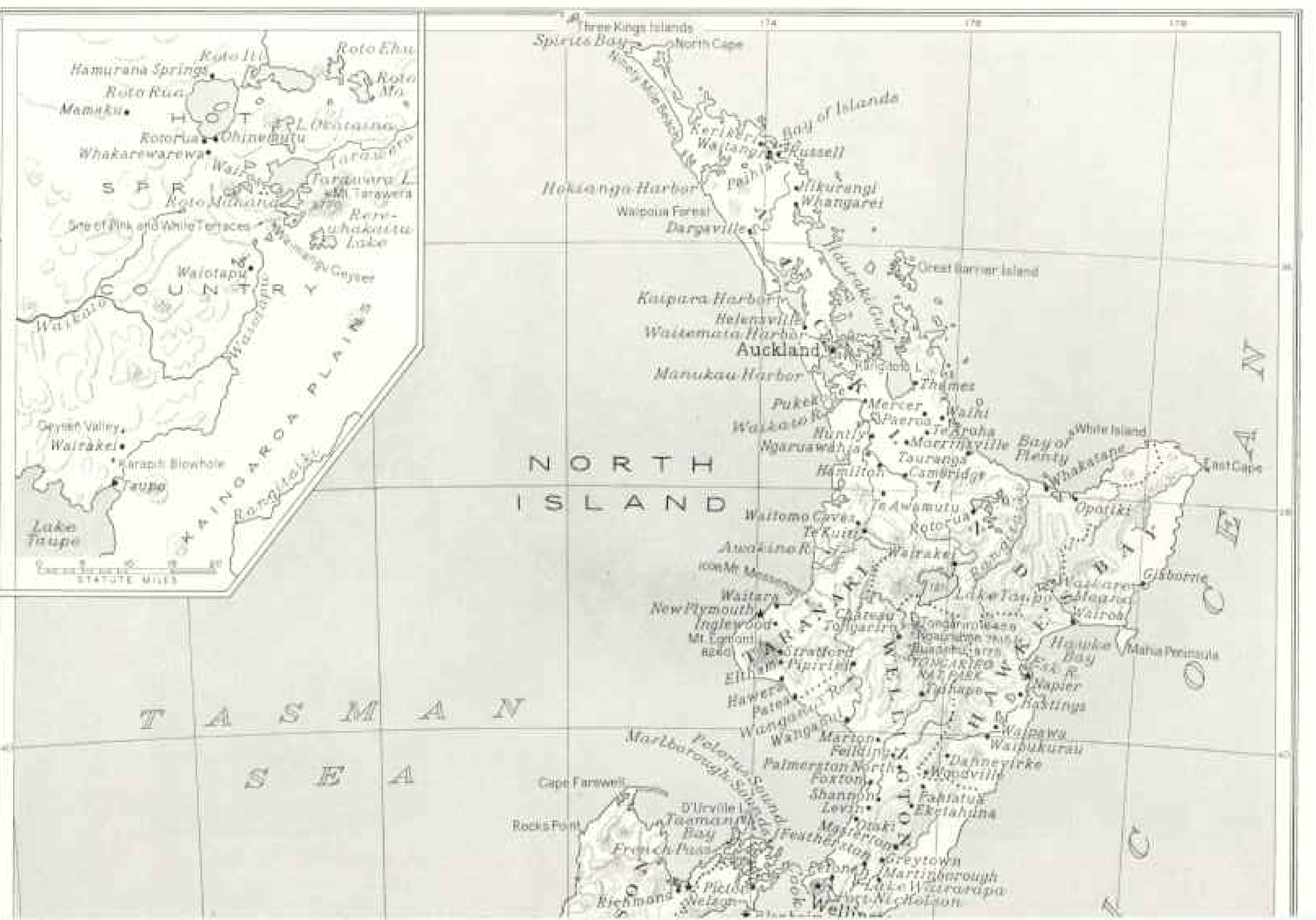
SHEEP HAVE RIGHT OF BRIDGE WAY

At Wanganui, southeastward down a coast replete with splendid seascapes, we crossed the Wanganui River Bridge, which bears the sign—"Motorists are required to give stock preference."

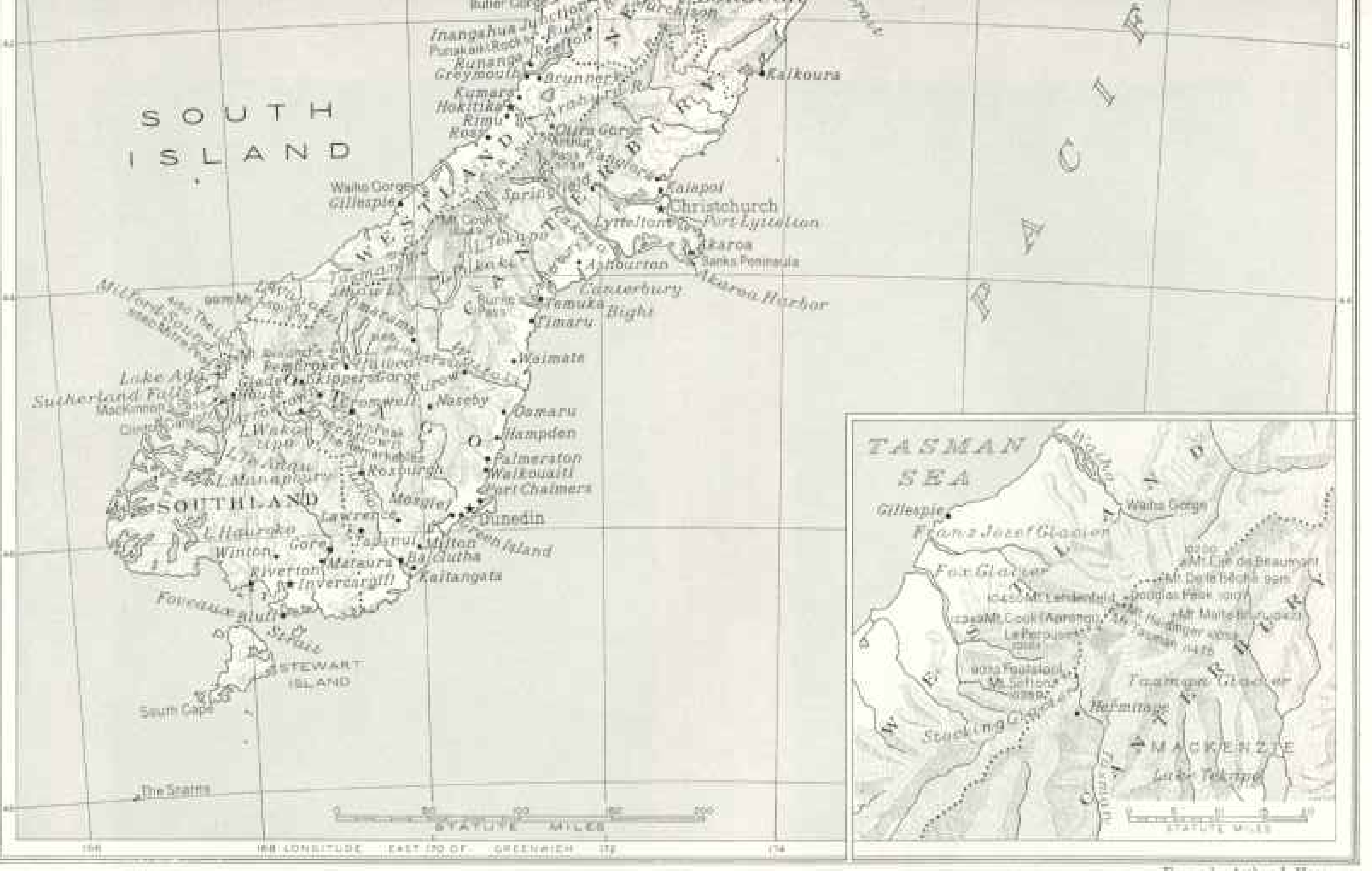


NGAURUHOE GIVES VENT TO ITS WRATH WITH A MIGHTY PLUME OF SMOKE

Erupting in December, 1934, after comparative quiet for eight years, clouds shot upward more than three miles above the crater. Here three or four separate explosions can be seen in the pluming dust. Normally, only a small bit of steam issues from the 7,515-foot cone, but the violence of the eruptions and the stillness of the air created the tremendous billowing column (see text, page 204, and illustration, page 199).



Three Kings Islands
Spirits Bay
North Cape
Ninety Mile Beach
Bay of Islands
Kerikeri
Waitangi
Russell
Paihia
Hikurangi
Whangarei
Hokianga Harbor
Waipoua Forest
Dargaville
Great Barrier Island
Hauraki Gulf
Kaipara Harbor
Helensville
Waitemata Harbor
Auckland
Manukau Harbor
Thames
Mercer
Paeroa
Waihi
Te Aroha
Huntly
Ngaruawahia
Morrinsville
Bay of Plenty
White Island
Whakatane
East Cape
Tauranga
Hamilton
Cambridge
Te Awamutu
Rotorua
Opotiki
NORTH
ISLAND
Waitomo Caves
Te Kuiti
Awakino R.
Wairakei
Gisborne
Waitara
New Plymouth
Inglewood
Mt. Egmont
Stratford
Chateau Tongariro
Lake Taupo
Wairoa
Hawke Bay
Mahia Peninsula
Eltham
Hawera
Patea
TONGARIRO NAT. PARK
Taihape
Esk R.
Napier
Hastings
Wanganui
Marton
Feilding
Waipawa
Waipukurau
Palmerston North
Foxton
Shannon
Levin
Dannevirke
Woodville
Pahiatua
Eketahuna
Otaki
Masterton
Featherston
Greytown
Martinborough
Lake Wairarapa
Port Nicholson
Marlborough Sounds
Pelorus Sound
Cape Farewell
Rocks Point
D'Urville I.
Tasman Bay
French Pass
Picton
Nelson
Richmond
T A S M A N
S E A
Roto Iti
Roto Ehu
Roto Ma
Hamurana Springs
Roto Rua
Mamaku
Rotorua
Ohinemutu
Whakarewarewa
L. Okataina
Tarawera
Tarawera L.
Mt. Tarawera
Roto Mahana
Rere-whakaitu Lake
Site of Pink and White Terraces
Waimangu Geyser
Waiotapu
C O U N T R Y
Waikato
Geyser Valley
Wairakei
Karapiti Blowhole
Taupo
Lake Taupo
KAINGAROA PLAINS
Rangitaiki
STATUTE MILES



Drawn by Arthur J. Hayes

DIFFERING FROM EACH OTHER, THE TWO MAIN ISLANDS OF NEW ZEALAND CONTAIN NEARLY EVERY GEOGRAPHICAL FEATURE OF THE WORLD

North Island is famous for its spouting geysers, volcanoes, and thermal regions, while the other is a miniature Switzerland, with the Southern Alps and mountain pasture lands. In this Dominion, as large as the State of Colorado, live some 1,548,900 people.

Photograph Courtesy The Auckland Weekly News

A HAND-THROWN BOMB SCORES A HIT

Both bombs and harpoons are used to hunt whales in New Zealand waters. Perhaps it was thus that death came to the large Risso's dolphin, "Pelorus Jack," which for years kept rendezvous with all the ships that entered Pelorus Sound and swam ahead as if he were a pilot on duty (see page 179).

Photograph from R. Speight

A CURIOUS BIRD IS THE KIWI, WHICH CANNOT FLY AND OFTEN RESTS IN THIS "THREE POINT" STANDING POSITION

By habit a nocturnal creature, it sleeps rolled up in a ball or rests supporting itself by feet and beak during the day. It is about the size of a chicken. Its wings have become mere stumps, but the legs are stout and strong. The kiwi searches for earthworms with its long, flexible bill, which has nostrils at the tip. Strangely, it lays eggs so large that each weighs about one quarter as much as the hen. The brown and gray feathers are incomplete and feel coarse when stroked.

Photograph by W. Robert Moore

HOT POOLS AND STREAMS PROVIDE FIRELESS COOKERS FOR MAORI HOUSEWIVES

Food in kettles is soon cooked when placed in the thermal caldrons. The flax bag here contains sweet corn, but it also is used for boiling potatoes. Hot water for laundry and bathing is handy in Whakarewarewa and Ohinemutu, near Rotorua, for the native homes are built in the midst of hot springs (see text, page 213).

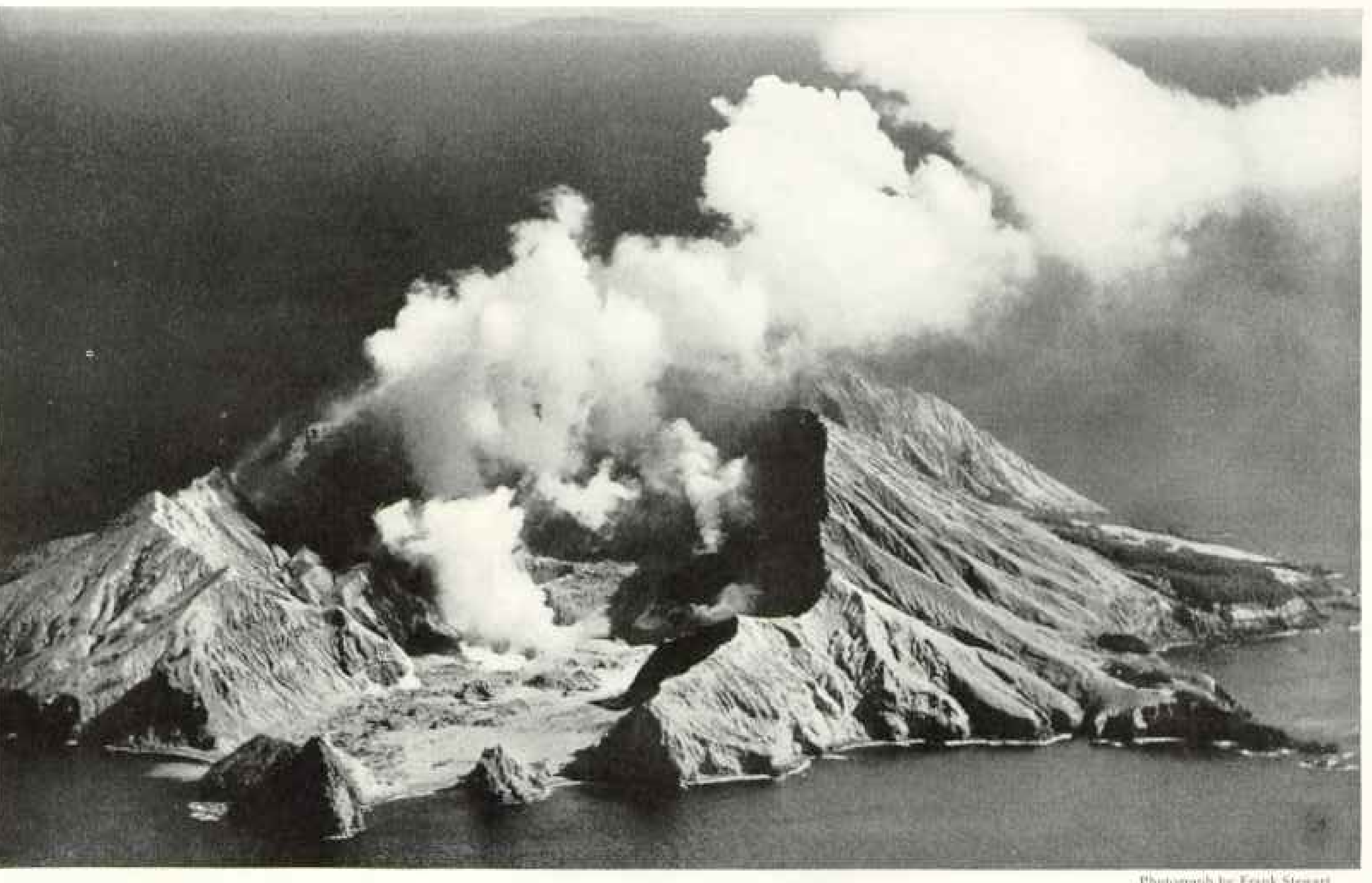
As a "mob" of several hundred sheep were at the moment milling over the bridge, there was little question of "preference." Many of the hillsides along the way are terraced with countless trails of grazing sheep.

From Wanganui, a river that has won fame in New Zealand for its superb scenery where it cuts through towering bush-covered hills and vertical walls of rock, it is another 125 miles to Wellington, the capital of the Dominion.

Wellington is perched on the steep hills that gird Port Nicholson, which has far more the appearance of an Italian lake than a bay. The residential sections rise above the business and governmental district in tiers like the seats in a vast amphitheater. So precipitous are some of the hills that numerous homes lack garden space and a cable car collects many fares.

Not only is Wellington a city of hills, but also one of winds. When gales sweep across it, the capital seems to merit the title, "The Windy City," much more than does Chicago.

Beyond the white marble Parliament Buildings, the "largest wooden building in the world" that houses the Public Offices, and a World War memorial carillon tower, Wellington has few distinctive features not found in any well-kept British or Scottish city (see Color Plate V).



Photograph by Frank Stewart

THE FIERY PIT OF WHITE ISLAND SPEWS PUNGENT FUMES AND MOLTEN SULPHUR

When aviators photographed this deep-sea volcano in the Bay of Plenty, they found a new crater was forming, from which sulphur was flowing into the water and discoloring it (lower left). Enormous quantities of the mineral in an almost pure state are found here, but owing to the danger all efforts to procure it have been abandoned. The sea may soon enter the crater and cause a violent eruption.

Photograph Courtesy The Auckland Weekly News

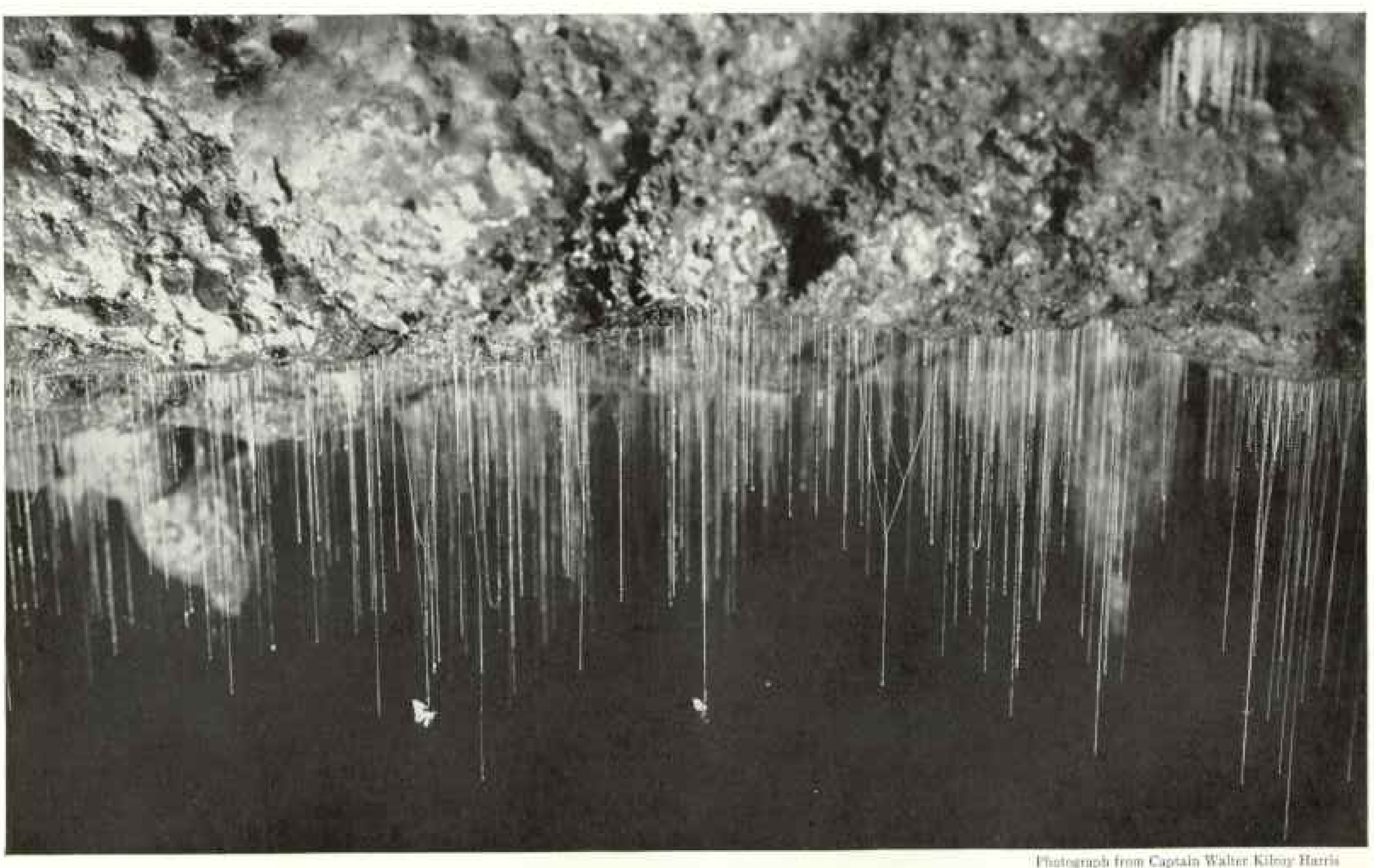
"ARRIVAL OF THE MAORIS IN NEW ZEALAND" IS A GRAPHIC PORTRAYAL OF THE HAZARDOUS VOYAGE OF THE FIRST SETTLERS

This painting, used by permission of the Auckland Gallery of Art, records dramatically the legendary story of how the primitive people, inhabiting the Dominion when the British arrived, originally reached the new country in fragile catamarans (twin-hulled war canoes) from their traditional homeland of "Hawaiki" (probably Tahiti or the Cook Islands). Guided only by the stars, these early sailors made amazing voyages through the South Seas (see text, page 165). Here the artists, C. F. Goldie and L. J. Steele, depict the first sight of land by the emaciated pioneers, who suffered horribly from hunger and thirst and the discomfort caused by the cramped quarters of the little boats.

Photograph from London News Agency Photos

MAORIS SHRIEK AND STICK OUT THEIR TONGUES, AS THEY LEAP IN A "HAKA" FOR THE DUKE OF GLOUCESTER

This thrilling spectacle was one of many old-time war dances and ceremonies performed by the aborigines in a welcome to the royal guest during his visit of last year. Chiefs and representatives of the 73,000 native Maoris, gathered in Rotorua, provided a colorful highlight.



Photograph from Captain Walter Kilroy Harris

GLOWWORM THREADS, BEADED WITH MOISTURE, HANG LIKE STRANDS OF TINY JEWELS IN WAITOMO CAVES

Larvae build web cradles on the ceiling and drop down sticky filaments to capture insects for food, like the moths at the bottom, which have become entangled. The passageway glows with myriad greenish-blue lights, giving the caves a fantastic appearance (see text, page 168). The chambers are three in number.

Photograph by William Reid

"WOOL DECLINES" ON THIS FARM IN THE LAKE WAIRARAPA REGION

A large flock is being driven in to the station where the fat sheep will be "drafted" and sent to the freezing works for shipment to London. In proportion to its size, New Zealand has more sheep than any other country in the world and breeds them for both the wool and meat. The dairy industry is also outstanding. Pastoral products account for more than 90 per cent of the Dominion's export trade.

The choice of Wellington, however, as the seat of government is a happy one. Its position is central for the islands, and through Cook Strait it is readily accessible to foreign vessels from the east or west. It is also the natural center for inter-island shipping.

Provided with a deep, capacious harbor, Wellington is a busy city with world-wide interests. In overseas shipping trade it ranks close to Auckland, and, because of its extensive coastwise trade, it is the leading port of the country.

WAKEFIELD A NATIONAL NAME

The name of Wakefield is closely associated with Wellington, as it is with several other cities in New Zealand and in South Australia. Colonel William Wakefield, representing the New Zealand Company, purchased the site from the Maoris in 1839, and here he is buried.

Here, too, rests Edward Gibbon Wakefield. He evolved the plan used extensively in colonizing the islands and a portion of Australia, namely, the selling of small holdings at reasonable prices. The money thus acquired was used to attract further immigration. He was instrumental in naming the city Wellington, because the British commander had shown interest in the Wakefield plan.

Photograph by W. Robert Moore

KARAPITI ROARS—AND A TIN CAN POPS INTO THE AIR

Large gasoline tins tossed into the fumarole's foot-wide throat are violently ejected by the column of rushing steam. The rumbling of this famous vent, once a geyser of tremendous energy in the thermal region of Wairakei, North Island, may be heard a mile away (see text, page 213).

Katherine Mansfield, famous for her short stories, was born in Wellington.

Late one afternoon we packed the car safely aboard the *Matangi* and shipped for Nelson, on the South Island. Unfortunately, this overnight journey across Cook Strait denies one the opportunity of seeing the islands and the ragged fringe of seacoast that form the Marlborough Sounds at the northern end of South Island.

As we steamed toward French Pass, I heard stories of "Pelorus Jack." Pelorus Jack was a pilot extraordinary, with a faithfulness that has rarely been equaled. He was a *Grampus griseus*, a Risso's dolphin, that used to come out to meet the boats and escort them into Pelorus Sound or accompany them to French Pass; never beyond.

Frisking along in the waves and cavorting under the cleaving bows, he kept almost unfailing rendezvous with all of the traffic that entered his haunts.

"A ship once hit him," said one of my in-

formants, "and thereafter he would never have anything to do with that boat again!"

The Maoris claim that he had been at his task for 275 years. In his later days, so great was his fame that cruises were taken just to get a view of the old veteran. The Dominion even passed a law to protect him, but it didn't suffice.

Whether old age finally crept upon him, or whether he became a victim of a German mine sowed there in the World War, or whether he was taken by a whaler's spear, no one knows (see illustration, page 172). At any rate, Pelorus Jack has been gone a number of years now, but the tales of his activities endure.

The early-morning arrival in Nelson has its handicaps for the itinerant motorist. We could find no early breakfast ready.

So Cook and I halted the milkman on his morning rounds, purchased a couple of pints of milk, and went merrily on our way down through the sunny fruitland.

A LAND OF SUNSHINE AND FRUIT

The Nelson district boasts of both its sunshine and its fruit. It is the sunniest spot in all New Zealand, with an average of 2,504 hours annually, or nearly seven hours of Old Sol's rays for every day of the year. In record years it has reached eight hours a day.

In fertile soil and under sunny skies, orchards and gardens thrive. It is the country of large apple orchards, hop gardens, and vineyards.

"Nelson is the pleasantest of places to live in," said one resident. "My wife and I came out to New Zealand with only a few pounds in our purse. We found Nelson, loved it, and have lived comfortably in its sunshine. Any song of New Zealand must have more than a few notes on Nelson."

And that seems to be the popular opinion of most of the people in the fruitful district.

South of Nelson there is attractive mountain and valley scenery, culminating in the Buller Gorge.

"Remember, this is Ao-tea-roa, the Land of the Long White Cloud," laughed Cook, as our speeding car threw up a dense cloud of dust in our wake.

For more than 60 miles the road toward Westport passes along the sinuous, rushing Buller River that flows between bold wooded mountains. In many places the road clings to a narrow ledge that has been carved along the slopes of the range.

A sheepherder was having countless difficulties driving his large flock along the roadway. No sooner would he get them safely around one motor car than another would come along, and the task would have to be done all over again.

At the Inangahua Junction, where we stopped for gasoline, I asked a young woman which was the best road to Greymouth.

"This way for scenery," she replied, with a wave of her hand westward toward the coast, "and that way for speed," as her hand indicated the inland route through Reefton.

We took the scenic way, which led another thirty miles through the majestic gorge to the little coaling town of Westport, and thence on down the mountainous coastline of Westland.

Considerable coal exists along this region of the west coast. About 46 per cent of the nearly two million tons that are mined each year in New Zealand comes from Westland, the most important field being north of Westport.

Westland once was also a gold-mining center, and produced many exciting stories during the rush days of the 60's; a few ghost towns reveal that the "good old days" have passed. But hydraulic sluicing, dredging, and panning are still carried on in various localities (pages 167, 195, 203).

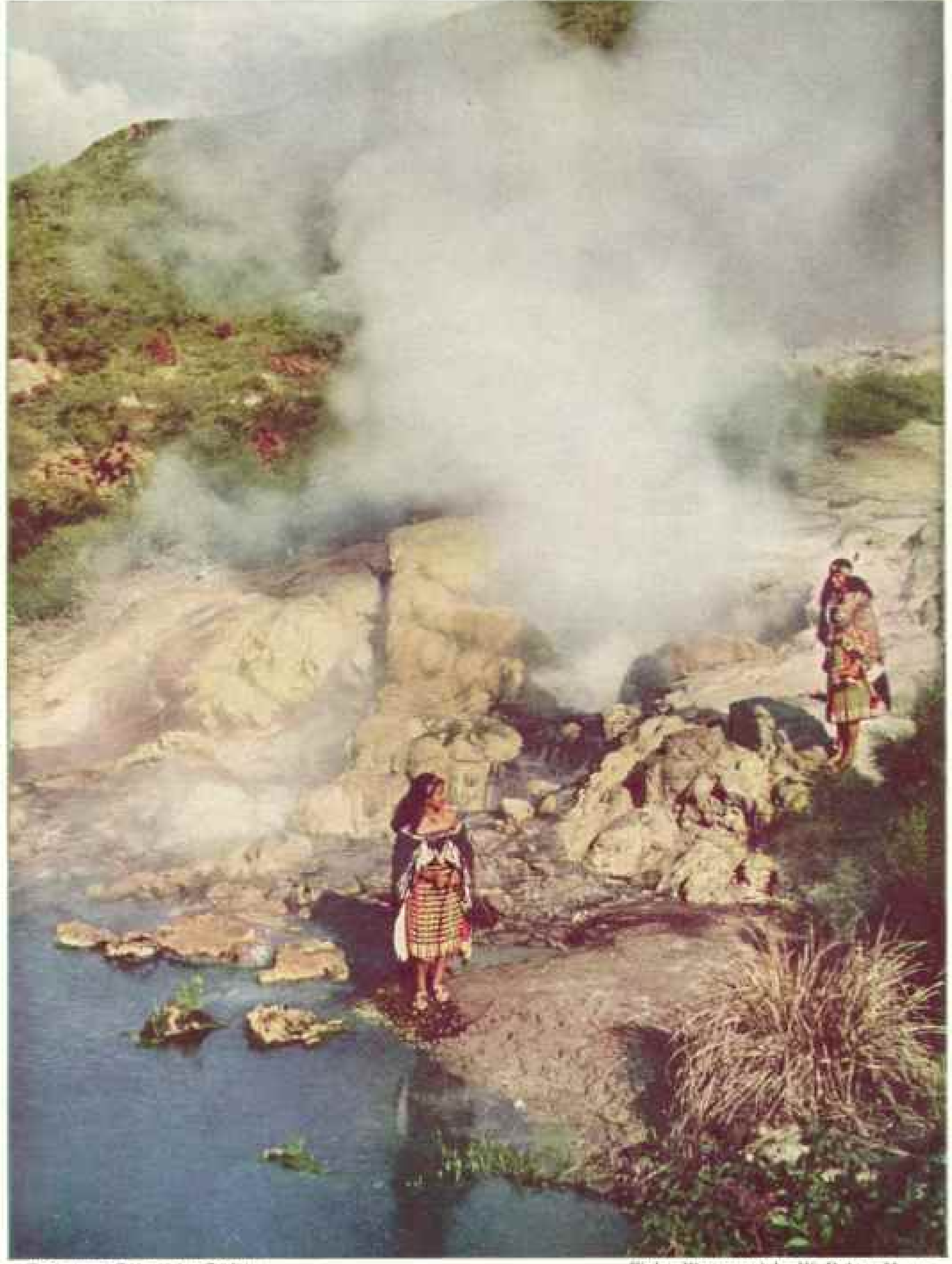
At Rimu, a few miles south of Hokitika, an American company has been successfully operating a dredge on alluvial soils for several years, and the claim is yet far from exhausted.

THE QUEST OF THE GREENSTONE

To Westland also came the Maoris to do their mining, if such you can call their quest of greenstone. The nephrite, or *pounamu*, was as much sought after by the Maoris of old as later was gold by the white man.

The Arahura River between Greymouth and Hokitika has been an important source of this greenstone, and the Maoris came from all over North and South Islands to secure it, either by barter with local chieftains or by expeditions up the snow-fed river.

From the stone the Maoris carved the little figures, or *tikis*, that are worn as charms on their necks. So prized were the ornaments and weapons fashioned from this jewel stone that the Maoris made the

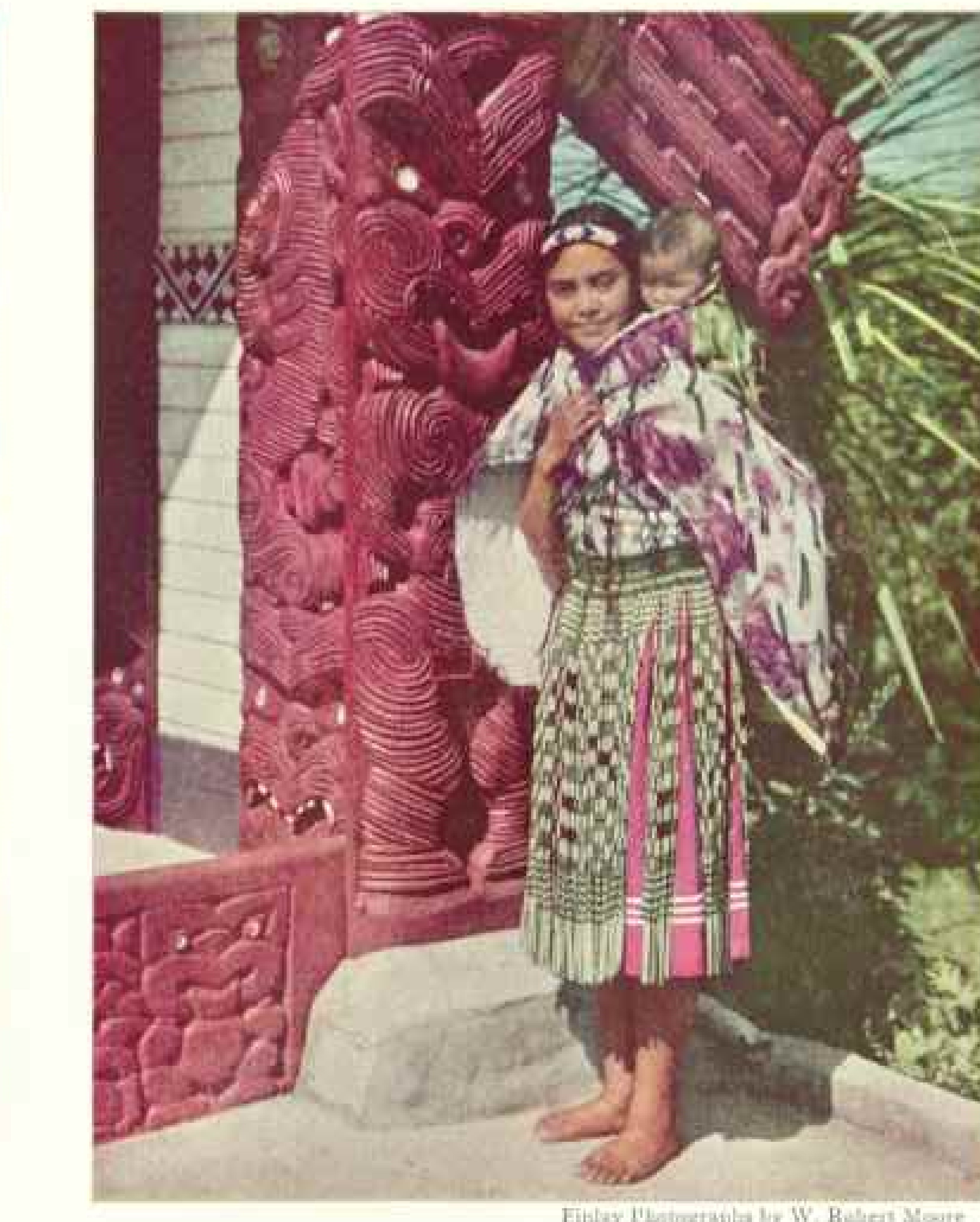


© National Geographic Society

Finlay Photograph by W. Robert Moore

THE WATCHED POTS OF ROTORUA DO BOIL, AND THEY SPOUT STEAM AND WATER AS WELL

This thermal wonderland of geysers, mud pots, and curative mineral baths has made the district widely known. Whakarewarewa, a near-by Maori village, is located in the midst of steaming springs; its womenfolk, wearing ceremonial costumes, act as guides for the numerous visitors. The stream in the foreground is cold and stocked with trout, although it flows close to the geyser and is fed partly by warm water.



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HIS BELL TONGUE CALLS WORSHIPERS TO CHURCH

Although this figure was carved by a Christianized Maori, it has the traditional three fingers on each hand. According to legend, this custom originated with the first native carver, who was thus deformed.

Finlay Photographs by W. Robert Moore

BABY RIDES PICKABACK IN MAORILAND

The mother's cape is woven from native flax and trimmed with feathers and colored thread. Her kiltlike skirt is made of hard strips of twisted fiber, threaded together. Such costumes are donned only on special occasions.

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THIS MAORI SCION PLAYED THE LEAD IN A "MOVIE"

His ancestors, hardy pioneers and warriors, steered their canoes across uncharted South Seas to find and settle this land, which they called Ao-tea-roa, "The Long White Cloud," or "Long, Bright Land." He wears a thick flax mat costume, with a cape made of feathers of the wingless *kiwi*.

Finlay Photographs by W. Robert Moore

TATTOOED LIPS AND CHIN WERE ONCE THE KEYNOTE TO BEAUTY

This elderly woman, here sitting on her veranda and smoking a pipe, recalls vividly the tragic eruption of Mount Tarawera in 1886. She was one of the few survivors when her village was completely buried in mud and ashes.

RED-ROOFED AUCKLAND COMMANDS A PANORAMA OF BLUE BAYS AND EXTINCT VOLCANOES

Viewed from Mount Eden, an old crater near the center of the city, Auckland seems almost completely surrounded by water. Waitemata Harbor is overshadowed by volcanic Rangitoto Island in the distance. On the wide greensward at the left stands the imposing War Memorial Museum.

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Finlay Photographs by W. Robert Moore

FLOWERS AND PALMS FLANK THIS ENTRANCE TO ELLERSLIE RACECOURSE

Horse races held here in Auckland's sporting center are high lights of the social season. Gardens surrounding the track rival many botanical parks.

FLOWER BEDS AND STATUES GRACE WELLINGTON'S CAPITOL PLAZA

Facing these Parliament grounds stands the enormous wooden Public Office Building. The tall shaft surmounted by an equestrian statue was erected in honor of the World War heroes. The steps to the right lead to the Dominion's Parliament Buildings.

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Finlay Photographs by W. Robert Moore

ABOUT THIS TOWER CENTERS AUCKLAND'S HIGHER EDUCATION

Besides general courses, Auckland University College has schools of commerce and architecture. It is affiliated with colleges in Wellington, Christchurch, and Dunedin to form New Zealand University.

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Finlay Photograph by W. Robert Moore

A MOMENT OF ACTION IN A CRICKET MATCH, AS A BOWLER (RIGHT) DELIVERS A FAST BALL IN BASIN RESERVE, WELLINGTON

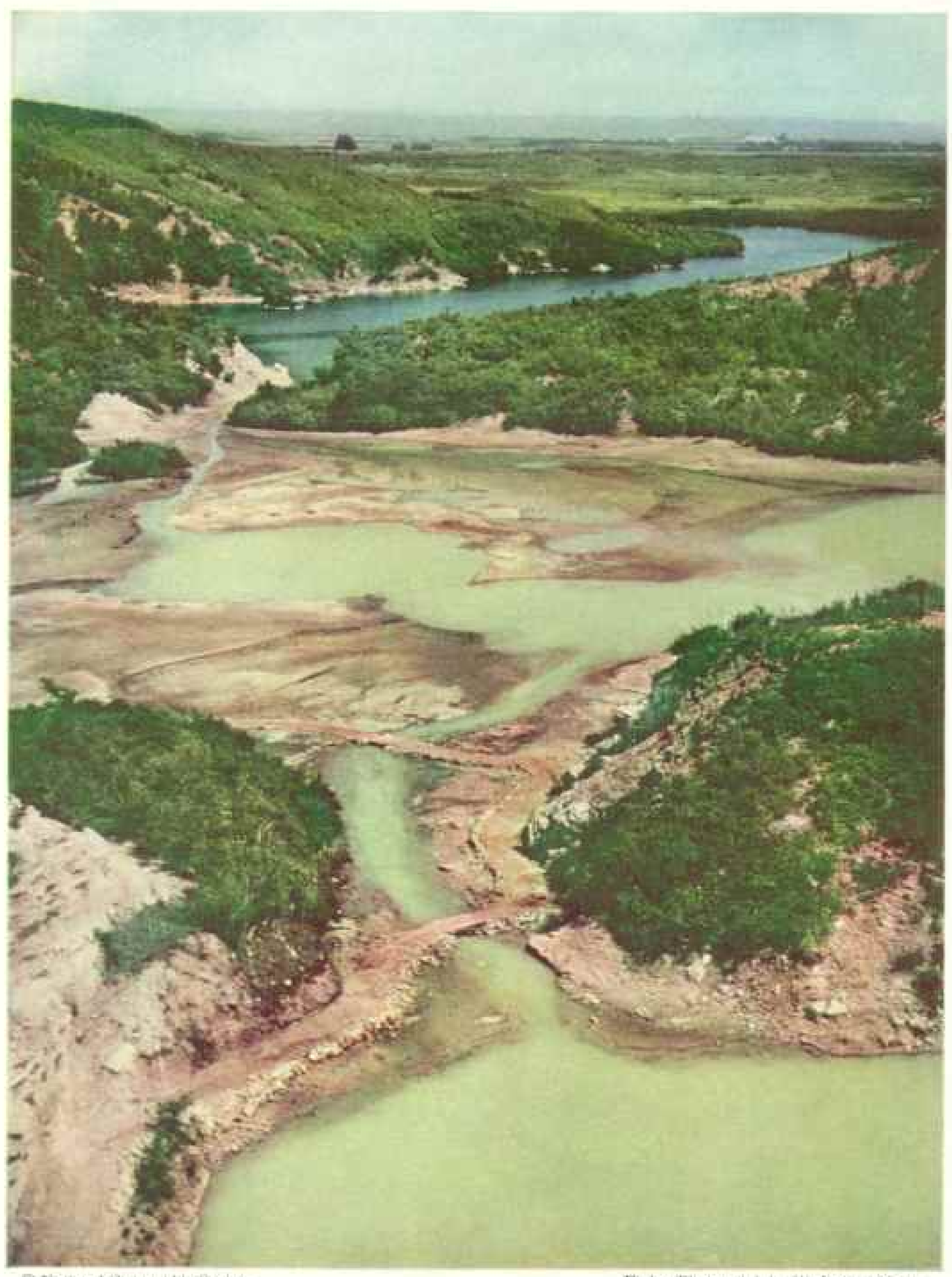
Wherever English colonists or soldiers have gone, there is cricket. In New Zealand the game is popular. A match is played by two teams of 11 men each, the winner garnering the most runs in two innings. Wickets are stuck upright in the ground 22 yards apart. Each is defended by a batsman. The bowler (right) bowls the ball and strives to put out the opposing batsman (left center) by knocking down his wicket or making him hit the ball high so the players in the field can catch it on the fly. If the batsman hits the ball to a safe distance and can run to the opposite wicket (right) before he is "run out" (similar to tagging in baseball), then he has scored a run. Beyond the men cricketers is a match played by women.

© National Geographic Society

Finlay Photograph by W. Robert Moore

WITH FUJILIKE GRACE MOUNT EGMONT STANDS SENTINEL OVER THE RICH FARM LANDS OF TARANAKI PROVINCE

This burnt-out volcano of North Island, New Zealand, which resembles the sacred peak of Japan, is crowned with snow in winter months. During the Maori wars of 1860 the region was one of the natives' chief strongholds against the colonists, and the mountain was used as a symbol on their flag. Today the well-watered countryside is among the Dominion's richest pastoral and agricultural districts.



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HERE AT WAIOTAPU NATURE MIXES PIGMENTS IN FANTASTIC PATTERNS

Sulphur tints the water of the two pools in the foreground, but the small lake beyond is crystal-clear and remarkably blue. In this vicinity also are boiling mud pots, spouting geysers, steaming caves with walls incrusted with jewellike sulphur crystals, and glistening sinter terraces built by hot springs.

Arahura River and a little bay a few miles north of Greymouth (a source of unusually hard stone) sacred places.

Westland's chief interest to the visitor lies in its scenic attractions. It is a land of lakes, mountains, glaciers, and dense bushland.

Because of the high backbone of the Southern Alps, which extend the whole length of South Island, moisture-laden clouds, sweeping across the Tasman Sea, drop their heavy burden in Westland. Some sections have more than 200 inches of rainfall annually. Consequently, vegetation is luxuriant. Tree ferns grow to magnificent proportions on the densely wooded slopes and in the humid valleys.

Through nearly a hundred miles of this sun-speared bush, we motored southwest from Hokitika to Waiho Gorge, near the base of the Franz Josef Glacier.

As we swung around a bend in the road where we could see the sparkling white ribbon of the glacier dipping down into the bush in the gorge from the perpetual snows, storm clouds began boiling on the snowy peaks. And by the time we had sat down to a belated lunch at the hotel it had already begun to rain.

Pour is a better word. For thirty hours the rains came down without a halt. It almost seemed that Waiho was getting its full quota of rain all at once. Thunder boomed and echoed in the mountains. For two more days it alternated between rain and fog.

A GLACIER THRUSTS DOWN TO SUB-TROPICAL BUSH

But the Franz Josef Glacier and its background of mountains is worth waiting long to see on a clear day. It is one of the most remarkable glaciers in the world. Slipping down from a large snow field at more than 8,000 feet, it terminates in subtropical bush, only 700 feet above sea level. Movement in its upper reaches is remarkably rapid, 15 or more feet a day.

Airplane flights have proved a popular method of seeing this eight-mile long river of bluish-green ice, pressing down among hills that are aflame in January with red flowering *rata* trees (see Color Plate XV).

With Captain Mercer, I flew over the glacier and looked out toward the snow fields and bold Alps, and I also went with him on the initial air-mail route in New Zealand.

This mountainous region is hardly suited for flying, but the captain hops here and there, landing on graveled river flats and in pastures to deliver mail or to land miners and other passengers along the coast.

Before we could land at the airport in Hokitika, we had to zoom down and frighten a flock of sheep off the runway.

The genial air pioneer is also the only flying "paper boy" that I have ever met. On the afternoon flight from Hokitika to Waiho we carried the latest papers from Christchurch, and dropped them over the valley homes along the way.

Occasionally some recipient of this unique service may have to resort to a ladder to rescue his paper from the eaves trough, but he can read the news a day or two sooner than if he were to rely on the regular postal delivery.

Seventeen miles from Waiho, by road around the rata-splashed mountains, is Fox Glacier, longer, more twisting, and descending even lower than the Franz Josef (see illustration, page 217). Here one comes almost to journey's end, so far as motor travel in Westland is concerned.

Mapwise, a road spur, extending up the Tasman Valley toward the base of Mount Cook, is only about 17 miles inland in a straight line. But an 8,800-foot pass of the Alps, engulfed in snow and ice, stands between. And notching the sky in the region are the hoary monarchs of Mount Cook (12,349 feet), Mount Tasman (11,467 feet), and Mounts Malte Brun, Sefton, Haidinger, and La Perouse (all towering to more than 10,000 feet), besides a number of lesser peaks.

So, to get that 17 miles, we had to travel back to Hokitika, spiral up through the Otira Gorge, cross Arthur's Pass, descend to the Canterbury Plains and Christchurch, and thence motor southwestward into the hills again—a wide cross-island loop, 489 miles in all!

Few places in contrasting New Zealand reveal more striking changes than the journey up the Otira Gorge and over Arthur's Pass (see Color Plate IX). On the Otira side of the pass the mountains are densely wooded; above the giant tree ferns, the rata flaunts its masses of red blooms. But on the eastern slopes the land is barren, except for clumps of beech (locally called birch).

Because a wide stream bed beyond the mountain saddle makes motoring somewhat

Photograph by W. Robert Moore

VACATIONISTS ENJOY BOWLS AS WELL AS THE THERMAL BATHS AT ROTORUA

Numerous teams from various parts of the country, gather for bowling tournaments on these spacious lawns in front of the Government-operated sanitarium. The curative mineral waters and sulphurous muds of the spa attract many people.

problematical, most people ship their cars by railway from Arthur's Pass station to Springfield. The braver do try it, however, but usually rely on a regular towing service maintained at the river. Without the towing, one might negotiate the uncertain bed successfully, but if not, it may mean hours of delay, and what charges!

From Springfield to the coast the land levels out into the vast Canterbury Plains, the richest agricultural territory in the country. For miles about Christchurch the land was a sea of rippling grain, ripe for harvest. Canterbury, too, has extensive pastoral lands upon which thousands of sheep are pastured.

Traveling over the golden plains, with many of the fields set off by long rows of slender poplars, it is interesting to recall that the Scots, who founded Dunedin, passed the Canterbury district by, because they thought that the low-lying land could not easily be won to agriculture.

Yet here is produced four-fifths of the wheat grown in New Zealand, which in 1934 totaled somewhat more than 10,000,000 bushels.

Large portions of New Zealand's oats, barley, peas, and linseed also are grown on these fertile plains.

Christchurch is a transplanted English town. The Anglican founders who came out in 1850 sought to create a Canterbury in New Zealand, which was to differ from the Canterbury in England only in that they were to have more physical comforts than in their old home.

So Christchurch has at its heart an English cathedral, with a spire towering above the central square. From this square radiate streets bearing names of Anglican bishoprics. The peaceful Avon, which meanders back and forth through the city to be crossed by 26 bridges, is bordered by English plants and trees. And about the heavy stone walls and corridors of Canterbury University College, where Rutherford, the famous physicist, once studied, clings the atmosphere of an English school (see Color Plate XII and page 216).

The "City of the Plains" lies eight miles inland from the sea, but finds outlet for its trade through the near-by hill-girt port of Lyttelton (see Color Plate XI).

Photograph by W. Robert Moore

INSTEAD OF MECHANICAL HAY LOADERS NEW ZEALANDERS USE GATE SCOOPS

The farmer drives his team up the windrows, collecting the hay in these simple devices. Then he drags the pile directly to the haystack, eliminating the use of a wagon. This is in the prosperous region near Te Awamutu, where Maoris held sway under King Tawhiao from the early 1860's until their power was broken in battles with the British settlers.

Southeastward, beyond the Bay of Port Lyttelton, extends the Banks Peninsula, an upthrust of volcanic peaks and old lava flows, now clothed with farms and foliage.

This land of hills and indented bays is of historic import. Within Akaroa Harbor, a long tongue of water that penetrates deeply into the end of the peninsula, congregated whaling vessels from many lands during the early years of the 19th century.

In 1835, while on a whaling venture, Captain L'Anglois became enamored of the land and three years later agreed to purchase the whole peninsula from the Maoris. Upon his return to France, he ceded his rights to the Nanto-Bordelaise Company for future French settlement.

But on August 13, 1840, when the old *Compte de Paris*, carrying emigrants, and its accompanying frigate, *L'Aube*, arrived, one can imagine the dismay of the settlers and officers when they saw the Union Jack waving in the breeze. The British had slipped in two days earlier and proclaimed the land as their own!

French colonial dreams failed, but memories of that near-French land on South Island still cluster about many French names that have been attached to the attractive town of Akaroa and its environs.

From Christchurch we sped down through the Canterbury Plains, turned into the hills, and after mounting Burke's Pass came into the rolling plateau land of the Mackenzie country.

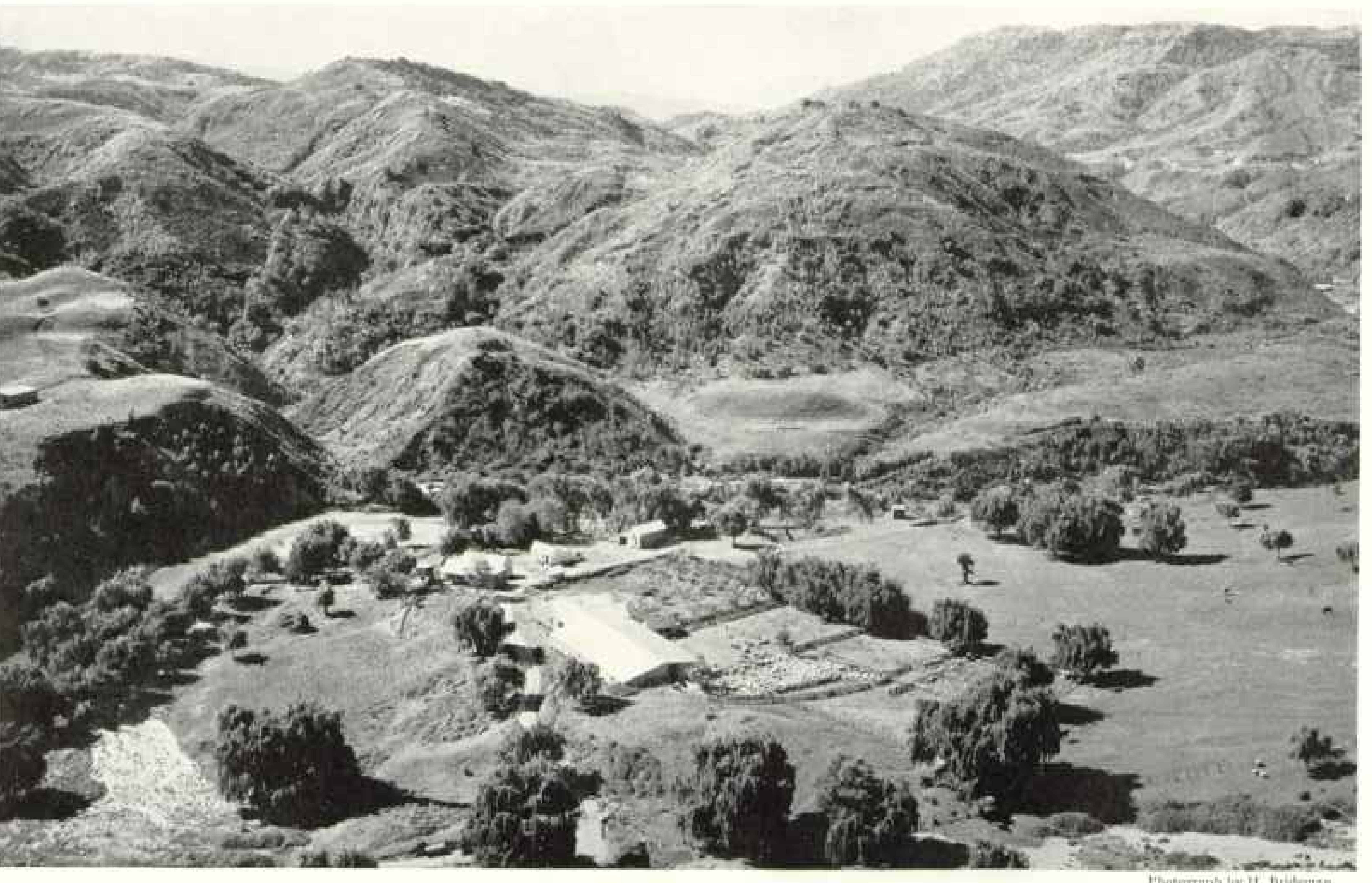
A BULLOCK, A COLLIE, AND SHEEP

Sheep graze the wide acres that stretch out toward the high Alps. From the beginning sheep have been linked with the name Mackenzie.

The story is told that one "Jock" Mackenzie, a Highland shepherd, was the first man to wander up into this high region and see its adaptability as a grazing land.

He returned to secure government license to occupy the territory, and then set off with his collie dog and a single pack bullock.

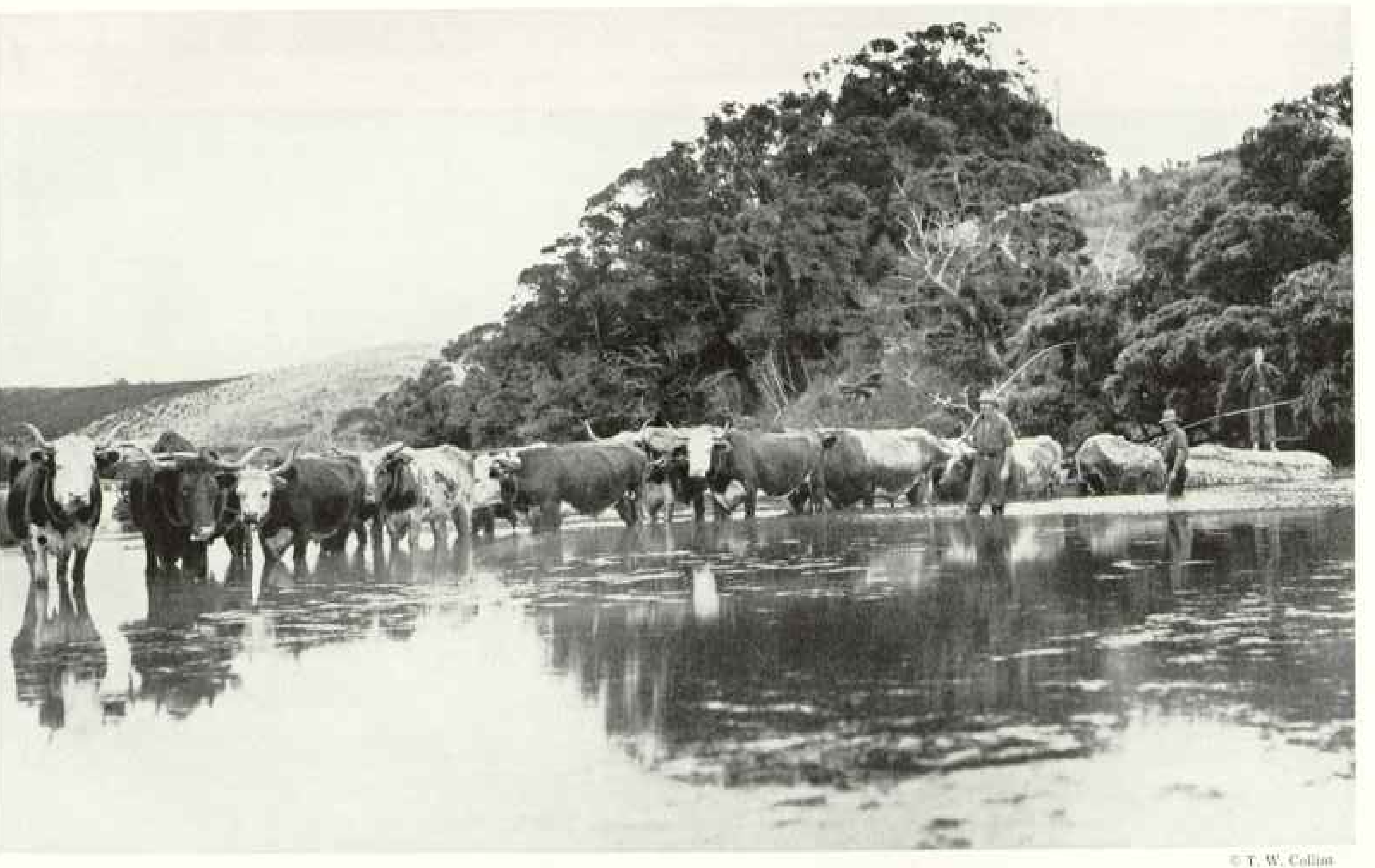
Oh yes, the sheep. Well, it seems that he cut out about a thousand from someone else's flocks and drove them up into his newly leased domain. But the sheep were



Photograph by H. Bridgman

SHEEP STATIONS APPEAR LIKE TINY OASES AMONG THE NEW ZEALAND HILLS

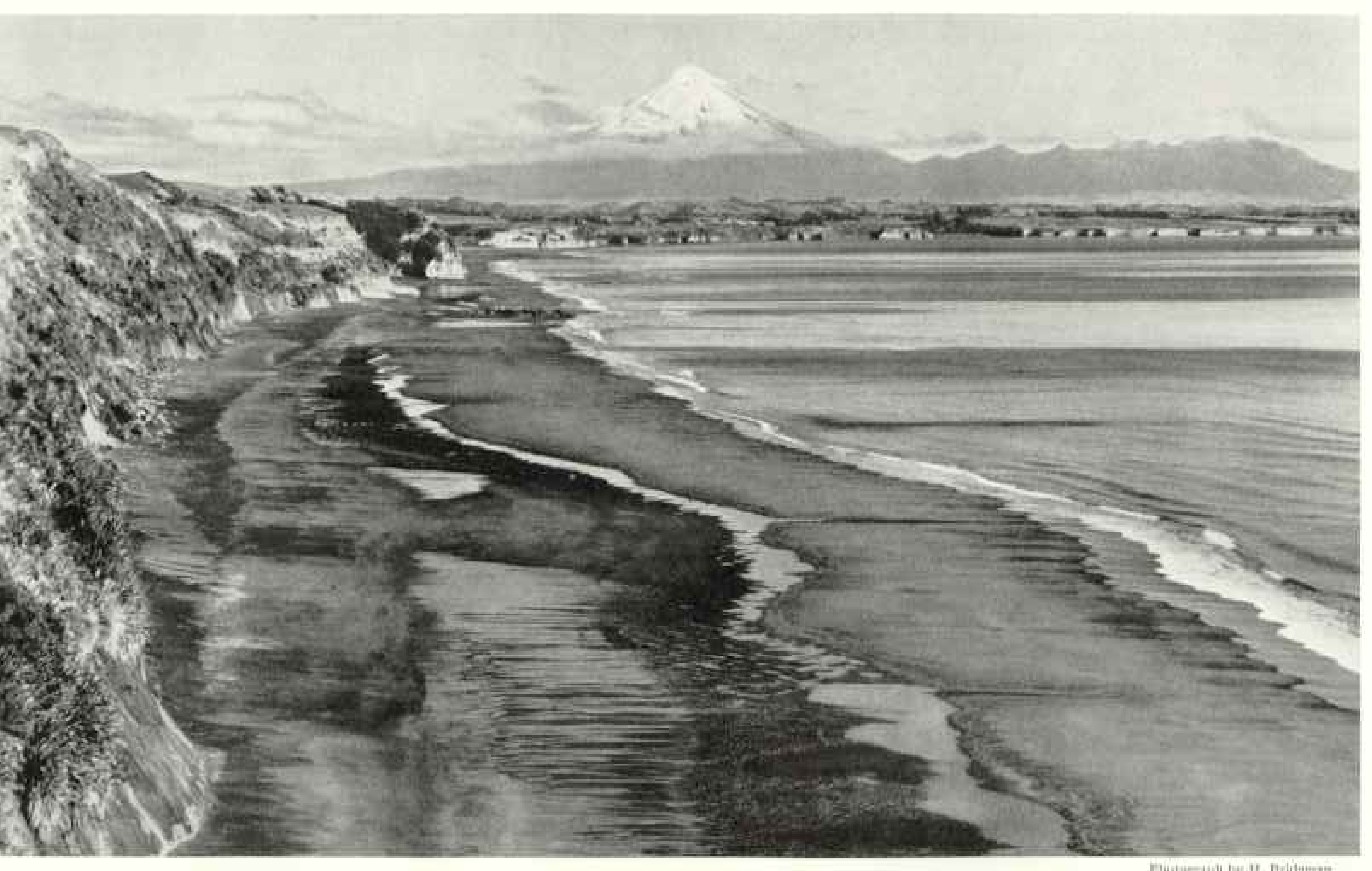
This one, with sprawling shearing sheds and yards, nestles in the Esk Valley, Hawkes Bay Province. Cattle and sheep graze out of doors all the year round. Early colonists anticipated developing New Zealand as an agricultural land, but pastoral pursuits are now predominant. Today there are more than 31 million acres of grassland suitable for grazing, of which well over half was artificially seeded.



© T. W. Collins

FOURTEEN OX-POWER PULLS SMOOTHLY WHERE MOTOR TRUCKS WOULD BOG DOWN AND FOUNDER

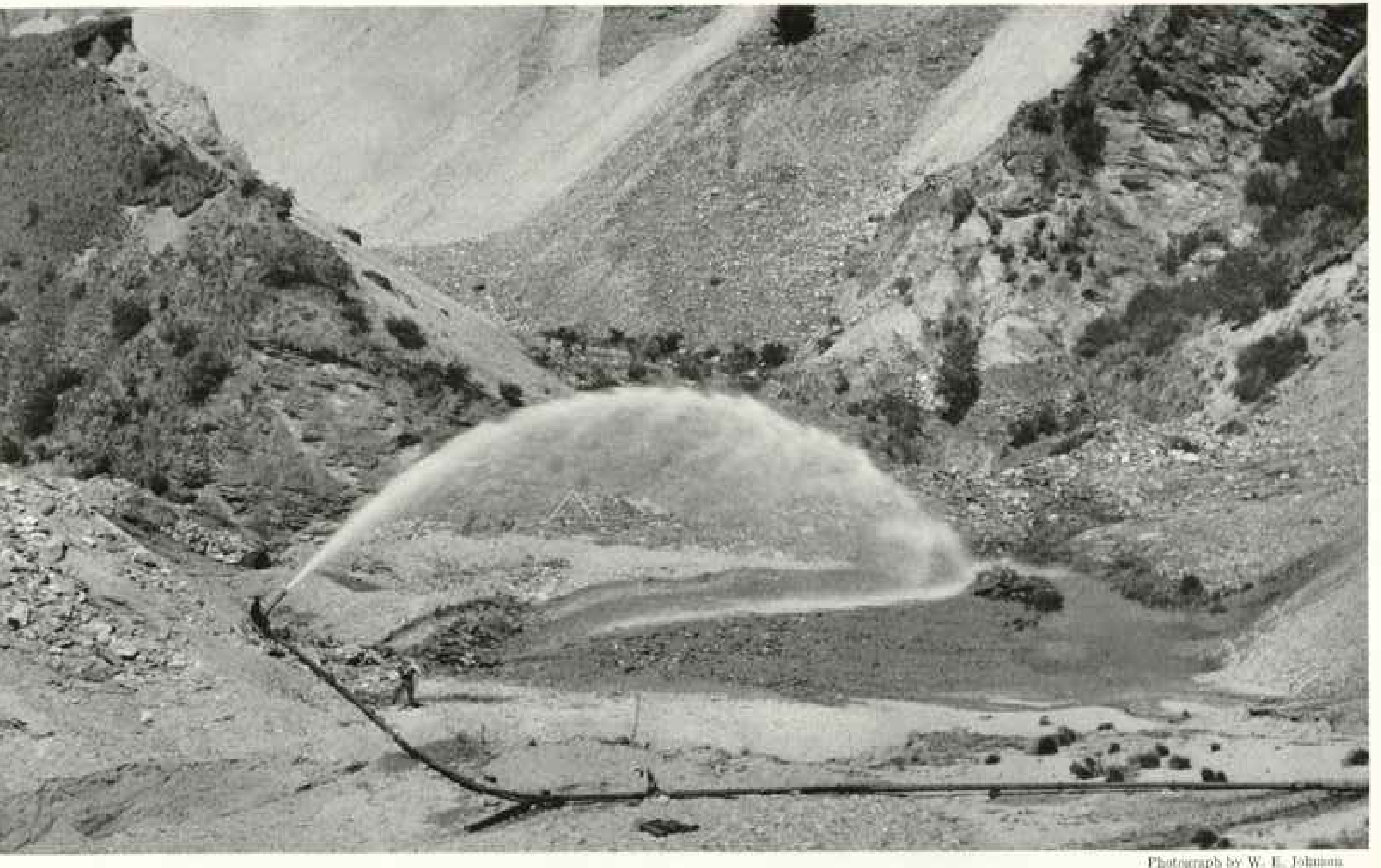
This team is hauling a large log of kahikatea, or white pine, which grows extensively in North and South Islands. The timber, odorless and easily worked, is used mainly for making butter boxes and cheese crates. Although many of New Zealand's forests once were carelessly exploited, the Government now is encouraging reforestation (see text, page 213).



Photograph by H. Bridgman

IN ISOLATED GRANDEUR THE CONE OF MOUNT EGMONT TOWERS ABOVE THE TARANAKI COAST

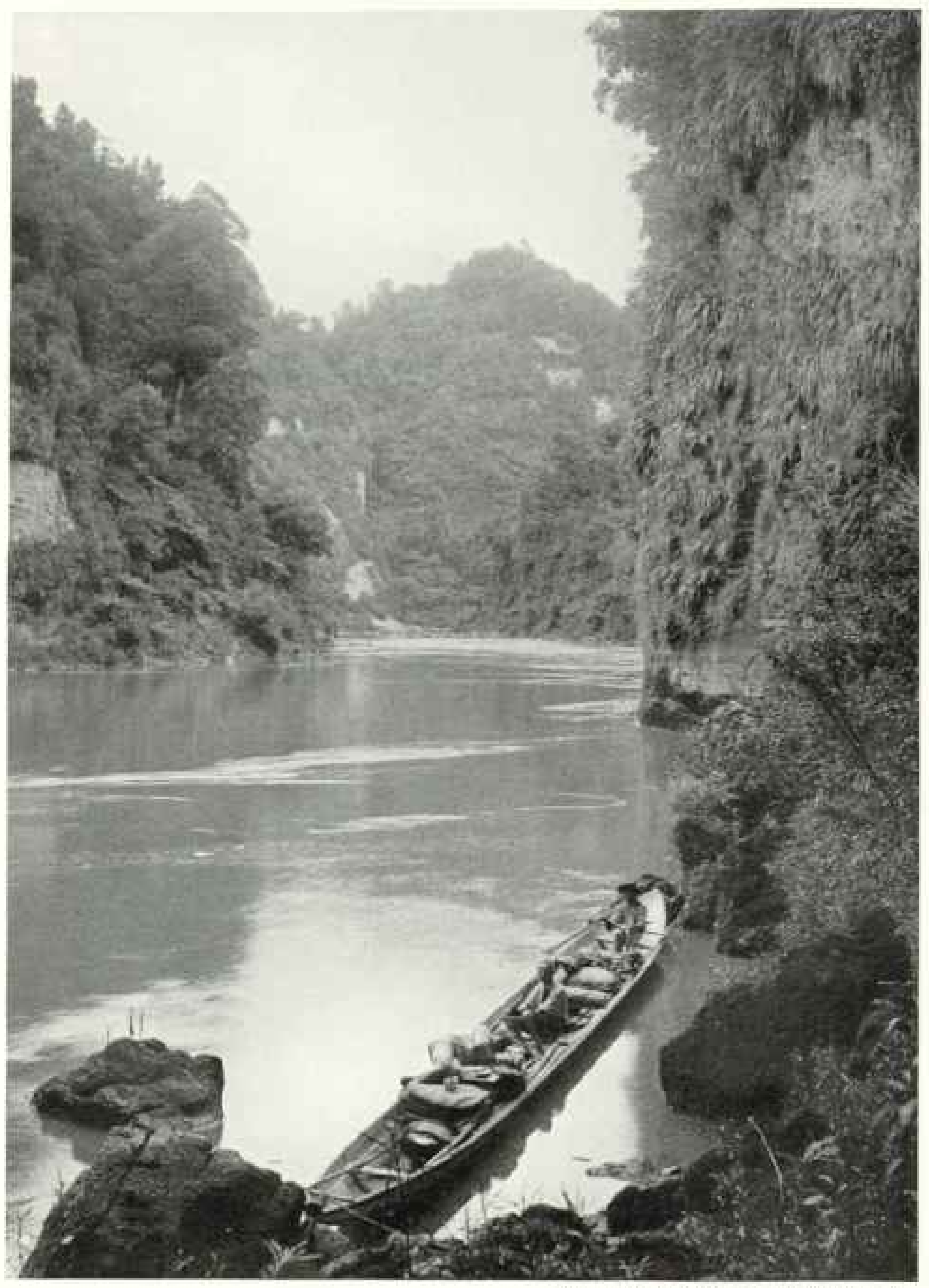
Contrasting with the snowy peak is the black sand of the beach, heavily charged with iron. Thus far, efforts to commercialize this supply of the mineral have been only partially successful. During the summer months snow lies only in patches on the peak (see text, page 168 and Color Plate VII).



Photograph by W. E. Johnson

A SLUICING STREAM, MORE POWERFUL THAN A FIRE HOSE, WASHES GOLD FROM SKIPPERS GORGE

The nozzle, called a "giant" or "monitor" by miners, is fed by a metal pipe often more than six inches in diameter. It may be pointed to direct the powerful water jet in any direction. Large bowlders are removed from the gold-bearing gravel by a derrick (center background). The earth is then swept by water through sluice boxes, where the gold particles settle and are trapped by pockets or cleats in the bottom. The rapid colonization of South Island may be traced in part to the gold rush of the 1860's, when the precious metal was found in Otago and Westland. Some lands still produce paying quantities by dredging, sluicing, and panning (see page 167).



Photograph Courtesy New Zealand Government

FOREST AND FERNS CLOTHE THE STEEP CLIFFS OF THE WANGANUI RIVER

Rising in the locality of Tongariro National Park, this river loops down through the southwestern portion of North Island. Although navigable for about 140 miles, the most interesting section is through this 40-mile-long narrow defile, above Pipiriki. Where Maori canoes once paraded, these dugouts now carry visitors to glimpse its rugged setting and bold rock walls.

missed. Mackenzie was trailed and caught and was then given time to think over difficulties sometimes encountered in sheep raising while doing hard labor in the Lyttelton gaol.

Others, through more approved procedure, have since stocked the ranges of the Mackenzie country.

Cupped within the hills are the milky-jade waters of Lakes Tekapo and Pukaki, some fifteen miles apart. In their waters are suspended the sediments coming from the rock-grinding talons of ice that stretch down from the Alpine snows.

As we rounded Pukaki, a storm was brewing on the high ranges. A strong gale was sweeping down the Tasman Valley and lifting the glacial dust like a heavy plume of smoke into the air. Mount Cook, the Aorangi, or "Cloud Piercer," of the Maoris, and culminating masterpiece of the Alps, was hidden from view.

As we traveled up beside the lake the pride of the Alps became visible at one side of the banner of dust. Heavy seething clouds, however, were pouring over the passes and swirling around the slopes of majestic Aorangi. Only the upper tip of the shimmering pyramid reared into the blue sky above the storm that rode on the rain-heavy Tasman winds (Plate XIII).

We accomplished the last mile to the Hermitage over tussock lands and through gravelly stream beds in the face of the hissing wind and driving rain.

The barometer fell steadily, and the next morning fog and rain engulfed the valley. As the wind occasionally whipped aside the veil on the mountainsides, we could see that they were powdered white with newly fallen snow.

But we were not to see the 14 peaks, rising to more than 10,000 feet, that are visible from vantage points in the locality on fair days. Nor were we to obtain a glimpse of the several glaciers that fill the sharp defiles between the precipitous mountains of rock and ice.

So we left the Hermitage and motored southward to Omarama, thence across to Oamaru on the coast, and on down to Dunedin. Practically all of the territory well on toward Oamaru is given over almost exclusively to pastoral pursuits.

Near Kurow a hydroelectric dam has been built across the Waitaki, a river that is often called the New Zealand Tweed, because it forms the boundary line between the English-settled Province of Canterbury and the Scottish-developed Otago (see Color Plate XIV).

Below Kurow the valley opens out into a few fields and orchards. And from the spick-and-span town of Oamaru, whence comes the limestone that is used extensively for building, to Dunedin the country is a series of wheat fields and rolling hills.

Port Chalmers, snuggled in a crescent at the water's edge far below the hill road, is an introduction to the eight-mile-long winding harbor of Dunedin.

AN EDINBURGH OF THE SOUTH

Yet the view of Dunedin bursts upon one as a surprise. Like Wellington, it is built within an amphitheater of blue-green hills (see illustrations, pages 201 and 215). And as distinctively as Christchurch is English and Anglican, so Dunedin is Scottish and Presbyterian.

Deliberately the settlers from the newly organized Free Church of Scotland, who arrived here in 1848, set out to make the settlement a new Edinburgh (Celtic, Dunedin) of the South. Their passion for religion and education made Dunedin a model colony for New Zealand.

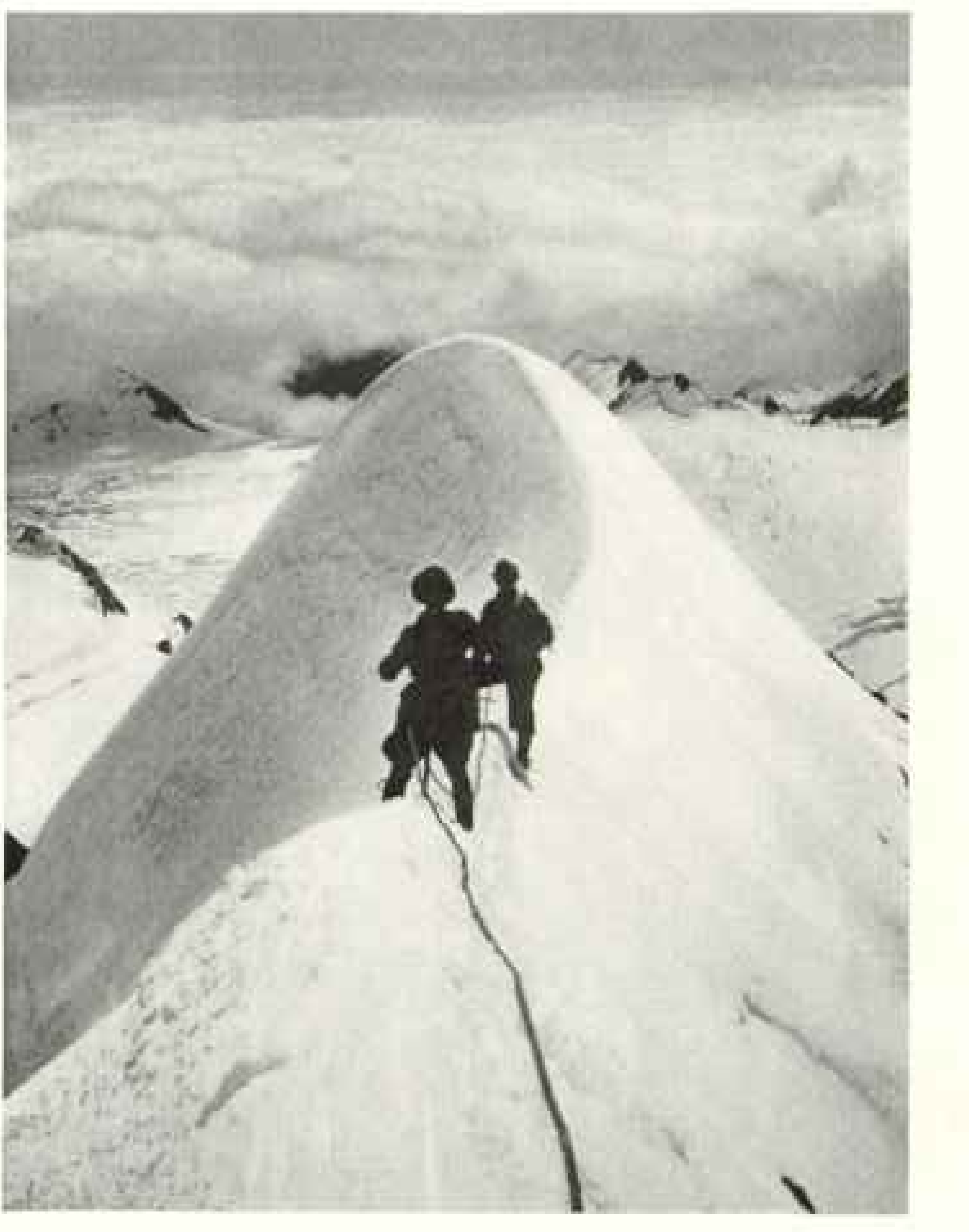
The city reflects solidarity. Its schools, law courts, university, and many other structures are built of stone as enduring as the rock-hewn capital of native Scotland.

Otago University was founded in 1869, the first institution of higher learning in New Zealand. It is now affiliated with the University of New Zealand, to which also are connected Canterbury University College (Christchurch), Victoria University College (Wellington), and Auckland University College.

Each of the colleges, besides providing the usual university courses, specializes in certain fields. Otago University has medical and dental schools, a school of mining and metallurgical engineering, and a school of home science. Canterbury has a school of engineering; Auckland has schools of architecture, commerce, and engineering; while Victoria College specializes in law and science.

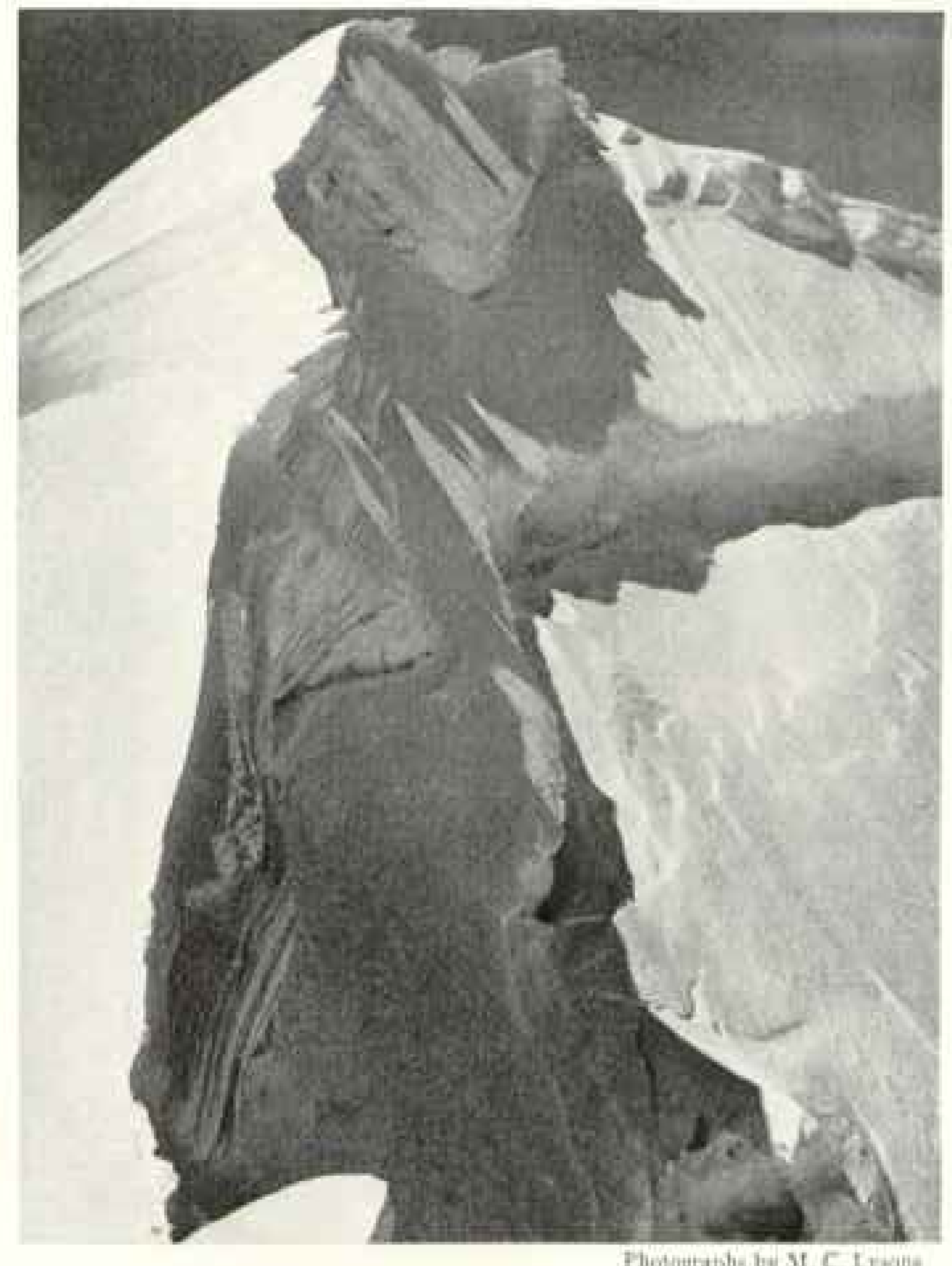
THE FARTHEST-SOUTH WORKADAY WORLD COMMUNITY

Dunedin has not grown as rapidly as have the other three large cities of the Dominion, but it now has a population of



THE RAZOR EDGE OF DOUGLAS PEAK IS NOT FOR THE TIMID

Situated in the heart of the main Alpine chain of South Island, this mountain overlooks wide snow fields from which extends Fox Glacier (see page 217).



Photographs by M. C. Lysons

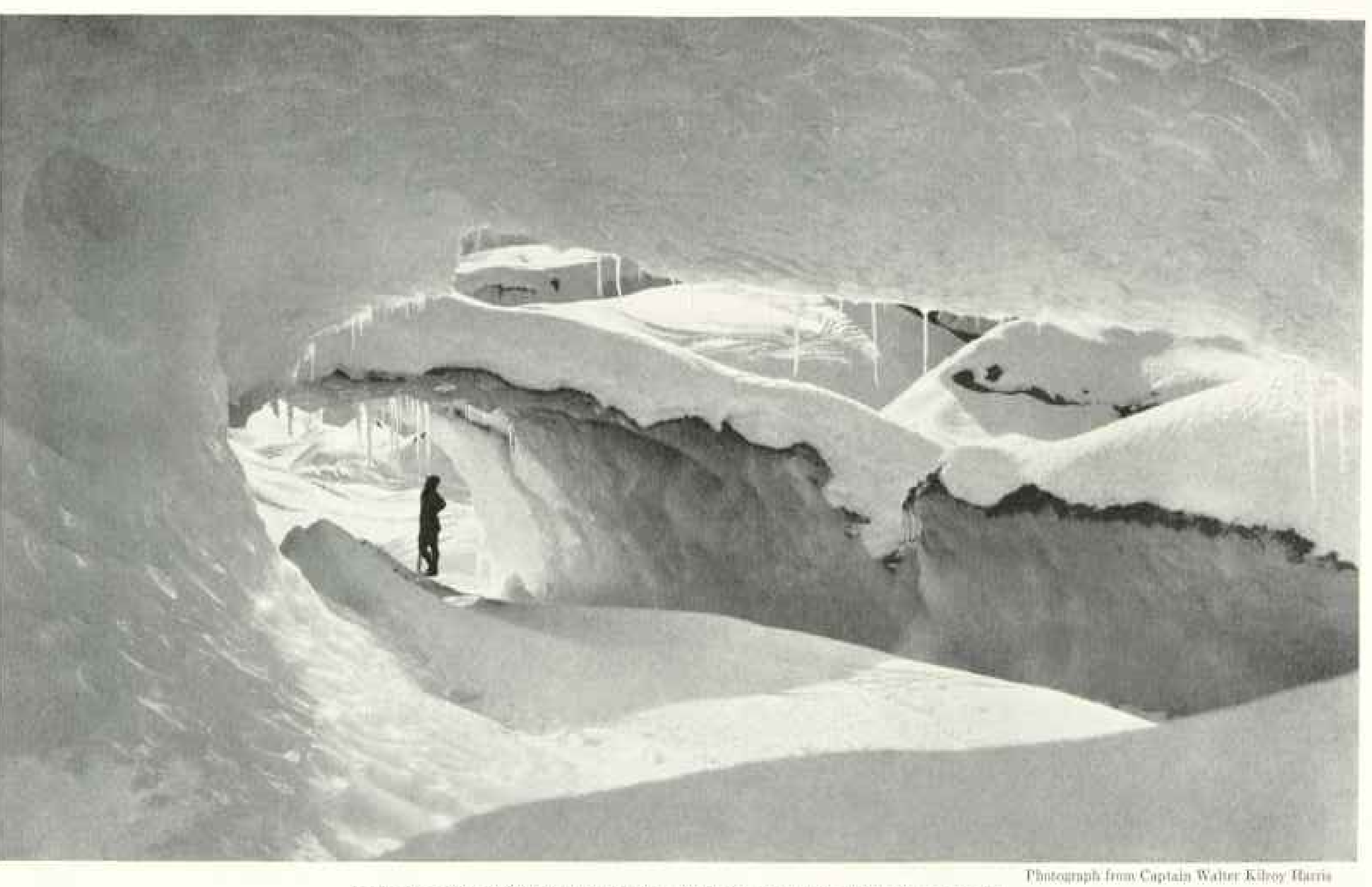
THIS GHOST WALKS ON EVERY CLEAR DAY

The striking shadow is cast by the knifelike southeast ridge of Mount Lendenfeld, one of 17 peaks in South Island that tower higher than 10,000 feet.

Photograph by E. C. Lackland

A CLIMBING PARTY HALTS FOR A BRIEF REST ON THE GLACIER-COVERED SLOPES OF MOUNT RUAPEHU

This lofty position commands a magnificent view of Ngauruhoe, with its wispy column of smoke (page 169), and Tongariro just beyond, a peak that gave its name to the National Park. The light streak beyond the darker range (left) is Lake Taupo, more than 25 miles away, famous for its trout fishing. While covered thus with snow in the winter months (July, August, and September), these mountains attract large parties for skiing, tobogganing, and climbing.



Photograph from Captain Walter Kilroy Harris

NATURE HAS CARVED FANTASTIC CAVERNS IN THE TASMAN GLACIER

These ice caves, that glint with a greenish-blue light, are formed largely by melting during the summer months. Later the arches become so weakened by the action that they collapse. The Tasman, largest of the glaciers of the Southern Alps, is more than 18 miles long and averages a mile and a quarter in width. The valley and ancient moraine beyond the front of the ice indicate that in ages past this glacier was much larger (see text, page 204).

Photograph by W. Robert Moore

WITH LUNCH BOXES AND WALKING STICKS THEY TRUDGE THE HILLS TO SCHOOL

On the slopes in the background is a portion of the sprawling residential suburbs of Dunedin, that rise on the sides of this natural amphitheater around the landlocked harbor (see Color Plate XIII and illustration, page 215). The capital of Scottish-developed Otago, with 88,500 people, is smaller than Wellington, Auckland, or Christchurch (see text page 197).

THE END OF A HARD-FOUGHT BATTLE

After a desperate fight and both contestants were tired, this marlin-swordfish was bested and brought alongside the launch. The world record striped marlin weighing 1040 pounds was taken by Zane Grey in 1930 off Tahiti.

Photographs by Herbert

THERE IS STILL THE HOOK TO DISLODGE—IF HE CAN REACH IT!

Except for posing beside the fish for a photograph, this is the last rite of the prolonged struggle and landing of a catch. The average weight of the adult striped marlin-swordfish is around 250 pounds; black marlin, broadbill swordfish, and other savage fighters average considerably heavier.

88,500. Its feet are firmly planted beside the hilly bay, its commerce and finance remain strong, and the products of the Otago woolen mills are widely known.

Southland, a former portion of Otago, is the southernmost region in the world where varied activities of mankind are carried on. Magallanes, on the Strait of Magellan, claims the distinction of being the "southernmost city in the world," but it owes its prosperity principally to sheep. Invercargill, standing on a plain at the lower tip of New Zealand, is a town of 21,200 people, and is surrounded by fertile farming lands.

Much of the country's wheat and oats not produced in Canterbury are grown here. Quantities of butter, cheese, wool, and meat are also produced in this far-south locality.

Back in 1861 gold was found in Otago (the discoveries in Westland followed shortly afterward) and the inevitable rush began. Diggers poured in from Australia—the average was a thousand a day. In three years the population of the Province had been multiplied sixfold. But the boom days were fairly short-lived.

As we motored up the Clutha River toward Queenstown and Pembroke, we saw many of the old workings. Although fruit gardens around Roxburgh now grow beside old tailing dumps, and agriculture or sheep raising employ most of the residents, gold mining has not entirely ceased.

Recently, through the enhanced demand for gold in world markets and through the system of subsidies now granted from unemployment relief funds toward the assistance of miners, mining has had increased stimulus (see illustrations, page 167 and 195).

Red-roofed Queenstown stands beside the long S-shaped waters of Lake Wakatipu that are hemmed in by the jagged wall of The Remarkables and other mountain peaks, 5,000 to 8,000 feet high.

Lake Te Anau is larger, and Manapouri with its multitude of islands, is considered more beautiful than Wakatipu. But the twisting Alpine lake, fifty-two miles long and in some places more than two miles wide, presents a most satisfying picture, a study in deep, deep blue between the bold mountain ramparts.

Wakatipu is but one of the many lakes that Maoris claim were dug by the mighty explorer, Rakaihaitu, who, with Paul Bunyanlike propensities, strode down the length of the islands and scooped out the deep trenches. The real Rakaihaitu, however, was a vast plowing glacier—many glaciers—long since melted.

There is a wonderland of New Zealand as yet untouched by motor or train travel. It is the Fiordland which stretches for 200 miles along the southern end of the west coast. Here the forces of Nature have torn, gouged, and shredded the rugged rock masses into a series of sounds, comparable to the fiords of Norway.

If you would see this land you must resort to steamer cruise or try your legs on the trail.

Lake Te Anau is the starting point for what is known as the "World's Wonder Walk." Boats steam up the upper end of the lake and drop passengers off at Glade House, whence begins the hike up the bush-mantled Clinton Canyon, with mountains towering on either hand.

A NIAGARA OF NEW ZEALAND

The trail leads over MacKinnon's Pass, past one of the world's highest waterfalls (the Sutherland, whose waters plunge down in three leaps from the height of 1,904 feet*), and thence along other imposing mountain trails. Finally the tramp comes to an end at the head of Milford Sound.

From the Milford waters rear sharp Mitre Peak (see page 214) and The Lion; waterfalls leap over high walls that gird the deep tongue of the sound, and unspoiled bush clothes the land. Thoughts of blistered heels or stiff muscles are fleeting, but the splendors of the walk remain.

Eight days are required for the trip, but in those eight days one has walked 57 fascinating miles and traveled another 126 miles by launch.

But to return to Queenstown and the trip northward through Pembroke. Between the two towns is Crown Range, crossed by a zigzag highway, the highest motor road in New Zealand. Within the locality of Pembroke are the snow-fed lakes of Wanaka and Hawea, backed by the snowy Alpine peak of Avalanche and pyramidal Aspiring (see Color Plate XII).

RABBITS MULTIPLY—INTO MILLIONS

As we left Pembroke we saw scores of rabbit carcasses hanging on the fences.

* See "The World's Great Waterfalls," by Theodore W. Noyes, NATIONAL GEOGRAPHIC MAGAZINE, July, 1926.

Their skins had helped make up the total of from 6,000,000 to more than 10,000,000 that are exported annually.

Rabbits were first introduced into New Zealand in the hope that they would become acclimatized and would provide recreation for the sportsman. The hope was more than realized!

With no natural enemies and abundant food, the rabbits increased at an unbelievable rate. Sheep farming faced disaster. Dogs, cats, stoats, weasels, poisons, traps, and guns—in fact, every known method of combating the menace—were employed to eradicate the pest.

With drastic laws and a large expenditure by Parliament, the animal was brought under control, so that it is now relatively harmless.

As we rolled northward over Lindis Pass and through golden and reddish-tinted pasture lands past Omarama, the Alps assumed impressive proportions. I could appreciate then the glorious range of snows that lay hidden by the rain clouds on our earlier visit.

At a distance of more than fifty miles peerless Aorangi stood out boldly against the intense blue sky. From Lake Pukaki to an old glacial moraine near the base of the crystal-white peak, I climbed dozens of vantage points to photograph the entrancing views (see Color Plate XIII).

The Tasman Glacier was of blinding whiteness. This river of ice is one of the largest glaciers in habitable zones of the world. It is more than 18 miles long and averages a mile and a quarter in width, with ice 200 to 1,000 feet deep (see illustration, page 200).

How many miles I hiked that day up and down slippery tussock-covered hills, I don't know. But even Cook was weary hearing me shout: "Wait a minute, here's another picture!"

When evening shadows had darkened the face of Sefton, the Footstool, and the Stocking Glacier, and the sunset had turned Mount Cook to a delicate rose color, I was tired. Later, as I changed color plates and films, my curtain shade began whipping noisily. It was another westerly from the Tasman Sea, bearing another deluge of rain. But I didn't care.

In returning to Christchurch, we found that the grain on the Canterbury Plains was nearly all harvested and threshing was in full swing. But harvest time in New Zealand is much the same as in the United States, as most of the machinery comes from America.

From the Canterbury capital one can motor north to Picton and catch a boat there or can "ferry" directly to Wellington from Port Lyttelton. We chose the latter.

Tongariro National Park, New Zealand's thermal wonderland, and many other things still remained on our roving itinerary.

A FRETFUL VOLCANO

Several roads lead from Wellington that will eventually bring one into the heart of North Island. But Ngauruhoe Volcano, we learned, was again in eruption, following its heavy outburst in December, 1934. So we took the most direct route, hoping to see the fretful volcano in action.

Only comparatively small puffs of steam were issuing from the 7,515-foot crater when we arrived (see page 169).

Some of the Maoris, I was told, attribute the eruptions of Ngauruhoe to the mountain's anger at the white man's intrusion into its domain to build a hotel, Chateau Tongariro, which is now operated by the Government.

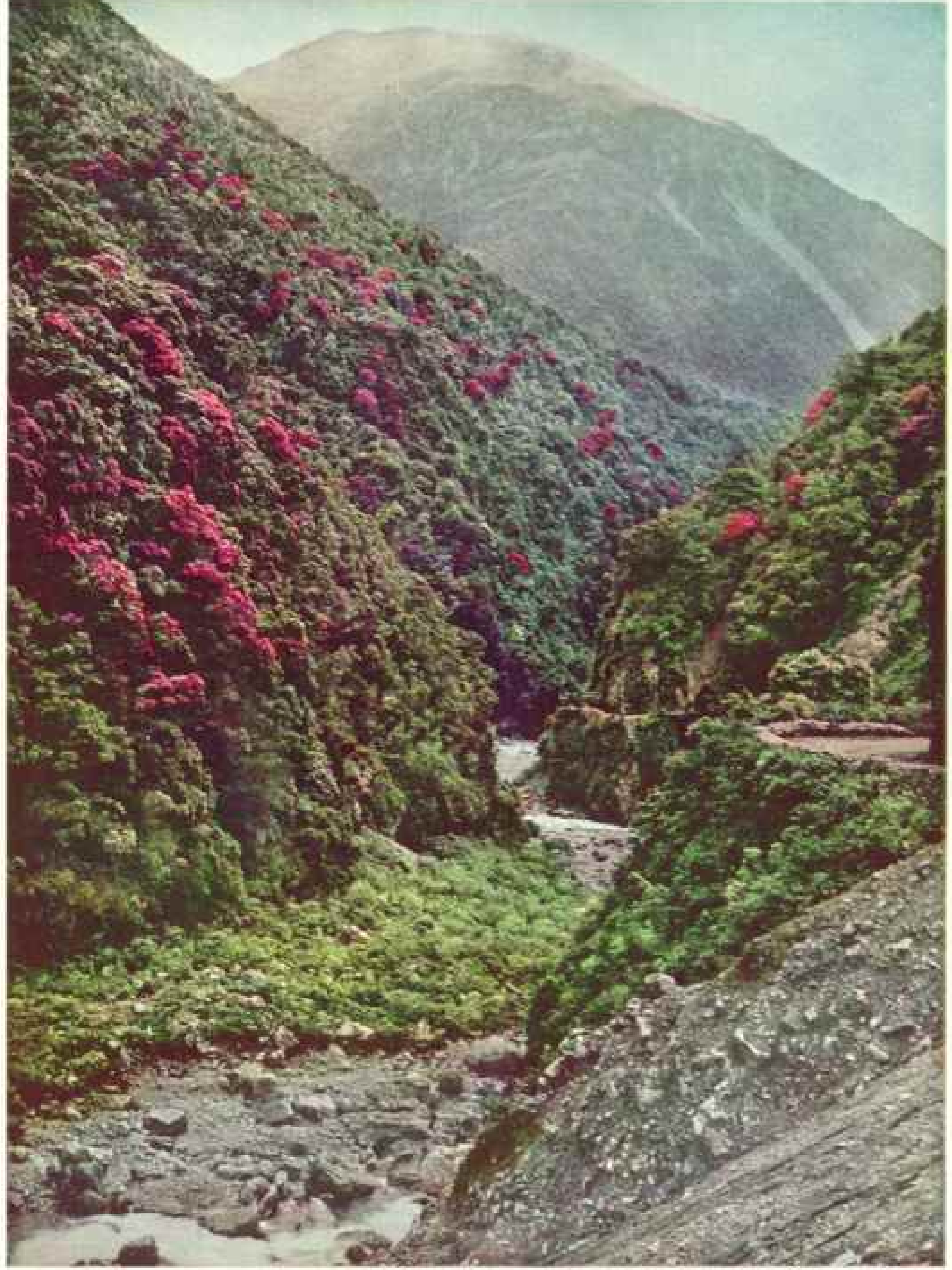
Within Tongariro National Park also are Tongariro and Ruapehu. Ruapehu, to which the Maoris of old gave the name "Resounding Chasm" is the highest peak in North Island (9,175 feet). In ages past, before those resounding detonations blew out a mile-wide crater, it may have been much taller. The extensive lava saucer now is filled with snow and ice, except for an intermittently hot lake that is cupped in one side of its double cone (see page 199).

A YELLOWSTONE BELOW THE EQUATOR

A few miles north of these volcanic sentinels spreads trout-stocked Lake Taupo, the Dominion's largest lake and mecca for fishermen.

Numerous other lakes are clustered in the region further north, but that territory is also New Zealand's Yellowstone, a land dotted with sulphur caves, boiling springs, spouting geysers, fumaroles, glistening terraces, and mud springs. All the attributes of the nether regions lie exposed between Taupo and Rotorua (see Color Plates I and VIII).

One comes first upon these weirdly attractive playgrounds of Nature at Wairakei, close beside the rushing Waikato



© National Geographic Society Finlay Photograph by W. Robert Moore

OTIRA GORGE IS THE ONLY BREAK IN SOUTH ISLAND'S MOUNTAIN BACKBONE

Except for a road at the extreme northern tip, the highway and railway built through this narrow gash in the Alpine barrier are the only cross-island arteries. The railroad between Christchurch and Greymouth passes through a tunnel near here that is more than five miles long. These heavily wooded mountainsides, aflame in December and January with summertime flowering *rata*, are on the western side of the pass (see Plate XV); the eastern slopes are nearly barren.

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Finlay Photograph by W. Robert Moore

WHERE SHEEP ROAM THE UPLANDS, HOMESTEADS ARE PROTECTED FROM STORMY BLASTS BY TALL POPLARS OR PINES

Grassy hills and valleys on the eastern slopes of the Southern Alps are suited to grazing. New Zealand's sheep number some 28,600,000 head.

© National Geographic Society

Finlay Photograph by W. Robert Moore

DRAWN UP AS IF ON PARADE, PLEASURE CRAFT AND INTERISLAND STEAMERS THRONG PORT LYTTELTON

This ocean gateway, a few miles from Christchurch, is a deeply indented bay, surrounded by volcanic hills. Banks Peninsula, of which it forms a part, is a bold upthrust of rock and ancient lava, which forms an imposing knob on the east coast of South Island. The houses of Lyttelton rise tier on tier up the hillsides, like rows in an amphitheater. Although a majority of the ships using the port are engaged in coastal trade, overseas steamers call for wool, frozen meats, and other products.

PARTLY SWATHED IN CLOUDS (RIGHT) IS MOUNT ASPIRING, MATTERHORN OF NEW ZEALAND

The nickname is appropriate because of its sharp pyramid peak. From the snows of Mount Avalanche (center), Lake Wanaka is partially fed. Several thousand head of sheep and cattle pasture in this narrow valley, which connects with one arm of the attractive 30-mile-long lake.

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Finlay Photographs by W. Robert Moore

THE RIVER AVON IN CHRISTCHURCH RESEMBLES ITS ENGLISH NAMESAKE

Grassy embankments, landscaped with poplars, willows, and other English trees, fringe the stream that loops through the city. Here, a large Australian eucalyptus casts its shade over a bend in this popular boating course.

MAJESTIC AORANGI IS THE CROWNING PINNACLE OF THE SOUTHERN ALPS

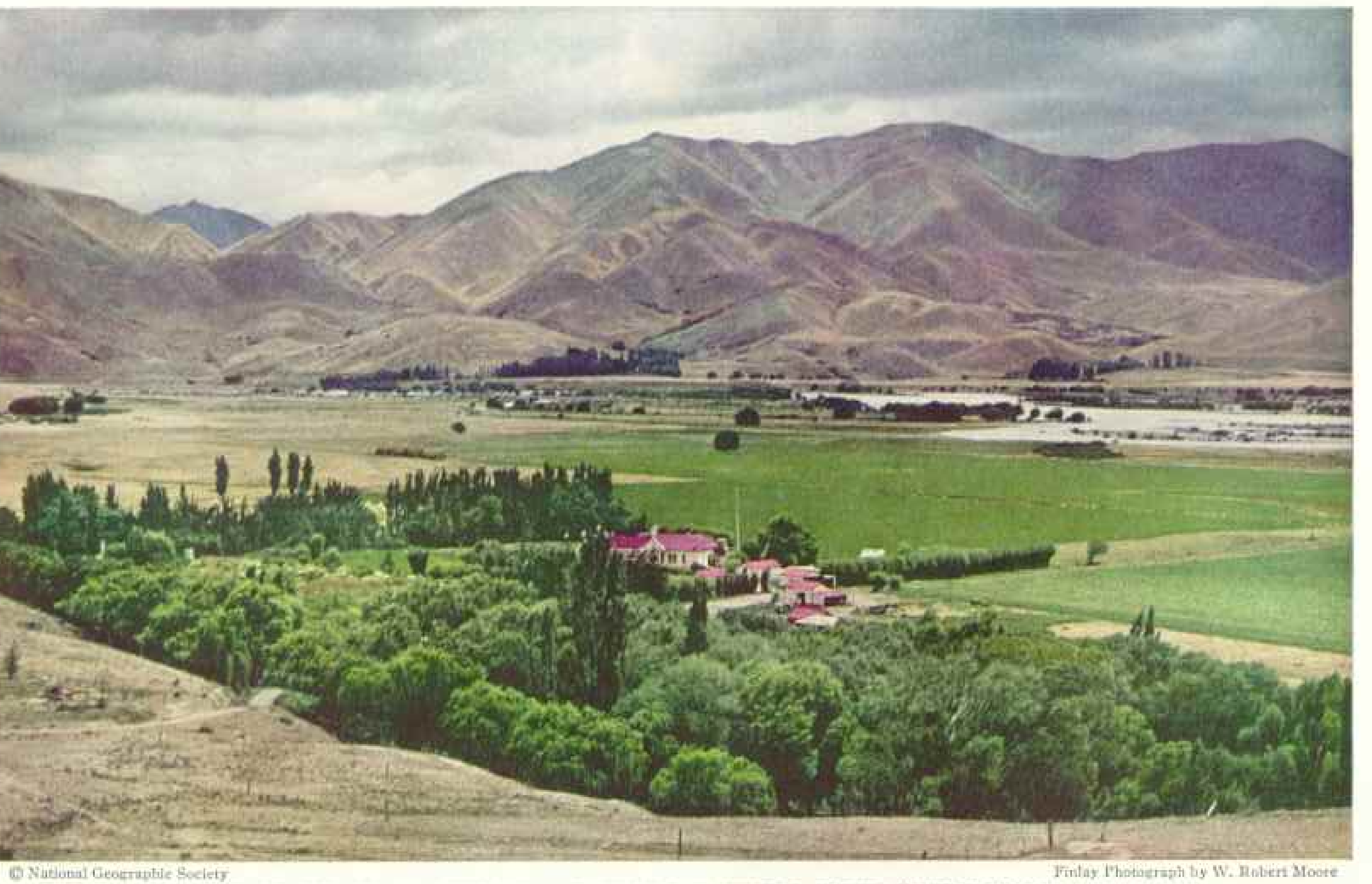
In addition to its Maori title, "The Cloud Piercer" or "Bright Cloud of Heaven," it also bears the name of Mount Cook, for Captain James Cook, who explored the country. Here its 12,349-foot peak looms above tussock-covered pasture lands in the Tasman Valley near Lake Pukaki.

© National Geographic Society

Finlay Photographs by W. Robert Moore

NEW ZEALAND'S CHIEF EXPORT CHOKES THE HIGHWAY OF A DUNEDIN SUBURB

Signs requesting motorists to give right of way to stock are posted on many bridges. Traveling thus, sheep often delay traffic. Well-trained dogs sometimes drive the animals to market and round them up on pasture lands.



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Finlay Photograph by W. Robert Moore

BORDERED BY POPLARS AND WILLOWS, A STATION HOME NESTLES IN THE WAITAKI VALLEY NEAR KUROW

So similar did such neat homesteads appear as the automobile passed them that the driver would shout "Duplicate!" and not halt for another photograph. Because livestock generally can remain out of doors all year round and hay and grain are stacked in the fields, large barns are not common. The Waitaki River is frequently called the New Zealand Tweed, as it flows between English-settled Canterbury Province and Scottish-developed Otago.

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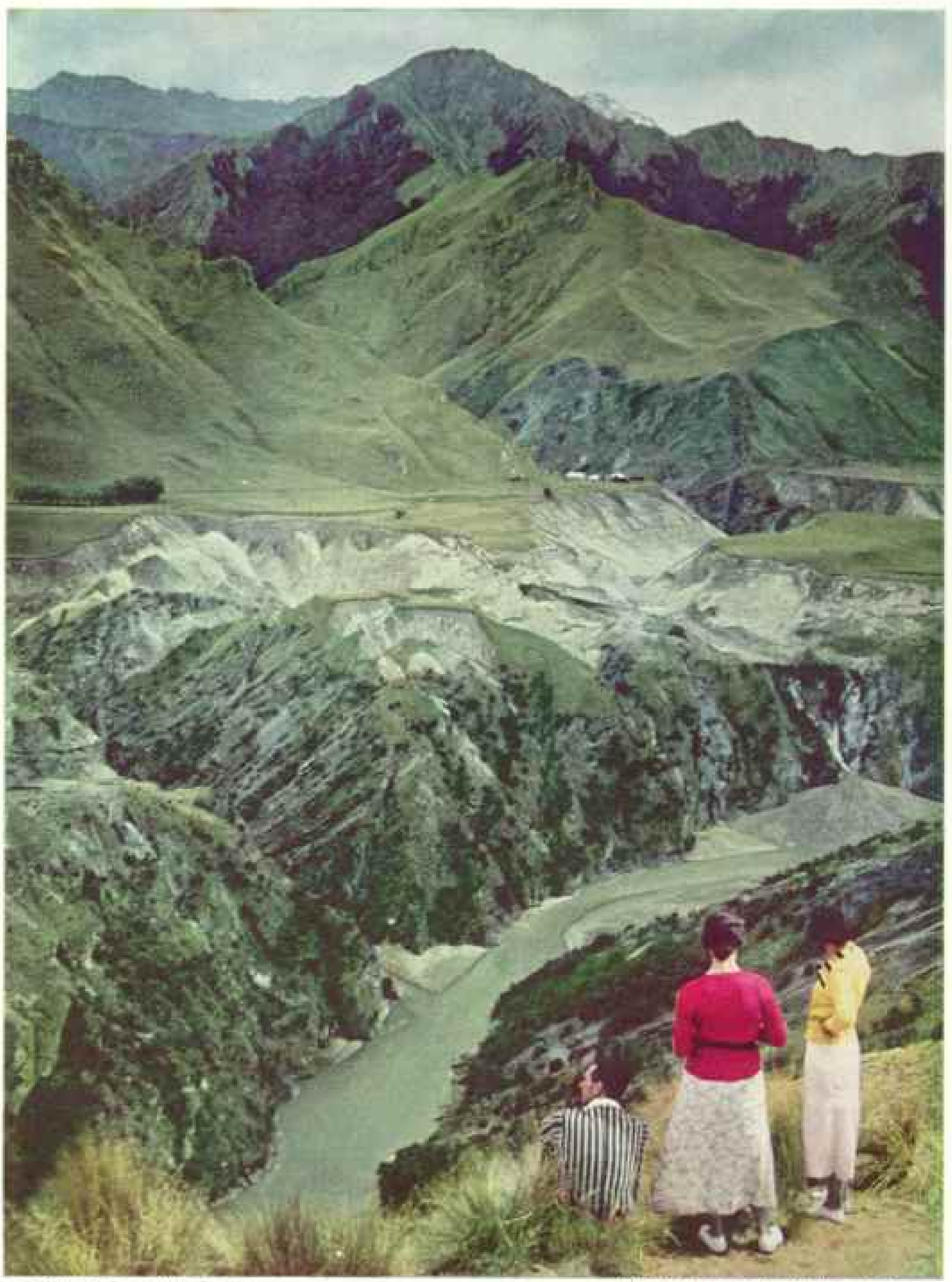
Finlay Photographs by W. Robert Moore

EXOTIC AND NATIVE FLOWERING TREES BRIGHTEN THE NEW ZEALAND COUNTRYSIDE

During the midsummer months of January and February the rain forests on the mountainsides are splashed with masses of *rata* (right). Their floral displays are especially striking on the slopes of Westland and in the Otira Gorge, where the rainfall in some places reaches 200 inches annually—nearly five times as much as falls in Washington, D. C. (see Color Plate IX). The red-flowering eucalyptus (left) originally came from Australia.



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GOLD PANNERS AND DREDGERS MADE THESE SCARS ON THE WALLS OF SKIPPER'S GORGE

Although most of the gold was worked out some years ago, the present demand for the metal has caused a renewal of crude panning operations. A narrow, twisting road spur from Queenstown penetrates this rugged mountain defile. Dwarfed by the hills, an isolated homestead clings to the slope above the gorge.

River. In Geyser Valley, a cleft between wooded hills, Champagne Cauldron is bubbling; the Dragon's Mouth spews scalding waters; The Twins boil, gurgle, and intermittently spout into heated activity; and The Prince of Wales' Feathers lacks only the "Ich Dien" to make its plumed spray a most realistic emblem. Several small pink terraces have also been built up by the cascading silica-laden waters.

Three miles from this valley Karapiti Blowhole roars continually, letting off steam (estimated at 180 pounds' pressure to the square inch) from its nearly foot-wide mouth, like some overfired colossal locomotive (see illustration, page 179). One wonders what the thermal activity in North Island would be if this giant safety valve were not serving as an outlet to the tremendous underground pressures.

At near-by Wairoa and at Waiotapu, nearer Rotorua, are other interesting displays of thermal activity. Only a few miles off from the main road, too, is Waimangu (Black Water), which in 1900 suddenly came to life and shot mud and water 1,500 feet in the air, the world's greatest geyser.*

For eight years it had considerable activity, and then lapsed into a long period of quiet. Since then, it has awakened with heavy outbursts on several occasions. At the moment it is inactive, but no one knows when the innocent pool may again turn into another caldron of wrath.

The whole Rotorua district is an intermingled inferno and vernal paradise. The New Zealanders, however, have assisted in clothing the pumice-covered lands with trees. State and private companies have planted thousands of acres to insignis pines throughout the locality.

A FOREST BLOWN AWAY

Afforestation projects include not only the Rotorua district but also extensive operations in other localities as well. In North and South Islands the State has plantations totaling nearly 400,000 acres, while private companies, beginning in 1923, have more than a quarter of a million acres already planted.

Forests come and forests go, but none has ever gone quicker than the one which previous to 1886 clothed the top of Mount Tarawera, a grim old mountain that stands just east of Tarawera Lake and Roto Mahana. Without warning, in the early hours of June 10 in that year, the whole top was blown off by a violent volcanic outburst.

With the forests and flying rock also went all the water from Roto Mahana and the famed Pink and White Terraces. For eight miles the earth was rent as if by a giant's cleaver. Mud, water, and volcanic ash showered the countryside, covering some places to the depth of several feet. Several Maori settlements and the village of Wairoa were buried under the rain of debris.

At the Maori village of Whakarewarewa I talked with an aged Maori woman who, as a young girl, had experienced those awful hours of bombardment (see Color Plate III). The only one of her family to escape, she had never gone back to the place again. But were she to return she would see many changes. The scars have largely been healed, the countryside has again been clothed with verdure, but Roto Mahana is now 30 times larger than it was before the eruption. The other lakes also are strikingly altered, and the deep rift still yawns in the hills.

Rotorua is known to countless visitors, because of its geysers, plop-plopping mud pots, and its famous curative thermal springs. Here the Government maintains an extensive sanitarium and baths (p. 190).

NATURE PROVIDES HOT WATER AND FIRELESS COOKERS

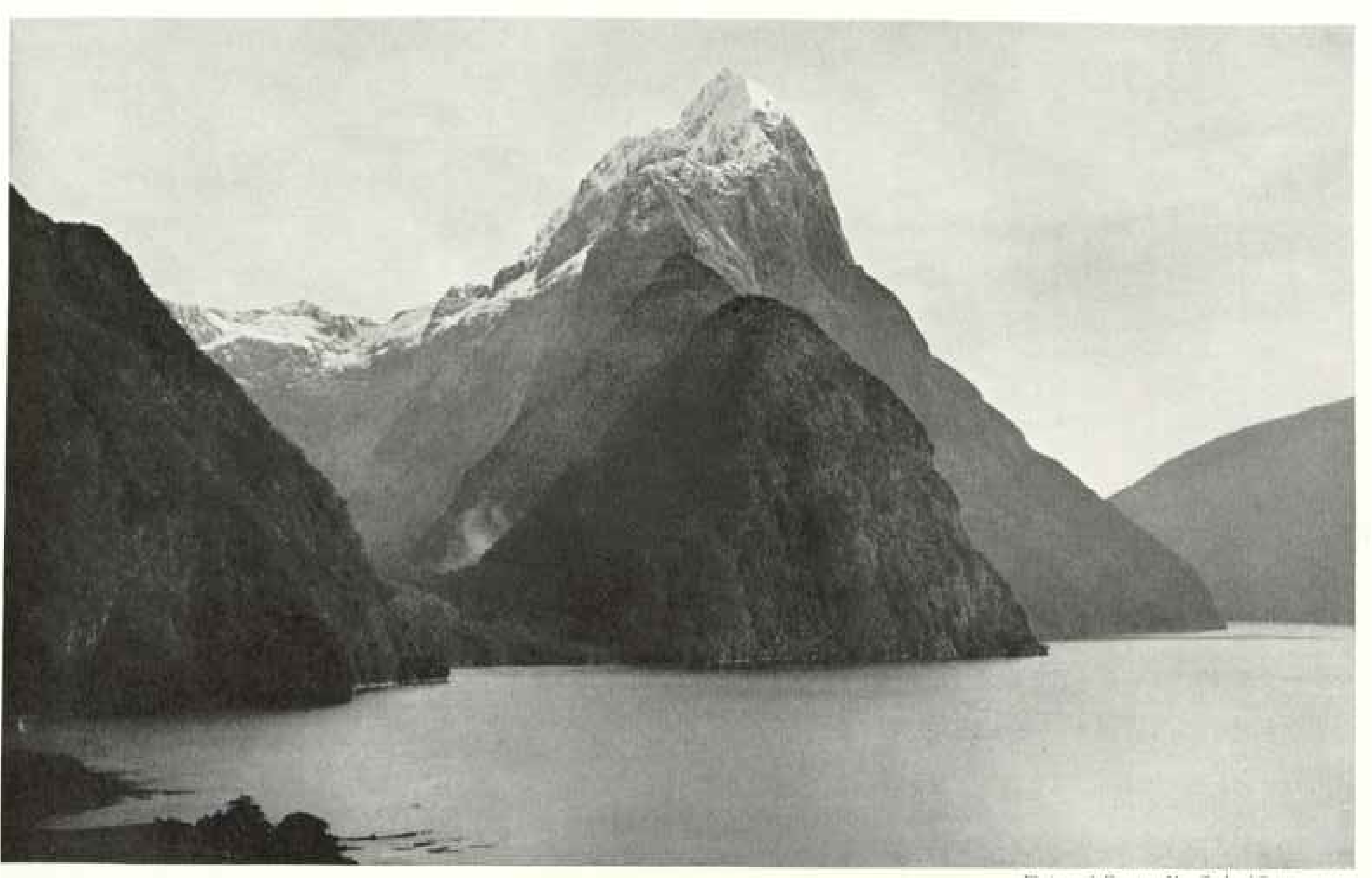
Homes in the near-by Maori villages of Ohinemutu and Whakarewarewa (pronunciation usually shortened to Whaka!) are built among the steaming crevices, hot springs, and boiling pools (see page 173).

Many of the women and girls act as guides to the thermal area, and the villagers also present their *poi* and *haka* dances for the benefit of visitors (see page 176).

This once-powerful native people, despite earlier prophecies of their decline, is no longer a dwindling race, as are many other ancient peoples. Their numbers are increasing, and many are now engaged in agricultural and pastoral activities. Their leaders, too, have made names for themselves in politics, law, and medicine. The Maoris total nearly 73,000, or about one for every twenty other persons in the Dominion.

Except for the Maoris, New Zealand is British. Like Australia, New Zealand has held rigidly to this policy of a white

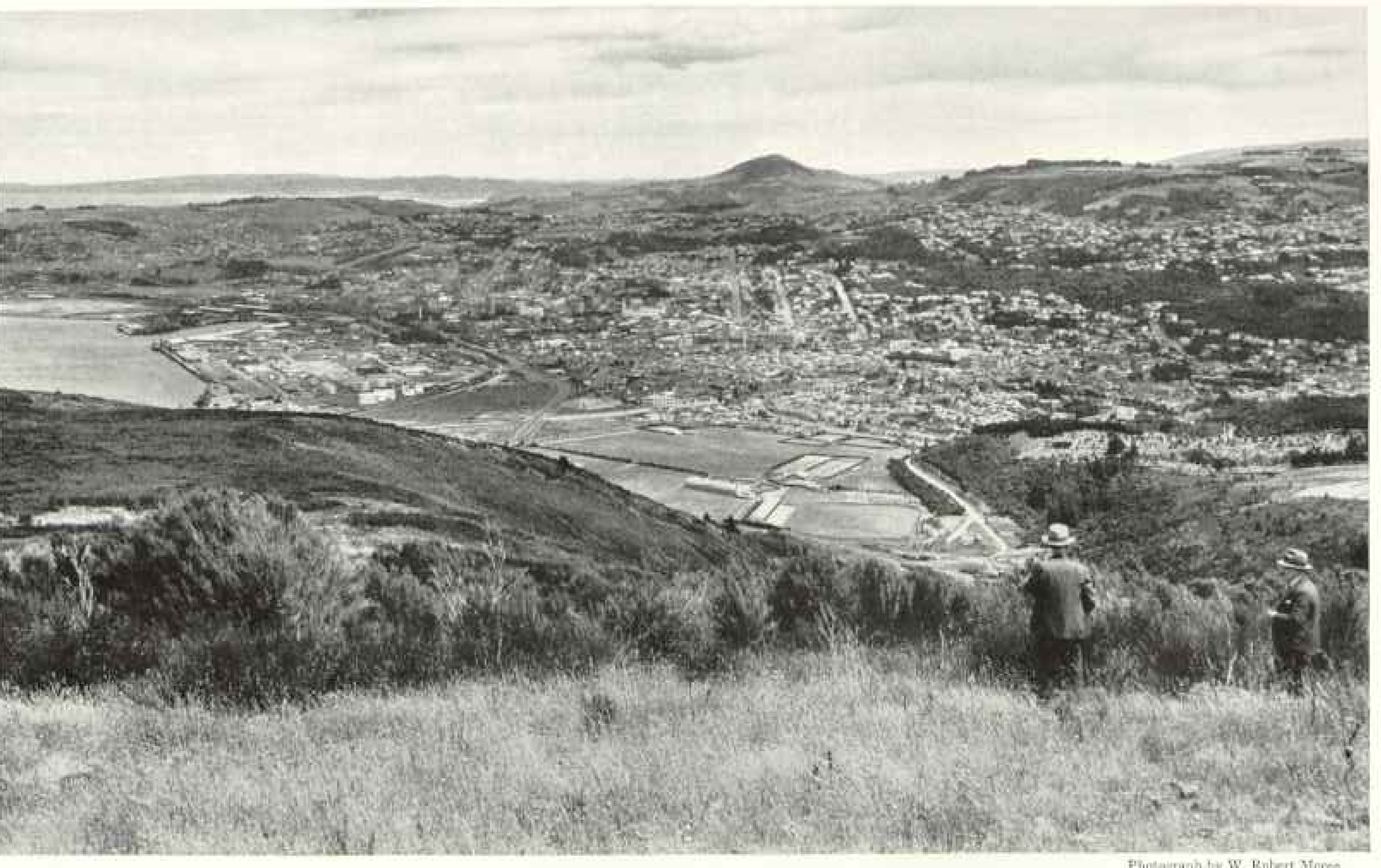
* See "Waimangu and the Hot-Spring Country of New Zealand," by Joseph C. Grew, NATIONAL GEOGRAPHIC MAGAZINE, August, 1925.



Photograph Courtesy New Zealand Government

SHARP MITRE PEAK DOMINATES MILFORD SOUND

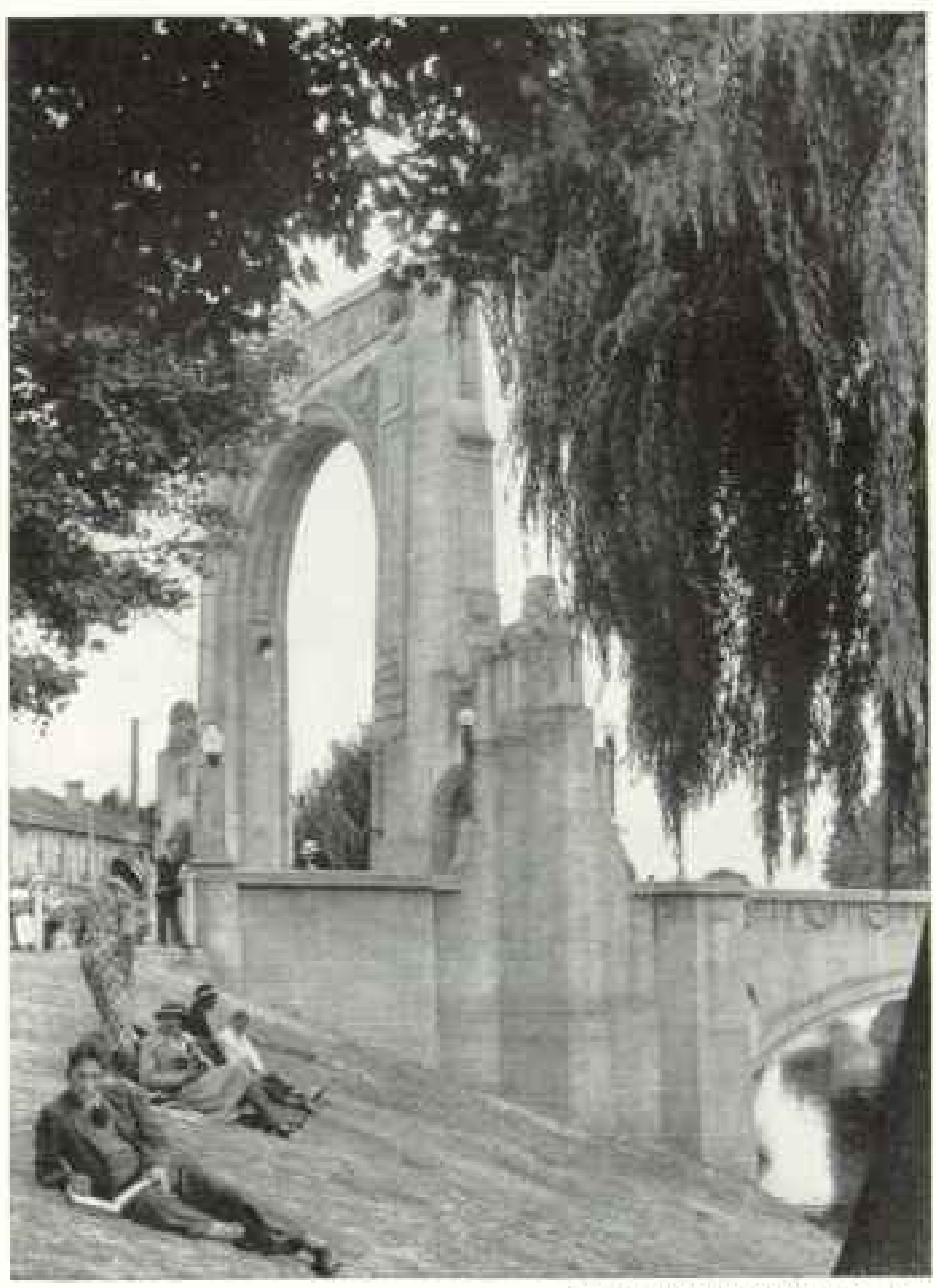
Along the southwest coast of South Island, such tongues of water extend deeply into the rugged mountain land. Waterfalls plunge over the precipitous cliffs, which on their lower levels are covered with dense brush. Milford is the most frequently visited section of Fiordland (see text, page 203).



Photograph by W. Robert Moore

HILL-GIRT DUNEDIN IS THE EDINBURGH OF NEW ZEALAND

It was founded in 1848 by a group of Scots and is the capital of Otago Province. Admiral Byrd departed from here on his first expedition into the Antarctic when he flew over the South Pole. He also landed here upon his return to civilization after both Antarctic ventures, and used it as a base for his ships, because it is the nearest large city to Little America. In 1933 and 1934 Lincoln Ellsworth's ship, *Wyatt Earp,* also departed from Port Chalmers, at the mouth of the long shallow harbor (see text, page 197).



Photograph by W. Robert Moore

A BRIDGE OF REMEMBRANCE HONORS THE ANZACS

This war memorial is one of 26 bridges that span the River Avon in its looping course through the city of Christchurch. The sloping banks are popular during the noon lunch hour and its waters are thronged with boats on holidays (see Color Plate XII and text, page 190).

population. Approximately 94 per cent are of British ancestry.

While the country is in many ways conservative, the New Zealand Government before the turn of the present century attacked the problem of social legislation. Parliamentary leaders have passed laws that have practically guaranteed "a living wage," provided unemployment insurance, and granted old-age pensions to persons over 65 years of age.

The Dominion, therefore, boasts that it is a land free from poverty or extreme wealth, and that its cities have no slums.

The railways have been built and operated almost exclusively by the State. Against the State's 3,315 miles of railways, private companies manage less than 170 miles.

By the time we had returned to Auckland our car had rolled up a total of nearly 3,500 miles. To the north still lay much of interest.

A REGION OF HISTORY AND WHALING

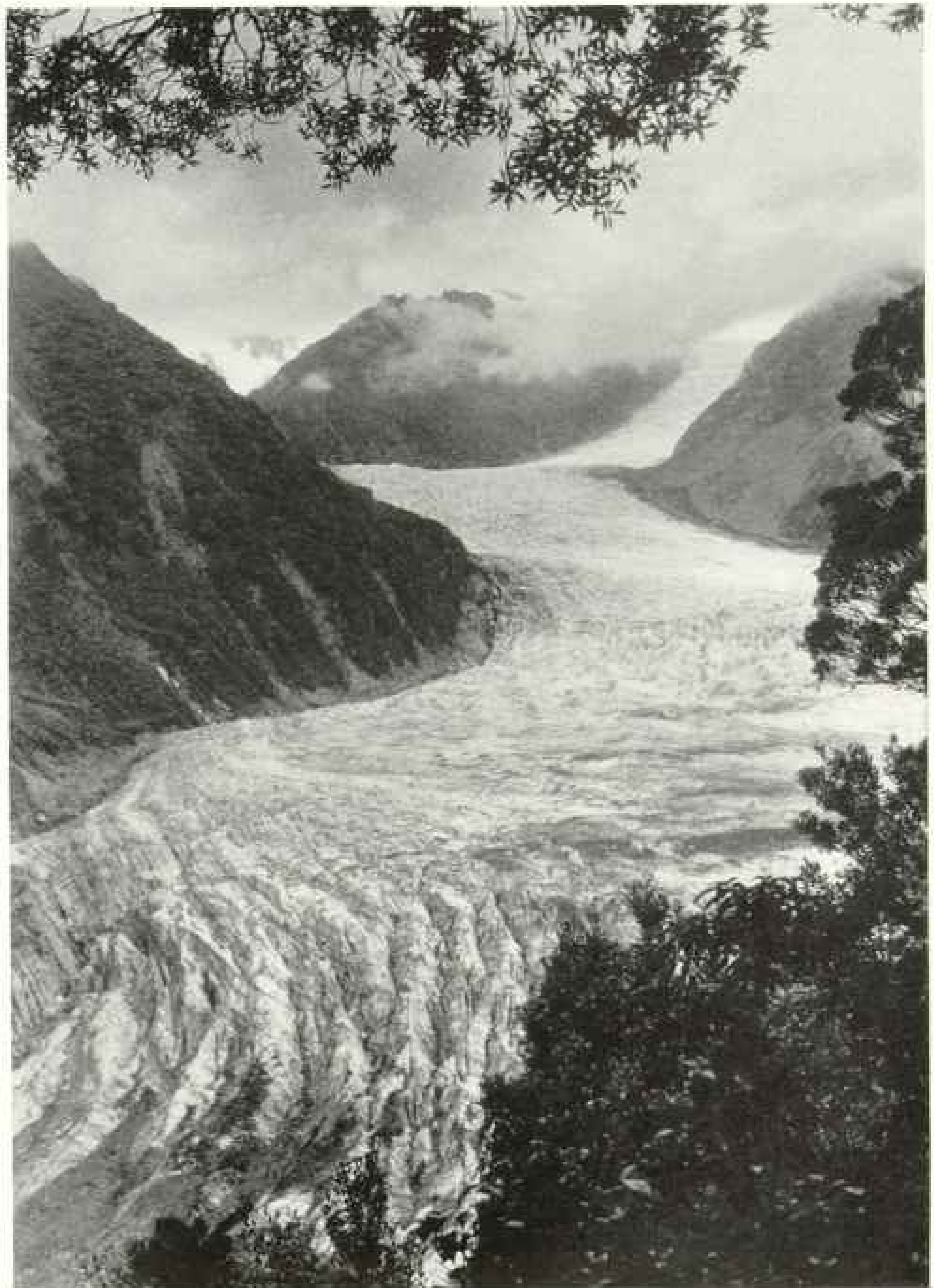
A little over 150 miles up the eastern coast is the Bay of Islands. At Russell (once Kororareka), Waitangi, Kerikeri, Paihia, and other spots around the inner sweep of the bay, early New Zealand history was made. Here whaling vessels once cluttered the waters; here on Christmas Day, 1814, the first missionary, Samuel Marsden, preached his first sermon; here are the oldest buildings in the Dominion; and in this soil plows turned the first furrows for agriculture.

On the shores of this "Bay of Bays," as well, British sovereignty was proclaimed by the first Governor, Captain Hobson, in 1840.

That same year, in front of the little building that served as the first Residency, was signed the famous Treaty of Waitangi with the Maoris, which preserved to them the "full, exclusive and undisputable possession of their lands and estates" so long as they wished to keep them.

No other spot in New Zealand is quite so replete with historic associations as this blue reach of water and strip of verdant shoreland.

Across the peninsula, the kauri trees lift their mighty boles skyward (see illustration, page 166). Southward from Hokianga Harbor, where ships once carried on



Photograph by W. Robert Moore

MANY NEW ZEALANDERS FIND EXCELLENT SPORT CLIMBING AND EXPLORING THESE ICE RIVERS

Fox Glacier winds and grinds down this mountain trench. Its terminal is only 670 feet above sea level, where a large moraine has been piled up. The ridged surface of the glacier is not as clean as the Franz Josef, which also dips down into the bush of rainy Westland, a few miles distant (see page 189).

Photograph by Thelma R. Kent

SHEEPMEN HAVE OUTLAWED THIS FIERCE LITTLE PARROT

The *kea*, or mountain parrot, originally fed on carrion, grubs, and seeds, but it has acquired a taste for living sheep. The dull-green bird is particularly fond of kidney fat, and has learned to alight on a sheep's back and attack the animal with its sharp, curved beak. So relentlessly have stockmen hunted the birds that they are now rare.

considerable trade in kauri spars, is the Waipoua Forest, in which stand some of the best specimens of these ancient pines.

Associated with the pine forests, too, is the gum-digging industry. The trees exude a resin that is valuable in the manufacture of varnishes. Through the ages trees and lumps of gum have been buried in the earth. Although the wood has decayed, the gum has remained and diggers are probing the soil for the preserved resin.

This industry, confined largely to the most northerly finger of the peninsula, was formerly of more importance than now, but the winning of the gum from the earth still gives employment to many diggers. Between 3,000 and 4,000 tons are usually exported annually, and up to 1934 old mother earth had given up more than 425,000 tons of resin, representing a value of over $115,-000,000.

LAND OF SOUP, FISH, AND GODWITS

One is almost inclined to make some pun about "soup and fish" in northern Auckland, for in the eastern waters is some of the best big-game fishing in the world, and the *toheroa*, used in making a soup which is New Zealand's specialty, comes from the long ribbon of sand that forms Ninety Mile Beach, facing the Tasman Sea.

The toheroa is a shellfish somewhat larger than an oyster, and lives along this famous beach. As the tide recedes, it can be dug up in quantities from the sand, and when made into soup it is one of the most delicious dishes that I have ever eaten.

At the very tip of the peninsula is Spirits Bay, sacred to the Maoris. It is here that they believe their souls take flight to return to the home of their ancestors in the mythical Hawaiki.

I am told that in April or May each year, from this same land's end, flocks of godwits also begin their migration to their nesting lands in the Northern Hemisphere.

Here at this legendary point of departure of Maori spirits and winging godwits we will end the story of our visit to "The Long, Bright Land."

BAHAMA HOLIDAY

By Frederick Simpich

"LOOK down now!" shouts a passenger. "We're flying over a Sahara desert with blue puddles on it."

"That's *all* water," explains the steward. "But it's so clear you see right through it—to the white, sandy bottom. The blue puddles are just deep ocean holes."

What with racing cloud shadows, play of light on green islands, painted coral, and tinted sands, the human eye *is* easily fooled by some of physical geography's tricks on an air trip through the Bahamas.

Two hours from Miami, Florida, out over the Gulf Stream in a fast plane, you reach this 630-mile chain of some 3,000 British-owned islands, cays, and rocks that stretches almost to Hispaniola (page 223).

Just now we are flying past the north tip of flat, brush-strewn Andros Island, largest of the Bahamas, its west shore lapped by milky shallows known as "The Mud," where rheumatic sponge fishers ply their back-breaking trade in the blue-green depths (see illustration, page 230).

All of us, except the blasé man sunk in a detective story, keep our noses pressed against the windows, watching the fascinating panorama of reefs, islets, sand bars, and multi-hued waters below.*

So flat and low, so symmetrical are some of these tiny jungle-green isles that from above, in Jack-and-the-Beanstalk fancy, they suggest huge pumpkin leaves afloat on seas of opaline paint.

"Look at that long strip of land, with a pirate's tower on it!" some one urges.

"That's 'Treasure Island' (Salt Cay). It belongs to John T. McCutcheon, the Chicago cartoonist," explains the patient steward (page 220). "Now we're over Hog Island, where human swallows from Canada and the States sun themselves in winter. . . . There's their Porcupine Club, and Paradise Beach (page 224). That wreck is an old Confederate blockade runner, sunk 70 years ago. The big island is New Providence, and this town is Nassau, capital of the Bahamas."

Flashes now of galloping ponies training on a dusty track, and a golf course dotted with palms bent by tropic winds; a ruined tower, which the steward says was Blackbeard's lookout; then ancient, abandoned forts, their rusty, muzzle-loading cannon no more harmful now than blind and toothless watchdogs, yet still frowning grimly at that sea long explored by Spaniards and haunted by pirates.

Swift glimpses, too, of stately Government House (page 240), the British flag, and stiff sentries on patrol, spacious homes set in gardens aflame with red, yellow, and purple. Then lower we glide, back over the long, narrow harbor with its trading schooners, lazy white yachts, and glass-bottom sight-seeing boats drifting over coral beds and canary-colored fish, and so down to a smooth, bumpless landing.

NASSAU A REBORN CAPITAL

"Welcome to the Isles of June!" greeted my host, as I scrambled ashore.

From the dock we drove through long, straight Bay Street, which is the shopping center of Nassau. High-roofed, horse-drawn hacks, bells jingling and red curtains flapping, moved in and out among motor cars, bicycles, and huge sponge carts, their cargo bulky but light (see page 244).

"To your right," said my host, in mock imitation of a guide's lecture, "is Old Fort Montague, captured by the baby American Navy during the Revolution. . . . That wharf is where they hanged pirates.

"That big shed is the sponge market. The hymns you hear are sung by the old women who sit there in the shade and clip sponges with their shears, and get them ready to ship."

"But who are all these excited people," I asked, "crowding the curio shops for trick straw hats, turtle shells, and pickaninny dolls? Surely they can't all live in this small town!"

"They don't. They're travelers. Each season 60 or 80 big liners call here on Caribbean cruises. Plus those who come by planes and private yachts, Nassau winter visitors almost equal the whole population of the Bahamas."

"Fifty-nine thousand people are scattered through these islands. Eighty per cent are blacks and mulattoes; many never even get to Nassau, much less the Florida mainland. This is a town now, you might say, of hotels—and history."

First and greatest event in all annals of our Western Hemisphere, in fact, occurred right here in these islands. That was on

* See "Coral Castle Builders of Tropic Seas," by Roy Waldo Miner, National Geographic Magazine, June, 1934.

Photograph by Fred Armbrister

THIS PIRATE EFFIGY, DANCING IN THE AIR, RECALLS UPROARIOUS DAYS WHEN BUCCANEERS THRONGED THE LAWLESS HIGHWAYS OF NASSAU

John T. McCutcheon, Chicago cartoonist, built the lookout tower on his Treasure Island (Salt Cay), near the Bahama capital. Its dedication afforded much hilarity for both British and American guests. Set in the tower near the door are stones brought from various historical structures—one from the Vendue Wharf in Nassau, where slaves were sold and pirates executed.

October 12, 1492, when Columbus discovered America, in the form of San Salvador.

On this island, facing the open Atlantic, is a monument set up by the *Chicago Herald* in 1891 to commemorate the landing of the great navigator. Here also a lighthouse rises, but not to show modern ships how to anchor where the *Santa Maria* did; rather, to help them keep safely away, for few visitors venture now where Columbus set up the Cross and traded trinkets with the shy Lucayans.

All these Lucayans—about 40,000—were enslaved by Spaniards, sent to work in Hispaniola mines, and the Bahamas left quite uninhabited (page 238). Yet, in time, these islands were to become not only a historic stepping stone by which Europeans and Africans reached our shores, but the stage for almost incredible adventures.

NASSAU LONG THE HOME PORT OF BUCCANEERS

Enmity toward England, after the loss of the Great Armada, brought sanguinary conflicts between Spanish and English ships all about these far-flung Atlantic islands, which in time became notorious for the nautical brigandage of the buccaneers. For generations these outlaws were the cause of constant diplomatic friction between London and Madrid, as when English sailors, seized from the Boston ship, *Blessing*, were stripped by Spaniards, tied naked to mangrove bushes on a Bahama cay, and left to die of thirst in plain sight of each other.

Famous is the story of "Jenkyns' Ear." When Spaniards took an English ship commanded by a Captain Jenkyns, it is written that they cut off one of his ears and handed it to him, telling him to take it home and show it to his King! This ear, in a bottle, he exhibited later in the House of Commons.

Even Virginia and the Carolinas dreaded these Bahama pirates, especially one Edward Teach, or "Blackbeard." With his last command, the *Queen Anne's Revenge*, mounting 40 guns, Blackbeard and another

Photograph by H. Armstrong Roberts

FRAGRANT GARDENS HIDE BEHIND STONE WALLS ALONG OLD WORLD STREETS

Because generations of British colonists have introduced numerous varieties of tropical trees, shrubs, and flowers, many Nassau homes and the gardens of the Royal Victoria Hotel are veritable show places of exotic botanical life.* No vehicles traverse this thoroughfare because of steps.

pirate leader spread terror all along our South Atlantic coast.

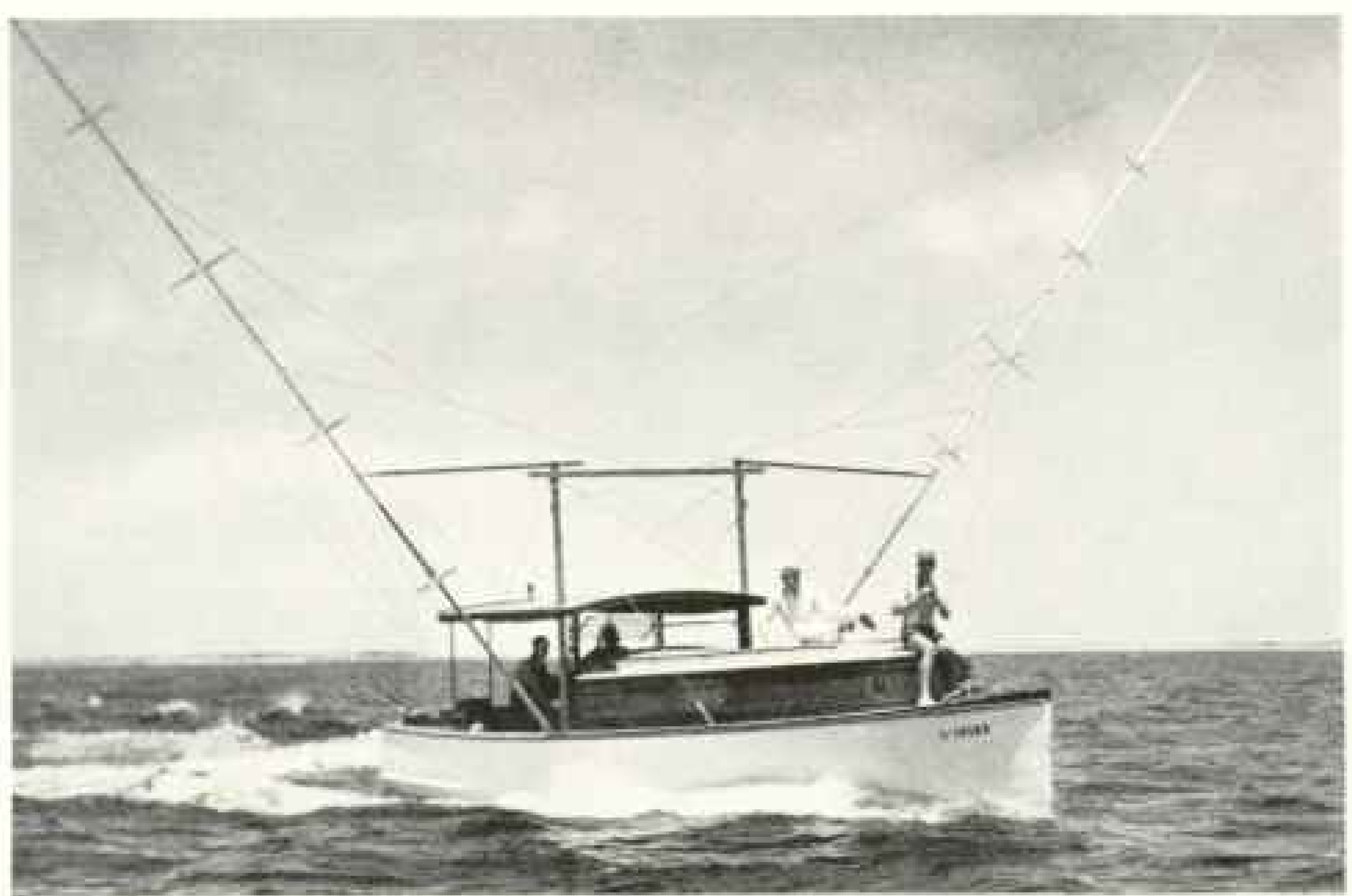
When, in desperation, the British Government finally sent that iron-fisted governor, Woodes Rogers, to hang pirates and make Nassau safe for honest traders, it began the first normal life it had ever known. That was in 1718, and the motto put on its coat of arms was, "Expulsis Piratis, Restituta Commercia."

Today Blackbeard, his long whiskers worn in three beribboned braids tucked into his waistband among his many pistols, is but a memory—or a favorite model for Nassau masquerade parties. Yet hunting pirate treasure is still a constant adventure. Always, just around the corner, is a mysterious man with an "old map" for sale.

FROM PIRATES, SLAVES, AND BLOCKADE RUNNERS TO YACHTS AND AIRPLANES

"Feast, then famine, that's been our history," said an Englishman born in Nassau. "Over and over again, in the last 300 years, hordes of people have swarmed into Nassau, on every errand from selling slaves to running rum; these boom periods meant lots of easy money, but there's been many a lean time in between."

* See "Hunting Useful Plants in the Caribbean," by David Fairchild, NATIONAL GEOGRAPHIC MAGAZINE, December, 1934.



© Stanley Toogood

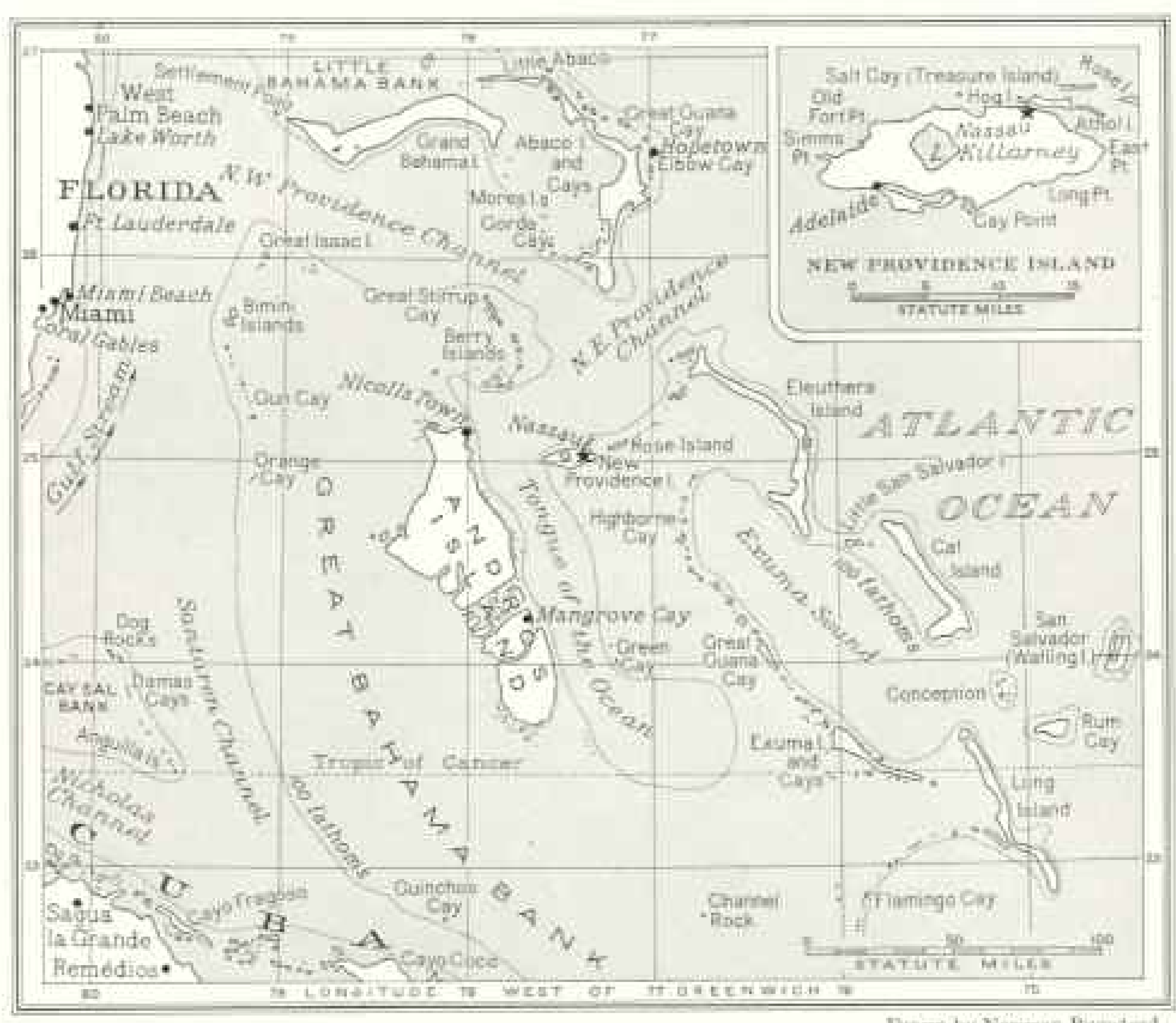
THIS QUEERLY RIGGED CRAFT AFFORDS ONE MORE EXAMPLE OF MAN'S EFFORTS TO "OUTTHINK THE FISH!"

The fisherman's line runs out through a clip at the end of the long boom. While trolling, a slight roll of the boat tends to drag the line forward with long jerks, imparting lifelike movements to the bait. When a fish strikes, the line slips out of the clip and is left free for "playing" the quarry.

Photograph by Capt. F. G. Lancaster

TWENTY-FOUR BABY SHARKS WERE REMOVED FROM THE ABDOMEN OF THIS MOTHER

Off the west coast of Andros, in "The Mud," as the shallow sponge banks are called, the author's party harpooned a shark which floundered about after crabs. It shook loose from the barb and escaped into deep water.



Drawn by Newman Bumstead

ONLY 52 MILES FROM THE UNITED STATES MAINLAND BASK THE NEAREST OF THE BAHAMAS, TROPIC "ISLES OF JUNE"

Like a broken string of beads, the more than 3,000 islands, cays, and rocks that form this British archipelago are strewn over some 630 miles, between Florida and Hispaniola. At small San Salvador (Watling Island), on the outer fringe, Columbus landed in 1492; later, pirate vessels lurked among the cays. Today big air clippers and luxurious cruise ships carry vacationists over the blue-green waters to Nassau (inset), heart and capital of the islands.

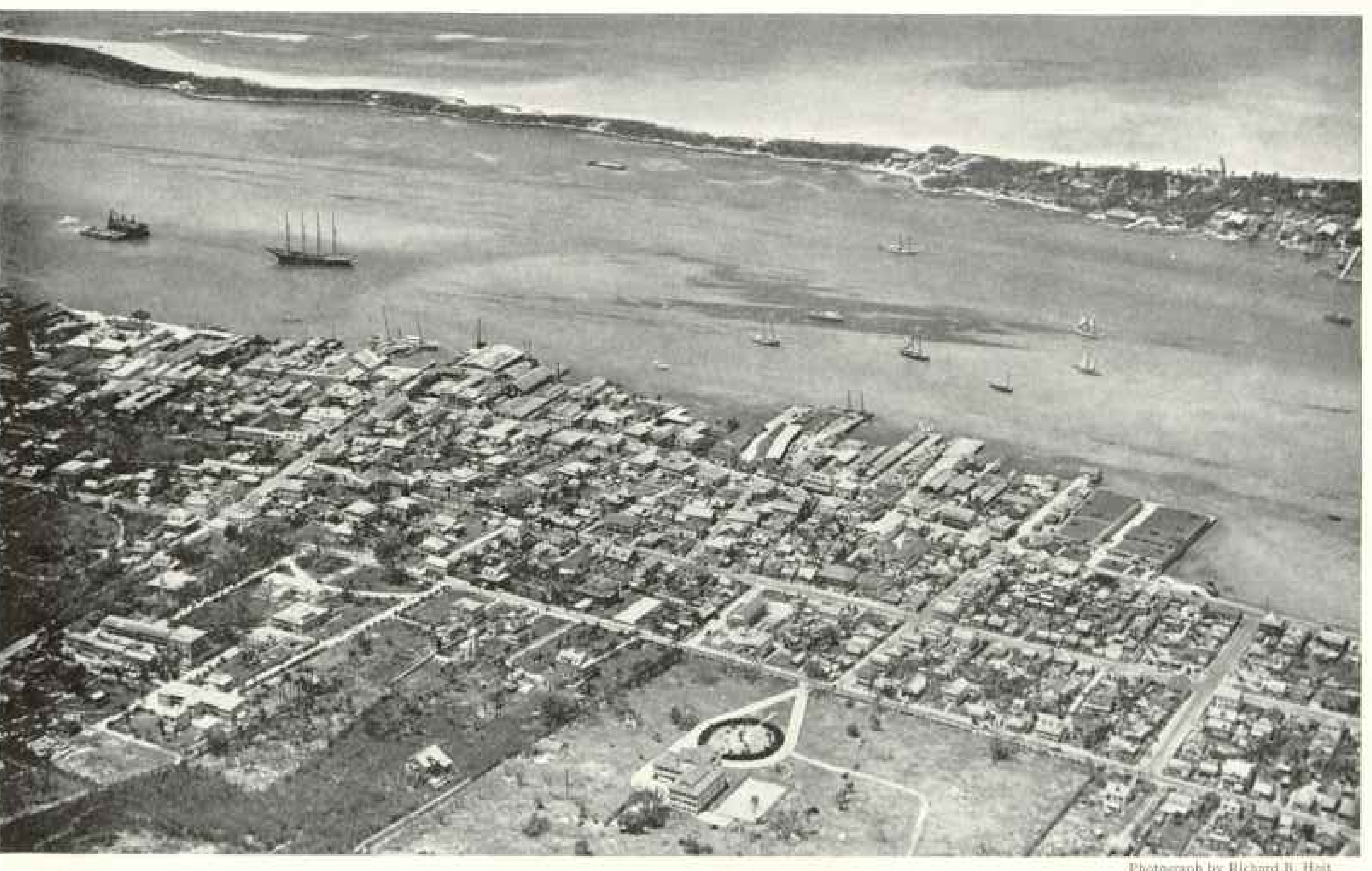
When Liverpool used to send 100 or more "blackbirders" to Africa each year, and when our own American-built craft were in this traffic, as many as 74,000 blacks annually used to be sold into the West Indies, of which the Bahamas got their share.

After Cornwallis yielded at Yorktown, Loyalists flocked to the Bahamas, bringing their slaves, silverware, and other personal effects. On plantations of cane and cotton developed by these royal refugees rose another tide of profits. This ebbed when slaves were freed, and when competing agriculture grew up in the States.

Loyalists, departing for England after this land boom faded, turned their farms over to ex-slaves or other retainers; lacking skill, capital, or sufficient energy, these latter failed. Farming declined. An easier living—if on a lower standard—was offered by the sea. Hence today the once productive fields are idle and brush-grown.

Andros Island, for example, named for an early Governor of the Massachusetts Colony, was once the scene of much sisal growing, well-known families in England being the owners. Now all that is abandoned.

Nassau's truly Golden Age came in our Civil War, when the city was the base for Confederate blockade runners. Nassau was gay then with British officers, barrels of money, and gallant gentlemen in Confederate gray. Smuggled cotton sold here for ten times its cost in the Carolinas.



Photograph by Richard B. Holt

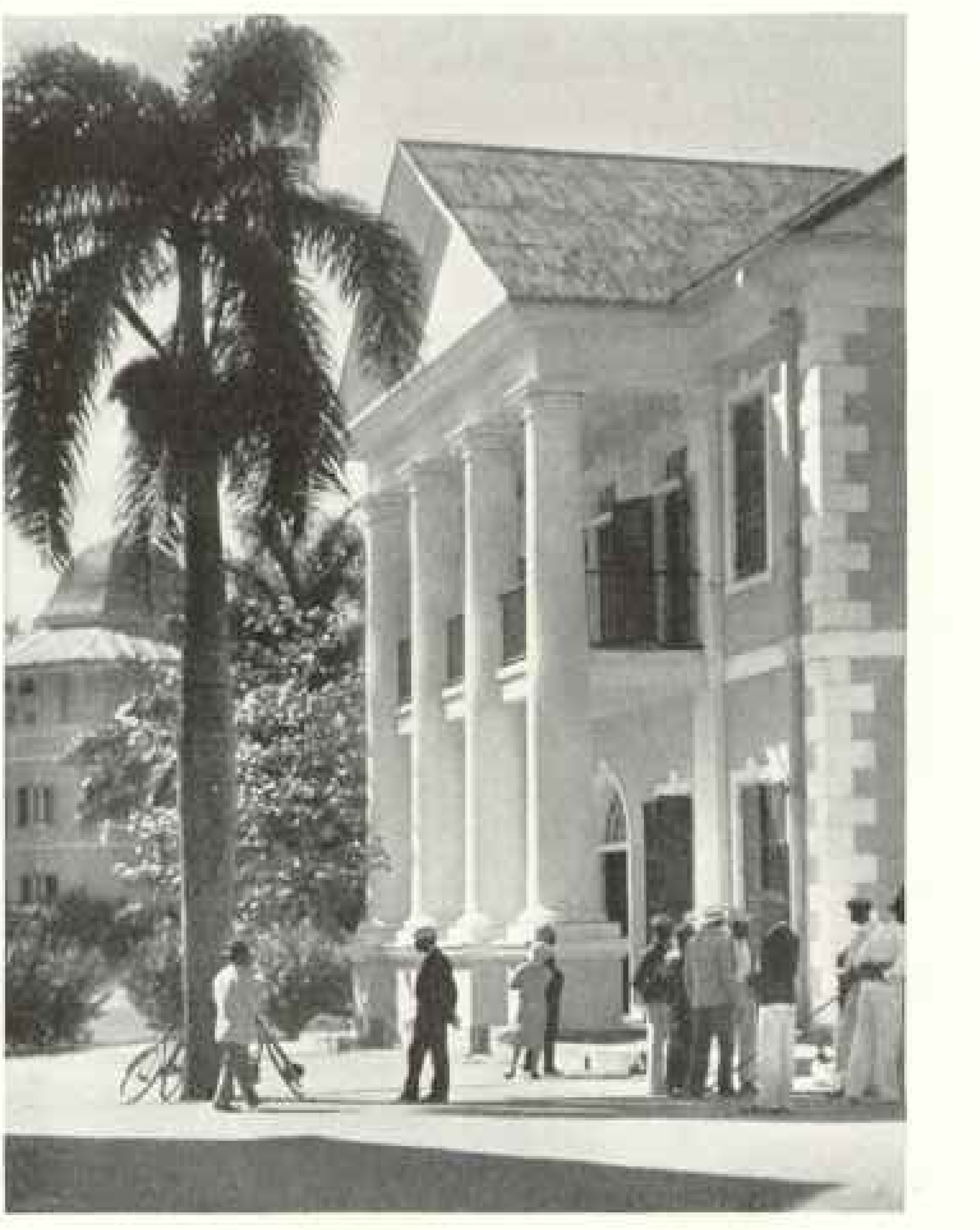
TWO HOURS FROM MIAMI, AIR LINERS CIRCLE OVER NASSAU, A LOW-LYING CITY ON A STRAND BESIDE A NARROW, OPALESCENT HARBOR

The long strip of brush-covered land in the background is Hog Island, site of the famous Porcupine Club, Paradise Beach, and private homes of winter residents. Passenger planes alight on the harbor and taxi to ramps on the Nassau side. Bay Street, the capital's main thoroughfare, runs the length of town, along the water front, whose wharves and warehouses are discernible.

Photograph by Stanley Toogood

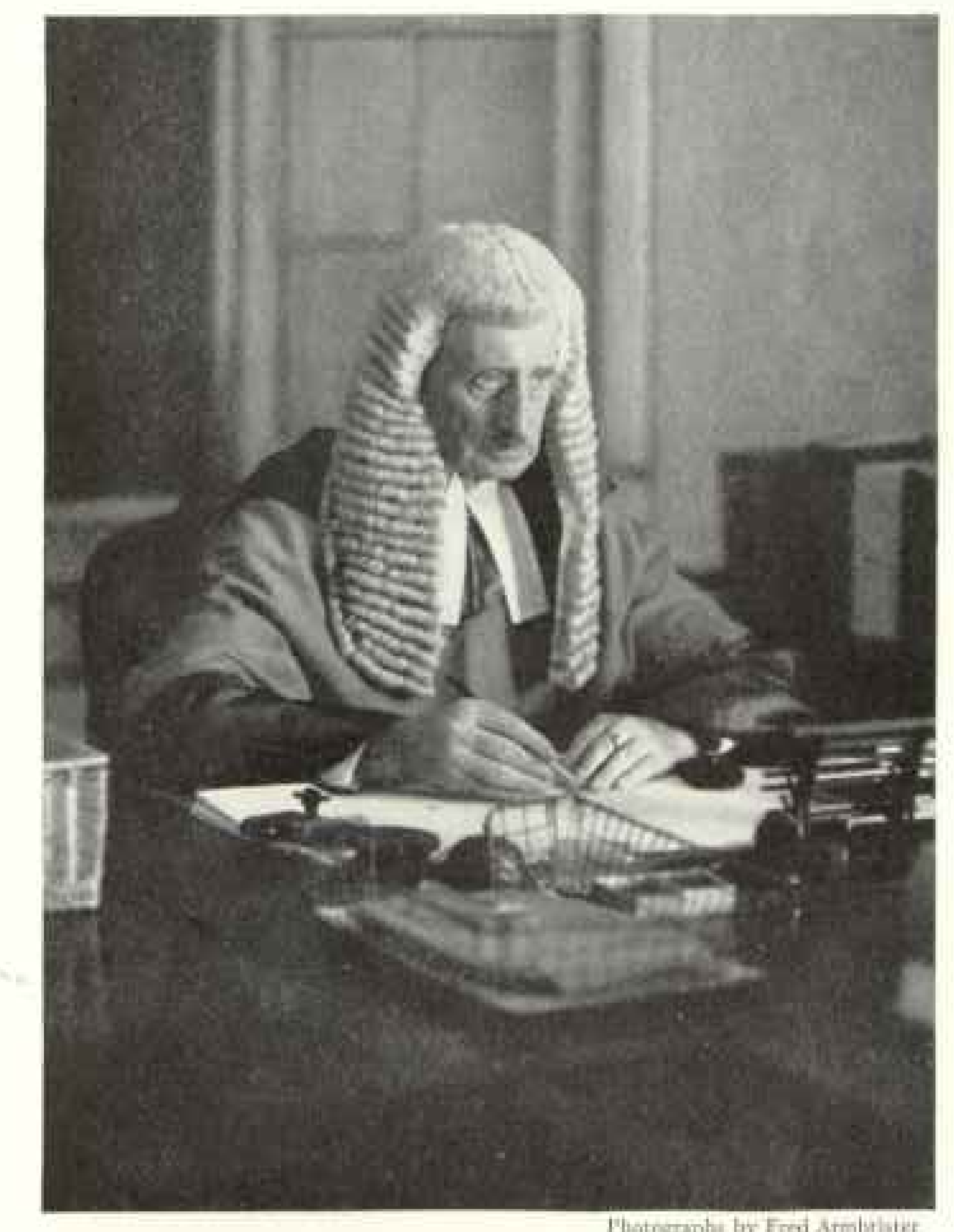
FOR NEARLY 300 YEARS ENGLISH COLONISTS HAVE BOUGHT AND SOLD IN NASSAU'S MAIN STREET

It looks empty now, but on "steamer days" the town swarms with shoppers from the passing ship. Besides such things as linens, hosiery, perfumes, woolens, gloves, and brushes, priced low here because of low import duties, the visiting customers buy fruits new to them, postcards, English smoking tobacco, carved coconut shells, walking sticks, black dolls in native dress, sea shells, beads made of colored seeds, and liquors. Horses and carriages are more numerous than automobiles in many West Indies ports. A local merchant has adapted the "Eventually—Why Not Now" slogan to his merchandise.



THIS DIGNIFIED COURTHOUSE SERVES ALL THE BAHAMAS

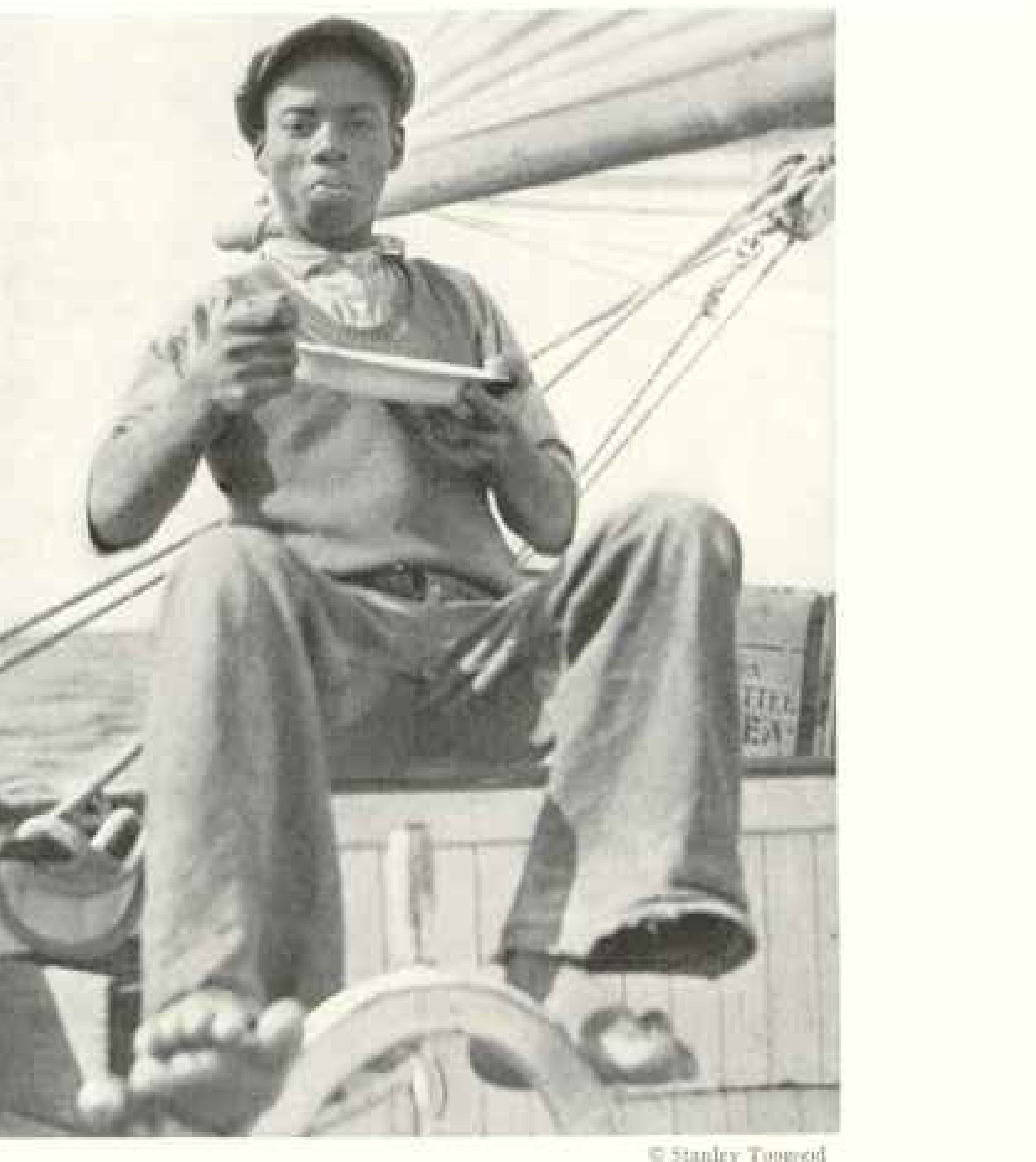
The pomp and ceremony of old English judicial procedure prevail. In court one sometimes sees a black barrister in a white wool wig. At the left background is the octagonal Nassau Public Library.



Photographs by Fred Armbister

TIME-HONORED BRITISH JUSTICE RULES THE ISLANDS

Chief Justice Tute, of the Bahama Supreme Court, in wig and gown personifies the law and order which prevail throughout the myriad widely separated cays and islands of the group.



© Stanley Toogood

PREHENSILE HERMAN, 13-YEAR-OLD SKIPPER, ATE WITH HIS HANDS AND STEERED WITH HIS TOES

While having his breakfast of conch and grits, this boy navigates the sailboat which carried the author's party from Nassau to Andros Island. Not trusting his crazy compass, "Captain" Herman now and then climbed the mast, like sailors of old, to scan the horizon for land or to watch for reefs.

© Stanley Toogood

AFTER MANY HUNGRY WEEKS AT SEA, COLUMBUS WAS DELIGHTED WITH FRESH FRUITS ON SAN SALVADOR

Bananas, plantains, mangoes, yams, oranges, lemons, coconuts, pineapples, onions, and cassava root—they peddle them all in Nassau. Many are not native, having been introduced here by the British. Captain Bligh, once of the *Bounty*, finally reached the West Indies with his breadfruit.

Musty court records tell sorry tales of another activity that for years gave a living to many Bahama folk. That was "wrecking." In one six-year period, 313 "wrecks" were officially reported.

Most recent hectic boom for Nassau was that of rumrunning, which passed when the American prohibition law was repealed. New buildings, better streets, and public utilities—many of these Nassau paid for in this high tide of alcoholic prosperity.

Yet today a new kind of prosperity, wholesome and satisfying, is coming to Nassau. This is its rise as a popular winter resort, which compensates for the vanished revenue of former more exciting days.

"But Nassau is not the Bahamas," my informant insisted. "You ought to see some of the Out Islands."

AN ISLAND OF FORGOTTEN MEN

Abaco lies far up to the north end of the Bahama chain, isolated and seldom visited.

Racing past rainbow patterns on early-morning squall clouds of crepe, satin, and silver, we flew by tiny amphibian to see Abaco, and its consanguineous colony at Hopetown, on Elbow Cay, where so many people look alike, and there are more women than men.

Strange indeed was Hopetown's beginning. About 1785 a Loyalist widow, Wyannie Malone of Charleston, South Carolina, came to this spot with her four children. One daughter eloped with a whaling skipper; another married a South Carolinian who came with them, while the two boys married into white families from elsewhere in the Bahamas. The last three couples remained here.

"How many of you are there now?" I asked a patriarch Malone.

"Just 365," he said, "one for each day in the year. There used to be a lot more. . . . Yes, we *are* all kin. I think nearly half the people in town are Malones or Russells, or folks of one or two other names."

"Do no new settlers come?"

"No. Only one, I recall, in many years."

Two villagers showed me about this remote, half-forgotten colony, as shut-off and communal in many ways as Pitcairn Island itself, the shy people so near and yet so far from their ancestral mainland. A brooding, silent place, without streets, for there are no wheeled vehicles at all; no horses. No stoves or chimneys, but outdoor ovens for baking (see page 243). Few houses with glass windows, mostly wooden shutters, to be closed when hurricanes blow. And how they blow! I saw two-inch marble tombstones that had been broken off by a storm!

"A third of all houses in town blew away or slipped off their pins," the men said. "And look what it did to our coconut grove!"

"Yes, there are more people in our three graveyards than are alive here now. Why not? We've been here 150 years. There's one old graveyard we don't use now; the people there died in the cholera year, long ago."

"Come and see the turtle pen."

We went past the lighthouse to a small inlet cut off from the sea by a brush fence.

"We catch turtles and put 'em in here, and fatten 'em, like chickens."

Several turtles stuck their heads up, as if expecting food.

"What do you give them?"

"Conch meat, mostly. But they like grass, too."

"Turtles and wild pigs give us our meat. Summer nights we sit on the beach and watch turtles come out to dig holes, and lay. They rear back, then, and cover their eggs with sand, and pat it down with their front flippers.

"You can follow the turtle tracks on the beach, sometimes, and find a nest that way. We boil the eggs, but only the yolk gets hard. One turtle lays a whole hatful of eggs."

To me, the eggs look like ping-pong balls.

Conchs, clams, whelks, and oysters—here pronounced "hysters"—all are part of Abaco's diet; you see people gathering them along the beaches.

Along the narrow path which serves as Hopetown's main street, we returned to our plane. Men and boys followed, silently. Women very shyly peeped from behind half-closed doors or around the corners of wooden houses.

SEA-GOING PIGS OF THE BAHAMAS

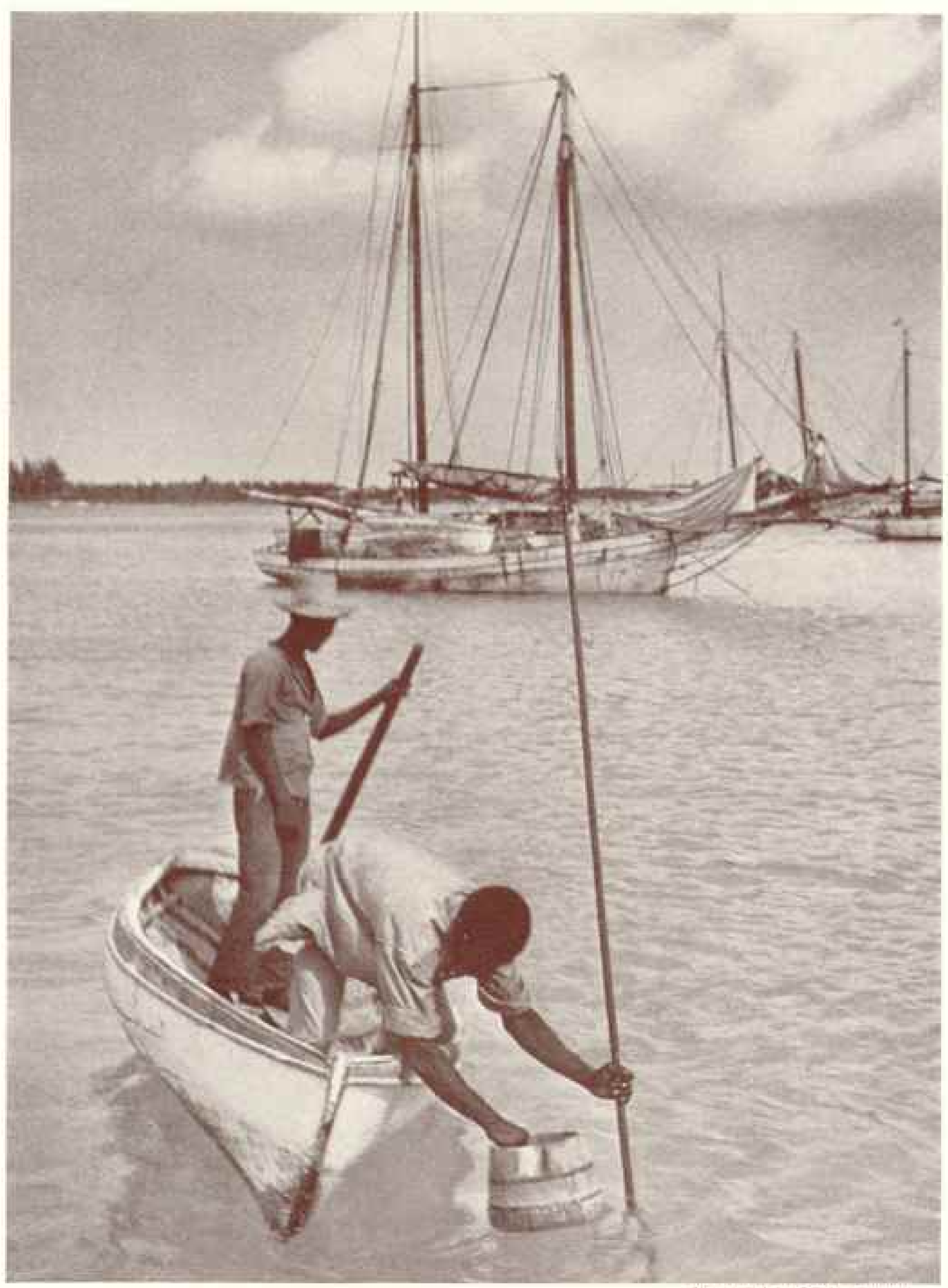
Flying south again, we passed over an old lumbering camp near some of the thick pine forests on Abaco. In these Abaco woods, and on other islands, men and dogs hunt the fierce wild hogs.

Like the Bible's bedeviled swine that cast themselves into the sea, these Bahama pigs are also known to jump into the ocean—but only when chased by dogs, or when they swim to another island hunting food.

Photograph by Fred Armbrister

STRIPPED TO THE WAIST, BAREFOOT, CLAY PIPE FIRED UP, A MODERN FRIDAY TRIMS HIS JIB

Besides anchor, rope, and the bedding of a deck passenger, an old automobile tire is handy, which may be used as a fender when docking. The Bahama natives' love of the sea is the main reason, Nassau officials say, why island agriculture remains so undeveloped.



Photograph by Stanley Toogood

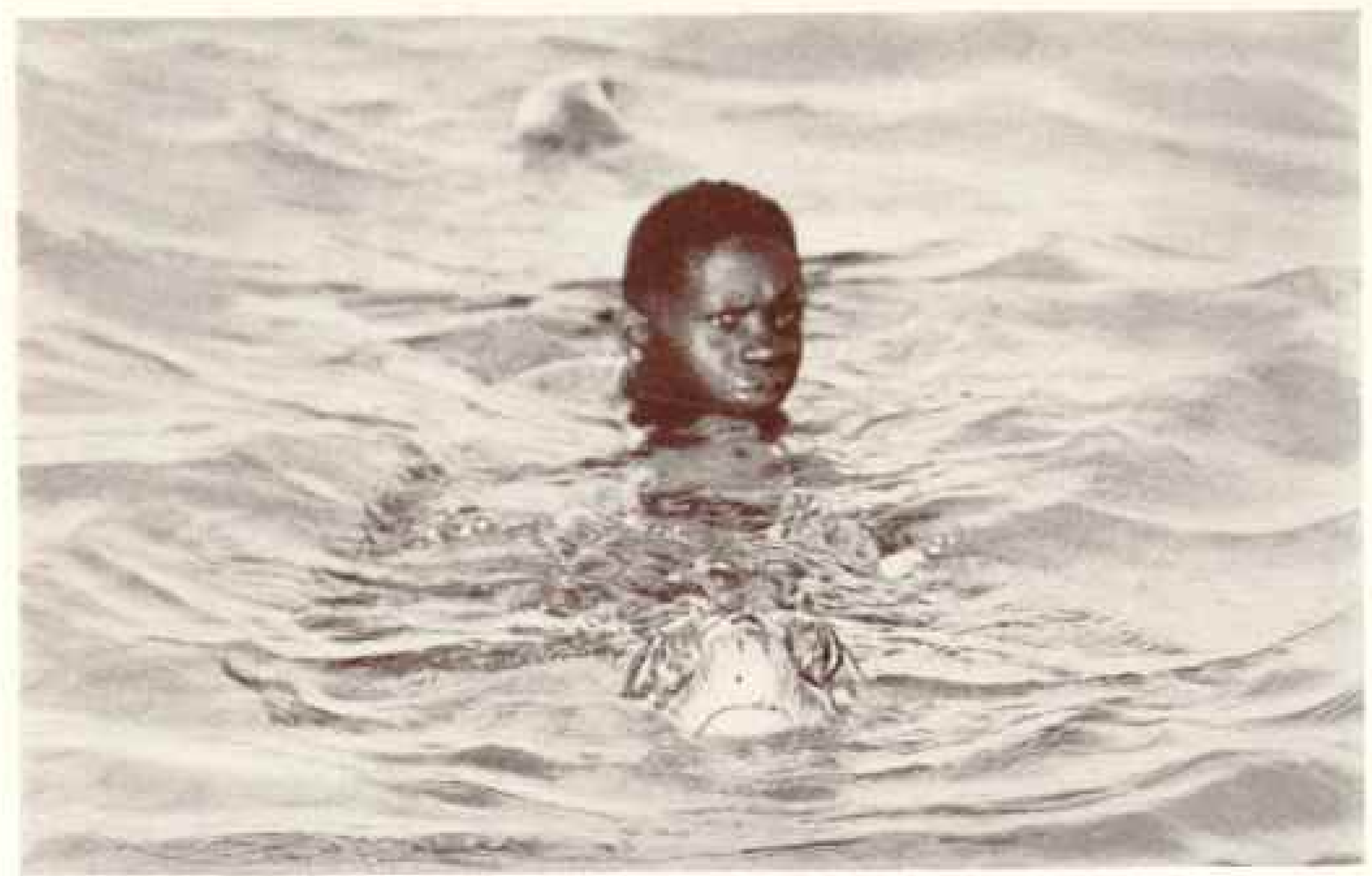
LOCATED THROUGH A WATERGLASS, SPONGES ARE PLUCKED FROM THE SEA BOTTOM WITH A HOOKED POLE

The device resembles a common wooden bucket, with a glass bottom. Pressed low enough to exclude all ripples and air bubbles, and with light at the best angle, it reveals objects on the bottom. Nassau visitors admire the marine gardens from sight-seeing boats with the aid of waterglasses. A sponger's day is from dawn till sunset, after which a plate of fish and grits is as welcome as the dry clothes that await him on the mother ship.

© Stanley Toogood

A LOGGERHEAD TURTLE CAN SWIM BRISKLY ALONG WITH A BAHAMA BOY ON ITS BACK

These creatures grow to such size that island boys, in play, often ride them in the turtle pens, where they are confined for fattening. Their eggs are laid in nests in the sand, where men hunt them for food.



© Stanley Toogood

BY THE "DIVING UP" METHOD BOYS DIVE, SEIZE A TURTLE, AND RIDE HIM TO THE SURFACE

The trick is to grab the edge of the shell just back of the neck, and the danger is that, should the turtle suddenly pull his head in, he might squeeze the boy's hand so tight as to hold it fast, and, submerging, take his would-be captor with him. A loggerhead weighing 700 pounds has been recorded.

Photograph by Stanley Toogood

BANJO MUSIC, SONG, CHATTER, AND THE SMELLS OF COOKING FOOD FLOAT OVER NASSAU'S WATER FRONT TOWARD SUNDOWN

Besides spongers and fishing craft, small schooners engaged in inter-island traffic tie up here. Voyages to far-away islands like Inagua and Abaco are tedious and wearisome, but the natives are kind and helpful to each other; passengers cheerfully share food, drink, tobacco, or bedding with any fellow traveler.

Photograph by Richard B. Holt

CUT THROUGH SOLID ROCK, THE "QUEEN'S STAIRCASE" IS ONE OF NASSAU'S CURIOSITIES

This passageway leads up to old Fort Fincastle. From their location, it appears the stone steps were hewn to make a quick, safely hidden road between the fort and seashore, so that troops could be moved either way without exposure to enemy fire.

Photograph by Stanley Toogood

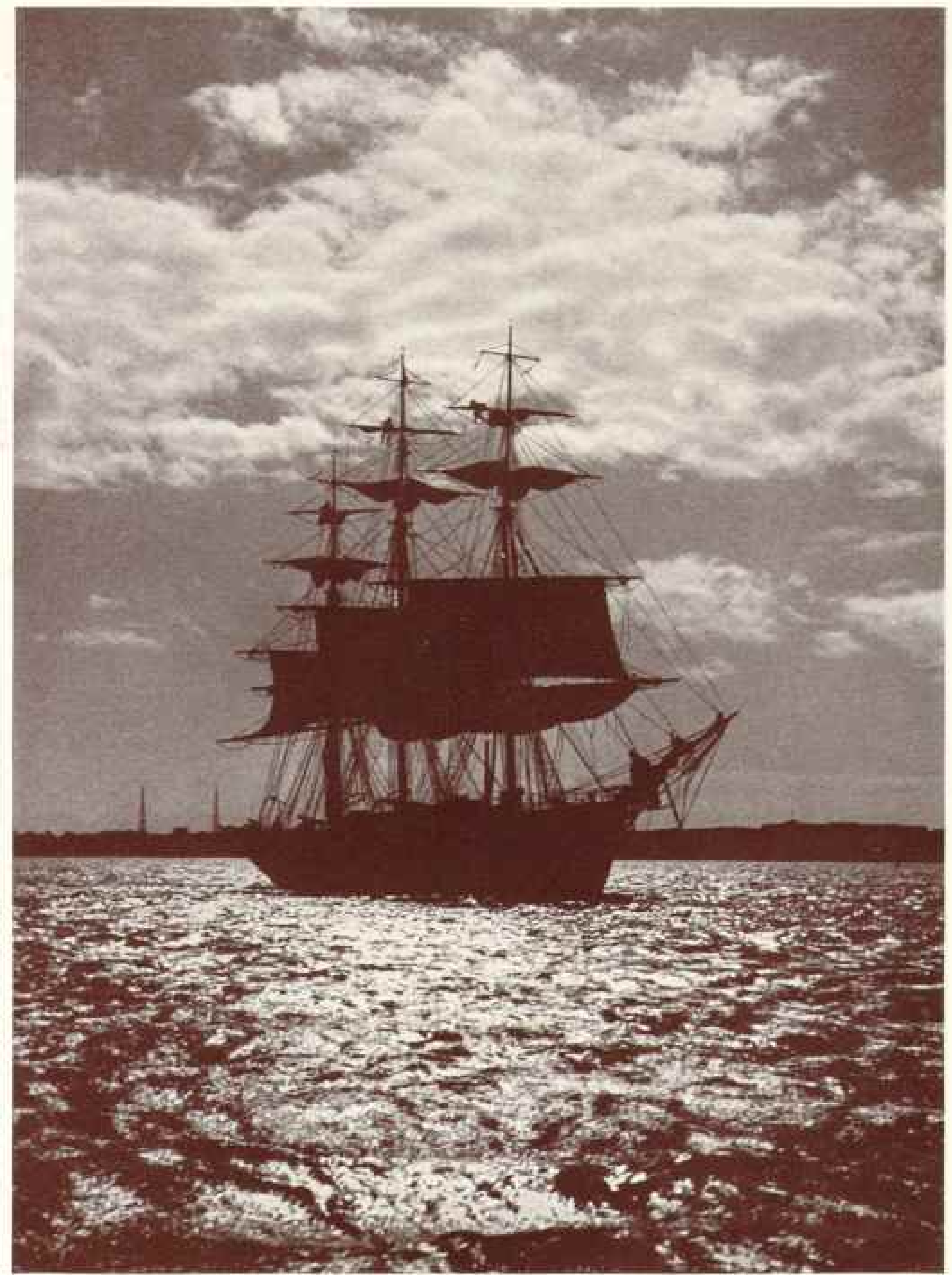
EMPTY NOW AND OBSOLETE, NASSAU'S FORTS ONCE ROARED WITH GUNFIRE AND ECHOED TO PIRATE OATHS

Send a "King's flagg for the forte," wrote a Bahama governor as early as 1672. Nassau then was a "neste of English pyrates." They preyed, in time, not only on the French and Spanish, but on ships of their own country. King George I sent Captain Woodes Rogers to suppress them; he hanged nine buccaneers on one scaffold set up at old Fort Nassau. This sentry in colonial garb is on duty at Fort Charlotte.

Photograph by Stanley Toogood

MIDWINTER LUNCHEON UNDER COCO PALMS AND BEACH UMBRELLAS ON THE LAWN OF A NASSAU HOTEL

Petunias and conch shells line the carriage drive. Oleanders rise at the left, with bananas and citrus trees, while beyond the Bermuda-grassed lawn lie the bathing beach and the Atlantic. Entertaining winter guests has supplanted such early industries as slave trading, "wrecking," and piracy (see text, page 221).



Photograph by Fred Armbrister

THE "JOSEPH CONRAD" SAILS OUT OF SILVERY NASSAU HARBOR, WITH SEAMEN HIGH IN THE RIGGING SILHOUETTED AGAINST THE SKY

Reminiscent of the days when sturdy windjammers carried all the trade of the Bahamas is the full-rigged ship of the sea writer, A. J. Villiers, outward bound on a two-year voyage around the world (see "The Cape Horn Grain-Ship Race," in the NATIONAL GEOGRAPHIC MAGAZINE, January, 1933). On her Nassau visit the 203-ton, 100-foot vessel carried a crew of 10 men, and 20 youths sailing as cadets.

"I know by experience," said a Cuban sportsman resident in Nassau, "that these wild pigs can swim at least two hours, unless they're overfat. Hunting on the Berry group, I've seen pigs swimming from one island to another. When worried by dogs, the pigs will dash into the water, then face about, and maybe disembowel a dog with one up-jerk of the tusks.

"It's very exciting to see the black boys and their dogs battle a wild boar. They mix it so fast you can't tell one from the other. Sometimes the blacks use an ax, a club, or even throw rocks. Many can throw straighter than they can shoot. When they butcher a pig, they cut the side meat into long strips and salt it down. On Inagua and Abaco I've often seen wild sows followed by big broods of young; they can hide instantly, like quail."

WATCHING THE SPONGE FLEET AT WORK

Sailing from Nassau over to Andros Island in a 25-foot catboat, with a crew of two blacks, we found the sponge fleet hard at work.

Each crew stays out some weeks, or until it gets a full cargo.

All live on the mother boat, on whose deck a wooden stove is built, filled with sand, the fire laid on top of this.

A pig, sometimes a goat, or a dog, lives on board.

"Do you finally eat the pig or goat?" I asked.

"No, Boss. They're company, and they clean up the scraps."

Once, when a boat tacked, and the skipper cried "Heads down!" the wise seafaring pig also ducked, to avoid being knocked overboard as the boom swung around.

At dusk a boy plucked a home-made banjo, its head an old oil can, and the men sang hymns. A favorite was "Send Down the Blessings."

Following a "bight" which cuts Andros, we sailed through to its western shores, and then northward and into a jungle creek, looking for flamingos.*

In camp here we met a lone, barefoot white man, burned a rich reddish brown.

"I'm the best-known beachcomber in the Bahamas," he boasted. "Been here 16 years. Used to be the champion swimmer of Sydney, and taught swimming in the Olympic Club at San Francisco. But this suits me now."

The Commissioner at Mangrove Cay, he assured us, was the only other white man on Andros.

"Lonely? Not at all!" he insisted. "I guide fishing and hunting parties from Nassau; but my most faithful companion is a curly-tailed lizard. I've trained him to keep flies off my food. He'll jump right across my plate and grab any fly that dares to light!"

He cleaned three land crabs we had dug out, and stewed them with fish, potatoes, and onions, making a Mulligan.

"Some iguana would help," he said. "Lots of 'em here, but they're shy. You see their tracks along the beach, where they hunt crabs."

Sailing back to Mangrove Cay next day, we passed a Government boat that was planting sponge. The men cut up a live sponge, tie each bit to a small rock, and sink it—just like setting out plants. These pieces grow.

Ashore at Mangrove Cay, we visited the school teacher and went to see some caves in the rocky, brush-grown ridges back of the small settlement. The caves showed signs of occupancy.

"We store food in here," the blacks said, "to keep it away from the rats."

Except for clay pipes, rope, salt, cassava, kerosene, cheap tobacco, some bolts of calico, and three almost prehistoric cans of corned beef, we found little to buy in the village store. One friendly woman, however, ran down a black rooster for us, whose squawk set all the village dogs to barking.

Though Andros is 104 miles long and shelters some 7,000 people, it has no roads, plows, work animals, or wheeled vehicles. To till what soil exists in cracks and holes among the stones, only sharp sticks and simple hand tools are used.

WARDING OFF THE IGUANAS

"When I was a boy on Andros," said one of our crew, "it was my job at night to help the dogs keep the iguanas out of our sweet potato patch. One of our pups got bit in the neck by an iguana, and bled to death."

When a Bahama black catches an iguana alive, he sometimes sews its mouth shut with

* See "Large Wading Birds," by T. Gilbert Pearson, paintings by Maj. Allan Brooks, NATIONAL GEOGRAPHIC MAGAZINE, October, 1932.

Photograph courtesy Pan American Airways

DAILY SEAPLANE SERVICE LINKS NASSAU WITH MIAMI, 185 MILES AWAY

People on the ramp, come to see friends off, watch as the big four-motor Clipper makes ready to cruise to Miami. Across narrow Nassau harbor, beyond the plane, is seen the brush-grown shore of Hog Island (see page 224). The houseboat landing wharf connects by runways with a new Pan American Airways Passenger Station on shore. Columbus cruised these waters, not touching the North American mainland, which now is accessible in a few hours' flight.

palmetto fiber so it cannot bite him, and ties its feet together to carry it home.

Leaving Mangrove Cay late that night, we got lost among the reefs and anchored till daylight. Conchs, grits, and "jelly-coconut" milk made a good breakfast. Before a stern breeze, fragrant with Andros jungle scents, we sailed for Nassau at dawn, going aground once in the shallows.

Everybody stripped—passengers and all—to go overboard and help shove the *Molly* off. Fishing brought us only barracuda, seldom eaten in the Bahamas; so for lunch we slew and stewed the black rooster. One of the crew told how his brother, in pulling in a seine, had been badly bitten in the face by a barracuda that leaped over the edge of the seine.

Herman, our black skipper, was barely fifteen. We got a picture of him eating conch from a tin plate, his bright eyes on the compass, steering with his bare toes. Now and then he would shin up the mast, scanning the blue waters for some Nassau landmark (see illustration, page 227).

Near us, returning to Nassau from "The Mud," came a 30-ton sponger, piled high with her take. Strung out at her stern, like ducklings following their mother, was her row of dinghies in tow.

FEW TRACES REMAIN OF EARLY LUCAYAN INDIANS

On Andros and other islands, archeologists find artifacts that belonged to the Lucayans who lived here when Columbus came (see text, page 220).

These Lucayans were "handsome, of good stature," Columbus wrote in his journal. "They are not black, but the color of Canaries, well made, not pot-bellied. . . . I watched very narrowly to see if they had gold, but could only see that they had a little piece hanging from the nose. . . .

Photograph by Gilbert Grosvenor

SHARKS OR BARRACUDAS OFTEN BITE A FISH IN HALF BEFORE IT CAN BE LANDED

The fish at the right in this fine catch suffered such a fate. Barracudas are voracious, fast-swimming fish, common in Bahama waters and other warm seas.

They swam out to our boats, bringing parrots and balls of cotton thread . . . all of which they exchanged for what we chose to give them—glass beads and hawk's bells. . . . They go about naked as they were born, the women also. . . ."

Though whites have been here three centuries, outside of Nassau and the few hamlets on New Providence this island is today largely an uninhabited area of brush and "pine barrens," frequented by charcoal burners and raccoon hunters. The coon, the island's only wild animal, subsists on crabs, birds, and by plundering gardens and corn patches. Men tree it with dogs, shoot it, then scald and scrape it as we do pigs.

A few harmless snakes exist, with centipedes and scorpions. Near one hut we saw a chicken killing a centipede.

HURRICANES BLOW BIRDS OUT TO SEA

I asked a peasant if many people were bitten by centipedes. "Yes," he said, "most everybody, sooner or later; but they put iodine on it and forget it." He added that he knew one woman past 60 who had never been bitten by either a centipede or a scorpion!

Not only are coconut groves ruined, and houses and boats wrecked or lost in hurricanes. Even birds are killed, maimed, or blown out to sea.

So many disappeared in the great storm of 1929 that insect pests noticeably increased.

Migratory fowl returned as usual, in due season. But, to restock New Providence Island with its normal bird life, the Government imported numbers of doves, quail, Jamaica canaries, and others.

Forest fires, started by charcoal burners in the pine barrens, destroy many birds.

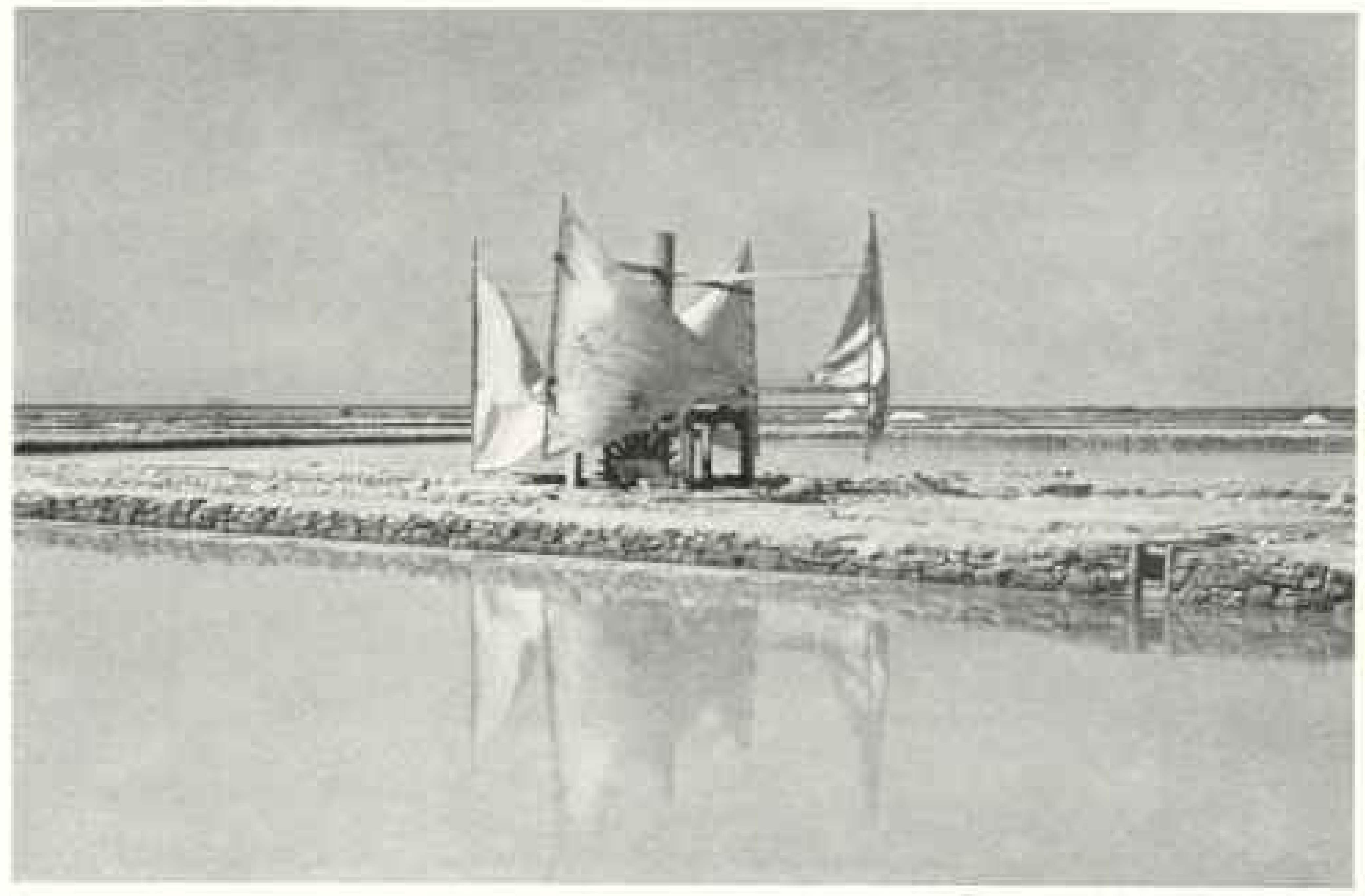
Voracious, acrobatic land crabs, unbalked by stone walls, clamber over every obstacle to attack Bahama truck gardens.

Men dig them out with dogs, "fish" for them—not in the water but on dry land in brush—with pole, line and cabbage-leaf

Photograph by Stanley Toogood

GOVERNMENT HOUSE IS THE SEAT OF BRITISH POWER IN THE BAHAMAS AND THE CENTER OF NASSAU SOCIAL LIFE

Erected in 1804 by Governor Halkett, the present structure stands on Mount Fitzwilliam and affords a sweeping view of New Providence Island. Here the Governor receives official guests and transacts public affairs; and from here he goes in state to the Parliament Building to convene and prorogue that law-making group of island representatives.



Photograph by Josiah M. Erickson

OLD-STYLE HORIZONTAL "SAIL PUMPS" FILL SALT PANS ON GREAT INAGUA ISLAND

Revolving sails drive the paddle wheel that pushes water into the shallow evaporating basin. A gate to a pond is seen in the wall at the right. When sea water reaches a depth of about eight inches, the inflow is shut off, and the hot sun evaporates the brine, leaving salt deposit on the ground.

Photograph by Fred Armbrister

WITH SWIFT MACHETE STROKES MEN KILL FISH BY TORCHLIGHT AT LOW TIDE

As he wades slowly along, the native's torch lures fish toward him; when one swims within reach, he "chops" it. Such nocturnal "fish chops" are often accompanied by hilarity. Friends gather on the beach to watch the "choppers" and build a bonfire of driftwood, about which all assemble to eat, drink, and dance.

bait, and use a garden hose to drive them out of holes they dig in fancy lawns, hitting them with a machete as they come out.

Crab armies of thousands will march, often for miles, to reach the sea at spawning time. On these marches no wall or fence can stop them; over they scramble. Crossing a road they are sometimes so thick you can hear them crunch under the wheels. In one night they can utterly destroy a tomato patch or field of young corn.

Dogs, pigs, coons, iguanas, and hawks prey on them.

AT A MIDNIGHT "FISH CHOP"

A Nassau visitor's dachshund, brought from Nahant, Massachusetts, killed 23 in one day. "He dug a hole nearly 5 feet deep," said his owner. "He went so crazy after land crabs that he had a breakdown, and I had to lock him up."

Starting from Nassau one cloudy night we went to a "fish chop." On a lonely beach some miles away we found about 50 black men and women dancing wildly about a bonfire to the rhythm of rude drums and mournful music blown on a twisted conch shell.

Soon a few men, their trousers rolled up, a torch in one hand and a machete in the other, waded out into the shallow water and, to my astonishment, began to kill fish. These fish, attracted by the flare, would swim close to the men, who promptly hit them with their long, sharp knives. It was all very simple. Not half so exciting as the dance on shore! That got wilder and wilder toward midnight. Now and again the music halted, while the drums were held

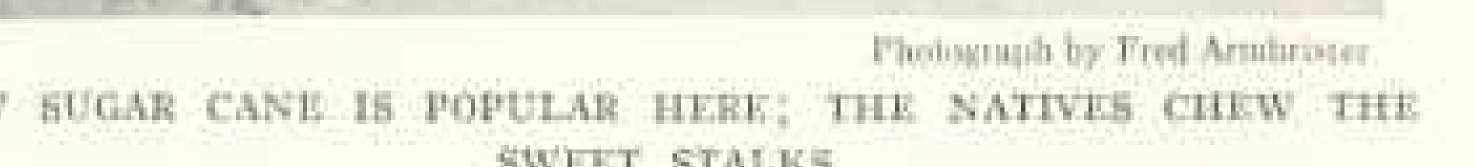
Photograph by Stanley Toogood

LIKE A CHICK EMERGING FROM AN EGGSHELL, THIS CHILD SITS IN A GIANT SPONGE

Few sponges grow so large. This one measures six feet in circumference. When thoroughly saturated, it was found to have soaked up 16 gallons of water! It is of the "wool" variety, a high grade used for bathing.

Photograph by Fred Armbruster

RAW SUGAR CANE IS POPULAR HERE; THE NATIVES CHEW THE SWEET STALKS

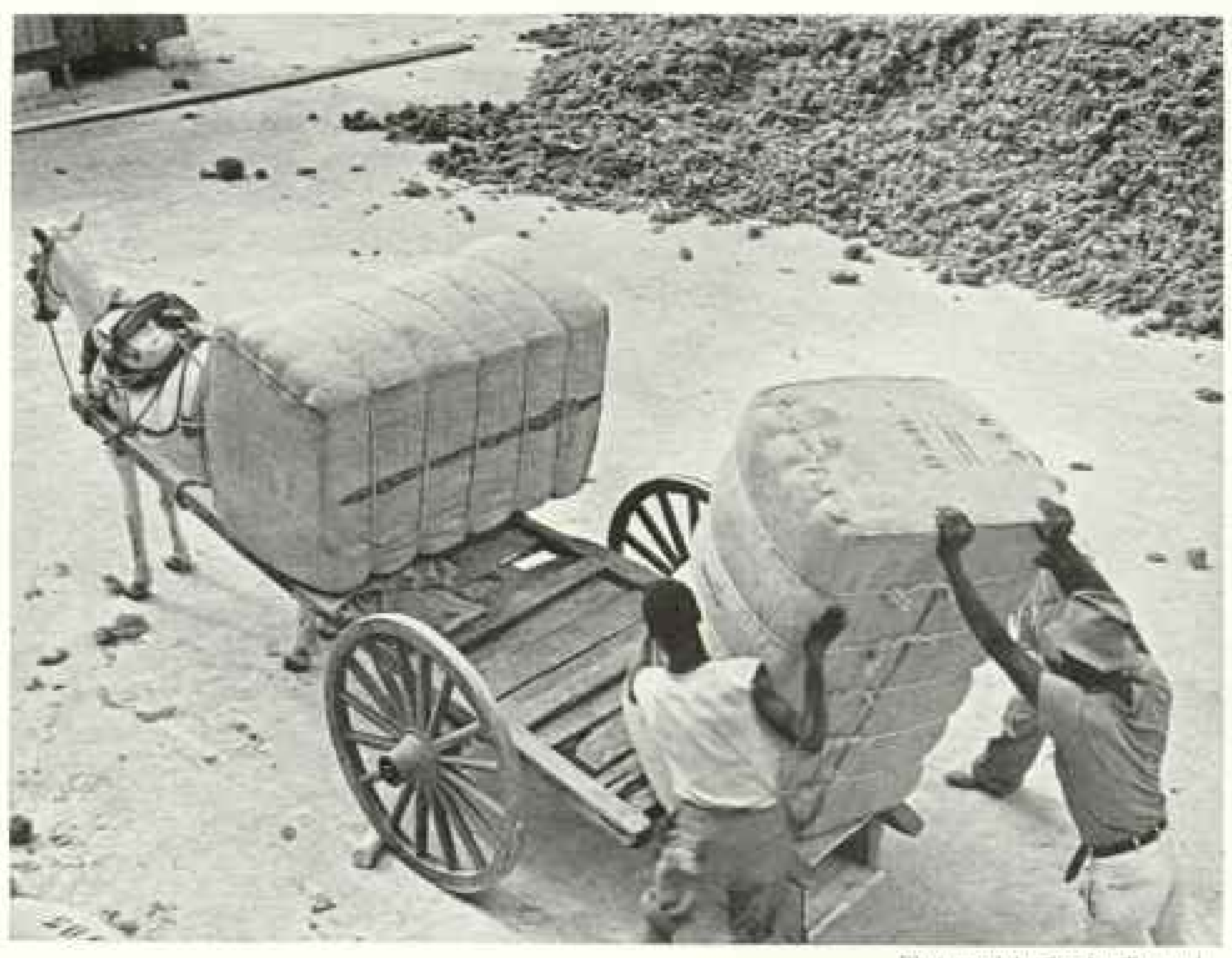


"I want to see the public market," is the Nassau visitor's first demand. On display are home-made brooms, baskets, and matting. Back in the sheds are fruits, vegetables, fish, with a few live goats, pigs, and sheep.

Photograph by Fred Armbrister

AROUND NASSAU MOST BAHAMA KITCHEN WORK IS DONE OUT OF DOORS, FINE WEATHER BEING ALMOST CONSTANT

First the big oven is heated by burning charcoal in it. Then—as the woman at the left is doing—this burnt charcoal is raked out and the food to be cooked placed inside. This kitchen is elaborately furnished in comparison with many, where only two or three battered old pots and pans may comprise the housewife's al fresco equipment.



Photograph by Stanley Toogood

THE BALES LOOK HEAVY ENOUGH TO BREAK THE CART, BUT THEY ARE "LIGHT AS SPONGES"

By-product only, in the form of waste clippings left when commercial sponges were trimmed, fills these bales. Such clippings make good fertilizer, and many fruit growers on the Out Islands buy them for this purpose. In other places kelp and seaweed are used as fertilizer.

near the fire to tighten their heads. Then it would resume, with both men and women whirling and leaping and gyrating in maddest abandon. They shrieked, too, and sang in frenzy. Sometimes an old crone would cry, "Come down, Mary! Come down!" They were still at it when we left.

As in other British West Indian isles, time was when agriculture flourished here. Ruins of old plantation homes, with abandoned, brush-grown fields, testify to this. Cotton, sisal, and pineapples were, in turn, grown on a big scale. To a limited extent, tomatoes are still grown and sold abroad. But flour, meal, meat, lard, potatoes, and eggs—many foods—must be imported.

Nassau would go hungry in a week, particularly its hotel guests, but for the regular boats from Florida.

Drive around New Providence Island, keeping to the left, English fashion, and you are struck by its emptiness. Fly over Andros, or Abaco, and it is the same.

Yet on the Government's experimental farm, near Nassau, food plants, fruits, and tobacco grow luxuriantly. Likewise, on the Harold Christie model farm, where holes are dynamited in the limestone to set out trees, you see how richly farm labor can be rewarded—when man will really work.

"From all over the tropic world, food plants, fruit trees, and flowers have been brought here," said the Honorable Harcourt Malcolm, Speaker of the Island Parliament. "Captain Bligh, of 'Mutiny on the *Bounty*' fame, survived all his mishaps and finally got to the West Indies with his breadfruit plants. Half the things in my garden are not native to the Bahamas. But, to grow them, we must *work!*"

Malcolm's home, built 200 years ago, with old slave quarters near by, is typical of pioneer English architecture in the West Indies—spacious, airy, with wide shaded verandas. In Nassau, too, the "jalousie" is common to most old houses, a slanted

Photograph by Fred Armbrister

SAILORS ALL, SINCE THE FIRST SLAVERS KIDNAPED THEM FROM THE COASTS OF AFRICA

How like an old carved figurehead seems the man on the bobstay, ready to catch the buoy! Many Bahama natives are proud of their family trees, and know from which African tribe they are descended. At a church fair in Nassau a few old women entertained the author by talking and singing in their ancient African dialects.

wooden shutter that guards against both bright sunlight and hard winds.

It was the Spaniards who introduced sugar cane and limes; yams came from Africa; mangoes from India, and the shaddock from China. Avocados came by way of Cuba; guavas from Jamaica, and the genipap from Trinidad. Yet the Bahamas are not among those lush, legendary isles with native fruits so plentiful that one may "kick his breakfast off the trees." Agriculture is sadly neglected.

"The sea is to blame," people say. "Its fish, conchs, and crabs are too easy to get."

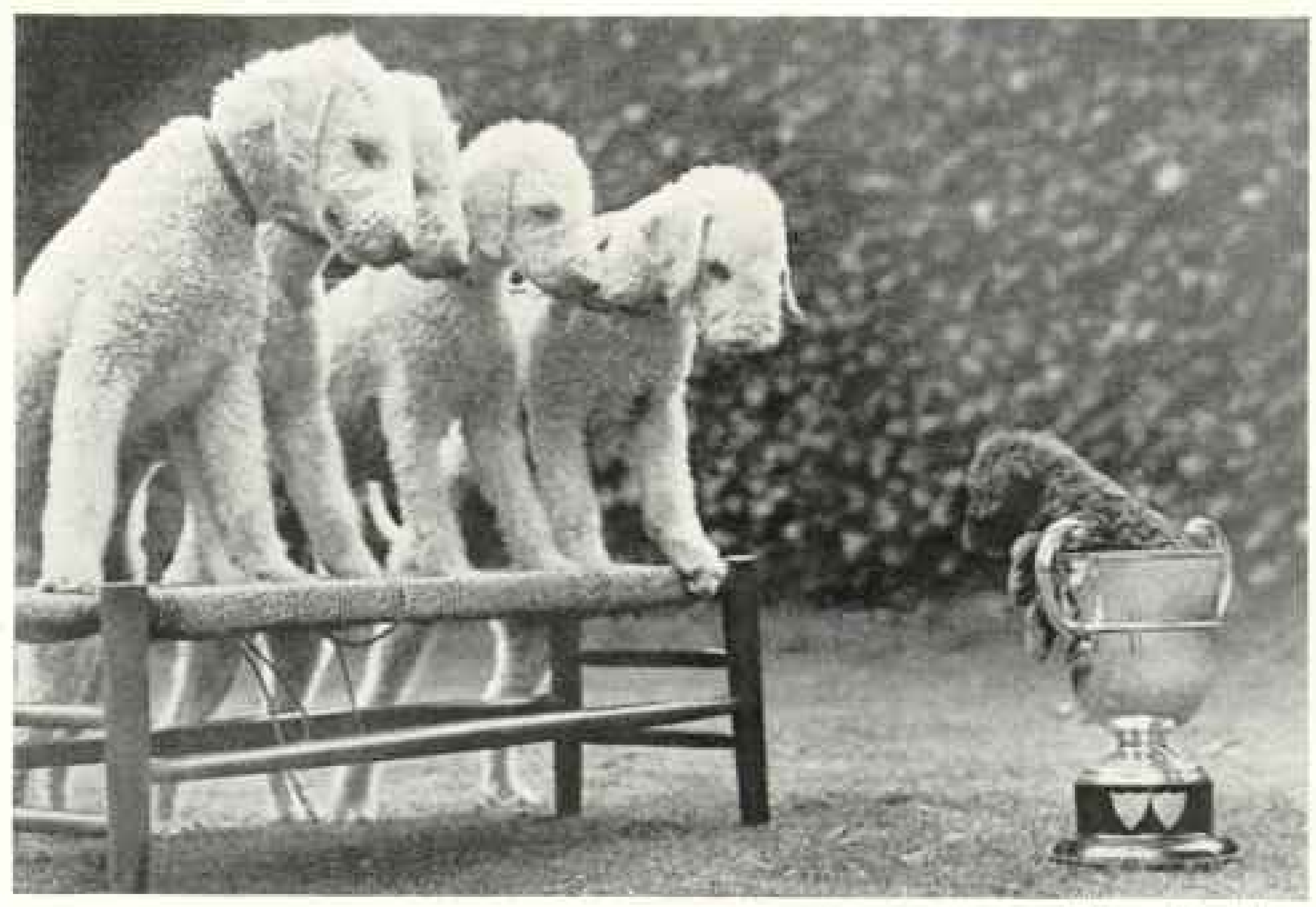
In spite of easy-going ways and surface playground aspects, Nassau enjoys a cultural life not readily apparent to transients.

Here is a newspaper which one family has owned and published, without interruption, for an even century.

In an attractive octagonal structure, built as a prison, the Public Library has been housed since 1879 (see page 226). Into this edifice pours a constant stream of black children as well as white patrons to enjoy the 10,000 books and the reading tables carrying periodicals from the English-speaking world.

All over the islands are churches of many faiths; the singing of hymns is a common pastime. Nassau is still the seat of a bishopric. The church of St. Agnes, at Grant's Town, is of special interest. In it is an old oaken lectern brought from St. Giles, Oxford, where lessons were read from it by Gladstone and other distinguished Englishmen.

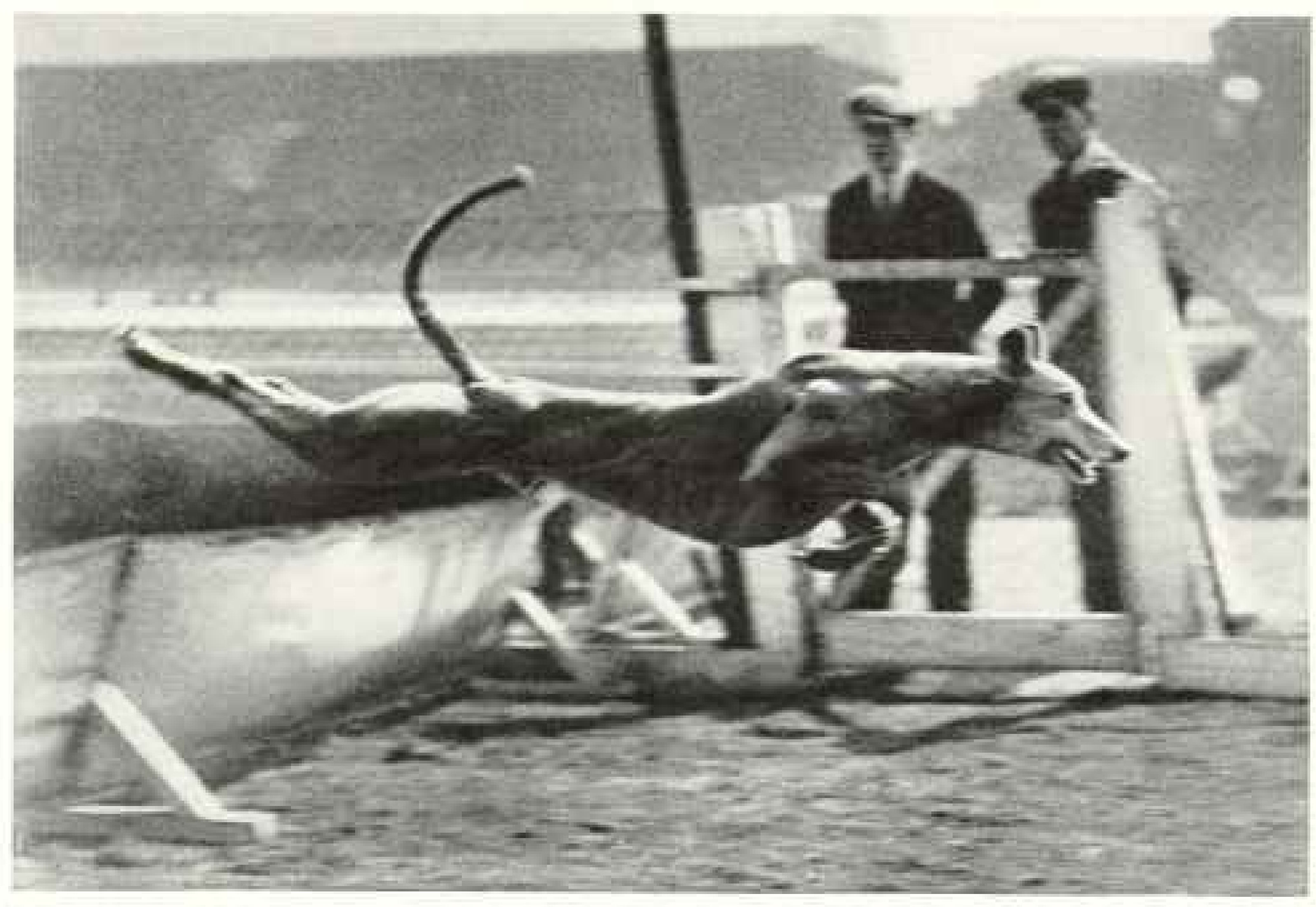
It is a long way from Nassau to some of the Out Islands. But everywhere there is good order and respect for authority. To these scattered British subjects, Nassau, the capital, though many never saw it, is a world center of beauty, wealth, and culture.



Photograph by Globe

FOUR PRIZE-WINNING BEDLINGTONS HAVE A LOOK AT A NEWCOMER

"Can this be any relation to us?" they well might wonder as they gaze at the dark-colored puppy sprawling in the cup they have won, for terriers of this breed begin as brunets and become more nearly light blue or blond as they grow older. These are English-owned (Color Plate II).



© Fox Photos

STREAMLINED FOR SPEED, A RACING GREYHOUND CLEAVES THE AIR LIKE A SWALLOW

Dainty Dick, one of the swiftest of English dogs, flies over the hurdles at Harringay, in the environs of London. Immensely deep-chested, long-limbed, and graceful of build, these marvelously efficient racing machines seem barely to touch the ground.

MAN'S OLDEST ALLY, THE DOG*

Since Cave-Dweller Days This Faithful Friend Has Shared the Work, Exploration, and Sport of Humankind

By Freeman Lloyd

IF THE dog, in his centuries-long association with man, had never saved a life, rounded up a flock of sheep, helped track down meat, or pulled a polar sledge, this oldest friend of the human race would still have given full payment for his room and board.

From that ancient partnership the man has benefited fully as much as the animal. By throwing in his lot with his caveman neighbors, the dog of prehistoric ages did much to give his two-legged ally dominance over the beasts and helped speed human progress.

Without dogs the geographical poles could not have been reached until the era of discovery by airplanes; and even today, says Admiral Byrd, "dogs are the infantry of polar exploration."

Dogs do the shopping in the Azores, pull carts in Newfoundland, Quebec, Belgium, The Netherlands, and elsewhere; they guide the blind in city streets; in countless ways, in many parts of the earth, they are helping to do the work of the world (see illustration, page 250).

Yet man's biggest gain from the relationship cannot be measured in terms of labor done. The companionship and affection of a good dog are priceless, and often the four-footed party of the second part can set its friend and overlord an excellent example in conduct and character. What man could not observe with profit the dignity and forbearance of a fine Great Dane, slow to anger though a peerless fighter?

Wherever man has traveled, his dogs have gone with him.

Most surprising of all, perhaps, is the world-wide sense of fraternity among the millions all over the earth who have in common a love of dogs. They "speak the same language"; all gaps are bridged; introductions are not needed. Compliment a stranger on his dog and he becomes your friend for life. "Love me, love my dog," is no idle platitude.

It has been my privilege to judge dogs under the auspices of the kennel clubs of four continents. In Australia, South Africa, Europe, and America I have made hundreds of friendships, wholly through dogs.

At the important dog shows all sorts of people meet and talk together on a common plane. In rank and station the owners vary as greatly as do the dogs themselves, which range from the tiny toy breeds weighing only a pound or two and capable of being tucked away and hidden in a lady's handbag, to lordly Saint Bernards, Great Danes, and mastiffs which may outweigh the average man.

In the London show, Lady Thus and So may be seen in animated conversation with a fish porter from Billingsgate, each with a Toy Bulldog tucked under one arm. It is only a little dog, but it is big enough to bridge the wide gulf between Billingsgate and Belgravia—or even Buckingham Palace.

QUEEN VICTORIA'S DOGS "COMMUTED" WHEN THEY WERE EXHIBITED

Queen Victoria was a lover of dogs, particularly the Scottish breeds, including collies and Skye Terriers (see page 271).

Never would the Queen allow her dogs to sleep a single night away from home. Once when the Queen's dogs were being exhibited in London, I commented to Her Majesty's kennelman, a worthy Scotsman, on what I think I called "such nonsense."

"Aye," said he, "but what are ye goin' to do when Her Majesty herself says ye're to do it?"

Needless to say, the royal canines continued to attend that dog show as commuters.

When King Edward VII died, a small white dog was led along behind the gun carriage on which the body was borne. It was the Monarch's pet Wire-haired Fox Terrier. On the collar were the words, "I am Caesar, the King's Dog."

* With this article The Geographic begins a notable series of dogs of the world, with paintings by Edward Herbert Miner. The next article and color plates will appear in an early issue.

Photograph by Bernard F. Rogers, Jr.

PALS IN IRELAND

Tousle-headed youngster and Wire-haired Fox Terrier happen to live at Shankill, near Belfast, but such a picture of a happy boy and dog could be duplicated almost anywhere in the world. The lad was busily washing his pet in the river when the photographer happened along.

Queen Alexandra's Clumber Spaniels were among the best in England, and this breed and blood are still maintained at Sandringham, the sporting residence of King George V.

Nothing pleased President Theodore Roosevelt so much as the music of a pack of mountain lion or bear-hunting hounds. President Wilson had an Old English Sheep Dog. President Harding was a lover of Airedales. Notable ornaments to the White House during the Coolidge administration were the Scotch Collie, Rob Roy, and Tiny Tim, a white Eskimo Dog.

The Hoovers brought to the Executive Mansion a venerable German Shepherd Dog, and other noteworthy White House dogs during their occupancy were a beautiful Gordon Setter and a big Norwegian Elkhound. Pets of President Franklin D. Roosevelt and his family have included Major, a German Shepherd, and Meggie, a Scottie.

Bismarck was fond of Great Danes. Former Kaiser Wilhelm II favors dachshunds.

"THE KING AMONG DOGS"

Once in South Africa an upcountry trader traveled a thousand miles to see me, offered a large sum of money, and asked me to locate and purchase for him two of the best and noblest Great Danes to be found anywhere.

"They are for a great chieftain," he explained. "The last time we outspanned at King Lobengula's kraal he wanted our Great Dane—a dog we had borrowed from some German transport riders. Our own dog had been killed by a lioness. So we told Lobengula we could not give away anything that did not rightly belong to us.

"Then it was that he became insistent and tried to cajole us into selling Satan, for that was the dog's name. He offered to fill our two wagons with ivory and give us all the women we wanted to sell as slaves to the Barotse.

"But why does Lobengula offer so much for these dogs?" I questioned him.

"Because he regards the Great Dane as king among dogs," was the answer. "It keeps its head high and takes no notice of the miserable, barking native curs. Such a dog would befit the majestic presence of Lobengula, King of the mighty Matabele!"

Photograph by Edwin Levick

UNDER THE BRIGHT LIGHTS OF MADISON SQUARE GARDEN GATHER THE COUNTRY'S CANINE "FOUR HUNDRED"

At the annual Westminster Kennel Club Show in New York's famous arena, thousands of the Nation's finest dogs, plucked and groomed to perfection, with high-sounding names and pedigrees as long as the judge's arm, compete for the championship of their breeds and for the coveted title, "Best Dog in Show." In the nearest rectangle the Irish Setters and Saint Bernards are being judged. In London the great dog shows are those of the English Kennel Club at the Crystal Palace, and Cruft's, at Royal Agricultural Hall.

Upcountry, in Western Australia, we came across a black fellow and his three "gins"—his wives or "lady friends"—fast asleep near the embers of three fires. Cuddling among their savage companions were a pure-bred greyhound and a well-bred Smooth-coated Fox Terrier.

SAVAGE PICTURE FROM THE PAST

Men, women, and dogs had evidently been hunting together, and the stomachs of the feasters were distended with food. Against the trees stood four long, slender spears with jagged notched hardwood points. Here was a living picture of primitive savages with their canine allies.

Unquestionably the two fine dogs, perhaps registered in the official kennel studbooks of Australia or some far-away land and now gone native among possibly the lowest type of the human race, had been stolen by those aborigines for the express purpose of hunting. The greyhound, they knew instinctively, would be especially useful in overtaking and "sticking up" even the largest of kangaroos. Its speed is equal to that of any of the marsupials.

The dog was not expected to kill the

Photograph by Caroline Robleson

HELPING TO DO THE WORK OF THE WORLD

Polar regions are not the only parts of the earth where dogs serve as valuable beasts of burden. This dog express is in service near Salzburg, Austria, and similar sights can be seen in Newfoundland and elsewhere. In Ponta Delgada, in the Azores, big shaggy dogs are trained to carry a basket and a list to market and do the family shopping.

quarry; its jaws and pluck would be of no avail against the ripping and disemboweling claws on the hind feet of an "old man" kangaroo. The greyhound was to hold the animal at bay until the hunters could come up and kill it with their crude spears, just as they must have done thousands of years ago in the prehistoric stage of the time-honored man-dog relationship.

As the hair from a lion's mane is an insignia of the greatness of the Ethiopian emperor or noble who wears it; as the leopard's skin in all its spotted beauty may be worn only by Zulus of royal blood, so the hair of a dog is a mark of chieftainship among the Maoris of New Zealand.

"When our fathers, in their canoes, were lost at sea for weeks and were starving, they would not slaughter and eat their dogs," a Maori told me.

"They reasoned that, wherever they might be driven ashore, the dogs would warn them against the presence of hostile humans and wild animals," he said. "Such faithful guards could not be spared."

Men of all nationalities I have encountered, the hunters especially, are dog lovers and dog dealers under the skin.

In Africa I once was the only white man in a "gallery" of Zulus and observed their choices among a score or so of whippets. In their analysis of the build and probable speed of these fleet dogs, they were as keen and shrewd as trained judges in the dog shows of civilization. Of course, in parts of Africa and Asia swift greyhound-like coursing dogs have been used for centuries.

HOUND-AIREDALE CROSS FOR LION HUNTING

No doubt men early realized that by breeding they could produce different kinds of dogs, each suited to a specific purpose. In later years this process has been carried to remarkable lengths of refinement.

An intelligent breeder, if given time, of course, can produce almost any type of dog. He can choose not only physical features—a strong jaw, a good nose, long legs for speed, or short legs and long body for following prey into holes—but traits of character, such as courage and persistence.

Photograph by Willard R. Culver

CANINE CATERERS GIVE "TABLE D'HÔTE" AND "À LA CARTE" SERVICE

This ultramodern business, carried on in Washington, D. C., and duplicated in many other cities, supplies Fido with a balanced ration delivered three times weekly on paper trays covered neatly with waxed paper. Table d'hôte service calls for meat and vegetables six days a week, fish one day. À la carte service caters to the dog that does not like spinach or perhaps has a particular passion for beets. Then, too, there is a demand for bones and, recently, for cottage cheese. Most dogs like the latter, and owners find it especially good for light feeding in extremely hot weather.

When the late Paul Rainey a few years ago formed the project of hunting lions with dogs in East Africa—a practice, incidentally, that is now forbidden by law—he tried crossing American hounds with American-bred Airedales, and ran the crossbreeds together in a pack with pure hounds and Airedales.

The result was highly successful. The hound has the better nose, but it is not a particularly plucky dog. The Airedale, itself a blend of hound and terrier, is game and aggressive, and makes a good attacking dog. Face to face with even the biggest of cats, it had the courage to hold the quarry at bay until its armed master could reach the scene.

The Spanish pointers, when introduced into England, were considered too slow in pace; they dwelled on the scent and consequently were spoken of as "potterers"—dogs which made much ado about little or nothing. So the Spanish pointers were crossed with foxhounds and greyhounds, and a breed of faster-going pointing dogs was produced, those which today are the most numerous of the short-coated gun dogs and are known as English Pointers.

NOT EVEN THE BARK NEGLECTED

In developing dogs for every possible purpose, breeders have neglected no feature or trait, not even the bark. In certain breeds the bark has been literally bred out of the dog. Generation after generation, it has been taught to be mute, generally because its chief use was for still-hunting and a bark, howl, or whine would give the alarm.

Good gun dogs—the setters, or large land spaniels, and the pointers which freeze into a statuelike "point" at the hidden game birds located by body scent—hunt stealthily, without a sound. But that characteristic was not acquired quickly or painlessly.

During the Middle Ages, when much time was devoted to the chase, the progenitors of our present-day hunting dogs were developed. Our modern pointers and set-

ters work so silently and efficiently largely because their remote ancestors suffered many a whack from rough medieval hands every time they opened their mouths.

The Springer Spaniel, perhaps the most popular all-round shooting dog of the present time, was originally one that gave tongue while hunting. In Pembrokeshire, Wales, the county of my birth, I once knew a man who had a fine kennel of Springer Spaniels, a breed that gets its name from its skill in flushing, or "springing," pheasants and other game birds.

Sometimes one of his Springer Spaniel dogs, in the excitement of the hunt, would forget itself and give tongue. On returning home that dog would be destroyed. The owner was determined to develop a breed of soundless or "mute" hunting dogs, and was not averse to harsh methods to gain his end.

At a recent Virginia field trial for spaniels a springer gave tongue while hunting a pheasant. It was only the tiniest hint of a bark, emitted by a highly strung animal in a moment of excitement. Yet, for a springer aristocrat, even that small sound was an unpardonable breach of etiquette, and a black mark was probably placed against him in the judges' book.

Other dogs are silent while in action, though perhaps for different reasons. The fighting dogs of the old English dog-fight pits—Bull Terriers known as "business dogs" among followers of that brutal game—fought to the death without an outcry. It seems logical to think that this characteristic was developed for efficiency. While it is not true that "a barking dog never bites," it is impossible to do both at the same instant. The dog that barked instead of biting lost its hold or its opening, very likely its life.

Speed is the greyhound's specialty, and here, too, the bark seems to have bowed to efficiency. Greyhounds and whippets will bark before the start, but if they bark while racing they are looked upon as having some alien blood in them. These slender speedsters, like a whiplash in action, run by their legs and eyes and not their nose, as do other hounds; and every ounce of breath must be turned into speed, not noise (page 246).

Unlike the pointer or setter, which gallops along with head high to catch the body scent and is sternly rebuked if it utters a note, a hound, while hunting, keeps its nose to the ground and is encouraged to proclaim its pleasure aloud on discovery of the scent.

There are few sweeter sounds in all outdoors than the music of a pack of foxhounds in full cry. You can tell the hounds are enjoying themselves. This is the work they love; this is what they were bred for! Their stirring cry, ringing through hill and dale, tells the skilled huntsman the story of the chase, though he may be a long way off. Individual voices are recognized.

"Hark to Marmaduke!" cries the huntsman. "Hark to Hannibal! Hark to Valiant! Hark to Sorceress!"

English Foxhounds, and those used by hunt clubs in this country, too, are generally given sonorous, romantic-sounding names, oftentimes of three syllables. A friend of mine remarked that they sound like the names of battleships in the British Navy. They are effective, too. Think how much more ear-filling it is to hear "Hark to Marmaduke!" than "Hark to Bob!" or "Hark to Jim!"

THE CHOIR OF THE HOUNDS

In the choir of the hounds, if all could be running together, the bass would be the deep-throated bay of the bloodhound and the otterhound. It is impossible to express that deep, booming, resonant note on paper.

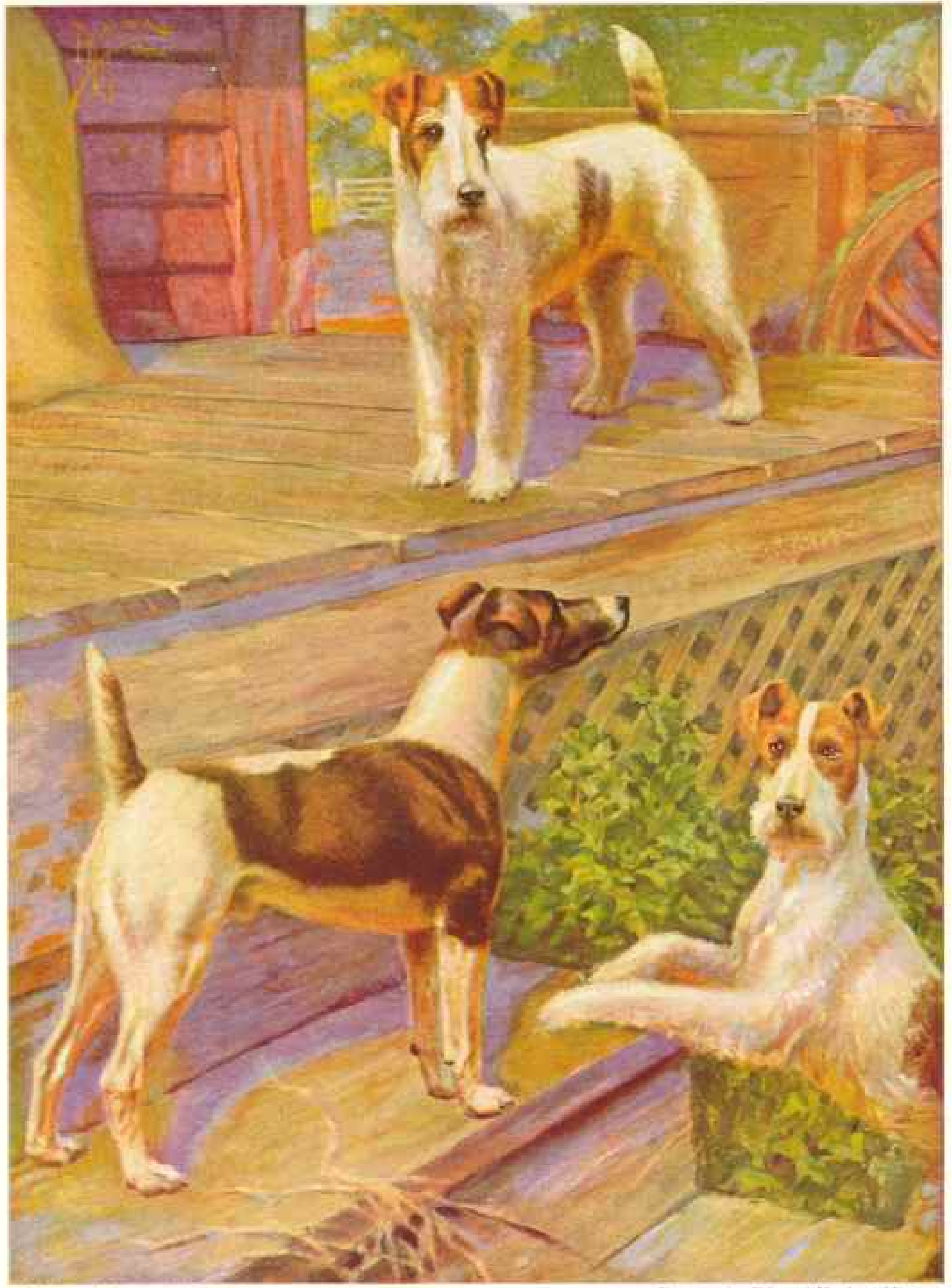
Next in order come the baritones of the pack: the French Hound, the old English Harrier, and the American Foxhound. Their voices reveal that all have some bloodhound in them. The American Foxhound is descended from the pack of French Hounds brought to this country by Lafayette and presented to General Washington.

These hounds, of Norman blood, were bred with English Foxhounds, such as those brought here by Lord Baltimore of Maryland and other sportsmen of colonial days.

English Foxhounds, their voices a bit higher pitched, might be likened to the tenors in the choir, and the beagles, with the highest note of all the hounds, are up toward the soprano end of the scale.

Any real dog fancier can usually tell the breed of a dog by its bark without having seen it. Yet the bark of a dog is not merely a bark. It is a language which the dog lover soon learns to understand—the bark of alarm, of joyful greeting, of pain, pleading, protest, and a dozen more.

Among themselves, dogs plainly have a language, a well-understood means of communication. How many times have you noticed your dog, lying quietly at your feet



© National Geographic Society Painting by Edward Herbert Miner

FOX TERRIERS ARE SO NAMED BECAUSE THEY WERE DEVELOPED FOR FOX HUNTING

Their affectionate nature, keen intelligence, and buoyant spirits have made them highly popular. For generations they have been used as allies to hounds, to pursue foxes into "earths" or burrows which the larger dogs cannot enter. The Smooth Fox Terrier, standing on the step, is the same as the Wire-haired variety (above and right), except that its coat is not rough or profuse.

while a neighbor's dog barked steadily, suddenly prick up its ears at a subtle change, a new note in the distant barking, and rush out to look into the matter!

To a dog's amazingly sensitive hearing even the sound of a particular automobile is easily recognizable. A dozen cars may enter the driveway in the course of the day and the dog takes no notice. But let the master's motor turn into the drive and the dog is on his feet, ready to greet him.

WATCHDOG REALLY A "LISTENDOG"

Generally speaking, the best watchdogs are the ones with upright ears. They seem to be always on the alert and catch the slightest sound. As a matter of fact, the term "watchdog" seems to me a misnomer. A good watchdog is really a "listendog." Almost invariably it hears before it sees.

The most courageous is usually the one with a good deal of the bulldog in him. The mastiff, Great Dane, Bull Terrier—all are the very personification of pluck.

The phrase, "bulldog courage," has become a byword. How many persons who use the expression can picture the feats of canine heroism that coined it? Time and again, when a bull has attacked a man, a dog has saved his life by biting at the much larger animal's heel or by charging straight at its head. The bulldogs of the old bull-baiting days always attacked the sensitive nose and hung on there, unyielding, until the beast was brought to its knees.

You see the same spirit exhibited by some dogs in fighting other kinds of animals. It is said that the badger makes its teeth meet every time it takes hold. You can imagine the terrible punishment that a dog must receive in such a combat. I have seen dogs terribly maltreated by badgers and still keep fighting on.

DOG BEAUTY SHOPS AND CANINE KITCHENS

Today every conceivable agency exists for ministering to canine needs. One of the Nation's newest enterprises is the dog kitchen, now doing business in several cities. From spotless central depots little cardboard plates containing a balanced dog ration and covered with Cellophane or waxed paper are delivered each day to customers all over the city, in houses or apartment buildings, like milk or groceries (page 251).

The dog beauty shop has become an important business. Proper trimming of dogs is a fine art. Men even go abroad to study it, just as other men go to Europe to learn painting or to perfect themselves in music.

A man of my acquaintance was engaged by a wealthy dog fancier to help handle his kennel of prize-winning Wire-haired Fox Terriers. After some days he complained to his employer that the chief handlers, who had been imported, with their art, from England, would not allow him to learn their secrets. They did their plucking behind closed doors.

So my acquaintance was sent to England, at considerable expense, to learn the proper way to pluck the hairs out of a terrier's coat. Now he is one of the masters of his profession and is winning many championships for his employer.

Dog leads and chains, collars, coats, and medicines—largely for stomach trouble—all give employment and bring in large sums. Dog hotels and hospitals are numerous. Nearly all pedigreed dogs nowadays are inoculated against distemper.

Exceptional dogs, of course, sell for thousands of dollars. A Wire-haired Fox Terrier not long ago brought $6,250. The value of all the dogs on view at the New York or London shows would run into many hundreds of thousands of dollars.

DOG ARISTOCRATS HAVE INTIMATE "KENNEL NAMES"

Many persons who have noticed the lengthy, often unpronounceable, names under which registered dogs are shown in the ring may have wondered if the owners and handlers actually call them by such unwieldy titles. The answer is that they do not, and in fact the dog in most cases would not respond to the toplofty name set down in a kennel club studbook.

Back home, where he is no longer an exhibit but just a dog, he is known to his human companions by a short and intimate "kennel name." Thus, a Russian Wolfhound, Immensikoff of Drew Farm, is "Pete" at home, and will not respond until you call him that.

Sometimes at a dog show an incident occurs which reminds you that dogs are animals whose ancestors ran wild just a few centuries ago.

In a London exhibition a fine Great Dane and a splendid mastiff were chained to the same steel post. One of them must have been nervous and excited. Anyway, something happened and they flew at each

other's throats. They fought at close quarters, with fierce intensity. No man could hope to force them apart without a certainty of being terribly bitten. Back and forth struggled the two huge dogs, each weighing more than a hundred and twenty pounds.

GREAT DANE WINS BY SUPERIOR AGILITY

Before we were finally able to part them they had settled, to my mind, at least, the heavyweight championship of the canine world. The mastiff had been fearfully mauled and punished. The Great Dane had escaped without serious wounds. He had won by his greater agility. Clever footwork, like that of a master boxer, had enabled him to deal out punishment and still escape the full power of the mastiff's enormous, viselike jaws.

Photograph by Keystone

A TALENTED CANINE TRIES A HIGH NOTE

While his friends waste their time in alleys chasing cats, this ambitious terrier stays at home like a good dog and practices his piano and singing lessons. He is a Smooth Fox Terrier, a breed which is easily taught to do all sorts of tricks (see Color Plate I and illustration, page 263).

In the wild, of course, the Russian Wolfhound rarely engages its quarry single-handed. The fleet dogs are held in a leash of three and are released the instant the wolf is driven from cover and into the open. Overhauling the quarry, two of them come up on opposite sides and seize the neck of the wolf just behind the ears so that he cannot turn and bring his terrible jaws into play on either antagonist. The borzois hold this grip until their master can come up and dispatch the beast with a pistol or dagger, or muzzle it.

An instance has been reported of a single wolfhound killing a wolf, but this is very unusual and one suspects that the latter was not in the best of condition. With a full-grown, healthy Russian wolf or North American timber wolf, no dog, to my knowledge, could hope to hold its own in single combat. The wild creature's strength of jaw is too great.

AT HOME IN EVERY CLIME

Adaptable, the dog has made itself at home in every climate, in some guise or other. Naturally, its coat differs widely in warmth, depending chiefly on its habitat.

Stroll through the Dog Show in Madison Square Garden and notice the little Chihuahuas and the Mexican Hairless. They come from sunny, tropical lands and they have to be bundled up warmly against the unfamiliar cold. The tiny Chihuahuas are all dressed up in miniature fur coats!

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Painting by Edward Herbert Miner

BEDLINGTON—A GAME FIGHTER; AIREDALE—A GOOD HUNTER; AND IRISH TERRIER—DARE-DEVIL SON OF ERIN

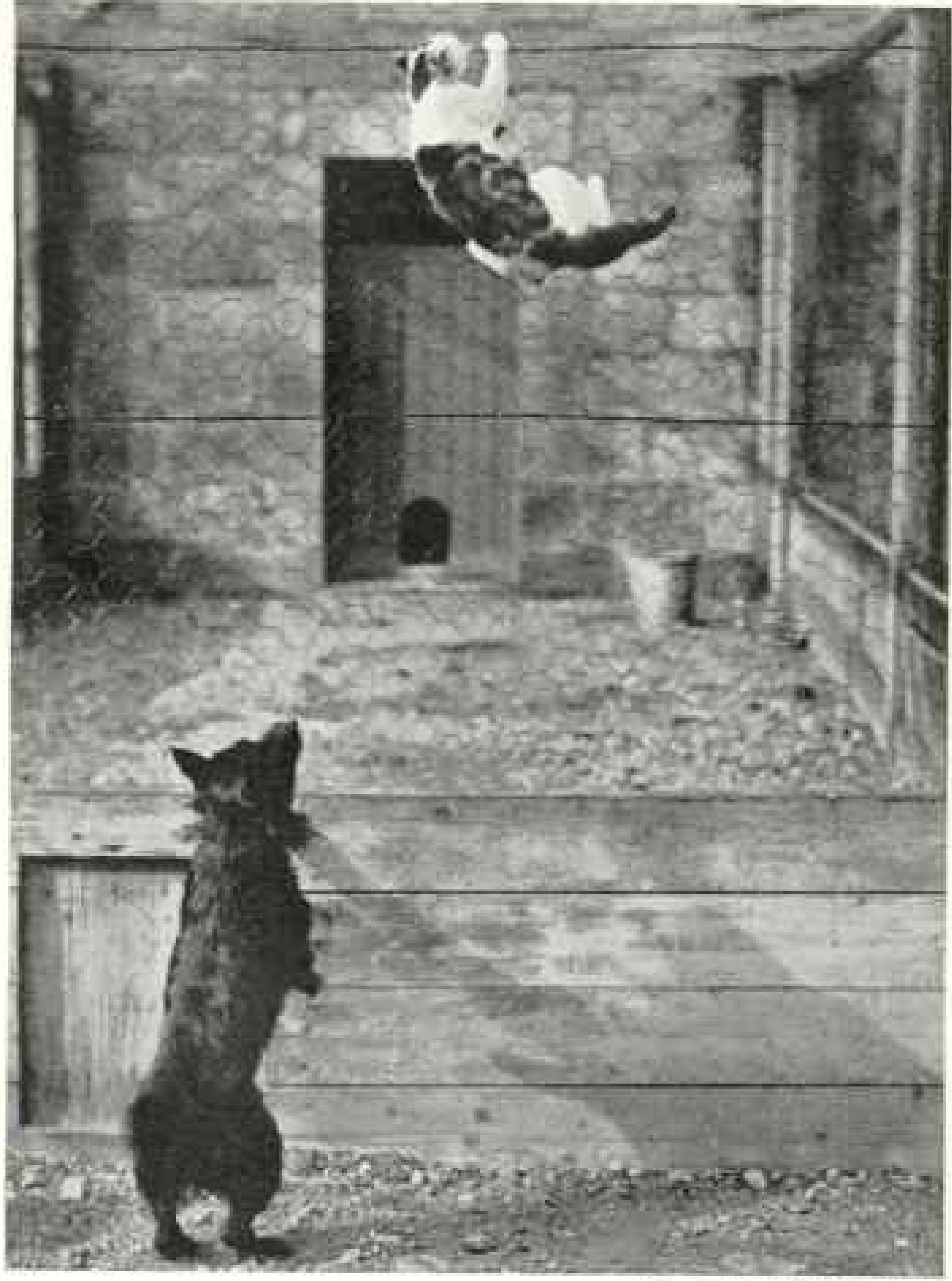
Though lamblike in appearance, the Bedlington is among the gamest of all Terriers. The Airedale, largest of the family, is very easy to train and makes a capital hunting dog. His courage is unbounded, but he is not so reckless as the hot-blooded, red-hued Irish Terrier.

© National Geographic Society

Painting by Edward Herbert Miner

"COME ON, LET'S PLAY!" A LIVELY WELSHMAN INVITES A BEWHISKERED LITTLE GERMAN

Some Terrier breeds are of comparatively recent origin, but the rugged Welsh Terrier, with his paw playfully raised (also, lower right), boasts an ancient lineage. Aristocrats, too, are Germany's Miniature Schnauzers, with their bushy eyebrows and mustaches, as on the seated dog, or the one standing (left). There are three sizes of Schnauzers: Miniature, Standard (Plate IV), and Giant.



Photograph by Charles Reid

ALMOST A CAT NIP

A Scottie whose ancestors fought small animals in Scotland obeys that impulse and "trees" a pet pussy on the wire of the chicken yard.

smaller dog, seemingly designed in size and temperament to fit into the crowded, bustling life of the metropolitan apartment and city street—in short, that engaging, companionable, lovable little creature known as the terrier.

The keen and companionable terrier takes its name from the word *terra*, the Latin for "earth." Long ago he was given that name because of the avidity with which he plunges into the burrows or recesses in which badgers, foxes, and other small animals take refuge when closely pursued by dogs.

For entering these holes, or "earths" as they are called in the language of venery, a hound is too large, but a terrier of under 19 or 20 pounds' weight and proportionate height is just the right size.

Today terriers make first-class house dogs. Alert, keen of hearing, and possessed of resounding metallic barks, they are quick to give warning of intrusion. Most of them are easily bathed and groomed and can be kept in good condition with a reasonable amount of exercise. They are of good temperament and readily recognize reproof.

However, when the terrier's anger is aroused, he will be found as brave as the bravest, for the vermin-worrying blood of his fathers still courses through his veins. As the old ballad has it:

> "The warriors of the fight are they,
> And every fight they win."

Regiments of soldiers have felt honored to bear the nickname "Terriers," recognizing a tribute to their pluck.

Several terriers bear the name of the region in which the breed originated, or where

Then observe what a tremendous furry coat and curling tail the Eskimo Dog has been given by Nature.

"HOUN' DAWG" IN COUNTRY, TERRIER IN TOWN

In the present-day United States, what, if any, is the prevailing type—the great American dog? In the country districts, I would say without hesitation that it is the well-known "houn' dawg" of every farm—a dog that is useful for hunting. Also characteristic of the country is the dog of a collie or shepherd strain, more valuable than extra farmhands for rounding up flocks and herds.

But the great dog of the American city dweller is neither one of these, but a

it was first found useful for attacking the small animals of that particular terrain. Many an otherwise obscure place has been made famous by the breed of dogs it produced.

Styles in dogs, as in dresses or hats, may change, often following the choice for "Best Dog in Show" at one of the major exhibitions. Right now perhaps the most popular dogs in New York are the Wire-haired Fox Terrier and the Scottish Terrier. Cocker Spaniels are in high favor, too. One can always tell the New York fashions in dogs by a stroll down Fifth Avenue, or Madison, or Park.

Of recent years the dachshund is becoming more and more popular. Its German name means "badger dog."

In its droll proportions, with short legs and extremely long body, the present-day dachshund reflects centuries of breeding, all aimed at producing a dog that would operate with maximum efficiency in the narrow confines of a badger "sett." The length of the ears indicates a trace of hound in its family tree.

To me, one of the most interesting things about dogs is the fact that they are not static; new breeds are developed from time to time. Within my own lifetime several valuable types have been produced, been duly registered in the kennel club books, and have added their distinctive characteristics to the cosmopolitan population of the canine world. In the case of the Sealyham Terrier it has been my privilege to render some assistance in the process (see text, page 272).

The Fox Terriers

Good-tempered and highly intelligent, the buoyant, affectionate Fox Terriers are excellent companions and are among the most popular of all the members of this lovable warrior clan (see Color Plate I).

There are two varieties, the Smooth, or flat-coated, and the Wire-haired, or rough-coated. In dimensions and build they are identical, both being of a size that would fit them to go where a fox might go to seek shelter from hounds or other enemies. A full-grown Fox Terrier should weigh from 16½ to 18 pounds, a female one pound less.

The Fox Terrier is strictly a British dog in its origin, but apparently it was not always of white color. About a century ago, a dog of this breed was sometimes referred to as a "white 'un." This colloquialism probably meant that a cross of a white terrier of some kind had been used and that a "white" Fox Terrier was of a different color from most of its forbears, some of which had been black and tan or blue and tan.

A beagle or small hound cross of blood probably accounted for the popular black-and-tan-marked Fox Terriers of 70 or more years ago. Furthermore, in those days, these dogs had larger ears.

Fox Terriers today are admired and greatly valued in all countries. The highest price given for a "Wire" was $6,250 for the English champion, Eden Aristocrat, the purchaser being an American.

In choosing a puppy, experts pick one with a long head, small ears, and hard-feeling coat.

Bedlington Terrier

The Bedlington Terrier takes its name from the town of Bedlington, in Northumberland, England, where this dog was first produced by miners of the district (see Color Plate II and page 246). It is believed to have been bred from a cross between a whippet and one of the terriers of Scotland—possibly of the Dandie Dinmont breed (Plate V).

Its lamblike aspect belies its rugged background and its courage, for the Bedlington is one of the bravest of all the terriers. Behind it lie generations of association with the mining folk in an atmosphere where dog fighting, rat pits, and other rough pastimes involving dogs flourished.

A modern dog of this breed, reared under the ordinary and kindly conditions of the home, should not display a fighting temperament. Still, the pluck will be in him should there be occasion for aggressiveness.

As a non-bench-show dog, the Bedlington grows considerable coat; but for exhibition purposes the coat is plucked or stripped off until little of it remains.

The form of the Bedlington's body suggests the whippet cross, the arched loin and deep brisket being greyhoundlike. The general shape of the head, observed from the sides, is commonly referred to as "fish-like." The skull is high at the occiput and a topknot of wool or lintlike hair is considered highly typical. This point is artificially enhanced by the trimmer, who plucks the hair from the cheeks and other parts of the face. Long- and strong-jawed, the Bedlington is a capable dog, and its

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Painting by Edward Herbert Miner

DESPITE THEIR BABY FACES, WEST HIGHLAND WHITES ARE AS GAME AS STANDARD SCHNAUZERS OR LAKELAND TERRIERS

They have coarse white hair and were bred for the hard, dangerous job of driving foxes and badgers from rocky cairns. These plucky little dogs date back, some say, to the time of James I, son of Mary Queen of Scots. The alert Lakeland Terrier (left background) is one of the oldest fox-hunting varieties, but has only recently been introduced into America. In the foreground is the Standard Schnauzer.

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Painting by Edward Herbert Miner

BULL TERRIERS ONCE FOUGHT FOR A LIVING; DANDIE DINMONTS GOT THEIR NAME FROM A BOOK

Produced by crossing the white English Terrier and Bulldog, the Bull Terrier was developed and trained to be a canine gladiator in the old "sport" of pit-fighting. Still regarded as the most dauntless of his tribe, his fine manners and glistening coat have gained him a nickname, the "White Cavalier." The Dandie Dinmont Terrier was named after Sir Walter Scott's sporting-farmer character in the novel "Guy Mannering."

professional callings as a fighter and vermin-destroyer are kept in view by dog fanciers.

A Bedlington male, when measured from the top of the shoulders (withers) to the ground, should stand from 15 to 16 inches. Weights: males, 24 pounds; females, 22 pounds.

The colors are blue, liver, and sandy. The blues and blue-and-tans have black noses; the livers and lighter-colored dogs, yellowish or flesh-colored noses. The coat is hard, and the nose and eyes should follow the color of the coat. The tail is fine and tapered to a small point.

Airedale Terrier

Big for a terrier, companionable, and afraid of nothing, the Airedale makes an excellent all-round dog (see Color Plate II).

This upstanding canine citizen takes his name from the dale or valley of the River Aire, in Yorkshire, England, where he is said to have been originally produced from a cross between a hound and a terrier. His fondness for the water seems to betoken some otterhound in him, and the Airedale has long been considered an ideal dog for river or creekside hunting.

The Airedale of the present has been bred to a uniformity of type wherein little or none of the hound strain may be recognized, whereas the terrier type is predominant.

The breed has been found hardy and able to withstand the extreme cold of northern Canada, and the high temperatures of Africa and Australia.

In all of those places Airedales are successfully employed as hunting dogs, and northern trappers sometimes use them as sledge dogs.

As a bench-show dog the Airedale is popular; as a companion and guard he is reliable, brave, and capable, becoming aggressive without being noisy.

There are few dogs which command higher prices than first-class specimens of this breed. For many years the best of foreign-bred Airedales have been acquired by persons living in the United States.

The color of the Airedale's body is black, while the head is of a tan shade except for dark markings on each side of the skull. The ears are of a darker shade. The legs up to the thighs and elbows are tan.

Of late years the Airedale has become taller and slimmer in appearance; furthermore, there appears to be less biting or worrying power in the head—which, in my opinion, may in time prove a serious detriment to this dog's usefulness and worth as a rough-and-ready hunting dog.

The average weight of the full-grown male is around 45 pounds; the females may be about three pounds less. When choosing a puppy, pick one that is distinct in black color with tan markings. Long heads, dark eyes, and small ears are preferred. Choose the long, straight, and black body coat rather than the short and shining coat. There should be no white on the chest or the toes.

Irish Terrier

A true "fighting Irishman" when need for battle arises, this native of the Emerald Isle is looked upon as among the gamest and bravest of all terriers (see Color Plate II).

Irish Terriers became popular in England and America around the early eighties of the last century. Many of the importations arrived from Belfast, and in those days the ears of the breed were cropped.

As a hunting and vermin-destroying dog, the Irish Terrier was in general use over all Ireland. His red-wheaten color and high spirits soon claimed attention in other countries than his own; indeed, he has long been one of the outstanding terriers, both in numbers and in popularity, at shows in both hemispheres.

The leading prize-winners have from time to time been acquired by Americans. Today the cream of the breed is here.

Very smart in appearance, this dog not only stands higher but weighs considerably more than a Fox Terrier. An adult male may weigh about 26 pounds; the female about one pound less.

Rich red is the preferred color. There should be no dark shading intermixed with the all-red color of body, head, legs. The coat must be wirelike in texture and free from curl. White markings on chest and feet should be avoided. The ears are small and V-shaped, the eyes dark. Pick the puppy with a long head and a flat skull.

Welsh Terrier

The Welsh Terrier, though its lineage is long, was not classified as a distinct breed until about 1885, when it was placed in the official Kennel Club studbook of England (see Color Plate III).

Photograph by Globe

"SCOTCH" IS THE NAME OF THIS PERFORMING PET

His mistress, a resident of Eynsford, Kent, England, explained that she called her Smooth Fox Terrier that because he goes well with soda. When she squirts a siphon of soda water, Scotch leaps into the air to meet the stream.

Old sporting paintings and prints disclose that the Welsh Terrier belongs to the family of black-and-tan or grizzle-and-tan-colored, hard-coated small dogs, which were described as "kennel terriers" among sportsmen, particularly fox hunters. Two or three of these kennel terriers lived along with the hound packs in their kennels and became necessary auxiliaries to the hunting establishment. Running with the hounds, they were employed for going underground after the fox.

The Welsh Terriers, as seen in the middle eighties and as late as 1893, when there were 93 entries at a Liverpool, England, show, were stronger and somewhat coarser dogs than are the best specimens of the present time.

The Welsh Terrier in time became less aggressive in appearance and took on more of the Fox Terrier style of head, with the latter's clean-cut outline rather than the bulky cheeks, the bumps, that denote jaw strength. It was commonly reported on both sides of the Atlantic that Welsh Terriers about the year 1903 had been crossed with the Wire-haired Fox Terrier.

The chief colors are black and tan, or black, grizzle, and tan, the black covering the whole of the body. There should be no black markings or pencilings on the toes. A 20-pound male would stand about 15 inches at the shoulder; females less. Average weight for males is 18 to 20 pounds; females, 17 pounds.

Bright, smart, and affectionate, Welsh Terriers are deservedly fashionable as companions.

Miniature Schnauzer

Schnauzers come from a long-established German breed. There are three distinct sizes—Miniature, Standard, and Giant. The Miniature Schnauzer (Plate III) has been produced by selection and by crossing with the small black Affenpinscher.

The name schnauzer is derived from "Schnauze," meaning "snout" or "muzzle."

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Painting by Edward Herbert Miner

"CATCH IT, JOCK!" A SCOTTIE KINSMAN SEEMS TO SAY, WHILE TWO LONG-HAIRED SKYES DISDAIN THE FUN

Though Scottish Terriers may appear solemn and dignified, they love to romp and play. Their dark, coarse coats contrast with the silky hair of the Skye Terriers. The latter, named for the island of Skye, are the longest in body of Scotland's "earth dogs." In Edinburgh a memorial commemorates a famous Skye, "Greyfriars Bobby," reputed to have stood guard at his dead master's grave for ten years.

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Painting by Edward Herbert Miner

HANDSOME MANCHESTER AND KERRY BLUE TERRIERS BELONG TO PURE OLD BREEDS

Wholly British in ancestry are the sleek Manchester, or Black-and-Tan Terriers. Spirited and vigorous, they were trained as rat killers for the old-time rat pits. Nowadays they serve as delightful companions. The Kerry Blue is pure Irish. Only recently recognized in America as a show dog, this Terrier with the blue coat, well-knit body, and all-round sporting prowess has won enthusiastic admirers.

The stubby whisker and mustache are characteristic and admired.

These handsome, sensible little dogs are smart, sharp, aggressive, well fitted to serve as rat or other small vermin killers.

As cropping the ears is being abandoned, it is certain that breeders of the future will develop smaller-eared Miniature and Standard Schnauzers. Already a smaller ear flap or cartilage is being produced in English-bred schnauzers of medium size.

The height of the Miniature Schnauzer should be 10½ to 13½ inches for males and 10 to 12½ inches for females. The color should be "pepper and salt" or similar equal mixtures, red and pepper, pure black, and black and tan. The tail is liked by judges when it is cut down to three joints—about one inch. The coat should be hard and wiry in texture.

Standard Schnauzer

The Standard, or medium-size, Schnauzer is the dog which is commonly called simply the schnauzer, without any qualifying foretitle (see Color Plate IV and text, page 263).

The schnauzer breed's lineage goes back hundreds of years. In Stuttgart, Germany, stands a statue of an old-time village watchman with his schnauzer dog. Some writers declare the breed has come from the moorland dog, "an older contemporary of the Bronze Age dog, whence were derived the spitz and the poodle." But there is little or no likeness to either in the schnauzers of today.

Since the schnauzers usually are of the same colors as the rough-haired, blue-and-tan or grizzle-haired hounds of central and southern Europe in the Middle Ages, some relationship may have existed between the two breeds. Just as the hound blood has been largely bred out of the English Airedale Terrier, so could any alien hound strain have been dismissed from the ancestors of the schnauzers.

What the Airedale is to Britain, the schnauzer is to Germany. Certain resemblances in the colors, coats, heads, ears, bodies, weights, and usefulness in a way connect the schnauzer with the Airedale of England, and perhaps with the terriers of Ireland—both the Irish Terrier and the Kerry Blue Terrier of the Emerald Isle (see Color Plates II and VII). Certain it is that the three dogs could be employed for exactly the same services. They make splendid watchdogs and vermin killers. In a ducal kennel in Scotland, many Standard Schnauzers are maintained because of their excellence as rabbit hunters.

The first of the breed exhibited in America was owned by the late Mr. D. Murray-Bohlen of Chestnut Hill, Philadelphia. This dog, then called "German Rough-haired Terrier," was seen at the old Madison Square Garden in February, 1903.

Since the World War, the schnauzer has become extremely popular in the United States and in Britain. The body may be almost devoid of its hard and coarse hair, but the muzzle must have its characteristic mass of whisker or mustache. The Standard Schnauzer stands from 16¼ to 19¾ inches, shoulder height. The colors are all "pepper and salt" or similar equal mixtures; pure black, black-and-tan. The crop-eared schnauzer may soon become a dog of the past.

Lakeland Terrier

The Lakeland Terrier takes his name from the English Lake District, immortalized by Wordsworth, Coleridge, and Southey (see Color Plate IV). In songs of the chase, the region is referred to as "John Peel's Country," reflecting the long-lasting fame of the farmer-sportsman of that name, with "his hounds and his horn in the morning."

The Lakeland Terrier may be looked upon as a cousin to the Welsh Terrier (see Color Plate III and text, page 262), both coming under the heading of old-fashioned kennel terriers. As the Lakeland is mostly employed for driving out foxes from the fells or mountainous terrains in the Lake District, he is kept to a size and weight that fit him to go underground after a fox.

Therefore, the Lakeland Terrier should stand about 14 inches, measuring from the top of the shoulders (withers) to the ground. Weight for a male is 16 pounds; a female, one pound less.

The color may be blue, blue and tan, black and tan, mustard, wheaten, grizzle, or black. If there is too much white, such a dog may not be considered suitable for exhibition at a bench show.

The Lakeland Terrier's head is liked when it is somewhat broad in skull, and the muzzle should be wide and deep.

Until recently this terrier was little known outside of Westmorland and adjacent counties, but the breed now has be-

Photograph by Willard R. Culver

AUSTRALIAN SILKY TERRIERS ARE RARE IN THE UNITED STATES

Smart Tone, at the left, is long-haired and silvery gray, while Dream Girl, beside him, is shorter-haired and colored black and tan, with just a little gray. He weighs but eight pounds and she even less. They were brought to this country by Mrs. G. E. Thomas, of Washington, D. C., who says the breed contains some Skye Terrier blood (see Color Plate VI). Recently this pair became proud parents and the single puppy is long-haired like its daddy.

come fairly well distributed because of its sterling terrier qualities. It has just made its appearance in America, and its day of popularity is dawning. As will be gathered from Mr. Miner's illustration, this dog is of a sturdy, well-proportioned breed, admirable in appearance and suitable for companionship in city and countryside.

West Highland White Terrier

The West Highland White Terrier originated, as a strain, in Argyllshire, in the west Highlands of Scotland, and is said to be as pure-bred and as long-lineaged as any of the sprightly and fearless terriers of "The Land of the Thistle" (see Color Plate IV).

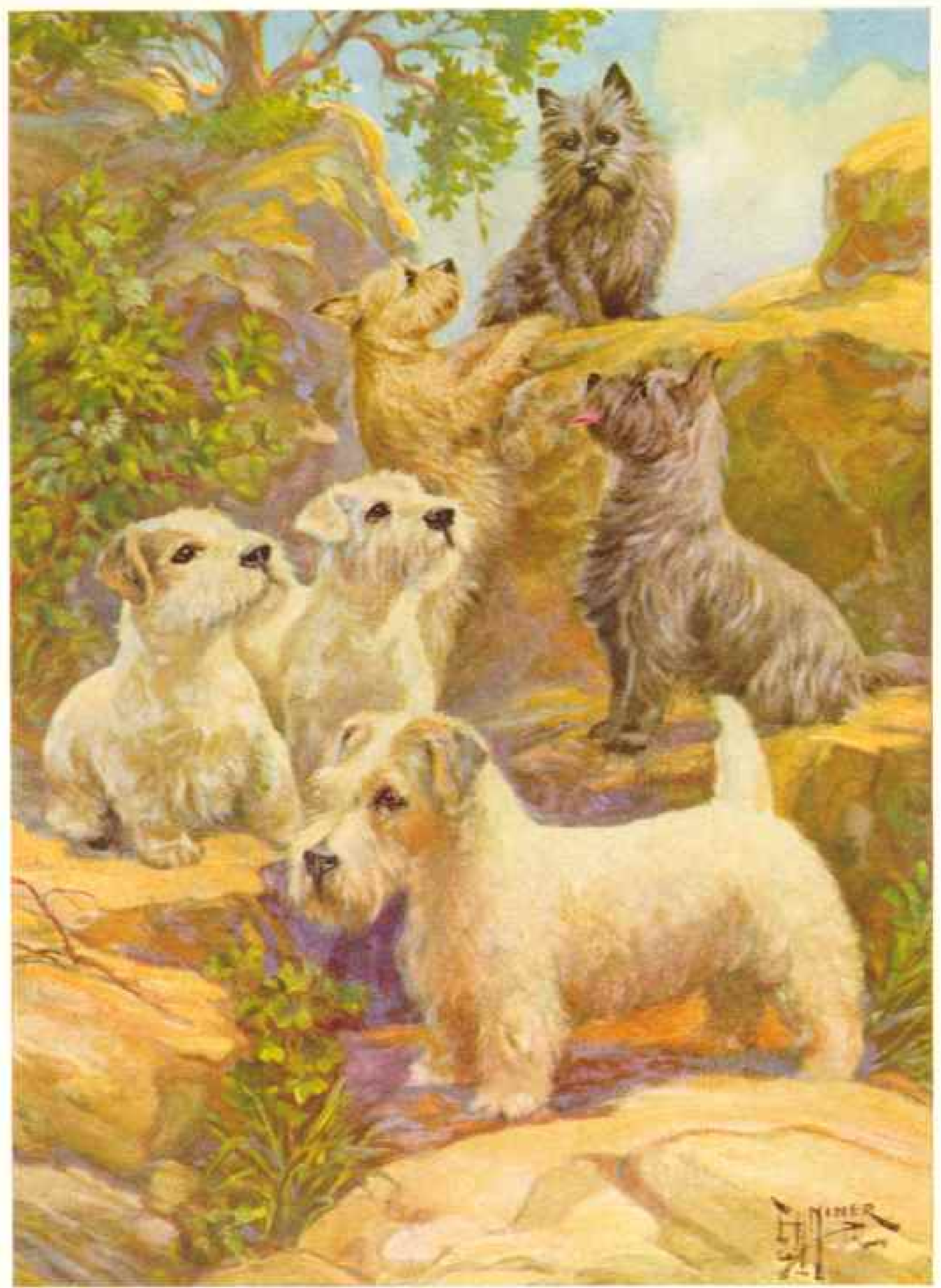
Like others of the truly sporting terriers maintained by private families, the West Highland breed and its sporting traditions have been handed down from father to son. For more than a century, it has been the pride of the Malcolms of Poltalloch, who have kept these terriers for the destruction of foxes and other vermin.

Scotland is famous for its feathered and furred small game, the natural enemies of which are wild creatures of vulpine and weasel kinds. So, to preserve feathered game, vermin must be killed off. It is here that the West Highland Terrier is useful.

Old records show that terriers somewhat like these were royal favorites in the time of King James I, who asked for "some earthe-dogs out of Argyllshire." A similar dog, according to some writers, was known in the island of Skye.

What was once a workaday but none the less handsome terrier has now become a pet among dog lovers in all countries where bench shows are held, and a companion of the lady of fashion.

The high-carried and sharp-pointed ears of the West Highlanders have brought them considerable public attention.



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Painting by Edward Herbert Miner

THE SEALYHAM IS EVERYBODY'S FRIEND; THE CAIRN A "ONE-MAN DOG"

Short-legged, long-bodied Sealyham Terriers were bred for otter hunting by Capt. J. O. Tucker-Edwardes of Sealyham, in Pembrokeshire. Recently the little white dogs have become one of the most fashionable of breeds. Debonair Cairn Terriers, with their mischievous, foxy expressions, belong to an old race of Scottish hunting and Terrier dogs, of which they are the smallest. Their job is to dislodge foxes in the rocky Highlands.

The coat of the Highlander is pure white and, for show purposes, about 2½ inches long. There is no variation from the white color. The outer, or over, coat is hard and straight; it should not wave or curl. The under coat should be plentiful and soft.

The tail is covered with hard coat and is not carried too gaily. The ears should be small and pointed. The nose, roof of mouth, and pads of the feet should be black.

The West Highland male stands about 9 to 11 inches at the shoulder and weighs about 16 pounds. The female scales around 15 pounds.

These dogs are groomed rather than bathed. Much washing softens the hair of the outer coat.

Bull Terrier

Bull Terriers have been described as the gladiators of the kennel world, for these were the fighting dogs of the old English dog-fight pits (see Color Plate V).

The English Bull Terrier is descended from a hard-bitten and unusually plucky breed-variety, which was known as the Bull-and-Terrier. The latter, cross-bred, as its name denotes, was produced from the bull-dogs of the bull-baiting, bear-baiting era and the now almost extinct white English Terrier, an elegantly built dog—somewhat on the lines of the black-and-tan-colored Manchester Terrier of the present time (see Color Plate VII).

For many years the white Bull Terriers have been predominant, as the brindle or sometimes light-fawn or "buckskin" markings of the bulldog proper have mostly disappeared.

On the other hand, during the last decade or so, certain English breeders have bred back to the Bull-and-Terriers of brindle color and produced either brindles or brindles with white markings. These are called Staffordshire Bull Terriers. The County of Stafford was once regarded as partial to the now illegal pastimes of dog-fighting, bull-baiting, and even man-and-dog fights. Because of a tradition that the color of the brindle variety—a mixture of red, black, and yellow shades—denotes pluck, the Staffordshire Bull Terriers of that color are valued in certain quarters.

As yet (1936) the brindled Bull Terrier has not become popular in the United States. But the white Bull Terriers are among the most liked of all dogs. They are owned by women as well as by men, but on the lead or chain a powerful and active Bull Terrier weighing 40 to 60 pounds would be rather too strong for management by children.

Despite their background of combat, Bull Terriers have as kindly dispositions as any other dogs. As in any breed, their temperament depends to a great extent upon their home surroundings.

At one time, the ears of all, or nearly all, Bull Terriers were cropped. Today such mutilation is not allowed.

Of all terriers, this breed is perhaps the most symmetrical in appearance and elegant of outline. Among patrons of the Bull Terrier breed, he is often referred to as the "White Cavalier."

Dandie Dinmont Terrier

The Dandie Dinmont Terrier originated in Scotland and was a common dog among sporting farmers and others residing near the Border, always a productive hunting country with a good supply of rabbits (see Color Plate V).

In Scotland, as in other places, a dog was particularly valued if it could help in procuring food for its master and his family, and in that respect this keen little terrier more than earned its keep.

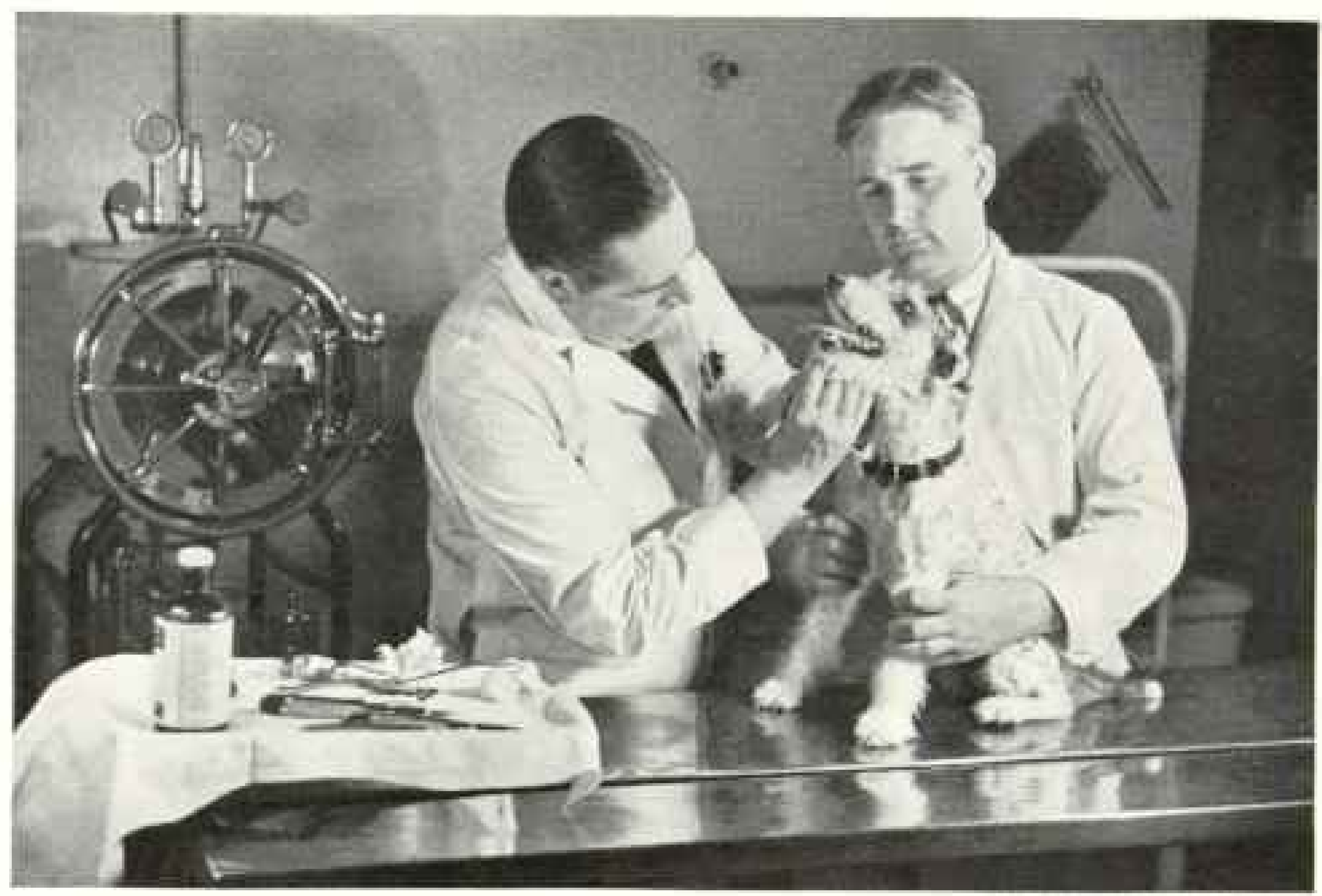
However, it was not until after 1815, when Sir Walter Scott's "Guy Mannering" was published, that the ordinary terrier to be seen in almost every hamlet was given a name. Sir Walter introduced into his story the character of "Dandie Dinmont," with his terriers, Auld Pepper and Auld Mustard, Young Pepper and Young Mustard, just the kind of dogs owned by hundreds of people living along the Border between England and Scotland.

To this day the now universally owned and known breed is divided into two shades: pepper color and mustard color.

The Scott novel not only gave a name to this breed, but bestowed a peculiar and lasting tribute to the usefulness and sagacity of a simple countryside dog.

The description of Dandie Dinmont, Scott's farmer character in "Guy Mannering," fitted the personage of James Davidson, of Hyndbee, of whom Sir Walter had never heard.

In 1800 James Davidson had been given a female called Tar and a male named Pepper, both very small and very short in the leg, with long bodies, large and long heads, ears large and pendent, like a beagle's, but a little more pointed at the



Photograph by Luis Marden

"DOG'S LIFE"—A FOUR-FOOTED PATIENT PAYS A VISIT TO THE DENTIST

Here at Angell Memorial Animal Hospital, in Boston, a Wire-haired Fox Terrier gets expert attention to his teeth, one man holding him gently while the other works. Dogs occasionally have to have dental work done because they have not been given enough bones to gnaw.

lower end. There was a third dog described as the Rothbury specimen; and it was from these three small terriers that the Dandie Dinmont was produced. Except for an increase in size, it has remained more or less of the same type to this day.

The male Dandie Dinmont may weigh from 14 to 24 pounds. Average weight is about 20 pounds for a male and 19 pounds for a female. The "peppers" are silver-gray and the "mustards" are liver-colored when born. The Dandies are extremely plucky terriers.

Scottish Terrier

The Scottie is perhaps the most distinctive of all the terrier varieties of that sporting country whose name it bears (see Color Plate VI and illustrations, pages 258 and 274).

Like other north-of-the-Tweed terriers, the Scottie is "built close to the ground." Its little body is compact and strong and the teeth are well developed.

Originally, the Scottish Terrier was described as the Aberdeen Terrier, for the reason that this breed or variety was mostly found in and around the Granite City. In those days the Aberdeens, the forerunners of the Scotties of the present time, were dark gray, or warm red-brindle in color; the blacks, or blacks with a few white hairs intermixed in their coats, had not arrived, or at least were not observed at shows held during the closing two decades of the last century.

Nowadays, there appears to be a distinct inclination on the part of some breeders to favor the reintroduction of the brindles; moreover, modern Scottish Terriers of the original colors have been prized by prominent judges.

Scotties, before they became "fancy" dogs—and deservedly so—were kept by many of the Scottish Highland sportsmen on their estates and used for killing vermin. There were several varieties, and, as was often the custom in days before the holding of shows—previous to 1859—each squire was wont to boast of the superiority of his own strain of dog. Finally the Aberdeen came to be looked upon as truly representative of the Scottish breed of terrier.

Whiskered of face and sturdy of body, with short, heavy legs, erect ears, and long, gaily carried tail, the Scottie is most amus-

ing and endearing in appearance, and his looks do not belie his smartness and sagacity.

The colors are black, wheaten, or brindles of any shade. Scotties stand from 9 to 12 inches at the shoulder and weigh around 18 to 20 pounds.

Skye Terrier

The Skye Terrier takes his name from the island of Skye, and is often looked upon as one of the purest breeds of terriers. He is long in head and body, short in leg, and carries an abundant coat of straight, hard hair, which is so long that it trails upon the ground (see Color Plate VI).

When the Skye Terrier Club of Scotland was formed, its members were rightly proud to bring before the notice of the public evidence of the ancient lineage of this breed. Upward of three centuries ago, the author of a famous old English book on dogs referred to it as having been "brought out of barbarous borders from the uttermost countries northward." He described it as a dog "which by reason of the length of hair makes show neither of face nor of body." Other writers described what was presumably the old or original Skye Terrier breed as "having long, lank hair almost trailing on the ground."

Even with all his profusion of hair, the Skye Terrier, on his master's domain, was kept almost exclusively for the purpose of attacking and killing vermin, large and small. However, it may well be conjectured that smaller Skye Terriers than are sometimes seen at present-day bench shows were used for those purposes.

Among the many distinguished fanciers of Skye Terriers was Queen Victoria of England. Her Majesty kept both varieties, the prick-eared and the drop-eared, and these Skyes were constant companions when the Queen strolled in her flower gardens at Windsor, Osborne, or Balmoral (page 247).

As the portrait of "Boz" painted by Sir Edwin Landseer suggests, this Drop-eared Skye must have proved himself a very good rabbit hunter while he was at Osborne House on the Isle of Wight, for the "command" portrait of Boz shows him in a resting attitude with a dead wild rabbit in the background.

The Skye Terrier makes a watchful guard for the home and is very popular on the Continent, especially in Germany. There are not many of them in the United States.

In color, the Skye Terrier is dark or light blue or gray, or fawn with black points. There is a short, close, dense, woolly under coat and an outer coat 5½ inches long. The hair is hard, straight, and flat. Height: males 9 inches, females 8½ inches. Average weight: male 18 pounds, female 16 pounds.

Manchester Terrier

The Manchester Terrier is named after the city of Manchester, England, where large black-and-tan terriers were especially plentiful around the eighties of the last century (see Color Plate VII).

In response to a petition by local breeders and exhibitors at shows in the United Kingdom, the Kennel Club was pleased to list or catalogue them as Manchester Black-and-Tan Terriers.

This is a very old breed, possibly as old as any, and was kept not only for ornamental but for rat-killing purposes in the days of public rat pits.

The Manchester Terrier is one of the most distinctive of all dogs. This is partly because of its rich, black, short coat with its highly decorative markings of deep mahogany-hued tan. Altogether, he is a particularly handsome dog with beautiful proportions, a build that embodies elegance of form and suggests activity and high breeding. His graceful lines, long head, and remarkable contrasts of colors make him unusually striking and pleasing to the eye.

At one time, all Manchester Terriers of the bench-show type were deprived of parts of the ear cartilages. These were cropped in accordance with a fashion intended to give the dog a "sharp lookout" or eager expression. Today ear-cropping has been banned by kennel clubs here and in Europe.

Now and then blue-and-tan puppies appear in litters. These are not "acknowledged" in kennel circles. The division between the black and the tan markings should be well-defined. Average weight for males is 18 to 20 pounds; for females, 18 pounds.

The Manchester has always been a favorite with Americans.

The short coat makes him a desirable dog for the house and he is sagacious and alert.

Kerry Blue Terrier

The Kerry Blue Terrier takes its name from County Kerry in southwest Ireland.

He is rough and ready in appearance, but for the purposes of the bench show and its judging rings, much of the coat of the Kerry Blue is trimmed off. When the mass of rough hair has been removed, the "blue" becomes not only more apparent but very attractive (see Color Plate VII).

The Kerry is a bigger dog than the Irish Terrier (Color Plate II). Its adherents declare that the "blue" is older than the "red," asserting with fervor that the Kerry Blue belongs to probably the oldest strain of terriers found in Ireland.

It was not until about 20 years ago that the Kerry Blue Terrier became known to the dog-show-going world. Today, he is as popular in the United States as in Great Britain and Ireland; furthermore, no dog of any breed, terrier or otherwise, possesses better formation of body than the Kerry Blue.

So that the hunting and vermin-destroying inclinations may not be lost, field trials for this breed are held annually in Ireland. Therefore, it is more than likely that the Kerry Blue will become more and more popular in all countries where useful as well as ornamental terriers are desired.

The Kerry Blue male stands about 18 inches at the shoulder and weighs around 35 pounds. The head is long, strong, and with flat skull. The ears are V-shaped and not too heavy; eyes, black or hazel. His color is of any shade of blue from light to dark. A little tan color is allowed on the head and legs. Usually the Kerry Blue Terrier is dark in color up to the age of about a year and a half. The natural coat is soft, profuse, and wavy.

Sealyham Terrier

The Sealyham Terrier came from a strain of white, rough-haired terriers bred principally for running and working, as terriers, with the Sealyham Hounds, owned by the late Capt. John Owen Tucker-Edwardes, who hunted the otter in summer and the fox in winter (see Color Plate VIII).

The mansion of Sealyham, or Sealy Ham, in Pembrokeshire, west Wales, was originally built on the banks of a little stream called the Sealy, which probably took its name from the "seals" or tracks of the otters abounding on its banks; "ham" meant "home"—hence, Sealy Ham, "the home on the otter-track river." The terriers developed there were largely used for driving otters from their "holts" on the river sides.

Because of the short legs and long body of the otter, it can enter small retreats where a long-legged and large-bodied terrier may not readily go; hence the moderately short legs of the terriers of the old Sealyham Hunt, as I knew them more than sixty years ago when I used to run after the pack.

The Sealyham terriers, bred by scores, were sent out to "walk," or be reared among tenant farmers, countryside grist millers, and others. The maintenance fee was two sovereigns, or about ten dollars, paid by Captain Edwardes if the puppy proved satisfactory when returned to the kennels.

The young terrier was brought back when he was 10 to 12 months old. If he would face a fitch (European polecat), then plentiful, the puppy was retained and the fee paid. On the other hand, if the young dog proved to be afraid to tackle the "varmint," the dog was given to the man or woman who "walked" it, and the fee withheld. No females were sent out to "walk" or rear; and it was by this means that the pure strain was kept in the kennels of Sealyham. In time the Sealyham became noted for his usefulness as a terrier for tackling otters and foxes; also as a badger dog.

Years later, in London, I wrote of the terriers at Sealy Ham, and in 1910 the English Kennel Club consented to register the Sealyham as a distinct breed. Hitherto it had been a strain.

The Sealyhams of 1910 were longer in the leg and more active in appearance than they are today. The head was not only long but strong about the jowls or back jaws. Their fame was enhanced because of their gameness.

Today the Sealyham has become as familiar with the drawing room as he once was with fox, otter, and badger burrows. He is one of the most popular dogs of the day.

The average weight for a Sealyham male is 20 pounds; for a female, 18 pounds. The height of a bench-show dog should not exceed 12 inches.

From time to time the best-bred and best-looking of the British-bred Sealyhams have been imported into the United States. Many of these cost very large sums. One champion brought about $4,000.

Cairn Terrier

The Cairn Terrier was so named because of his usefulness for going into the clefts

Photograph by James C. Sanders

WHEN A BIRD PLAYS WITH A DOG, THAT'S NEWS

A condor and an Airedale Terrier enjoy a romp in the streets of the Bolivian mining town of Catavi, and passers-by stop to watch the fun.

or crevices in the cairns of Scotland in which dwell foxes and others of the smaller wild animals described as vermin (see Color Plate VIII). As the typical Cairn Terrier weighs 14 pounds or less, his size allows him to enter easily where a fox may go.

This rugged, hard-haired, and plucky little dog has the characteristic alert and smart appearance of his larger Scottish cousins.

Of all the terrier dogs of Scotland, the Cairn is the smallest. His weight should not exceed 14 pounds.

Though ancient in their ancestry, Cairns are comparative newcomers to the show rings of both hemispheres. They make fine household pets and safe companions for children, and have become extremely popular in the United States, as they are in the British Isles.

When allowed your choice among a litter of Cairn puppies, select a short-bodied and small-eared specimen. Let the bone or substance of the forelegs be large, and the coat close and rough.

The colors are red, brindle, sandy, gray, and nearly black. The last-mentioned shade becomes lighter as the puppy develops. The darker markings on muzzle and ears provide contrasts that accentuate the charms of this game little terrier's general appearance.

PAINTING THE TERRIER SERIES

By Edward Herbert Miner

Going after models of the best type of dogs is always a gamble; and probably in none of the divisions is this felt to such an extent as in the terrier group.

In great measure, this is due to the fact that terrier type depends so much on trimming. Many is the time one goes to a kennel on appointment only to be told, "I'm awfully sorry, but Champion So and So is out of coat or has just been plucked so that he may be in the best possible shape for the Show three weeks from now."

Owners, however, were as cooperative as possible and some splendid dogs were made available as models. The Smooth and Wire-haired Fox Terriers shown in Plate I are notable examples.

Leading Lady of Wildoaks, the Wire shown at the top, owned by Mrs. R. C.

© Mily Richter

"HAVE A HEART"

This study of a pair of Scottie puppies, wee and wistful, has been selected by the American Annual of Photography as one of the best pictures of the year. The droopy ears will become erect as the pups get older (see Color Plate VI).

Bondy; and Brass Tacks, the Smooth, owned by Mr. Jerry R. Collins, are considered to be almost perfection. The body markings of Brass Tacks are a rich tan instead of the usual black.

For models and criticism on the Irish Terrier (Plate II) we are indebted to Mrs. A. Butler Duncan and Mrs. Garvin Denby. For the Welsh Terriers (Plate III) credit is due Mr. and Mrs. S. Bryce Wing.

The Miniature Schnauzer and Bull Terrier models (Plates III and V) were furnished by the Gately Kennels.

Of the comparatively recently recognized Lakeland Terrier (Plate IV), a good model was found which had been lately imported to Long Island. Of the graceful Manchester Terrier (Plate VII), Mrs. Janet Mack furnished excellent models.

In one case we fell into real luck. The composition for the Scotties called for an erect figure, and in visiting the Braw Bricht Kennels we found that one of the champions was a particular pet of Mrs. Donald Voorhees. Upon hearing a woman's voice the dog would sit up and look and listen. So with a woman confederate concealed behind a tight fence and talking, it would sit up for minutes at a time in just the position needed (see Color Plate VI).

Work on the fine collection in the kennels of Mrs. Payne Whitney provided our models for Cairns, while the Cornell Kennels furnished the obliging little Sealyhams (see Color Plate VIII).

To the kennels of Herman Stein we are indebted for the excellent example of the Kerry Blue (Plate VII).

Aside from owners and kennels already mentioned, particular acknowledgment is due to Messrs. Frank and Leonard Brumby and Bob Craighead, nationally known experts and developers of terriers.

The popular little Boston Terrier will be pictured and described later in this comprehensive GEOGRAPHIC series, as the American Kennel Club classifies it not under terriers but under non-sporting dogs. The Toy Manchester Terrier and Yorkshire Terrier will be included in the article on toy dogs.

APPROACH TO PEIPING

By Major John W. Thomason, Jr., U. S. M. C.

ALL THE roads in farther Asia lead to Peking, and its name throughout the East is rich as Troy's. You may approach it along the imperial highway, from the southwest, over flagstones rutted by the cart wheels of a thousand years. The other end of that road is in Istanbul; it was the route Marco Polo followed, visiting the Grand Khan in the courts of the sunrise.

You may come down to the city, now called Peiping, from the north, through Kalgan gate in the Wall and Nankow Pass,* as the Tatar conquerors came, trotting on shaggy ponies behind their yak-tail standards. Or you may enter by the railroad, from the sea, as travelers arrive these latter days.

In any case, nothing warns you of the city; nothing that you have heard prepares you. You proceed over a flat country, khaki-colored in winter, variegated green in summer, which looks the same in every direction. It is not that the view is without incident: every yard of land is cultivated, and people in blue coolie cloth, with their small industrious beasts, move like ants across it. Roads and footpaths connect group after group of huddled mud buildings, each unit behind its wall.

SPIRITS OF THE DEAD SHELTERED FROM NORTH WINDS

Punctuating the fields are mounds ranging in size from very small humps to impressive hillocks framed in striking architectural conceptions. These are graves, for the dead are not segregated in China. Trees stand in thinnish clumps and straggling lines, trimmed thriftily of all superfluous branches, and there are dark clusterings of evergreens, planted in formal groves, to shield important ghosts from the rude north winds.

Among the grave mounds and the villages you see tablets of remembrance, upright plinths of carved marble set upon immemorial tortoises, facing south; and shrines to gods and princes, long forgotten, standing starkly in the furrows.

But each incident of landscape repeats itself to monotony, and there is a confusion, rather than a dearth, of landmarks. South and east the great sky borders the hollow land, and north and west the hills circle, their contours lifting sharp and brittle through the clear air, remote and inconsequent as painted scenery on a screen.

Ahead, the horizon takes on regularity. A long gray wall, spaced by unusual towers, rises suddenly as thunder. Your road enters a malodorous suburb, and crosses a canal of yellow, viscous water, bordered by willow trees and washerwomen and populous with squadrons of clamant snow-white ducks. Complicated and violent smells assail the nostrils. Before you opens the dark cavern of a gate, where bored soldiers in gray uniforms, and police in dingy black, armed with rifles, watch a press of man traffic and animal traffic that flows without ceasing, to the accompaniment of unimaginable noise. You enter Peiping, and at the end of every vista stands a wall.

There has been a city hereabouts for three thousand years. Historians locate a town of the Yin Dynasty, called Chi, on a site near the northwest corner of the present Tatar city in the 12th century B. C. The Manchu Emperor, Chien Lung, marked the place where one of its gates stood with a tablet, which you may see to this day, on the rampart called the Mongol Wall, a short distance north of Peiping, beside the road to the Bell Temple.

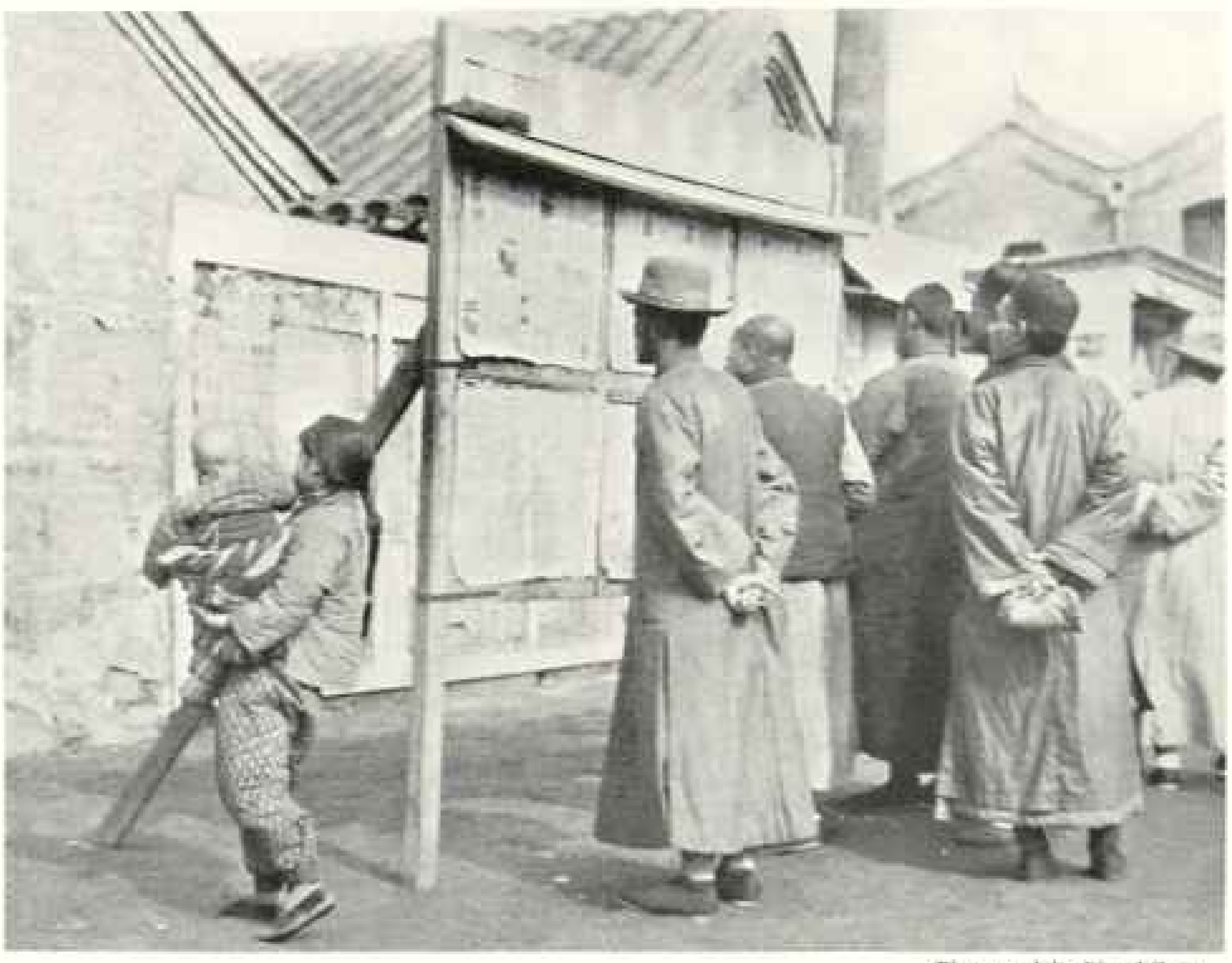
However, the mutations of Peiping's history have been many times told; volumes have been taken in the telling.

THE GREAT WALLS OF THE CITY

The Ming, which is to say, the Bright, Dynasty, built Peiping on a grand scale. Yung Lo, third emperor of the line, moved his court up from Nanking in the early fourteen-hundreds, and created a capital worthy of his greatness.

The Bell Tower, which was in the center of Khanbaligh, visited by Marco Polo in the reign of Kublai Khan, stands now in the upper third of Peiping; and the Observatory is north of the present southeast angle. You can ride the line of Kublai's walls to the north, and they are formidable earthen ramparts; but goats graze upon the weed-grown mounds that were the guard towers on the gates.

* See the National Geographic Society's Map of Asia, National Geographic Magazine, December, 1933.



Photograph by Lionel Green

"WHAT'S THE NEWS TODAY?"

Passers-by pause to scan bulletins posted by a native newspaper whose translated title means "North China Daily News." Formerly the only newspaper was the hand-written *Peking Gazette*, supposed to have been edited by the Emperor himself. After the revolution of 1911, modern dailies were established for the small percentage of Chinese who are able to read.

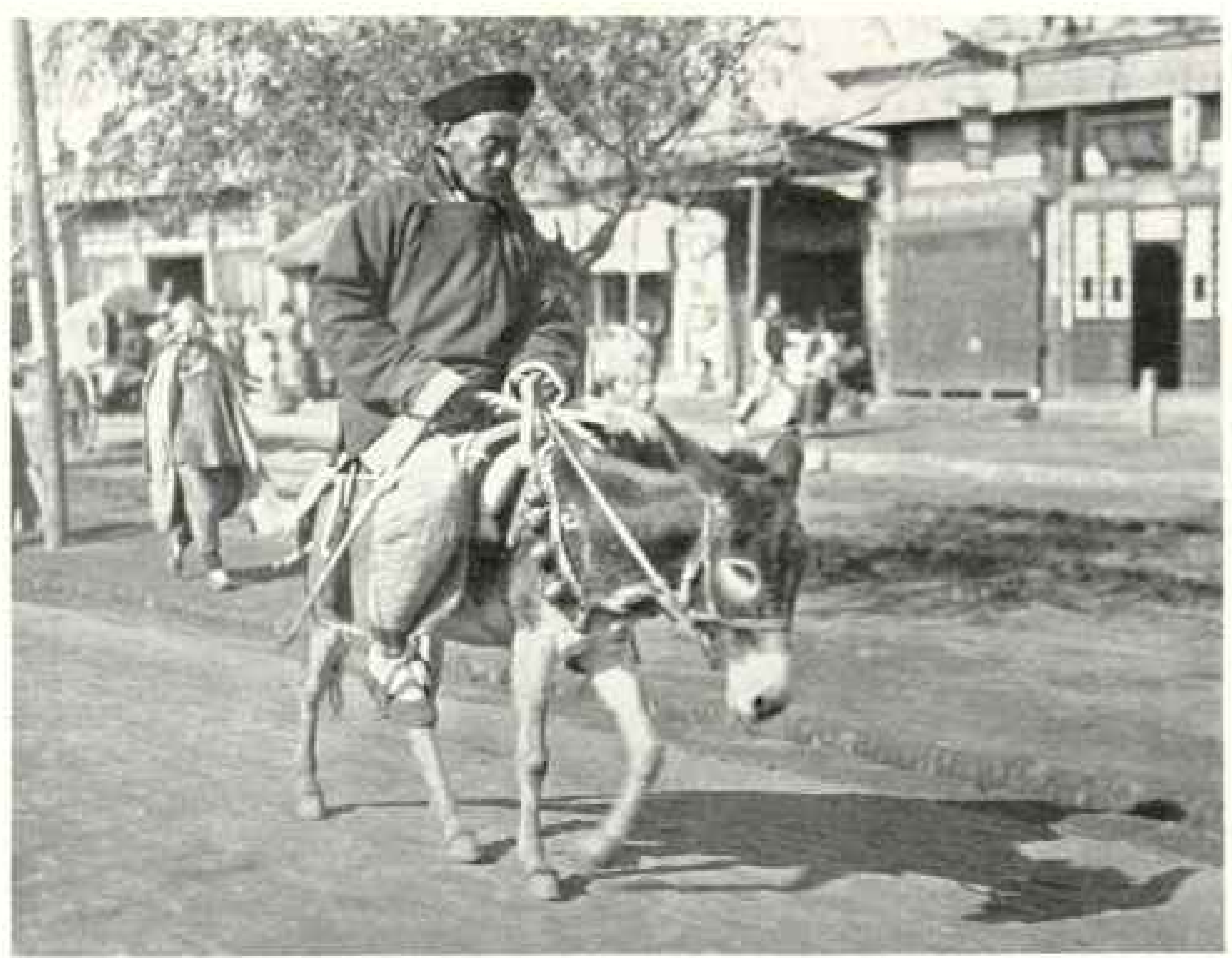
Yung Lo's wall, called the Tatar Wall for no good reason, is immense. Its circuit is some 14 miles, and its outline is almost square, rounded slightly at the northwest angle, where a stream enters the city. It has a core of earth and rubble, faced with heavy masonry. Its width at the base is 60 feet, narrowing to about 50 feet at the top, or the width of three war chariots driven abreast, and it is more than 40 feet high.

Bastions thrust out at regular intervals, and the top is crenelated, once affording shelter to bowmen. Wide ramps lead up to the nine gates: three on the south, and two for each of the other faces. Above every gate stands a guard tower, with quarters for the garrison, and formerly these were covered by curtain walls enclosing a space where travelers were examined and duty assessed and collected on goods coming in.

Peiping no longer is the capital. From 1912 to 1928 the Republic sat in the dismantled pavilions that had housed the Emperors. Then the Government moved to Nanking. By edict the name of the ancient city was abandoned; Peking, "Northern Capital," became officially Peiping, "City of the Northern Plains," or "Northern Peace." So said the People's Party, the postal authorities, and the officeholders. But to the residents and to the foreigners who love it, the city remains Peking.

THE LEGEND OF COAL HILL

What the traveler finds in a strange city is, very generally, what he wants to find. You may issue, in the morning, from your choice of three adequate foreign-managed hotels and go out to look. At command are motor cars of every make and year, the immortal Model T frequent among them. But the wise man engages one of the circle of deep-chested and desirous ricksha coolies who lie in wait at the door, and rides in his ingenious vehicle to Coal Hill or to the White Dagoba in the Pei Hai.



Photograph by Sidney D. Gamble

JINGLING BELLS CLEAR THE WAY FOR A SLEEPY PAIR

It is hard to tell which is drowsier. The stick in the old man's right hand is used as an accelerator, for Chinese donkeys are as stubborn as any others. Thickly padded trousers and layers of upper garments keep the rider warm as he jogs through Peiping on a winter day.

From these heights within the walls one may survey the city.

Climb Coal Hill. It is an artificial eminence, rising 210 feet above the town, lying east and west, its contours following the conventional art form of the breaking wave. A central pavilion crowns it, flanked by four smaller pavilions to left and right as the slopes descend. Cedars and white pines and sparse grass clothe it sketchily.

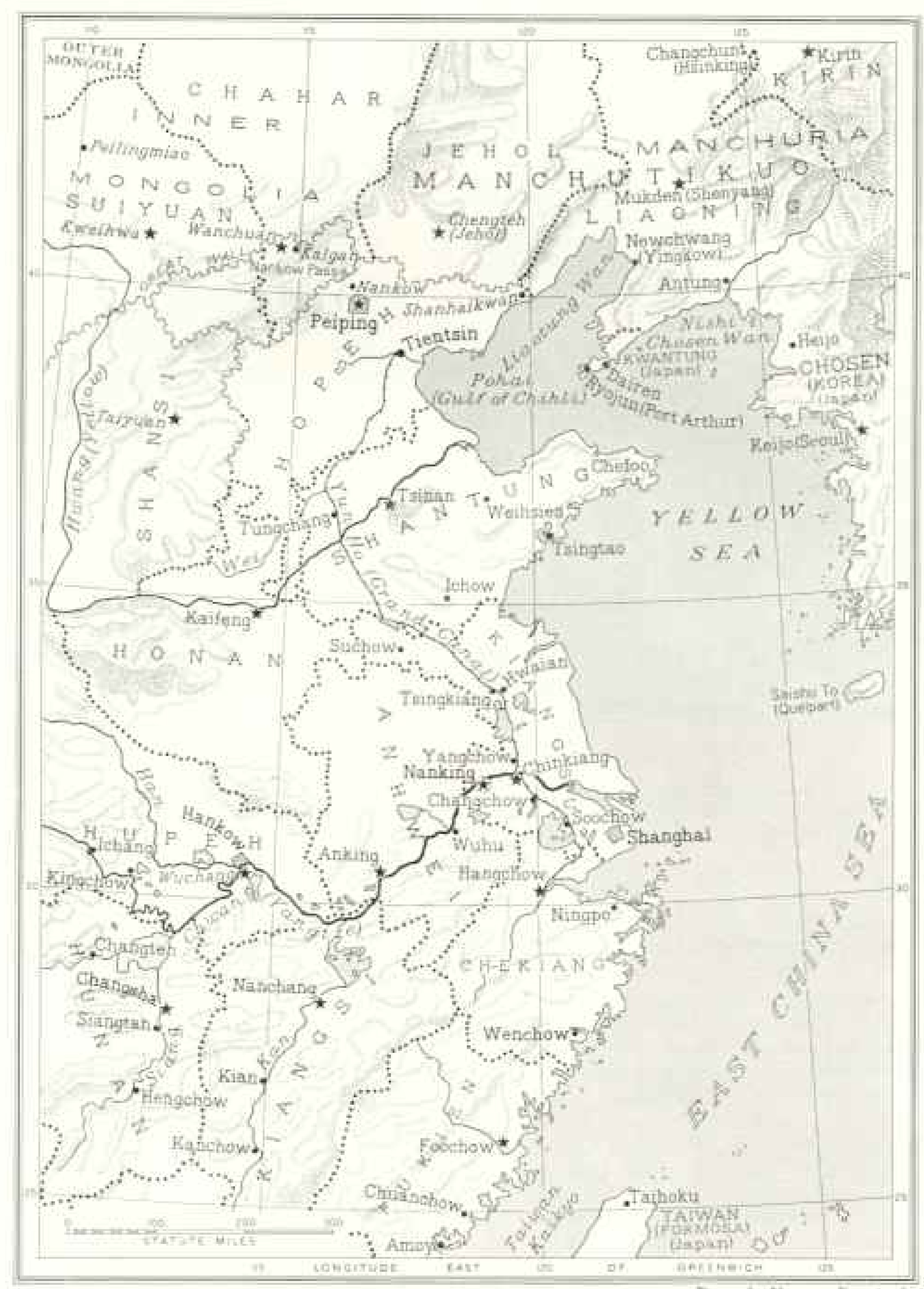
There is a legend that some thrifty emperor created it by piling up a reserve supply of coal against a siege, covering the fuel with dirt by way of camouflage—but there is no coal here and never was. His businesslike people would have sold it at a reasonable profit long centuries ago. More likely it was made of the dirt excavated from the line of artificial lakes which the poetic inhabitants call the "Three Seas," lying in the old Imperial City.

The pavilion on the crest houses a tall Buddha, once richly gilded, now scoured to drabness by the sun and wind, which broods eternally over the city. Standing between his knees, you are on the medial line of Peiping, and a little north of its exact center.

A MILLION PEOPLE IN A ONE-STORY TOWN

In general, the view is of a one-story town, with geometrical patterns of low roofs and walled courtyards defined in blocks by the intersections of the great streets. From this level rise the temples and pavilions, and the gate towers, the bright tiles of their roofs indicating official status. Yellow tile was wholly imperial; green tile and blue, the latter rare, meant the interest of the Government or the Imperial Family.

There are, among the varicolored roofs, surprisingly numerous lines and clumps of trees. In the spring and summer Peiping gives the impression of being extensively wooded; and in the winter, when the leaves are off, you see that every temple inclosure and pleasure garden is set with noble evergreens, white pines and cedars, so that the prospect is never barren.



Drawn by Newman Bumstead

ONCE CHIEF CITY OF AN EMPIRE, PEIPING MAY BECOME A CAPITAL AGAIN

Another vast expanse of territory would be lost by the Chinese Republic through formation of a new State in northeastern China, which includes historic Peiping and bustling Tientsin, the Nation's largest port north of Shanghai. An "autonomy movement" has been reported in five provinces—Chahar, Suiyuan, Shansi, Hopeh, and Shantung. In recent years huge areas, once part of the Celestial Empire, have been split off: Chosen (Korea) became Japanese territory in 1910; in 1932 Manchutikuo was set up. Peking, "Northern Capital," became Peiping, "City of the Northern Plains," when China's seat of government was transferred to Nanking (see text, page 276).

You see the three cities, one within another, like a Cantonese puzzle box, and the fourth, the Chinese City, away to the south, beyond Chien Men and Hata Men. The foursquare line of the Tatar Wall lays out the Tatar City, which was, under the Manchus, divided among the Eight Banners, each having its own district in the several quadrants.

Then your eye picks up the pinkish-red wall of the Imperial City, pierced now by the great streets that run east and west. It was originally a long, narrow rectangle, lying from north to south on the axis of Peiping. It enclosed the "Three Seas," the lakes shining silver in the sun down its western half; and in it were located the palaces of the court officials and imperial princes. It stretches from the Tung Chang an Chieh to the Ti An Men Ta Chieh, north of Coal Hill, which are the two east and west boulevards.

The Republic smeared black paint and democratic blue over its imperial red; but it is pleasant to observe that the black and blue have flaked away, and the ancient ruddy water pigment persists to delight the eye. It is no longer a distinctive quarter; the houses of the dukes and princes are nearly all for rent.

THE VIOLET TOWN

Within the Imperial City, on the exact center of all, oriented to the cardinal points of the compass, is the Forbidden City, the Violet Town, which was the residence of the Dragon Emperors. It is an inclosure a little longer than broad, and lies behind a wide moat and a double wall. The moat, in the summer time, is full of flowering lotus, and white cranes stalk thoughtfully among the rose-pink blooms.

Each corner of the wall has its tower, small, but very richly ornamented. There are four gates, one to each face of the wall, and their names are notable: East Gate Glorious; West Gate Glorious; Gate of Divine Military Progress, which is the Shen Wu Men, the North Gate, wherefrom in 1644 the last Ming Emperor went sorrowfully to strangle himself on Coal Hill across the way, while the triumphant rebel soldiers were breaking into the Imperial City outside. Through it fled the Empress Dowager when the International Column battered down the southern gates in 1900.

On the south is the Wu Men, the Meridian Gate, the great gate of ceremonies, not opened since the fall of the Empire.

Only from Coal Hill immediately to the north, or from the White Dagoba in the Pei Hai to the northwest, can you bring the Forbidden City within the eye at once. From either height, you see the simple outline of its plan. Down the center line the great pavilions march, one behind another, their roofs tiled with imperial yellow, since all this was of the Throne.

They are audience halls, council halls, halls devoted to this phase or that of ancestral veneration, and imperial living quarters. Smaller buildings lie along the wall to east and west: houses for the concubines and eunuchs, and space for stores. Each pavilion has its courtyard and its formal approach. The courts are threaded by little conventional moats with white marble balustrades; the terraces are balustraded, as are the ceremonial flights of steps.

In the north end are the pavilions and gardens that the Empress Dowager used. They are small and intimate, landscaped, shaded by cypress and cedar, and traversed by narrow walks among flower beds and fountains, for the old lady loved such things.

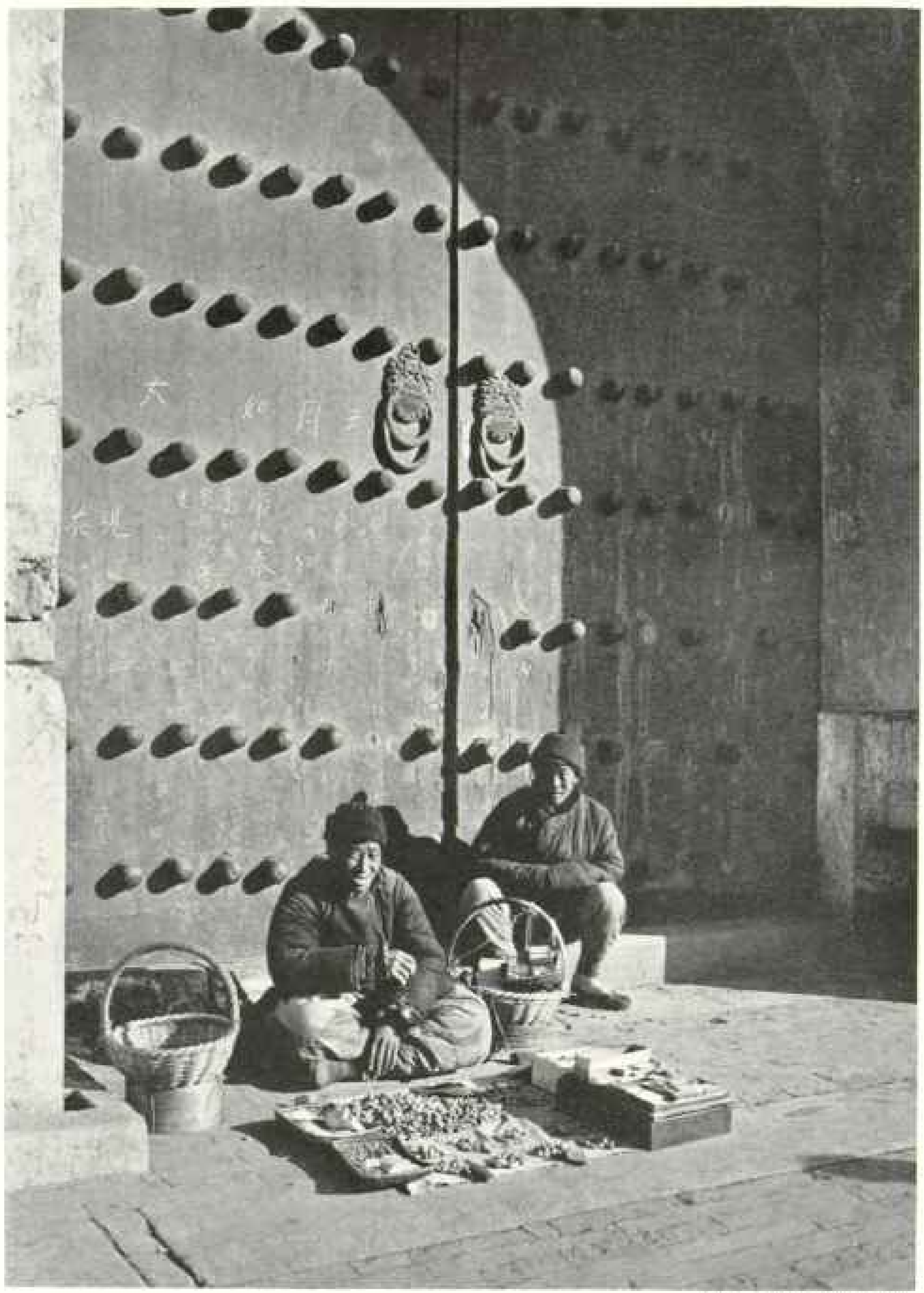
Some of the buildings are used as museums, displaying much unusual treasure, although, at the time of the disturbances in 1932 and 1933, most of the exhibits were boxed and shipped south, to the great indignation of Peiping.

ROYAL, AND VIVID, COLORS OF THE FORBIDDEN CITY

The Forbidden City displays the Chinese decorative scheme at its most extravagant and royal. It is done in reds and yellows and blues and greens, all most violent. A little money is spent on its upkeep, and perhaps the close-set walls save it from the grinding of the wind-blown dust that dulls the colors and the gilding of places in the open.

The proportions of the buildings are majestic without being vast, for the Chinese architect knew how to create his effects without relying on mere size. The clear sky and the brilliant sun enter into all conceptions; the secret of their excellence lies between the air and light and a just balance in line and mass.

Yet, as for size, there is a courtyard in the south section of the Forbidden City where, at a victory celebration in 1918,



Photograph by Lionel Green

THESE PEANUT VENDERS SING NO SONG

Unlike their Cuban counterparts, they merely sit and wait for trade outside the massive studded gates of the Temple of Heaven. Peanuts are about as popular in some parts of China as in America. In Shantung Province (see map, page 278) peanut raising became an important industry after an American missionary brought a few quarts of nuts from home.

some 15,000 troops were arrayed, with a large number of civilian officials and spectators, and it is related that the courtyard seemed in no sense crowded.

What now is seen in these palaces and courts is a setting only, a stage from which the players have departed, with their bright robes, their banners, and their stately processionals.

About the public buildings of Peiping, the shrines, the halls, the pavilions, and the palaces, there are many books written. German and Russian and British savants have measured and dissected and surveyed. French scholars have breathed much life into the dry bones of architecture, dwelling with ardor, also, upon the pavilions of pleasure, and the marble-capped wells in which were filed, head downward, discarded favorites, male and female, of not-too-immaculate sovereigns.

VENERABLE STRUCTURES ARE FLIMSY

Many of the structures are jerry-built and flimsy. The Chinese lacquer with which the surfaces are faced is cheap stuff, prone to flake off before it attains age. The fine *pai-lous* that arch the streets and define the approaches to important places are frail things which must be propped from every side while they are yet new. The stone, so intricately and beautifully carved, is soft and subject to quick erosion.

Many of the most imposing edifices, such as the White Dagoba that dominates the Pei Hai, one of the "Three Seas," are of brick and rubble, surfaced with plaster which, unless renewed every season, sloughs away in patches. Distant views are impressive, and close inspection disappointing.

Yet there are many things that are beautiful with an ageless beauty: corners of the Forbidden City, as delicate and fine as jewel filigree; the elaborate and cunning ornamentation under the eaves of the pavilions; the porcelain screens and arches; the timeless splendor of the tiled roofs, that persists in spite of the weeds and shrubs which spring from accumulations of dust in the cracks between the tiles. The patterns and designs are frozen in convention, but trees and water, air and light, are integral parts of every arrangement.

After you have dutifully followed the guidebooks through a score of temples and palaces, your impressions will tend to telescope upon themselves. But there are two things that you will never forget: the Temple of Confucius and the Temple of Heaven.

The Temple of Confucius is in the North City (the northern section of the Tatar City), between the Lama Temple (see text, page 284), and the old Hall of Classics. You come to it through noisome alleys that swarm with scavenger dogs and naked children.

A passage leads under murmurous dragon cypresses, between ranks of tall memorial tablets commemorating the visits and the patronages of emperors and princes. The passage opens upon a low terrace from which you descend to the central court by marble steps that flank a spirit stairway—Dragon eternally contending for the Pearl, between sculptured masses of sea and cloud.

From it you face the temple, looking along an avenue of ancient trees so thickly set that their interlaced branches cast a cool greenish gloom, very grateful in the summer time. Flanking it are low buildings that serve as storehouses and sleeping quarters for the priests.

The sun strikes through the trees and burns upon the old red walls of the pavilions, and the freshly painted patterns under the overhanging eaves glow richly in reflected light: turquoise blues and emerald greens, purples, and reds, and yellows. There are small golden-roofed kiosks, and sacrificial burners of a bronze no longer cast.* The noises of the city do not enter here.

THE HIGH PLACE OF AN IDEA

A gentle, courteous old priest with a hairless, ascetic face materializes from the shadows to attend you; he is unobtrusive and detached in robes of gray and black. There is no statue in the shrine: it is the High Place of an idea. Tablets, richly engraved, hang above the altar, publishing the virtues of the Sage, and the gray ash of joss sticks in the incense burner testifies to the devotion of many worshipers.

The thing is wholly of the spirit. You need know nothing of Confucius, nothing of China, to realize that here is peace made visible; here is tranquillity; here are a balance and a symmetry removed from striving; the conception of minds that have, after mature thought, settled their problems. You come away with the feeling

* See natural color photographs, "Peiping, City of Dust and Color," NATIONAL GEOGRAPHIC MAGAZINE, November, 1934, and "Glory That Was Imperial Peking," by W. Robert Moore, June, 1933.

Photograph by W. Robert Moore

MERCHANTS BAIT THEIR POLES WITH TOYS TO LURE YOUNG PEIPING SHOPPERS

Toy horses, drums, wooden swords, "funny face" masks, colored balloons, and an array of other inexpensive playthings made by clever Chinese craftsmen dangle temptingly from poles in front of open booths. Down the street comes a boy who has bought a miniature crossbow. Probably he never heard of Christmas, but he knows that toy time comes once a year, at the New Year festival. The people seem corpulent because they are wearing several layers of clothes to keep out the biting winter air.

© Heinz von Perckhammer

NOT A JUNGLE SCENE, BUT A BIT OF LIFE IN A CITY OF MORE THAN A MILLION PEOPLE

Around a straw fire in the darkness, half-naked, primitive-seeming coolies eye the "watched pot" that never boils. After the tea has cooled, the men will probably pour it out of the spout directly into their mouths, for coolies often do not possess cups. Orientals can squat on their haunches like this for hours at a time.

that you have touched the edge of an Elder Wisdom.

Very different is the Temple of Heaven, out to the south in the Chinese City. It stands most fiercely in the sun, its walls enclosing a park larger than the Forbidden City. You go up from the highway along a broad avenue, mounting by a ramp to the center of a terraced line of pavilions. To the north is the round Hall of the Happy Year, its brilliant blue tiles and triple-roofed silhouette one of the distinctive things on the Peiping skyline.

Turning your back upon it, you walk south, through open pavilions and successive archways, to a stark altar of white carved marble, approached between winged columns. The altar consists of three round terraces, set one upon another, the top one smallest. The steps that ascend to it are in groups of nine, the mystical number; and the flagstones of the pavement are laid in concentric patterns in multiples of nine. And the roof of that altar is the vault of heaven.

WHERE EMPERORS OFFERED SACRIFICE

Here the Emperor came to offer the Great Sacrifice on the day of the winter solstice, to render his Imperial Ancestors an account of his stewardship, and to solicit their guidance for his people through the succeeding year.

The gongs ring no more in that place, nor does any sovereign in a yellow dragon coat bow under the sky. A brigade of soldiers billets in the temple inclosure, and the atmosphere is not improved by them. Weeds spring between the weathered white flagstones, and crows quarrel in the groves or perch, sardonic, on the dragon-crested pavilions. Yet there remains an authentic grandeur.

There is a third temple that draws most visitors and many native pilgrims: the Lama Temple, or rather monastery, the Yung Ho Kung, up in the Tatar City. It enjoyed the particular patronage of the Manchu Dynasty, as attest its roofs of imperial yellow tile, and it retains today a sort of soiled magnificence.

Foreigners as well as pilgrims throng to see the grotesque Devil Dances and to hear the booming gongs and great braying horns of the Tibetan rituals. But the atmosphere of the place is not salubrious, for the Tibetan rites have imposed dark and ugly features upon the gentle Buddhist faith. The Passion Buddha and his kin are displayed in abominable statuary. The lamas greedily solicit gifts. The establishment carries an atmosphere dark and discordant in the sun-drenched Chinese scene.

PEIPING'S "MAN IN THE STREET"

There are no reliable census figures for any Chinese city, but the population of Peiping and the metropolitan district probably is more than five million; of these perhaps a million and three hundred thousand live within the walls.

Most of the inhabitants are poor folk, people who earn their living with their hands. Yet these North Chinese are robust and jolly, content with the satisfactions of the moment and entirely disinclined to borrow trouble.

Crowded inescapably with his neighbors, the typical Peipingese is ready with the emollient of courtesy in every relation; and one realizes that, without the invariable and universal politeness that characterizes his common dealings, his life would be quite impossible. He regards his personal affairs with sharp attention, and everything else, including famine, flood, and invasion, with impersonal curiosity and entire good humor.

Such detachment is not, in Western eyes, a virtue; but the Chinese has been here longer than we have, and he will probably survive after the rest of us have worried ourselves to death.

With such a population jammed within walls, it is surprising to find so much of the area of Peiping given over to public parks. But they have been public only since the fall of the Empire. Before that, they were the private pleasure gardens of the court, and the ceremonial spaces of the temples.

Today, several parks are open to the public and much enjoyed. The grounds of the "Sea Palaces" bordering the "Three Seas"—Nan Hai, Chung Hai, and Pei Hai, meaning South, Middle, and North Sea—lie, one above the other, in the west-central part of the Tatar City, within the Imperial Wall, and west of the Forbidden City.

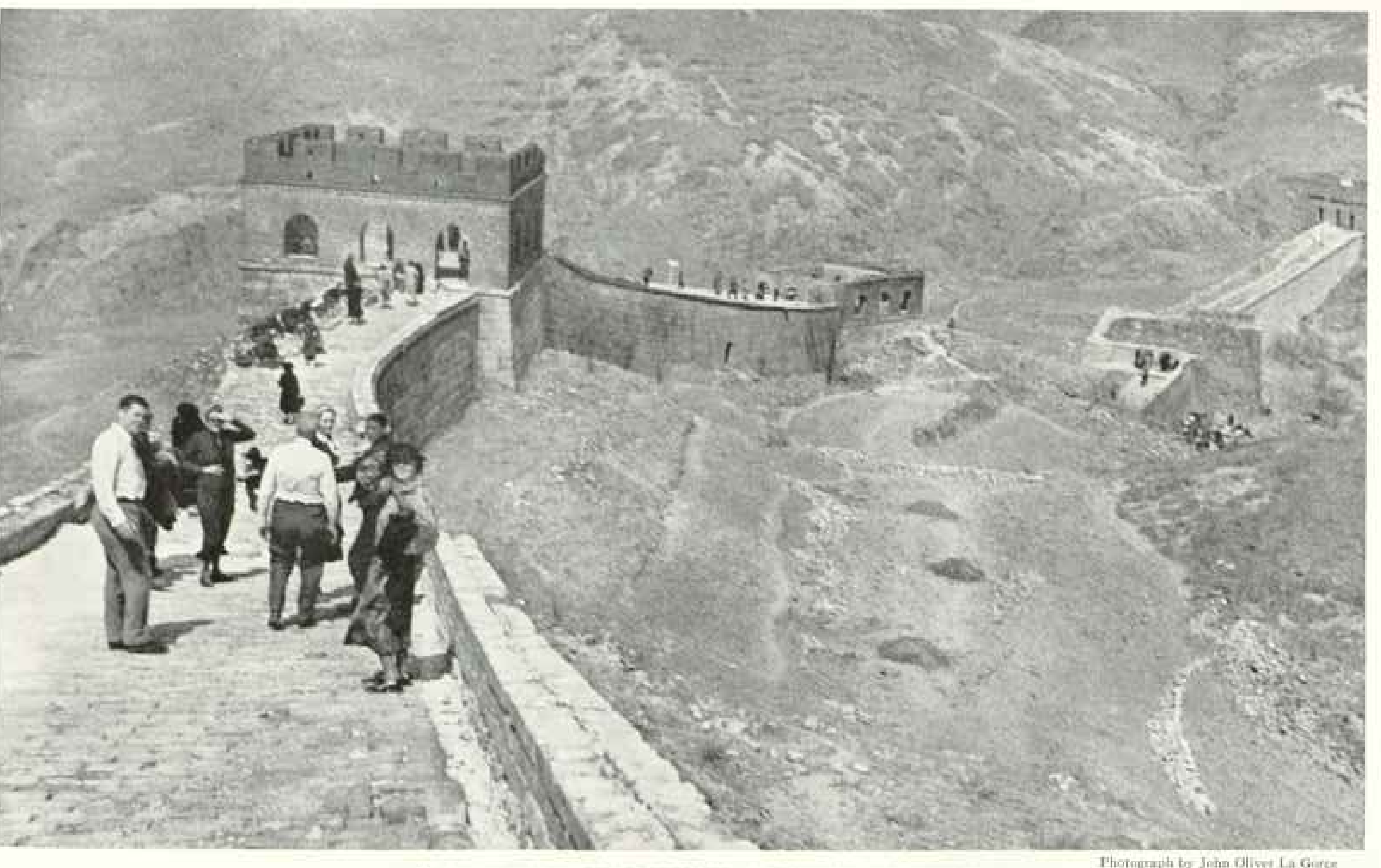
WIRELESS CRACKLES OVER ANCIENT DRAGON-CROWNED ROOFS

The Jade Fountain, a lovely stream that breaks from the hills some six miles west, feeds the fine lake on which stands the old Empress Dowager's Summer Palace. Then, conducted within the Wall, it spreads itself through the three artificial lakes, around

Photograph by Ewing Galloway

THE FAN AND FEATHER BRUSH SALESMAN RESEMBLES A FANTASTIC BIRD AS HE WALKS THE STREETS WITH HIS STOCK ON A FRAME ACROSS ONE SHOULDER

When a customer approaches, the peddler sets his display rack on the ground so that the usual extended dickering may be carried on at leisure. Fans are frequently made of paper, silk, and dried palm leaves. Their use has become so habitual with all classes that sometimes a Chinese may be seen fanning himself while standing in a lively breeze! Among the upper classes, fans are part of a man's or woman's personal equipment. There are styles for special festive occasions and for spring, summer, and autumn, until cold weather sets in. An abandoned wife is sometimes called an "autumn fan," meaning that in her husband's eyes she has outlived her usefulness. The people employ fans for all sorts of purposes: to dust off furniture, blow up fires, cool their food and tea, and to shade their eyes from the sun.



Photograph by John Oliver La Gorce

MAN'S MIGHTIEST RAMPART BECOMES A PEACEFUL PROMENADE

Visitors to the Great Wall come from Peiping by train to Nankow Pass, on the native-built railroad which links North China with Kalgan in Inner Mongolia (see map, page 278). This, a well-preserved section of the wall, is really an inner line of defense, the outer being at Kalgan. The top of the fortification is wide enough in many places for two automobiles to be driven side by side.

Photograph by W. Robert Moore

PEDDLERS LIE IN WAIT FOR TRAVELERS WHERE GUARDS IN MEDIEVAL ARMOR ONCE KEPT LOOKOUT

Venders of camel bells, pipes, good-luck charms, and other trinkets ply their trade at one of the watchtowers on the Great Wall at Nankow Pass, some 40 miles from Peiping. This mighty barrier writhes for nearly 2,000 miles across high mountains, deep ravines, and barren wastes, separating the fertile plains of China from wilder lands to the north. Though once useful as a protection against raids, it never stemmed a major invasion.

which are laid the pleasure gardens that successive imperial dynasties have loved and ornamented (see pages 290, 303).

The Chung Hai was the site of the first presidential palace: Yuan Shih-kai took up his residence in it. Now some of the buildings are used by the Ministry of Communications, whose wireless installations crackle and hum over the bright, dragon-crested roofs.

Southeast of the Wu Men, the Meridian Gate, is the Tai Miao, the Ancestral Temple. Its walks stretch under some of the oldest and finest trees in the city. They are very thick, and the tall mass of the Meridian Gate shuts away the afternoon sun. Gloomy, the place is frequented only by crows and young couples who desire seclusion.

More popular is Central Park, to the west, opening also off the Tung Chang an Chieh. On a spring afternoon, when the plum trees and the cherry trees are in bloom, it is certainly one of the most delightful places in the world. There are restaurants and tea gardens under avenues of trees; there are ornamental waterways, the most elaborate and wonderful goldfish, and walks that wind through rock gardens and lines of flowering trees (see page 301).

To this park come Chinese gentlefolk, with their families; the small admission fee, five cents or so, suffices to exclude the beggars and the coolie class. Poets and philosophers talk endlessly over tea and watermelon seeds, and family parties of three generations sit together in great good humor. Young men and women in fine new summer silks walk up and down; and many of the girls are lovely, with skin like magnolia petals, and slim, exquisite figures, and narrow black-fringed eyes aware of spring.

READY-COOKED FOOD FROM MOBILE KITCHENS

The life of Peiping flows along its streets.* The citizens do not keep house, in the Western sense; they buy their food, ready-cooked, from street venders as it is needed. On every corner you will see a mobile kitchen, with cooking pots and braziers, trestles for counters and benches for the trade, and a brass gong which the proprietor hammers mightily in the intervals of business.

The Chinese foods are a study in themselves. There are boluses of dough containing chopped meat, rolled together amid the dust of the street, and turned out hot while you wait: and huge piles of fried cakes, the staple of the coolies; and over everything hangs the smell of bean sauce. There are dozens of messes, at the nature of which you can only guess.

Most appetizing to see are the trays of chicken—small broilers, split and cooked in a fashion that gives them the appearance of being lacquered. These the housewife may take home, or the customer, stricken with hunger as he stands, may eat on the spot, tearing his bird apart with his fingers and washing the mouthfuls down with tea.

SCULPTORS IN DOUGH OR SUGAR

Each dealer is a specialist. This fellow may purvey sea foods, that one meat, and another vegetables, raw and boiled. Most diverting is the noodle man, and most important, for Chinese life without noodles is unthinkable (see illustration, page 299).

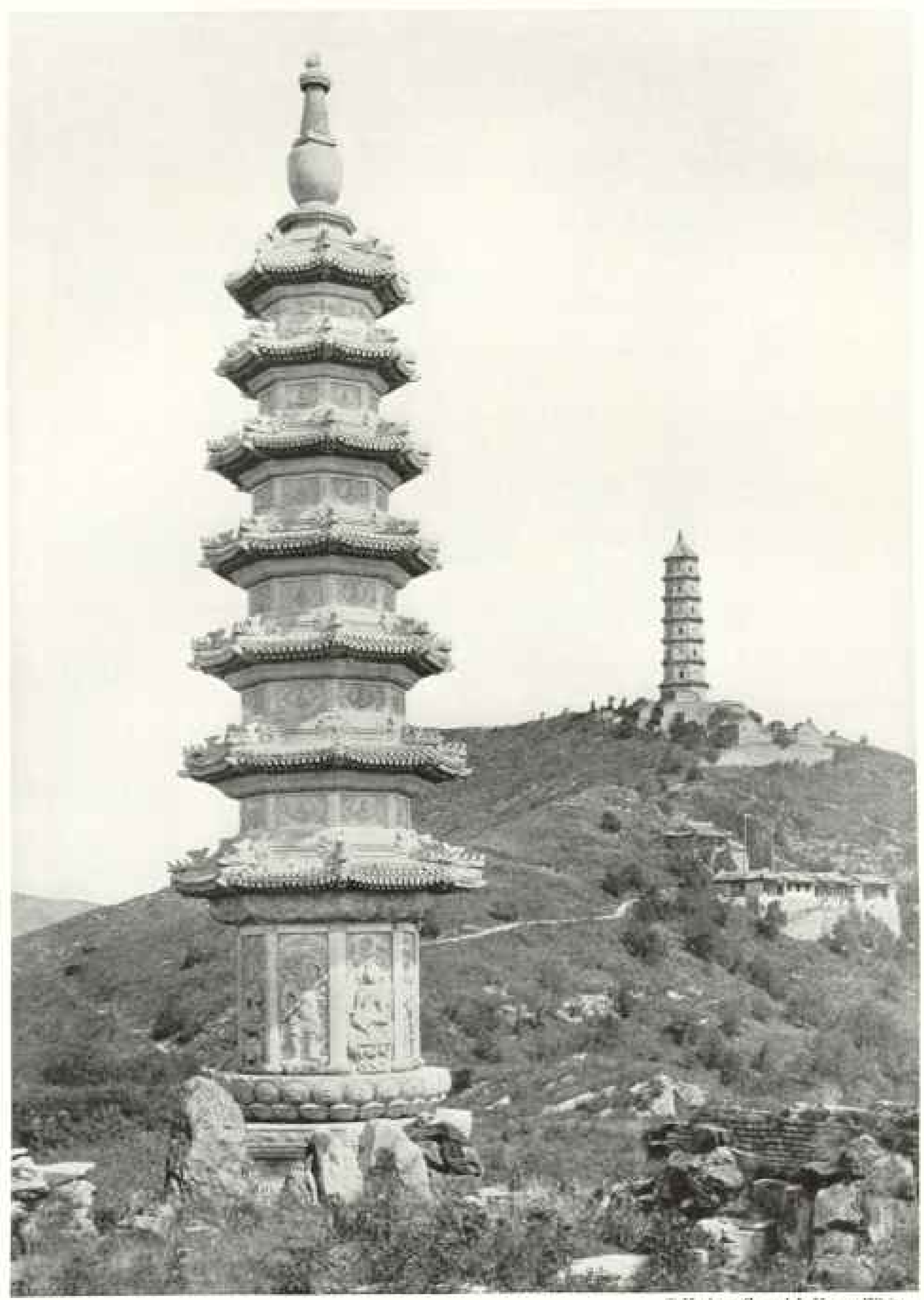
To see a good noodle man at his mystery is to admire a finished artist. His equipment includes a flat board and a roller, but he does most of the work with his fingers. He sprinkles flour thriftily, catches up a lump of dough, and rolls your noodles to your specifications. You can have them round, square, flat, or hexagonal. In his fingers the dough becomes fluent as water and alive as a handful of snakes, yet under perfect discipline. The strands pull out like candy, divide, and subdivide, and divide again, quadrupling with every pass, until they are as fine as spaghetti.

Old residents of China, entertaining outlanders, bring in noodle men to exhibit their art in the drawing room after dinner, and they give no bad show.

Accomplished persons also are the candy men, whose stands delight the children of the streets. The candy merchant blows and spins melted sugar into fantastic shapes, working with the technique of a sculptor and the finger-craft of a lacemaker.

He sets out, on his barrow, tiny melting pots and braziers, jars of bright-colored sugars, a whole battery of blowing-reeds in graduated sizes, and a light cane frame for the display of his productions. He takes his sugar, heats it, manipulates rapidly and mysteriously, and brings admirable things into being: a rat with an expressive tail; a lotus flower, petals and all, exactly colored; an ornamental vase with a slender neck, a

* See "'The Man in the Street' in China," by Guy Magee, Jr., NATIONAL GEOGRAPHIC MAGAZINE, November, 1920.



© Herbert C. and J. Henry White

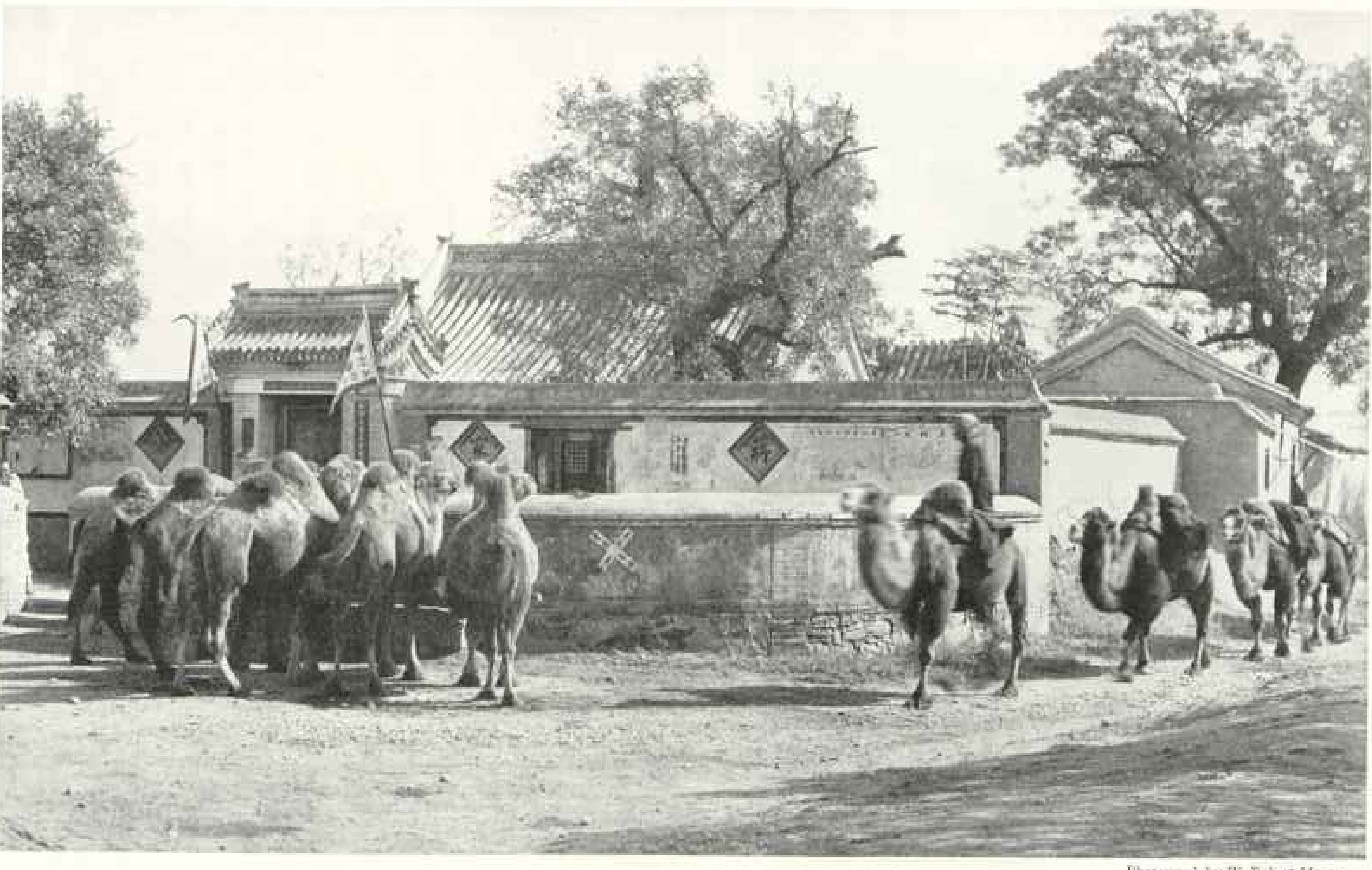
LIKE A WHITE LILY, THIS MARBLE PAGODA RISES IN THE "GARDEN OF PEACEFUL BRIGHTNESS"

The park of the Jade Fountain, not far from the Summer Palace, was an imperial pleasure ground for about 700 years. Emperor Kang Hsi built this graceful seven-storied pagoda and also the larger one crowning the hill beyond. According to old Chinese writers, the latter was the finest of 10,000 pagodas once reputed to exist in and around Peiping.

Photograph by Lionel Green

COOLIES SPEAR FISH NEAR "OLD BUDDHA'S" SUMMER HOME

The plentiful supply of sparkling water from the near-by Jade Fountain spring, which feeds this lake, caused China's sovereigns to maintain their pleasure palaces for centuries in the neighborhood. Emperor Chien Lung dubbed the fountain "First Spring Under the Heavens." Empress Tzu Hsi, virtual ruler for nearly half a century until her death in 1908, built the famous new Summer Palace above the lake's white marble balustrade.



Photograph by W. Robert Moore

CAMEL TRAINS STOP TO TAKE ON WATER

They have just delivered loads of fuel in Peiping, and now halt at a village watering trough on their way to the coal deposits of the Western Hills, about ten miles from the metropolis. Marco Polo wrote of "a sort of black stone, which they (the Chinese) dig out of the mountains, where it runs in veins. When lighted, it burns like charcoal, and retains the fire much better than wood; insomuch that it may be preserved during the night." On his deathbed friends urged the explorer, for the peace of his soul, to retract such incredible tales.

Photograph by J. T. McGarvey

IT'S WASH DAY FOR BABY AS WELL AS FOR CLOTHES

Probably this creek, near the Summer Palace, is none too clean, but the youngster seems to enjoy it just the same. His elders, squatting on the bank, are busy with the family laundry. One holds a stick with which she beats the clothes, the pounding having about the same effect as rubbing on a washboard.

mounted warrior of wild and romantic aspect; and—for clients able to pay the price—a wondrous dragon, complete with scales, horns, and dreadful claws. His young patrons stare, and gasp, and purchase thriftily with small coppers.

The peddlers on the streets raise their cries all day and all night, distinctive and more or less melodious. The minor wail of the prawn vender is readily distinguished from the lamentable howl of the persimmon salesman. Others, hawking their specialties, attract attention by striking gongs and by brandishing hollow wooden ducks which give a resonant sound. The sellers of sweet water—drinking water—trundle their dripping tanks on barrows, and their ungreased wheels need no further announcement.

Statistics in China are never reliable. Because statistics have been from time immemorial the computed basis for taxation and military service, citizens have carried the arts of falsification to extreme refinements. But one concludes that about half the good people of Peiping live by peddling things to the other half. I have stopped in the country with a company of Marines on maneuvers, miles from town or any visible habitation, and, within ten minutes of the time we had our rifles stacked, there would be a hundred and fifty Chinese around us, of all ages and conditions. A third of them would be selling something in the line of food or drink—soda water, mineral waters from the Jade Fountain, persimmons, chestnuts heated and ready to eat. Others had bronze arrowheads from the Great Wall, and spurious Han medallions.

Only the curios are conceivably aseptic. Westerners do well to avoid casual eating in this romantic land, because of the sudden and drastic stomach ailments that may follow indulgence in unpedigreed foods.

CHEAP GLASS AND FINEST JADE

The sidewalk merchants line the broad streets. A square of blue coolie cloth is spread in the dust, and the proprietor squats beside it, his goods displayed in orderly arrangement. Most of it is cheap stuff—gewgaws, imitation jade and glass, odds and ends inconsequential as a magpie's hoard.

Photograph from International Newsreel

THIS HIRED MOURNER ESCORTS A PAPER EFFIGY TO A GREAT MAN'S FUNERAL

The image represents one of his concubines and will be burned at the grave, along with models of horses, books, and other personal property, so that in heaven the dead man's spirit may enjoy all the comforts of home. A brass band plays as the procession marches, while professional mourners, in sackcloth, sob and moan at command of a master of ceremonies.

Yet you stop to look, because one of the perennial Peiping stories is of the innocent tourist who bought from such a vender what he took to be a ring of Peiping glass for one dollar, Mex. Next day an expert—the place is full of experts—discovered that the ring was of the very finest jewel jade, worth fifteen hundred gold! Rare old things may be picked up, by luck and skill, but most of such stuff is trash.

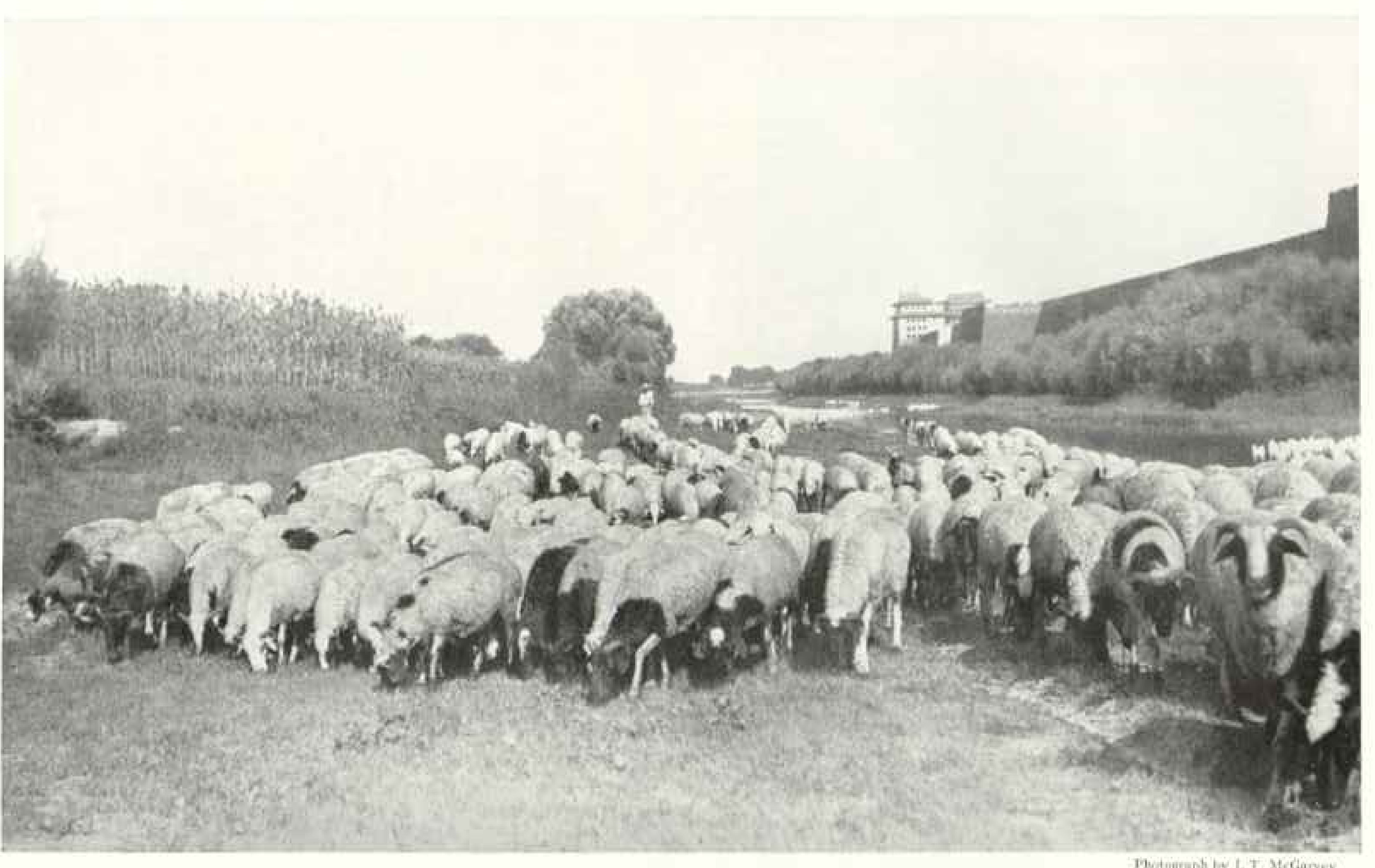
There are curio shops where, as in Marco Polo's day, rare and valuable things of the world are up for sale. They exist in wide variety, with objects and prices graduated to every purse and taste. Some shops are reputable, and assess honestly the things they sell, and stand behind them. But in most shops, let the buyer beware.

A great many Chinese have been making a great many things, with patience and no little artistry, through twenty or more centuries, and much of the best stuff has drifted into Peiping at one time or another. But it has all been picked over; and the best is endlessly copied. The Chinese are consummate imitators. In China all things have their price; museum guards have been known to be bribed and to look the other way while a clever imitation was substituted for a coveted original.

There are, of course, certain hallmarks of authenticity, known to experts; yet I have seen piled upon the back of one small porcelain horse as many opinions as there were experts in the conference. If that horse had been Tang, as one expert certified, it would have been worth considerably more than its weight in gold; if a modern imitation, as the other asserted hotly, about eighty cents Mex. would have been a fair figure.

The dealer who displayed it is an honest person, and declined to be a party to the argument, or to decide where experts disagreed. She offered it to me for $18 Mex., which was the price she paid for it; and I have it now.

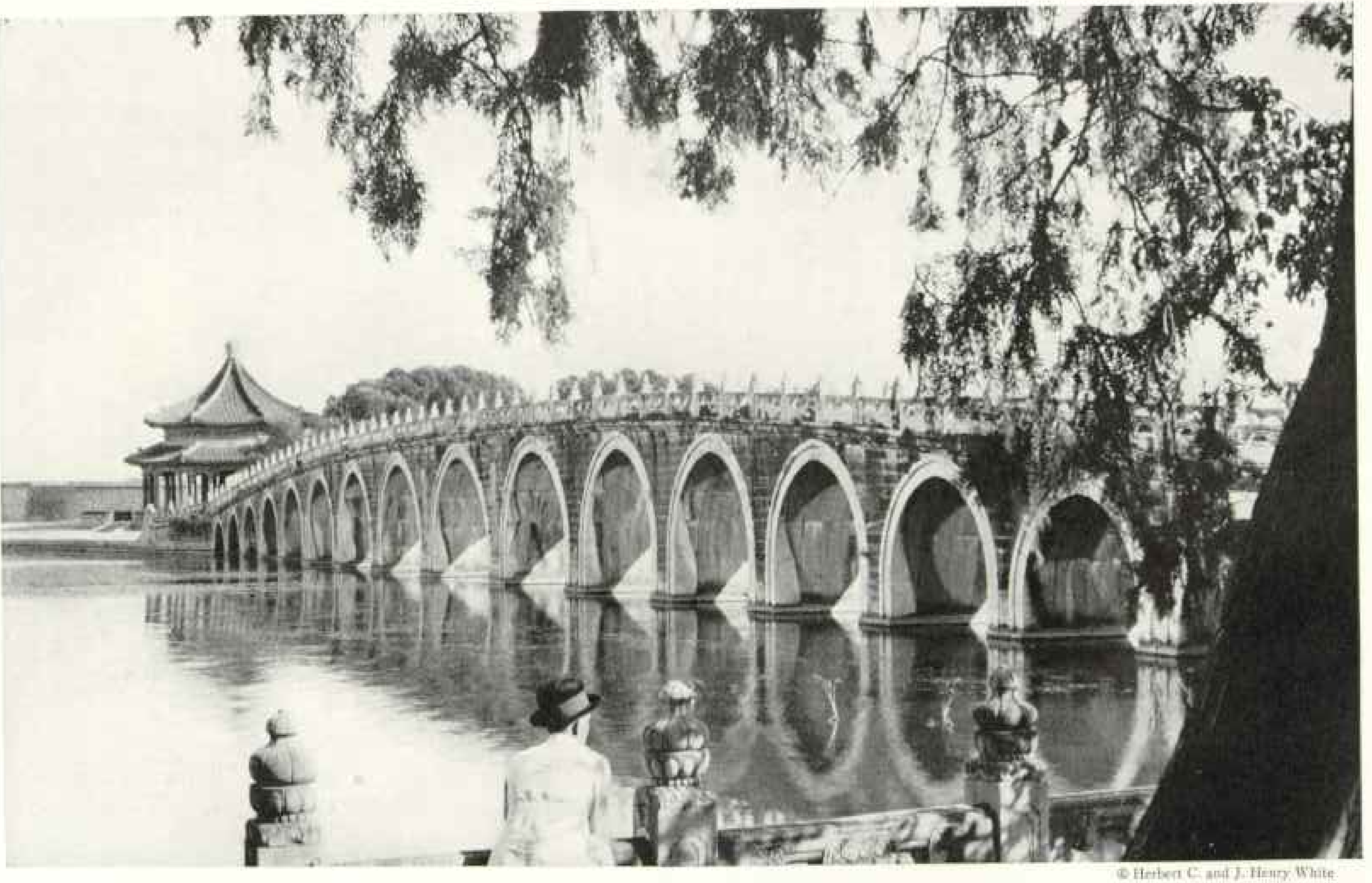
There are, however, authentic treasures. I remember a small, shallow Ming bowl in a private collection, as thin as an eggshell, and as transparent as parchment. When you held it to the light you saw a dragon curled



Photograph by J. T. McGarvey

THEIR PASTURE FENCE IS PEIPING'S CRENELATED WALL

Large sheep with curious black markings graze in a peaceful spot just north of the teeming city. Wool is used by the Chinese as a lining for winter garments and also is made into rugs.



© Herbert C. and J. Henry White

THE 17-ARCHED MARBLE BRIDGE OF THE SUMMER PALACE IS OLDER THAN THE UNITED STATES

It leads to a shrine on an island rising out of the artificial lake's blue waters, where in imperial times gay parties of nobles rowed in gorgeous barges of state. Decorating the bridge's gleaming white balustrades are lions carved in marble. The old Summer Palace was destroyed by European troops in 1860.

around it, perfect in every scale and claw, altogether marvelous; and it rang like a little silver bell. A museum might own it, or a very, very rich man. And there are old bronzes, older than the Christian Era, with the ancient "grass writing" engraved upon them; gongs, vessels, incense burners, that have the inimitable feel and patina of great age, and a graciousness of outline and proportion that has been lost for two thousand years.

There are carved ivories and jades and crystals of patterns delicate as flowers, each one the labor of a craftsman's life, all of breath-taking loveliness. There is beauty in the widest variety of forms, and now and then something superlative, for which no expert testimony is required.

BAZAARS SELL EVERYTHING IMAGINABLE

The bazaar off Morrison Street, near the Legation Quarter, is a place worth visiting. In it hundreds of little stalls and shops, partly roofed, partly open, offer for sale everything that you can imagine in the way of food, drink, wearing apparel, toys, books, and ornaments.

For the housewife there are trays of lacquered chickens and ducks, shark fins and birds' nests from the south; all manner of dried and salted fish and meats, nuts, candied fruits, and fresh fruits in season. The fruit stalls are particularly attractive, for the Chinese has an exact eye for form and color; and the grapes, the golden persimmons, the vegetables, and the assorted nuts make splendid displays.

There are whole army corps of toy soldiers, made of painted clay; horses, wooden swords, horrific dragons, coiled snakes that spring at you from boxes. The brass merchants offer Benares ware and its Chinese imitations, and elephants carved in ivory, ebony, and bone.

There are bookshops and stationery shops with sheaves of brushes and cakes of ink, attractive to scholars.

Here goldfish are displayed, and there flowers. Clothing, both Chinese and Western, is offered. You may buy fur caps and walking canes, riding crops, and old books in any language, porcelains and bronzes and jades, and cheap cigarette holders.

The place is crowded night and day, stifling hot in summer, and bitter cold through the winter months.

Elsewhere, each craft has its section and its street. You go to Lantern Street in the Chinese City for lamp shades and paper ornaments, and horn lanterns, now getting rare and all very old. Bead Street and Silver Street offer jewels and fine metals. The rug sellers display their weavings in a long row down Chien Men Street. Elsewhere are the furniture houses, offering the polished loot of old palaces and the manufacture to order of anything new.

"HONORABLE SPRINKLERS OF WATER"

Peiping lingers in the handicraft age. Industrialism will mean another set of troubles for the already sorely perplexed land. A case in point is the recent matter of the water sprinklers, the ancient and honorable association of persons who, through generations, have followed the profession of laying the dust by scattering dippersful of water along the wind-scourged ways. Their operations are entirely ineffective when there is any air moving, but the occupation is a respected one and gives employment to perhaps eleven thousand of the craft.

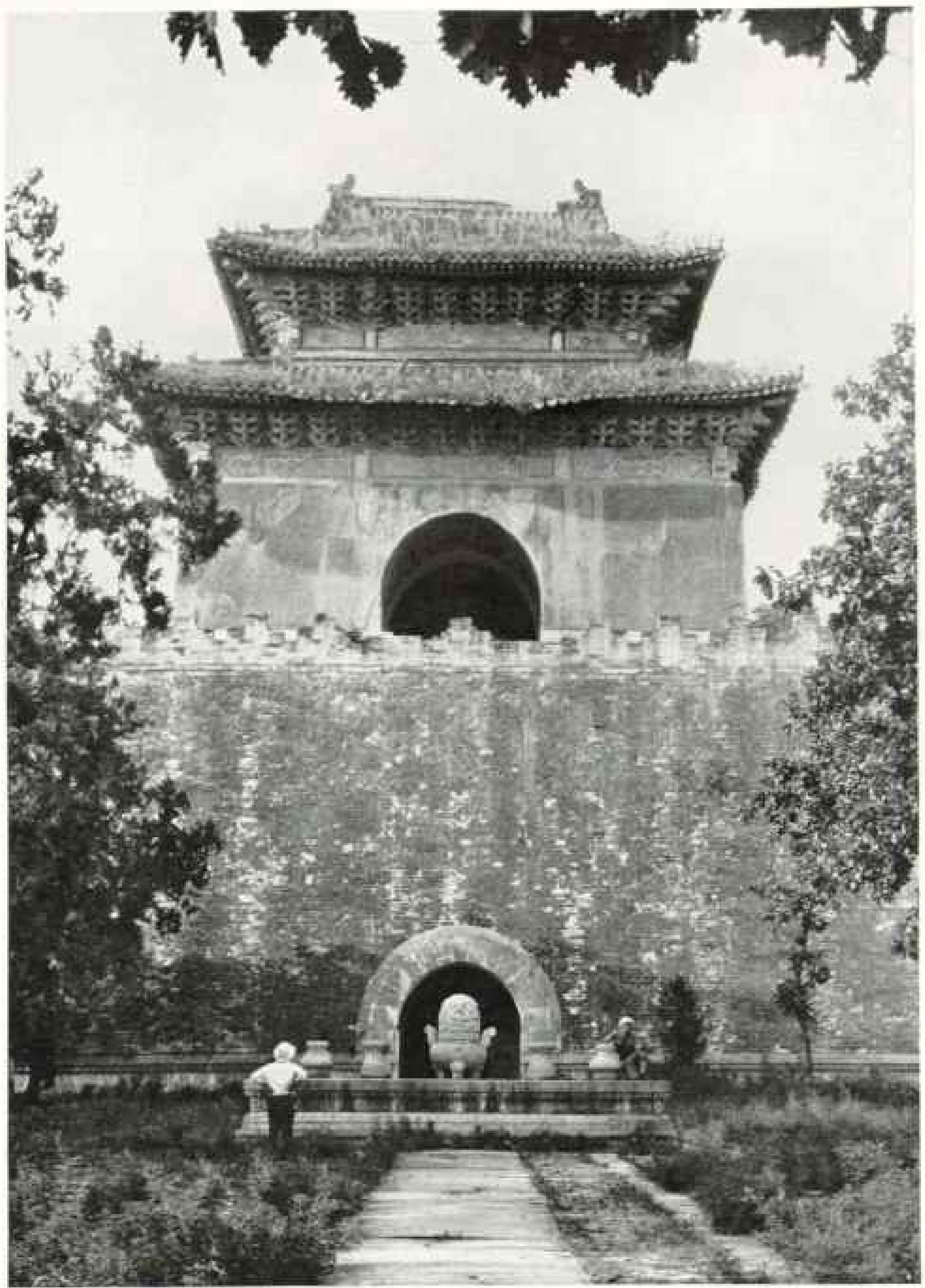
Recently, a European firm offered the municipality a fine bargain in motorized water sprinklers, pointing out the saving in money and the increase in efficiency that would follow. The municipality was impressed, and had about signed an order, when representatives of the water-sprinkling profession protested.

"It may be true," they said in effect, "that twenty men, on ten of these devil-wagons, will lay more dust than we do. But we will be out of a job, eleven thousand of us. We and our fathers before us have been honorable sprinklers of water. We know no other profession. How will you then feed us and our families?"

The Mayor saw the point, and, as this is written, the water sprinklers are still employed, with their dippers and their little wheeled tanks.

Ricksha coolies are a special study. There are a great many of them, swarming and clamorous. In 1933 about 35,000 were registered with the police (see page 307).

The aristocrats of the profession are the private coolies, maintained by individuals at twelve or fifteen dollars Mex. a month. They are big men, deep in the chest and long in the stride, like Kentucky racehorses, capable of trotting from the Legation Quarter to the North City—three miles or so—without distress. Their little vehicles are elegant with brightwork and varnish,



Photograph by Herbert C. and J. Henry White

IN A COUNTRY OF FINE TOMBS, YUNG LO'S IS ONE OF THE GRANDEST

When the monarch designed it, more than 500 years ago, he intended it to be the noblest sepulcher in China. Crossing the courtyard, with its oaks and arborvitae trees, one enters the dark passage that leads into the "Soul Tower." A deathly silence always impresses visitors. Grass and weeds now grow between the yellow roof tiles, dislodging them and hastening the work of ruin.

Photograph by Branson De Cou from Galloway

"MAY BLESSINGS BE GENEROUSLY SHOWERED UPON THE PEOPLE OF THE CELESTIAL EMPIRE"

So read the four Chinese characters on the first of these two brightly painted wooden *pai-lous*, or archways, on the wide boulevard leading to the Forbidden City.

Photograph by W. Robert Moore

NOODLES OF MANY COLORS ARE SPECIALTIES OF THIS OPEN-AIR CAFE

The inquisitive crowd seems to have been drawn by the photographer rather than by the heaps of food. Noodles are dexterously made by hand and served in the small bowls on the counter (see text, page 288). The cook, in his none-too-white apron, seems a trifle annoyed at being interrupted during business hours. He and all the bystanders, mostly coolies, have on their warmest clothes, for Peiping's winter weather is bitter cold.

snowy seat covers, and tiny rugs for the footboards.

They have a pride of service, and clear the way with shouts as they proceed. They collect, also, fixed percentages, or commissions, rather, from the merchants, on every purchase the master makes from their conveyance; and the ambitious ones rise in station to houseboy, or even to the fine position of Number One.

Next in the hierarchy come the groups attached to the hotels and the tourist agencies, with recognized stands. They are likely to be robust, well-fed, and can act capably as guides for both shoppers and sight-seers. They also may rise in the world.

Lowest in the scale are the inferior carriers who cruise the streets, dependent on casual custom. Their vehicles are not so clean or so well-kept, and no proud patron sets them up in neat new garments. Some of these men are very old, and some very young, and their living is scanty and precarious. They must pay their rent—nearly all rickshas are rented by the day from contractors, as are taxicabs in some American cities—and they must eat on such few coppers as are left over.

RICKSHAS EQUIPPED WITH NEW JERSEY WHEELS

The authorities say that seven years is about the life of a public ricksha coolie. Their exertions drench them with sweat in all weathers, and they cool off under inadequate coats; pneumonia and tuberculosis take many of them.

The guild of ricksha coolies is large and powerful, and it made great trouble for the Peiping municipality when the first tramcars were introduced. It assembled in mobs against the cars, picked them up bodily, and flung them off the tracks; but there still appears to be custom enough for both carriers. The vehicle itself is comfortable to use, and light and ingenious in construction. The wooden parts are made and assembled locally; but the wheels and metal housings are largely manufactured in the State of New Jersey. They run smoothly and are miracles of balance, so that, once the coolie gets under way, his load rolls easily behind him.

No one hurries much in Peiping, and for movement in the city, many prefer a ricksha to a motor car. It is cheap transportation. For twenty cents Mex. you can ride anywhere. The coolies light little spirit lamps after sundown and drift like fireflies along the boulevards. The pad-pad of their feet is one of the distinctive street sounds of Peiping.

The broad paved thoroughfares have sonorous titles, and on them traffic passes swiftly from one side of the city to the other. Running off to each side, as irrational and aimless as cow paths, are the *hutungs*, or alleys—along them great residences, temples, humble dwelling places, restaurants, cabarets, singsong houses, and shops huddle side by side, without order or system.

Unpaved, muddy in wet weather, dusty in dry, lighted scantily or not at all, the Peiping hutungs are singularly uninviting in aspect, depressing to travelers. Hardly anywhere are they wide enough for two motors to pass abreast, and rickshas are forced to maneuver carefully through them. Except for the shop fronts, they offer to view monotonous mud-colored walls, ten feet high or more, with broken glass set in the masonry on top to discourage unauthorized visitors.

The only relief is an occasional red-painted door, with massive studs of brass, indicating something important on the other side. Through such a door you may find, beyond the scowling gate gods and the inevitable spirit wall, gardens and pavilions of utter beauty. But there is no hint of the interior from without.

THOUSAND SONS LANE AND CUTTING THROAT ALLEY

At their best, the hutungs are filthy, the receptacles of sewage, the playground of brats and surly dogs, and the natives who pursue their occasions along them perform their natural functions unabashed; but in their names the poetic genius of the Chinese flowers extravagantly.

For example, there are Collected Water Rapid; Thousand Sons Lane, so called because the families there were prolific in the time of the Mings; Full of Cash Alley, that was close to the imperial mint; Front Ink River—as distinguished from another dark and oozy gut near by called Back Ink River; Cutting Throat Alley, a region attractive to suicides; Flowers Worked with Kingfishers' Feathers Bend, known in Mongol dynasty days as Stink Hole, but a district given over to the manufacture of ladies' headdresses since the Mings.

Photograph by Herbert C. and J. Henry White

SNOW MAKES A GLITTERING FAIRYLAND OF PEIPING'S CENTRAL PARK

Brilliant reds and greens of the graceful double-roofed pavilion and fine old cypress trees are softened by a light snowfall in the city's popular playground (see text, page 288). The rough, water-worn rocks, grotesquely shaped, are highly prized by Chinese as garden ornaments. Frequently they bring high prices and are shipped long distances to grace the homes of wealthy people.

Photograph by J. T. McGarvey

TWO-WHEELED TRAFFIC FORMS A JAM AT ONE OF THE CITY GATES

Many of the passages through Peiping's walls are as narrow as tunnels in a football stadium. Rickshas lined up to wait their turn present a cross section of Chinese city life. Here are soldiers, women with parasols, a gentleman with a cane, and several parents holding babies.

Photograph by Adam Warwick

JADE FOUNTAIN WATER FLOWS BY CANAL TO FEED THE SUMMER PALACE LAKE

On the way it irrigates a patchwork quilt of ricefields. In the distance is the "Mountain of Ten Thousand Ancients," about eight miles west of Peiping, where stand the palaces and pleasure gardens built as a country retreat by the Empress Dowager Tzu Hsi, "Old Buddha" (see illustration, page 290).

Photograph from John Oliver La Gorce

SOLDIERS OF THE SEA PARADE ON HORSEBACK IN THE AMERICAN EMBASSY COMPOUND

The only "Horse Marines" in the United States Marine Corps are stationed in Peiping as a special detachment of the famous Embassy Guard. In blue dress uniforms with white caps, and with red saddle cloths on their horses, the mounted detachment makes a colorful display as it passes in review under the old Tatar City wall. This unit of about 30 men, trained and equipped like cavalry, dates from the days before motor transport, when horsemen were needed to round up and protect American citizens in case of trouble. Now Horse Marines are used for patrol duty, cooperating with other units of the Marine battalion in Peiping, where troops of Uncle Sam have been stationed since just before the Boxer uprising in 1900.

There are Pig's Camp, near the pig market; Lantern Market Alley, where Ming and Manchu gentry bought lanterns for the great festival of departed souls in the First Month of the Moon Year, and where you may still buy them; Perfumed Humanity Road; Road of Flowery Benevolence; Alley That Gets No Sun; Hat and Cap Establishments; Lane of Crystallized Fragrance, because, long ago, there was a garden that smelled sweet; and Hsiang Ehr, in the South City, named for a famous lady of pleasure, who lived there half a thousand years ago. Her beauty is still remembered.

PIGEONS WEAR WHISTLES

There is much bird life in the city. Crows and magpies are everywhere. Cuckoos are noisy in the tall trees, and in the early mornings the crested hoopoes walk familiarly about the compounds.

The Chinese are ardent bird fanciers, and any afternoon you may see old gentlemen—and young gentlemen, too—strolling with captive birds on sticks, to take the air. The bird stalls in the street bazaars are always crowded, offering species for any taste or pocketbook: hawks and falcons, thrushes, larks, and the strange bright-colored warblers and finches of Asia.

You will remember most the pigeons that wheel and dart in swift flocks above the city, because of the pigeon whistles.

The North City is largely residential, and therefore quiet. Riding through it, or sitting in some shaded compound for tea, you will hear shrill reedy sounds, thin and a little sad, coming down from the upper air. It is a noise unearthly altogether, coming, they tell you, from tiny cane pipes cunningly fastened to the pigeon's tail.

The birds are, of course, tame, going out from known dovecotes. One bird in each flock carries the whistle, and whether the others follow him because of his music, I do not know; but the noise comes from the rush of air through the cane.

But there are many pigeons over Peiping, and on a windy day, it is as if feeble, restless ghosts wailed in the air, lamenting things far off and long forgotten.

LIFE IN THE LEGATION QUARTER

If you look from Coal Hill along the Tatar Wall, between Chien Men and Hata Men, you see familiar flags flying: American, English, French, Japanese, Italian, Spanish, Netherland, German, Belgian, Danish. These, with the tall radio towers of the American Guard, mark the Legation Quarter. It lies against the south wall, from Chien Men east to Hata Men, and north to the Tung Chang An Chieh, about a mile by three-eighths of a mile.

It is a narrow rectangle, surrounded on three sides by defense walls loopholed for small arms, after the tactics of the early nineteen hundreds—before high-angle fire was much considered—and by the open expanse of the International Glacis.

Within it are the Legations of the Powers, the foreign banks, a few foreign business establishments, a hotel, the compounds of the Customs, Salt, and Postal administrations, a number of residences and apartment houses occupied by foreigners, and the foreign clubs. It is a city within a city, planned to be self-sustaining through an indefinite period.

The Legations were not always concentrated. Before 1900, the Boxer year, they were scattered. But in that year the Legations had a bad time of it: underwent a highly unpleasant siege in the hot weather, June to August, and were relieved when very near the limit of their rice and pony-meat, by an International Column that had no easy progress up from the sea.

The British preserve a stretch of the bullet-chipped wall that covered them, now inscribed, "Lest We Forget"; and there is a fragment of the old German barricade on the Tatar Wall, where the German Guards and the American Marines fought back to back, the one facing Hata Men and the other Chien Men.

In the Boxer Protocol, the instrument that adjusted matters when the chastened Imperial Government consented to see reason, the Powers took over this area for themselves, declared it international territory, and organized it on a permanent basis. It is administered by an International Council, and has its own police force, water system, and power plant.

The Americans, British, Italians, French, and Japanese maintain Legation Guards on the station, and their bugles, marking the hours musically, are pleasant things to hear in an alien land.

The Glacis is the field of international sport. The Marines have a baseball diamond; the British strive stolidly at rugger; the Italians have an adroit contest played with a rubber ball; and the Japanese, ever the most ardent of warriors, clutter

Photograph by W. Robert Moore

A HOUSEWIFE WITH BOUND FEET SHOWS HOW TO GRIND KAOLIANG

It is no small task to pull the heavy stone roller round and round over the sorghumlike grain until it is ground fine. Among older women, bound feet are very common, but the custom has been largely abandoned by the younger generation.

their section with barbed wire and practise trenches.

On the French Glacis we all play polo; and a bridle path passes around the whole, where one may exercise his ponies and condition his liver against the assaults of food and drink sustained in the hospitable houses of the Quarter.

The foreign colony has long outgrown the housing resources of the Quarter. Missionary groups have increased, and the Rockefeller Foundation has brought out numerous professional men with their families. There are persons who follow the arts and sciences, and other persons who reside in Peiping because they love it, amiable people with much leisure. Most of them find houses in the Southeast City, between Hata Men and the Wall, which is not at all the most salubrious section, but that in which the Chinese landlords appear most willing to rent.

The Legation Quarter has clean and well-paved streets, and an atmosphere of security. But China is a place where anything can happen—and occasionally the air becomes electric with tension. Then the Quarter is a refuge, and the rich Chinese are the first to take advantage of it. They crowd to the foreign hotels with their families and connections, and the vaults of the banks are crammed with their treasures.

Your servants smuggle their relatives and friends into their sleeping quarters, and, if the peril appears imminent, the ministers order in their nationals, the teachers, the missionaries, the doctors, and the people living outside in the city.

BESIEGED—AND NOT FOUR FOR BRIDGE!

Billets are assigned according to the floor space available in the houses of the Quarter, and some queer combinations result. I remember the distress of a hardy bridge-playing lady, when she saw a billeting list drawn to anticipate an emergency which almost developed in 1933. Of the 22 adults assigned to her large house, there were two important personages who had declined to speak to each other for years, and in the entire group, she lamented, she couldn't assemble a four for contract!

On the whole, I know of no more attractive and pleasant living in the world than

Photograph by Branson De Cou from Galloway

BORN TO A LIFE OF LABOR

Human muscle is cheap in China, and coolies even take the place of draft horses and motors in hauling heavy trucks. Their usual wages are a few cents a day, with which to buy food, tea, and an occasional cigarette.

life in Peiping. No matter what your special interest is, you find some one to share it with you. The groups are diplomatic and military, artistic and scientific, and all social. One can organize his arrangements as simply or as elaborately as he desires.

The concessionaires and the collectors of foreign loans have followed the Government to Nanking, or operate from Shanghai, which is the Hoboken of the Orient.*

Nothing exists in Peiping for the go-getter, the forward-looking business man: he abides in hells of his own making in the Treaty Ports. To him the ancient capital is dust and dry bones; it has no night life worthy of the name.

In Peiping there is time for a nap after lunch, and for conversation, and for training polo ponies and steeplechasers. It is probably enervating, but it is certainly very nice—if you like that sort of thing.

There is the consciousness of Asia pressing all around, mysterious and a little ominous, so that an intimacy, like the intimacy of a ship at sea, is induced.

PEIPING IN LATITUDE OF WASHINGTON

Peiping is not, by any stretch of imagination, a healthful place. Sanitation by Western standards is something that the Chinese never heard of, and the very air is septic with the filth of centuries. If your sinuses are sensitive, avoid the city, except in May and October, when there is little wind and consequently, little dust. People die in Peiping with terrifying suddenness, from obscure belly complaint.

The city lies on about the same parallel as Washington, D. C. The temperature range is from ten degrees below zero, or colder, to 110 above, or more, so that the Marines who stand sentry duty on the American sector of the Tatar Wall have reason for the claim that their post is the hottest and the coldest anywhere. But it is a dry heat and a dry cold, and not trying if you are properly clad.

Late spring and early summer bring rains—occasionally torrential downpours, which collapse mud walls and send the

* See "Cosmopolitan Shanghai" and "Coastal Cities of China," by W. Robert Moore, NATIONAL GEOGRAPHIC MAGAZINE, September, 1932, and November, 1934.

ricksha coolies splashing knee-deep along the Tung Chang An Chieh. December and January may see a little snow. But most days in the year the sun shines from a cloudless sky.

DUST STORMS SHOWER SHIPS AT SEA

The dust storm is the most impressive phenomenon of the region. Long ago North China was deforested. The hills that rim the plain are treeless, and bear the scantiest covering of grass; wind and erosion have stripped them to their rocky bones.

After the crops are in, the thrifty natives sift the very dust for grass blades, roots, and seeds. The best of their gleaning is eaten, and the residuum is pressed into little cakes for fuel. Therefore, in the fall, the land lies naked, and the fierce winds that drive down from Mongolia pick up the top soil and carry it high and far, so that ships a hundred miles at sea receive it on their decks.

When the dust storms come, no person who can avoid it goes outside. The sun is withdrawn and there is a brownish gloom at noon, through which unfortunates who have to be abroad grope with their heads muffled in clothes, like wind-driven ghosts. You seal your windows and doors, but the fine dust sifts through, filming everything in the house, and flavoring both food and drink with grit.

Politically, the place is dead. The legations stand, but the ministers do their business in Nanking. Strategically, it is important as the communication center in the north.

Yet, the millions who have lived and worked and died in Peiping through the long centuries have set a seal on it that neither time nor politics can obliterate, for it has meant so much in the world for so long. It is still the gateway to a land rich and ancient in the spirit of the past, a land imperfectly known and little understood.

The Western Hills, where you go for week-ends in the guesthouses of ruinous temples, or maintain a villa yourself, are studded with shrines the meaning of which is forgotten, and slim minarets from the other side of Asia, and strange bottle-shaped monuments reminiscent of Tibet and India. All bear witness to the great ages when Chinese soldiers followed Tatar generals out to loot the world.

At Nankow, forty miles north, is the pass in the Great Wall. This stupendous structure runs from the sea at Shanhaikwan beyond the upper loops of the Yellow (Hwang) River—about as far as from New York to Denver, counting its turnings and windings (see map, page 278, and pages 286-7).*

Northwest is Mongolia, where live the nomadic groups of that formerly powerful race that once shook the world. West, the land rolls, mountain range on mountain range, to the high hills that hold up the sky: the Hindu Kush, the Karakoram—giant names. West and south are the inexhaustible millions of China, older than all of us, troubled and a little puzzled by the new impact of the machine age, yet vital with a fierce and enduring virility.

* See "A Thousand Miles Along the Great Wall of China," by Adam Warwick, NATIONAL GEOGRAPHIC MAGAZINE, February, 1923.

SOUVENIR OF STRATOSPHERE FLIGHT AVAILABLE TO GEOGRAPHIC READERS

In the belief that many members of The Society would wish to have a personal memento of the historic flight on Armistice Day, November 11, 1935, of the National Geographic Society-U. S. Army Air Corps balloon *Explorer II* to the highest altitude ever reached by man—72,395 feet above sea level—The Society has had a portion of the balloon's enormous gas bag made into the form of bookmarks measuring 2¾ x 7 inches. A suitable design and pertinent data concerning the flight have been printed on each little bookmark.

The continued strains to which the balloon was subjected throughout the two inflations and long hours of successful flight at great altitude made it advisable for safety to life to retire it honorably.

Any member of The Society may obtain one of these unique souvenirs of the flight, *as long as the supply lasts*, by addressing a request to the Treasurer, National Geographic Society, 16th and M Streets, N. W., Washington, D. C. They will be mailed with the compliments of The Society in acknowledgment of members' interest and loyal support that have made possible The Society's fruitful researches in the stratosphere.

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Immediately after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resulting given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

At an expense of over $50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization waning when Pizarro first set foot in Peru.

The Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole, and contributed $75,000 to Admiral Byrd's Antarctic Expeditions.

The Society granted $25,000, and in addition $75,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people.

The Society's notable expeditions to New Mexico have pushed back the historic horizons of the southwestern United States to a period nearly eight centuries before Columbus crossed the Atlantic. By dating the ruins of the vast communal dwellings in that region, The Society's researches have solved secrets that have puzzled historians for three hundred years. The Society is sponsoring an ornithological survey of Venezuela.

On November 11, 1935, in a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, *Explorer II*, ascended to an officially recognized altitude record of 72,395 feet. Capt. Albert W. Stevens and Capt. Orvil A. Anderson took aloft in the gondola nearly a ton of scientific instruments, which obtained results of extraordinary value.

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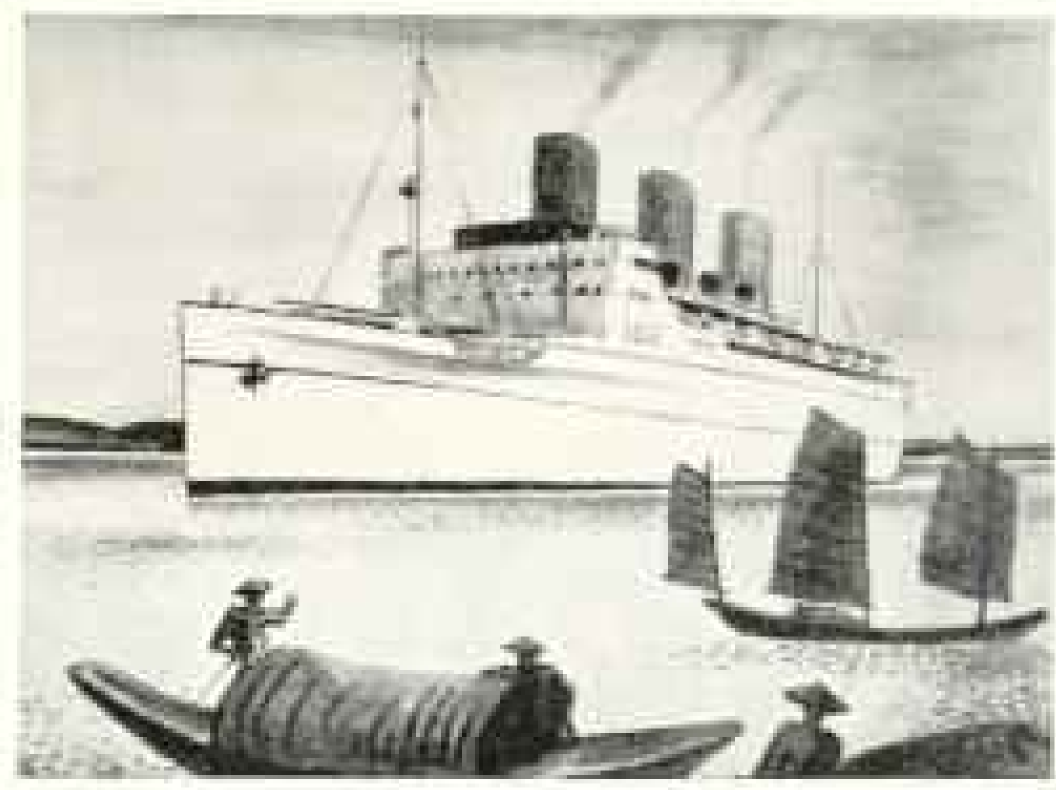

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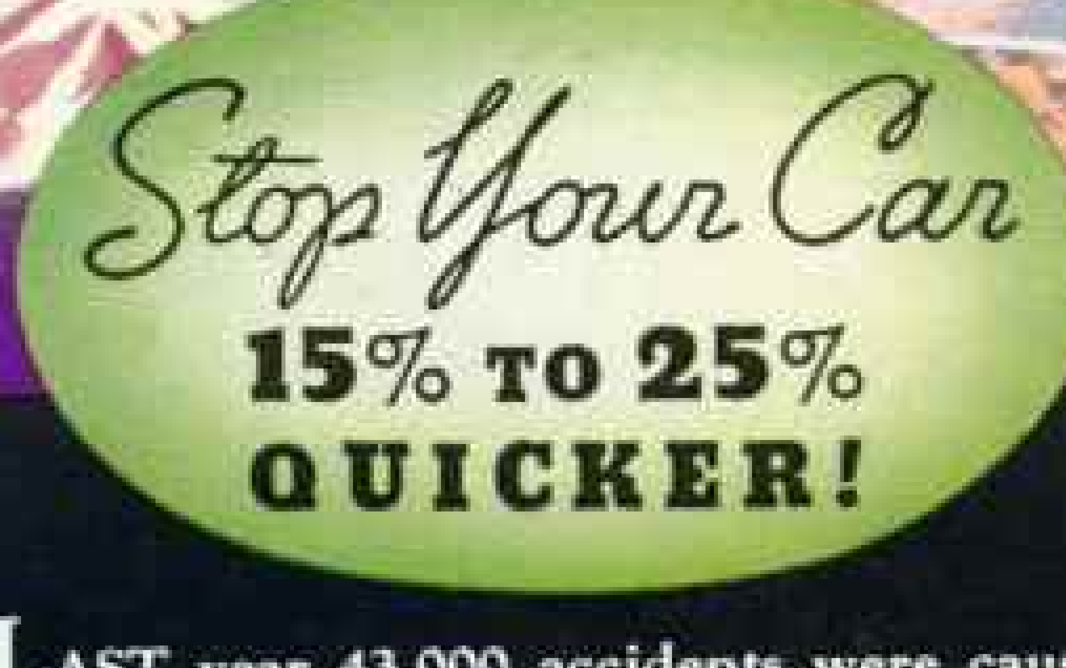

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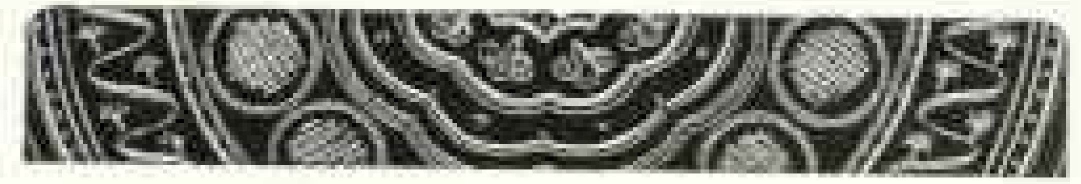

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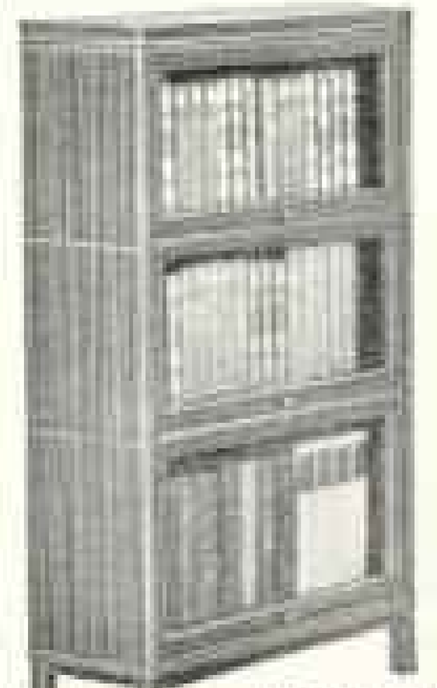

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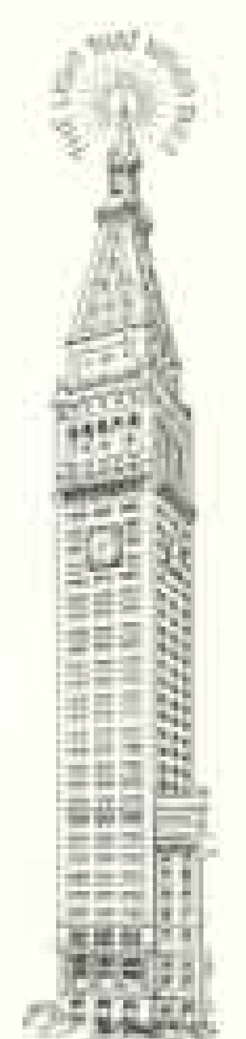

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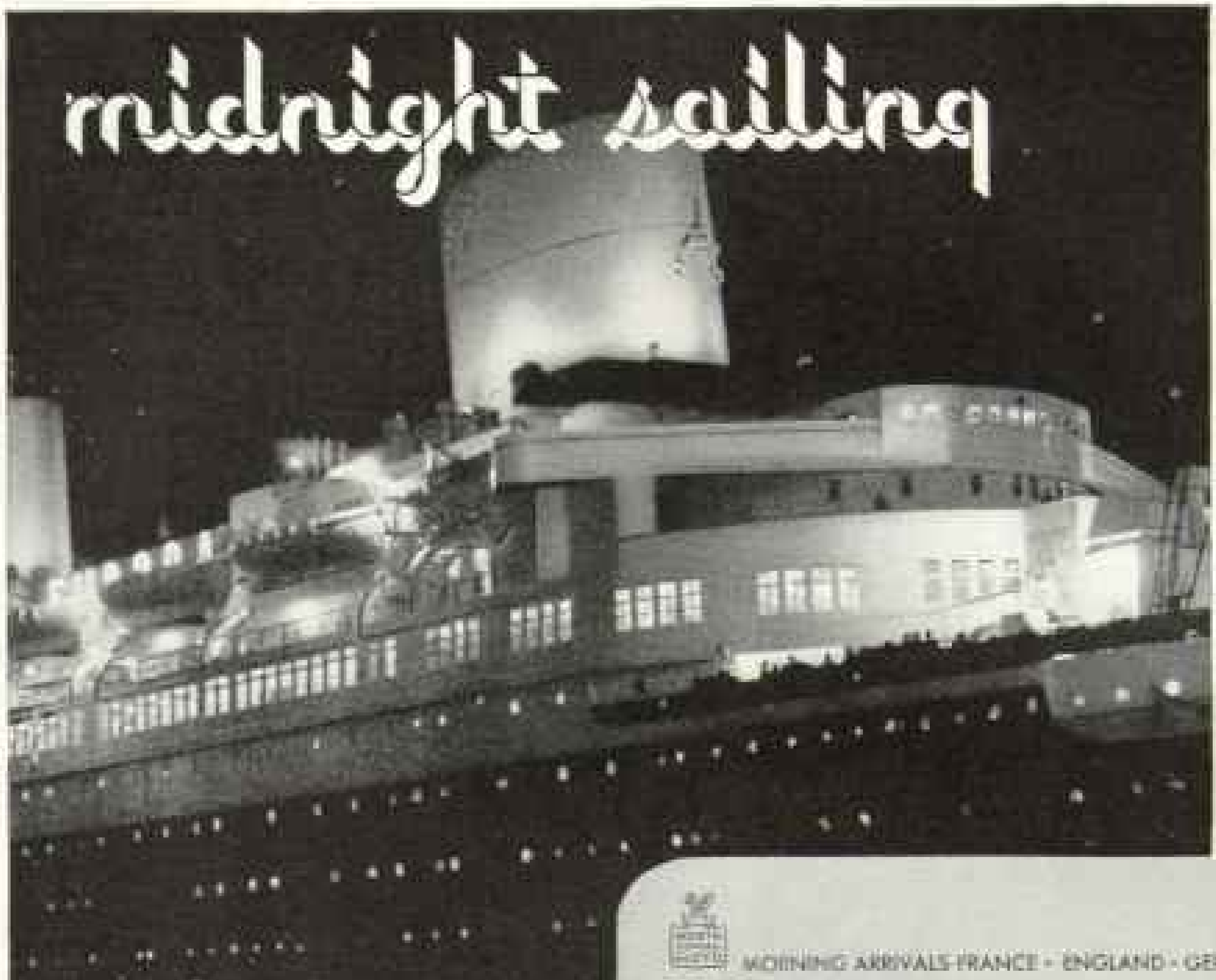

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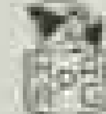

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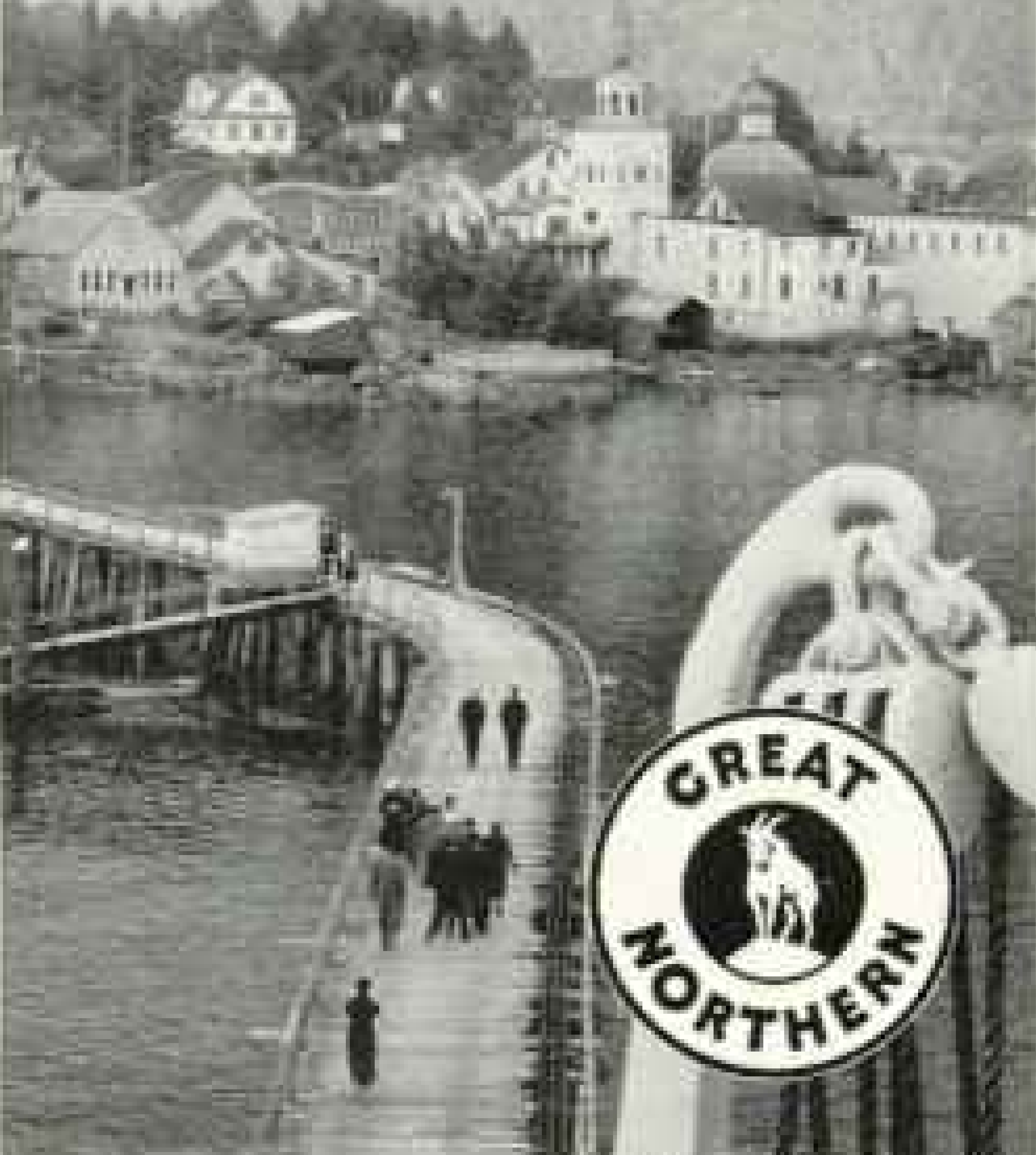

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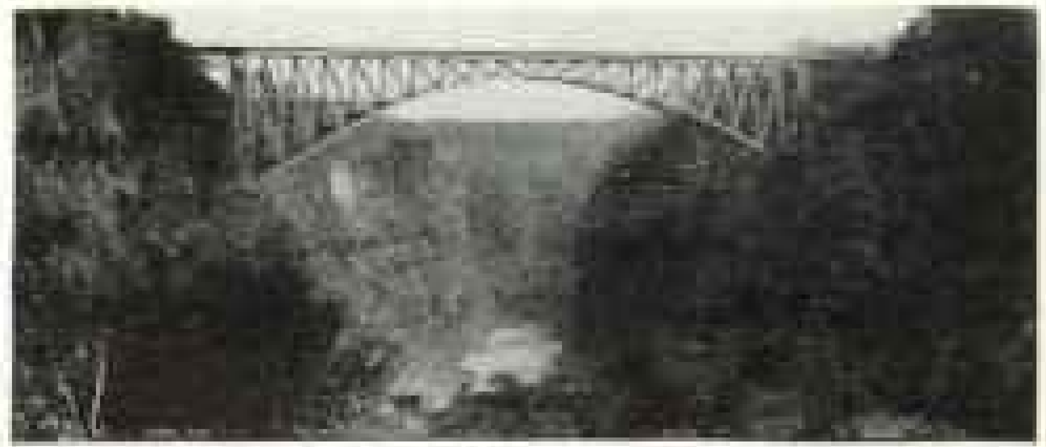

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In performing this service for your Society and your friends, you incur no financial obligation. All nominations are carefully checked against our membership roster to prevent duplication. May we count on your coöperation?

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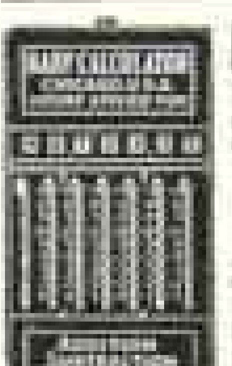

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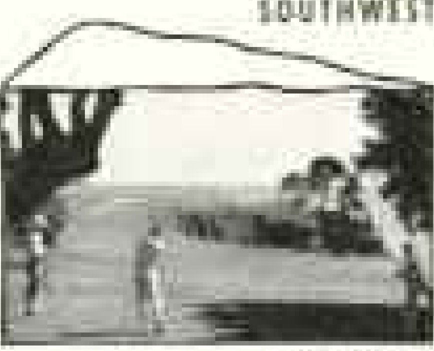

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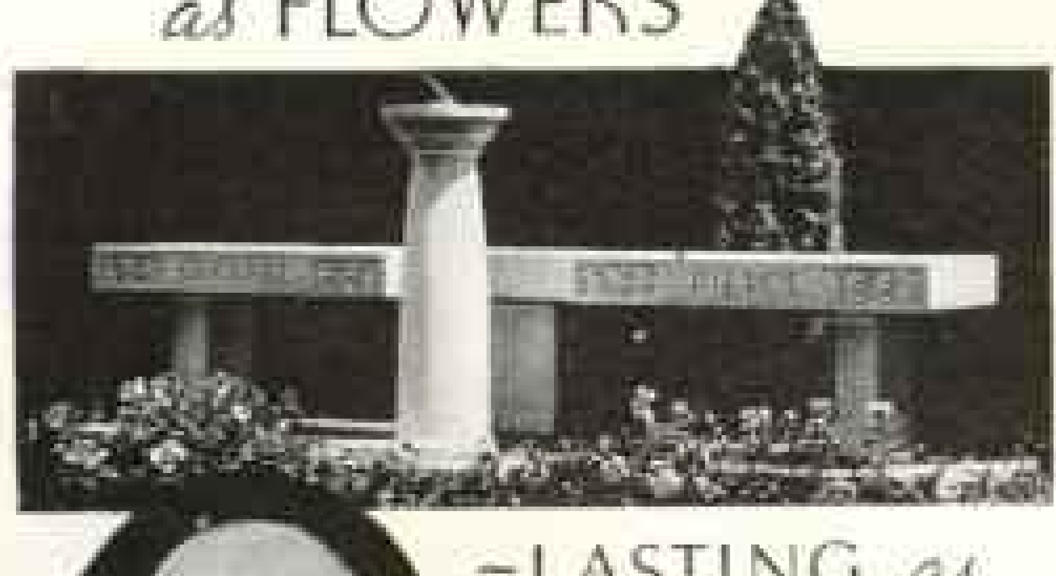

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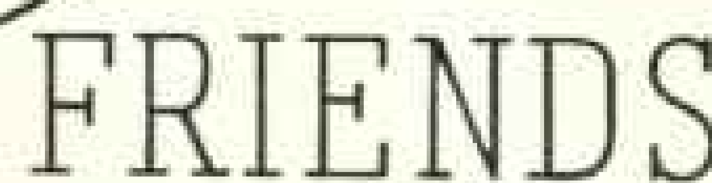

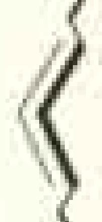

We have taken the liberty of gathering a few roses from our daily mail for publication here. There are thousands more like them, many of which bear famous signatures, but the following are typical excerpts... Thank you, friends, *all* of you who have been so good to write us, for your kind words of appreciation.

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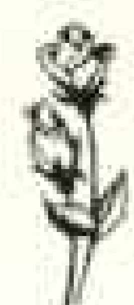

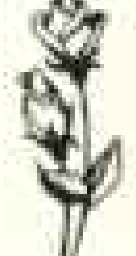

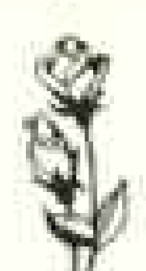

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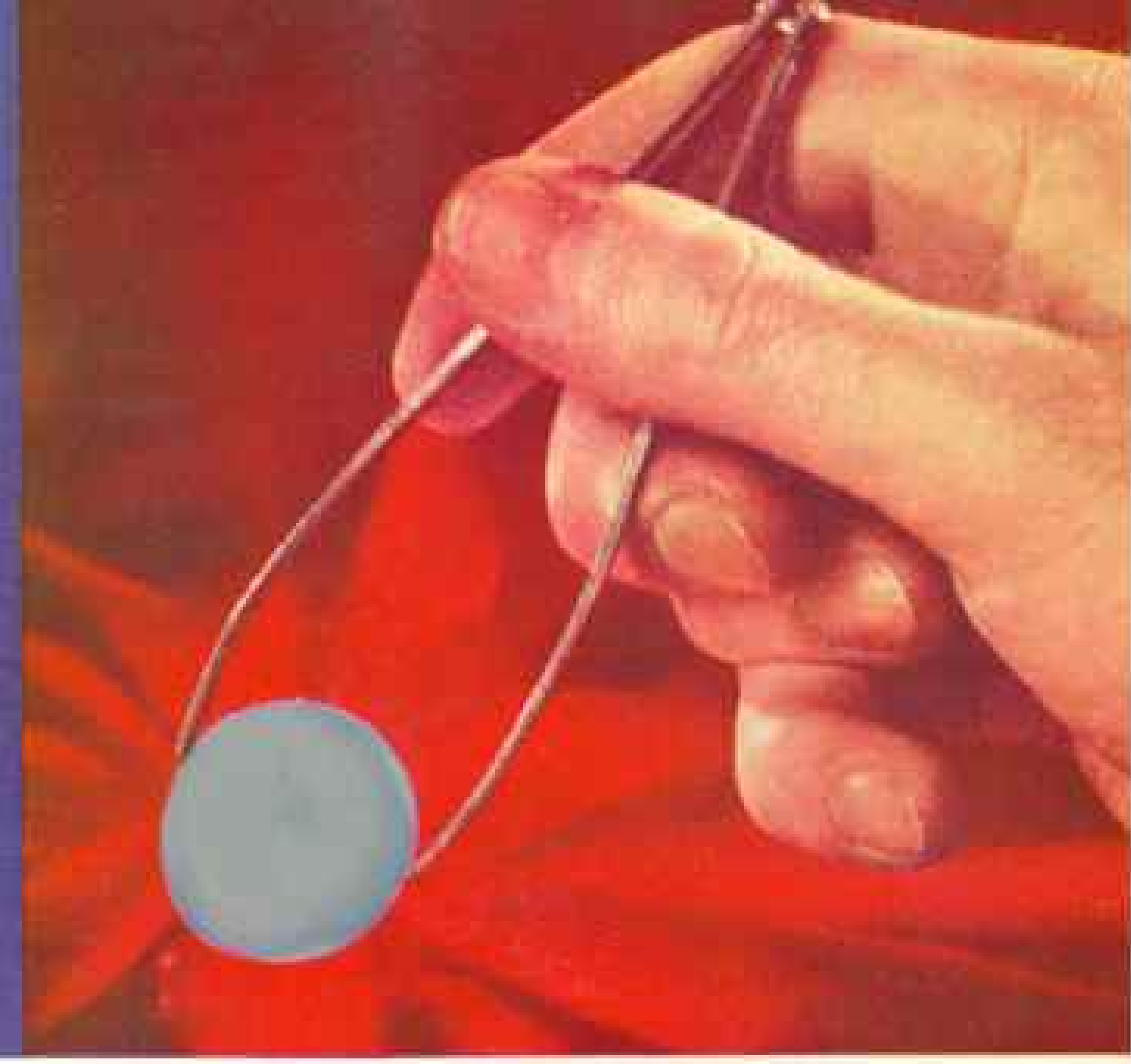

A lad of twenty-two held in his hand a little pellet of shining metal . . . the beginning of a new industry.

It was the morning of February 23, 1886, only fifty fleeting years ago. The scene, a woodshed in Oberlin, Ohio. The lad, CHARLES MARTIN HALL.

Every other place in the world, Aluminum was a semiprecious metal, a laboratory curiosity costing $8.00 or $9.00 a pound. But at that instant, in that woodshed, Aluminum had at last joined the rank of useful metals.

That hushed moment, with young Hall standing alone with success, was the climax of a feverish search. The inspiration had come from an off-hand observation by his Oberlin College professor, Frank Fanning Jewett, to the effect that the man who could invent a process for making Aluminum on a commercial scale would not only be a benefactor to the world, but would also lay up for himself a great fortune.

Hall's search had been an obsession. Much of his spare time after school hours was spent in dogged effort. But all the chemical knowledge at Hall's command was applied to no avail.

The flash of inspiration had come eight months after he had finished college:—Might not electricity hold the hidden answer?

Borrowing battery jars and plates from the school laboratory, investing meagre savings in a small clay crucible, making other crude apparatus by hand, he fitted up a laboratory in the woodshed behind his father's house.

Everything ready, he melted cryolite in his crucible, dissolved in it some refined Aluminum ore, switched on his batteries, and waited . . . but still there was no Aluminum!

He pondered the problem. Did impurities in the clay crucible affect the result? A carbon lining would eliminate that possibility. He made one.

Again the experiment was repeated. Hall waited; he emptied the crucible . . .

There were the shining pellets!

Success!

Success that had eluded the efforts of the world's greatest scientists. Success in a woodshed laboratory!

But there were dark days to follow. Two different groups of backers gave up his process as profitless and impractical.

Not until the summer of 1888, when Hall made an arrangement with a group of men who formed The Pittsburgh Reduction Company (now Aluminum Company of America) was Aluminum given its chance to come into its own.

These men foresaw the basis for a new industry in this new metal, which was only about one-third as heavy as older metals, would not rust or tarnish from exposure, and which would conduct heat and electricity rapidly.

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