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THE NATIONAL GEOGRAPHIC MAGAZINE

SEPTEMBER, 1942

Strategic Alaska Looks Ahead
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Strategic Alaska Looks Ahead

Our Vast Territory, Now Being More Closely Linked to Us by Road and Rail, Embodies the American Epic of Freedom, Adventure, and the Pioneer Spirit

BY ERNEST H. GRUENING

Governor of Alaska

WHEN I first visited Alaska in the spring of 1936, I had reached the age of 49 and had seen many interesting and beautiful places in Europe and the Americas. But no region ever gave me quite the profound thrill that did Alaska, then far away. No longer is it a far country, thanks to regular airplane service established two years ago.

Entering Alaska by boat up the Inside Passage, more than a thousand miles long, I could sense the joy of discovery that must have filled the early explorers. For virgin forest still vests the mountains as it did when Bering and Chirikof, Cook and Vancouver, La Pérouse and the Spaniards sailed through those uncharted waters.

The same rugged peaks, green-meadowed above the dark spruces and hemlocks, raise their jagged summits into the eternal snows. From them, from the high-hanging glaciers—numerous and nameless then as now—pluming cascades pour thousands of feet into the clear blue waters of the Pacific's myriad bays and inlets.

Between tremendously high, steep banks, fiords cut deep into the coast. The inlet which divides Alaska from British Columbia on the south is called Portland *Canal*, so long, so regular, so apparently purposeful are its parallel shores, its high lining cliffs.

Everywhere the wilderness rises sharply from the water's edge. The settlements to come in the explorers' wake were to find their location as precarious as an eagle's eyrie.

Later, to locate an airport site would be harder still. Wooded islands, thousands of them, hills forested to where altitude and latitude combine to shrivel and gnarl the evergreens—these form a tumultuous panorama.

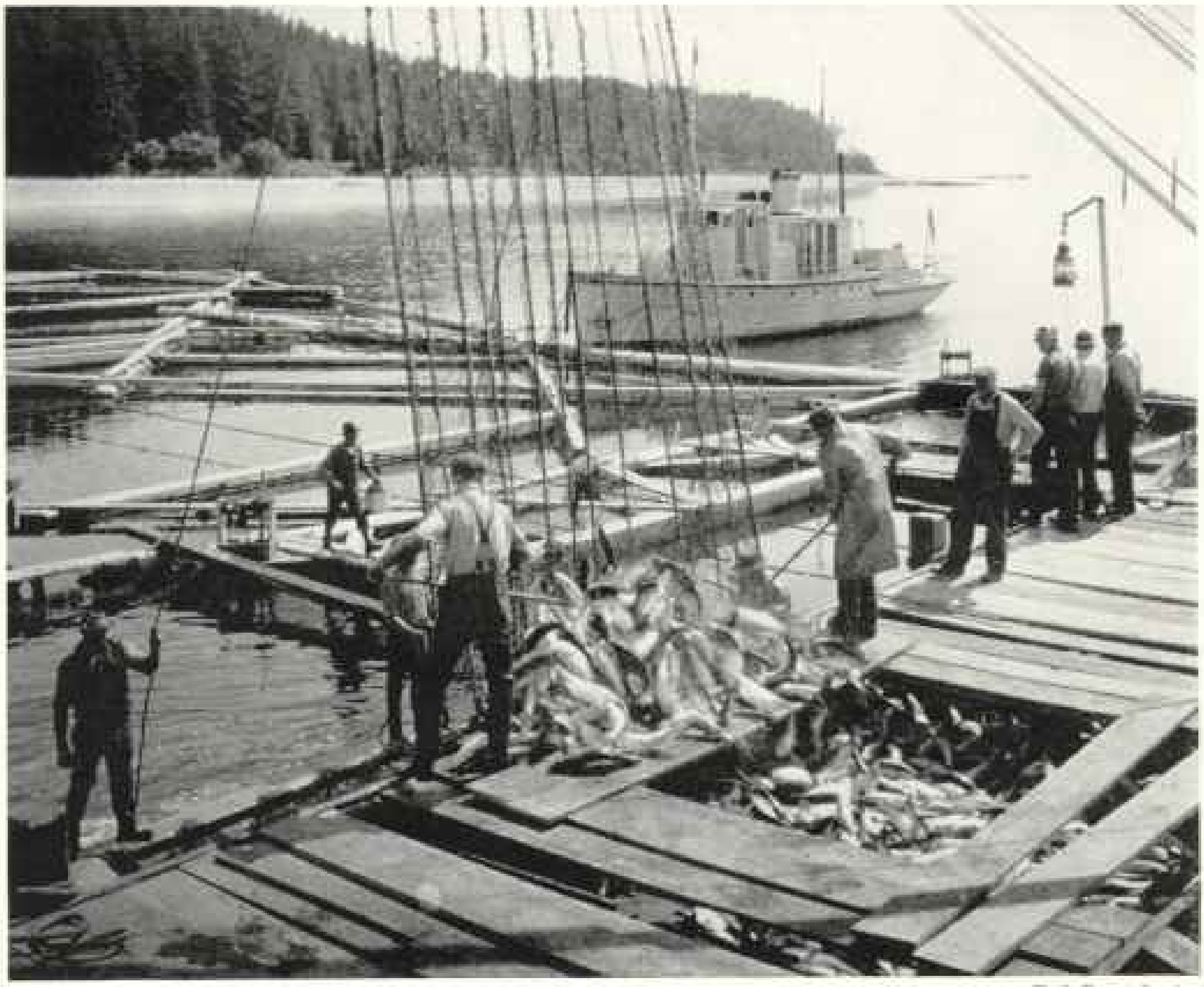
Northward the mountain walls loom higher, the fiords steeper. From deep-cut recesses glaciers pour their luminous loads, tumbling immense blue-white crystals into the sparkling and placid waters. From the peaks thrust huge rock pinnacles—Devils Thumb, Kates Needle, the four-pronged Devils Paw—sentinels which mark the otherwise invisible Canadian-American boundary.

For over a thousand miles we sailed in sheltered seas from Puget Sound to Glacier Bay. The last big terminal fiord, Lynn Canal, cuts straight north and deep into the continent, the wild, jumbled Chilkats walling it in on the west (Plate VI and map, pages 286-7).

Shining Peaks Soar from the Sea

As the long Inside Passage finally led through Icy Strait, past Cape Spencer, into the North Pacific, a tableau more sensational than any yet seen beckoned to the great Alaska which lay beyond. Ahead, soaring far aloft, a mighty range glistening in the sunlight lifted in Gothic pinnacles and spires, tier on tier, to a central apex—Fairweather, 15,300 feet above the sea.

Here was the witness that we had indeed come to a cosmic country.



U. S. Forest Service

Up Comes a Load of Wriggling Salmon, Alaska's Silver from the Sea

The fishermen made their catch with a fish trap in Icy Strait, Tongass National Forest. President Theodore Roosevelt set aside the 16,000,000-acre Tongass reserve as public lands in 1907. Moored in background is the United States Fish and Wildlife boat *Widgeon*.

As our eyes lifted to the shining splendor and followed it along the coast, far to the west a still higher cone rocketed skyward—18,008-foot Mount St. Elias. Surrounding its southern base is Malaspina Glacier, one of the largest single icefields on the continent.

Just behind loomed the Brobdingnagian bulk of Logan, 19,850 feet, a massive truncated mountain mammoth.

Here, but for Mount McKinley, 400 miles farther northwest, are the highest peaks in North America.* Against these eternal escarpments the restless North Pacific dashes its 20-foot tides.

It was not merely the breath-taking scenic grandeur that exalted me, as almost invariably it does those who see this awesome spectacle of Nature's prodigality for the first time. Here was a primeval country, a frontier land, in which by some strange atavism the newcomer feels himself the pioneer.

Peopled with Present-day Pioneers

First impressions are often truest and most enduring. I remember the thrill of sensing that somehow here in Alaska one was in effect reliving the great American epic. I felt as if I were stepping back into American history, seeing, let us say, the Oregon and Washington of the seventies and eighties.

First there was—there is—the emptiness of the land. One travels for miles, rounding capes, passing deep bays and forested islands, without seeing habitations. The last census showed Alaska had but one inhabitant to about eight square miles, compared to the United States' 44 per square mile.

Air and sea have a cleanness and freshness found only remote from industry and crowds.

* See, in the National Geographic Magazine, "Conquest of Mount Crillon (Alaska)," March, 1935; "Exploring Yukon's Glacial Stronghold," June, 1936; and "Over the Roof of Our Continent (Mount McKinley)," July, 1938, all by Bradford Washburn.

(Official Photograph U. S. Army)

Governor Gruening Pampers "Lena," Fort Richardson's Young Cow Moose Mascot

Brig. Gen. Jesse A. Ladd, commander of a fast-growing Alaska army base, offers genial advice. Moose attain enormous size in the Territory. Full-grown bulls sometimes are seven feet tall at the shoulders and have an antler spread of more than six feet.

Wildlife abounds. Eagles soar aloft and deer browse placidly on the beaches. Occasionally around a bend appears a totem pole or two.

The few towns and villages appear to be rough-hewn from the wilderness, their construction almost wholly of wood; even the streets are planked. In recent years some main thoroughfares have been paved and a handsome stone or concrete Federal building rises above the town.

More significant are Alaska's people. Theirs is a friendliness and a forthrightness which the frontier breeds. Where all are new or recent comers, informality, mutual helpfulness, hospitality, are the instinctive reactions of a people not yet grown old with the land.

Frontiersmen have never been much interested in where you came from, in what you had been, in what wealth or position your family had. It is what you are, here, on the new ground, in the pioneer struggle to wrest a stake from earth or sea; it is what you can do in these new surroundings that counts.

Here everybody works. And in a new country where mining and fishing are the dominant activities, physical labor is universal and not looked down upon.

More or less everybody knows everyone else. It is a long way from Ketchikan to Kotzebue. But persons and performance throughout the Territory are common knowledge.

Chiefly this is because Seattle has long been the funnel for all Alaska activity. Virtually all shipping to Alaska starts there, and one is in effect in Alaska when one steps on board in Seattle.

They Catch and Can at Ketchikan

Except for the Bering Sea traffic, steamers follow a coastwise port-to-port course.

Ketchikan, calling itself "the first city," is one of the world's chief salmon-canning

Bradford Washburn

Fairbanks Preserves Old Number One, the Alaska Railroad's First Locomotive

The old-timer with the blunderbuss smokestack originally chugged along a 39-mile narrow-gauge line between Fairbanks and Chatanika. Later the stretch became part of the Alaska Railroad. President Warren G. Harding drove a golden spike at Nenana on July 15, 1923, completing the 470-mile line.

towns (page 314). It hugs for four miles a narrow beach between Tongass Narrows and the steep forested hills of Revillagigedo Island.

Then come Wrangell and Petersburg, picturesque fishing towns. Most of the people of Petersburg, a shrimp center, are sturdy sons and daughters of Norway.

Unofficial greeter at Juneau, the capital (Plates I and XII), is the famous Alaska Juneau gold mine, whose shafts go *upward* into Roberts Mountain. The mine's brilliantly lighted mill, reflected at night in Gastineau Channel, is often mistaken by first-comers for a palatial hotel.

Across the channel lies Douglas, once, in the heyday of the now defunct Treadwell gold mine, bigger than Juneau. Though it has a foundry and cannery, Douglas survives chiefly as a residential suburb linked to the capital by a fine steel bridge, product of early P.W.A. construction. It now provides the late night life for the two towns.

Sitka, the old Russian capital, richly rewards a side trip toward the outer edge of the Alexander Archipelago. It lies on the west coast of Baranof Island, named after the city's founder and the greatest figure in the century and a quarter of Tsarist rule. In an island-studded bay surrounded by steep saw-toothed peaks nestles this delightful town, in which the fragrance of the past still pleasantly lingers.

A century and a quarter ago Sitka was the busiest and gayest port on the west coast of North America. Here sovereignty was transferred from Russia to the United States in 1867, and the town remained the American capital of the Territory until 1906. It has one of the finest Russian cathedrals in the Western Hemisphere: the green cupola and graceful spire, surmounted by the characteristic cross, still dominate the old town.

Appropriately, the Pioneers' Home, that unique Alaskan institution where the Territory's old-timers spend their last years retelling the tales of prospectors' adventure, is here in Alaska's citadel of romance.

Now Sitka again teems with new life and faces a new adventure.

Skagway, indelibly associated with the days of '98 and with the Territory's most famous outlaw, "Soapy" Smith, is on some American steamer schedules and is the northern terminal port of all the Canadian vessels.

From Skagway and from the near-by ghost town of Dyea thousands of hopeful prospectors

Fish and Wildlife Service, U. S. Department of the Interior

Saved from Drowning, Two Columbia Blacktails Warm Up under a Tarpaulin

Exhausted while swimming in the Inside Passage, the deer were overhauled just in time by a United States Fish and Wildlife Service boat and pulled aboard. Alaska's blacktails, once greatly reduced in numbers, now are protected by game laws.

in gold-rush days started over the steep mountain passes to the headwaters of the Yukon and the Klondike. Today the journey is comfortably made on the White Pass and Yukon Railroad and continued in summer down Alaska's mightiest river, sung in verse by Robert W. Service.

The tang of that robust era persists in Skagway. Harriet Pullen, herself one of the pioneers, still stalwart in her eighties, preserves its unique mementoes in her museum and hotel, and revives those glamorous days in vivid reminiscence (page 290).

At near-by Haines three scant years ago stood the only military establishment in the Territory, Chilkoot Barracks, with an ancient harbor tug as its only transport. The town is the port of another famous route to the interior, over the Chilkoot Pass and the old Jack Dalton Trail.

Klukwan Clings to Its Totem Poles

A 42-mile road now leads to the British Columbia boundary, past the old Indian village of Klukwan, which has some of the finest totem poles in America. Its inhabitants have steadily refused the blandishments of collectors and museum scouts.

For these outstanding relics of Tlingit culture, Klukwan has been called a "Chichen Itzá of the North," since they rival in wood the architectural massiveness of the Maya temple carvings in stone in southern Mexico. Klukwan's people—fewer than a hundred today—deserve high praise for remaining firm in their unacquisitive faith.

The Inside Passage ended, the journey swings westward across the Gulf of Alaska. An occasional boat stops at Yakutat, Indian village, cannery site, and terminus of one of the shortest of the world's railroads, the Yakutat Southern, whose chief claim to distinction would seem to be the privilege of its officials to swap passes with longer railroad systems in the United States.

Scenic Yakutat Bay receives the icebergs from some of the continent's most active glaciers, those of the St. Elias Range (page 288).

The route now swings toward another great region of fiords, glaciers, and fisheries—Prince William Sound. Its principal port is Cordova, for thirty years—until four years ago—the ocean terminus of the sensational Copper River and Northwestern Railroad, which carried to the sea the rich copper ores from the famous and now defunct Kennecott mine. Cordova,

Alaska—Springboard for Attack on Japan and Key to Continental Defense

Its Aleutian Islands stretch westward to within 750 miles of the northernmost Japanese islands, the Kuriles. The great circle ship and air routes—shortest distance between Seattle and Tokyo—pass within a few miles of Dutch Harbor, United States naval base. Control of Alaska and the Aleutians, together with the Hawaiian Islands, Midway, and west coast bases, assures United States domination of a huge "strategic triangle" in the northeastern Pacific. Alaska's life line, the new highway through Canada, is omitted by direction of the censors.

CHUKCHI SEA

ARCTIC OCEAN

BEAUFORT SEA

BROOKS RANGE

ALASKA

YUKON

NORTHWEST TERRITORIES

BRITISH COLUMBIA

GULF OF ALASKA

ALEXANDER ARCHIPELAGO

Wrangel

Barrow, Point Barrow

Wainwright

Harrison Bay

Point Hope, Igrutak

Cape Thompson

Kivalina

Corwin

Wiseman

Bettles

Alatna

Hughes

Shungnak

Kobuk

Kotzebue

Noatak

Selawik

Deering

SEWARD PENINSULA

Shelton

Nome

Golovin

White Mountain

Ruby

Tanana

Yukon

Livengood

Charanika

College

Fairbanks

Nenana

Circle

Fort Yukon

Old Crow

Porcupine

Fort McPherson

Mackenzie

Paul

Eagle

Dawson

Herschel

Big Delta

Mt. Deborah 12340

Mt. McKinley 20300

MT. McKINLEY NATIONAL PARK

Mc Grath

Anvik

Holy Cross

Stewart River

Klondike

Ross River

Anchorage

Matanuska

Valdez

Cordova

Kennecott

Mt. Steele 16439

Mt. St. Elias 18008

Logan 19850

Malaspina Glacier

Yakutat

Mt. Fairweather 15300

Whitehorse

Mt. Hubbard 14950

Chilkoot Pass

Klukwan

Haines

Skagway

Juneau

Douglas

Taku

Devils Paw

Eagle River

Glacier Bay

Cape Spencer

Icy Straits

Chatham Strait

Sitka

Baranof

Wrangell

Petersburg

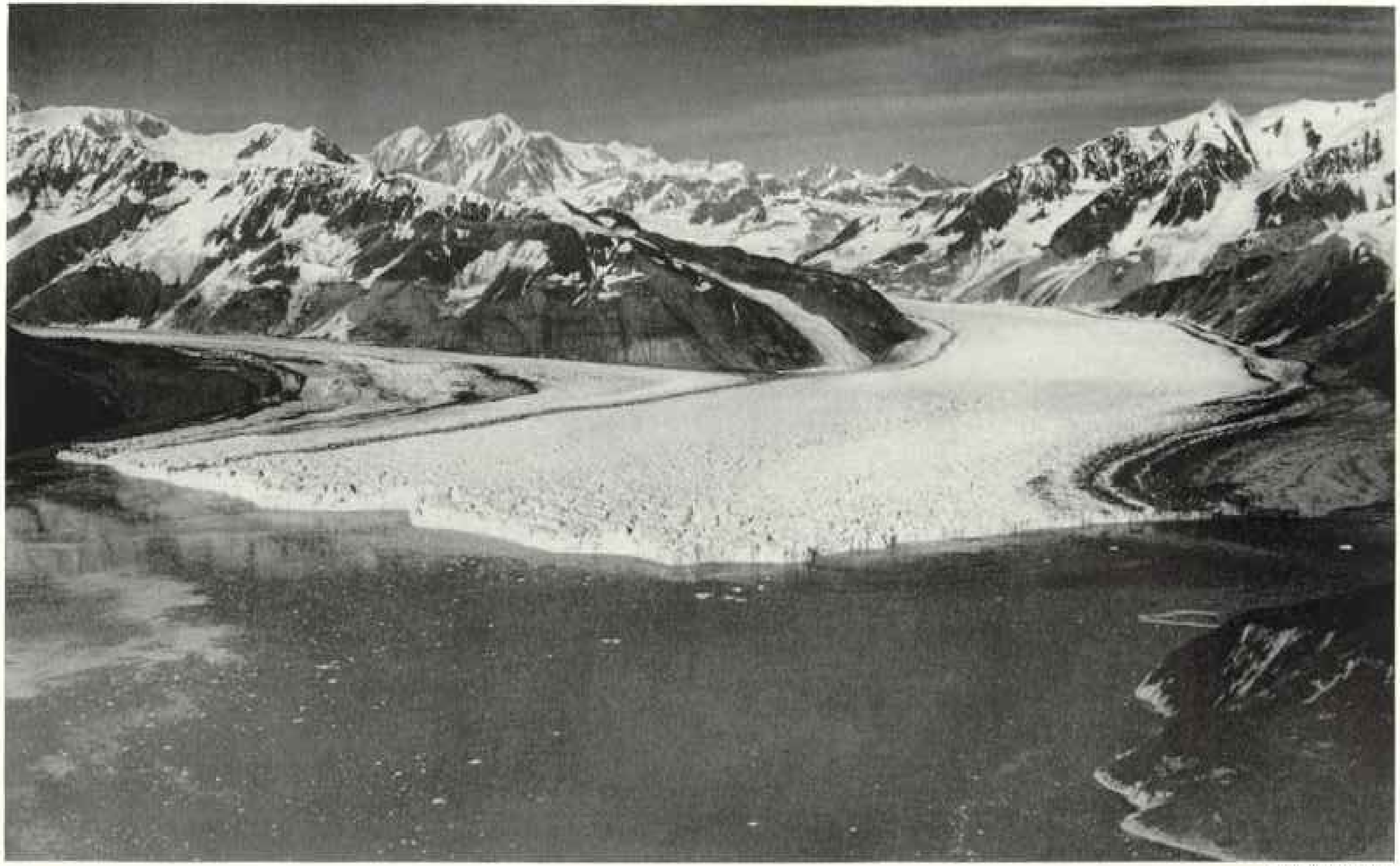
Kodiak

KODIAK ISLAND

Revillagigedo

Dixon Entrance

Great Circle Route - Seattle - Tokyo 4535 miles



Bradford Washburn

For Nearly 100 Miles Hubbard Glacier Grinds Its Way through the Heart of the St. Elias Range

Named for Gardiner Greene Hubbard, first president of the National Geographic Society, the huge frozen river is Alaska's largest tidewater ice mass. It originates in an icefield almost on the summit of Mount Steele, in northwestern Canada. In background rises 14,986-foot Mount Hubbard. In making this aerial photograph, the camera was aimed northeastward into the St. Elias Range from an altitude of 5,000 feet over ice-choked Disenchantment Bay, an arm of Yakutat Bay.

Pan American Airways

When the Sun Deserts the North Country—Fairbanks at Noon in December

Shop windows and street lights shine brightly, for midwinter days are almost entirely without sunlight. The moon, the aurora borealis, and starlight on the snow partly make up for Old Sol's absence. In midsummer he rides the sky without ceasing, and night disappears entirely. On June 21 every year Fairbanks stages a midnight baseball game (page 296). For two or three weeks at this season newspapers may be read outdoors at any hour of night.

AlaskaInes

Black-bearded "Soapy" Smith, in Effigy, Rides Martin Itjen's "Skaguay Street Car"

The sourdough proprietor stands beside the silk-shirted sombrereed image of the Alaska bad man who terrorized Skagway in gold-rush days (page 284). Soapy's favorite saying was: "The way of the transgressor is hard—to quit." At left is Mrs. Harriet Pullen, "Mother of the North." She came to Skagway when it was a city of tents and made a small fortune selling apple pies. Then she bought seven horses. With them she trucked supplies to the miners over perilous trails. Today she operates the Pullen House (background), a comfortable steam-heated hotel.

refusing to become a ghost town, survives stubbornly as a crab, clam, and salmon cannery port.

Next is Valdez, where the Richardson Highway starts toward the interior. It boasts—and justly—that it is our farthest-north, all-year-round ice-free port (Plate II).

Finally the journey ends at Seward, set deep in the fiord called Resurrection Bay, and the terminus for Alaska's principal land route, the 470-mile Alaska Railroad to Fairbanks.

From that "Golden Heart of the North" scatter the miners and traders, up and down the Yukon and its tributaries, into the vast, still partly unexplored and unmapped sections of Alaska, into the headwaters and placer creeks of the Kuskokwim, the Koyukuk, the Kobuk, the Noatak, the Porcupine.

News Travels by "Mukluk Wireless"

Here they work till the soothing sun freezes the running waters which wash the golden "pay dirt" into the sluice boxes. Then the spring trek is reversed, and like sun and birds they begin the southward journey.

On their way "outside," miners, traders, cannerymen stop for a few hours in each port as the boat stops, or skip a sailing to visit their friends en route. Thus all Alaska is closely in touch with affairs in all other parts through constant personal contact and through that mysterious Alaskan network, the "mukluk wireless." *

This seasonal migration—based primarily on Alaska's latitude, which in turn makes its two great pursuits, placer gold mining and salmon fishing, summer occupations—is distinctive of the Territory. It affects its economy, social customs, and politics, distinguishing it from all other earlier American frontiers.

The West was not settled by folk who went back East every fall. Nor did they expect to go back East to spend their accumulated wealth and declining years. They loved the abundant country to which they had come and were prepared to found homes there for their children and their children's children. Alaska's history has been different.

It falls into three periods, and a fourth is about to unfold. First was the period of Rus-

* Mukluks are high-topped fur boots.

Fish and Wildlife Service, U. S. Department of the Interior

Mostly Legs and Claws but Good to Eat Are Alaska's Giant King Crabs

Although the big fellow suspended by the crabber measures 48 inches from claw-tip to claw-tip and weighs 16 pounds, it is not exceptionally large. The United States Bureau of Fisheries is studying methods of profitably canning these crabs. Large quantities formerly were packed by Japanese canneries.

sian sovereignty following the explorations of Bering, who discovered St. Lawrence Island in 1728 and the Alaska mainland in 1741. The first permanent settlement established by Shelikof at Three Saints Bay, on the southeastern coast of Kodiak, did not come till 1784, so that the actual settlement of Alaska by Russia, which never penetrated far inland, lasted only 83 years.

The second period, from the purchase by Seward in 1867 to the gold discoveries of the late nineties, was an era of abandonment and governmental neglect. The Territory, chiefly inhabited by fishing, trapping, and hunting natives, lay empty, dormant. The American people were too busy opening up the West to concern themselves with their vast unknown northern empire.

History Told in Place Names

The Klondike gold strike, opening the third period, changed all that overnight. A rush of prospectors to the Territory doubled the population—and many of the newcomers were hardy pioneers. They were of the stuff that had crossed the uncharted Atlantic wastes and pushed the American frontier to the Pacific.

The chapter which they added, as indeed the earlier history of Alaska, is graphically told in its place names.

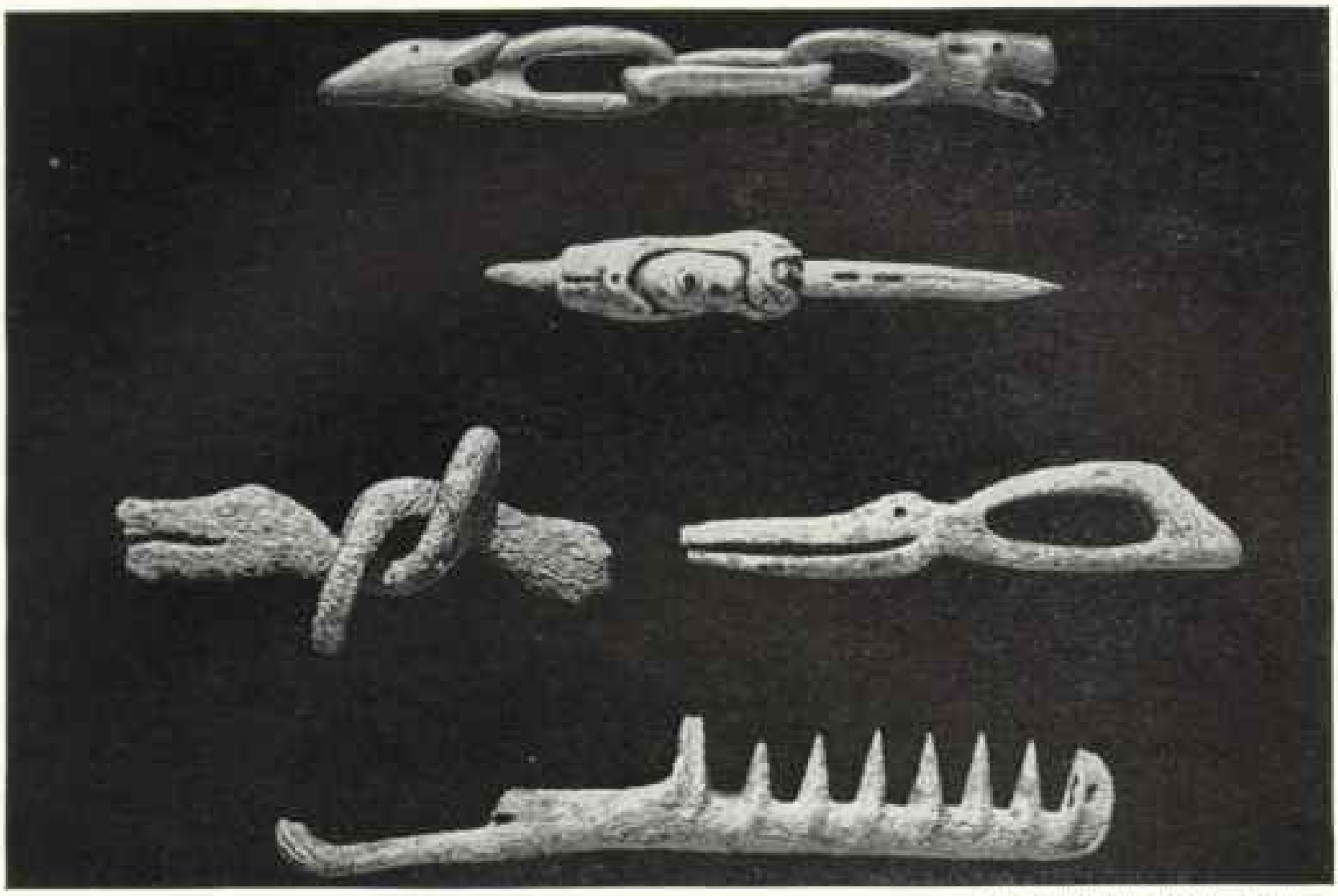
The aboriginal names, Indian and Eskimo, such as Ketchikan and Nunivak; the names given by the Russian discoverers and settlers —St. Michael, Chichagof, Shishmaref, Golovin; by the British explorers—Dixon, Chatham, Salisbury, Hinchinbrook; by the Spanish —Chacon, Muzon, Bartolome, Valdez, Cordova—were outnumbered by myriads of simpler, homelier, ready-made tags which testify to the coming of the miner and fisherman.

They were men of action and few words. Their imagination expressed itself in deeds and scarcely in their choice of names, which reflected their new environment.

There are in Alaska five Bear Bays, one Bear Cove, two Bear Capes, eighteen Bear Creeks, two Bear Gulches, one Bear Harbor, two Bear Islands, one Bear Lake, three Bear Mountains, two Bear Rivers, one Bear Slough —a total of 38.

With its giant brown bears and other species, Alaska was and is the greatest bear country in the world (pages 312, 313). Four times I have seen bears on the Glacier Highway only a few miles out of Juneau.

Similarly, there are fourteen Moose Creeks



American Museum of Natural History

Chain? Comb? What Are These Strange Tools?

The second ivory artifact from top is a part of a harpoon. But the others have no present-day use. The head on right of the three-link chain might be a polar bear's; the others are obscure.

ging the nostrils, and many with elaborate ivory carvings in weird twisted, looped, and spiral forms, the meaning and use of which we cannot even guess.

Skeletons May Help Solve Mystery

A clue to the age of the Ipiutak settlement is seen in the fact that many of the ivory implements bear engraved designs which resemble in part those on implements made by the Old Bering Sea Eskimos, ancient inhabitants of the Bering Strait region, whose culture has been tentatively dated as about the time of Christ.*

But the Old Bering Sea people possessed a culture not unlike that of Eskimos living at Point Hope in historic times, while that of the Ipiutak people, lacking such typical Eskimo implements as seal-oil lamps, slate tools, pottery, sleds, and certain types of hunting gear, is far different from Eskimo culture. Many implements found have no relation to known prehistoric or modern Eskimo forms.

These facts lead to the conclusion that the Ipiutak town was occupied at a remote time before the basic pattern of Eskimo culture was developed here in the Old Bering Sea period. Moreover, it seems probable that some art styles and certain types of implements were borrowed by the later Eskimos from these earlier settlers on the Arctic coast.

But the culture of the Ipiutak people is not the primitive, proto-Eskimo culture we have sought in the Arctic regions. It is, rather, that of a sophisticated people with a complex culture in many respects more advanced than that of historic Eskimos.

All these facts suggest that the Ipiutak people are immigrants from some ancient center of neolithic culture in eastern Asia.

Such centers in Manchuria and even in North China lie closer to the Bering Strait region than do the centers of high culture in America.

Some of the peculiar spirally carved objects found at Ipiutak (page 326) resemble relief carvings of the Ainu in northern Japan, the Goldi and Gilyak on the Amur River, and relief figures on early neolithic pottery from northern Japan. This art motif is not known in North America.

Furthermore, the exceptionally fine flint implements found at Ipiutak appear to be more closely related to flint implements made by early neolithic people of northeastern Asia

* See "Exploring Frozen Fragments of American History," by Henry B. Collins, NATIONAL GEOGRAPHIC MAGAZINE, May, 1939.

Fredrich Rainey

Grass Growing in the Streets Here Reveals the Mysterious City of Ipiutak

Alternating light and dark streaks of vegetation, as seen from an airplane, mark the mile-long "avenues" and the rows of house ruins. Black spots are the author's excavations. At right is the Episcopal mission. This ancient metropolis, on the barren shores of the Arctic Ocean, contained 800 homes and apparently sheltered 4,000 people, more than the present population of Fairbanks (page 319).

than to those made by people of northern North America.

The possible connection between what now appears to be an ancient and isolated culture at Point Hope and oriental cultures of eastern Asia cannot be proved until much more extensive excavations are made, particularly in northeastern Siberia, but the connection is very probable.

Are the Eskimos living at Point Hope today descendants of the people who lived at Ipiutak, and are these in turn descendants of orientals who migrated out of Asia to the Arctic coast two or three thousand years ago?

A study now being made of the skeletons from Ipiutak will go far to answer the first of these two questions, but no definite conclusions can be stated at present.

A more thorough knowledge of the living Eskimos is as necessary as continued archeological research, and many months of my work were devoted to a study of the present culture of the Tigara Eskimos.

This culture, which centers about the pursuit of huge bowhead whales,* still maintains

* See "Whales, Giants of the Sea," by Remington Kellogg, NATIONAL GEOGRAPHIC MAGAZINE, January, 1940.

much of its aboriginal character in the legends, beliefs, and customs of the people, in spite of long contact with white men.

In the spring, when the sun returns to glare down upon the wilderness of pack ice, the wives of the Tigara whaling captains begin preparations for that critical moment when their men will go out over the ice to hunt the largest of all living creatures.

"Drop a Whale into This Pot"

Up to about a generation ago the Eskimo women prayed to the moon for success.

They were not impressed by Sukunuk, the sun, regarded as female, but waited for the appearance of the male moon, Alignuk, on whose response depended the security of their families and the prestige of their kin.

In March, Alignuk would draw back the trap door in the floor of his house, and a faint silver crescent would appear in the night sky. Then each wife of a captain used to take her special little wooden bowl and fill it with clean, clear water from a certain lagoon.

After the chamber buckets of the village had been dumped and the dogs had quieted for the night, she stole out through the long entrance tunnel of her house and held her bowl up toward the moon man, calling: "Alignuk, drop a whale into this pot so that we can kill one this spring!"

If she had obeyed all the rules and if the water was clear, her voice and the glimmer of light in the bowl reached up to Alignuk, the moon. He would send a whale.

Now the daughters of those women who called to the moon pray to the Christian God who controls all creatures of the sea. When I asked old Qoqoq why he now prayed to Jehovah instead of calling to Alignuk as he had during much of his life, he said it was not until the missionaries came that he knew Jehovah controlled the whales.

Yet something of the old faith remains. At Easter in Tigara we watched an abbreviated performance of the old winter festival which must have been held there each year for many centuries before the Yankee whaling ships arrived.

Omen of Death

On the stage of the Episcopal church building a score of masked men sat with bowed heads, waiting for a signal from the singers. Then, as the song began in a deep, measured cadence, bodies moved in a slow, writhing motion.

Soon both song and drums burst forth into full power, and Kuwana stepped forward to begin a dance we recognized from old Agavek-sinya's description. He carried a wooden top out of which rose goose feathers arranged like the leaves of a turnip.

When the song and the dance reached their climax, Kuwana stooped to hurl the top from its coiled sinew line to the planking. We knew that if it spun smoothly and the feathers sailed off into the air, the whale hunt soon to begin would be a success. If it did not, someone now sitting there would die before the next spring.

The top spun smoothly for a moment, then caught and slid along the planks, scattering its feather plume.

There was some laughter and joking when the moment of suspense was over, but I watched old Nashugruk's drawn face as she sat staring at the top. Three weeks later Poyuruk, the jovial dancer with the beaming smile, died with parts of an exploded whaling gun embedded in his intestines, Kunuknoruk was badly wounded from another explosion, and we had the meat from two whales in the storage pits.

To know and understand the Tigara Eskimos, one must hunt whales with them, joining in pursuit of the all-important great bowhead whale, Agavik.

In moments of tense and breath-taking excitement, after a commanding hiss from the captain warns the paddlers to cease all movement, when the fragile skin boat glides softly up onto the glistening hulk and the harpooner rises to strike—then and then only is it possible to understand in some measure all the elaborate preparations, all the tradition, and the real meaning of this performance.

Hunt Opens with Raw Meat Feast

I joined Umigluk's crew. At five o'clock one morning late in March he rapped on our window, calling out that the feast was ready. Whales had been sighted the day before. The town of Tigara began to bustle.

We found most of the village people in Umigluk's house, the men in one room, the women in the other, seated about a huge black, slimy lump—part of a whale killed by Umigluk's crew the year before. This had been thawed in front of the fire during the night, and the women had scraped away the yellow scum accumulated in the meat cache during the year. The room was permeated by a sweet, sickish odor which soon became overpowering.

We of Umigluk's crew were expected to cut this big chunk of black skin, yellow blubber, and red meat into portions for each man and woman. The nine captains of whaling crews in the village were served first, as befitted their

rank; then the crew men, and finally our wives.

All of our portions were, of course, raw and partly frozen. Old whale meat is eaten raw and in this state is extremely tough. The two of us who were then introduced to our first feast of whale meat did not share in the general joy caused by the odor and taste of this delicacy.

The simple feast, followed by a long and tedious prayer, initiated a period of intense activity in the village.

Sharp, Shiny Knives Please the Whale

All gear used in whaling must be clean and, if possible, new. Traditionally, the whale cannot easily see bright and shining gear, but, if he does, it pleases him. It promises sharp cutting knives and spades which will not hurt in the butchering.

You see, the whale does not die, he only "has his parka removed"—painlessly, if knives are sharp—and returns to the sea to report on his treatment by the Eskimos.

New skins of the bearded seal were sewn for our boat by old crones of the village who were paid in tobacco and meat. Umigluk's father supervised the refitting of the craft, a skin umiak some 20 feet in length—half that of the animals we were to attack in it.

The crew scraped clean all eight spruce-wood paddles, the harpoon shafts, the great cutting lance shafts, and the boat hooks. New sealskin floats were made and tested. New lines were made fast to the floats, and the darting guns were oiled, repaired, and plugged against the icy sea water. Bombs were refilled with fresh black powder, the fuses reset, and the caps tested.

This exciting preparation of materials was a man's bustling world, but the women's work was no less essential. They provided huge bowls of biscuits, *nukpori*, a kind of pretzel of flour paste fried in seal oil, which were passed among the crowds of children.

These youngsters shouted the Eskimo equivalent of "There she blows!" as they came forward to stuff themselves, a tradition upheld for centuries by the rising generations of whale hunters and their future wives.

One morning, not many days after the whale feast, Umigluk's wife, Dinah, made the rounds of the village, calling for each member of his crew. Dinah's mother, in the days before the mission, went through a complex ceremony to purify her husband's boat, leading it down to the ice and preparing it spiritually for the coming contest with supernatural and natural forces.

Few traces of this old-time ritual remain, except a feeling in the village of great solemnity and suppressed excitement. But I knew from my crew mates, although he never told me himself, that Umigluk had retired alone the night before to sing his charm song, almost inaudibly, with a light tapping of his tiny whaling captain's drum. This song had been taught him by his grandfather, a great medicine man, and no one must hear it.

Tigara clings to the very tip of a long ribbon of sand that curves out into the Arctic Ocean for nearly twenty miles north of Cape Thompson. A strong sea current setting northward along the coast strikes this spit, which is known as Point Hope, and swings out toward the northwest. At certain times the current and the wind combine to force an opening, or lead, in the pack ice.

In April, May, and early June, bowhead whales migrate northward along the open lead, headed for Point Barrow and the Arctic Ocean to the north and east. The lead along Point Hope is generally opened by a north wind and closed by a south wind, and the old men watch the weather to decide when the boats shall be taken out across the ice to open water.

If the bitter male northeast wind blows, the lead will open, but great pans of shore ice may break off to be driven out to sea in the wide lead, carrying with them boats and crews. Often this is very dangerous because ice may be crushed into a seething mass over which a boat cannot be dragged and through which no boat can be driven.

But that spring the day of launching was beautiful, dazzlingly bright, with only a breath of air from the north. Each of the other eight crews had been called at the same time as ours by their captain's wife, since all crews must go down to the ice the same morning.

We lashed our boat on a low, flat boat sled and piled in extra fur clothing, guns, and all manner of gear to be used on the ice, since we would not return to shore until the lead closed, perhaps many days later.

Umigluk's team of nine dogs was hitched to a light sled and a line run from that to the boat sled. In addition, each member of our crew was harnessed to the boat sled, so that we moved off through the piles of ice and pressure ridges in a long procession, Dinah leading and Umigluk following us.

Inside our fur clothing perspiration trickled down into our high sealskin boots.

A Huge Black Living Submarine

Only a few minutes after we reached the open water, perhaps a mile and a half from the shore, someone shouted, "Agavik!" There, half a mile off, a great black submarine

Froelich Rainey

A Stone-Age Man Sleeps in His Crumbling Log Tomb

The Iplutak man, who carved ivory with flint, represents a higher culture than the slate-tool Eskimo, but he evidently did not know the Eskimo's seal-oil lamp, dog sled, or whaling technique. At burial this man's eyeballs apparently were gouged out to make room for the ivory set (pages 318, 319).

American Museum of Natural History

Out of the Past Come These Ivory "Pretzels" to Baffle Archeologists

When the relics were unearthed, the Eskimos called them *nukpori*, their word for fried pretzels. No one has determined the objects' utility. Their double-spiral motif, unknown elsewhere in North America, has some parallels among carvings of Asia's Amur River tribes and Japan's hairy Ainus (p. 321).

emerged to blow a fine puff of steam from its bow.

Half an hour later we heard an explosion just beyond an ice pile to the east and suddenly a boat shot out from the ice, then lay still.

Kunuknoruk rose in the stern, held out his arms over the bowed heads of his crew, and prayed in a loud clear voice to Our Father, "Apapta" in Eskimo. In the old days his harpooner would have sung the *Avitukxiun*, a prayer song to hold the harpoon fast in the flesh of the fleeing whale.

The prayer finished, we sprang into our boat and drove it off toward open water where Umigluk thought the whale would rise to blow.

After a long, hard pull, one Uyarak shouted "Avituk!" and pointed off across the water toward the edge of the pack. Again we drove the boat forward, racing all eight other crews toward a small dark buoy which was the sealskin float (*avituk*) fastened by 14 fathoms of line to the harpoon iron, now embedded in the whale.

When the float appears it is a sign that the whale is rising, and you rush to a position from which he may be struck again before sounding a second time. Unfortunately, this time whale and float disappeared under the ice. We never saw either again.

During those first few days, scores of whales moved through a wide lead and lured us on to many wild and unsuccessful pursuits. Often all of us were so exhausted that we fell asleep in our places when the captain ordered "cease paddling."

When no whales were in sight we returned to the ice, drew out the boat, and sat dozing on the boat sled while a young girl cook boiled meat and made tea.

At night it was bitter cold. The boat sled would not hold all of us, so those standing paced back and forth across the ice, stamping their feet and beating their arms.

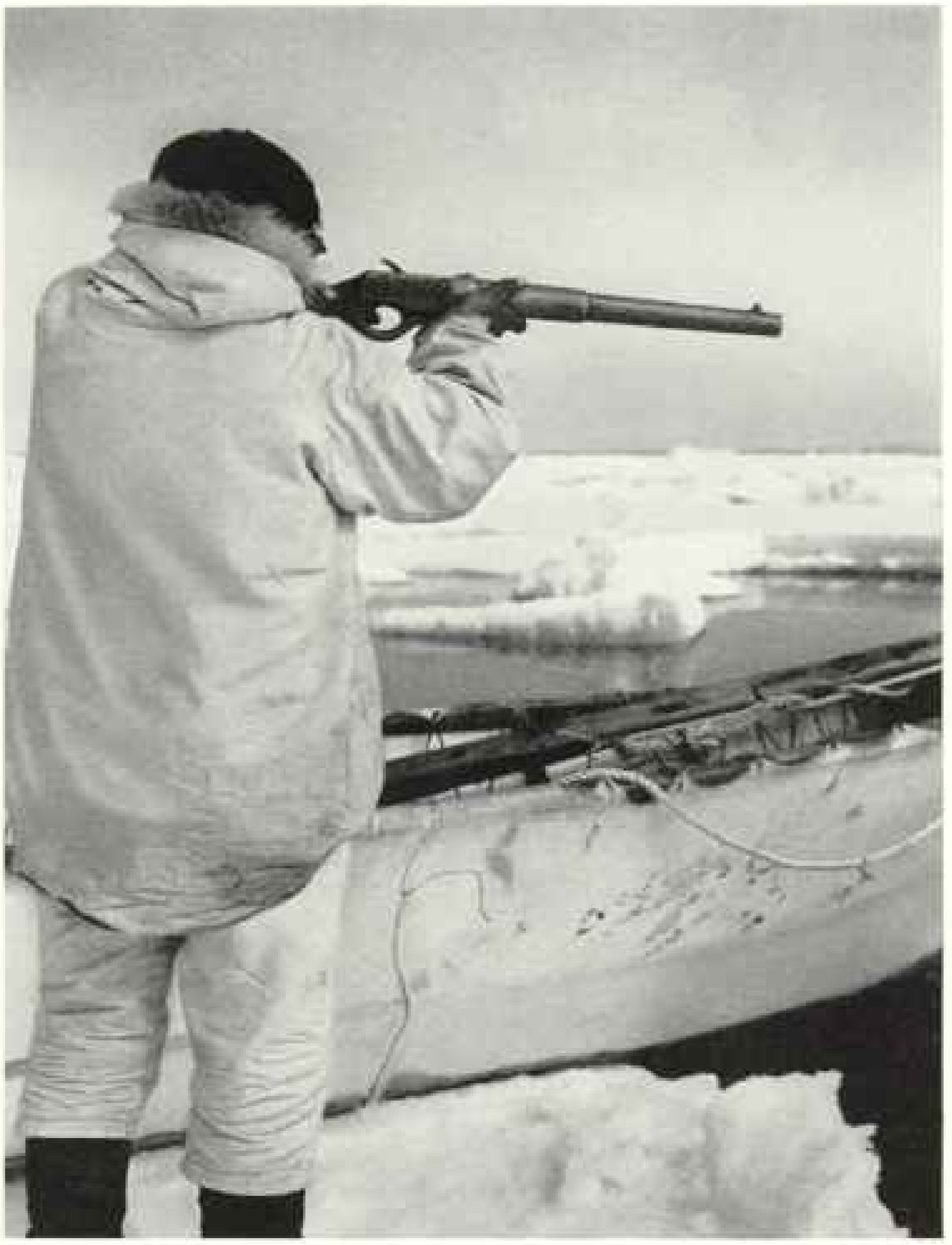
In the old days no cooking was allowed on the ice, no damp boots could be changed, and no shelter of any kind could be used; all these were prohibited. Today, old men say, the young are soft. They have hot tea, hot meat, dry clothes, and a tiny windbreak made of ice blocks, but they are still not allowed a tent (except for the girl who cooks) or sleeping bags.

Hours of idleness and waiting were passed in storytelling or long discussions about religion, in making string figures, snaring sea gulls, or just in a numb, sleepy stupor.

Later in the spring big flocks of eider ducks whirred along the edge of the ice, flying low, close together, and very fast. The use of shotguns was frowned upon because it frightened the whales; consequently, we amused ourselves and replenished the cook pot by snaring the ducks with the famous Eskimo "bolas," sets of six bone weights connected by sinew lines which entangle a bird when they are hurled into a flying flock.

Boats Race Madly for the Whale

Early one morning, soon after the hunt began, Okpik shook me out of a cold, fitful sleep, shouting that another whale was struck. Far out across the water a single boat lay idle, its crew waiting and watching, but as we moved out from the ice seven more boats flanked us in a mad race toward the idle boat.



Fredrich Ruling

An Arctic Jinx Was the White Man's Exploding Gun

Following an evil augury at pre-hunt ceremonies, four whaling guns exploded, killing one Eskimo and wounding another. Here a hunter is using the shoulder gun fired at whales close to the ice. Modern powder used in such obsolete weapons could account for the accidents (page 333).

Each boat upon the scene of a kill gets a certain portion of the whale, but the part each boat receives depends upon the order of arrival. The second boat to strike gets a very large share; hence the race, which has every paddler exerting all his strength. After some two miles of this, most of us had the taste of blood in our mouths.

As our crew were all young men, we soon outdistanced the others and drew into the lead. Just as we approached the idle boat its float broke the surface a hundred yards off our bow.

We redoubled the speed of the stroke and our boat surged forward like a whale in full flight. Then beneath us we felt a huge boiling movement of the water; the boat rocked crazily, and directly under the bow rose the great black bulk of the whale.

There was a deep and unforgettable blast, something like the exhaust of a steam engine as it stands in the station, but bigger, when the whale blew, his steam drifting back into our faces.

Aground on a Whale's Back

Paddling at the stern, Umigluk swung the boat about, and with one terrific stroke of our paddles we drove the boat up the glistening slope of the whale's back. Melik, the harpooner, rose, held the harpoon shaft high above his head, then drove it straight down through three feet of quivering skin, blubber, and flesh.

Froelich Rainey

Down to the Sea in Umiaks Go the Men of Tigara to Hunt Agavik, the Whale

In Greenland the umiak is the women's boat, but in Alaska it is paddled by men. To put the harpooner in range, the boat is steered right up to the whale and then "grounded" on its slimy back (page 327).

Froelich Rainey

Like Camouflaged Ski Troops, Walrus Hunters in Gossamer Raincoats Await Their Prey

The thin, waterproof parkas are made of seal membranes. A wounded walrus is a bellowing, ferocious ton of tusk and muscle.

A mighty shudder passed from the whale through our flexible skin boat to each one of us. A deep muffled thud followed as the harpoon bomb exploded in that mass of flesh; then came a convulsion that threw the boat off on its side.

A cry from Unigluk warned us to clear away the sealskin floats attached to the line, which now was running out with the whale's sounding (page 336). In a moment line and floats disappeared beneath the surface.

With all my heart-pounding excitement I yet remember the sweat-streaked, beaming faces of the crew, each shouting and laughing.

The nine boats now formed a wide circle. All of us watched the surface of the water in the enclosed area for the float which would rise some time before the whale. At last it bobbed up, dark and agitated like a female bearded seal when she rises far out of the water to wave her flippers to lead you away from her pup.

We closed in and the whale soon rose, spouting a thick mist of steam and clotted blood. Kunuknoruk's boat swung in, and young Stephen leaned over the bow, brandishing a ten-foot steel-headed lance.

As the boat slid up over the whale's flippers until only the stern remained in the water, Stephen thrust downward, then raised himself over the lance shaft, like a pole vaulter, forcing the lance down through probably six feet of flesh.

Bracing himself in the bow, he twisted and turned the shaft, searching for that vital spot which would disable the lashing flukes. But he lost his balance when the boat was thrown off to the side and for a moment we thought he would be left dangling from his lance shaft.

Two other boats rushed to the kill, and other lances searched for kidneys, heart, and lungs. In a few minutes it was finished. A black rubbery hulk floated quietly, with only an oil slick and swirls of bloody water to remind us of its titanic death struggle.

Not until that moment did I realize that it was snowing hard. The ice pack was no longer in sight, and the other boats seemed ghostly in the gray light.

"Joy Shout" Announces First Kill

Fred, the captain of the boat which made the first strike, drove a harpoon iron deep into the upper lip of the carcass, then bent around it the end of a long walrus-hide line. By tradition his boat took the lead and the others followed in the order of their arrival on the scene of the kill, making fast to the towline to begin the long, hard pull toward the edge of the shore ice.

When the carcass began to move, someone raised the "joy shout," a short repeated barking sound like the cry of a sea lion, and all the others soon joined him. The cooks on the edge of the ice would hear this, then carry word to the village that the first kill of the spring had been made.

I have often wondered whether that peculiarly American custom of "ragging" one's friends in a completely friendly manner was not adopted from the American natives. Certainly I felt entirely at home in the joyous ribbing that took place among that crowd of Eskimos as they strained against their paddles. None of us escaped the sharp banter, but few could return the wisecracks of Peter or Jimmy.

There was a pause in the joking and shouting when we reached the ice. Kuniaq, a tall slender man with iron-gray hair, stepped out on the ice, raised his hand, and called for our attention, then in a long prayer thanked God for our safe arrival.

To me this was a strangely weird scene. Sixty fur-clad men were huddled together in a blinding snowstorm on the pack ice 200 miles north of Bering Strait, thanking the Father and the Son of Levantine people from the desert in Palestine for our success in killing a leviathan of the Arctic Ocean.

The flukes of the bowhead belong to the captain whose crew makes the first strike, but they must be given to the community at the time of the whaling feast (page 332). They are symbolic of the hunter's relation to supernatural forces, to the whole village, and to the spirit of the whale himself.

A Drink of Water for the Whale

As soon as the whale is brought to the ice, the flukes are cut away, then carried to the village at once. Formerly a piece was borne to the captain's wife on a staff as an announcement of success, and she then came out on the ice with her little ceremonial bowl to give the whale a drink of fresh water. All sea mammals are forever thirsty, the Eskimos say.

The butchering is a day of joy and feasting. Two slanting holes are cut down into the ice until they meet, leaving a sturdy ice-beam strong enough to hold the large pulleys attached to the whale carcass. Then, as all the men gather to draw the nose of the whale up onto the ice with the set of pulleys, the women light cooking fires and begin to boil strips of skin that have been cut away from the floating carcass (page 333).

Old men mark each boat crew's traditional share by cutting long gashes in the black skin. The last boat to arrive on the scene has a sort

Fraternity Brothers of the Far North Give a Jamboree under Three United States Flags

The champion of two whaling clubs entertains its defeated rival at a feast. The three flags indicate that the hosts have killed three whales. The 45-starred flag at the top, the model used from 1896 to 1908, dates from the admission of Utah to the Union (page 335). In the distance is the Eskimo village of Tigara.

Preston Battey

Like the Butchered Pig and His Wasted Grunt, All Parts of the Whale But One Are Utilized

The skull, representing the spirit, goes back to the sea, but other parts feed men and dogs, provide drumheads, baskets, monuments, and even bouncing balls for boys (page 332). Eskimos here are dividing the meat. Smoking behind an ice windbreak is a cook stove, a luxury which old-time whaling crews tabooed.

Victory over a Whale Is Celebrated with Pennons Cut from His Tail

"I celebrate a tail . . . its amazing strength . . . the graceful flexions of its motions." So wrote Herman Melville in praise of Moby Dick. The Eskimo shares his sentiment. Here a crew captain presents slabs of the flukes to his friends (page 329).

of "booby prize" in a strip the length of the captain's foot, cut completely around the whale just below the navel.

We worked all day and all night cutting up this first whale of the season. Many dog teams raced back and forth from pack-ice edge to storage pits on shore, hauling the many tons of meat.

The ice for yards around became slippery with blood and fat. A long, winding red trail marked the course of sleds across the ice to the shore. Our clothing was soaked and greasy (page 331).

Flocks of sea gulls screamed overhead or dived for titbits drifting out into open water. Like the gulls, old people without relatives to care for them snatched choice bits and stuffed themselves until they fell asleep.

Heart, liver, lungs, intestines, everything was prized; only the bare skull went unclaimed, since that must be returned to the sea, no one knew or remembered why; some thought it represented the spirit of the whale, others that it was the share demanded by the crabs.

Kuwana eventually made drumheads from the skin of the liver and lungs, and from a white rubbery substance along the skull the boys made balls that bounced on the ice like any hard rubber ball. Net sinkers were made from the ribs, woven baskets from strips of the baleen, the vertebrae were fed to the dogs, and the jawbones were set up as monuments at the feasting ground.

Village Starts Drifting Out to Sea

Late in April a spell of bad luck struck the Tigara people and reminded many of us of the top which had failed to spin properly during the Easter ceremonies.

Suddenly, and with almost no warning, the pack ice off Point Hope began to break up while we were cutting up the second whale killed during the hunt. Most of the meat was still on the ice, and a large part of the village, including women and children, was gathered there to assist in the butchering.

Three great cracks opened in the pack between the scene of the kill and the shore, and these grew wider so rapidly that few of the people were able to cross on foot. Then heavy slush ice began to move through these open leads in such a solid mass that boats could

be forced through only with the greatest difficulty.

It was the only time I had seen Eskimos really terrified. There were eight boats to convey more than one hundred people across three separate channels, and as one boatload followed another, mush ice became more and more congested, grinding and crashing like ice in a river during the spring breakup. To make matters worse, the solid pan beyond the original cracks began to break up and to move northward, carrying the remaining people far out from the point of land.

But after about an hour the feverish work of the boat crews was successful. All the Tigara people reached shore, glad to be alive but weary and very sad because tons of whale meat had been carried off in the pack, as well as some of their dogs and hunting gear.

Evelyn Rainey

Polar Porterhouse—Rare and Fat

This slab of blubber is being dragged away as the choice of the successful crew. Other cuts will be stored in ice caches. The following year the black, rubbery skin, yellow blubber, and red meat will be served raw and of ripe vintage at the pre-whaling feast (page 323). A booby prize sliced below the navel goes to the crew last to arrive at the kill (page 329).

Death Omen Fulfilled

The ice reformed later and remained solid about the point for weeks, but bad luck continued. Two days later Poyuruk, standing watch on the ice near Killigvuk's camp, saw a whale rise only a few yards away. In his eagerness to make the best of his opportunity, he attempted to kill the whale with a short bronze "shoulder gun" which discharges a small bomb set to explode ten seconds after it leaves the barrel (p. 327).

Something went wrong. The bomb exploded in the gun, the barrel was blown into bits, and Poyuruk was fatally wounded in the abdomen. He died the next day.

Then, with continued ill-fortune which would make even the least superstitious person pause to reflect on the mysteries of chance, three more whaling guns exploded during the two days following Poyuruk's death. Kunuknoruk was wounded in the thigh and his skin boat was riddled with holes. Miraculously, neither of the other explosions wounded any of the crew, though we found shrapnel-like bronze fragments a hundred yards away.

An unsuperstitious person might explain the gun explosions by the fact that they were weapons purchased from American whalers over fifty years ago.

Several weeks later, when the sun had begun to circle around the sky without setting, the ice became restless. Big cracks appeared everywhere in the shore ice, pools of water collected on the smooth pans where our boats

lay, and sometimes we could feel ourselves rising or settling as the ground ice prepared to move away to the north.

Bowheads disappeared and a few of the more dangerous gray whales came. The season was over. We had struck 13 bowheads, killed five, and cached the meat from four.

Snow had gone from the spit. Some days on the ice our faces blistered with sunburn, though in the night when the sun rolled along the horizon, sunburned faces were nipped by the frost. We came off the ice for good one day after we had seen a huge bumblebee flying off the pack toward the shore. Boats were dragged across the last of the ice to the bar where bumblebees already had found the first spring flowers.

Feasting Fraternities Go into Action

Nalukatuk is the time of feasting. It begins early in June, or the day after the boats have returned to the shore. The women sew new clothes for weeks in preparation, and in May it becomes the chief topic of conversation.

All people in the village of Tigara belong to one of two clubs or fraternities, known as *qalegi*, each of which has a special feasting place. The clubs are named Ungasiksikaq and Qagmaktoq. Since our boat captain was an Ungasiksikaq, my wife and I had been adopted by that group and were expected to feast at their feasting place.

Rivalry in the hunt, in preparation for the feast, and in the production of new clothing is very strong between the two groups, and each of us was expected to do his part in making Ungasiksikaq's celebration outshine that of Qagmaktoq. We were handicapped, since our rivals had killed three whales to our two.

The feasting continued for three days, appetites being encouraged by such delicacies as raw whale kidneys, tongue, hearts, skin, and "ice cream" made from beaten reindeer fat, bits of meat, and berries; flour soup made of flour boiled in seal oil; molasses, coffee, biscuits, and beans (page 330).

Dancing in the Air

To renew appetites there were many games of strength and endurance, dancing, singing, and drumming. But the climax of the feast is Nalukatuk, the performance which gives its name to the whole ceremony. This is a kind of glorified tossing-in-the-blanket, which delights and terrifies at the same time.

At each feasting place there are four tripods, made from small whale jaws, grouped in a circle. Ropes anchored in the ground are passed over these tripods to meet in a square framework at the center, and over this framework is stretched a large walrus hide at a height of three or four feet above the ground.

Forty or fifty people grasp the skin at special rope handgrips about its margin and urge someone to climb up on the skin. This courageous person finds himself being shot into the air by the combined efforts of all the tossers, sometimes as much as 15 or 20 feet above the skin (opposite page).

The object is to remain upon one's feet when landing, and many are skilled enough to remain right side up for many minutes. The novice has a bad time. He lands just at the wrong moment, his knees buckle, he is soon on his back or face, and amid shouts of laughter he is sprawled in the air completely disorganized and at the mercy of the tossers.

Those who are really good "dance in the air," rhythmically moving arms, body, and legs to the music of the drummers and singers who accompany the performance.

If there is any significance in the Nalukatuk, it has been forgotten. Now it is just fun, enjoyed by men, women, and children of every age. Oddly enough, it is done only at the time of the whaling feast.

The bright new clothes, the dancing, singing, feasting, and, above all, the excitement of Nalukatuk combine to make this three-day festival the high spot of the year in the lives of all Tigara people.

People of Patience, Endurance, Humor

During the many weeks of the hunt, while we waited long days and nights at the edge of the ice, raced through vast fields of loose drifting ice pans in pursuit of whales, or sat very quietly in our boats far out in the lead while herds of white belugas broke the night silence with their puffing, the question of who these people were often occupied my thoughts.

The patience and endurance of my crew mates, their deep-rooted and entirely unconscious courtesy, their humor, and, above all, their formalized pattern of behavior, which seemed based upon endless generations of adjustment to the life they lead, suggested the Orient.

This formalized behavior and the complex traditions surrounding the ancient whale hunt, as well as the complicated equipment required to live on the Arctic coast, were startlingly different from the ways of interior Indians. I had never realized how much more knowledge, experience, and equipment are required to live on the barren coast than in the wooded interior.

The Eskimos have come to respect the white man's knowledge of certain things. When Poyuruk and, later, Kunuknoruk were wounded by the white man's exploding guns,

Fredrich Reiner

This Daring Young Girl, Tossed in a Walrus "Blanket," Keeps Time to Eskimo Songs

A hide stretched between four whale-jaw tripods and tossed by 40 fun-lovers sends the lass dancing 20 feet into the air. Only the skilled can remain upright; others plunge sprawling on their faces. The ceremony, climax of the whaling feast, is known as *Nalukataak* (opposite page).

Fearon Bailey

There She Sounds! A Harpooned Whale Dives at the Bite of the Bomb in the Iron

When the leviathan reappears, spouting mist and blood, the Eskimos will drive their boats upon its back and lancers will jab vital spots. The sealskin float in foreground is attached to the harpoon line. When the whale sounds deeply, the float submerges. It bobs up warningly just before the victim rises again.

they went to him for treatment, Poyuruk even trusting himself to an airplane en route to a hospital.

But they do not respect us in our attempt to settle the Arctic coast. We are helpless there without their clothing, their knowledge of the country, and without food shipped in from the "outside." We can live there with all the southern regions supplying us, but we cannot live there without this help unless we become Eskimos.

Light on an Ancient Mystery

Unlike Alaskan Indians, Arctic Eskimos do not stand in awe of Western civilization. Assurance, pride, and tradition reinforce their culture and leave them still masters of an environment nobody else has really mastered.

With a more intimate knowledge of Eskimo people, the discovery of an ancient and complex culture in the Eskimo region which may prove to be ancestral to that of the Eskimos and at the same time derived from an advanced oriental culture, is not surprising. It may explain the contrast between Arctic Indians and Eskimos.

The one race, primitive in behavior and equipment, has been unable to stand the shock of intercourse with European civilization; the other, sophisticated in behavior, is equipped with ingenious gear adapted to an impossible environment and has that intangible self-assurance one might expect in a race with a long and powerful tradition.

Furthermore, it is easier for me to comprehend a movement into the Arctic wastes by a people with a complex culture than by a people with a simple and primitive culture like that of the northern Indians in America.

It now seems probable that my whale-hunting companions at Tigara are the descendants of a mysterious people who, some time before the beginning of the Christian Era, moved northward along the shore of the Pacific in eastern Asia, gradually adapted themselves to the hunting of sea mammals, then penetrated to the Arctic coast of North America.

The long history of their life in the Arctic regions can be known to us only in part from our present excavations, and there must be scores of such settlements as that at Ipiutak yet to be found. The exciting thing is not the collection of mysterious implements unearthed by the excavations, but the history of a sturdy group of whale hunters seen with a new perspective.

China Opens Her Wild West

In the Mountain-girt Heart of a Continent a New China Has Been Created During the Years of War

By Owen Lattimore

Political Advisor to Generalissimo Chiang Kai-shek; Director, Walter Hines Page School of International Relations, Johns Hopkins University

UNDER a sunny wall near the gate of an ancient temple sat an old Chinese countrywoman. In front of her she had put a big basket, which she had carried on her back. It contained cigarettes, matches, candy, spools of thread, needles, little mirrors, and other oddments which she hoped to sell to people going in and out of the temple.

In the meantime she and a neighbor, another old woman, were gossiping peacefully in the California-like sunshine that floods the far southwestern Province of Yünnan all through the winter.

It might have been almost any corner of China, on almost any day in the last hundred years, except for the wall behind the two old women.

On the wall was a propaganda picture, painted in bright colors (page 338). In the middle, in a sort of cloud to show that he was far away at the front, a soldier was charging with fixed bayonet. At the left, painted much larger to show that he was right here in this part of China, a peasant with trousers rolled above the knees was plowing a rice field with a water buffalo.

At the right, in big, plain characters easily read by peasants who have to puzzle out each word, was the slogan of the poster painting: "At the front, strive to kill the enemy and defend our land: in the rear, strive to plow and plant and build."

A smaller inscription declared that this patriotic picture was the work of the Provincial Middle School of the city of Tali (Color Plates I and IV).

Off to War in American Trucks

Only fifty yards away something was going on that gave grim reality to the brave picture and bold words painted by boys and girls of high-school age. A group of conscripted recruits for the army was being assembled by a sergeant and a corporal. Their uniforms were only a few days old, and they were more eager than skilled in forming ranks and executing orders.

When the roll had been called, they swarmed into a big, battered American truck. Some of them looked bright-eyed and laughing, excited by a sense of adventure; others were going with sober, serious faces to meet the unknown.

For me there was one especially dramatic note in this little scene of the ancient tragedy of young men going off to a war forced on them by distant aggressors of whom they knew almost nothing. Probably not one of those boys had ever been more than 30 miles—a long day's walk—away from home.

They had grown up in the lovely valleys of this remote province, one of the least touched by foreign influences in the last hundred years of China's contact with the outside world.

Very likely not one of them had ever ridden in a motorcar. Until four or five years ago there was hardly a car in the whole province, except at Kunming, the capital.

Yet now that they were leaving home, perhaps to die, they were being taken off in an American truck; by the raw new gashes of the Burma Road or its successor they would swoop through their own homeland, across ranges where for centuries men had trudged by narrow trails, following their pack mules (map, pages 344-5).*

War Speeds China's Full Awakening

Taken together, the cause for which they were going and the way in which they were going symbolized what is happening in the China of our time: To defeat a military invasion, the Chinese are speeding up the development of their own country by every industrial, technological, modernizing agency of the 20th century.

Everywhere in Free China you can see this kind of contrast. It is typical of China that the change is both chaotic and constructive; and it is also typical of China that on the whole the forces of growth, of healing and construction, clearly have the upper hand over the forces of violence and destruction.

The Chinese are the heirs of the world's oldest living continuous culture. Their ancient history overlaps that of the Pharaohs. But the Pyramids of Egypt are monuments of a culture of the past; there have been big breaks in the history of Egypt.

* See "Burma Road, Back Door to China," by Frank Outram and G. E. Fane, National Geographic Magazine, November, 1940.

Owen Lattimore

"At the Front, Strive to Kill the Enemy and Defend Our Land; in the Rear, Strive to Plow and Plant and Build"

Beside the big, plain characters of this message painted on a Yünnan wall, a soldier is drawn in a cloud to represent him far away at the front. In contrast, the farmer at home is pictured large and prominent, plowing a rice field with a water buffalo. Under the wall an old Chinese woman sells cigarettes, candy, needles, and other oddments (page 337).

China has a prodigious vitality, but it is not a rigid, unyielding vitality. While accepting the new, she also preserves the best features of the old.

Excavations in North China that have laid bare the foundations of palaces of about 1300 B.C. show that certain principles of the Chinese architecture of today were well established more than 3,000 years ago. That is one kind of continuity.

Another kind is shown by the fact that in parts of North China the crops are reaped with iron-bladed sickles identical in shape and size with the stone sickles used at the end of the Stone Age, 3,500 to 4,000 years ago.

The men of the Stone Age had worked out a cutting blade of a good size and shape for the work they wanted to do. When the men who came after them learned the use of metal, they adapted the new raw material to the work and to the way of doing the work which they had already proved to be practical.

It is this ability to change by adaptation, and not simply by throwing away one set of principles, one way of living, and adopting another, which is, I think, the true secret of China's long and vigorous history.

Better Scissors from Roadside Wrecks

I saw an example of the same kind of thing in a little town on the Burma Road. This town had long been famous for the making of scissors. The scissors are beautifully artistic, and they are still made today with the

Paul G. Guillumette

China Has Some Tanks, but Far Too Few for the Job

These six light tanks are lined up in embattled Hunan Province, ready for action. China's armored units are named after animals known for their ferocity, such as the tiger and the dragon. The animal's name is painted on the side of each tank.

skill which each generation of apprentices learns from the older generation of craftsmen; but today the scissors are better because the smiths have learned to use tough American alloy steel salvaged from the wrecks of trucks along the road. This is better than the steel they can forge for themselves by traditional methods (Plate II).

Other and newer skills are also at work in the China of today. Last November, at Chungking, I was present at the "blowing in" of a new 30-ton blast furnace.

It had been built by a company in which government capital and private capital were jointly interested. This is one of the policies favored by Dr. H. H. Kung, Minister of Finance. The government interest assures continuity and stability, while the private interest guarantees initiative.

Thirty tons of steel sounds like tragically little for a country defending itself against an enemy who relies more on tanks, artillery, and planes than on manpower. Thirty tons of steel a day, however, is about 900 tons a month. If China had to rely on getting it in over the Burma Road or some new mountain route from India, that would be 900 tons that she might get and might not; made here in Chungking, it is 900 tons right where it can be used.

The Making of a "Whatizzit"

There is a link between factories like this and supplies coming into China from abroad. In order not to give away any military details, let us imagine a weapon called a "whatizzit."

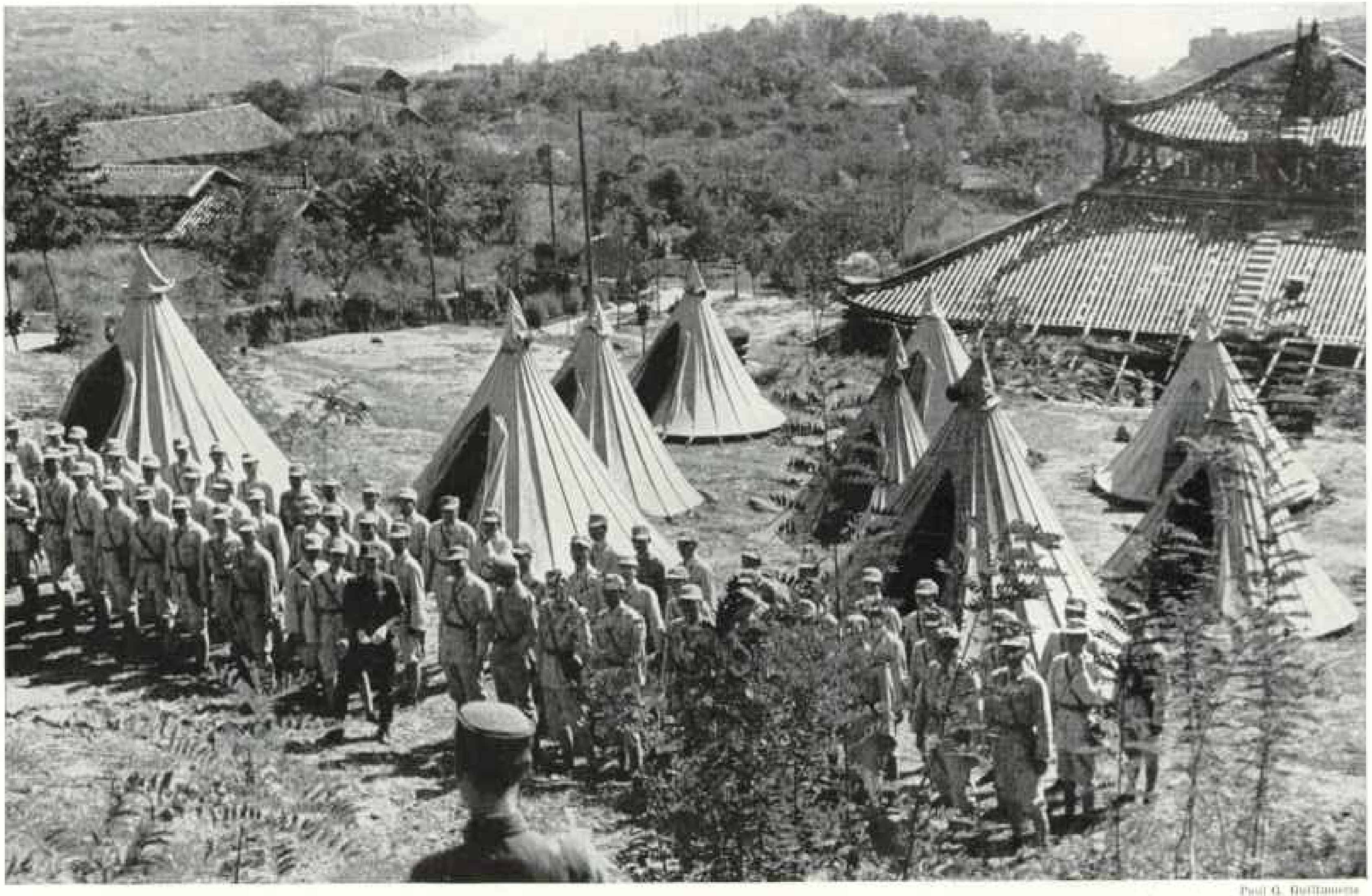
The Chinese armies would have very few

Bomb-battered Chungking Has Learned to Roll with the Punches from the Sky

Four summers of Japanese air raids have almost destroyed the original buildings of the capital of Free China, yet daily life goes on much as usual. Heavy damage has resulted because of the city's flimsy and inflammable wood and mud construction. Thousands of residents now find shelter in enormous caves dug in the rocky hills.

Paul G. Guillumette

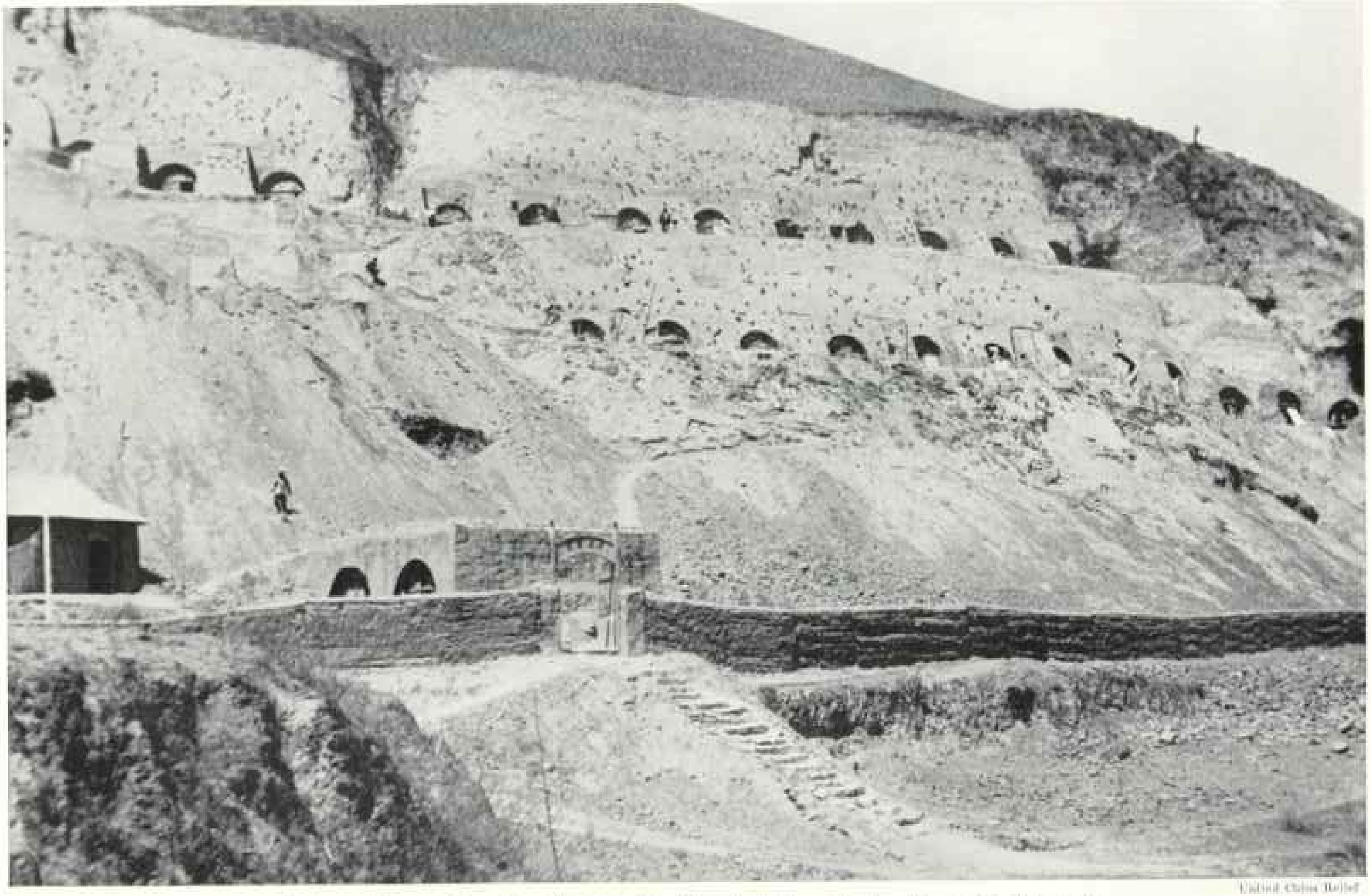
A Trained Decontamination Unit Shows Officers and Men of a Chungking Military School How to Don Anti-gas Suits, Hoods, and Gloves



Paul G. Hoffman

Civil Service Workers Stand for Inspection before Their Tepeelike Tents at the Central Military School

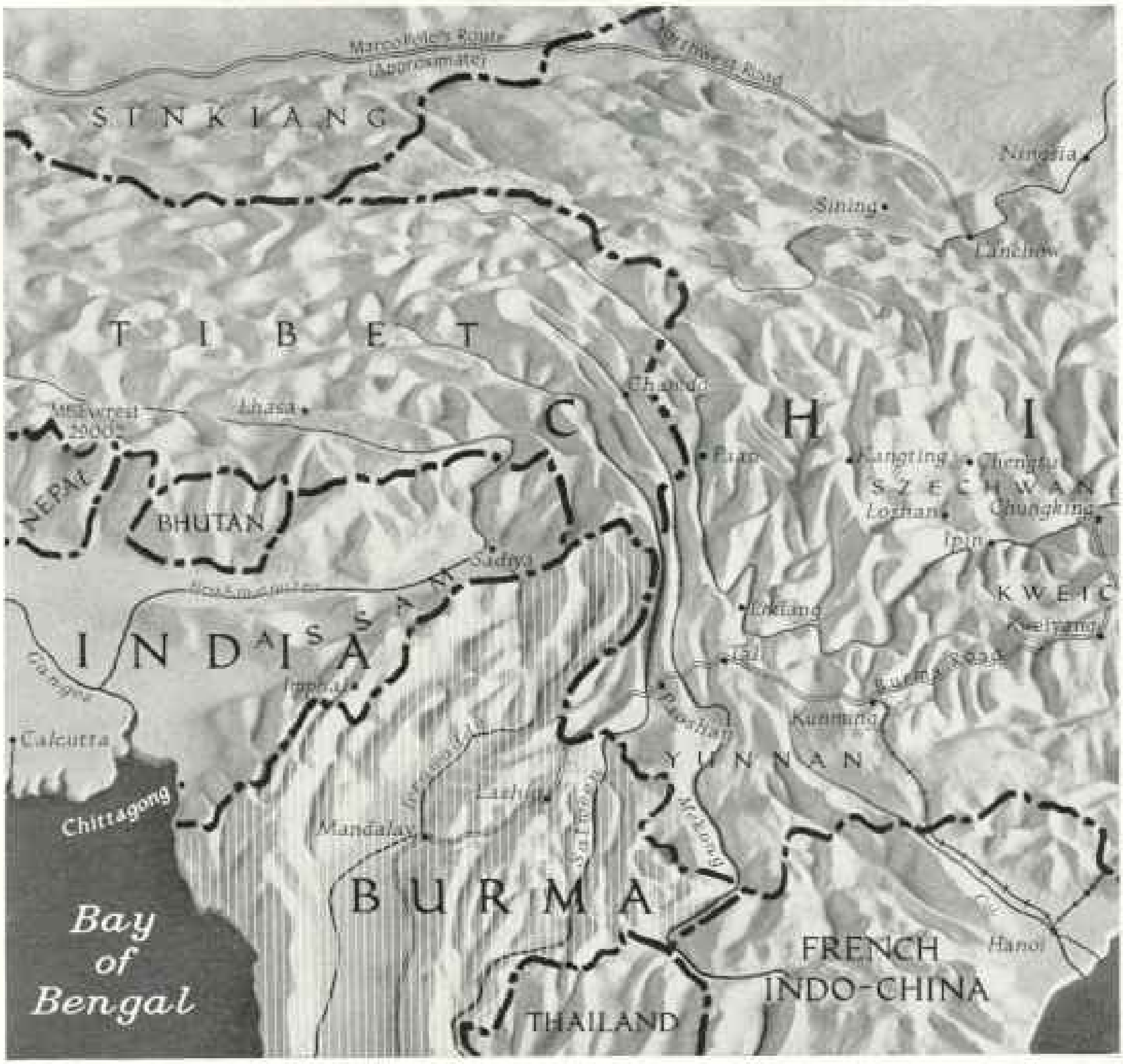
Here in China's wartime academy, Government ministers and department heads study and train side by side with postal clerks and office boys. Some 3,000 civil servants arrive each month for a four weeks' course in military and political science.



United China Relief

Patients Become Cave Dwellers in This Hospital Hewn in the Face of a Mountain

Buttresses of rock between the arched entrances partly protect the wards from bomb blasts. This International Peace Hospital in northwestern China is largely supported by United China Relief (page 361).



China's Mountain Fortress Stands Out Clearly in a Hand-modeled "Sculpture Map"

To create this graphic relief picture, The Society's cartographers modeled mountains and valleys in clay from accurate contour maps. The model then was photographed. The new India-China supply road, now under construction between Sadiya, in Assam, and Likiang, must surmount high mountains and cross the deep parallel gorges of the Salween and Mekong Rivers.

whatizzits if they all had to be brought in by truck. But with the machines and the materials that China already has, most of a whatizzit can be made right there. All that it is absolutely necessary to bring into China is, let us say, one of the mechanical parts and the raw material for another part.

Looked at in these terms, one ton of cargo brought into China by transport plane from India or over the Northwest Road from Russia may mean a hundred whatizzits instead of ten.

This kind of stepping-up of China's productive power is a good illustration of the true co-operation in America's Lend-Lease supplies to China. What we supply multiplies what China is able to do for herself; what China does multiplies the value of what she receives from us.

Factories in Caves Turn Out Guns

Widely scattered to reduce the risk of bombing, and with their most delicate and valuable machinery hidden in caves wherever possible, the arsenals and factories of China also mean a number of things besides so many tons of steel or so many rifles or machine guns a month.

They mean, among other things, more

Modeled by Newman Bumstead and Richard Reith

Japanese Have Infiltrated into Plains and Lowlands but Not China's Rugged Heart

Like meshes of a net, the invading armies have attempted to "put the squeeze" on China by following rivers, roads, and railroads. Territories now occupied by the enemy, indicated by white vertical lines, blockade the interior. Only access to the capital, Chungking, now that the Burma Road has been closed, is by airline from India. Russia is sending in some vital supplies by the long and difficult Northwest Road.

speed in the development and training of skilled labor than at any other time in China's history (pages 346-7).

Thanks to one of the Government's wisest policies, most of China's modern factories are not only centers of production but schools of technology.

Under the old guild system, an apprentice was a boy who learned most of his trade by standing around watching. He moved very slowly from the simple stages to the skilled processes of the trade he was learning. It might well take from five to seven years.

Today there is a system under which the Government and the factory owner both contribute money and time to enable the apprentice to study instead of just watching and imitating. This reduces by at least half the time it takes to train a skilled workman.

As yet, however, there is a shortage of skilled labor in China, and this will continue for many years. There is even, in many parts of Free China, a shortage of unskilled labor.

This is an idea that will be strange to many Americans. We have always thought of China as a country swarming with surplus labor—an "overcrowded country." Yet in the Province of Yünnan last fall—the province of the

Paul G. Guillemette

Chungking Workers Compare the Enemy's Weapons with Their Own

The first two rifles (left) are Japanese, like many others captured and turned against their makers by guerrillas. The last three are Chinese. In rear are models of Chinese 75-mm. howitzer and 105-mm. field gun.

Paul G. Guillemette

Old China Learns to Use New Tools—Soldiers Study a Chinese-made Milling Machine

Instead of importing complete machines and weapons, China makes most of them herself, bringing in from outside only materials and parts which she lacks or cannot produce (pages 339, 344).

Paul G. Guillumette

China Keeps the Home Fires Burning to Forge the Weapons of War

Workers are shoveling crushed limestone into an electric furnace to cleanse the molten scrap steel. The white-hot metal is about to be poured into ingots. This refining furnace is one of many heavy machines moved intact from industrial coastal China deep into the interior ahead of the Japanese invasion.

Burma Road—I saw scarcely a young man helping to get in the harvest, at the busiest season of the farmer's year.

Young men have been drafted away by the hundred thousand, not only for the Army but for making and keeping up the new truck roads that are opening up the deep hinterland of China as well as making possible the supply and transport of the sinews of war. This partly explains China's wartime shortage of labor.

Millions Help Open China's West

There is also another explanation.

Think, for instance, of the tremendous migration of people from the invaded provinces of China into the free west. This has been estimated at from forty to sixty million people. Even the greatest years of European migration to the Americas never saw anything like such numbers on the move.

These people came from the richest, most thickly populated agricultural provinces. The Province of Szechwan, which is today the Chinese National Government's stronghold, is also a great food-producing area, with rich irrigated farmlands; but the rest of the west of China is comparatively thinly populated.

In the western provinces, however, are found the very raw materials which China needs to carry on her war of survival and to energize her future industrialization. China's major oil wells are in the far northwest. In both northwest and southwest are rich deposits of coal and iron.

New people are needed to develop these resources; and so the millions of refugees, instead of being a burden on an overcrowded country, provide instead a new population which the country needs.

Of course this does not mean that China's wartime development is painlessly easy. Far from it. There is a terrible margin of suffering during the time it takes for the refugees

to find the places where they are needed and to begin their work.

This is the gap that is partly being filled by America's contributions to China through United China Relief.

Perhaps even the people who contribute to these funds do not always fully realize how they are taking part in the making of history; for they are not simply helping to feed the hungry and tend the sick until things get better, but are actually helping the Chinese to transform their own country.

A dramatic illustration of this is the work for the "Warphans" under the War Orphans Committee, in which Madame Chiang Kai-shek takes an especially active interest (page 359).

Families Shattered by War

The Chinese family system, as it used to exist, could be called the greatest insurance syndicate in the world. The functions of life insurance, and of insurance against fire, accident, unemployment, and old age, were all taken care of under the system of mutual loyalty, mutual responsibility, and filial piety within the Chinese family.

The war has changed all that. Obviously, when forty to sixty million people are driven from their homes by invading armies, families cannot hold together as they migrate. One of the most terrible things about this vast forced migration is that it is made up of the innumerable fragments of hundreds of thousands of shattered families.

For this reason Madame Chiang's War Orphans Committee is more significant than it would be in a European country or a nation such as ours. It means that people are consciously assuming the burden of new responsibilities to take the place of the old family ties.

The children who are brought up in these orphanages are a new generation in the long history of China: children who are cared for by the public, not by their own families; children who grow up to be first and foremost citizens of a state, not just members of families.

The difference between China and other countries is that in other countries the industrial revolution itself has destroyed the old way of life before building a new one. In China it is an alien invader who is doing the destruction. The new industries are healing and creative; they are knitting together new families, creating new employment and new citizens.

You can see this illustrated in any number of ways in wartime China. In one large city I saw a number of textile mills. The conditions in all of them were better than in the old mills of prewar treaty ports like Shanghai and Tientsin.

Most of the workers were girls in their teens. Most of them lived in dormitories at the mills, though a few came every day from their homes. The mills had their own kitchens, health centers, and schools.

Girls who a few years ago would have been doing housework at home were drawing wages that contributed to the family. They were getting more and better food than they would have had in the poor families from which most of them came. Many were getting an education that their families would not have been able to afford.

As a byproduct of their skilled labor they were becoming emancipated women and good citizens.

Nor is it only the city that is affected. The finest silk production of Old China was in Chekiang and the lower Yangtze Valley (page 362). At one time it had almost been ruined by Japanese trading tactics. To make sure of their own control of the world silk market, the Japanese would buy irregular quantities of silk on the Chinese market at high prices and then throw it back on the market at cut prices, thus creating a confusion which destroyed the Chinese industry.

Under the National Government, a strong effort was made to revive the Chinese industry, from the breeding and feeding of the silkworms to the production of the finished silk. For a few years the progress was amazingly rapid.

Then came the war, and the silk-producing regions were mercilessly devastated.

Even Silkworms Join the Migration

In one of China's western provinces I found that the silkworms, like the people, had been migrating from the invaded coastal regions.

I was traveling with a Chinese engineer who was in charge of building a strategic railway. Twenty years ago he learned English under my father and German under my uncle. After studying in America, he became one of the young, energetic revolutionaries who were close personal followers of Chiang Kai-shek, then himself one of the younger generals under Sun Yat-sen.

In due course, my friend served for a time as reconstruction commissioner in Chekiang, where he took an energetic interest in reviving and improving the production of silk.

While we were inspecting the line of the new railway which he was building, he told me he wanted to visit a village where a new

© National Geographic Society Kodachrome by Owen Lattimore

Slogans of Modern War Adorn Ancient Tali's Tower of Five Glories

"Japanese have killed our children; we must avenge them!" says the sign at left on the weed-grown, decaying gate. Tali, between a limpid lake and snow-capped mountains, is just off China's Burma Road in Yünnan Province. Yünnan means "South of the Clouds," so named by settlers from the lofty, cloudy north.

© National Geographic Society

Kodachrome by Owen Lattimore

Nothing Is Wasted in Free China—Total Wrecks Provide Steel for Scissors

Had this American truck plunged a thousand feet, as some have done along the Burma Road, the thrifty Chinese still would have salvaged its metal. Scissors makers prize the tough alloy steel. Youngsters in foreground are winding the derrick carried by the wrecking truck. Boys even younger toil in many a road gang.

© National Geographic Society

Reproduction by Frank Quinn

From Tibet's Glaciers to Burma's Shore, the Salween Winds through Marble Gorges and Fever Valleys

Looking down from the "Eaves of Asia," the motorist sees a haunt of the deadly malaria mosquito, which infests the valleys below 4,000 feet. On the left, the Burma Road scars the distant mountainside. The turbulent Salween River's 1,750 miles are little explored.

Curb Service for a Pack Pony—a Veterinary's Shop in Tali

This sleepy city, once a seat of Mongol power, is famed for its marble quarries and ancient Buddhist temples. The marble is grained with blues, purples, and browns. Tibetans make annual pilgrimages to sacred Tali (Plate 1).

© National Geographic Society Kodachrome by Owen Lattimore

Chopsticks Juggle Rice, China's Daily Bread

These frugal countryfolk have carried their humble meal to the outskirts of a market place. Young and old share in the community rice bucket. Some wear skullcaps; others the umbrellalike grass hats of the field.

A Salt Dealer Dispenses His Precious Commodity

Salt, which once passed as currency in Yünnan, is laboriously obtained by the ancient process of boiling brine hauled from deep wells. Coolies stagger to salt markets under 100-pound packs. On right are bundles of noodles.

© National Geographic Society

Kodachromes by Owen Lattimore

He Puts His Mouth into His Pipe, Rather Than the Pipe into His Mouth

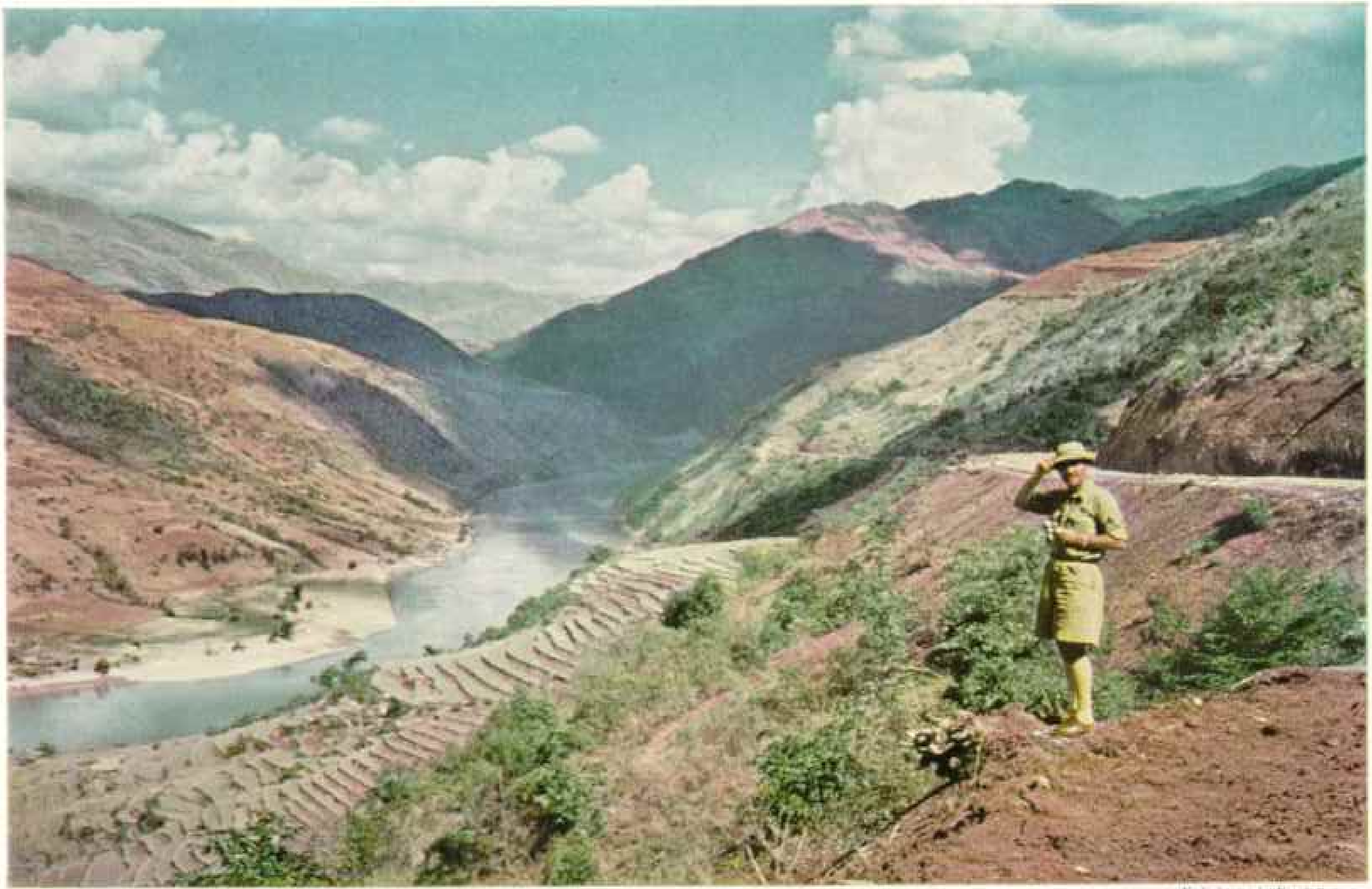
A broken stem, so annoying to Western smokers, seldom troubles this shopkeeper enjoying his bamboo "briar." Both he and the girl are residents of a village which knew the American Flying Tigers, who had a field near by.

© National Geographic Society

Kodachrome by Owen Lattimore

Marco Polo Passed This Way When the Burma Road Was a Single-file Caravan Trail

As Kublai Khan's envoy, the Venetian explorer traveled over the mountains along the ancient Ambassadors' Road. At Paoshan, where he marveled at gold teeth and tattooing, Marco reported a battle in which 12,000 Mongol archers scattered the Burmese king's 2,000 war elephants, each manned by 12 warriors. That was in 1277.



© National Geographic Society

Kodachrome by Frank Outram

Scorching the Good Earth! Here the Chinese Dynamited a Part of Their Life Line

A 260-foot suspension bridge, swaying with the wind and trembling with every truck, stood just around the bend in the Salween to the right. When the enemy arrived last May, the Chinese destroyed the span, which Japanese airmen had bombed in vain. Below are terraced ricefields.

Such Women Scratched a Road out of the Mountains with Their Hands

This crew helps with the harvest near Kunming, eastern terminus of the Burma Road. Their sisters to the west, using the most primitive tools, finished stretches of the highway in 1938 when malaria felled their men.

© National Geographic Society

Kodachromes by Owen Lattimore

Into Big Baskets Chinese Have Flailed Rice Since Ancient Times

The men doing the heavier work have tethered their horse on a grass-grown dike separating the paddies. The Kunming plateau is exceedingly fertile, producing two or three crops a year.

silk center had been started. There we found that most of the younger technicians, both men and girls, were refugees from far Chekiang.

They recognized him, crowded round him, often with tears in their eyes, and proudly showed him the work they were doing. They had acclimatized their silkworms so well that they were getting more production and better quality than in their native province, from which most of them had traveled on foot for a thousand miles and more with incredible hardships and adventures.

This engineer was a superb example of the generation that is making China anew. Like many of the Generalissimo's picked men, he was about fifty but looked thirty.

China's Amazing Young Men of Fifty

Nothing is more amazing than these "young men" in their fifties. Every one of them is an active, driving man. Almost always he carries more than one high responsibility and has been working without rest for 15 or 20 years.

Yet the typical member of this group has a smooth, youthful complexion, not a gray hair, a quick laugh, and the zest and enthusiasm of a young man who is just beginning to make good.

The answer must be, I think, that for keeping young there is nothing like a job in which you are always making new things, and making them work.

My friend's new railway was a job typical of the New China. In organizing it he combined the most ancient methods with the most modern devices.

Most of the engineering had to be done by human labor, with the assistance of a little black powder. Dynamite was much too precious for "civilian" blasting.

Moreover, the line was being laid through stretches of wild country where food was scarce. He had therefore to organize work gangs of thousands of men and women, to buy food for them over a wide radius, and to transport the food to the work sections.

In addition, he had to keep in touch with his advance surveyors and section engineers and to keep a check on the rate of shipment of American Lend-Lease supplies from far-distant Burma.

Portable Radios Direct Human Caravans

He did all this largely by a skillful use of the radio. He had a number of small, portable radios, spotted at strategic points, and radio centers at his main headquarters and field headquarters. On sections where he could travel by car, he even had a portable radio in his automobile.

In this way he could hold a regular radio roundup and conference every morning, which kept him in exact touch with routine work and sudden emergencies in the whole vast organizational complex he controlled.

It was strange to think of human caravans of men—and women—carrying rice on their backs over mountain trails that had never seen a wheeled vehicle, while their movements were being directed by this latest means of communication.

In some of the valleys lurked the dreaded cerebral malaria, which is feared like the plague—and one main section of the line was to run through a bad malarial district.

"The Germans showed that you can use blitzkrieg tactics," said my friend. "Then the Russians showed that you can use blitzkrieg against the Germans. Now I am going to show that the only way to break through a malaria front is by blitzkrieg."

His method was to leave that section alone until the season when malaria was least active, then to concentrate men, supplies, field hospitals, and everything he had and break through the whole bad section in one rush of frantic work lasting a few weeks.

He made no exemptions. Engineers and technicians had to take their chances with the unskilled labor, and this ensured a high morale.

Geography Fights on China's Side

Geography plays a dramatic part in the China of today. A skillful use of geography enabled the Generalissimo to carry out his policy of "trading space to get time" in the four and a half years in which China was fighting alone; and the same geographical factors will have much to do with shaping the China of the future.

Maps of the long fighting front which divides Free China in the west from invaded China in the east ought always to be drawn in such a way as to show the relation of mountain masses to open plains. An ordinary newspaper map reveals no particular reason why the front lines should be where they are and not somewhere else. A map which shows the relief reveals at once why the fighting lines are where they are (see "sculpture map," pages 344-5).

In the first rush of their attempted conquest, in 1937 and 1938, the Japanese, by the use of tanks and artillery and by their overwhelming superiority in planes, were able to overrun the wide and open valleys of the lower Yangtze and Yellow Rivers. Here the Chinese could only retreat, avoiding encirclement and an-

G. L. G. Benson from Pix

Manpower Still Does Most of China's Work

Railways and roads are slowly searching out long-hidden corners of China. Yet even where trucks move, coolies with carrying poles plod side by side with mules and horses, portaging bales of tea, wool, and hides, and now supplies for soldiers.

nihilation while inflicting considerable losses on the invaders.

Then the Chinese began to feel the mountains at their backs, and this enabled them to fight a kind of war that baffled the Japanese tanks and planes and artillery—a poor man's war.

Making use of hilly, broken country, the Chinese are now able to slow up and tear to pieces even heavy Japanese offensives with trench mortars and rifle and machine-gun fire.

This kind of defensive the Chinese can keep up more or less indefinitely; but they need heavier equipment, especially mobile artillery, antitank guns, and planes, if they are to move back in force into the open plains to recover territory from the Japanese.

It is worth understanding the essentials of the military front in China, because the military front roughly follows a great historical dividing line. The heart of Old China lay east of this line, in the vast sweep of country between the lower Yangtze and the lower Yellow Rivers.

There the agricultural civilization of China reached its highest development, marked by the stately palaces of Peking (now Peiping), great engineering achievements like the Grand Canal, and the most sophisticated development of philosophy, art, and poetry.

Chinese Shunned the "Barbarous West"

Peking, at one end of the Grand Canal, was the center of the philosophy as well as the practice of the science of government and the art of war.

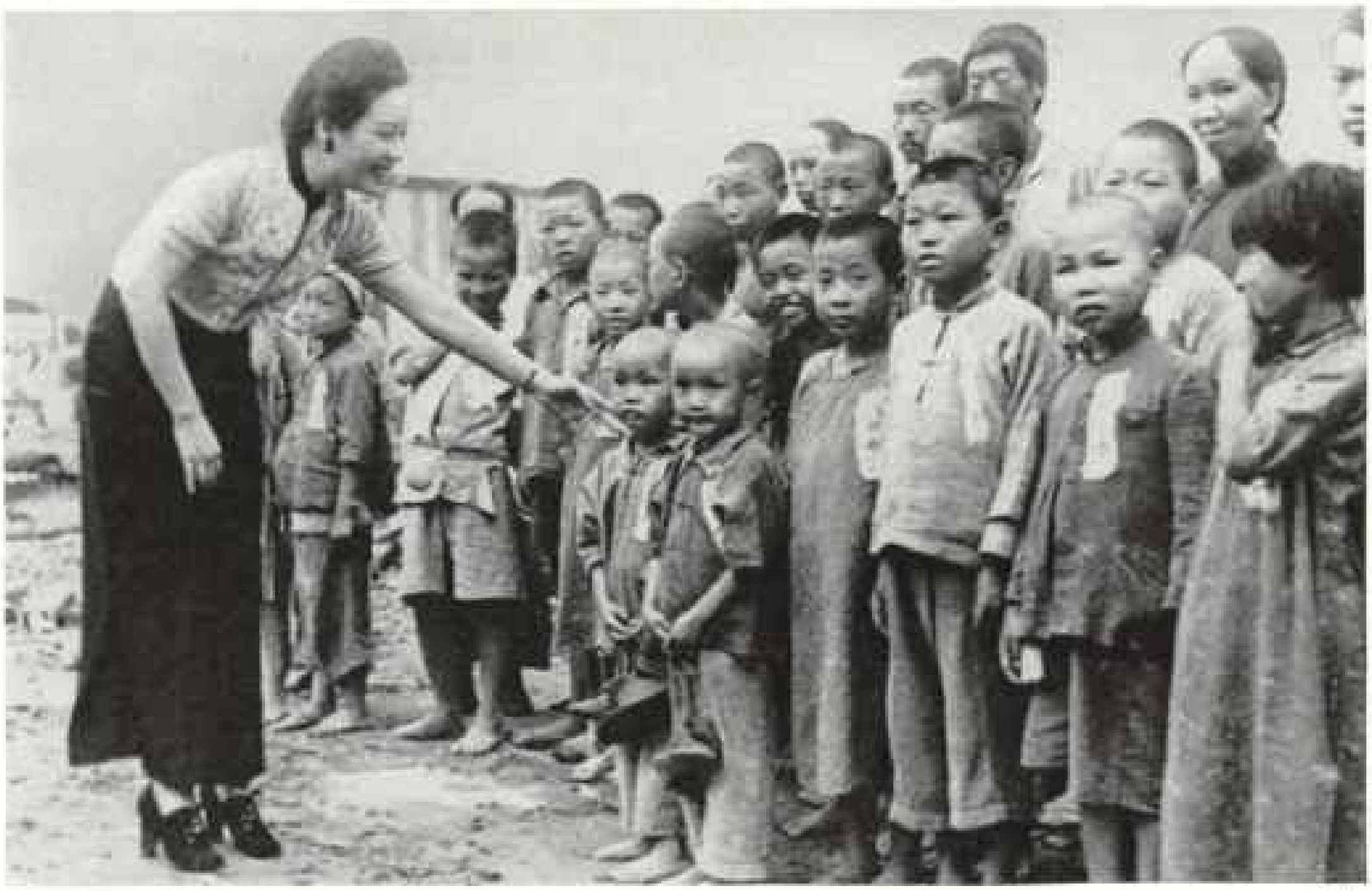
Hangchow, at the other end, was for centuries the dream city of silks and sophistication, the poetic Paris of beautiful women and bohemian living.

Westward of this dividing line there was less of the typical Chinese irrigated agriculture, because of the higher, more rugged land. Even such fertile regions as the Chengtu plain

Harrison Forman from Acme

Colonel (Now Brigadier General) Chennault Gives Last-minute Orders to a "Flying Tiger"

His American Volunteer Group rolled up an astounding record of aerial victories against the Japanese in Burma and China. The placard on the pilot's back proclaims his connection with the Chinese Army and the volunteer flyers. Early in July, 1942, the A.V.G. was disbanded and many of its members—headed by Chennault, able, hard-bitten leader—joined the United States Army Air Forces in China.



Acme

China's First Lady Visits Her Adopted "Warphans"

Following heavy Japanese air raids on Chungking in August, 1940, Madame Chiang Kai-shek adopted 200 destitute children whose parents were killed, wounded, or missing. Now her War Orphans Committee has under its protection "innumerable fragments of hundreds of thousands of shattered families" (page 348).

Owen Lattimore

A Pint-size Young Chinese Drinks from a Quart-size Cup

His small playmate eyes the beverage enviously, though it is simply water from the barrel. The group is waiting patiently outside a dugout in Chungking in an interval between air raids. The lull came after departure of the first flight of Jap bombers and before arrival of the next.

of Szechwan were isolated by mountains from the main part of eastern China, and so reflected the main culture of China in a cruder, more provincial way.

Generally speaking, in the mountainous west the smaller scale of irrigation meant a more thinly scattered population. It was a backwoods area from which ambitious and successful men liked to move eastward, not an expanding frontier to which men looked with hope or enterprise.

"Go west, young man, go west," was not a romantic saying. Instead, Chinese poetry and history are full of the melancholy of exile and privation in the barbarous west.

In spite of this, the west, and especially the northwest, was also, centuries ago, the land through which ran China's main avenues of contact with foreign countries and people. Marco Polo came this way some two hundred years before the time of Columbus.

The Venetian, as we often forget, was not a romantic adventurer or a visionary but a young merchant learning the family business and accompanying his father and uncle on a journey of a kind that had already shown a good profit.*

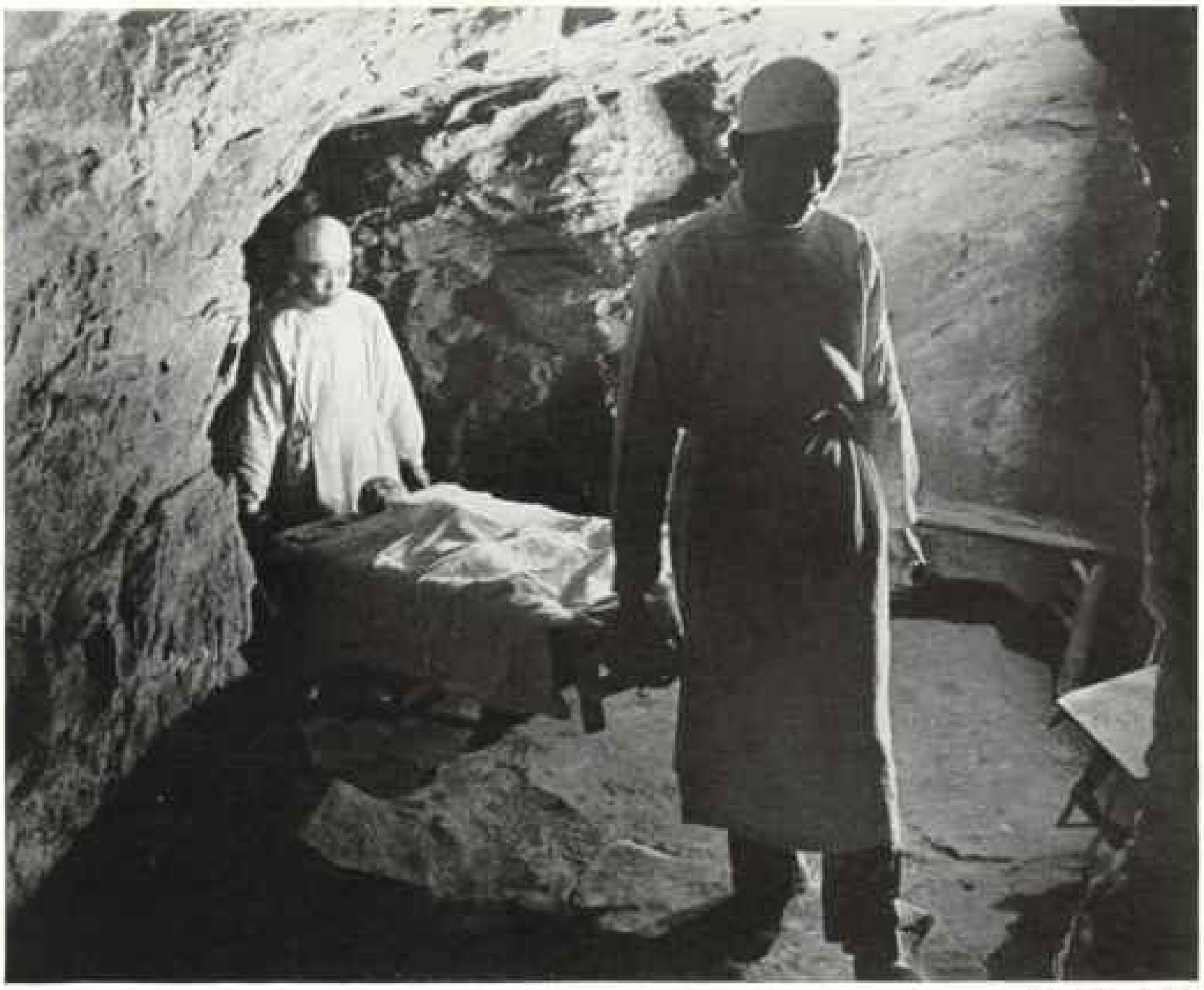
China Turns to Marco Polo Trails

In one way, what is happening in China today is a return to the days of Marco Polo. With most of her coast and her ports occupied or blockaded by Japan, China has turned once more to the ancient land routes that once were her most important links with the outside world.

The route through central Asia along which move supplies from Soviet Russia is one of the many variants of the ancient trade routes and routes of migration known by the peoples of the heart of Asia since the Stone Age.

Along this route—which is really a network

* See "World's Greatest Overland Explorer," National Geographic Magazine, November, 1928.



United China Relief

Let the Bombs Cr-r-umph Above! Quiet Reigns in an Underground Hospital

Tunnels connect the twenty cave-rooms of this subterranean hospital—complete with operating room, research laboratories, wards, and kitchen. It was blasted out of the solid rock hill upon which stands Chungking (page 343). Deep in the earth the "men in white" tend the sick and wounded. American medical equipment and drugs are supplied by the United China Relief.

of caravan trails—the silk of ancient China was carried as far as the markets of Imperial Rome. By the same routes the first grapes and watermelons, and such handicrafts as the making of glass, were introduced into China.

Not only Buddhist pilgrims but Nestorian Christian priests also traveled back and forth between China and central Asia and northwest India by these routes.

Thus the Polos, both on their first journey to China and on the second when they took young Marco along, were traveling by roads which, though dangerous, were the least dangerous and the best known to the serious business men of their day.

It is interesting that a Chinese general and statesman who ventured far into central Asia about 2,000 years ago and returned to report to his Emperor on the kingdoms of that region discovered that there must be a southwest road from China into India because he found in central Asia Chinese products which had come this other way around.

At that time the Chinese had not yet conquered and civilized the wild tribes of the southwest, but somehow a small amount of Chinese trade was even then filtering through the warring tribes.

Trucks and Planes Instead of Elephants

Burma never became one of China's main frontiers, because of the wildness of the country and the deadly malaria in the deep jungle valleys; but veteran missionaries, even today, remember being told, many years ago, how elephants used to come up the trail that was grandly known as the Ambassadors' Road, bearing a token tribute to the Manchu court in Peking.

A new kind of history is today filling in the gap between those vanished elephants and the devil-may-care drivers of trucks on the moun-

Alfred T. Palmer

Skeins of Lustrous Silk Are Bundled in Books for Shipment

Each hank contains about 25 miles of glistening fiber, machine-reeled from some 500 silk cocoons. Thirty skeins, each weighing from 2¼ to 3½ ounces, were bundled in the press to make the book in the foreground. Until the Japanese occupation, this Hangchow plant shipped its silk to New York (p. 348).

Thomas Kwang from Paul G. Guillemette

Jap Bombs Crash, but School Goes On

In a Chungking air-raid dugout small boys and girls study by candlelight their "Peoples' Thousand-Character Reader." Sometimes the alarm lasts for hours. Children eagerly concentrate on schoolwork to forget the presence of death and destruction.

Owen Lattimore

Curb Service in South China's Yünnan Province

Traveling the Burma Road, the author stopped to photograph this breakfast kitchen near Tali. The big flat bowl stands on a clay stove shaped like a flowerpot. In the background women examine the wares in an outdoor dry-goods store, and in the foreground a hen hopes something tasty will slip from the small boy's chopsticks.

© Burma

Before the Fall of French Indo-China, the Yünnan Railway Was China's Major Life Line

Over this French-built narrow-gauge railway between Haiphong and Kunming (formerly Yunnanfu) Britain and the United States shipped supplies and munitions to hard-pressed China. Occupation of the French colony by the Japanese in 1940 cut the route, and China became dependent upon the Burma Road.

tain roads, the tough Chinese infantry who opened a new chapter in China's annals by coming to the aid of China's friends on Burma soil, and the gallant aviators of the American Volunteer Group who, operating from improvised "guerrilla airfields," have fought so brilliantly to keep the sky open between China and Burma and India (page 359).

Half a century ago there was talk of opening a railway approach to China from Burma. This talk was an echo, faintly heard along one of China's remotest frontiers, of the building of America's transcontinental railways.

Would these railways, linking up with newer and faster steamers across the Pacific, compete with Britain's sea route to China and Japan? Would it not be wise for Britain to open up her own land access from Burma to China?

However, nothing came of this talk except inconclusive boundary negotiations between Britain and China. Except for a narrow-gauge French railway from Indo-China, Yünnan Province continued to dream like a Sleeping Beauty, romantic and lovely but undisturbed.

The trade and cultural influences of the West kept to their established routes, entering China at Canton and Shanghai and the other coastal ports, and people forgot that the "back doors" of China had ever been the front doors.

War Wakes China to Her Destiny

Then came the present war, and something new in history: China herself determined to open a new way of access to the outer world.

Thinking chiefly of the guns and goods the Chinese needed, few people realized how revolutionary was China's achievement in building the Burma Road. Yet it was nothing less than revolutionary. It meant that in opening up and developing the still backward parts of Asia, which had always been regarded as the mission of the powerful Western countries, the initiative had passed to China.

It is hardly possible yet even to estimate the consequences of this. French Indo-China, the Philippines, Thailand, Malaya, and the Netherlands Indies, as well as Burma, are occupied today by Japan; but America, Britain, the Netherlands, and Australia, as well as China, are determined that this usurpation shall not last.

It is true that the Japanese have now cut the Burma Road; or rather, they have oc-

Eastfoto

Chinese Pilots Receive Their Wings in Arizona

Maj. Gen. T. H. Shen pins the coveted award on 50 flyers who have completed their advanced training course under United States Army Air Force auspices at Luke Field, Arizona. These pilots are now flying in defense of their homeland.

cupied the approaches to the Burma Road. In Chinese territory, they have been able to set foot on only a very small stretch of the road, and the real significance of the great wedge which they now occupy in Burma is that they threaten India quite as much as they do China.

While it was the Chinese who built the original Burma Road, the task of establishing new communications by land between China and India is now a challenge to the United Nations as a whole.

The Chinese, on their side of the frontier, can build a new stretch of road to link the existing Yünnan Province section of the Burma Road with India; but this must be joined to the railhead in Assam on the British side of the frontier. There are two or three alternative lines of valleys and passes by which this can be done (map, pages 344-5).

When Japan has eventually been driven back, there will be portentous changes all over Asia. A key factor in those changes will be the Burma Road, for it is obvious that the use of the Burma Road will not lapse when peace returns. On the contrary, the route will certainly be supplemented by other truck roads leading into Assam and northeastern India.

There will also be air routes linking India, Burma, Malaya, Thailand, Indo-China, and China, and at least one main railway, with branches perhaps into both India and Burma. The almost incredible mineral resources of Yünnan, for the processing of which there is an immense reserve of water power, will find outlets to the sea at both Hanoi and Rangoon.

World's Greatest Mass of Mankind Linked

Only two events in the development of sea communications—the digging first of the Suez Canal and then of the Panama Canal—can be compared in importance with this new complex of land and air routes.

There are about 389 million people in India and about 450 million in China. If we add to these the millions of Burma, Thailand, and French Indo-China, whose land frontiers touch the rich but underdeveloped provinces of southwest China, it means that the greatest concentrated mass of living mankind will be closely linked together by interior land communications for the first time in history and energized by all the technical developments which those new communications will make possible.

Paul G. Guilmenot

China Stands Behind Chiang Kai-shek

For five long years, with infinite courage and patience, the Generalissimo has led his people in the bitter, costly war with Japan. He calmly meets the tragic blows to his united nation, which he forged from China's many disunited provinces.

For centuries there has been a cultural traffic of religion, philosophy, and handicrafts among these peoples, but never before has there been the possibility of moving goods in quantity by direct, short, rapid methods. That means that to the ideas which all these peoples already have in common, new common ideas will be added.

The term "Asia" has always linked together, inclusively but loosely, vast regions which had quite as many characteristics distinguishing them from each other as they had in common.

From now on, it will mean something much more compact, and as huge as ever in bulk. And the lead in bringing all this about has been taken by an Asiatic people, the Chinese.

Increasingly in the long run, and already to a great extent today, this means much more to the hundreds of millions of people of Asia than Japan's version of Asia for the Asiatics, which means only a harsh imperialism under the most ruthlessly militaristic people in Asia.

This may help to explain why the China of today is the most fascinating country in the world. You have always about you the sense of expanding horizons—not the expansion of annexing territories and conquering peoples, but the expansion of ideas, the widening of access to new possibilities, a feeling of liberation, of room to move and opportunities to build and create.

Man of Serenity and Flame

If I were asked to describe in one word the character of Generalissimo Chiang Kai-shek, I should say that the best word would be "serenity," but even then one word would not be enough, because it is a special kind of serenity, steadily lighted by an intense flame.

One reason why he so unfailingly communicates, in any company, a feeling of sure poise, of complete command of the situation and himself, is that he never allows himself to be entirely overwhelmed by the problems that swarm around him and the urgent, quick decisions that he is called on to make.

Because of his unfailing power of detachment, he is always able to see in proportion both the details of today and the potentialities of tomorrow. Even in company he is a man of long silences, and he likes to withdraw to walk for half an hour under the trees on a mountain-

Paul G. Guillumette

The Watch on the Bridge—Somewhere in China

Sun hats on their backs, riflemen look for enemy raiding patrols on a river rail crossing. A new bridge has been built beside the graceful arches of the old.

side, or to sit on a rock watching the subtle changes of water in a still pool.

Something of the same feeling of creative possibilities and expanding horizons is to be found among the men who work under him. Chungking is not only a city of bombings and suffering and uncomfortable living; it is also a city of tireless thinking.

In the long hours in the bomb shelters I have never once found a lack of people to talk to; and the talk always ranges over new possibilities, new developments, new combinations, new energies to be released. These are human resources that come right up from the roots of the people.

You are constantly being reminded in China that you are living in a culture that is ancient as well as vigorous. It has had thousands of years to seep through the consciousness of the whole people.

A man may be illiterate, but he knows through folklore, legends, and songs something of the broad sweep of his nation's history, and something of the story of his own region and clan that ties in with the history.

Give that man the power to read and write; give him tools and machines, and the change is almost chemical. He becomes at once a man of the 20th century, but with a rich background of all the centuries that went before.

You can see that chemical change happening all around you in wartime China, and it gives you new strength now that our own country is at war, because it shows how the ability to create and build new things is dominant over the power to destroy.

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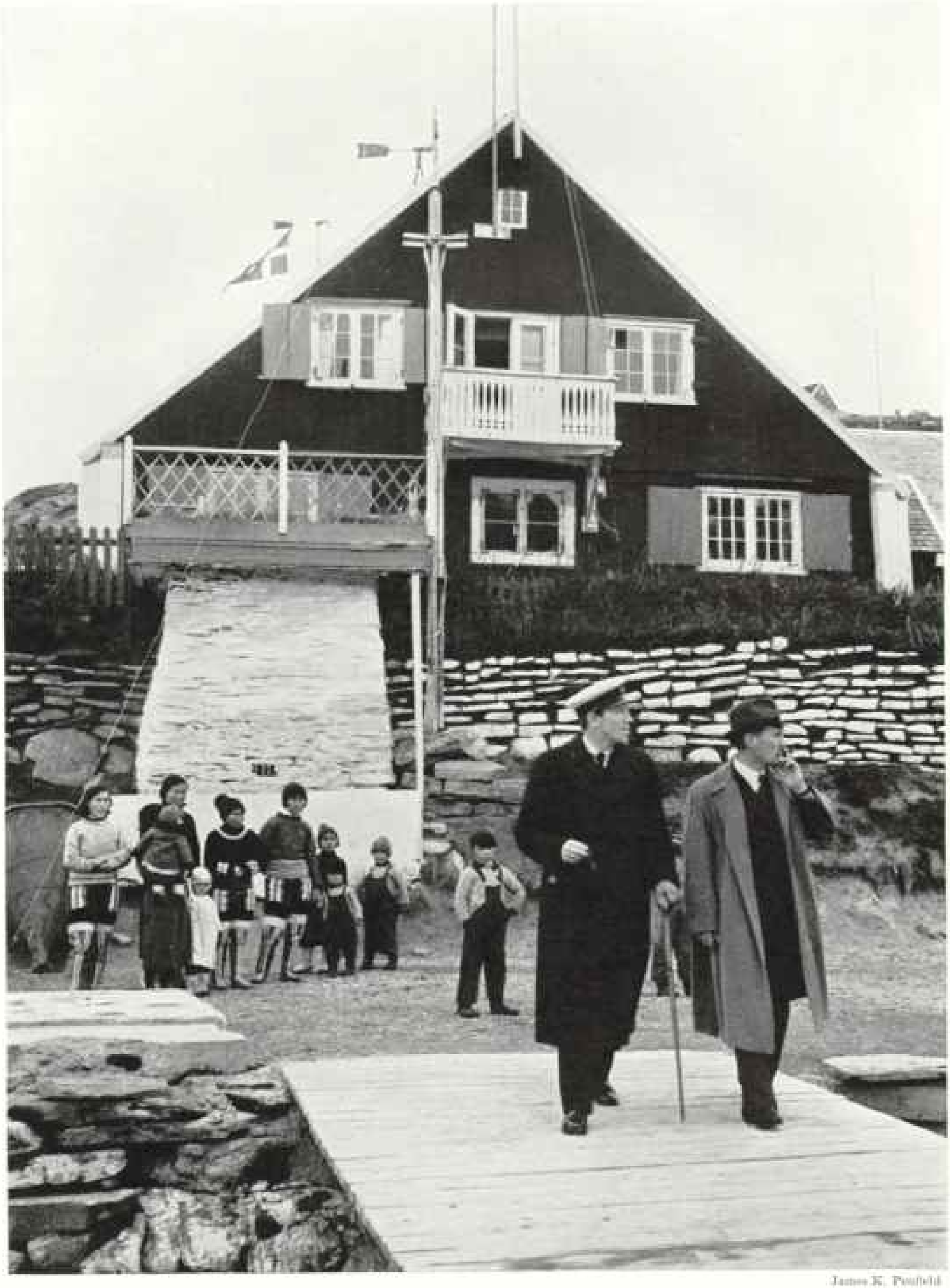


James K. Pinfield

Danish Officials and Assorted Eskimos Welcomed the Americans to Greenland

Down the gangplank come Southern District Governor Aksel Svane (left) and the trade manager at Christianshaab. Over the manager's house waves the red flag of Denmark with its white cross. Native women in background wear decorated trousers tucked into sealskin boots (Plate IV).

Greenland Turns to America

By James K. Penfield

United States Consul at Godthaab, Greenland

UNTIL April, 1940, I had no more idea of going to Greenland than trying to fly to Mars.

After the fall of Denmark on April 9, 1940, Greenland suddenly turned to the United States for food and supplies for her 20,000 people. So it happened that Vice Consul George L. West and I boarded the Coast Guard cutter *Comanche* bound for Godthaab to open the first American consulate ever established on the world's largest island.

A year later, under an agreement signed by the Danish Minister at Washington, American soldiers and hardy workmen from our mid-northern States poured in to build commodious air bases complete with runways, hangars, and snug cabins. Airplanes, even speedy pursuit ships, now use these bases for short hops to European fronts, for geography makes Greenland an important way station on our busy warplane ferry routes to Iceland and Great Britain.

Even the captain's shower on the 165-foot *Comanche* was stuffed with our hastily bought skis, snowshoes, rubber boots, other supplies, and books as the little ship pitched and rolled its way northward.

After days of boisterous weather, we got our first view of the hymnal's "icy mountains," a few snow-capped peaks buttressed by lower ranges, all barren and forbidding in the cheerful sunshine.

As we steamed slowly up Arsuk Fjord, an Eskimo paddled out to meet us in his kayak, but even our Danish-speaking crewman could get no intelligible replies. Sailors shouted, "Hey, Joe, where's your penguins?" "Any night clubs in town, Butch?" and similar questions. But our friend only smiled and grunted pleasantly.

We rounded a point and before us lay Ivigtut, our first Greenland port. My first impression was not enchanting—just a big corrugated-iron building, a collection of cranes, and dozens of drab houses straggling up the barren mountainside.

As we drew closer and tied up to a buoy, at least a dozen Danish flags were run up, a siren sounded, and many people appeared. These sophisticated Greenlanders were fair-skinned and wore bright-hued polo shirts and other familiar clothes rather than sealskin pants and parkas.

As soon as the *Comanche's* boat was put over the side, we went ashore and were greeted at the landing by the Danish Government Controller. Before he had time to say, "Welcome to Greenland," a swarm of camera enthusiasts surrounded us. Handshakes were as abundantly photographed as if we were arriving in New York.

On our way up to our host's house we passed a big pit, several hundred feet across and almost 200 deep.

"Is that the famous cryolite mine?" I asked a young engineer.

"That's right," he replied.

Stooping, he picked up a piece of rock which looked like quartz.

"And this is cryolite; we blast it down from the sides of the pit. Greenland, you know, is the only place in the world where this strange mineral is found in commercial quantities. It is used in making aluminum."

Inside our host's house on the highest hill, we could imagine ourselves in Copenhagen. Electricity, telephone, modern plumbing, all were there.

"Don't think all Greenland is so," my engineer friend warned in quaint English. "All the miners are Danes, and the one who gets less moneys has more wages than even the Governor of Greenland. The officials spend most of their lives in the colonies with very low wages and primitive living, only just to help the Greenlanders.

"But we in Ivigtut come out for usually only a few years to save up some moneys; we have electricity, central heating, plenty of beer and schnapps."

Huge Island Orphaned by War

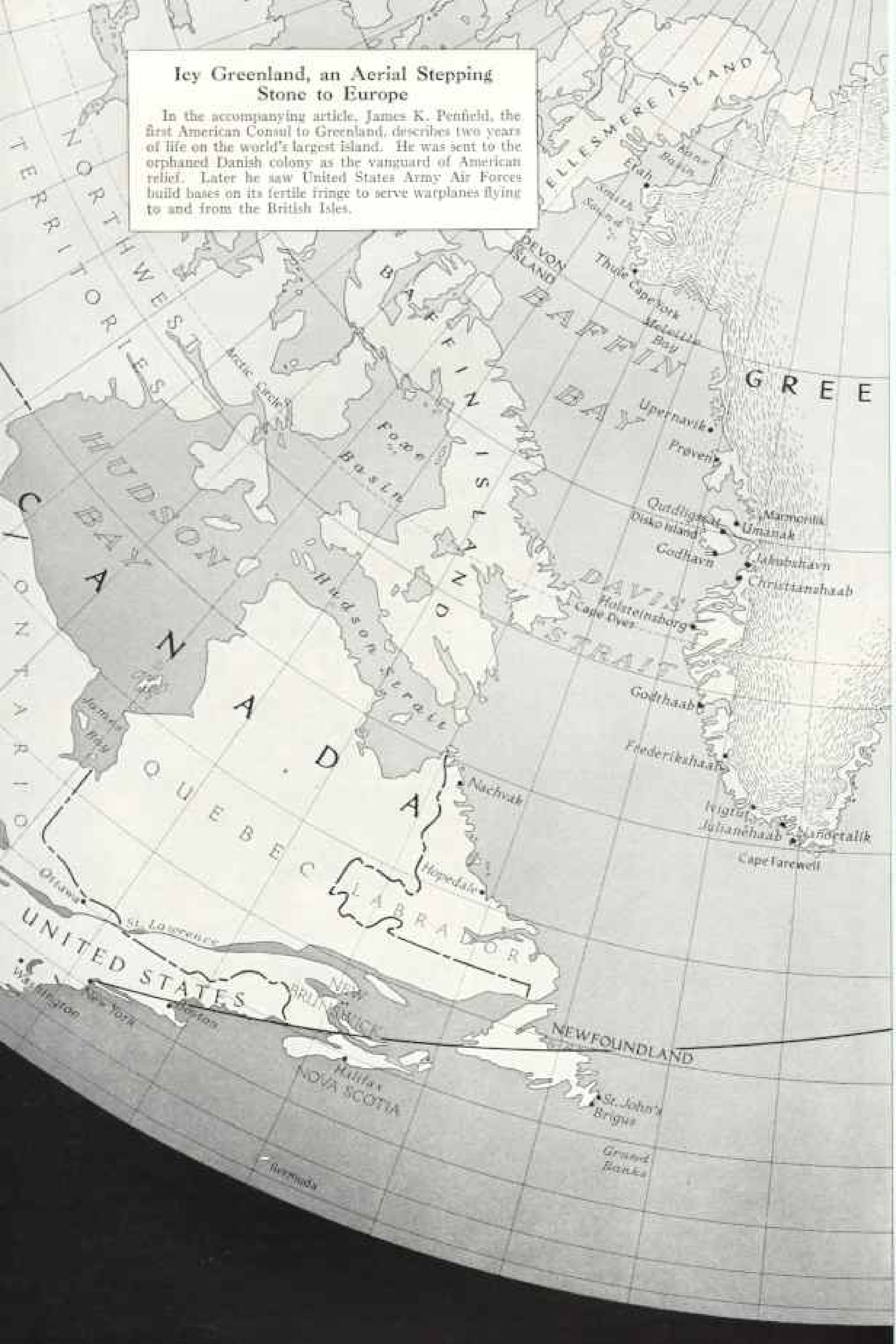
The *Comanche* was the first vessel to call at Ivigtut since the last cryolite ship sailed the previous November. No news had come from Denmark since the German occupation. No word had been heard from the mine's supply ship which left Copenhagen six weeks before. For all the Ivigtuters knew, their badly needed supplies were at the bottom of the sea.

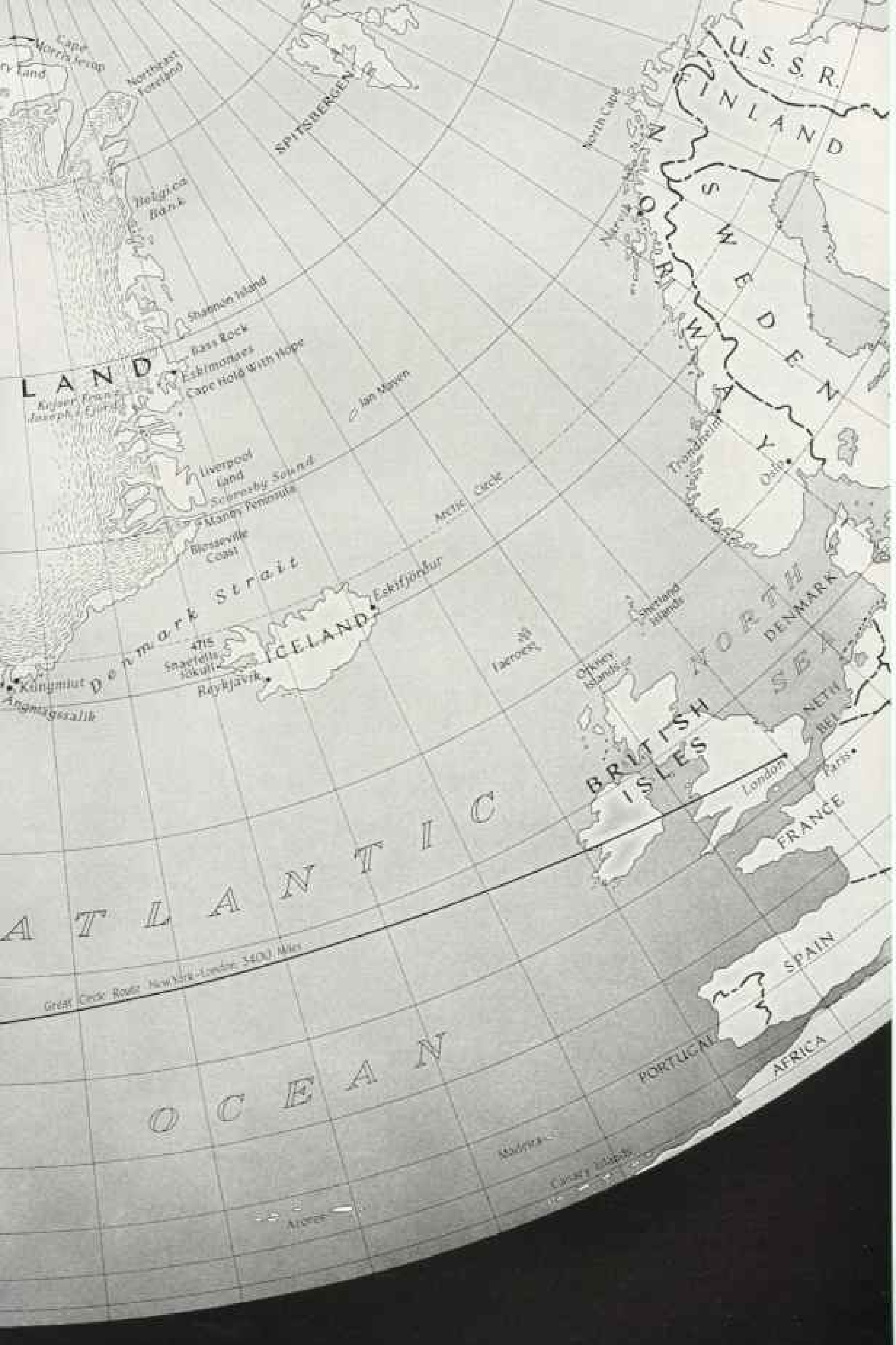
We were the first tangible evidence that Greenland had not been forgotten. The entire ship's company was royally entertained.

Early next morning we departed, and 36 hours later we dropped anchor in the inner harbor at Godthaab, in almost the same latitude as Reykjavik, Iceland, and Trondheim, Norway. At 8 o'clock, daylight-saving time (I could find no reason to save daylight at this time of year, when the sun sets for only a few

Icy Greenland, an Aerial Stepping Stone to Europe

In the accompanying article, James K. Penfield, the first American Consul to Greenland, describes two years of life on the world's largest island. He was sent to the orphaned Danish colony as the vanguard of American relief. Later he saw United States Army Air Forces build bases on its fertile fringe to serve warplanes flying to and from the British Isles.

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hours each day), we embarked in the ship's boat for the 20-minute ride to the settlement.

A hundred or more excited Danes and Greenlanders lined the small landing. As I stepped ashore, three toy cannon boomed out a consul's salute. The Governor of Southern Greenland, Mr. Aksel Svane, resplendent in formal attire, pushed his way forward to give the usual cordial greeting: "Welcome to Greenland. Won't you come up to the house for coffee?"

The Governor's residence was only 200 yards from the landing, but the walk took us twenty minutes. Every few steps an official would be introduced, tip his hat, shake hands, smile cordially, and say "Welcome!"

No Hotels or Real-estate Agents

My first official problem was to find a place to live and work. There are no real-estate agents or hotels in Greenland. Every house in Godthaab large enough to do duty as a consulate belongs to the Administration. So I approached Governor Svane for help.

"Oh, yes," he said. "The doctor is a bachelor. He has kindly offered to move to the hospital, making his residence and office available to you."

A Greenlander girl cooked, kept the house clean, and carried water for the equivalent of $3 a month. We had communication troubles, of course, but sign language was adequate for routine requests. In crises we would all parade over to the house of an obliging English-speaking neighbor for interpretation.

At first Marie distrusted our American canned goods, but gradually she learned to identify the labels. One day she discovered the tinned fried onions, so that evening we had fish with fried onions. The next noon we had the same. The following night—fish and onions again. Finally it took a trip to the obliging neighbor to head off this run of cod.

Danish families have adopted many Greenland foods, so they import few canned goods. Fish is the staple. "Fish" mostly means cod, but includes capelin, halibut, flounder, haddock, and salmon trout. Then there are the various sea birds, but most of these taste a little fishy unless properly prepared. We found cooking them with a little bacon does wonders.

Parlor-grown Tomatoes—with Ribbons

During the summer we enjoyed particularly a land bird, the ptarmigan, or arctic grouse. In the fall comes lamb, raised in southern Greenland, and, during the two-month open season, reindeer venison.

Many housewives supplement these staples with a few vegetables grown in gardens behind neat white picket fences, in glass-topped boxes, or even in plots in living-room windows. I know of one Danish woman who grows tomatoes in her parlor windows, carefully tying up the fruits with ribbons!

Our house was equipped with both a garden and boxes, but nursing radishes, lettuce, and spinach was too much of a chore for a pair of bachelors. So we stuck to our cans and an occasional welcome gift from our neighbors.

As the summer wore on, I picked up a few words of Danish and began to feel myself a part of Godthaab life. One or two evenings a week we dined in a Danish home on a typical sweet soup, seal liver and potatoes, salad with home-grown lettuce, and ice cream. Then we would play bridge, and about midnight return to the table to eat cakes and drink coffee before going home.

Tuesday evenings are movie nights. Most of the forty or fifty Danes, and as many of the 700-odd Greenlanders as can squeeze in, troop up to the Seminary gymnasium, Godthaab's movie emporium. A tired little projector reels off a film, usually European, of uncertain vintage.

I was startled when I first arrived to hear school children frequently singing "Home from Work We Go." Though the words were unintelligible, there was no doubt as to the tune. I thought it strange that sailors from the *Comanche* could teach Greenlander children to sing American songs so quickly.

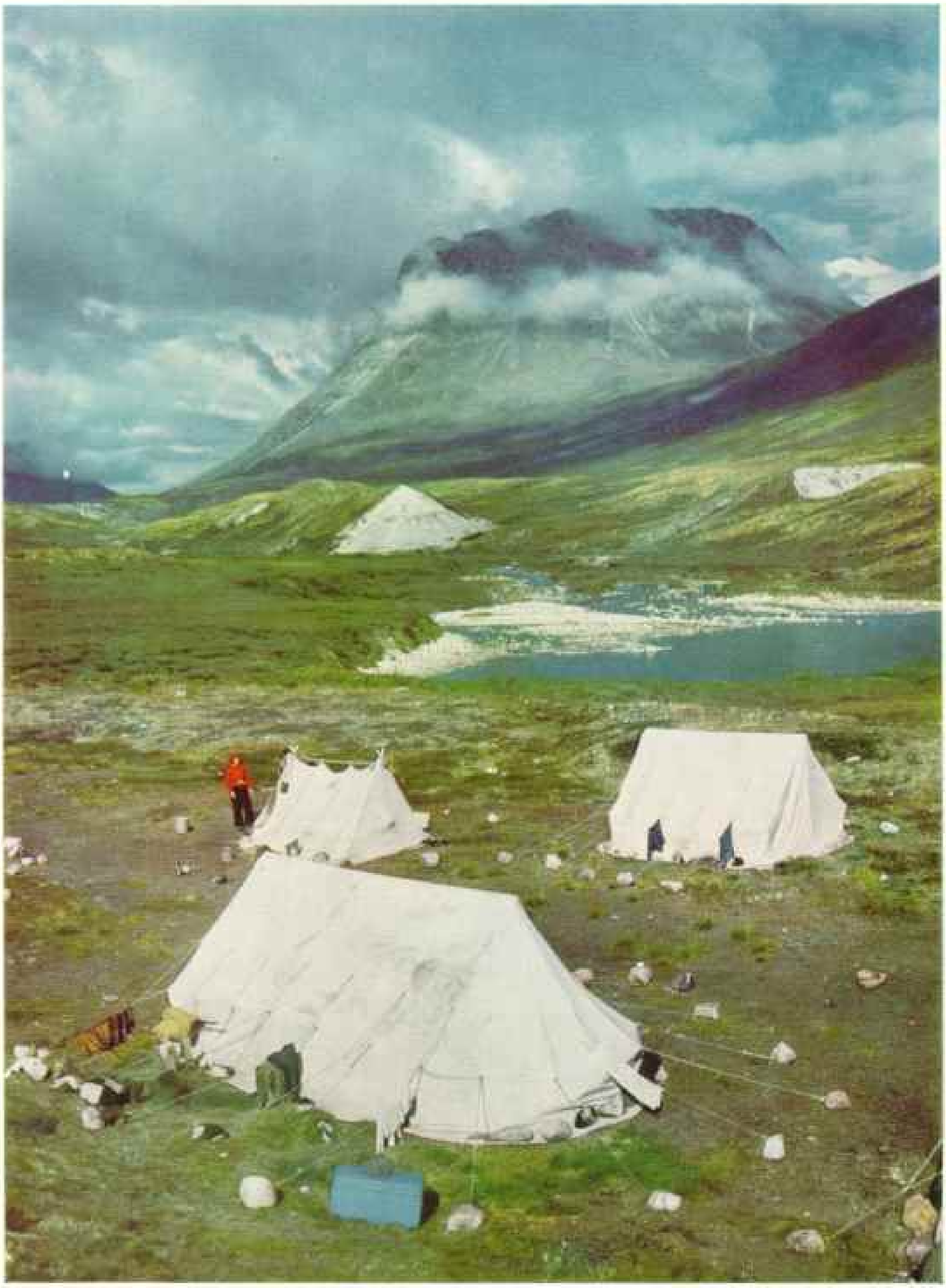
On Tuesday the phenomenon was explained; we saw the star number of the film library, "Snow White"—in Danish, if you please!

One sunny evening in August, we had a Danish couple and the captains of two U. S. Coast Guard cutters in for a dinner of tinned ptarmigan. I had noticed during the past few days increasing numbers of icebergs, many bigger than a living room, drifting into the harbor. I remarked to the Dane, a long-time Greenland resident, that summer seemed a funny time of year to get iced in.

"Yes, very strange it is," he replied. "Godthaab's fiord never freezes in winter because the average temperature for January and February is 14 degrees plus (Fahrenheit), and the current is so strong that the salt water cannot freeze at that temperature.

"This ice you see is *storis*—you call it pack ice, no?—which is carried by the current from east Greenland around Cape Farewell in late winter or early spring. It works gradually up the west coast, blocking harbors usually as far as Frederikshaab, the next colony south of here. Once, some years ago, the pack got this far north and even Godthaab was blocked."

Suddenly one captain exclaimed, "Why, it's



© National Geographic Society Kodachrome by James K. Penfield

Godthaab Seminary Students Pitch Summer Camp along a Greenland Fiord

Here boulders take the place of pegs, holding canvas steady in the high winds which sweep up the rocky inlet. Students prepare for teaching or preaching. Today United States troops protect Greenland and provide the supplies for which it formerly depended on Denmark.

© National Geographic Society

Kodachrome by James K. Penfield

In Snow-blanketed Godthaab, Greenland's Leaders and United States Officials Work Together to Keep the World's Largest Island Free

For more than a year Greenland, cut off from Denmark, has been a virtual protectorate of Uncle Sam. American troops have established air bases and from meteorological stations help to predict the weather of Britain and the entire Atlantic. At upper left stands the statue of Hans Egede (Plate III).

© National Geographic Society

Kodachrome by James K. Penfield

Godthaab's Wooden Church Traces Its History Back over Two Centuries to Valiant Hans Egede

Modern colonization of Greenland began with the arrival of the Norwegian pastor and his courageous wife on May 12, 1721. They hoped to find descendants of the early Northmen, who came to Greenland centuries before, but only Eskimos greeted the adventurous couple. Egede founded the settlement of Godthaab.

Bright Beads and Soft Furs Are Sunday Finery for Godthaab Girls

Hip-length sealskin boots and trousers of arctic blue foxskins take the place of dress, stockings, and shoes. Over her blouse she wears a yoke of glass beads. In background, the governor's residence and Danish flag.

© National Geographic Society

Kodachromes by James K. Penfield

Before Admiring Godthaab Girls, an Islander Flenses a Seal

Quickly and skillfully he removes skin and blubber from the carcass. Principal occupation of Greenlanders is fishing. Cod is the staple food, but halibut, haddock, flounder, and salmon are caught in large numbers.

after twelve! What's happened to the boat I ordered sent in for us?"

We all went out to the front door to look at the landing just a few yards from the house and to our surprise found that the ship's boat was blocked by *storis* and couldn't make the landing. Those innocent cakes of ice made such an effective barrier that there was absolutely no way for the distraught captains to get back to their ships (page 381). After a couple of hours of futile worrying, they accepted makeshift beds in the consulate.

Next morning the captains were relieved to see their vessels still there and the ice apparently not so closely packed. They persuaded a Greenlander, Pavia, to take them out in his eight-foot rowboat.

For the next ten minutes we watched the two dignified gold-braided Coast Guard commanders trying to keep their balance in the tiny boat as it twisted through the pack ice.

When Pavia had delivered his passengers safely, I saw him gratefully accept two cigarettes in payment.

Later in the day, the cutters were able to get out of the harbor and make for the open sea. They were lucky, for the following day Godthaab was blocked by the pack ice and for the next few days nothing but an icebreaker could have forced its way in or out.

The Governor and I planned an inspection trip to some of the other colonies on the four-masted sail and steam vessel *Gertrud Rask*, one of the two Greenland ships to escape Denmark before the occupation.

One evening, when we thought our ice blockade was breaking up, I rowed out to the *Grask* (as she is known locally), expecting to leave early next morning. But I awoke to find us still moored, unable to move because of the chunks of ice and a high wind. So we were forced to spend another night in harbor.

Next morning we found the ice pack had vanished—just as suddenly as it had appeared. That was the end of *storis* for another year.

The ship's larder was not too plentifully supplied, and we were so crowded that passengers were sleeping on all the benches in the little smoking room. But the *Grask* is a homey ship, and its heavily reinforced wooden hull is specially designed for navigating Greenland's ice-infested waters.

As we cruised northward, we began to see the mammoth icebergs which are calved by the glaciers of northern Greenland. These drift around to the north, then south along the Labrador coast, and finally, before they melt in the warm waters of the Gulf Stream, threaten steamers in the transatlantic lanes.

We followed the path of the icebergs north, and as we steamed across Melville Bay the midnight sun shone on a vast armada of these beautiful monsters.

It was very clear the evening we sighted Cape York. Though we were miles away, we could see the tall shaft of the Peary Monument, which stands high on top of the cliff. Through peace and war, fair weather and bad, it stands as a permanent reminder of the work of that great American explorer, Admiral Robert E. Peary. Captain "Bob" Bartlett, who commanded Peary's ship, the *Roosevelt*, erected this monument ten years ago.*

Eskimos Revere Memory of "Great Peary"

When we arrived at Thule, I found Eskimos who still revere the memory of Peary. In fact, I saw there one of the men who accompanied Peary to the North Pole in 1909. He was sitting on a packing case watching the unloading, a dignified and strong-looking character. He still is treated with deference by his fellows because of his connection with Peary-ark-suah ("Great Peary"), as he is called.

Thule, a settlement of 100 or so Eskimos and two Danish families, is itself a monument to another great friend of the Eskimo, the late Knud Rasmussen. Here he founded a trading station in 1910, where the Eskimos can barter foxskins for the foreign tools and goods which Peary taught them to use (page 382).

While I was at Thule the Greenlander preacher got married, and in accordance with custom he held a "kafe-mik." Large caldrons of coffee and mountains of little cakes were set out in the sunshine beside his house and the whole settlement dropped by to sit or stand about, gossiping and sipping coffee.

Dressed up in their Sunday best, they made an unforgettable picture. The women wore the colorful costume shown in Plate IV. The men, too, were striking in snow-white, bushy polar bearskin pants and white *anoraks* (slip-over cloth parkas).

A Picnic on the Greenland Icecap

While here, I visited the great Greenland icecap which comes down to within a few miles of Thule. This immense sheet of ice, many thousands of feet thick, covers four-fifths of Greenland's 827,300-odd square miles.

From Greenlander friends we borrowed two sledges made of wood with iron runners and bound together with rawhide. Each was pulled by a dozen dogs spread out in a fan.

The dogs started off with a flourish, but the going soon got tough. There was not

* See "Greenland from 1898 to Now," by Robert A. Bartlett, National Geographic Magazine, July, 1940.

Klingner from Black Star

"I Can Answer, Teacher!"—the Three R's in the Sub-Arctic

The native instructor at Julianehaab also teaches Danish and Greenlandic. The latter, derived from Eskimo, forms words of amazing length by additions to the root. Such words express whole sentences.

enough snow for good sledging. Frequently we had to help the dogs by walking or pushing the sledges over bare patches. In a few hours we reached the edge of the cap and walked up on the glistening, granular ice (page 380).

To protect us from the cold wind, we tipped the sledges on their sides, got a primus stove going, and brewed some coffee to drink with our sandwiches. Returning to the settlement thoroughly tired, we were able to say, "I've stood on the Greenland icecap!"

From Thule we sailed south, stopping at many settlements on the way. Upernavik marks the northern limit of the regular shipping service. We arrived on a gray day. The whole settlement seemed drab and rather dejected, as if already depressed by the thought of the eleven sunless winter weeks before it.

Proven, our next stop, was much more cheerful. This little settlement is one of the few places in Greenland where whales are still caught in any numbers. Small white whales (not the huge Moby Dick variety) seem to be attracted to its narrow passage, in which nets of the fishermen reap a rich harvest. Sometimes Greenlanders in boats encircle schools of the whales and drive them into shallow water. They make leather shoestrings from the skins and get oil from the blubber.

A Danish official who returned to his post on the *Grask* regaled us with tales of how fine a place it was. To prove his boast he invited us to his house for a feast. We went ashore in bright moonlight and climbed the hill to his residence perched on a cliff.

While we were enjoying the winking lights of the settlement and the *Grask* bathed in the moonlight below, our host came out and announced, "I have a surprise for you."

On the dinner table steamed a big platter heaped with some strange delicacy covered with rich brown gravy.

"What do you think of it?" he asked, after helping me to a generous portion.

"Why, it tastes good," I replied. "Not a very pronounced flavor, but nice and crisp and chewy. What is it?"

"It's *matak*, the outer skin of the whale. Unfortunately, this is only canned. You should try it raw, cut from a freshly killed whale."

Coal Mined on Disko Island

Sailing early next morning, we put in at Marmorilik, site of an old marble quarry. Before the Danish market was cut off, 400 Greenlanders worked modern machinery here. Now the place is desolate, with blocks of

Klinger from Black Star

Far from Cold Is a Greenland Greeting—Broad Smiles Visa Your Passport

A nurse and cook at a hospital window in Julianehaab show typical Greenlander good humor. Eskimo stock has absorbed much foreign blood. Some natives are blond and a few are red-haired and freckled.

marble waiting patiently on the docks for a ship which may never come. Many workers were transferred to the coal mine; the others were given new kayaks and sent back to the fishing and hunting life whence they came.

Later we visited the coal mine on Disko Island. Here Greenlanders produce a low-grade lignite which is mixed with imported coal and used for cooking and heating. Black coal veins scar the face of the mountain, which rises almost vertically from the shore.

We approached Umanak in a dense fog, but our captain brought us in as accurately as if the air were clear. No sooner was the anchor down than a little motorboat materialized from the mist to take our lines ashore, and we found ourselves safe in Umanak's tiny harbor. Navigation in Greenland seems strange and wonderful to me, but to our captain, who had sailed these inhospitable coasts for 20 years, ice, fog, snows, and inadequate charts are simply part of the day's work.

One of the Danish families I visited at Umanak was busy packing for a vacation in the United States.

"Oh, I'm so glad to see you," the lady of the house greeted me. "Tell me, do we need overcoats in Florida?"

"We cannot go to Denmark," explained the husband, "so we shall vacation in Florida."

Umanak residents are proud of their new church which Danish masons built from Greenland stone quarried on the spot. A model hospital was shown me by the only woman district medical officer in Greenland.

Back in Godthaab, we found the settlement had become a boom town. Supply ships had arrived to swamp all storage space. Buildings were going up to house the influx of Danish officials. Even the new American Consulate, ordered from a mail-order catalogue, was nearly finished. Canadians were putting up an adaptation of an Arctic reindeer inspection station for their consulate.

One day, walking out to the back harbor, I saw islanders harvesting green barley growing in fields alongside the road. It was the first cultivated land I had seen in Greenland except for small garden plots. I asked the manager why the grain was being cut green.

"Barley," he replied, "won't ripen in our short summer; so we must harvest it green. It does nicely as winter fodder for the sheep."

This "road," by the way, was the only one in Greenland. The settlement's few bicycles and carts, pulled by diminutive Icelandic ponies, use its two-mile length. Greenland is not bothered by motor traffic!

James K. Penfield

Where Solid Ice Flows Like a Lazy River—the Frederikshaab Glacier, an Outlet for the Icecap

Covering four-fifths of Greenland is the Inland Ice, a frozen sea with a maximum measured depth of 8,850 feet. Here weather is born—storms howling at 100 miles an hour and temperatures sinking to –85° F. Nunataks (mountain tops) rise like islands above this waste, but, except along the edges, life is nowhere. Mirages and snow blindness harass the explorer. In winter, man's expelled breath crackles as it freezes. In summer, rivers of melted snow cascade into unfathomable crevasses. Here at its moraine, where it plows up the soil, the glacier is granular and almost black. Note tiny figure of a man perched on the ice in center.

James K. Penfield

Godthaab, Meaning "Good Hope," Sees Its Name Come True as the War Boom Enlivens This Capital of South Greenland

Five ships, including a white Coast Guard cutter, rest in the fiord. A housing shortage has brought a rush of construction. American plumbing is a sensation.

James K. Penfield

Harbor-blocking, Ship-crushing Pack Ice Serves One Good Purpose: It Carries Seal Herds to West Greenland

Polar ice, drifting south past the east coast, swings north at Cape Farewell. Here, in August, 1940, it blocks Godthaab for the first time in many years (page 372).

James K. Penfield

Even in Far-off Thule—Symbol of Remoteness and Isolation—Natives Feel the Effect of World Events

After Denmark fell, the task of ministering to the needs of Greenland's natives fell to America (page 369). At Thule, Knud Rasmussen founded the farthest-north trading station for the "Arctic Highlanders" in 1910. The ancients' *Ultima Thule* (most distant unknown land) inspired the name. Only tiny Etah, Admiral Peary's headquarters, is farther north in Greenland. The "lost tribe" of Thule Eskimos believed, until their discovery in 1818, that they were the world's only men. In background is table-topped Thule Mountain (page 377).

One day Marie had a pleasant surprise for us—a glass of fresh milk!

"Fru Sorensen sent us a litre," explained Marie. "She brought back a cow from Julianehaab." In that pastoral district near the southern tip of Greenland, Eskimos make their living by raising sheep, cows, horses, and chickens instead of hunting and fishing.

Toward the end of December the last ship left for home, and we buttoned up for the winter. Calm and isolation struck us suddenly, in contrast to the busy comings and goings, the shipping, and activities of summer.

Strangely, wind rather than cold is our chief winter enemy. Day after day it blows, cutting through the heaviest clothes and getting on everyone's nerves. A white blanket of snow may cover the countryside, but almost immediately the wind blasts it away, uncovering bare patches.

Daily Skiing at One's Front Door

Drift snow collects in the lee of some hills; so, regularly after lunch, I put on my skis at the front door and in ten minutes would be sliding down the Devil's Claw or Big Raven Hill. As many as ten or fifteen Danish skiing enthusiasts would gather.

Greenlanders, especially the children, also like to ski. They make their own skis. Ordinary boards with cloth loops to hold sealskin-booted feet will do. Every nice winter day Devil's Claw swarms with kids shooting down the hill at breakneck speed. They soon develop an excellent sense of balance. I saw one tiny Greenlander lose a ski and continue to the bottom on the other without a tumble.

Frequent dinners and bridge tournaments help pass the evenings, but highlights are birthday parties. In Greenland a person's natal day is a big event and practically the whole settlement helps him celebrate.

On my birthday all my friends came to call and bring presents. Fortunately, I was prepared. Marie had ready quantities of hot chocolate (reserved exclusively for birthdays) and delicious Danish cakes and pastries. As everyone celebrates his birthdays thus, a week rarely passes when I do not rise from some friendly table and make my way home, vowing never again to stuff like that!

A Cargo of Colds

As winter wears on, days get longer and the snow less. By March a few of the forgotten fences poke their heads from under snowbanks. Finally, about the first of April, a ship arrives, bringing four months' mail.

Greenlanders say the first ship brings cold germs along with its more welcome cargo. Anyway, most of us soon came down with the sniffles after going through a coughless winter.

Along with spring came realization that the world had not stood still while we were hibernating. The tide of war moved closer to Greenland when Secretary of State Hull and the Danish Minister at Washington, Mr. Henrik de Kauffmann, signed the agreement on April 9, 1941, whereby the United States accepted responsibility for the defense of Greenland. As a result, I spent a busy spring and summer helping to solve the problems of newly arriving American soldiers and sailors.

Our military bases are located away from the settlements, so Greenlanders rarely see Americans, except a few sailors on shore leave. On the way to visit one base I asked my Greenlander crew what they thought of the foreign visitors.

"They O.K.," one fellow volunteered. "Absolute O.K. We know Americaner protect us from Germans so we go back to Denmark. See all this chew gummy the soldiers give me for my childs; such people is O.K."

Jeeps Brought by Airplane

When I arrived I found the Army had created a number of records. Greenland's first real highways (except for Godthaab's "road" to the harbor) had been laid, and the first automobiles were using them. I even saw "jeeps" darting around. Several were flown up in commercial planes.

Our Arctic soldiers live in model camps in a womanless world. This base reminded me of many others I had seen in the United States.

Nearly all barracks, comfortably insulated against the cold, have running water and toilet facilities. Like other American camps, this one boasts a motion-picture theater, barber shop, and an excellent library. I saw newsreels of last Saturday's football games almost as soon as I would have at home. The films had been flown up.

I asked one soldier what he thought of Arctic life.

"Everything is so different from what I expected," he replied. "Instead of snow and ice all the time, it is warm here in summer. We had to send a hurry call for our regulation uniforms to replace the heavy clothing we had brought! The biggest drawback when we first arrived was the mosquitoes; they were terrible. Nettings and screens now have fixed that."

Military details, of course, cannot be given. Suffice it to say that in Greenland and its icy waters today is unfolding an epic of air and sea, a saga of courage and accomplishment as thrilling as the deeds of the Vikings of old.

Field Museum of Natural History

A Mighty Man Was the Sheik Falih es Sehud, Monarch of the Marshes

Resembling a Roman conqueror, this Marsh Arab chief had only to whisper his commands to be obeyed. Here he stands—all six feet four—in *aba* (robe) and headdress, with double-barreled shotgun and ebony cigarette holder (page 414). The British lost a friend when the sheik died in 1941.

Forty Years Among the Arabs

By John Van Ess

ALLAH, be He praised, gave me a sense of humor. More than once I have sat in the middle of the desert, shivering with fever and weak from dysentery, and laughed till the tears rolled down into the sand.

The fun wasn't always as sidesplitting as that, for, like a baseball player or a ski jumper, you may be having lots of fun while your jaws are tightly clenched and your soul is filled with apprehension.

My interest in the Arabs began when I started to study their language at Princeton. It has all the dignity of Latin, the variety of English, the beauty of Italian, the sonorousness of German, the flexibility of Greek—and the bewilderment of Russian.

Exploring the Wonders of Arabic

Its underlying motif is the three-letter root which gives you the basic idea. This root, which you dig from an extensive root garden, you can modify, intensify, reciprocate, attenuate, dilute, step up, step down, and otherwise maul around, in any one of 15 so-called "measures." Each measure has its active, passive, indicative, subjunctive, and imperative, besides energetic and jussive forms, by which time you feel you have had some action.

But the noun then comes along to complicate the action, for the noun has no regular plural, and, indeed, may have more than one plural.

Add to all this the fact that there is really no tense but that an action is either complete or incomplete, and, further, that some of the sounds have been taken straight from the throat of the camel or the bulbul, and you are confronted with a project that will challenge your memory, ingenuity, patience, and even your religion.

But he who learns Arabic gets an amazing vehicle for his thoughts. He can say blitzkrieg, blackout, lease-lend, parachute troops, and all the rest, and not go into the red to any other language.

How that amazing tongue was developed by a primitive people living in a barren land, and was embodied in a rich and varied literature, is one of the enigmas of history.

With three years of Arabic grammar under my belt, with no binding family ties, and a fund of good health, I first reached Basra at the head of the Persian Gulf in the fall of 1902.*

About the first article I needed from my baggage was the aforementioned sense of humor. The Turk was then in power in that part of the world, and the Turk of those days could provide you with more annoyance to the square inch than anyone else I have ever known. I got to know him better as time passed and had many close friends among the Turks. I learned that his apparent perverseness was only a cloak behind which he concealed subtle cleverness and protected himself against aliens.

It was in the days of Sultan Abdul Hamid II, Abdul the Damned, as the fuming European diplomats called him. There were spies everywhere, and every book and paper you carried was subject to censorship. The story goes that a chemistry book was confiscated for containing the formula H_2O, which was supposed to hint darkly that Hamid the Second was nothing.

Some years later I imported some English primers for the school where I was teaching. The censor had in the dim past learned a little English, and as he opened a primer for inspection he gasped with horror. On page one was a picture of a dog and under it the caption, "This is My Dog; His Name is *Turk*." I was summoned into the office of the pasha who sat within.

"A dog!" shrieked he. "Allah, what blasphemy!"

"But, Pasha," I cooed, "listen and I will explain. In my country a dog is much thought of. Women carry dogs in their arms and lead them by silver chains. So we give such a precious animal a precious name."

"Ah," said he. "Pardon, Monsieur, I was mistaken. Even I do not know everything. I thank you. Ahmed, bring Monsieur some sherbet."

It had been a hefty hurdle, and I breathed again.

The Hurdle of Jake and the Pasha

A short time after that I came up against a real hurdle.

Sultan Abdul Hamid, after a turbulent reign of 33 years, had been dethroned by the revolutionaries, and Mohammed Reshad had succeeded to the throne. The whole empire sighed with relief at the removal of that

* John Van Ess has spent forty years in Iraq and the surrounding region, and has lived through five regimes: the old Turk, the new Turk, World War I, the Mandate, and Independence. Most of the time he has spent as a missionary-educator and has enjoyed the confidence of both the British and the Arab Governments. He has written two standard Arabic grammars.

Three Lions

A Four-motored Flying Carpet Rests at an Arabian Nights City

This British De Havilland airliner stops at Baghdad airport. The word "MISR" painted on the body is Arabic for Egypt. The Basra-Cairo line was halted briefly in 1941 by the unsuccessful pro-Axis coup in Iraq. Seaplanes stop at Lake Habbaniya, near Baghdad.

haunting terror. From the arsenal the batteries thundered the salute of a hundred and one guns to the new monarch.

In the spacious salon of the barracks sat General Shamil Pasha to receive the congratulations of visitors. My pointer dog, Jake, had followed me to the outer door and I warned the sentry to keep him out. Around the wall of the salon sat pashas, begs, sheiks, mullahs, and consuls.

As I entered, the pasha beckoned me to a chair near his right. Etiquette demanded that you keep your feet together on the floor and sit bolt upright. I had just had my coffee and sherbet and was puffing at my first cigarette when I heard an ominous tap-tap under my chair.

Glancing down, I saw Jake, immensely pleased to have found me and announcing his arrival with a vigorous thumping of his tail. He had stolen by the sentry and had crept behind the feet of the sitters till he reached my chair. I frowned at him and he froze.

But the problem was to make my getaway, for I knew he would not return as he had come. When all but six or seven had left, I also arose and started to back away from the pasha.

In an instant Jake leaped out and started to cavort on the priceless carpet with glee and relief. This time the pasha froze.

"Allah, what is this?" he gasped.

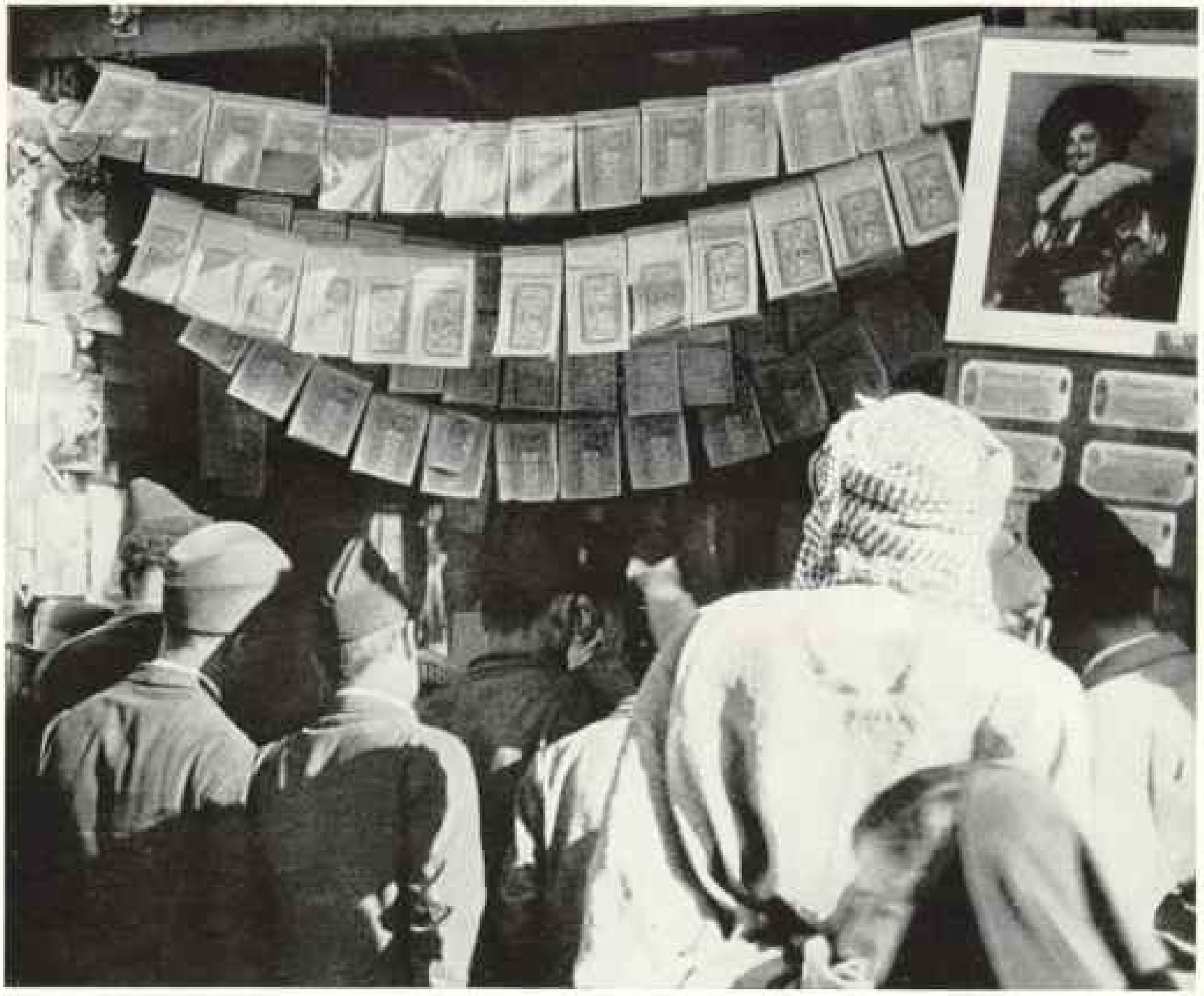
"Excellency," I ventured, "even the dogs are glad that Abdul Hamid has been deposed."

"Bravo, Monsieur!" he chuckled. "Have another sherbet."

But it was a narrow squeak.

Policemen Club the Crowds to Show "All Honor" to the "Harmless Monk"

In those faraway days travelers in the Near East did not require passports except in Turkey. It leads one to speculate whether passports breed wars, or wars breed passports.



Paul from Three Lions

Frans Hals' "Laughing Cavalier" Smiles Mockingly upon Iraqi Lottery Hopefuls

Strung to the left of the old master are tickets on lotteries authorized for state-approved charities. Prizes may run as high as $2,500. The Baghdad men at left wear the *sidara*, the national cap created by the late King Feisal I.

Anyway, when you reached Turkey you handed in your American passport, which was then a sort of wallpaper parchment. They registered it and gave it back, and gave with it a document in Turkish which described you as you appeared to the Turk. I happened to be in Baghdad and asked for permission to visit the shrine cities of Karbala and An Najaf, then rarely visited by a Christian.

My *teskere*, as it was called, was very impressive. It was written in beautiful *diwani* script, but I was rocked back on my heels when I discovered that in it I was described as a tall, harmless monk. Perhaps for that reason it commanded that I was to be allowed to travel anywhere and was to be shown the highest honor.

Toward sunset of a spring day I rode in to Karbala on my horse and took lodgings in a caravanserai. In a few minutes a policeman stormed in and asked what I, a foreigner and an Unbeliever, was doing in the holy city. I sparred for time while I looked him over; but he began to threaten, so I handed in my teskere with my compliments to the governor.

In another quarter hour he came clattering up the stairs accompanied by a dozen gendarmes. They saluted and begged me to follow. Word of my arrival had spread through the city, and a mob had gathered to see the fair-haired stranger.

The policeman walked ahead, cracking heads with his club, the guard around me likewise swiping at all and sundry.

"Stop clubbing those poor Arabs," I protested. "They are only curious."

"The pasha has commanded me to show you all honor," he said.

A Pasha's Parable

The pasha, who was the local governor, was a Stambuli Turk, the only Sunni among thousands of Shiites. My coming was a godsend to him, he said. "We Europeans," he

BULGARIA
Alexandroúpolis
Thásos
Sámothráke
Lémnos
Dardanelles
Çanakkale
Lésbos
Mytilene
Bergama
Khíos
İzmir
Andros
Tênos
Páros
Náxos
Íos
Thíra
Crete
Iráklion
Hag. Nikólaos
Sea of Marmara
Gelibolu
Bandırma
Mustafa Kemal Paşa
Edremit
Ayvalık
Balıkesir
Akhisar
Turgutlu
Manisa
Ödemiş
Samos
Söke
Priene
Nazilli
Denizli
Burdur
Isparta
Mugla
Cos
Simi
Rodi
RODI
Castelrosso
SCARPANTO
Islands of the Aegean
İstanbul
Üsküdar
Haydar Paşa
İzmit
Adapazarı
Bolu
Mudanya
İnegöl
Bursa
Kütahya
Eskişehir
Afyon Karahisar
Uşak
Akşehir
Egridir
Beyşehir Gölü
Konya
Karaman
Amanus Mts.
Tuz Gölü
Ankara
Boğazı
Zonguldak
Kastamonu
Tosya
İskilip
Çorum
Merzifon
Amasya
Zile
Tokat
Irmak
Yozgat
Kırşehir
Kızılırmak
Kayseri
Develi
Niğde
Ulukışla
Tarsus
Mersin
Adana
Ceyhan
Fevzi Paşa
İskenderon (Alexandretta)
Antakya
Lattaquié
Bafra
Samsun
Çarşamba
Ordu
Giresun
Trabzon
Maraş
Gazi Antep
Kilis
Aleppo (Alep)
Meskéné
Hama
Homs
Tripoli
Baalbek
Rayak
Beyrouth (Beirut)
Saida
Sour (Tyre)
Damas (Damascus)
Souelda
Déraa
Acre
Haifa
Nazareth
Tulkarm
Tel Aviv Jaffa
Lydda
Nablus
Jerusalem
Qalat el Mafraq
Amman
Dead Sea
El Kerak
Ma'an
Aqaba
Gaza
El 'Arish
Port Said
Suez Canal
Ismailia
Qantara
Tanta
Damanhûr
Benha
Cairo
Suez
Giza
Rosetta
Baltim
Damietta
Alexandria
Matrûh
Sidi Barrâni
Buqbuq
Fûka
El Daba
El 'Alamein
El 'Imayid
Qara
QATTARA DEPRESSION
El Wasta
El Fayûm
Beni Suef
El Minya
Asyût
Nile
Sohâg
Hurghada
Ras Gharib Oil Field
Abu Durba Oil Field
Gulf of Suez
Gulf of Aqaba
Strait of Tiran
Strait of Gubal
Oil Field
BLACK SEA
MEDITERRANEAN SEA
LIBIAN PLATEAU
ARABIAN DESERT
SINAI
SAUDI ARABIA
EGYPT
ANATOLIA
TAURUS MOUNTAINS
SYRIAN DESERT
Naval Bases
Airports
Highways
Railways
Oil Pipe Lines
Oil Pumping Stations H-1, T-1, K-1 etc.
H for Haifa, T for Tripoli, K for Kirkuk
0 50 100 150 200 250
STATUTE MILES
Drawn by N. Bamiloff and R.E. Eastwood

Civilization's Birthplace, the Rich Near East, Is the Goal of Axis Armies

Based on Libia, German and Italian armored units have tried repeatedly to break through to the fertile Nile Valley, cut off the Suez Canal, and then seize the vital Iraq oil fields. In the north lies the oil-rich Caucasus, goal of the Nazis in their all-out drive against the Russian armies of the south. For 40 years the author lived among the people of Iraq, or Mesopotamia, as it used to be called, the "Land Between the Rivers," the Tigris and Euphrates. He studied the extensive irrigation system, which, impounding Euphrates floods, will turn arid regions into a Garden of Eden again and dry up and make fertile the Tigris marshlands.

Will F. Taylor

A Dervish with His Begging Bowl

Just such a long-haired fakir wandered into the author's camp on the Euphrates and placed a curse upon him for refusing to give baksheesh. "You will choke to death," the dervish warned, but his prophecy proved false (opposite page).

went on, "must stand together against these savages!"

For a week he kept me as his guest while he rid his soul of his anti-Arab rancor, the accumulation of months of isolation.

When I asked him why he stayed there he replied, "But consider, Effendim, I paid the Minister of the Interior at Stambul 2,000 pounds for this post and I have made only 3,000 in these six months."

One day, after a full meal of chicken pilau, he seemed to boil over. He was in negligee, in his slippers, his long white tunic, and his skullcap—and he was disgusted. Suddenly he turned to me and said, "Allah," and then he paused while his hookah gurgled fiercely.

"Allah one day decided to visit the world He had made. He came to Frangistan and said, 'Did I make this land?'

"'Yes,' said Gabriel, 'but the Franks have unlocked the secrets which Thou didst put in mountain and valley, in river and stream, and have made the land what Thou didst intend it to be.'

"Then He came to America and said, 'Nor do I recognize this land.' 'Because,' said Gabriel, 'the Americans have worked and striven till this land is no more like its first estate than the flower is like the seed.'

"And so Allah passed through the earth, and everywhere He saw that things had grown and become beautiful, and men had become wise and strong.

"At last He came to Iraq. 'This,' exclaimed He, 'is Iraq. I know it—it is just as it left my hand; the Arabs have done nothing with the treasures I put there, nor used the secrets I cunningly laid there.'

"Wallah," said the pasha, "so is the Arab. Lest he presume to improve on the Almighty, he says 'As Allah pleases,' and goes to sleep."

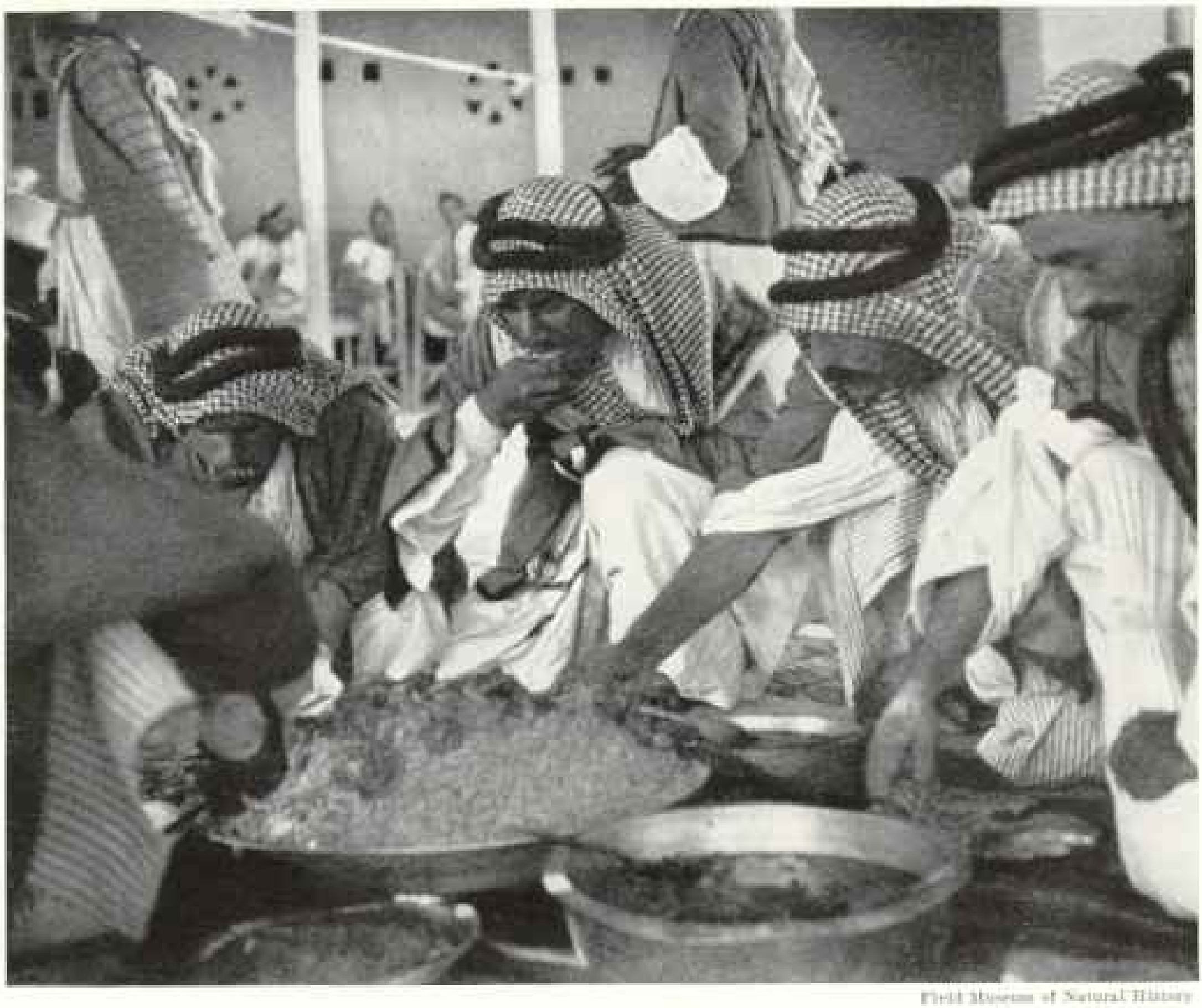
I tried to remind him of the civilizations that had risen and flourished and gone again.

"But you only prove my point," said he. "The Arabs, the heirs of the ages—and today naked as a newborn babe." And he sucked his finger and drew it out with a smack.

Down the Euphrates on a Raft

How the Turkish Empire was held together in those days is a mystery to me still. But then, nothing lasts longer than a mud heap, and that is what Turkey was in those days. This, however, only accentuates the splendid achievement of Kemal Atatürk and his colleagues who created a modern state out of the wreckage of the Ottoman Empire.

Perhaps the chief reason for their success lies in the fact that the Turks, in one way and another, sloughed off the minorities and



Field Museum of Natural History

Not Polite to Use the Fingers? But It Is in Iraq!

Spoons go unnoticed as these town Arabs plunge into the big pan of rice and lamb. At right is a dish of lamb broth. For a Bedouin feast, see page 417.

became and have since remained a homogeneous state.

After months of trekking around, I reached Alep (Aleppo), weary and saddle-sore. So I determined to try a new method of travel back to Baghdad from Meskéné. I bought a raft, a hefty structure about 25 feet square.

I took on a dozen bales of soap as cargo and ballast and as protection against pot shots from the Arabs on the banks. I put a sweep on either side to keep the raft in midstream and started to float the 600 miles to Al Falluja, on the Euphrates.

Being myself captain, navigator, purser, and steward, I took passengers on condition that they man the sweeps when necessary.

In the stern I stowed a goat for milk, a dozen watermelons, a bag of rice and other supplies, and under the gunny-bag tent amidships I sat on my bedding while my passengers made coffee, cooked, and talked. For a bath and exercise I would jump overboard and swim alongside.

The twelfth day we reached the place where the rapids began. Here the Arabs had constructed stone intakes along the banks to increase the speed of the current and thus turn their huge water wheels for irrigation.

The river became swift and dangerous as the water rushed through the narrow openings, so I stopped at a village to have a long sweep fastened to the stern for a rudder.

The village Arabs were hospitable and spread out carpets and brought forth their coffeepots for a real visit.

Laughing Off a Dervish Curse

Just then a tall dervish, a religious mendicant, with long hair over his shoulders, strode up with his begging bowl and poniard. He stamped into the middle of our carpet and demanded baksheesh. I protested against his rudeness and asked him to wait till we had finished our visit. But he became more impudent and vociferous, so I uncoiled my length, took him firmly by the rear, bum-rushed

him to the river, and threatened to throw him in.

The effect was not quite what I had anticipated, however. He straightened up, took a deep breath, and began to curse me, and when an Arab begins to curse he turns out a piece of verbal embroidery which is a real work of art. He climaxed his curses by saying, "I will constrict your throat, and this night, before the moon is down, you will choke to death."

I laughed at him and went back to my friends. After the supper of rice and fish which the Arabs had prepared, I tried to go to sleep. But my throat was beginning to feel tight and uncomfortable, so I prepared myself a gargle from my medicine chest, all the time keeping one eye on the declining moon. But the tightness seemed to increase, and I was getting a bit alarmed.

Then I stood up straight, took a deep breath, berated myself for a jittery fool, and sat down in the sand and began to laugh. I must have laughed myself to sleep, and kept on laughing, for when I opened my eyes the day was breaking, and the passengers were standing around me waiting.

"How strange are the Franks," said one. "Perhaps they see heaven when they sleep."

Floods in the Land of Eden

We shot rapids for the next seven days, while all hands clung to the sweep and shouted wildly, and then, spinning madly in the backwash, we would straighten out for the next one. At Al Falluja I sold my raft, delivered my cargo of soap, and found that, having fed my crew and paid all expenses, I had netted just over two pounds.

The next day I rode into Baghdad.

As in the old Greek plays, I must stop here while the chorus gives you a little background.

Iraq, the country where I spent most of my life, used to be called Mesopotamia, meaning the Land Between the Rivers, the Tigris and the Euphrates.

Most people think of Arab lands as consisting mostly of desert. This is true of the Arabian Peninsula, to be sure, and of the great Syrian Desert. But, paradoxically, the prime problem of Iraq is not drought but flood.

The Euphrates rises in the mountains of Armenia and the Tigris in the mountains of Kurdistan. When the snow melts on these mountains in the spring, great volumes of water rush down, and by June the whole southern area is one vast marsh. This whole region is alluvial and therefore almost dead level.

The Bible account of the Garden of Eden and the four rivers, as detailed in the second chapter of Genesis, indicates that the waters then were controlled from the Euphrates side. The Hiddekel (the Tigris) took off from the Euphrates at the place where the one river flowed out from Eden and became four heads.

The present Tigris was at that time a tributary, as has been demonstrated by surveys. But the channel of the old Tigris became blocked up and the two rivers became independent.

Now, the level of the Euphrates is there some 32 feet higher than that of the Tigris. The irrigation and drainage problem is to impound the Euphrates water until the Tigris floods have subsided, and then to release the Euphrates water, which, by free fall, can irrigate the whole land through transverse channels. This the Babylonians did, and you can still ride for hours through these old silted-up channels.

West of the Euphrates, at the present site of the Royal Air Force base at Dhibban, is a huge depression. A channel with barrages and regulators is being constructed to take off the surplus floods and store them (page 404).

Southeast of Lake Habbaniya is still another and much larger depression, called Abu Dibis, which can be used when the lake is full. When, in consequence, the Tigris and Euphrates floods are thus staggered, the marshes will soon dry up and millions of acres of fertile land will become available for agriculture.

Since the soil of Iraq contains lime, essential to bone-making, sheep can be raised in vast numbers. The country can be populated with Bedouin * who now depend on a precarious rainfall, and the result will be a second Australia.

The Medley of Iraq Peoples

I will let the chorus sing something of the people of Iraq.

The northern region, with Mosul at its center, is the ancient Assyria and is in large part mountainous. It is the habitat of the Kurds.

The Kurds are not Arabs and are not Semitic; their language is Aryan and contains many Persian words. They are a hardy crowd, organized in clans over each of which is a chief.

Most of them are Moslems, though among them you find Christians and Yezidis, devil worshipers (page 414). They have never

* Accepted usage: Bedoui (singular), Bedouin (plural). Grammatically: Bedawi (singular), Bedawiyun (plural nominative), Bedawiyin (plural accusative), from *badiya*, the desert, the open space. The Bedouin refer to themselves as Bedu or Ehl el Badiya—AUTHOR.

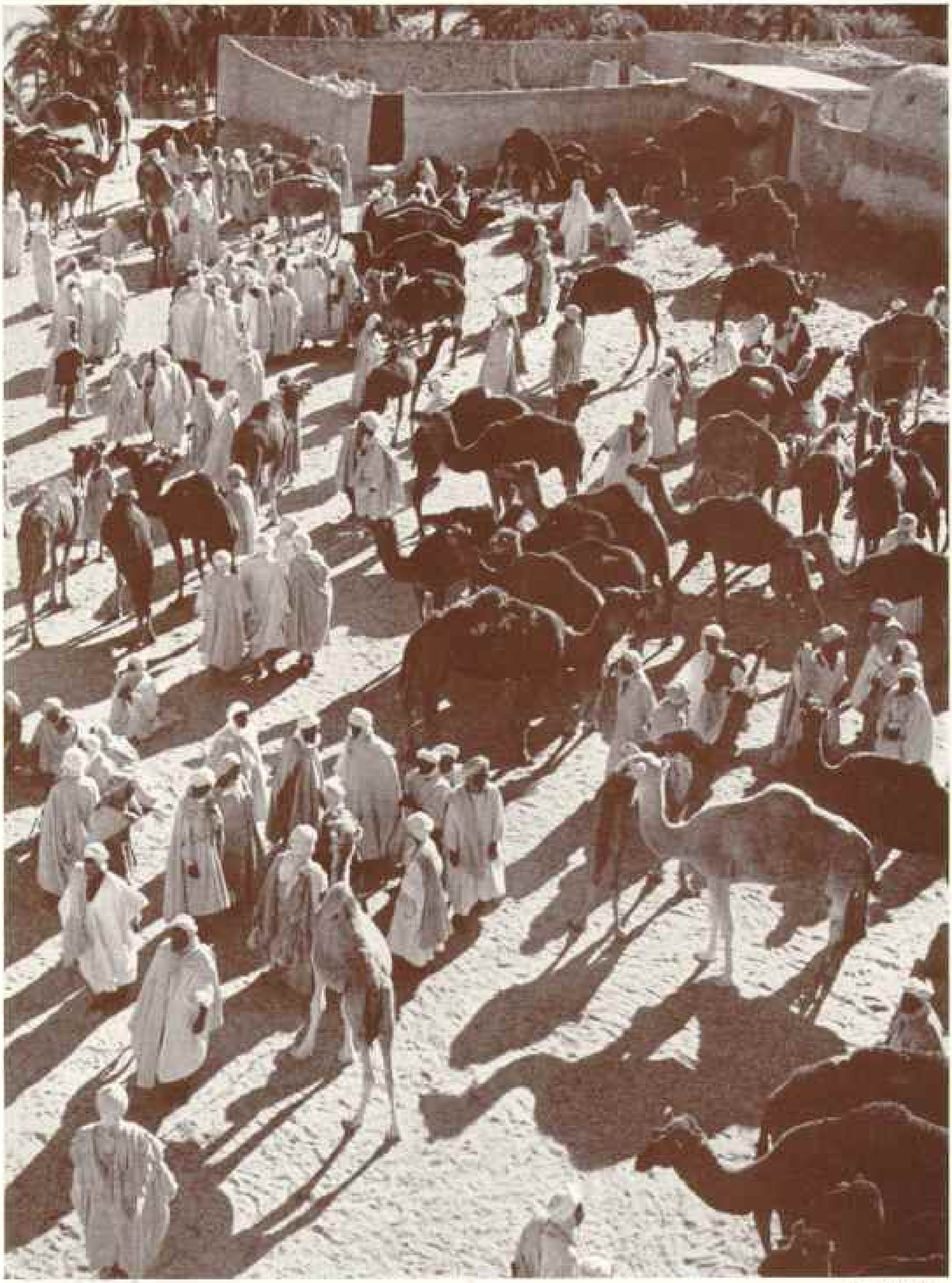
Scornfully, Resentfully, He Deigns to Pull a Plow

The camel protests noisily, but carries heavy loads and thrives in desert lands where other animals would perish. Modern tractors now are displacing this age-old method of cultivation in Palestine.

Staff Photographer Maynard Owen Williams

With Firm Big Humps and Thick Hair the Bactrian Camel Is Ready for Winter

This fine one was photographed in western Anatolia, far from its homeland in China and Turkestan. Single-humped beasts are usually the burden bearers here, as throughout the Middle East and Africa.



André de Dienes

It's Bargain Day at the Camel Market at El Oued, Algeria

Once a week the white-robed desert folk bring in the camels they wish to sell. Such markets exist throughout North Africa where camels still make up the main wealth of the desert dwellers. Ordinary transport beasts are cheap, but highbred dromedaries, or riding camels, often are valued at thousands of dollars.

The Daily Mirror

With Ground-eating Strides the Camel Corps of the King's African Rifles Rides Border Patrol

Before war brought its melee of tanks and armored cars, these troops watched the boundary between British Somaliland and Ethiopia. After early successes, the Italians were driven entirely out of East Africa.

G. B. Wild

All Legs and Neck, White Racing Dromedaries Line Up at the Starting Post

Dusky riders jockey for position, and one has difficulty getting his mount headed in the right direction. The kneeling camel beyond has balked or been scratched in this Sudanese sweepstake.

Carl Lara

Etched against a Mediterranean Sunset, a Camel Train Stalks Along the Shores of Palestine

Planes now drone overhead and drop their deadly bombs to shatter such peaceful Bible Land scenes. Jaffa, off which lie the boats in the distance, has had several raids. So has the larger port of Haifa. In remote places, camels are being used to haul munitions and gasoline.

Ernest B. Schoedsack

Black Tents and Squatting Camels of a Bedouin Desert Camp Look Like a Circus Come to Town

Nomads of the Arabian Desert live in goat-hair tents that can be packed on camel back and moved from one area to another as the tribe seeks pasturage for its thousands of sheep and camels. The long tent in the foreground is occupied by the ruling sheik and his retinue.

8147 Photographed by Anthony Stewart

Haughtily They Trudge Along the Dusty Egyptian Road on Their Way to the Camel Market near Esna

Staff Photographer W. Robert Moore

Peiping Camels Wear Snoodlike Muzzles to Prevent Them from Eating—Not Biting!

These Bactrians are resting at the side of the street after having brought loads of produce to the city. Long trains of two-humped camels are used to bring coal from the Western Hills. Throughout North China camels still are important beasts of burden and make long treks out through the Gobi.

Ewing Galloway

"License Plates! We'll Get Taillights Next!" Cairo Camels Might Complain

All beasts used in public hauling or for carrying visitors out to the Pyramids must wear such registration tags. Blue beads woven into the bridle serve as good-luck charms. This camel is used for riding.

American Colony

"His Lips Are So Very Soft!"

So declares this Turi Arab of the Sinai Peninsula when he exchanges affectionate kisses with his highbred dromedary. Ordinary camels are notorious for their bad breath, biting, and vicious dispositions.

been enthusiastic about their inclusion in the Iraq State, though some of the best soldiers and some of the most capable officials come from among the Kurds.

The plainsmen in northern Iraq are tribal Arabs, mainly belonging to the great Shammar confederation. The ruins of Nineveh, the capital of ancient Assyria, can be plainly seen near Mosul, as can, indeed, part of the fish which regurgitated Jonah.

Coming southward, the rural people can be divided into Bedouin and Ma'dan.

The Bedouin are the tent dwellers. They raise sheep and camels and ride horses. The Ma'dan inhabit the marshes. They live in huts made of marsh reeds, they raise water buffaloes and cultivate rice, and go about in canoes. The fellahs, or farmers, originate from one of the two groups; generally, in the south, from the Ma'dan, for the Bedouin hold manual labor in low regard (pages 409–411).

The Bedouin despise the Ma'dan heartily, and will not intermarry with them nor even fight with them. The tribal system prevails along the two rivers, the chief Bedouin clans being mainly along the Euphrates and inland on both sides of the river, while, from below Baghdad, along the Tigris and into the marshes you find the Ma'dan.

The Mystery of the Ma'dan

Just who the Ma'dan are is a puzzling problem. Some guess that they are the descendants of the ancient Babylonians. This was the opinion of the late Professor Albert T. Clay, of Yale.*

Among the Arabs and especially among the Bedouin, the Ma'dan are lightly spoken of. You can expect any sort of treachery, crudeness, and stupidity from a Ma'eidi, they say.

I have been in the depths of their marshes for long periods and completely at their mercy. Crude they were, and I was once in a camp where they had never seen matches or a candle such as I carried. Their only illumination at night was by rush fires. But I found them hospitable enough. I never met with any serious mishap nor was I ever robbed of anything by them.

Before the last war little was known about them. The Turks sedulously avoided clashes with them, knowing that they would retire into their impenetrable marshes.

Back in 1905 Sir William Willcocks, noted irrigation engineer of Egypt, asked me to undertake an exploratory tour to fill in the blank space on the maps. My main hurdle was to evade the Turks, who were in a sense responsible for my safety, having given me a passport.

Good fortune played into my hands. The Turks were conducting a campaign against the tribes in the neighborhood of An Nasiriya on the Euphrates and were being persistently defeated. When I suggested the tactic of friendship and straight dealing, the commander challenged me to prove my theory by going across the great marsh unarmed and alone.

My Arab servant, Suleiman, however, flatly refused to leave me.

"They will not harm you except over my dead body," said he, and there was nothing for it except to let him come along.

A friendly Turkish officer pressed a service revolver and a belt of cartridges upon me, which, according to his code, I could not refuse. So I was not technically alone, but as for being unarmed, I knew that one revolver, even if I wanted to use it, which my profession as a missionary precluded, would be useless among a crowd every one of whom had a high-powered rifle.

Crossing the Great Marsh

Suleiman donned the belt and the revolver, and, before dawn one day in May, we started out. The floods were high and we soon reached the edge of the great marsh. The trip consisted of endless miles of marsh, with reeds 12 and 15 feet high, through which tortuous channels twisted and turned. How the paddler could find his way remains a mystery to me to this day.

Every so often we would come to a village built on reed islands, where buffaloes and men and women and children wallowed about. Sitting still in a tipsy canoe through hours and hours of pitiless sunshine and stinging insects while you try to make a compass survey is tedious business. The bird life was marvelous, though, and the talk of the Ma'eidi paddler, weaving together folklore and tales of tribal fights and haunted islands, filled in the long days.

The nights we spent on some island in a village, for the guide would go only from island to island, where another would have to be engaged.

On the fifth evening we reached an island larger than the rest. As we beached the canoe, the headman, naked to the waist and with hair to his shoulders, came forward. As I stepped ashore, I said the magical word *dakhil*, which among the Bedouin implies you expect protection and which, in the desert, is never refused. But the tall Ma'eidi looked

* See "Pushing Back History's Horizon," by Albert T. Clay, NATIONAL GEOGRAPHIC MAGAZINE, February, 1916.

Field Museum of Natural History

A Chaldean Christian Bride Wears Her Dowry of Coins

Fourteen years old, she lives in a small village north of Mosul. Note the cross and nose ring. Girls of this village are famous for their beauty. They marry young and bear children early.

at me quizzically and told me to follow him.

We entered a large reed hut and he bade me sit on a pile of rice straw. In a short time the hut was surrounded by a veritable mob of human water rats. Within, the chief, with a dozen of his men, gave me the third degree.

My Arab clothes could not hide my gray eyes and my tawny beard. He said, "You are a Turk and therefore an enemy. You have come to spy on us and your life is forfeit."

I protested, however, that I was not a Turk, and that, indeed, I was a *tabib*, short-cutting through the marshes to reach the Tigris. A tabib is technically a doctor, but to an Arab it may include many degrees of quacks, and so I qualified.

"A tabib?" said he. "Then I will test your skill. I will bring you a sick man. If you cure him, you are our honored guest. If you fail—pkhkhkh," and he drew his hand across his throat significantly.

"Bring along your sick man," I said as confidently as circumstances seemed to require. But inwardly I prayed, "Oh Allah, anything but a leper!"

"Bring Abu Farhan," said the chief, and in a few moments an old man was brought in groaning and writhing in pain. I diagnosed it as colic and gave him the biggest dose of morphine I think any mortal has ever swallowed and survived.

In a few minutes he was asleep and my skill had been vindicated. I did a thriving practice for the next hour, trusting rather to the harmlessness of my remedies than to their potency.

Ink pills, I had found through the years, were especially popular with Arabs. Their lurid colors and lethal taste seemed to foster confidence, and so the faith of the patient generally cooperated as the textbooks say it should. After a while the chief himself called a halt and drove out the patients with his huge fists and feet. We had supper together, he and I: grilled fish, rice, and buffalo milk.

After supper the young bucks of the tribe came and performed for my benefit. The precentor recited tales of their exploits, while the others chanted the chorus. Then he sang about me. I had eyes like a buffalo's. I was tall and supple like a marsh reed. My beard was like the setting sun on a mud flat, etc.

G. Eric Matson

A Symphony of Hammers Is the Coppersmiths' Shop at Baghdad

"If you don't want to hear what your friend is saying, go to the coppersmiths' bazaar," say the Baghdadis. These smiths when working at their ancient calling pound the metal like mad. Regardless of the labor, their wares are sold by weight. New copper comes from Iran. Old pots and pans are salvaged and rebeaten. Seen here are water jars, bath basins, and a cluster of trays.

I slept that night next to the chief himself, on a bundle of loot which, the chief told me proudly, they had taken from a distant tribe.

A Wife the Fee for a Resident Physician

The next morning I asked him for a guide to see me on my way.

"I have been thinking during the night," said he. "I want to keep you here. We are always having ague and fever or getting shot up or bent with rheumatism. To induce you to stay I will give you my niece for a wife. It isn't often a skilled tabib like you comes this way."

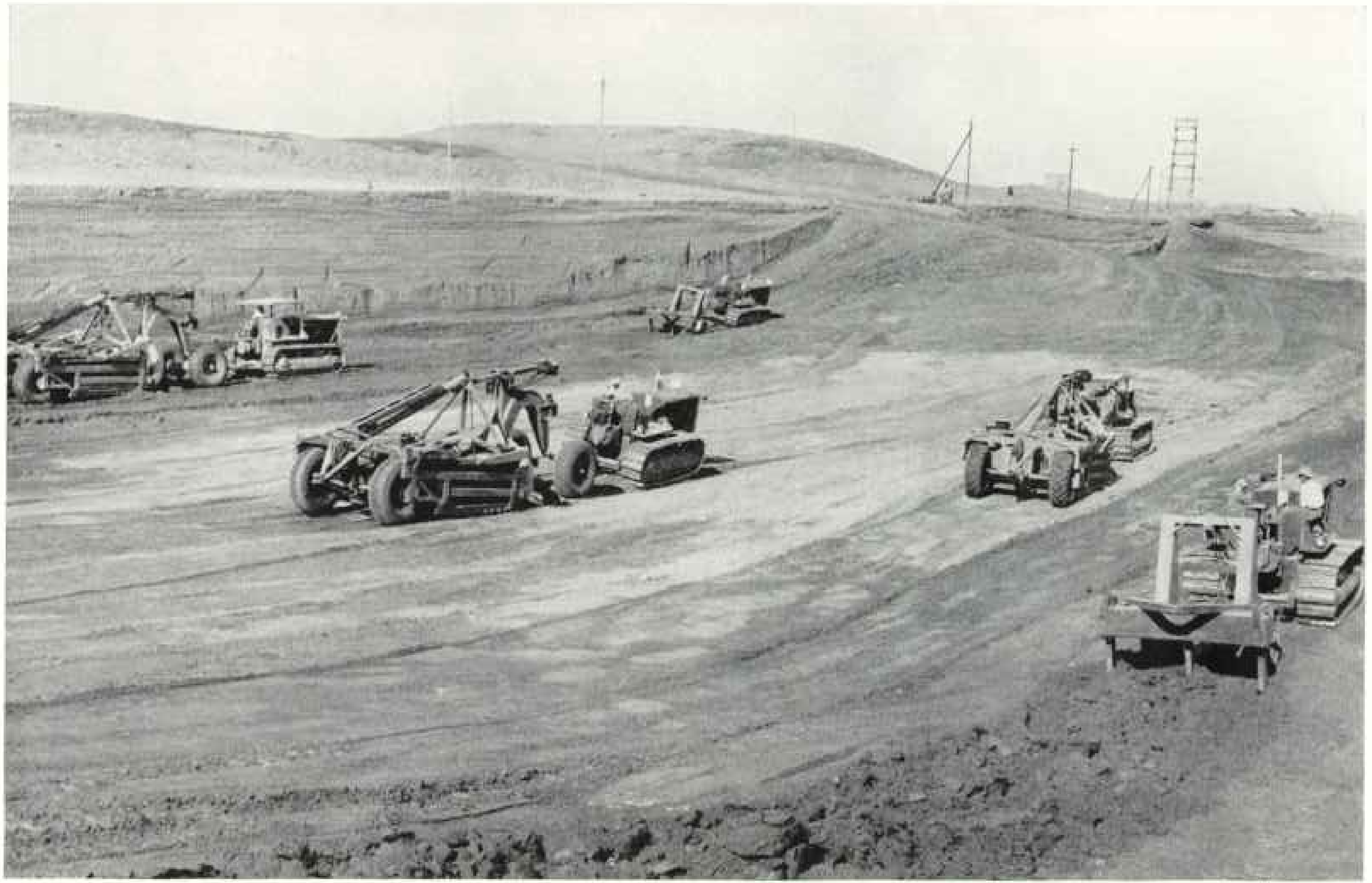
"I suppose not," I said with a shade of condescension, "but there is one great difficulty. Last night I nearly finished my medicines. This," I said, picking out an empty bottle, "is for fever, and this for wounds, and this for rheumatism. I am not like Allah. I cannot create medicine from marsh reeds or the hair of a buffalo. Let me go on and replenish my medicine chest and, if Allah wills, I shall return."

So he let me go, and Allah did not will my return.

At last one fair afternoon I reached the Turkish outpost on the other side. I think I was never gladder to see the Turkish flag than at that moment.

As I approached civilization, I secured a larger canoe in which embarked with me, among others, a woman carrying an infant. I was suffering from a touch of dysentery and ordered the canoe to tie up at the bank while Suleiman milked a cow which was grazing not far away.

While we were thus delayed, the woman got out of the canoe with her infant and started walking ahead. When she was about a hundred yards away I heard her scream. A band of Arabs had emerged from the tall grass and had kidnaped her child.



Caterpillar Tractor Co.

American Tractors Chug and Grunt to Make the Traditional Garden of Eden Bloom Again

An intricate irrigation system built by the ancient Babylonians turned to desert sand when the Mongols overran fertile Mesopotamia in 1258. These tractors, rooters, and scrapers on the Habbaniya flood-control project near Baghdad are rushing to completion a reservoir to impound the torrents of the Euphrates (page 392).

From the Shore of Ancient Nineveh, the Traveler Gazes upon Modern Mosul

On the Tigris sandspit to the right, a few people wash clothes, others catch fish, and some wait for a ferry.

Field Museum of Natural History

Through Khanaqin Persian Pilgrims Carry Their Dead to Shiite Shrines in Iraq

This border town is noted also for its railroad terminal and oil refinery. The river is a tributary of the Diyala.

A Strange Sight Even in Iraq—Driving a Three-horse Gufa on the Euphrates

This clumsy boat is generally towed against the current. Here a riverman poles the round boat while his companion steers the team (page 415).

Field Museum of Natural History

The "Conga Line" Is Strictly Stag at a Kurdish Wedding Dance in Northern Iraq

Edwin W. Gaylord

The Mosulawi Is a Merciless Bargainer, Especially in an Open-air Bazaar

Reminiscent of the pushcart markets of New York's lower East Side is this shop in Mosul. And, strangely, second-hand clothes sold here are shipped in bales from the United States. Rings on men's heads are coils of camel hair worn to keep the headdress on.

With Sticks and Hand Shields, Bedouin Swordsmen Slash and Parry

For raid and war, the modern Arab prefers a rifle. But he hasn't forgotten the whirlwind scimitar which brought fame to the Saracens during the Crusades. These cautious Bedouin are using wood instead of steel. A touch on the body scores a "wound." Overhead spreads a black goat's-hair tent.

Field Museum of Natural History

The Distaff Side in Mosul, Where Men Spin the Wool

The grinning man at the right is rolling fleece into yarn and winding it on the whirling "top." This is not a factory; the men are preparing material for their own use.

Field Museum of Natural History

A Human Plow Team Transplants Rice in the Great Marshes

The puller has the easier job; his "driver" must stop constantly to put in rice tufts. They are Albu Mohammed tribesmen of the Hor al Hawiza (page 411).

There was no use in pursuing them with my revolver and I was puzzled to know just what to do. I learned, though, that the band belonged to her own tribe and that they had taken the infant as security for a debt which her husband owed to one of them. She herself started in pursuit, and I imagine all were eventually satisfied.

British Disarmed Marsh Arabs

At length I reached 'Amara, the Turkish headquarters, and reported myself to Ibrahim Pasha, who was incredulous that I had come that way. When I showed him my map and described the country I had traversed, he was convinced.

A Turkish military doctor kindly offered to treat my dysentery, but when he measured out 35 drops of laudanum I feigned nausea and asked for the bottle itself so that I could save him the trouble later.

Eventually I went upriver again, sailed down the Hai River, and 40 days later reached An Nasiriya just at sunset. The commandant and his staff were sitting on the roof of the caravanserai. I saluted and sat down.

"Where have you been?" said he. "We had given you up for lost and telegrams have gone to Stambul about you."

"I have crossed the great marsh unarmed and alone," I said, "and if you don't believe me, ask Ibrahim Pasha at 'Amara."

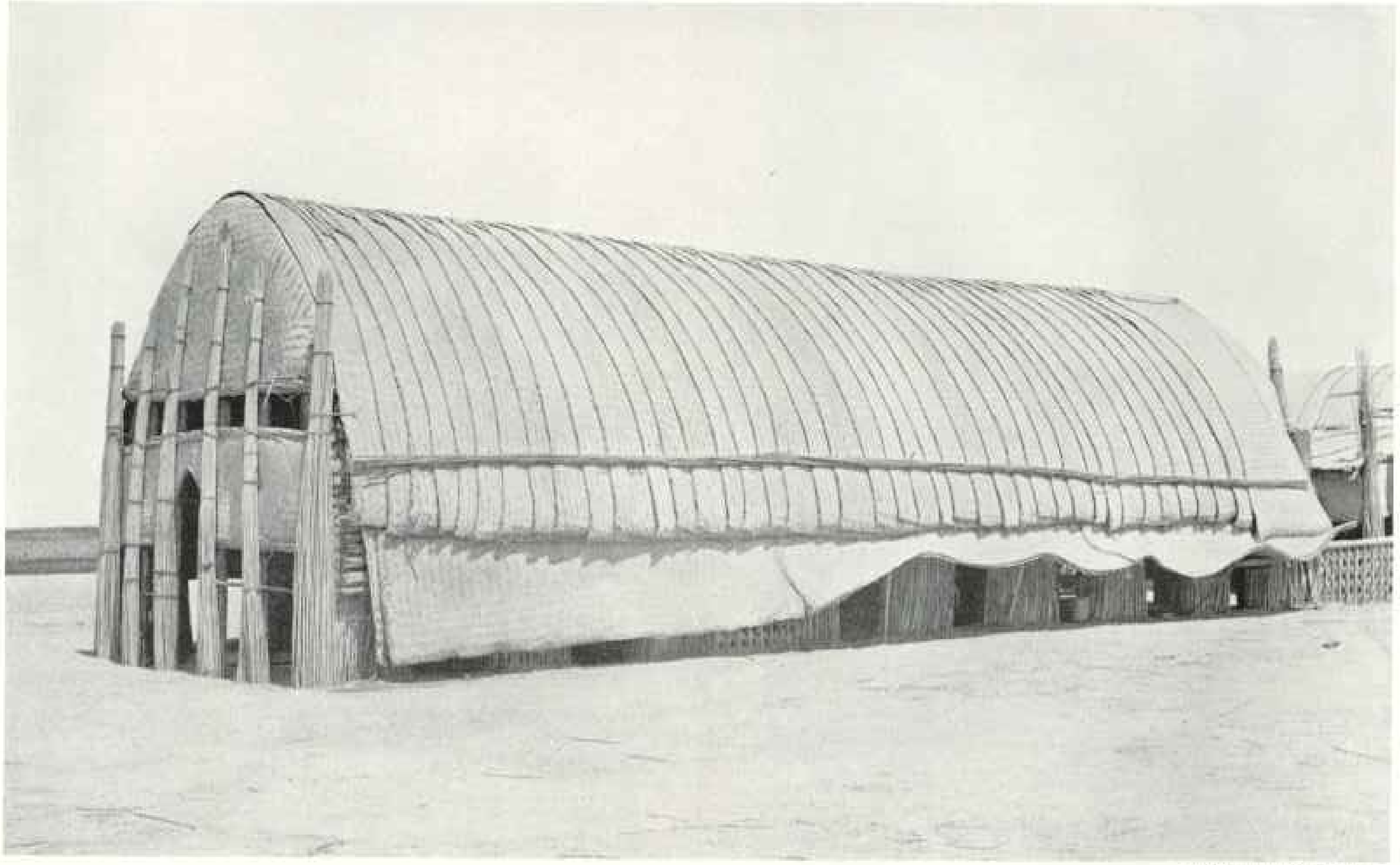
I have flown many times over that marsh area in recent years, covering in minutes what took days. One of the benefits resulting from the British occupation has been the complete disarmament of the Marsh Arabs, save for such caches of rifles and ammunition as they have tucked away for some future emergency.

As scientific irrigation and flood control progress, extensive regions are being reclaimed and are being skirted or crossed by motor roads. The Iraq Government has established reed-hut schools in the more accessible centers and the people are becoming civilized. Indeed, the grandson of one of the marsh chiefs is now a teacher in one of the Government schools, and he told me last year that he possesses a tuxedo.

The son of my proffered bride may be learning the rumba in Baghdad for all I know.

Tale of an Enchanted Island

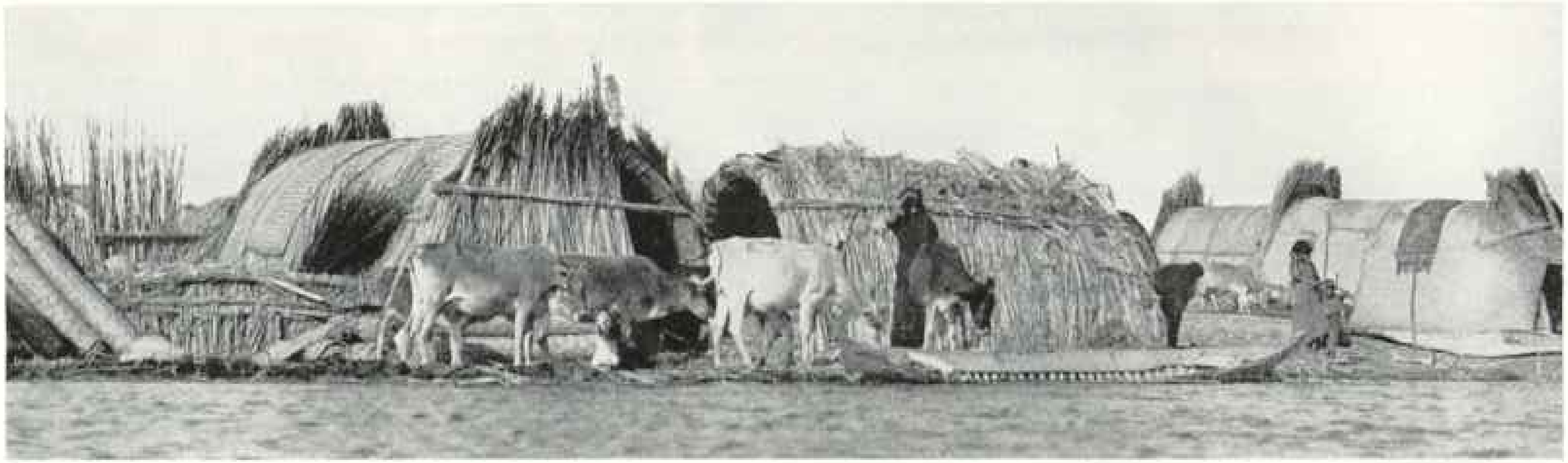
Before leaving the marshes I wish to recount a puzzling phenomenon. In the course of my wanderings I had heard the Arabs speak of an enchanted island where the



Field Museum of Natural History

For Men Only, the Hangarlike Council House of a Ma'dan Tribe Seats 200 at a Smoker

The reed lodge of the late Sheik Falih es Sehud (pages 384 and 414) is cleverly constructed of the only material available, the 15-foot rushes of the Tigris Valley marshes. Arches of reed pillars in the interior are six feet thick. Similar reeds provide homes and schools for the people, feed their fires, and hide them from enemies. The exploring author, ignoring warnings, found the Ma'dan generous and entertaining. Armed only with a medicine kit and a sense of humor, he canoed through the swamps as sun and insects assailed him (page 401).



Cows, Buffaloes, and People Dwell in These Reed Huts of the Albu Mohammed, One of the Most Powerful of Ma'dan Tribes

Field Museum of Natural History

The Messrs. Fixit of the Desert—the Sulaba Are Tinkers, Smiths, Guides, and Hunters

At left one sucks a narghile, or water pipe. In center, a Sulaba plays the *rababe*, a single-string "violin." Their camel brand is the cross.

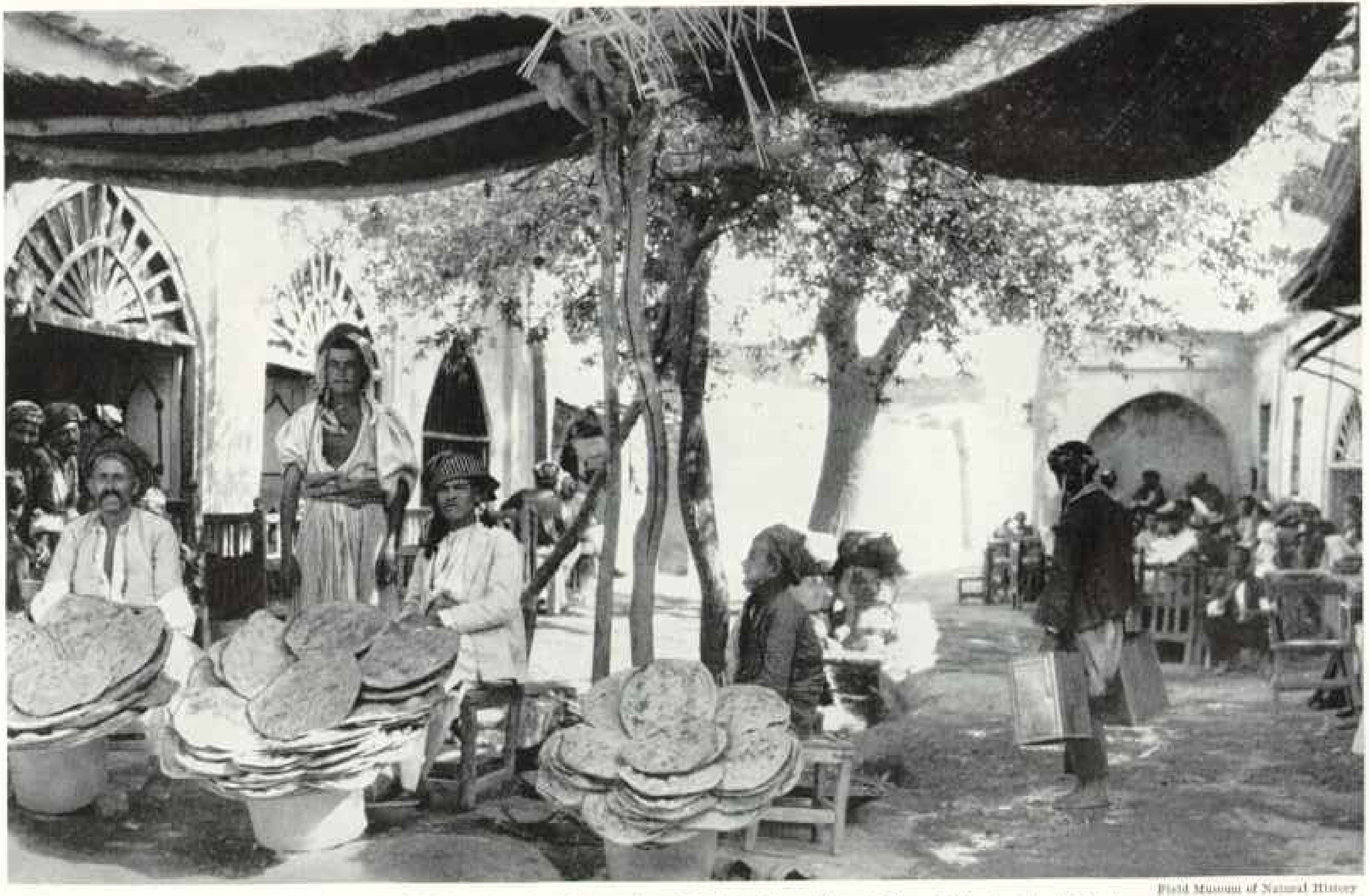
Four-legged "Drinkers of the Wind" Race Across the Sands of Araby as Their Masters Urge Them On

The Bedawi cherishes his mare as he would his life, sharing his last drink of water with her. But he disdains the stallion.

Field Museum of Natural History

Black Sheep, Have You Any Wool? Ask the Flock at Al 'Aziziya

Woman and child guard the animals beside flooded mud huts on the Tigris. Licorice to gratify the American sweet tooth comes from the same locality.



Field Museum of Natural History

The Iraqi Staff of Life Has the Shape of a Mexican Tortilla—A Bread Market in Kirkuk

Made of wheat and baked in clay ovens, these pancakelike "loaves" are brittle and delicious. Kirkuk is the center of an oil field which makes Iraq the world's eighth petroleum producer. From the city to the Mediterranean runs a 620-mile pipe line—a prize of warring armies.

Field Museum of Natural History

Mir Said Beg, Head of the Yezidis, and His 13th Bride

The Yezidis have been persecuted for centuries because they propitiated Satan, not as the Evil One, but as the fallen angel restored by God to rule Earth. Visitors to the Mir's fortress-castle north of Mosul have described him as affable and humorous. In reply to a question by Dr. Henry Field about his corkscrew beard, Said Beg replied: "Young man, if you had had 13 wives, your beard would be twisted, too." The Mir's bride, Wansa, who was 15 when married, was educated at the American School for Girls in Beyrouth, Syria.

unwary visitor would see marvelous visions, of castles, and gardens, and maidens, and all the rest so dear to an Arab's heart. But a spell would fall on the visitor and he would starve to death.

I tried more than once to induce the Arabs to take me there, but no amount of baksheesh could turn the trick. I had taken cross bearings from many points and pricked it off on my map. Years later I mentioned the story to my friend Jack Howes of the Royal Air Force, and he volunteered to fly over it. He told me that as he approached the spot he could detect nothing unusual. Suddenly, however, his compass began to swing and gyrate crazily, and then came to rest again.

Perhaps, at some prehistoric time, a meteorite had fallen there, and legends had gathered and grown. That is all I can offer by way of explanation.

I do not wish to leave the impression that all Marsh Arabs are definitely an inferior type. I think especially of Sheik Falih es Sehud whose territory embraced the lower reaches of the Tigris. I have rarely seen his equal as a magnificent physical specimen (page 384).

Standing six feet four in his sandals, and broad in proportion, he had the face of a Roman conqueror, and when he whispered his commands the farthest corner of his dominion heard and obeyed.

He had a rare sense of humor. I was visiting him once in his camp on a tributary of the Tigris. We were sitting in an enormous, cathedral-like but in which big arches of reed pillars six feet thick disappeared into the smoke-filled ceiling. Just then a dozen holy mendicants came in for their annual largess.

"Bring coffee," he said, and tossed off his three tiny cupfuls. Then he signaled the slave to pass it to me sitting by his side. As among all Arabs, I was entitled to three cups, but when I had drunk the first I rocked the cup as token that I wished no more.

My reason for doing so was that, being a Christian, I had defiled the cup, which would normally be laid aside and cleansed separately. But if I drank again, the steam from my cup, become thus defiled, would defile the

whole coffeepot and all who drank from it.

"Drink a second and a third," said Falih sternly, and as he said so I caught the shadow of a twinkle in his eye. When I had finished he commanded, "Give to them all." One by one the holy men drank and were duly defiled. I departed soon after, but the sheik told me later that all twelve had promptly repaired to the river and had forcibly undrunk their coffee and washed their clothes that they might pray again.

He was tremendously interested in men and affairs and when Babylon Lodge of the Masons was formed, he promptly joined. At the annual lodge dinner he always appeared in his tuxedo. With his gray pompadour and short-trimmed beard he looked like a prince among men.

I mentioned to him one day that one of my pupils had fainted from hunger in the classroom. He tossed me the equivalent of $100 and said, "Don't let that happen again, not while the Falih lives."

Field Museum of Natural History

Building a River-going "Bowl" with No Bow or Stern

Unlike the unseaworthy bowl in the nursery rhyme, "Three Wise Men of Gotham," Iraqi *guffas* are strong and buoyant enough to resist the swiftest current. Lacking hard wood, Iraqis weave a hull of reeds, bind it with cross ribs, and calk the whole with pitch, just as their predecessors did 3,000 years ago. The guffa carries heavy loads, even horses. A man in the "bow" paddles and steers with uncanny skill.

I come now to the Bedouin. Although the name derives from *badiya*, which is the desert, not all of Arabia is desert. Only parts of it are yellow shifting sand. The desert is largely gravel or mud, and when the rains come pasturage springs up and reaches a respectable height.

A Thousand Words for "Camel"

It is on this herbage that the Bedouin camels and horses and sheep subsist, augmented by barley, dried dates, and straw. At certain periods of the year the horses are given camels' milk to drink, for the camel can live on the dried camels'-thorn, which only that creature can chew and swallow.

There are more than a thousand words for "camel" in the Arabic language. No Arab knows them all or even a fraction of them, and many of these words were coined by the poets to fit their rhyme or meter scheme.

I have in my time heard and tried to learn the word for a camel that limps on his left hind leg, and for the one that closes his eyes when he drinks, and for the camel that does not like to have the crows pick the lice from his back, etc., etc.

A camel has no natural affection and is al-

Bruno Zuber © E. Anders & Co.

Boring into the Heart of the World's Oldest Oil Field, They Hope to Strike a Gusher

Even before Daniel's day, Mesopotamians collected oil from seepages, glazed bricks in "fiery furnaces," and laid them in a mortar of asphalt. Today this Kurdish derrick crew, working under an American driller, is driving a steel shaft toward the petroleum pool some 3,000 feet below.

together a cynic. Allah has a hundred names, the Arabs say, the Koran contains ninety-nine of these, and only the camel knows the hundredth name and he won't tell. That's why he looks so supercilious (pages 393-400).

His bite is poisonous, he kicks forward, and he is so stupid that he cannot follow a path. In consequence, a caravan is always led by a mule or a donkey.

One day, on the great desert about two miles from my home in Basra I saw a string of twelve camels ambling along, tied head to tail. The last two camels became detached from the rest and started lumbering along on their own. The one was not quite behind the other, and as they approached a telegraph pole I watched to see what would happen.

It did happen. The one took one side of the pole and the second took the other, and they became so hopelessly entangled that the driver had to untangle them.

When a camel falls down—that is, does not let himself down, one, two, three, four, so to speak—he cannot get up by himself. And when it has rained and the ground is slippery, he becomes panicky and lifts his head high toward Allah, like a terrified but unrepentant sinner.

For a consistent, long-distance traveler, give me a mule. A mule has principles and he abides by them.

Here is a question I ask American schoolboys, and it is only the rarest boy, or teacher, for that matter, who knows the answer.

What is a dromedary?

Most people will say that it is a question of humps. As a matter of fact, all Arabian camels have only one hump. The two-humped camels are found in Central Asia (pages 393 and 399).

Well, a dromedary is a speed camel (page 395). The difference between a dromedary and an ordinary camel is that between your limousine and a truck.

A dromedary can lope six miles an hour for 24 hours and then you have to rest him. A camel can go two miles an hour or a little more and then *you* have to rest.

I was in Egypt years ago and saw a two-mile race between a dromedary and two purebred Arab horses. The condition of the race was that the winner should take the other two animals as a prize.

At the signal the dromedary leaped forward, the Bedawi on his back wildly shouting and waving his cloak. He streaked along like some gigantic nightmare insect, alternately coiling and uncoiling those spindly legs. He beat the horses by a third of the course.

Selling a Fraction of a Horse

When you talk of horses Bedouin eyes light up. I shall not attempt to enumerate the virtues of an Arab horse or to depict his fine points.

An Arab sheik will rarely sell a blooded mare of highest pedigree. Pretending one day to have more money than I had, I asked a sheik to sell me his mare.

"I will sell you," said he, "one eighth of one of her legs for five hundred rupees."

The process would be this: If the mare foaled, my eighth would become a quarter, and so on, through the mare herself and her offspring. The thirty-second would be mine, be it colt or filly. For this chance, five hundred rupees.

It is when you come to the Bedouin themselves that you meet really colorful people. First of all, they all speak beautiful Arabic, which appeals to my doting heart. I have heard boys of twelve out in the desert turn flip-flops in the Arabic found only in the classics.

They are exceedingly race-conscious, or rather tribe-conscious. I asked one of three youngsters who his father was.

"Would you know my genealogy?" he asked. And he proceeded to name his ancestors. At the thirteenth he hesitated, and the other two, not of his lineage, at once filled in for him.

Perhaps the chief characteristic of the Bedouin is their hospitality. The stranger is always entitled to shelter, protection, and food.

Only after three days may he be questioned as to his name, his tribe, and his errand, though he may volunteer information before that time.

For guests of honor, if in any number, a camel is slaughtered, stuffed, perhaps with three sheep, and each sheep stuffed with five chickens, and each chicken stuffed with ten eggs, all on top of a veritable mountain of rice.

The sheik and his guests and immediate menfolk of equal rank eat first, then those of lesser rank, then the slaves, beggars, and, ultimately, all and sundry who may have smelled the feast from afar.

Once a guest, you are entitled to safe conduct to the next tribe. Tribe A may, however, be at feud with Tribe B, and so A may take you to D, and D to B, and so on in zigzag fashion. But you are always safe, at least as safe as the tribe itself is under the circumstances.

Once I was caught in a town on the Euphrates where the Turks were being besieged by the Arabs. Not relishing the idea of a prolonged siege, I smuggled a letter through the lines to a sheik whom I knew, asking him for a guide. The next evening my messenger returned saying that a guide would be waiting for me on the third day in a certain irrigation ditch. So I stole away from the Turks and proceeded to the rendezvous.

A dozen Arabs rose from behind a hillock, surrounded me, and threatened to kill me for a Turk. Just then a lad not a day over 15 came running up, kissed my hand, pointed to me to ride on, while, with rifle leveled at the twelve, he stood them off till I was out of range. Then he caught up, mounted behind me, and brought me to his sheik's tent.

Once I rode for miles through hostile Arabs with a lad of six in front of me on the saddle.

"In whose face are you traveling?" they would ask.

"In the face of this lad of the Beni Khafaja," I would say.

"Pass on, in the name of Allah," they would answer.

Arriving at an encampment, you go to the largest tent, usually marked by a spear stuck in the ground. A slave takes your bridle and leads your horse away while you proceed into the tent.

At the head sits the sheik himself, leaning on a camel's saddle. A foreigner is always given the seat of honor at his left. Around the edge of the tent might be sitting as many as two hundred Arabs, each in his place according to his rank.

The Ritual of Coffee Making

The coffee making is an art, or, rather, a ritual in itself. The beans are first roasted, then pounded fine in a mortar to a delightful, rhythmic clanging. Water is added; the whole boils up three times, and then is served.

As you receive the cup, you twist it to make the coffee run round the lip. If it is well made,

Field Museum of Natural History

The Hand of Abbas Stretches Aloft as if for Water

Abbas, a relative of Mohammed, was slain and his hands were cut off while he was seeking water during the Battle of Karbala, A. D. 680. His hand became a sacred symbol to the Shiite sect. Here the hand surmounts an Iraqi fountain. On the plaque at right are pictured tombs of the Twelve (Shiite) Imams.

it will leave a brown ring around the edge. Then you drink it, or rather, aspirate it, with as much gusto as you can muster.

You are entitled to three cups; so, if you drink for formality's sake, you take one, and if you are thirsty you take three. There is no excuse for taking only two. Each cup, be it said, contains only a spoonful.

On a spring morning I was sitting in the large council tent of one of the Saadun sheiks. Suddenly a gaunt and ragged Bedawi walked in, greeted the sheik, and sat down among the lowest. Coffee was at once given him, but he took the cup, spat into it and tossed it over his shoulder.

"Speak, O Bedawi," said the sheik.

"Last night," said he, "I was sleeping in your territory and my camel was stolen, and, by Allah, I will not drink your coffee."

"Bring him one of my camels," commanded the sheik.

A camel was brought, the head rope passed through the tent flap and put into the Bedawi's hand, whereupon he was offered coffee and drank it.

Your real Bedawi is a true democrat. He will walk straight up to the paramount sheik, look him squarely in the eye, and say, "Peace be with you, Abdullah."

Bedouin hospitality is matched by their generosity. A cultivator owed old Sheik Nasir $600. Not being able to pay, he fled to Iran. After a year he became homesick and decided to return and throw himself on the mercy of the sheik, but he brought with him twenty chickens as a "covering for the eyes."

On his journey he killed and ate two of the chickens and on arrival threw the eighteen at the sheik's feet, kissed his hand, and begged for mercy.

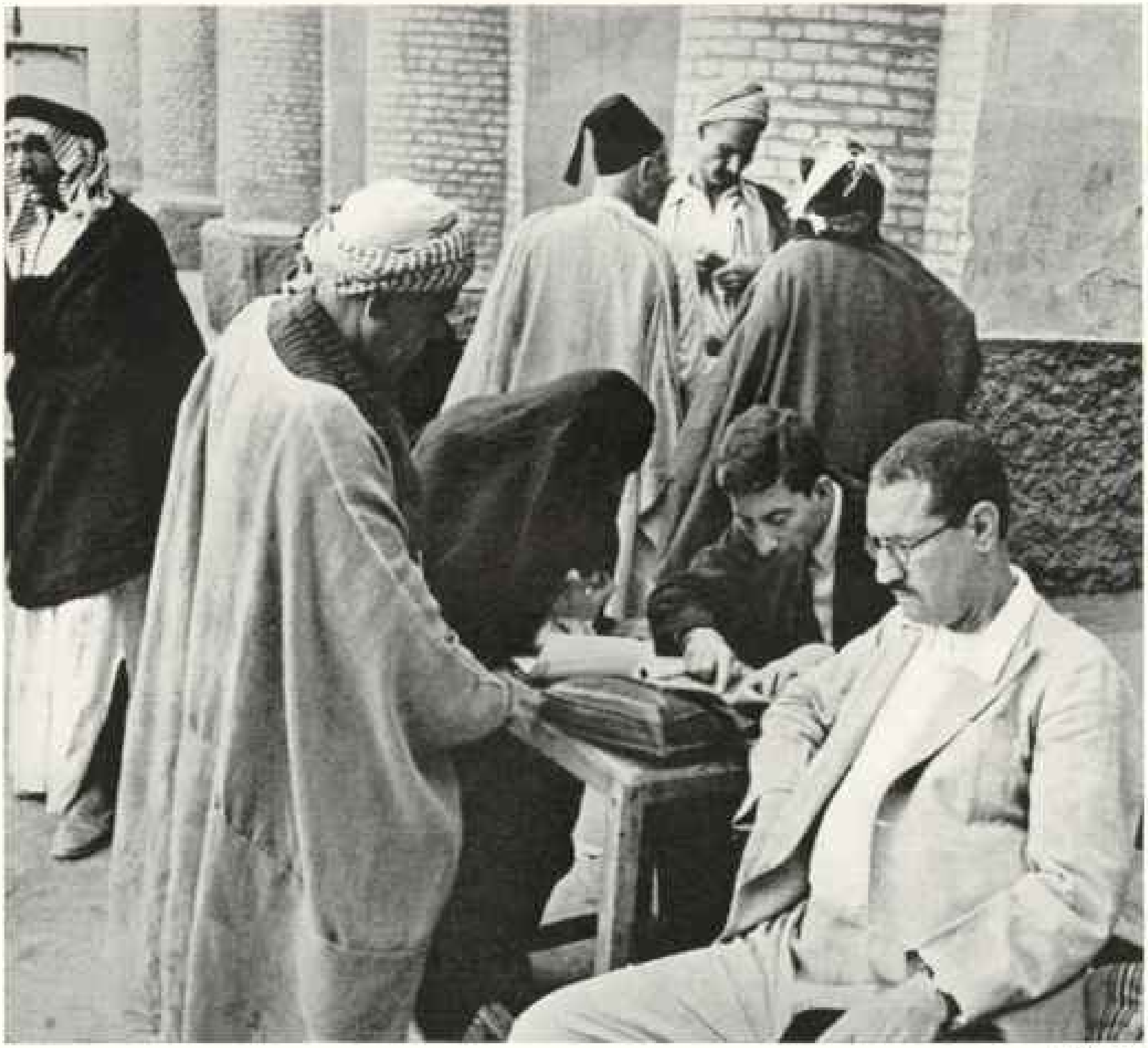
"I have won," said Nasir. "I will count each chicken for a hundred shamis."

Quick Justice in a Bedouin Court

Bedouin justice is swift and to the point. Court is held each morning, accusations and witnesses are heard, and punishment administered. There is no court calendar.

As I sat one day, a Bedawi was brought before Sheik Falih as Saadun, accused of theft, and convicted. He was tied to the tent pole, a pipe was brought to the sheik, and a slave held the lighted coal. As the sheik exhaled the first puff, the slaves began to beat the culprit, until the sheik beat out his pipe and justice was satisfied.

The tales of Bedouin skill in tracking are not exaggerated and to a Bedawi every track and every footprint is an open book which he reads as you read your newspaper.



Black Star

Parties to a Lawsuit See Their Lawyer in his Curbside Office

The medley of modes seen in the yard of the Court of Justice at Baghdad is typical of the Western influence invading the East. The petition writer in the center is preparing a form for a lawsuit over property.

The distinctness or faintness or number of footprints, human or animal, spell for him the size and destination and composition of the company that has passed. The nature, consistency, and freshness of the camel dung indicate whence they have come and when.

They will direct you by the stars, and a moment's reflection will remind you that many stars and constellations have Arabic names. I learned more astronomy from the Arabs than I ever learned in college, besides the delightful folklore which they treasure so highly.

Five-sixths of Iraq is tribal, such as I have been describing, and is rarely seen by the casual visitor. It is that part of the country, though, which must be known and understood if we are to have a worth-while postwar reconstruction. Most of the resources of men and material are there, and most of the problems.

Since Iraq is not an industrial country, the cities are only the centers of government and owe their existence chiefly to trade.

The Approach to Iraq

As the visitor comes up the Persian Gulf, the first thing he encounters is the bar. The bar, like most bars, has produced many a headache.

Some 77 miles from the Gulf the Tigris and Euphrates join and form a broad, deep river which carries with it the accumulated silt of the upper reaches. Twice in 24 hours the tide backs up this current, and in the resultant slack water the silt settles to the bottom and forms a mud bank about 20 miles across.

Left undisturbed, this bank would leave only about 12 or 15 feet of water at high tide. The result was that cargo ships of greater

draught were compelled to lighter across the bar, causing great expense and delay.

After World War I, the problem was taken in hand. Under the capable management of the Port Director, Col. Sir John Ward, and substantially financed by the Anglo-Iranian Oil Company, five suction dredges now work 24 hours a day to keep clear a channel which admits ships up to 32 feet draught at all times.

This channel is so well lighted and buoyed that skippers refer to it as "Piccadilly."

At Fao, just across the bar on the land side, is the medical inspection and repair station. Thence the visitor's eyes pop with wonder at the marvelous scenery. Both banks are lined with millions of date trees, in a belt extending two miles inland. On the left bank, 31 miles above Fao, is the Abadan refinery operated by the Anglo-Iranian Oil Company.

Thirteen miles farther on is Khorramshahr, formerly known as Mohammerah, a largish town still on the Iranian side and situated on the Karun River, which comes down from the Persian hinterland to add its mud and water to the Shatt-al-Arab. Thence on past villages and date groves, you reach Margil at Basra, where are the docks and wharves.

The visitor will have noticed that at intervals of about a mile broad creeks flow into the main river. These are natural remnants of the time when the whole area was marsh, but, as the land has encroached, they have been widened and deepened to make possible the irrigation of the date gardens. The Arabs say that the date tree likes to have its feet in water and its head in hell; hence Basra.

At the mouth of a large creek, about four miles below Margil, is the town of Ashar, with a population of 30,000. Here most of the business is done, here the banks are located, and here, on the river bank, or near it, are the offices of the European firms.

Go two miles up Ashar Creek, along a well-paved road, and you reach Basra city, of about 50,000. If you go inland another eight miles you get to Az Zubair, and along the road you see the ruins of the ancient town where the shadow of Sindbad the Sailor still stalks. The whole area is connected by asphalt roads that challenge the skill, ignorance, or folly of the Arab taxi driver.

The port area is the showpiece of Basra and has been entirely built since World War I. Its only significance in Abdul Hamid's day was that it contained the European cemetery.

The avaricious old monarch had bagged about one-third of the empire as his private estate, but one particular part on the river was constantly threatened with being washed away. So the wily ruler gave this point to the foreigners as a burial place, figuring that we would take the necessary precautions. We did. But the fact remains that in those days we visited Margil only when we were laying away one of our little community.

The only deep water alongside the bank is just there, and so British army engineers built wharves there during World War I of finest teak, which cost the tidy sum of four million dollars. Huge electric cranes make possible the expeditious handling of cargo.

The airport, a mile farther up, accommodates both sea and land planes, and boasts a hotel, the Shatt-al-Arab, where you can sit A. D. 1942 in air-conditioned rooms and look across the river into 1942 B. C.

That is not exactly accurate, however, for as late as 2000 B. C. the present site of Basra was a hundred miles down the Gulf and under forty feet of water.

At Margil, too, is the railway station where you embark for Baghdad and Europe. The railway runs along the Euphrates most of the way for 354 miles, and on the way you can salute Abraham at Ur of the Chaldees, Nebuchadnezzar at Babylon, and other worthies with whom your knowledge of the Bible or of history has made you familiar.

U. S. Army Engineers Busy in Iraq

Among the tasks of the American engineering corps under Brig. Gen. Raymond A. Wheeler is that of broadening the gauge of this railway to make it conform to the standard gauge prevailing on the main line north of Baghdad and in Europe; also the building of sidings, tunnels, roads, bridges, and increased port facilities.

Lots of fun remains to be had among the Arabs of Iraq for any American who looks beyond Main Street; fun with its generous, hospitable, warm-hearted people; fun with its young men, now wistfully looking toward America for sympathy and understanding; fun with its challenging problems of reconstruction; fun with its vast and almost untouched resources; fun with the shadows of its past lurking in buried cities, palaces, and temples; and fun with the shape of glorious things to come.

The majority of the photographs illustrating this article were taken for King Feisal by an Iraqi photographer under the direction of the late Mrs. A. L. Fisher, a wealthy American traveler interested in the Near East. This unique collection was entitled "Your Beautiful Iraq." Mrs. Fisher presented the negatives to Dr. Henry Field, who donated them to the Field Museum of Natural History.

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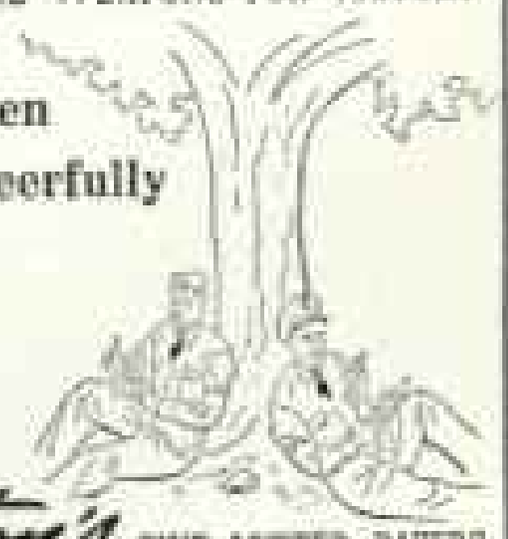

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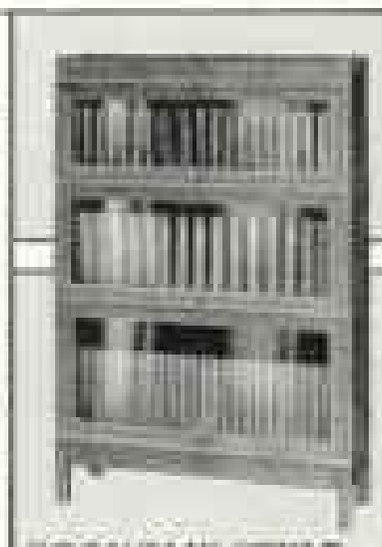

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IN THE

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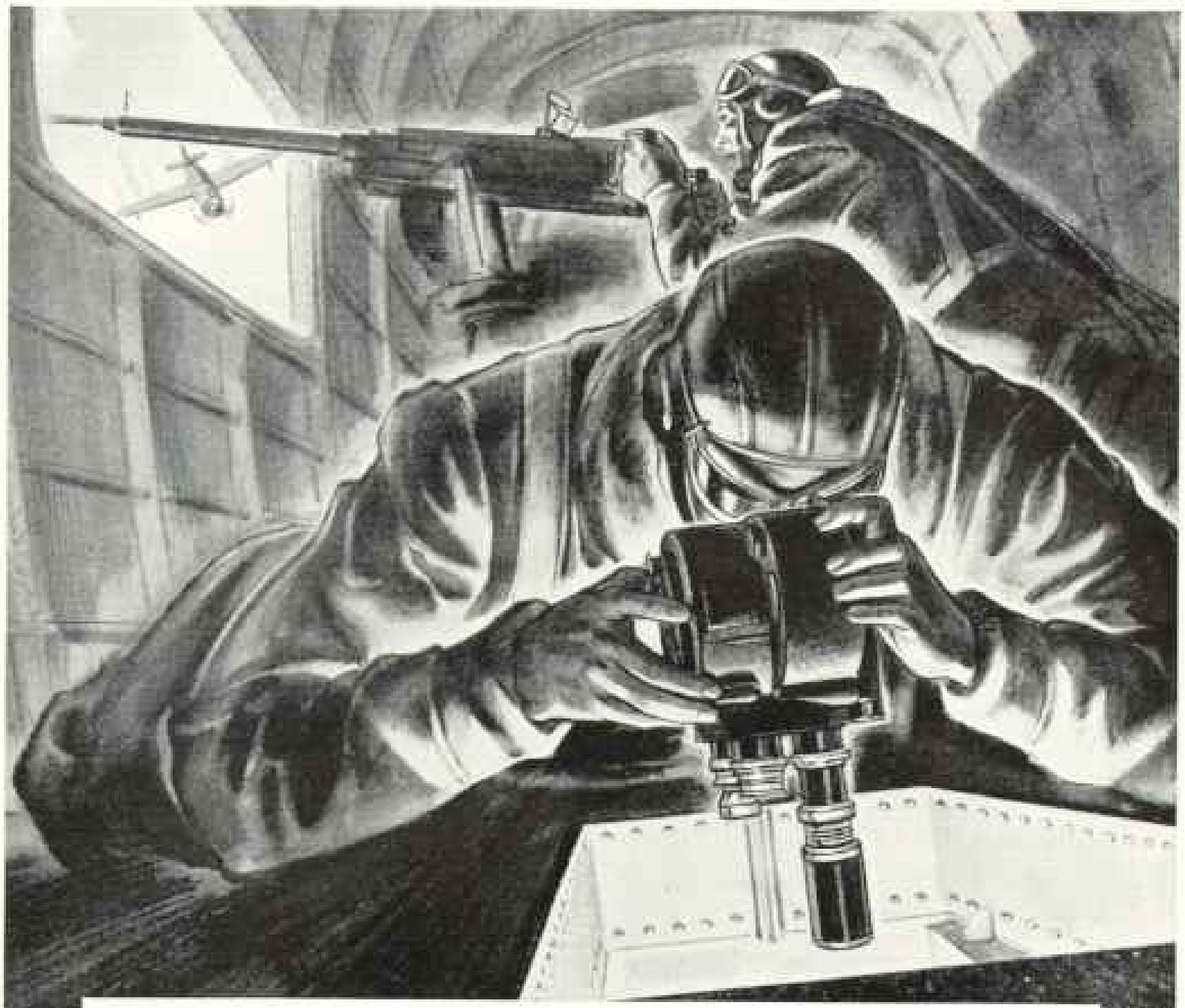

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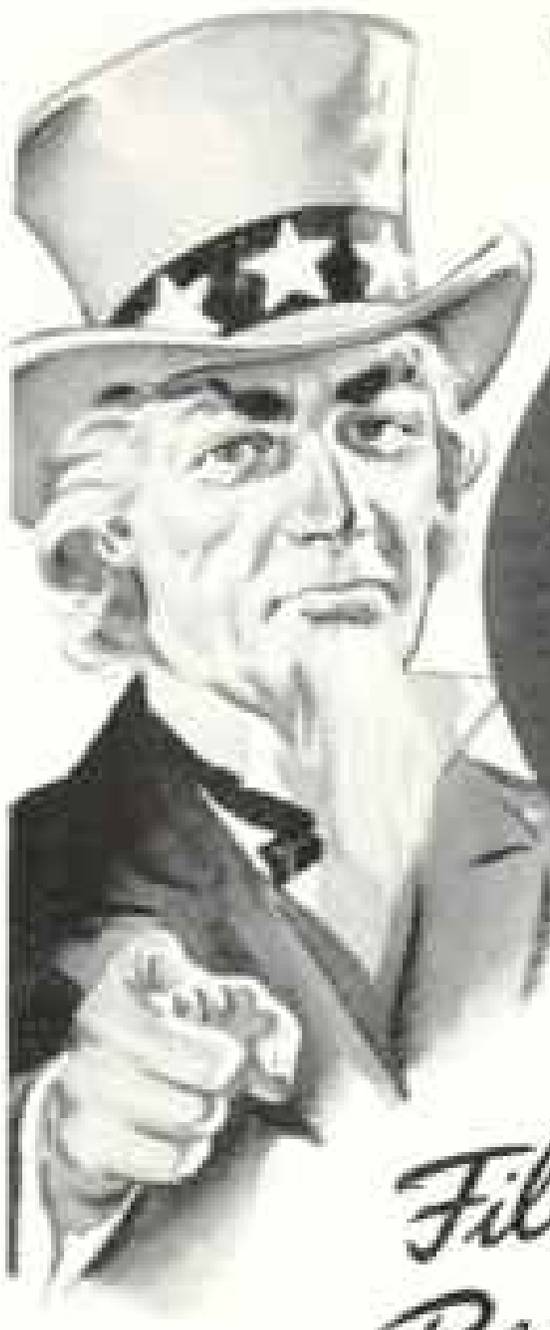

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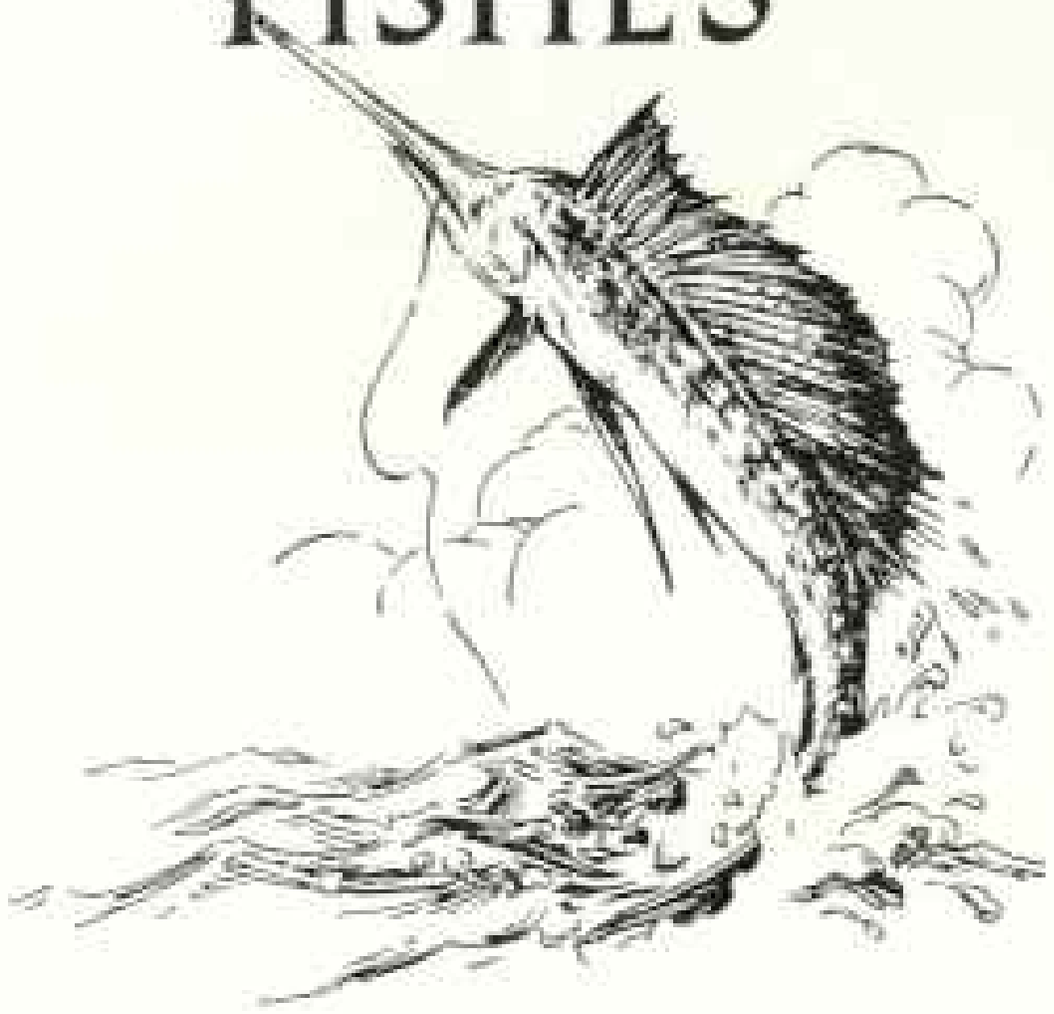

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Almost as vital as the right kind of food is the way the food is divided among the meals of the day. It takes satisfying, well-balanced breakfasts and nourishing lunches to supply you with enough energy to last until the next meal. Hasty, sketchy meals may let you down and result in unnecessary fatigue and mental depression. In industrial plants, even your safety may depend on meals that maintain energy throughout working hours.

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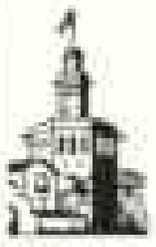

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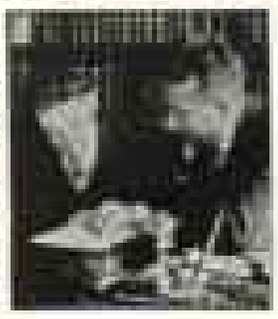

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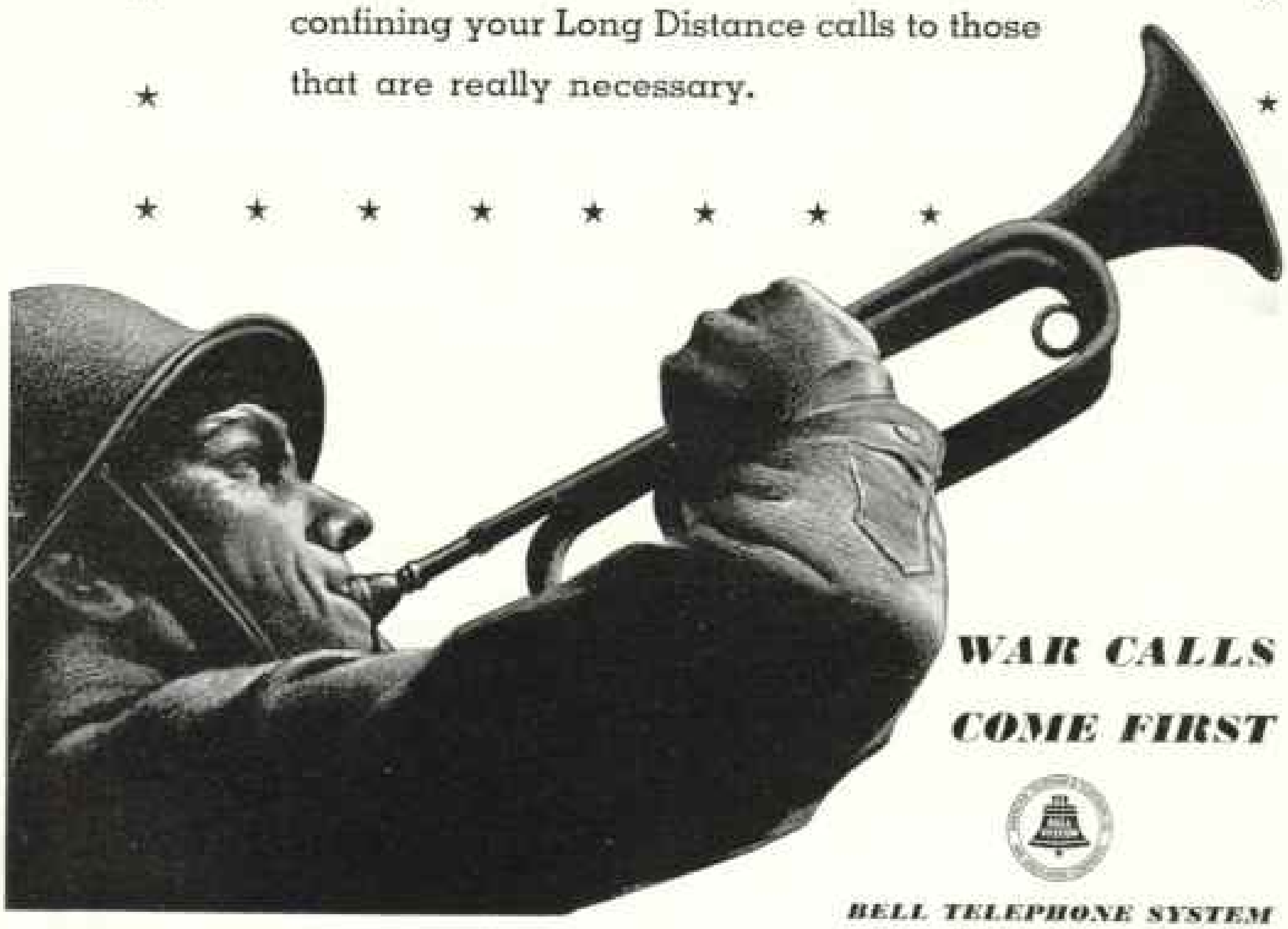

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