VOLUME CIX NUMBER FIVE

THE NATIONAL GEOGRAPHIC MAGAZINE

MAY, 1956

Seventy-two Pages of Illustrations in Color

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
WASHINGTON, D. C.

$7.00 A YEAR 75c THE COPY

VOL. CIX, No. 5 WASHINGTON MAY, 1956

THE NATIONAL GEOGRAPHIC MAGAZINE

Many-splendored Glacierland

More than 800,000 Hikers, Campers, and Drive-through Vacationists Discover Each Year the Northern Rockies' Ice-carved Beauty in Twin Parks Astride the U. S.-Canadian Border

By GEORGE W. LONG

Assistant Editor, National Geographic Magazine

With Illustrations by National Geographic Photographer Kathleen Revis

"LOOK! Are those clouds? Or can they be mountains?"

For 20-some hours we had sped across the flat plains of North Dakota and Montana aboard Great Northern Railway's *Western Star*. Though I knew we were nearing Glacier National Park, I had to look a second time before exclaiming to my wife and two daughters, "Those are the Rockies!"

With each turn of the wheels the vision became more real, like vapor congealing into rock and ice. We were running head-on into one of the most spectacular sights in all the United States. Before us loomed a colossal wall of snow-topped mountains, rising thousands of feet straight from the prairies. Towering, upswept peaks marched south in shining array from Canada. Clouds wreathed the tallest pinnacles; purple shadows, creeping across stony faces, lent mystery and allurement.

This bold rampart marks the eastern bounds of Glacier for some 50 eye-filling miles. It also forms an impressive introduction to the park and its Canadian counterpart just across the border, Waterton Lakes National Park (color map, page 596).

At the last moment a gap swung open in the mountain barrier, and *Western Star* began the climb to Marias Pass. Incredibly, this lowest cut across the northern U. S. Rockies, hinted at in Blackfeet Indian legends, was not definitely located until 1889.

The pass became the southern boundary of the park when it was created in 1910. Thus, as we climbed, a full-scale cross section of Glacier slid past our windows, a dramatic preview of wonders soon to come.

We arrived in West Glacier refugees from a record-breaking eastern heat wave. The bracing mountain air reminded us of a crisp October day back home. At Lake McDonald Hotel a welcome fire crackled in the huge lobby fireplace. We soon donned tweeds and sweaters, and that night we slept under double blankets. It was a different world.

Wilderness Beauty Preserved

"You've picked the right place to cool off," remarked superintendent J. W. Emmert when we met him next day at park headquarters. "Part of Glacier is in the subarctic temperature zone. We have about the same climate as central Alaska."

"It's certainly invigorating," I said. "Makes me feel like a new man."

Emmert smiled. "Take it easy," he replied. "You'll have to do plenty of hiking and horseback riding if you want to know Glacier. We've tried to preserve the park's fragile wilderness beauty; so there are only 70 miles

Glacier National Park: a Citadel of Beauty on the Continental Divide

Awe-struck Indians from the plains of Montana looked on these mountains as rocky bones pinned to the sky. Jagged Garden Wall, massed against the horizon in this view, seemed the "world's backbone," with neighboring peaks fanning out like ribs.

Tossed by earth convulsions and carved by glaciers, the land proved too rugged for homesteaders and too poor for miners. Its greatest wealth lay in scenery. In 1910 a million acres became Glacier National Park.

Soon the Great Northern Railway built Many Glacier Hotel (right), the park's largest. From this site, deep within the park, trails spread out into the high country like arteries from the heart.

Here, near the end of the road, buses and private cars discharge loads of adventure seekers. Some ride horses on the day-long trip to Iceberg Lake (page 600). Others shoulder packs and strike out for a cliffside chalet or starlit campsite. Less active souls taste the park's delights from the hotel, strolling easy walkways or boating on small Swiftcurrent Lake (center).

Mount Gould (upper center) supports the Garden Wall like a flying buttress. Going-to-the-Sun Highway cuts the face of the wall on the farther side (page 593). Allen Mountain overhangs the hotel's annex at left.

Page 591, lower: Two of the park's 800 mountain goats fearlessly sidle up to a ledge overlooking Gunsight Lake. Their cloven nonskid hoofs with sharp rims and soft center pads are marvelously designed for cliffside scrambles. The season is summer, and the nanny is shedding.

↓ Blackfeet in Owl and Eagle Feathers Welcome the Long Family

Carolyn Long, the author's wife, and their daughter, July, arrive at East Glacier Park, railroad gateway to the park.

of paved highway compared with more than 1,000 of trails. My advice is to get out on the trails—only go easy at first."

We took the advice—both parts. We were eager to see the park; yet several years had slipped by since I had done much hiking, and recently my only "saddle" had been a desk chair. So for awhile we combined short conditioning walks along swift McDonald Creek with other means of seeing Glacier.

To get an over-all picture of this alpine wonderland, I flew with the fire patrol in a single-motored plane. Like one of Glacier's golden eagles, we soared over lonely crags, skimmed 10,000-foot peaks, and glided over sapphire lakes. We threaded valleys green with pine forests and scudded past rocky wastes of skyland torn and scarred by the elements. Several times we swooped into huge rock amphitheaters for close-up looks at some of the park's 60-odd glaciers.

Nation's Fourth Largest National Park

I was impressed by the park's size. Compared with giant Montana, from which it was carved, it looks deceptively small on a map.* Actually Glacier is a third again as big as Rhode Island and is the Nation's fourth largest national park, after Yellowstone, Mount McKinley, and Everglades.

Notable, too, is the slight impression man has made on this 1,000,000-acre preserve. Few were the signs of human activity. Smoke hung above half a dozen far-flung campgrounds; a speedboat buzzed on Lake McDonald. Cars and buses crawled across magnificent Going-to-the-Sun Highway, which cuts across the rugged heart of glacierland; at Logan Pass, its 6,664-foot crest, sightseers waved gaily at us.

For a quick look at Canada's Waterton Park, we zoomed across the international border, here a narrow lane hacked in the forest. "Got your visa?" shouted the pilot in jest, as we swooped toward the park's townsite.

No passports, no visas are needed on this longest undefended border in the world. Where else, I wondered, could an observation plane hop across a frontier between two important powers without anyone even bothering to look up?

In 1932 these friendly neighbor nations pooled their scenic borderland treasures, creating Waterton-Glacier International Peace Park and thus "permanently commemorating the relationship of peace and good will long existing between the peoples and governments of Canada and the United States."

No glaciers adorn Waterton peaks, but the mountain scenery is just as fantastically beautiful here as farther south. There is the same rugged grandeur—the same alplike heights, U-shaped valleys, and gigantic rock amphitheaters.

Another day my family and I drove beautiful Going-to-the-Sun Highway. One of the most scenic 50-mile stretches in all the New World, this adventuring highroad gives visitors who can only drive through Glacier a magnificent sample of its natural wonders.

Ed Beatty, chief park naturalist, guided this first trip, naming the wild flowers and pointing out natural oddities for us. As we headed up McDonald Valley, he told us that not until 1933, when Going-to-the-Sun was completed, did a highway cross Glacier. It was only a few years earlier that a road had been blasted across Marias Pass. Before that, a motorist who wanted to cross the park had to ship his car over the pass by rail or detour some 500 miles by way of Great Falls and Missoula.

Rocks Display Fossil Rosettes

Boring through a tunnel, the road climbed high above the tree-clad valley. Near its one and only switchback, Ed stopped the car and pointed to a series of rosettes etched in the rock. They looked like cross sections of cabbages.

* See: "Montana, Shining Mountain Treasureland," by Leo A. Borah, NATIONAL GEOGRAPHIC MAGAZINE, June, 1950.

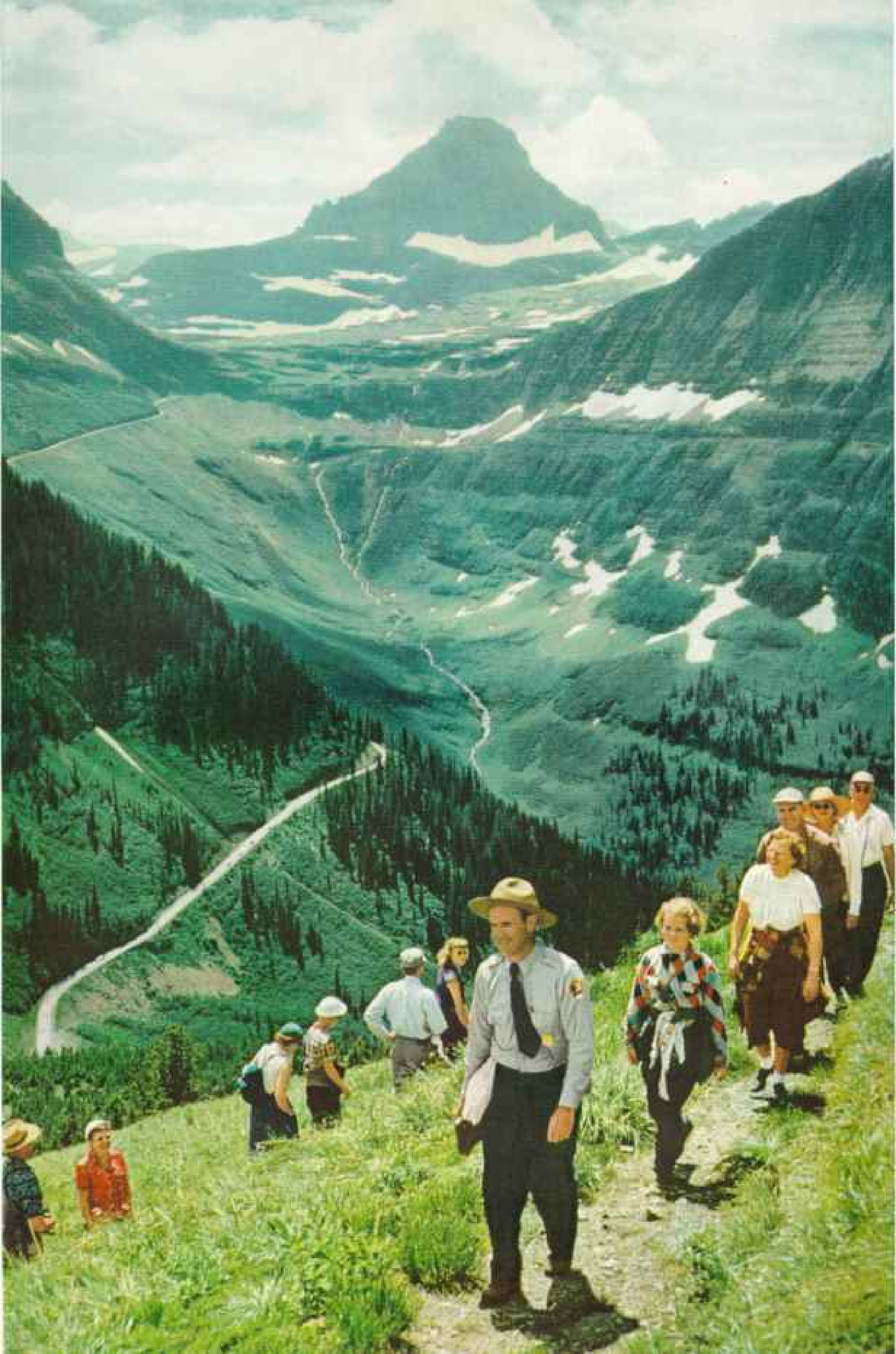
Page 593

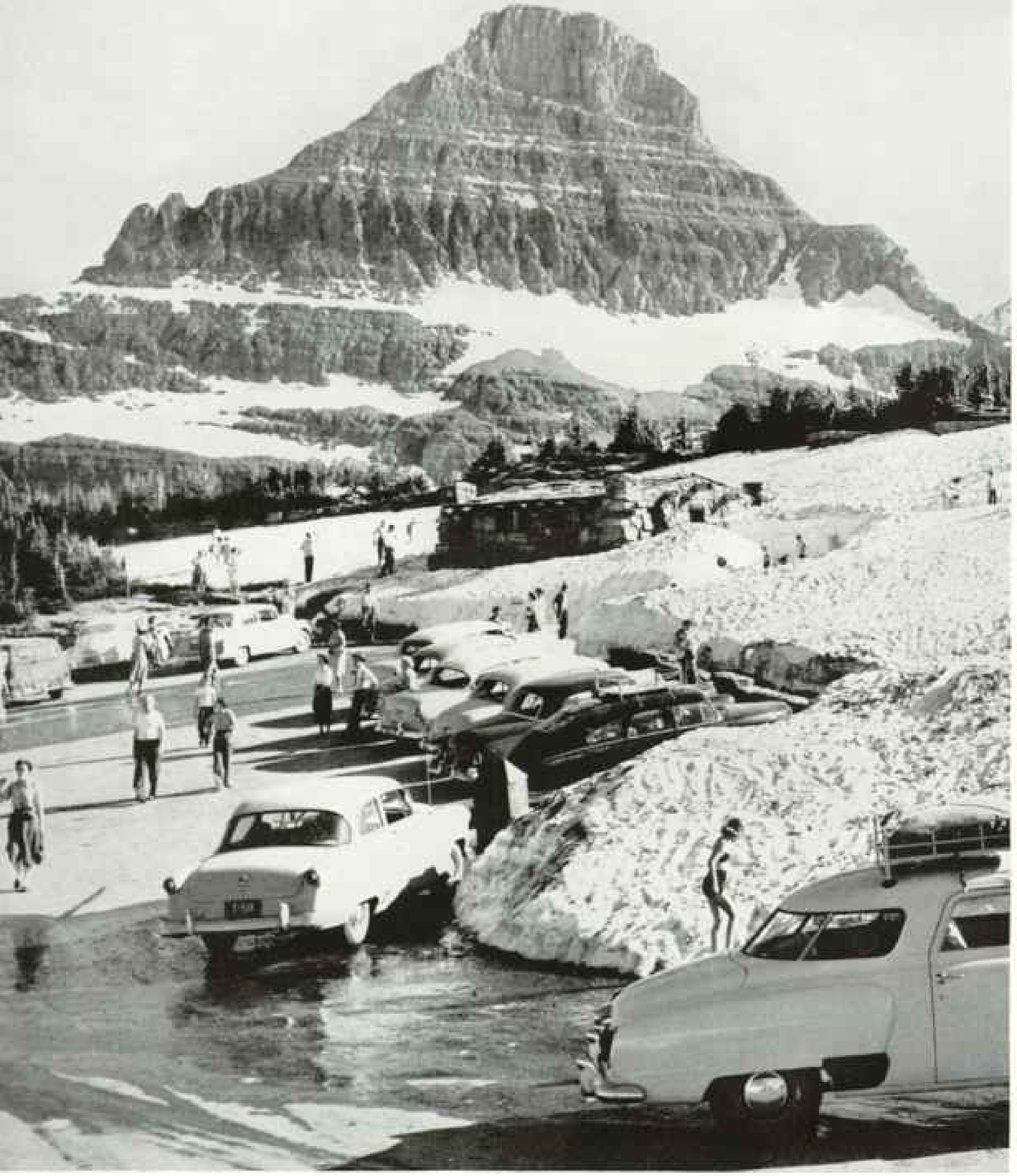
Hikers on Garden Wall Trail Tread → a Grassy Catwalk Above Logan Creek

Mitelike cars far below crawl along spectacular Going-to-the-Sun Highway, a road-builders' miracle. Describing the difficulty of carving a motor route through this up-and-down world, surveyor Frank A. Kittredge wrote . . . "there were really three crews: one coming, one working, and one going. In order to keep 32 men on the job continuously, 135 were employed."

Construction men often lowered equipment from such trails as this one above the roadbed. After a dozen years' work they opened the highway in 1933.

Ranger-naturalist Lloyd Parratt and his party enjoy the view above timberline. Their trail started at Logan Pass under the eaves of Reynolds Mountain (center). Glaciers grinding away the peak's sides left its Matterhorn-like profile. July's melting snows feed the stream between Mount Oberlin (right) and the Garden Wall.

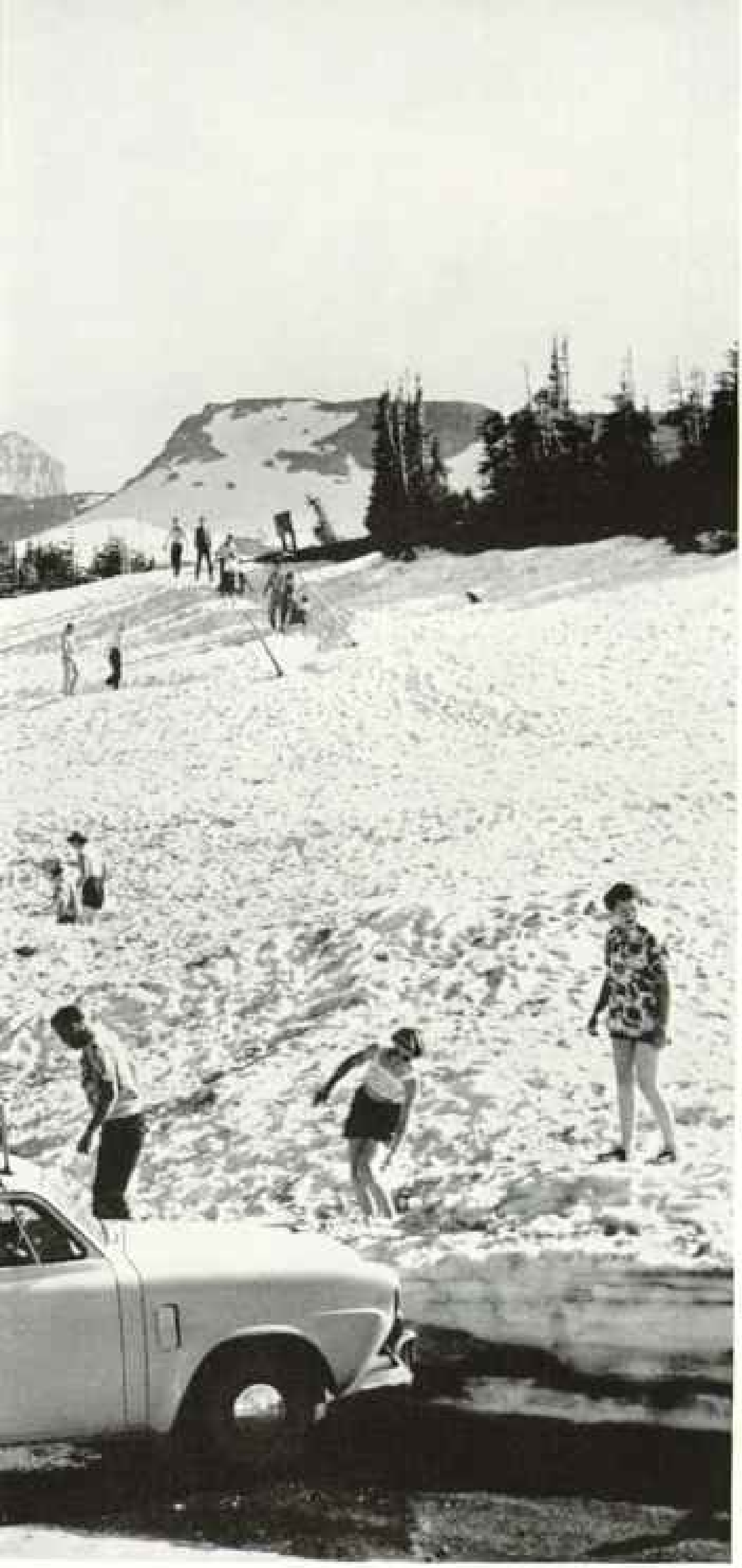




"Fossil algae," he explained. "Colonies of single-celled plants that lived half a billion years ago. This is among the oldest sedimentary rock in the world—exposed when the mountains were lifted and pushed eastward. In Grand Canyon you have to go a mile deep to see rock this old." *

Steadily the highway climbed toward timber line, past alpine meadows aflame with wild flowers. Bulky mountains of many hues towered on every side. Shimmering cascades dropped thousands of feet from high-altitude snow fields. Beyond the sturdy guard rail chasms yawned an equal distance.

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "Fossils Lift the Veil of Time," by Harry S. Ladd and Roland W. Brown, March, 1956; and "Grand Canyon: Nature's Story of Creation," by Louis Schellbach, May, 1955.



595

Holidaymakers in Beach Garb Play on July's Leftover Snow

Logan Pass's snow lingers into warm midsummer days because of the altitude, 6,664 feet. When August's sun finally clears the ground, flowers cover the Hanging Gardens, reached by trail at center.

This parking area adjoins Going-to-the-Sun Highway (pages 593 and 598). Diagonal fault line on Mount Reynolds gives climbers a ramp to the summit.

Melvin Rader

For miles the Garden Wall, hewed by ancient ice masses lying back-to-back, loomed high above us. The long crest of this Glacier landmark, unbelievably jagged and soaring 9,000 feet in the sky, measures only a few feet across in places (page 591).

Passing a highway maintenance camp, I asked about wire fences thrown about parked trucks. "Porcupines," came the reply. "They love the taste of synthetic rubber tires."

Farther on we were sprayed with water by the Weeping Wall, where the face of a broad rock cut sheds icy tears. At Logan Pass, on the Continental Divide, we joined scores of sightseers stretching their legs.

Mountains in the shapes of matterhorns, pyramids, Mayan temples—even a savage gorilla's head—rise about this wide pass. Masses of wild flowers carpet broad meadows near by, aptly called the Hanging Gardens. Often a family of mountain goats cavorts on a high, sheer slope, watched like star aerialists in a circus by the throng below.

We joined a ranger-naturalist talking to a small group. "More than 600,000 visitors come to Glacier every summer," he was saying, "and more than 98 percent of them by automobile. Mostly they just drive on through, for there's a lot to see out here in the West.

"Fortunately, though, they're not all as hurried as the man who rushed up to me last week. Glancing at his watch, he said, 'This is my third national park today, and I've got just two hours. What can I see?'"

Beyond the pass we met vacationists making snowballs and carving their names in a large snowfield, remnant of Big Drift, which blankets the road 70 feet deep in winter. One man busily filled a pail while his wife took moving pictures.

At Baring Falls we watched the surprising antics of a pair of pert water ouzels. These strange gray birds nest beside waterfalls and mountain torrents and dine in part on underwater insects and larvae. Nothing daunted, they dive into the icy water and walk the stream bed submerged, hunting for food.

WATERTON-GLACIER INTERNATIONAL PEACE PARK

To Banff and Lake Louise

Waterton River

Red Rock Canyon

CONTINENTAL DIVIDE

Mt. Blakiston 9600

Mt. Crandell

Prince of Wales Hotel

Dardanelles

Bosporus

Waterton Park

Bertha Peak

Waterton Lakes

Cameron Lake

Hell Roaring Canyon

Crypt Lake

British Columbia

Alberta

Montana

CANADA

UNITED STATES

Canadian Customs Station

Carway

United States Customs Station

Kintla Lake

Kintla Lake Campground

North Circle Trip
5 to 10-day pack trip

Mt. Cleveland 10448

Belly River

Chief Mountain 9068

St. Mary River

Elizabeth Lake

Stoney Indian Pass 6984

Ptarmigan Tunnel

Kootenai Pass

Rainbow Glacier

Babb

Swiftcurrent Creek

Pinnacle Wall

Iceberg Lake

Lake Sherburne

Many Glacier Hotel

Swiftcurrent Lake

HUDSON BAY DIVIDE

Granite Park Chalet

McDonald Creek

The Garden Wall

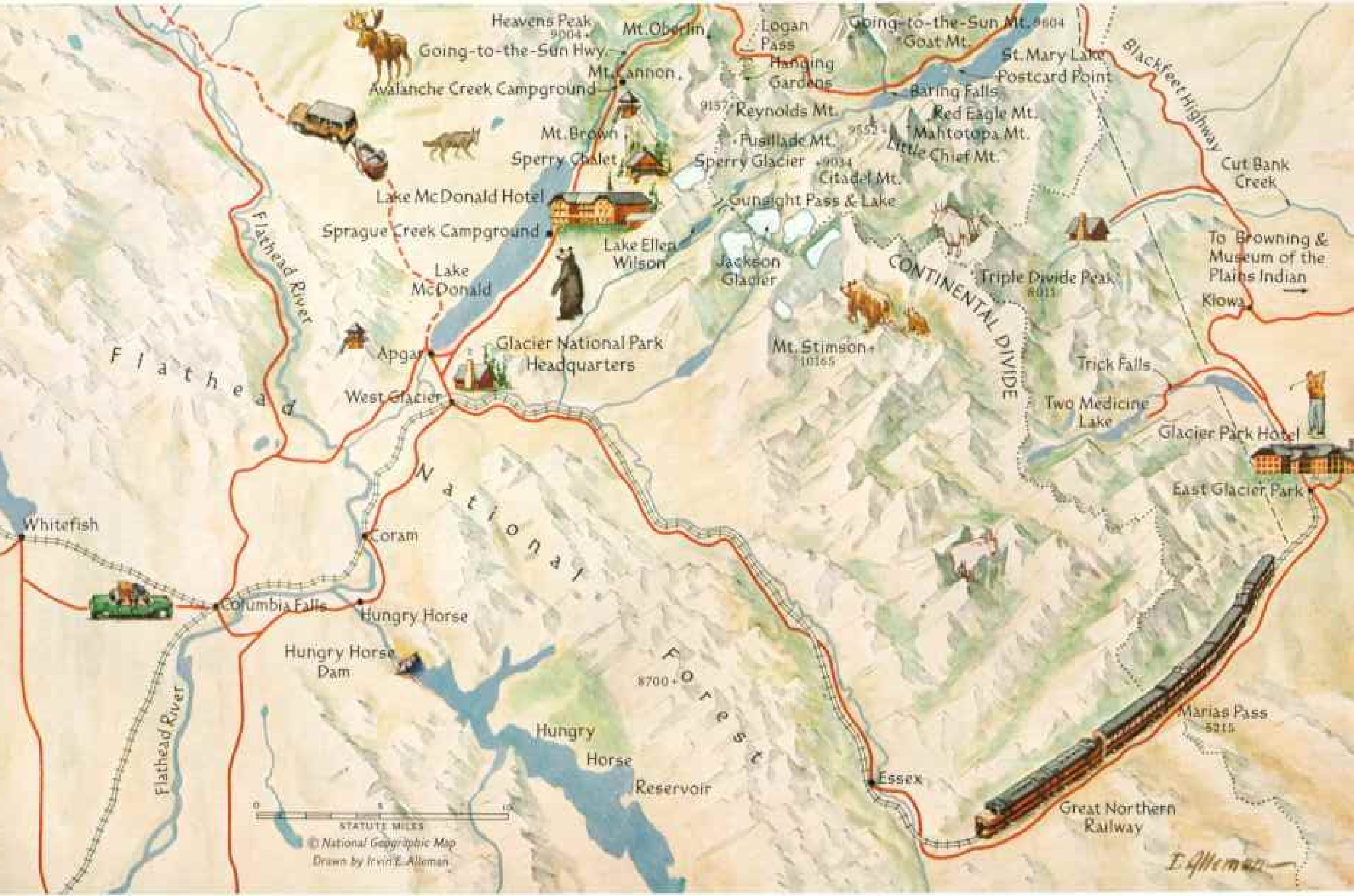
Lake Josephine

Wynn Mountain

Grinnell Lake & Glacier

9851 Mt. Gould

Blackfeet Indian Reservation


Heavens Peak 9004+
Mt. Oberlin
Going-to-the-Sun Hwy.
Logan Pass
Going-to-the-Sun Mt. 9604
Goat Mt.
St. Mary Lake
Blackfeet Highway
Mt. Cannon
Hanging Gardens
Postcard Point
Avalanche Creek Campground
Baring Falls
9157
Reynolds Mt.
Red Eagle Mt.
Mt. Brown
Pusillade Mt.
9552
Mahtotopa Mt.
Sperry Chalet
Sperry Glacier 9034
Little Chief Mt.
Citadel Mt.
Cut Bank Creek
Lake McDonald Hotel
Sunlight Pass & Lake
Sprague Creek Campground
Lake Ellen Wilson
To Browning & Museum of the Plains Indian
Flathead River
Jackson Glacier
CONTINENTAL DIVIDE
Triple Divide Peak 8011
Klowa
Lake McDonald
Mt. Stimson 10165
Apgar
Glacier National Park Headquarters
Trick Falls
Flathead
West Glacier
Two Medicine Lake
Glacier Park Hotel
East Glacier Park
Whitefish
Coram
National Forest
Columbia Falls
Hungry Horse
Hungry Horse Dam
8700+
Marias Pass 5215
Hungry Horse Reservoir
Essex
Great Northern Railway
Flathead River
0 5
STATUTE MILES
© National Geographic Map
Drawn by Irvin E. Alleman

Beneath an overhanging rock huddled two young ouzels, eyeing their busy parents. They looked extremely dubious about the whole procedure.

On the shore of beautiful St. Mary Lake we looked back at lofty Going-to-the-Sun Mountain and the imposing array of near-by peaks (page 620). It was easy to understand why Franklin K. Lane, President Wilson's Secretary of the Interior, wrote in the June, 1920, NATIONAL GEOGRAPHIC that this superb view was "the one thing on the North American Continent that would inspire you most and make you feel most properly humble."

Going-to-the-Sun Mountain gets its curious name from an old legend, perhaps of Blackfeet origin. The story says that in the beginning Napi, Old Man of the Blackfeet, created the rocks and forests, the rivers, mountains, and prairie. He made the animals and birds and fish. Then Napi molded a clay man and woman and gave them the breath of life. And he gave them dominion over all the creatures of the earth.

Job Done, Napi Goes to the Sun

For a long time Napi dwelt among men, teaching them to fashion bows and arrows, tan hides, make shelters, use herbs, and know the magic of sacred objects. When man had learned how to take care of himself, Napi bade farewell to his beloved children. Then he returned to his home, the sun, going by way of this majestic peak.

Near the mountain's summit hangs a field of snow shaped like an Indian's head. Some say it is Napi watching over his chosen people.

On the trip back we stopped for a look at Jackson Glacier, shimmering high on Mount Jackson. It is the only park glacier easily visible from the highway.

Beatty explained that it was once part of Blackfoot Glacier, one of the largest ice masses ever known in the United States Rockies. But Blackfoot shrank and finally broke up into several smaller glaciers.

"In fact," Ed went on, "for awhile we were afraid we'd lose all our glaciers. During the first half of this century several of the biggest completely disappeared, and the others shrank anywhere from 60 to 75 percent.

"But now we've stopped worrying. Some years ago we began measuring representative glaciers every summer. We find that since 1950 they've held their own."

"What's happened?" I asked as he paused.

"Well, during the last 10 years the park's average temperature has dropped several degrees below normal, and the amount of rain and snow has nearly doubled. Glacier seems to act as a sort of advance northern weather station. We think the world may be entering a colder, wetter cycle."

When our drive was finished, my younger daughter said in a disappointed tone, "No bears today."

"They're all up in the hills eating berries," Ed told her. "There's a big crop this year, which certainly solves our bear problem. Sometimes, you know, the critters get too friendly and can injure people without trying. Perhaps you've noticed our roadside jingle: 'Highway bears are often rude. They eat fingers as well as food.'"

Begging bears, frequenting roads and campgrounds, keep park authorities awake nights worrying. When the lumbering animals lose all fear of man, they have to be live-trapped and taken to the park's wild northwest.

Bear stories in Glacier are a dime a dozen; some mix fact and fancy. There is no doubt, however, that the most popular bear in park history was Gertie. Park rangers still sigh whenever her name is mentioned. "What a bear!" they say. "There's never been another like her."

Gertie was a blonde with winning ways. Every summer she took her stand along the highway beneath the Garden Wall, sometimes with a new cub or two. People came from far and near to see her (page 622).

One year Gertie became too friendly with her admirers—even bold—and was trapped and taken for a 60-mile ride. A few weeks later she was back at her favorite stand, begging as irresistibly as ever!

Lookout Trail a "Dude-killer"

The day soon arrived when we could no longer refrain from lacing on leather boots and hitting the trails. For awhile, though, we still favored the shorter hikes—under 10 miles a day—and contented ourselves with brief climbs to hidden lakes, with picnics in flower-strewn alpine meadows.

Far above the hotel at evening I had noticed an unblinking light, like a misplaced and stationary star. Mount Brown fire lookout, I was told. I wanted to get up there, meet whoever ran the place, and look around, so I arranged to ride along with the lookout

599 Conrad L. Wirth, Director, National Park Service

Groceries Coming Down! A Plane Parachutes Milk and Eggs to Granite Park Chalet

Once a week last summer, a pilot dropped 40-pound packs of food near the isolated inn (page 606). Air-drop supply proved cheaper than muleback. Once, when a chute ripped, milk and eggs were scrambled all over the field. White circle marks a chute on the ground.

inspector on his next trip to the mountaintop.

Miss Kathleen Revis, NATIONAL GEOGRAPHIC photographer, went along to take pictures of a herd of mountain goats reported near the lookout. A veteran hiker and camper, she had already been in the park more than a month. Her tirelessness on the trails surprised even the park rangers.*

The lookout trail, with 33 switchbacks, climbs 3,500 feet in four steep miles. Up this zigzag path mules haul the watchers' food, water, and supplies.

When I mentioned our plans to Jay Lytle, a 76-year-old wrangler with several decades of experience in the park, he shook his head.

"Son," he said with a chuckle, "that's one trail I'd just as soon forget. It's a horse-killer on the way up and a dude-killer on the way down."

Not reassuring, but Jay, I found, had stretched the truth a mite, which is any wrangler's privilege.

Mountain Goats Romp at Close Range

On top we looked out in every direction on a sea of peaks, many of them snow capped. By the tower we watched a score of mountain goats frolic at close range. Lured by salt, they romped about for more than an hour.

The animals were molting, leaving hair in patches everywhere. The leader, a dignified billy, had finished the job and stomped about in a shiny new white coat. One young nanny kept watch on frisky twin kids.

Married couples, mostly college students,

* See: in the NATIONAL GEOGRAPHIC MAGAZINE, "Colorado by Car and Campfire," by Kathleen Revis, August, 1954.

man the lookout towers. The husband is on duty five days a week, his wife the other two. Jack and Nyla Hobbs, of Chanute, Kansas, were the Mount Brown team. They lived in the one-room tower; their four picture windows looked out on some of the most superb views found anywhere.

"Frisky creatures," I said, nodding at the goats.

"Especially at night," Nyla replied. "At first they kept us awake for hours, racing up and down the steps and butting their heads against the tower."

When I asked whether she and Jack ever felt lonesome, she smiled. "We've been married only a short time. Besides, we average a visitor a day, and if we get desperate, we can chat with the other towers by short wave."

Air Patrol Replacing Watchers

Later, fire chief Stanley Spurgeon told me that the patrol plane is gradually replacing most of the park's watchtowers. "In a few hours it can cover all our 1,583 square miles," he said, "and fly into hidden valleys no lookout can see."

"Glacier used to be known as a fire park," he went on. "In the 1920's, an average of 7,500 acres burned every year. Now the figure is only 1¼.

"Fire-fighting techniques are better now. For instance, if a fire starts in a remote valley, we can call on 150 Forest Service smoke jumpers in Missoula. By plane and parachute they can reach the fire in no time; otherwise it might take a day or more by horses.

"But we can't take all the credit. There's been more rain in recent years. And thanks to Smokey—the bear on the Government's anti-forest-fire posters—people are much more careful with fire. We used to average 15 man-caused fires a year. Now we have about three, though travel in the park has jumped almost 1,000 percent since the late 1920's.

Page 600

← Pinnacle Wall Vaults a Sheer 3,000 Feet Above Iceberg Lake

Covering less than a square mile, the lake sits in a basin dug by the glacier that carved the overhanging cliff. At this altitude, 6,000 feet, it remains frozen until July. Here in August, floating snow islands still star the surface. Shaded by the mountain wall, some survive the entire summer.

Hikers approach a ridge of rocks deposited by melting lake ice.

George W. Long, National Geographic Staff

Mount Brown was my first saddle trip in the park; that evening I sought out the softest seat in the hotel lobby. I could enjoy with new feeling a quip attributed to Irvin Cobb, who used to frequent the park. "Humph," snorted the humorist after a horseback trip, "call that thing a saddle? It's a chafing dish!"

"See you made it, son." The old wrangler dropped into the next chair. In a reminiscent mood, he began talking about "the old days" when there were almost no roads in Glacier.

"Forty-odd years ago Louis W. Hill, president of Great Northern, started buildin' hotels out here in the wilderness," Jay told me. "Gambled $2,000,000 on the venture. Built chalets and camps a day's ride apart on some of the trails. He spread the words 'See America First' and started haulin' dudes to Glacier.

"Dudes in them days had to like roughin' it, though, if they wanted to see the park. We used to take them on three main trips—North Circle, South Circle, and Inside Trail, five days each. Longer trips, too, if they wanted 'em.

"Women rode sidesaddle mostly, wore long skirts and big, floppy hats. Men dressed like Teddy Roosevelt's Rough Riders. Used to be more than 1,200 saddle horses in the park. What a sight to see two, three hundred riders joggin' along the Garden Wall Trail."

More Visitors but Briefer Visits

The automobile changed all that. Now vacationing America packs the car and sets off to see all it can in a few weeks. More than 30 times as many people now come to Glacier, though their stay there is generally much briefer.

In the "old days" Great Northern trains carried about 50 percent of Glacier's visitors. Today they bring only one percent. So much greater is the total, however, that about the same number still arrive by rail.

These sightseers often get off at East Glacier Park or West Glacier, make a swing through the park by the Transport Company's red buses, and come out the other side in from one to five days. Such jaunts are often part of more extended tours through the West.

Every morning mountains of luggage filled our hotel lobby. Departing vacationists bought last-minute souvenirs, hunted stray offspring, or addressed postcards. Bellboys staggered under bags or paged the missing.

Snow Peaks Hang Upside Down in St. Mary Lake

A mighty glacier served as jeweler and dug out the bed for this sparkling blue gem. It sits in a spectacular mounting of lofty peaks, among them Little Chief (far left), fortresslike Citadel, snowy Fusillade, and Goat Mountain (far right).

This famous view introduces the park to many visitors who enter it from the east. The sightseers pause at an overlook, often called Postcard Point, beside Going-to-the-Sun Highway.

Indians, seeing St. Mary often ruffled, believed that the Wind Maker, their underwater god, spoke to them from his home in the depths. Here the camera captures a vision of the water in a moment of rare calm.

Longest among the park's 200 lakes, St. Mary stretches 10 miles and attains a depth of 400 feet. For years a pair of wild geese nested on the tiny island seen at the center.

Campers Serve Tea on Lake McDonald →

These Canadians, tenting on Sprague Creek campground, dine in air so clear that miles seem like quarter-miles. They swim in water so transparent that objects show up at a depth of more than 70 feet. The whisper of pines lulls them to sleep.

Wildlife abounds in this heavily wooded area. Some bears, hunting for food, haunt the summer campgrounds. Moose sometimes swim the lake.

←Page 602, lower: McDonald, Glacier's largest water, appears to be a blue well sunk in a green forest. To the Kutenai Indians it was the Sacred Dancing Lake. On its shores each summer they staged dramatic ceremonials to influence Nature.

A fallen cottonwood makes a diving platform for these boys.

Tour leaders shepherded charges to the buses lined up outside.

By 8:30 the last bus had flashed from view. Hotel employees took a deep breath and girded for the afternoon's flood of new arrivals. With such a daily turnover, we soon felt like old-timers wherever we stayed.

One day we drove with ranger Harold Estey to remote Kintla Lake in the park's far northwest corner. The dirt road on which we jounced was Glacier's first, pushed through when oil fever gripped the region. It hasn't been improved much since.

Park authorities have purposely kept this area north of Lake McDonald and west of the Continental Divide an almost virgin wilderness. Half a dozen big lakes lure fishermen, while frontier conditions test the mettle of the hardier campers and hikers.

We drove through giant pine forests, skirted lush meadows, and gazed on snow-crowned peaks. A dozen cars of returning campers inched past us; every one towed or carried a small boat. Occasionally we passed lone cabins, for here, as in McDonald Valley, there are private holdings handed down from homestead grants made before 1910.

Moose Battles Bulldozer

Ranger Estey regaled us with tales of winter ski patrols here, when the snow drifts 30 feet deep in places and the temperature drops to 20° below. The 80-mile trip from headquarters to Kintla Lake and back takes two weeks.

"Great country for game," he said. "A regular zoo. We see big herds of deer, elk, moose—even wolf packs and mountain lions.

"Have you heard about the moose that battled a bulldozer on this road? Thought it was a rival, I guess. Anyway, he shook his antlers, pawed the ground, and charged head-on into the 'dozer at full speed. Not once but three times. Finally he staggered off. That driver sure was glad to see him go."

At Kintla Lake Campground we found a busy but relaxed scene. Women were cooking noon meals over open fires; mouth-watering odors were everywhere. Laundry flapped like flags on improvised lines. Men chopped wood, carried water, or unlimbered fishing tackle, while children romped in the woods. One camper strummed a guitar.

"Surprising number of people get up here," the local ranger said. "We logged 2,000 camper-days last month."

Ground Squirrels on Judy Long's Lap ➔ Store Peanuts in Cheek Pouches

Page 605: Heavy claws on the forefoot of Columbian ground squirrels serve as digging tools in building underground homes. Chirping calls warn the family in time of danger. Reddish-brown markings about the head inspired the Indian name, red-nose. Food is consumed all summer long to accumulate fat for seven or eight months' dormancy.

"Just sit down with a bag of peanuts," says the author's daughter, "and you have guests."

George W. Long, National Geographic Staff

Even more surprising is the total number of campers who come to Glacier. Last year they added up to 152,380, more than the entire number of visitors in any single year before 1936. They arrive by trailer, converted trucks, jalopies, and high-priced cars, with equipment to match.

In general, campers stay much longer than other visitors, and many return year after year. Temporarily, theirs is a gypsy life. They fish the streams, hike the trails, and move on when they feel the urge (page 603).

After our Kintla trip we made a habit of visiting campgrounds frequently. In one we unexpectedly discovered old square-dance friends from home. After that we'd drop in any time—for a cup of tea, a campfire program, or to make plans for a hike.

We liked the campgrounds' easy, welcome-stranger atmosphere. There we felt the neighborliness of early America, the spirit that prompts new-found friends to share dinner dishes and look after one another's children. Life, too, is reduced to bare essentials, and time loses much of its importance.

One camper last summer arrived leading a fat burro named Uranium. The animal pulled a small covered wagon built on the chassis of a garden cultivator.

When people asked the trim, gray-haired lady, who called herself Grandma Walker, what her plans were, she smiled and said,

(Continued on page 613)

Hoary Marmot Abandons Caution ➔ to Accept a Friendly Handout

To survive, this cousin of the woodchuck has to practice eternal vigilance. Unable to outrun natural enemies—bear, coyote, and golden eagle—the marmot family posts a lookout. A sharp whistle by the sentry sends his fellows scurrying to safety.

Strong, curved claws enable this individual to scale steep slopes. Yellowish-brown coat changes to light gray in winter and spring; hence the name, hoary. A lighter ring circles the nose.

The Gabled Roof of the Continent. Clouds Swirl Around Granite Park Chalet . . .

No roads reach the isolated, 6,300-foot-high chalet. Supplies are dropped by parachute from a small plane (page 599) or carried up steep, tortuous trails by mule back. Molten rock laid down on the bed of a vanished sea formed this shelf on the Garden Wall. Early prospectors, mistaking the outcrop for granite, gave the area its name. Hardy glacier lilies in foreground (and inset) chase receding snows up to the very crests of the mountains.

607

. . . and Drift Across the Flank of Heavens Peak

The chalet shelters hikers coming off Garden Wall Trail (pages 593 and 613). So many inquisitive grizzly bears call that low windows carry spiked wooden shields to restrain them. On the flank of snow-streaked Heavens Peak a disastrous forest fire started in 1936.

↑ A Snow Ridge Spans Sperry Glacier, Largest in the Park

During the Ice Age huge glaciers moved down the mountain slopes onto the Great Plains. Like a foraging army, the ice plucked out everything that stood in its way. As centuries passed, forests disappeared; boulders tumbled from their sockets; entire mountainsides joined the creeping avalanches.

Moving with the icy tide, broken rocks sculptured fantastic tableaux. They reduced some mountains to thin, serrated walls (page 614). Other peaks held massive heads above emaciated bodies. Valleys once as sharp as V's opened like vast amphitheaters (page 612).

Compared to Ice Age predecessors, the 60-odd living glaciers in the park today are pygmies. Sperry Glacier (opposite) covers about 300 acres and attains an estimated maximum thickness of 300 feet. In this deceptive view it stretches a mile wide. Toes at the foot (left) peter out to knife edges.

←A Sperry-bound party climbs stairs blasted from the rock.

➔Hikers tramp a July snow field in sight of Mount Cannon.

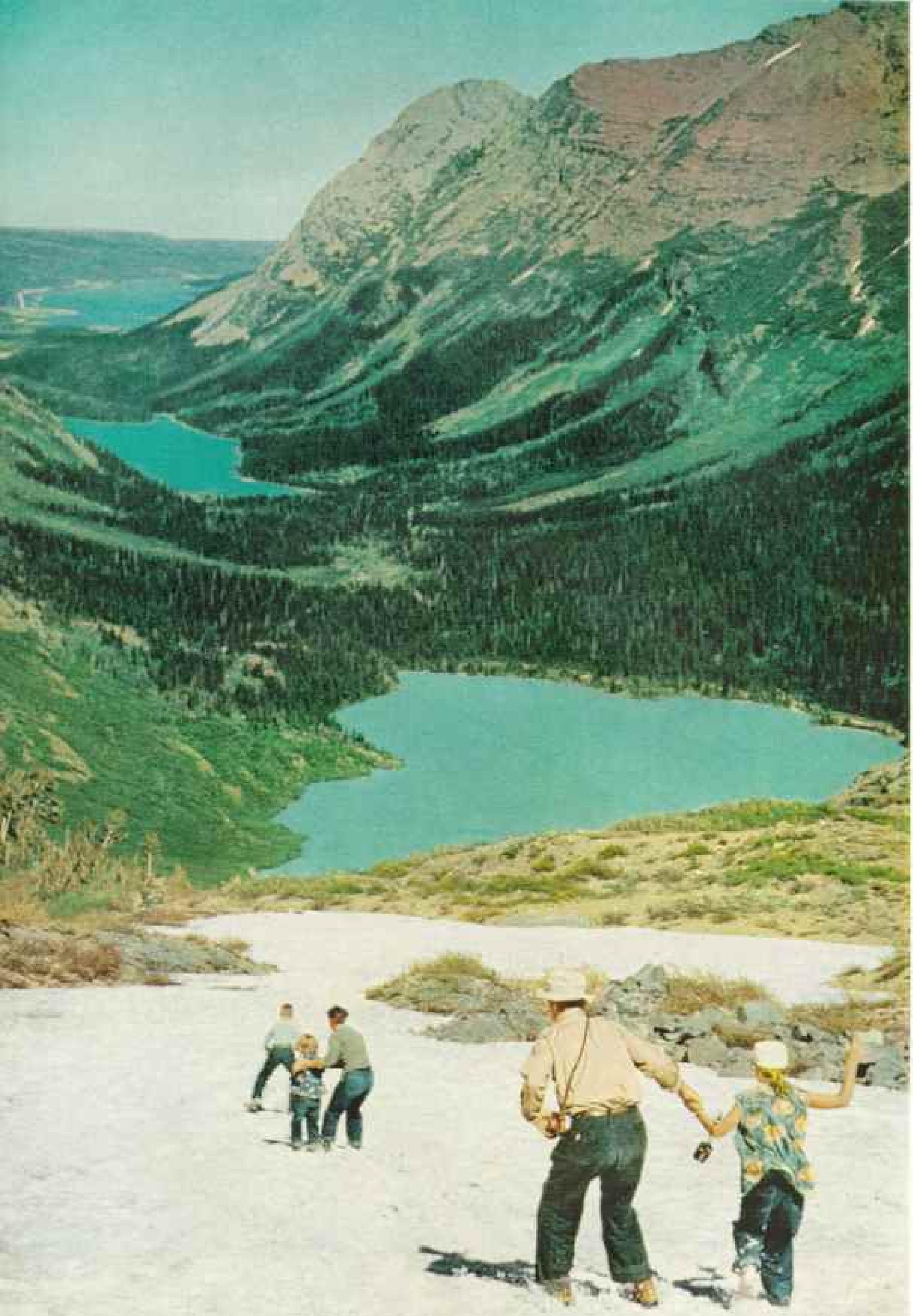
A Rope on Grinnell Glacier Holds Boy Scouts Back from a Crevasse's Icy Jaws

A glacier moves over an uneven bedrock. Resulting stresses cause huge cracks to open. This yawning fissure may plunge 50 feet or more. Any snow cover makes it a deadly pitfall.

611

Rocks on the Face of the Ice Show This Frigid Tide Is Alive and Moving

Creeping about 35 feet a year, Grinnell's head undermines rocks, which roll down on top of the ice. Stones that fall into crevasses or ride on the glacier's bottom act as a massive rasp.



"A hiking vacation in Glacier—something I've always wanted to do."

Grandma parked the miniature prairie schooner, hoisted packsacks on Uranium, and took to the trails. Occasionally stopping to paint a picture, she slept wherever night overtook her (page 625).

One day Miss Revis, hiking with a small group, met Grandma and her burro on a steep trail. Grandma was in trouble. Uranium, braying loudly, refused to cross a waterfall where it cascaded over the trail. No amount of coaxing would budge that stubborn beast.

At last, Grandma pulling and the others shoving, shouting, or waving their arms, the burro gave in. With a bound it sprang across the brook and ended up pulling Grandma down the trail!

Atop the Garden Wall

One morning I joined a group on chilly Logan Pass for a hike along the Garden Wall. The trail, strung above timber line between Going-to-the-Sun Highway and the Wall's jagged top, rates as one of Glacier's most spectacular (page 593).

A mile or so from Granite Park Chalet, our destination, the ranger-naturalist pointed to a faint path angling steeply upward.

"In several summers here I've never climbed the Garden Wall," he said. "It's a real stiff climb—1,500 feet up in only nine-tenths of a mile—but I hear the view up there is terrific. Any volunteers?"

To my surprise, 16 out of 24 did volunteer. We started up, while the others pushed on toward the chalet. The first hundred yards were the hardest. My knees rebelled, then thought better of it. Loose shale and a rollicking, gusty wind made footing difficult.

Above us and within easy sight moved a magnificent Rocky Mountain bighorn ram. Curious to know who dared invade his highland realm, he kept pace with us almost to trail's end. We marveled at his effortless motion as he leaped from rock to rock.

Finally we reached the top and looked over the Garden Wall. Before us stretched the park's fabulous Many Glacier region. Off to our right, sparkling Grinnell Glacier lay in a vast rocky cradle of its own making. Huge snow fields were draped on high slopes like colossal sheets put out to dry. Ahead, down Swiftcurrent Valley, four lakes lay like scattered bits of jade. Everywhere bizarre peaks stabbed the sky; in the distance we could make out the prairies, faint and flat. It was a full minute before anyone could speak.

Down at the chalet later (page 606), we refreshed ourselves with steaming coffee and fresh melt-in-the-mouth pastries.

"All our supplies are parachuted in by small plane," the woman in charge told me. "It's cheaper than muleback. Only one accident so far, when a 'chute ripped. Then we really had scrambled eggs!"

Thirty-two Miles—Nothing, Really!

With apologies to Sir Edmund Hillary and other famous mountaineers who have written in the National Geographic, I must confess to a feeling of conquest when I reached the hotel that evening. I had hiked 16 miles since morning, climbed more than 2,000 feet, and stood atop the Garden Wall!

I came to earth with something of a bump when I overheard two waitresses, college girls, talking while serving dinner.

"How was your day off yesterday?" one asked the other.

"Oh, wonderful. Hiked to Canada. Thirty-two miles—up over Stoney Indian Pass to Waterton. Simply marvelous."

Getting back into condition, I began to revel in our almost daily hikes. I liked the quick friendships, the easy banter, the excitement of discovering many times a day what lay beyond the next ridge. I relished the picnic lunches on high, windy passes or in meadows deep with flowers, and the draughts of clear, ice-cold water drunk prone from a rushing mountain stream.

On the high trails there is a curious sense of being in the world yet walled off from its turmoil. Life's pace is scaled down to a placid two miles an hour. Night brings a delicious feeling of fatigue; restful sleep

---

Page 612

←Grinnell Lake Owes Its Turquoise Hue to a Diet of Glacier Milk

Eternally grinding, Grinnell Glacier crushes limestone and shale to a powder. Mixed with melted ice, the rock flour drains into Grinnell Lake. Suspended in the water, it reflects and scatters sunlight. Josephine, the middle lake, receives some of the finest sediment, but man-made Lake Sherburne (beyond) escapes coloring.

These lakes sit on various levels of a glacial stairway. They and others of their kind are called paternoster lakes because of a fancied resemblance to the beads on a rosary.

Vacationers here play at the foot of Grinnell Glacier.

↑ A Pack Train on the North Circle Trail Swings Past the Forbidding Heights of Pinnacle Wall

↓ An Alpine Meadow at Kootenai Pass Glows with Arnica and Red Monkey Flowers

comes quickly and is deep and untroubled.

Moving to Many Glacier (page 591), we explored the region of rugged beauty I had looked down upon from the Garden Wall. Here, by Swiftcurrent Lake, several ancient glaciers met, joined forces, and bulldozed their way to the plains. The valleys they scoured reach into this mountain land like the imprint of a colossal hand. Trails follow every finger-valley; some are strenuous, some easy. All are unbelievably beautiful.

One name you hear more than any other in this part of the park is Grinnell. It labels a glacier, mountain, waterfall, point, lake, and the reddish argillite rock that colors so many of the park's formations.

National Geographic Helped Create Park

And little wonder. George Bird Grinnell—explorer, naturalist, editor, and author—roamed this region in the 1880's and '90's, when it was a little-known frontier, and discovered the glacier that bears his name. A tireless fighter for conservation, he drew wide attention to Glacier and urged vigorously that it be made a national park.

So, too, did the National Geographic Society. At the very time that the 61st Congress was considering the Glacier Park bill, The Society's magazine published an article vividly describing the mountain fastness on the Continental Divide and urging that it be made a national playground. Two years later a general article on our national parks formally introduced members to this "newest of the Nation's pleasure grounds."*

One bright morning we headed for Grinnell Glacier with some 50 hikers, shepherded by a ranger. Ages varied from 6 to 60; clothes and footwear ranged from well-worn hiking garb to everyday travel attire. Some of the women sported open-toed shoes and carried plastic overshoes.

The trail, etched on the steep flank of Mount Grinnell, climbed steadily. It soon separated hikers from walkers, but by noon even the last straggler stood at glacier level. Above us reared the Garden Wall; I could point out the place on its top where I had stood and looked down on the glacier.

This huge ice lake covers about 35 city blocks and measures 400 feet deep in places. Slowly, relentlessly it grinds forward; as the front melts, it feeds a sparkling waterfall that drops to the valley far below.

At glacier's edge the ranger tied a long rope around his waist and told everyone to grab hold. Then he delivered a stern lecture on the importance of not letting go.

On an earlier trip Miss Revis had asked the guide how much danger was involved in taking groups on the ice.

"Really very little," came the answer, "as long as people watch their step. Not everyone will, of course, so the rope keeps them together.

"Imagine what it would be like with 50 or 60 people scrambling all over the glacier. Somebody would fall into a crevasse before you could say '*Gletschermilch*.'

"Besides," he added, "the rope makes the trip more exciting, and I feel like a Swiss mountain guide."

Like a monster snake we shuffled over the glacier, the ranger probing ahead for soft spots with an ice ax. We skirted deep crevasses, peered into yawning holes, and explored caves of blue-white ice. Beneath us rumbled hidden streams; rocks dropped into chasms clattered out of earshot (page 610).

Park Named for Ice Age Glaciers

"Pull up a soft rock and have a seat," our guide said when the tour ended. While we rested, he talked.

"Glacier Park doesn't get its name from the 60-odd masses of ice here now," he said, "but because huge Ice Age glaciers carved its rugged scenery. More than half a mile deep, they covered all but the highest peaks—like the Greenland Icecap today. Grinding and tearing, they bulldozed the wide U-shaped valleys you see, gouged out the rocky amphitheaters, and sculptured the mountains. They scooped out the lake bottoms, dammed streams, and sliced some mountains thin—like the Garden Wall up there.

"Much later, another and less severe cold age started our present glaciers. They're only ice cubes compared to their predecessors. Grinnell, here, is our second largest—next to Sperry across the Divide.

"Incidentally, more than 100 feet of snow falls here each year. A lot of it blows down from the Garden Wall."

One entrancing scene near Many Glacier I will long remember, especially on torrid summer days. We sat on the edge of Iceberg Lake, a turquoise-colored tarn nestled high in

*See, in the NATIONAL GEOGRAPHIC MAGAZINE, "A New National Park," by Guy Elliott Mitchell, March, 1910; and "Our National Parks," by L. F. Schmeckebier, June, 1912.

"Blackie" Leads a Trail Party Along Ptarmigan Wall. Iron Oxide Stripes the Cliff

the mountains. Vast snow fields, piled against rock walls that towered an unbelievable 5,000 feet, covered its farther shores. One white mass looked like a rampant ghost, arms spread wide. Huge cakes of snow circled lazily in the lake, and I half expected a polar bear to break the surface (page 600).

These frigid waters spawned a story that raised scientists' eyebrows and astonished the Nation some 40 years ago. A press agent announced one day that a fur-bearing trout had been caught in Iceberg Lake. What was more, he had pictures to prove it. Newspapers from coast to coast featured the story.

Finally the bubble burst when it was discovered that a local taxidermist had glued the pelt of a squirrel to a trout. To this day, thousands of Glacier visitors buy postcards showing the man-made freak.

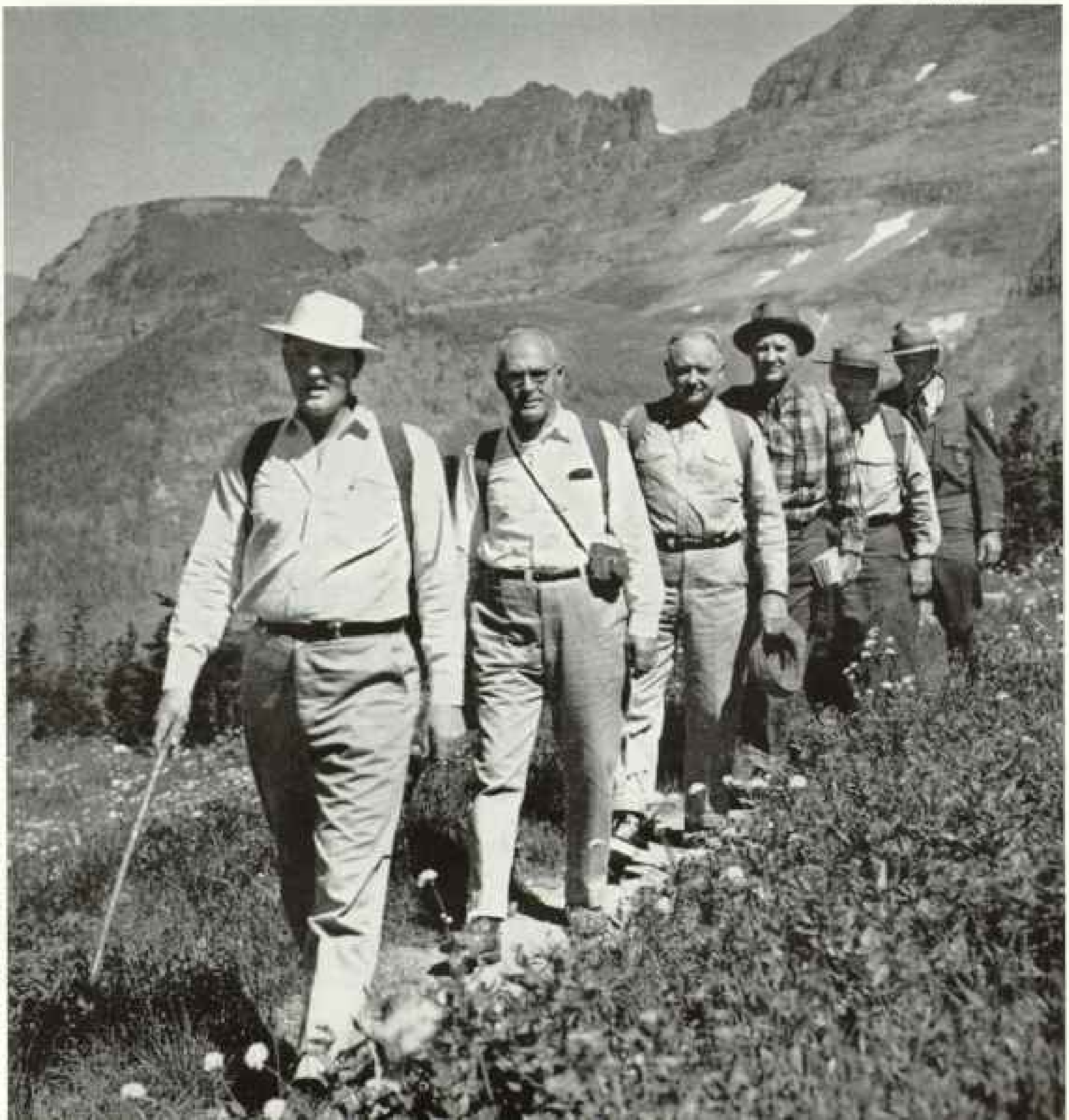
High on many a steep slope we discovered strange tunnels. Slag heaps and rusty equipment identified them as shafts left from old-time mining booms.

Prospectors, lured by the mountains' yel-

Glacier Rolls Out Her Floral Carpet for Visitors and Park Officials

U. S. Senator Harry F. Byrd, who for 23 years has represented Virginia with distinction in the upper House of Congress, hikes here third in line during a tour last August. His son Richard and Blackburn Moore, Speaker of the Virginia House, break trail. National Park Service Director Conrad L. Wirth, Park Superintendent John W. Emmert, and Chief Ranger Elmer N. Fladmark close file. The Garden Wall looms behind.

M. R. Harrington



619

Moose and Calf Graze an Aquatic Pasture Near the North Fork of the Flathead

In summer the park's 130 moose find their favorite food in water. Fearing this cow might charge to protect her calf, photographer Kathleen Revis kept under cover. She stalked them for an hour.

low, red, and greenish tints, probed all over the region in the early 1890's. Tales of rich strikes circulated wildly, and excitement rose to fever pitch. One obstacle, however, barred the way: the land belonged to the Blackfeet. Their near-by reservation ran west to the Continental Divide.

The Great White Father offered his adopted children $1,500,000 for their mountains. Finally they accepted, and on September 26, 1895, a large majority of the Blackfeet braves signed a treaty deeding the land to the United States Government.

Blackie, the bearded wrangler at Many Glacier Hotel, told me about the region's boom days. "When U. S. soldiers let the bars down," he said, "there was the durndest scramble. Crowds of miners rushed in and staked out claims.

"Why, a boom town, Altyn, sprang up right near Swiftcurrent Lake here, complete with post office, stores, dance halls, two-story hotel, and seven, mind you, seven saloons.

"For several years the miners' hopes ran high, but they never did pan out. Not a single stick or stone of Altyn remains today.

"Just as well, I guess. Like as not there'd be no park if minerals had been discovered."

Later I visited the National Archives in Washington, D. C., and found the Blackfeet

← Going-to-the-Sun Mountain, Looming Above Logan Pass, Calls to Mind a Legend

A myth, perhaps of Blackfeet origin, relates how Napi, the Old Man, taught the Indians the arts of hunting and agriculture.

His mission ended, Napi set out for his home in the sun. Climbing a noble mountain, he disappeared amid swirling snows and lightning flashes. When the sun burst forth, the Indians saw high on the mountain the chief's profile engraved in rock and filled with snow.

Today the legend is perpetuated by the name of this 9,604-foot peak (left) and by Going-to-the-Sun Highway. Visitors may still see Napi's snowy face on the far side of the mountain.

A hike above the parking area at the pass brought the photographer to this alpine valley overlooking distant Red Eagle, Mahtotopa, and Little Chief Mountains. Kathleen Revis set her camera for a delayed exposure and stepped into the picture.

↓ Alpine Flowers Spring Up in the Wake of Snow

Hundreds of species of wildflowers adorn glacierland through the short summer. Especially brilliant are the Hanging Gardens, the blazing meadows above Logan Pass. There, among many others, may be seen the yellow of sulphur flowers (extreme left), the blue of gentians, and the red of monkey flowers.

The sulphur flowers grow in red argillite. This rock's wavy surface was formed more than half a billion years ago, when wind-whipped ripples hardened in the mud of a shallow sea that covered much of what is now western North America.

Kodachrome (bottom right) by Bob Viesenga

622 Melvin Rader

Gertie, Wearing the Innocent Air of a Teddy Bear, Sits on the Road and Begs a Handout

Glacier has 400 bears, but only a dozen solicit food along the highway. Park people call them "bum" bears.

Despite warnings of danger, many visitors could not resist the pleading of this blonde black bear. When two motorists took her picture without payment in food, she thrust a paw through a car window and scratched them. Rangers thereupon trapped Gertie and turned her loose in a remote area. Three weeks and 60 miles later, she was back at her old stand on Going-to-the-Sun Highway. Here Gertie sits erect—her most rewarding trick—while her cubs sniff out tidbits. Not long ago she disappeared, but an heir is reported carrying on the family trade (page 599).

Treaty of 1895. Its time-yellowed pages contain the signatures of 306 Blackfeet and three U. S. Commissioners, one of whom was George Bird Grinnell.

Two hundred and eleven Blackfeet made an X beside their names—names like White Calf, Curley Bear, Tail Feathers Coming over the Hill, Got Badly Married, and Everybody Talks about Him. Others signed in fine Spencerian script. Mostly mixed bloods, they bore French and English surnames like Choquette, Vielle, Smith, Brown, and Grant.

Blackfeet Reservation Borders Glacier

Some 3,500 Blackfeet still live on their reservation, nearly as big as Delaware, which abuts Glacier along its eastern limits. To get from one part of the park to almost any other, motorists must drive part way on the Blackfeet Highway.

This spectacular route runs north and south where plains and mountains meet. Gently hilly, it offers sweeping panoramas of the prairies on one hand and on the other close-up views of the Rockies' towering wall.

Our daughters had been looking forward to visiting Canada, to crossing the "frontier" and entering a "foreign" country. Finally we swung aboard a panting red bus full of vacationists and headed for Waterton.

As we bowled along the Blackfeet Highway, the driver, a medical student, explained why the Rockies' east front rises so abruptly.

"Millions of years ago," he said, "the earth's crust buckled and these mountains were born. Later the whole mass was lifted and shoved out over the prairies some 15 miles. That's why there are no foothills here."

Standing alone before the main mass of peaks looms the tawny 9,066-foot bulk of Chief Mountain. A landmark known all over the Northwest, the Chief looks like a warrior leading his hosts into battle.

Sapphire Lake Gleams in Canadian Park

As our bus approached the Canadian-United States border, we noticed that the customhouse of each nation flew the flags of both, reminding visitors that Waterton-Glacier is an international park symbolizing good will between good neighbors.

The heart of the Canadian park lies in Waterton Lake, a gleaming sapphire set among rugged mountains. Both countries share this jewel, for the international border cuts it in two (page 630).

At the Canadian end the Prince of Wales Hotel crowns a high, bald bluff. Dwarfed by the near-by mountains, the chalet-type building looks from any distance like a Hänsel-and-Gretel cottage (page 633). Its huge lobby window, looking the length of the seven-mile lake, commands one of the West's most dramatic views.

I liked to watch the effect this sight had on arriving visitors. Almost to a person, they would stop in their tracks, then walk slowly to the window and gaze in silence until a whispered exclamation broke the spell.

Then camera fans would quickly set up tripods and begin shooting. Rushing outdoors, they would continue operations on the bluff. For the time being, baggage and such formalities as registering were forgotten.

Like most of the sightseers, we cruised the lake on the good ship *International*—an eye-filling voyage. After leaving Waterton Park village, we saw no sign of life until we reached the border. There a clearing crew labored to keep the 49th parallel free of trees. At lake's end we had a few minutes shore leave on United States territory and took aboard four young hikers from Many Glacier, 32 rugged trail miles away.

Waterton Shops Offer British Wares

Docking, we browsed about the town. Shops featured British china and tweeds, Hudson's Bay blankets, Scottish woolens, tartan curling tams and scarves, cashmere sweaters, and boxes of English toffee. So near the border, it made no difference which country's money shoppers offered. With such goods on display, and a wife and two daughters in tow, I found either kind disappeared like magic.

On the main street we found a cairn to John George Brown, "frontiersman, pioneer, gentleman"—and Waterton's first settler. The career of this dashing adventurer, we learned, spanned four continents. His varied roles in life included those of English courtier, Indian Army officer, forty-niner, pony-express rider, cowpuncher, trader, trapper, and guide.

I saw a government report Brown made in 1913 as Waterton's acting superintendent. Park visitors, it noted, showed a big increase, "in spite of much rain and competition from the Calgary Stampede." The total that year reached 1,794, of whom 190 came from the United States. Today, Waterton plays host to more than 200,000 visitors a year, nearly one-third from south of the border.

↑ Hikers Take a Breather High Above Elizabeth Lake

In summer, college students working in the park's hotels look forward six days a week to hiking and climbing on their one day off. Clad in everything from boots and dungarees to sneakers, shorts, and swim suits, they often cover tremendous distances.

Helen Louise Simpson (left), Fiona Kennedy, and Bob Granner, employees of the Many Glacier Hotel, follow a trail out of the wild Belly River country. Early in the morning they hitchhiked to the park border. Here they return by way of the North Circle Trail (page 614).

Distant Elizabeth Lake rewards those who are willing to ride or walk. Only 70 miles of paved highway scar the wilderness, and none heads this way.

←Youthful Angler Tests His Luck in Lake McDonald

Glacier's swirling streams provide enchantment for sightseers but disappointment for fishermen: the crystal flow from snow fields and glacial lakes often is too cold to support the organisms on which fish feed. Frequent cascades make angling no easier. However, some of the lakes offer considerable sport, especially those reached only by trails.

More than 20 species of fish, including grayling, whitefish, northern pike, and five kinds of trout, make the park their home.

Many of Waterton's beauty spots can be reached by car—places like Red Rock Canyon, a fantastically eroded gorge, and beautiful Cameron Lake. Beside this sparkling tarn winter and summer meet in mid-July; while skiers glide on a snow field draped on its rocky amphitheater, swimmers sun on its beaches.

Shaggy buffalo, descendants of the beasts that once darkened the plains with their vast numbers, turned their massive heads as we drove past on the near-by prairie. Skirting a pond, we surprised a bear cub bathing. Sitting waist deep, he was blissfully scooping up water and pouring it over his head.

A Ride to Crypt Lake

To sample Waterton's trails, we rode horseback to secluded Crypt Lake high in a hanging valley on the international border (pages 632-634). Far above timberline we climbed by switchbacks, some so steep and rocky we had to lead the horses. Before we reached our goal, the trail narrowed to a ledge cut from sheer rock. After crawling through a tunnel, we came to a yawning cavern. From it, as from a giant's mouth, spewed crystal water from the still hidden lake. Near by it plunged thousands of feet to the valley floor.

Beside the lake, encircled by towering rock walls, we relaxed and ate lunch. No creature stirred; no sound broke the solitude. All around us the region's highest peaks brushed the sky. Snow fields, feeding the lake, clung to shadowed niches. Seemingly this remote and wildly beautiful spot had never known the presence of man.

Next day we recrossed the international border and drove to East Glacier Park. Here streamlined trains roll in and disgorge city-dressed visitors by the hundreds. Dungaree-clad cowboys, hikers in shorts, and Indians in full regalia meet the sleek iron horses and welcome the newcomers (page 590). How the youngsters' eyes pop when they see the feathered war bonnets!

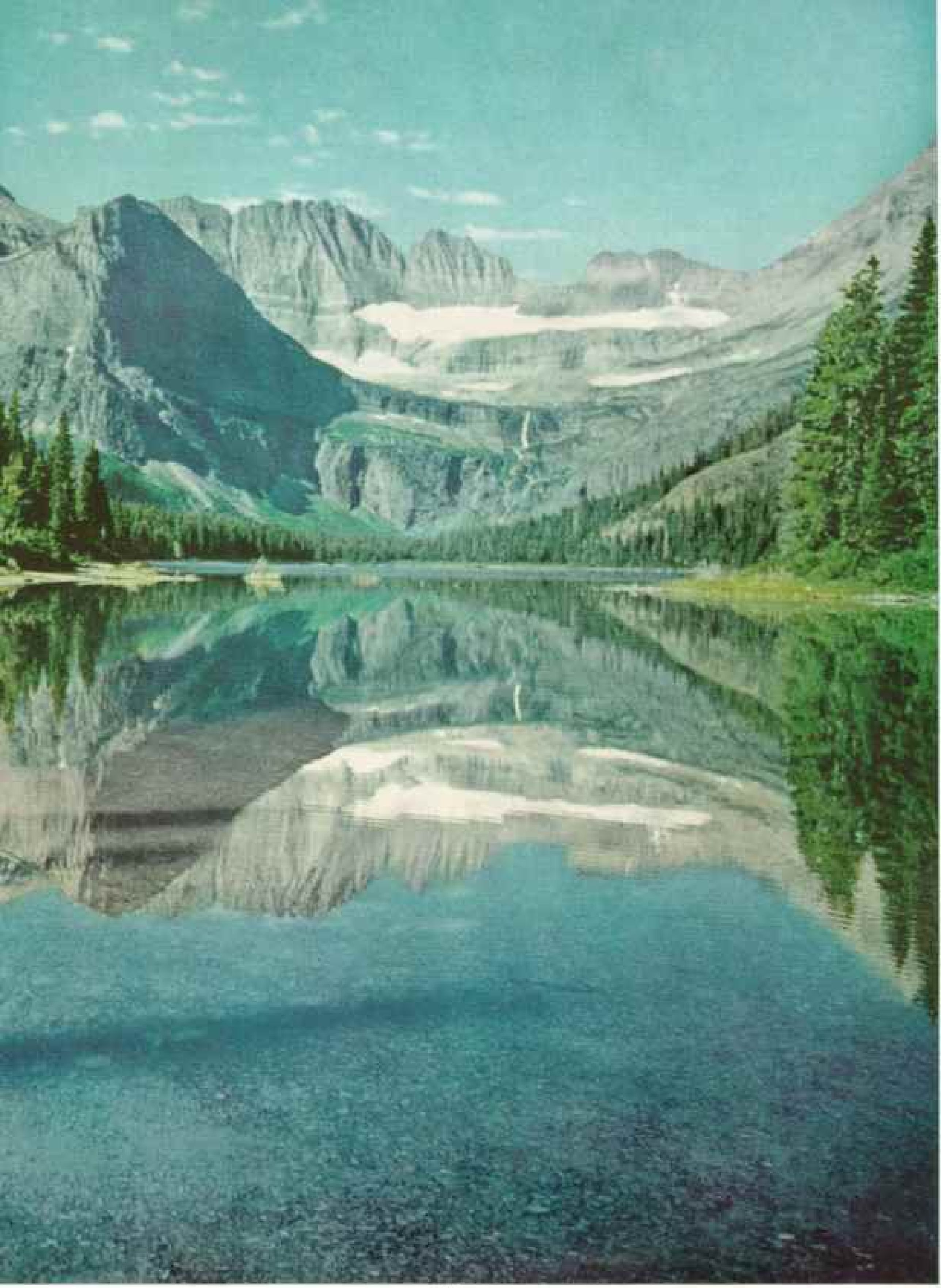
Near by, newcomers get a dramatic introduction to the park when they visit Two Medicine Lake. In a region noted for its hundreds of spectacular lakes, Two Medicine has only a few rivals in the sheer drama of

A Difference of Opinion Separates Uranium the Burro and His Mistress

Mrs. T. O. Court enjoys hiking so much that she calls herself Grandma Walker. She bought Uranium in Kennewick, Washington, and walked him home to Spokane in 11 days. In Glacier last summer, the two set out on a 111-mile tour. At night she camped along the trail; by day she sketched scenery (page 604).

Early-morning Light Catches Mount Gould in Josephine Lake's Tranquil Mirror

A black belt 100 feet wide girdles many of the park's walls and peaks where molten rock forced its way between sedimentary strata ages ago. Heat and pressure turned the bordering limestone to white bands of marble.



627

The Salamander, an Ice Formation, Suns Itself on the Side of the Garden Wall

Until 20 years ago this giant fragment was part of Grinnell Glacier, seen directly below it (page 610). So much of Garden Wall was eaten away by glaciers on both sides that the crest is virtually knife-edged.

its setting. Everywhere massive mountains, tinted in pastel hues by the nature of their rock, rise Gibraltar-like from its shores.

To the Indians, this awesome and beautiful spot was hallowed ground, a home of the spirits. Medicine men retreated here to receive spirit messages and settle tribal disputes. Two renowned soothsayers of the Blackfeet were frequent visitors, a legend tells; hence the name Two Medicine.

A century ago the Blackfeet ruled an inland realm twice the size of New England. Their tepee camps dotted the northwest plains beside the shining mountains. Free as the prairie wind, they hunted the buffalo and fought their enemies.

We saw this life vividly re-created in the Museum of the Plains Indian in near-by Browning, chief town of the Blackfeet Indian Reservation. There dioramas show how the red man won a living from the prairie, warred upon his foes, and appeased his gods. Colorful murals by a Blackfeet artist picture an exciting buffalo hunt.

While at East Glacier Park I made a pilgrimage by horseback to near-by Triple Divide Peak, a geographical oddity on a continental scale. Neither high nor mighty, this 8,000-foot eminence lies at the head of a beautiful valley, seldom seen and rarely visited.

At this peak the Continental Divide, America's backbone separating east- and west-flowing streams, meets the Hudson Bay Divide, a low ridge parting north- and south-coursing waters. Rain or melting snow on this single mountaintop ends up in Hudson Bay, the Gulf of Mexico, and the Pacific Ocean.

Early Snow Dusts High Peaks

September had arrived. Already evenings were getting short and nights frosty. New snow had dusted the highest peaks, and leaves of the mountain maple were turning crimson.

Park authorities had shaken their heads when we saved for our final sortie a trip to 7,500-foot-high Sperry Glacier. Often, they had said, snow blocks the upper trail by September 1; it had the year before. Weather in high places is capricious at any time. Why, only last July 2, 18 inches of snow had fallen on Logan Pass.

Fortunately, clear weather held. Guided by park naturalist Ed Beatty again, we climbed from Lake McDonald's forested shores to mile-high Sperry Chalet. From there we mounted a giant glacial stairway. Each colossal step held a pond which poured its waters hundreds of feet into the one below; miniature icebergs floated in the highest one. Wild flowers filled every nook and cranny of this gigantic terraced rock garden.

Reaching the top by a man-made cut (page 609), we trudged over snow fields to the edge of a great rock amphitheater. Nestling below us there, the 300-acre body of living ice looked like a tilted, frozen lake (page 608). Long icy fingers clutched at the bare rock shelf from which a warm cycle of years had loosed the glacier's grasp. Just out of reach lay several lakes the color of turquoise. On all sides towered masses of upswept rock, their jumbled and eroded strata mute witnesses to gigantic earth convulsions and the patient, irresistible power of the elements.

Across a Glacier's Icy Face

Roped together, we explored the seamed and wrinkled face of Glacier's king of ice masses. Crawling like ants across its wide expanse, we sensed as never before the titanic force that sculptured the park's rugged mountains and scoured its U-shaped valleys.

Close up, each feature took on unbelievable proportions. Fissures that seemed mere cracks from our recent vantage point now opened into yawning chasms as we approached. One part of the glacier's cavern-pitted front, a small ridge when seen from above, loomed as an ice cliff 100 feet high. The amphitheater walls seemed to support the sky itself.

We spent the night at the chalet, a place of solitude where the world and its worries seem a universe away. A harvest moon, round and bright, tinted the landscape silver and dimmed the very stars. Mountain goats gamboled on a near-by slope. A gentle breeze stirred, bringing a breath of chill.

Soon, I mused, deep, drifting snow would blanket the shining mountains once again. Man would retreat; wild animals would start their winter sleep or seek the sheltered valleys. For nine months the Ice Age, creator of this land of many splendors, would return and claim its own.

Page 630

A Climber Steadies His Companion as She Inches Along a Rocky Thumb →

Some of the park's finest fishing is found in the deep-blue waters of Lake Ellen Wilson, cupped in the side of the Continental Divide.

Canada Looks into the United States Across Waterton Lake's 7 Blue Miles

Canada's Waterton Lakes National Park begins at the northern border of the United States, where Glacier National Park leaves off. In 1932 the two parks were dedicated as the Waterton-Glacier International Peace Park, commemorating a long era of good will.

A 70-foot swath through the forest marks the boundary, and the traveler passes from one side to the other with little formality. In both places he finds the same glacier-carved scenery, but, oddly enough, all the remaining glaciers lie south of the border.

Glacier, with 1,583 square miles, is the United States' fourth largest national park. Waterton Lakes National Park covers 204 square miles.

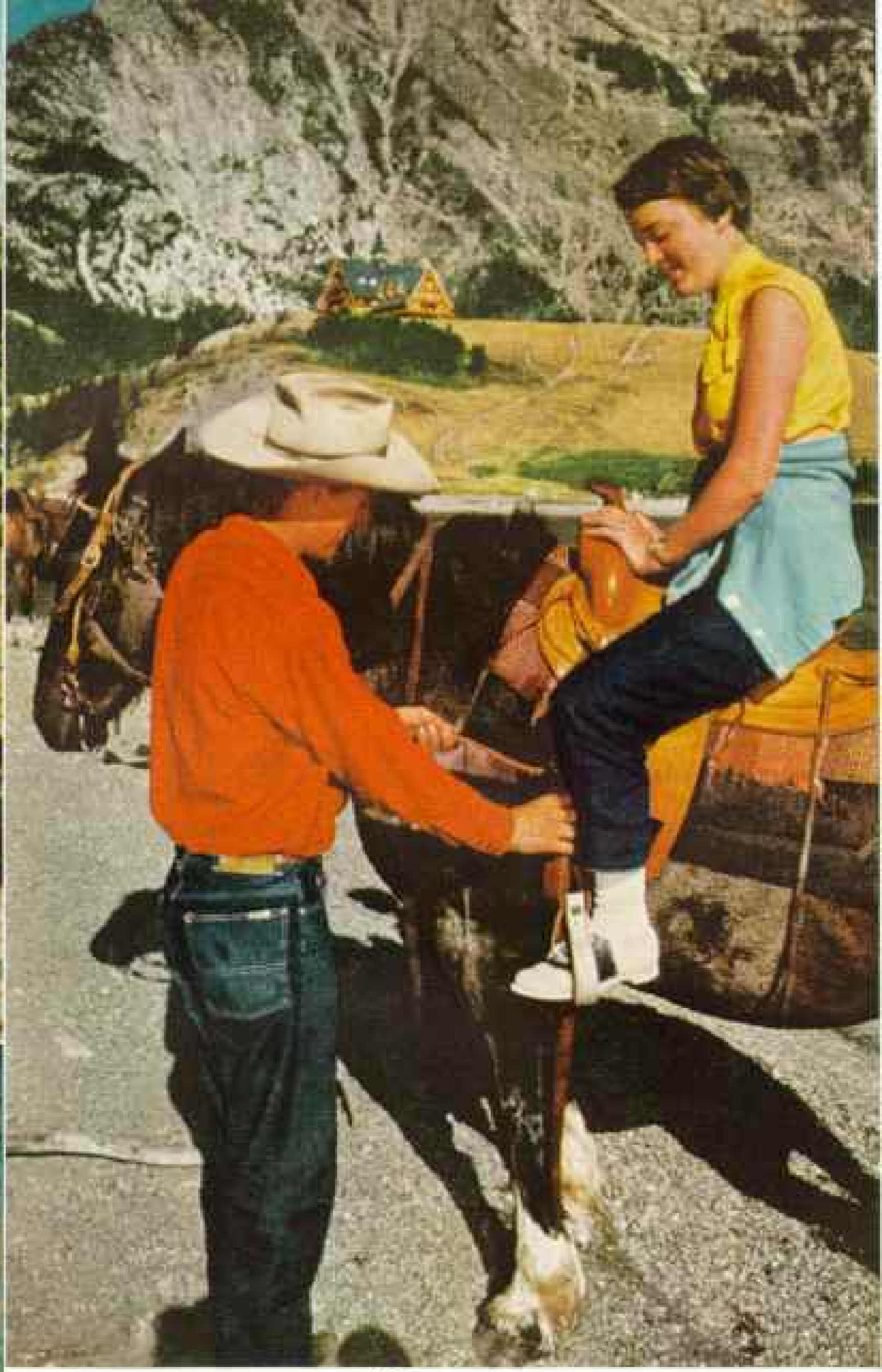
This couple, standing at a mountain locator in front of the Prince of Wales Hotel, looks down on Waterton Park townsite. Though the Canadian Government operates the town, it permits privately owned houses and stores.

Leaving the townsite, the motor launch *International* starts its morning run to the United States end of the lake.

Below: *International* docks near Waterton Ranger Station in the United States. Hikers wait for a lift.

Page 631, lower: Superintendents of the two parks raise the flags of the United States and Canada and unveil a plaque honoring the late Tom J. Davis, a president of Rotary International. Mr. Davis was active in the establishment of International Peace Park, only one of its kind in the world.

Royal Canadian Mounted Police flank the Venerable Archdeacon S. H. Middleton, chairman of the Peace Park Committee; Mrs. Tom Davis; J. H. Atkinson, superintendent of Waterton Lakes National Park; and J. W. Emmert, superintendent of Glacier National Park.



633

Judy Long Saddles Up for a Day on Canadian Trails

International Peace Park, essentially a wilderness area for riders and hikers, offers 1,200 miles of trails in the United States and Canada.

A saddle trip to Crypt Lake, high on the international boundary, featured the Long family's visit to the Canadian portion of the park. Here, at the starting point, the horse's belly is still wet from crossing the lake (opposite). Prince of Wales Hotel, a mile and a half away, looks like a Hänsel-and-Gretel cottage; actually the Swiss-type chalet accommodates 250 guests.

←Waterton Lakes comprise three bodies of water connected by straits dubbed the Bosporus and the Dardanelles. Wranglers swim these horses across the 300-foot Bosporus to meet the author's party, which has already crossed by boat.

Page 632, upper: Riders cross a terrain of rocks and stunted evergreens. Gery and Judy Long lead the procession. Waterton Lake hides at left in what appears to be a narrow gulch; Bertha Peak and Mount Crandell rise beyond.

← Heads Down Is the Rule in This 50-foot Tunnel

Crypt Lake has no way out of its hidden valley except through an underground stream and a tremendous waterfall. Similarly, the ordinary hiker who wishes to see the glacier-cut basin must crawl on hands and knees through a man-made tunnel, climb a ladder of stone steps, and traverse a sheer ledge.

Upper left: A Canadian park warden, counterpart of the United States park ranger, helps a hiker over the stone ladder. Talus at the foot of the cliff is the normal crumbling of soft sedimentary rocks that form most of Glacier and Waterton Lakes parks.

635

↑Crypt Lake: Mountain Jewel Framed in Ermine

This lovely tarn lies in a U-shaped amphitheater, or cirque, gouged out of the head of Hell Roaring Canyon, where a glacier continued powerful erosion until its dying moment.

The lake adjoins the international boundary. These hikers stand in Canada; cliffs beyond them lie in the United States.

Purple penstemon, or beardtongue, together with Indian paintbrush, clothes the slope.

→Paintbrush, one of the showiest plants in the parks' alpine meadows, abounds just at timberline and above. This flower often is parasitic on the roots of other plants.

636

Fearless Deer Seems to Know that Hunting Is Forbidden

Like all national parks, Glacier is a wildlife sanctuary, where the watchful hiker may see mountain goat and sheep, elk, moose, deer, and bear.

Rocky Mountain mule deer on the east slope are so numerous and unafraid that campers report waking at night to see deer staring them in the face.

Recently a mule deer named Suzie took up the habit of lying on Trick Falls bridge to escape flies. Many travelers reported seeing a dead or wounded deer until a trailman put a red ribbon around her neck with a sign saying, "I'm not wounded."

Seen at Stoney Indian Pass, this alert specimen has antlers in velvet. They show the characteristic multiple forking that differentiates mule deer from white-tailed deer, whose prongs stem from the main antlers like teeth on a rake. The latter species roams the park's western valleys.

← Beargrass: Glacier's Crowning Glory

This member of the lily family bears cream-colored blossoms clustering in showy heads. Lowlands see it in June; by August it covers acres of higher slopes and open forests. Bear-paw is another name for the plant, which has nothing to do with bears.

Minutemen of the Civil Air Patrol

A Good Samaritan Code Unites the Nation's Flying Volunteers, Who Often Risk Death that Others May Live

By Allan C. Fisher, Jr.

National Geographic Magazine Staff

With Illustrations by National Geographic Photographer John E. Fletcher

NEVER before had the two civilian flyers experienced silence so complete or so ominous. Hurriedly they scanned the wintry Arizona desert as their light aircraft glided down, its engine as dead as the bleak, rock-strewn floor.

But the desert can be grudgingly hospitable to a small plane in trouble. The pilot flattened his glide and bounced to a stop in the sand of a long-dry lake bed.

Ruefully the two men calculated their chances of survival. Should they hike to civilization? No, it was much too far; besides, the weather had turned bitterly cold. They decided to stay with the plane. Surely someone would miss them and send help.

So the long vigil began. Day waned, and they felt the first pangs of hunger. Night came, and they huddled in the cockpit. By dawn both were numb with chill and weariness, and a furtive little worm of doubt began gnawing at their confidence.

A Sound in the Sky Heralds Rescue

The sun had climbed an hour high when they heard the drone of an engine, sweet as angel music. A small silver plane circled overhead like an anxious mother bird, then landed. Soon the downed flyers had been flown back to warmth, safety, and reunion with loved ones.

For the rescue pilot, Earle Comer of Tucson, this incident was routine. He belonged to the Civil Air Patrol, a nationwide organization of unpaid minutemen, volunteers and civilians all, who fly hundreds of similar missions each year in their own aircraft. Incidentally, though an active pilot, Mr. Comer was 63 years old and had lost a leg in a flying accident during service in World War I.

CAP's 90,000 men, women, and teen-age cadets serve the Nation as an official auxiliary of the United States Air Force. They wear the Air Force uniform with special insignia, but bear no arms, for their mission is mercy.

Members come from all walks of life, all races, many faiths. But a remarkable dedication unites them. When word comes that a plane is overdue, a prospector lost in the desert, a ranch family marooned by a blizzard, then adult volunteers thrust their regular jobs aside and dash off to save a life, often at the risk of their own.

No matter what their occupation—clerk, mechanic, housewife—members respond like minutemen of old. They never know how long a rescue mission may last, and many sacrifice pay by dropping everything to help others.

Mercy Missions Unlimited

Last year CAP's 39,500 senior members participated in more than 150 searches and logged more than 13,500 flying hours in support of the Air Rescue Service, a branch of the Air Force. Many of CAP's 50,500 boy and girl cadets backed up the seniors with ground support.

Usually these Air Force-directed hunts seek some luckless overdue plane.

But your neighbors and mine, not just the occupants of lost planes, can stumble into danger—and with dismaying frequency. When that happens, local authorities or distraught relatives often flash an S O S to one of CAP's 1,417 senior squadrons.

The helping hand is always ready. If light aircraft or ground-rescue teams can do the job, volunteers will rush to the aid of anyone, any time, anywhere in the United States, its Territories, and Puerto Rico. CAP calls such assignments "mercy missions" to distinguish them from Air Force "search-and-rescue."

The person in danger may be a child lost in the California wilderness, an elderly prospector trapped by snow on an Alaskan mountain ledge, a woman marooned by rising flood waters in Pennsylvania, or a Navajo Indian, desperately ill, who must be rushed from the Arizona desert to a hospital.

These are not imagined incidents. They occurred in 1955, and patrol members saved all the victims.

The organization's national headquarters

← Civil Air Patrol to the Rescue: Air Search Ends

Page 638: CAP, dating from World War II, serves as an official U. S. Air Force volunteer auxiliary with the primary flying task of finding lost aircraft. Last year the USAF Air Rescue Service ordered CAP aloft on more than 160 search and rescue missions. It took just two hours for this banking plane to find two Air Force sergeants near the top of Mount Hamilton, California. Bright fabric panels and aluminum foil simulate a downed plane.

Above: Most squadrons maintain ground-rescue crews. A radio-equipped team from the Washoe (County) Jeep Squadron of Reno simulates a mission in the Nevada hills.

Chicago Cadets Put → CAP on the Air

These youngsters learn to handle a radio transmitter.

Kodachromes (opposite) by Allan C. Fisher, Jr., National Geographic Staff

in Washington, D. C., cannot compile statistics on such missions, since many are never reported. It's just part of their job, say the volunteers. Yet headquarters estimates there may be 10 times as many mercy missions as there are Air Force-directed searches. This would mean more than 1,500 each year!

Recently CAP took me on a six-week tour through its grass roots empire. I flew with members, attended their meetings, witnessed their often arduous training. Such experiences leave even skeptics with a deep admiration for the volunteers and their program.

That program, of course, includes CAP's good Samaritan pursuits: search-and-rescue and mercy missions. But, above all, it emphasizes aviation education for American youth. Additionally, it provides nationwide support of Civil Defense.

Ground and Air Teams Work Together

Let's see how these aerial lifeguards handle their most dramatic job, search-and-rescue, the task that binds them to the Air Force and makes other mercy work possible.

The two private flyers who landed safely in Arizona were lucky. CAP usually finds wreckage, and often the occupants are dead. But sometimes there are injured who must be located quickly, then whisked to safety in a race against time and the elements.

How is it done? Brief accounts of three 1955 rescues will show you. Each illustrates a particular phase of minutemen teamwork: aerial search, ground rescue, and radio communication.

In midwinter a private plane with two men aboard vanished on a flight from Oroville, California, to Reno, Nevada. The Air Force suspected it was down in California's Sierra Nevada and ordered 50 aircraft into the search. Each was given a specific area.

No one found a trace the first day. New areas were repeatedly assigned. On the second day the pilot of a private plane discovered the downed aircraft, apparently intact, in a mountain gap. Both men were alive and only slightly injured. CAP pilots dropped supplies, then radioed for "big brother"—an SA-16 amphibian of the Air Rescue Service. Big brother summoned a helicopter, and it bore the men to safety.

CAP would have searched for these flyers if they had crashed anywhere in the country. Its helping hand extends, through 52 "wings," into each of the 48 States, the District of Columbia, Alaska, Hawaii, and Puerto Rico.

The CAP flyers in this search were among 13,500 rated pilots available for duty at any time. Many once flew for the armed services; others never touched the controls of anything hotter than the puddle jumpers in CAP's armada of some 5,300 light planes.

Let's return to another crash site in the western mountains, this time in Nevada.

An instructor and student were forced down on a flight from San Jose, California, to Reno. An Air Rescue plane found the wreckage just before dark. The pilot saw two survivors, but did not know the extent of their injuries, and it was too late for a helicopter pickup or a jump by Air Force pararescue experts. So he radioed the location to a Civil Air Patrol ground-rescue team.

Members pushed up into the mountains as far as they could by jeep, then broke out their flashlights and slogged the rest of the way afoot. Late at night they reached the men and carried them out. Luckily, neither was seriously injured.

This incident illustrates another service of the volunteers: no matter where they go down, flyers can count on CAP for ground rescue as well as search. Members form hundreds of rescue teams in support of their aerial bird dogs. Team personnel receive intensive training in first aid and wilderness survival. With their own funds they buy jeeps, trucks, horses, snowmobiles, dog sleds, swamp buggies—anything that will speed them to crash sites.

Jet Pilot Bails Out into Swamp

The third incident occurred in northwest Florida. An Air Force Sabrejet, flying at 30,000 feet, suddenly lost its tail in a violent explosion. The pilot parachuted into a swamp. Though injured, he managed to pull himself onto a hummock of dry land.

Air Force and CAP planes searched for hours, but poor radio contact hampered communications, threatening the mission's success. Then a CAP housewife, 1st Lt. Miriam Tonkin of Dade City, Florida, came on the air with her radio set. She could hear the pilots and they could hear her, so Miriam relayed messages and coordinated the search.

Finally a plane found the injured pilot. Two Air Rescue Service sergeants parachuted into the swamp and gave emergency first aid, and a helicopter rescued all three.

CAP has many communication specialists like Miriam Tonkin, and its radio network of

Flying Frogmen Save a Dunked Pilot

Equipped with Aqualungs and crash boats, a Nassau County (New York) unit of the CAP specializes in aid to airmen forced down in Long Island Sound. Here members rescue a "victim," whom they have towed in from deep water. An old aircraft wing helped planes find the rescue scene.

Famed "Tooey" Spaatz Flies a Spad Again

Gen. Carl Spaatz, USAF (Ret.), is chairman of CAP's National Executive Board. He commanded the U. S. Strategic Air Forces in Europe and served as first Chief of Staff of the separate Air Force.

Here at CAP's Washington, D. C., headquarters, General Spaatz shows Maj. Gen. Walter R. Agee, the patrol's national commander, how he maneuvered his Spad against German aircraft in World War I. One of the two cadets holds an official CAP plane model, which groups build from standard kits.

Kodachrome (right) by Staff Photographers Volkmar Wentzel and Donald McBain

A Cadet Heads → for the Blue Yonder

Every CAP teen-ager gets six half-hour orientation flights as part of his squadron-level training. He does not take the controls, but his pilot, a CAP senior, explains everything that occurs. This youth waves from an Air Force L-16 at Salt Lake City Municipal Airport, Utah.

Civil Air Patrol

↓ Planes Gather for a Search

Gas trucks refuel CAP aircraft beside a Stockton Municipal Airport runway as northern California units take part in a practice search-and-rescue mission.

11,047 stations is one of the largest in the world. More than half the stations are mobile, either airborne or in vehicles.

Brig. Gen. Thomas J. DuBose, commander of the Air Rescue Service, often calls the patrol his "good right arm" and cites generous proof: In U. S. territory, CAP members log more flying hours in official searches than ARS and all other participants combined.

"These men and women give of their time, and many of them risk their lives, with no thought of personal gain," says the general. "The only monetary compensation they ever receive is for the gas and oil used on search missions directed by ARS.

"There is no way of computing in dollars and cents the value of their voluntary efforts. However, this much is certain: without their assistance it would be impossible for my command to provide the same degree of emergency search-and-rescue coverage to our other areas of responsibility throughout the world. Bluntly, what it amounts to is this: the American taxpayer is getting better and wider rescue coverage for every tax dollar because of the efforts of Civil Air Patrol."

Perhaps you have looked down upon desolate terrain from an aircraft and wondered, "If we crashed in this wilderness, how would they ever find us?"

Actually, the first step in finding you began before you boarded the airplane.

Prior to each flight all pilots in the United States are expected to fill out forms giving their route, destination, and estimated time of

Utah Aviation Students Intently Await the Flight of a Model Plane

CAP takes its own cadets aloft on orientation flights and gives ground-school training at squadron meetings. By self-imposed rule, however, it leaves actual flight training to the flying schools. To high schools and junior colleges it provides materials and lecturers for aviation education. It participated in 31 local and regional workshops for classroom teachers in 1955; 828 men and women enrolled.

Air-minded Utah alone has 14 high schools offering aviation courses, all using the CAP study manual. Most students enrolled for such training belong to CAP.

Mount Olympus (10,242 feet) looms over this scene at Olympus Senior High School outside Salt Lake City. The Aeronca L-16 stands ready to familiarize cadets with a plane's controls. CAP has more than 300 obsolete light planes donated by the Air Force.

A senior member of CAP, the instructor holds a model powered by a gasoline motor. Later he flew it for these students, all members of CAP and classmates in a high school aviation course. Officer in blue directs cadets in CAP's Utah Wing.

Football players scrimmage in the background.

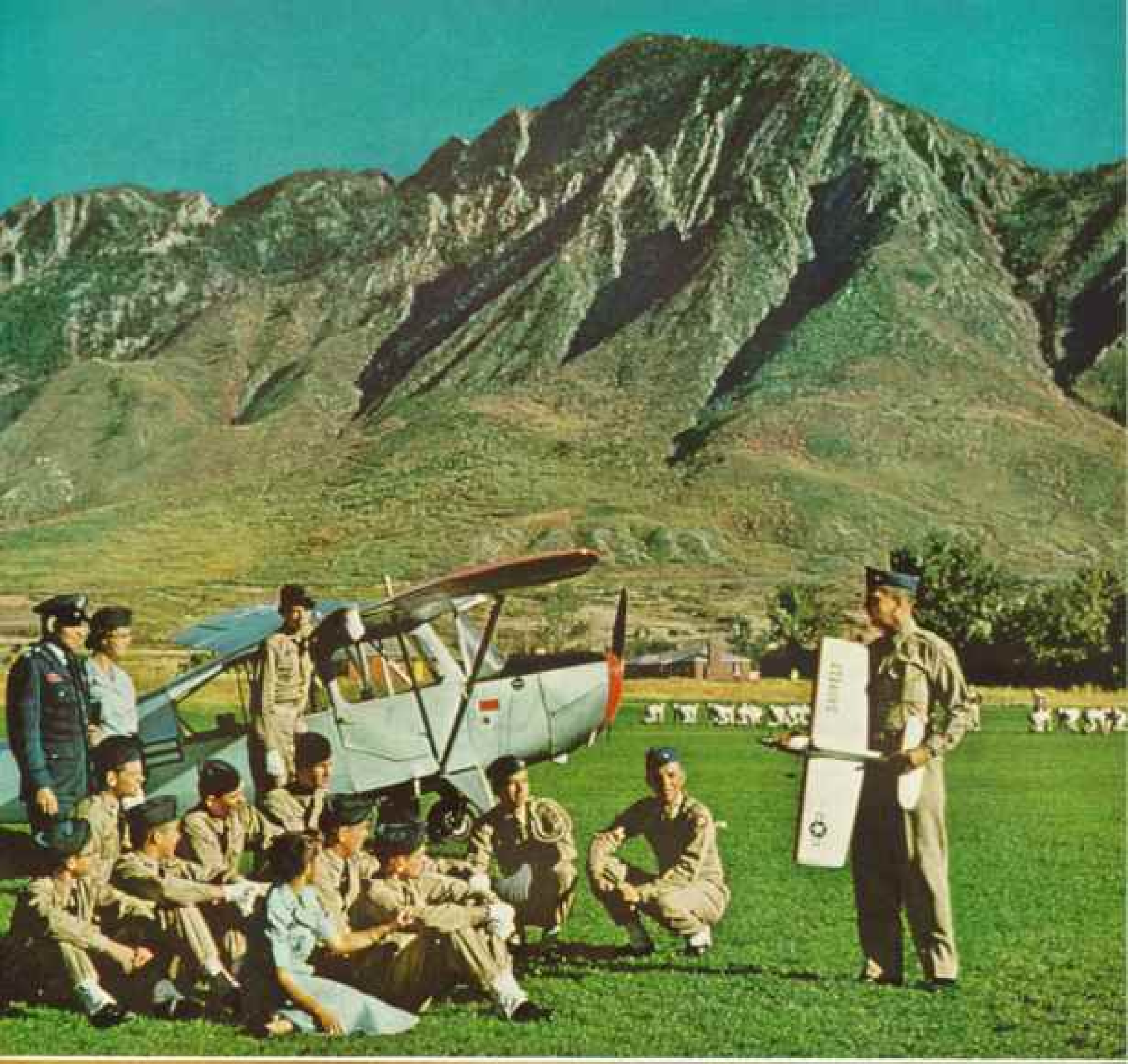
644

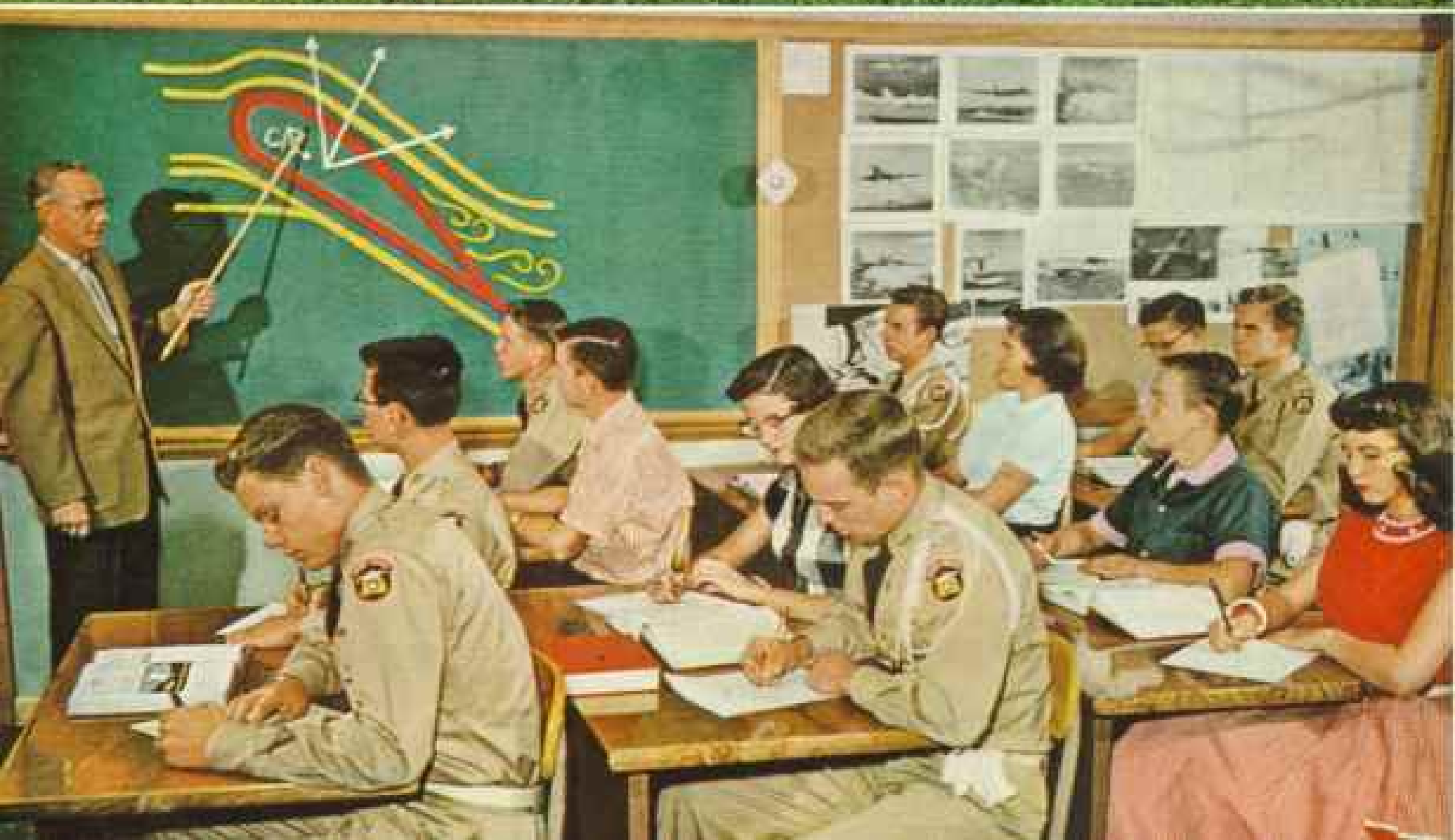
← Flight to Nowhere: A Cadet Logs Time in a Link Trainer

Thousands of pilots first get the feel of aircraft controls in the Link trainer, which never leaves the ground but banks and spins like an airborne plane. Its instruments are real. With its cockpit cover closed, the trainer duplicates instrument flying conditions.

Through his microphone and headset the student communicates with the instructor in an Olympus Senior High School aviation class.

➔Page 645: Olympus students learn how a wing lifts a plane on currents of air. "Burbling" (indicated by curlicues) occurs when the ship climbs too steeply for its speed; it results in decreased lift.





arrival. Airport Civil Aeronautics Administration representatives or military air controllers file these flight-plan forms and pass the information along their communication networks to points of destination.

If an aircraft is one hour overdue, officials notify the nearest squadron of the Air Rescue Service—and that's where CAP comes in.

The Air Force immediately alerts its junior partner, then queries all airports along the missing plane's route. If they cannot report that the plane made a safe, unscheduled landing, it is presumed lost, and some CAP wing orders its minutemen aloft.

Private pilots are not compelled to file flight plans. Some, neglecting this safeguard, have died as a result. No one reported them missing for many hours; searchers wasted days combing areas far from the wreckage. Help finally came, but too late.

Given clues from a flight plan, mercy flyers usually discover wreckage within a day or two, and sometimes sooner, but nevertheless planes have vanished in many instances.

Author Views Air Disaster Scene

On the morning of October 6, 1955, a DC-4, bound from Denver to Salt Lake City, hit Medicine Bow Peak in Wyoming. All 66 persons aboard were killed.

That same morning John E. Fletcher, National Geographic photographer, strolled off an airliner with me at Denver. We had anticipated only a brief visit with the Colorado Wing; instead, we walked right into the search.

Lt. Col. Ben S. Jordan, deputy wing commander, met us with the news and an invitation to join the hunt.

"We volunteers know this country well," he said. "My guess is the plane is down either on Medicine Bow Peak or Elk Mountain, both northwest of here in Wyoming. We got word only 10 minutes ago it was missing."

Colonel Jordan rushed us to CAP's wing headquarters at Lowry Air Force Base. Half a dozen people manned a few desks and telephones, but no one seemed very busy. Two men in flight coveralls quietly discussed a chart. A secretary shuffled some forms and clipped them together. An Air Force sergeant spoke briefly to the colonel, then left.

This was not the scene of milling people, barked orders, and jangling telephones that I had expected. As if reading my mind, Colonel Jordan commented:

"Things are under control. We have four aircraft out, and I've just assigned a fifth. You and Jack Fletcher are next."

Soon Jack left with the pilot of a single-engine plane, and the colonel turned me over to Maj. Walter H. Lamb, an Air Force officer on liaison duty with the volunteers. He picked up three other passengers at the flight line, and within 15 minutes we were winging toward the Rockies in a small twin-engine C-45.

The day seemed too flawlessly bright and clear for tragedy. From the copilot's seat I could not see a single cloud marring the blue. Off our left wing the snow-capped peaks sparkled benignly, a matchless panorama of nature in peaceful mood.

Suddenly a static-blurred voice crackled in our radio headsets. Lamb listened intently.

"Did you get that?" he asked me. "It confirms that wreckage has been sighted on Medicine Bow Peak. The search has been called off, but we'll go on and take a look."

As we quartered in toward the Rockies, flying above scarred foothills, the snowy mountains no longer looked so peaceful. The air became so bumpy that without seat belts we would have been thrown against the controls.

Finally we saw Medicine Bow Peak itself, a long, reeflike barrier 12,005 feet high at its topmost jagged prominence. Half a dozen aircraft circled it like flies as we approached.

Wreckage? We could see none. The steep cliff seemed clear, the white slopes unmarred. For half an hour we circled repeatedly as the plane bucked through gusts and downdrafts. Had there really been a crash?

CAP Rushes Aid to Medicine Bow

Then Lamb cried, "Look! Directly below! See those moving figures? That's the ground party. Now follow their direction of climb. See the wreckage above them?"

Soon all of us could see fragments dark against the snow. Vertical streaks, marking the point of impact, began near the mountaintop and cascaded down a cliff. With another 50 feet of altitude the airliner would have cleared Medicine Bow.

When we landed at Lowry, Jordan told me that a Wyoming Air National Guard jet pilot scored the find shortly before noon. The plane was definitely reported missing at 9:45 a.m., about three hours after take-off. Weather was thought to be good, and the reason for the crash was not known.

Though CAP did not find the wreckage, it was among the first to reach the scene afoot.

647 Civil Air Patrol

A Sidewalk Photographer Snaps CAP Exchange Cadets in Habana

Youths from 21 nations visited the United States last year, and CAP cadets went abroad, in a program to foster friendship through aviation (page 654). These young Americans and escorts pose before Cuba's Capitol.

The antlike figures I glimpsed included 17 members of the Wyoming Wing. They camped beneath the peak for several days, assisting in the removal of bodies.

Volunteers often perform this grim task. Survival in wilderness crashes is more the exception than the rule. Yet, as we have seen, CAP saves some downed flyers each year.

Patrol members found 38 persons on Air Rescue missions in 1955, but the records do not state how many of these were flyers. Similarly, no one adds up wrecks found by the volunteers. It is enough, apparently, that the job gets done, and there is no desire on anyone's part for a lion's share of the credit.

A like reticence governs CAP's mercy missions. Not so reticent are the rescued themselves, who often pen fervent, unsolicited testimonials to squadrons:

"I am forever grateful," wrote a Florida fisherman rescued from a swamp.

"Just 'thank you' seems so little for the gratitude we feel," said the parents of a Nevada child saved from the desert.

"I had about given up hope," scrawled an old prospector lost in rugged Utah.

Despite such solid evidence of good works, I know of only one locale where members actually compiled a list of persons rescued.

In 1951 CAP organized a squadron among Arizona's Navajo Indians and set up a number of radio stations in the 24,000-square-mile reservation. "The wind that speaks" fascinated red men young and old. They saw in it a means of summoning quick help to isolated villages and hogans. Enthusiastically they pitched in and helped build a few landing strips suitable for light planes.

Radio Saves Lives in Navajo Land

The work soon paid off. Radio repeatedly summoned planes of the Arizona Wing to rush ill or injured persons to hospitals. Within nine months of the Indian squadron's activation, officials listed 14 lives saved. No one has compiled a total since then.

Today there are 32 landing strips on the Navajo Reservation, most of them built by the United States Bureau of Indian Affairs. Instead of one squadron, there are three with 130 enthusiastic Indian volunteers. They have no aircraft of their own, but all study up on their CAP aviation manuals.

Hundreds of volunteers labored round the clock during the 1955 flood disasters. In some places their radio transmitters provided the only links with the outside world.

Stroudsburg and East Stroudsburg, Pennsylvania, made national headlines last August when rains from Hurricane Diane inundated resorts in the Pocono Mountains. But few of these stories related the heroic work of Stroudsburg's able Civil Air Patrol squadron.

The flood struck at night. Brodhead Creek, separating the two communities by 100 yards, swelled into a raging torrent. At the height of the storm, Warrant Officer Philip Hardaker packed a portable radio on his back and crawled across a trembling railroad trestle, luckily reaching East Stroudsburg before the bridge collapsed.

For the next 24 hours that small radio was East Stroudsburg's only voice.

Meanwhile, in Stroudsburg, Capt. William A. Bechtel jumped into the squadron truck and evacuated dozens of people from threatened homes. Providentially, CAP had cached emergency food and medicine in the area, and the next day he dispatched squadron planes for these supplies.

Armed services helicopters began arriving. Bechtel set up a heliport in a schoolyard and assigned CAP members to fly as observers. They pinpointed marooned families for pilots who made pickups and dropped supplies.

Other volunteers relieved Bechtel and his men after they had been on their feet more than 48 hours. Many were nearly incoherent with fatigue; some of these workers had lost their own homes.

So many bodies were found that CAP used refrigerator trucks as temporary morgues. More than 80 persons lost their lives in the Stroudsburg area.

State Governors Commend CAP

Hurricanes Connie and Diane dumped floodwaters on vast areas of Pennsylvania and Connecticut. Recently the governors of those two States summed up for the NATIONAL GEOGRAPHIC MAGAZINE their impressions of the patrol's rescue activities.

"Wherever I went, I found Col. Phillip F. Neuweiler's State Civil Air Patrol wing on the spot," wrote Governor George M. Leader of Pennsylvania. "Reports reaching me later backed up my own impression:

"The CAP had not only done outstanding rescue work at the height of the flood, but the wing had pitched in magnificently on the staggering job of rehabilitation."

Governor Abraham Ribicoff of Connecticut said:

"Town officials throughout the State have praised CAP's assistance in furnishing generating equipment, in sending and receiving urgent messages through its statewide radio network, in supplying field telephones in the

---

Page 648

Cadets Tour an Aircraft Plant Near Hagerstown, Maryland

To interest youths in aviation careers, Fairchild Engine and Airplane Corporation sponsored the Fairchild-Hagerstown CAP Squadron. Fairchild gave land and materials for a $12,000 headquarters building; patrol members provided the labor. Now the corporation welcomes cadets on tours of its plant and rewards promising ones with scholarships to flight schools.

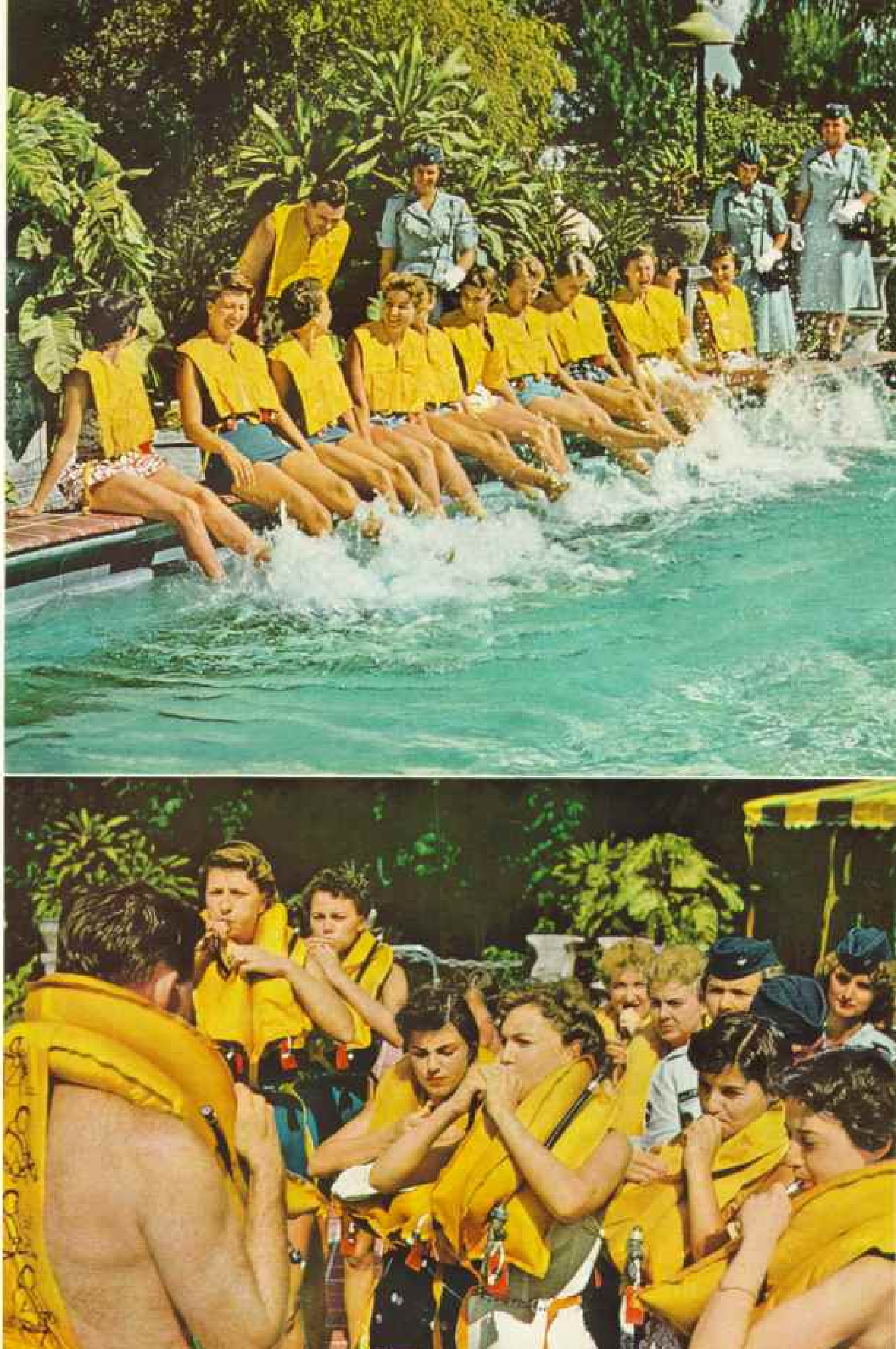
Here supervisor Harold Custer tells students how oil-filled pitch regulators (on floor) will be installed on hubs of the four-bladed propellers (on rack) that drive the Air Force's C-119, the Fairchild Flying Boxcar. Not unlike the automatic transmission in an automobile, the regulator hydraulically changes the blades' pitch to meet the varying demands of take-off, cruising, and landing.

Maj. Sally Strempel, CAP's Living Legend, Gives a Ground-school Lesson to a Cadet

Only a few women serve as regional flight examiners for the Civil Aeronautics Administration. One of them is Mrs. Strempel, a grandmother with 10,000 hours' flying time. Operator of Sally's Flying School at Pal-Waukee Airport, Wheeling, Illinois, she has instructed 3,000 pilots. Her husband, also a CAP major, flies overhead.

➔ Page 651, lower: CAP girl cadets (in overseas caps) visit Eastern Air Lines' school for stewardesses at Miami Springs, Florida. Girls inflate life jackets by mouth; carbon-dioxide cartridges do the job normally.

Upper: Trainees wear life jackets like those they would issue to passengers of a plane ditched at sea.



disaster areas, and in flying 6,000 pounds of badly needed food and medicine into the stricken communities.

"In addition, CAP flew observation missions and reported to State Civil Defense headquarters on conditions that existed in the flooded areas."

It was a watery year, 1955, and minutemen mobilized for flood duty in several other States. The North Carolina Wing set up about 300 mobile radio stations to handle disaster messages. California mustered 300 men and 30 aircraft for five days of emergency duty at Christmas time (opposite).

California Outflies Other States

The effectiveness of this citizen militia in mercy work is due primarily to intensive search-and-rescue training, much of it supervised by the Air Force. On their own responsibility squadrons continually participate in local simulated missions. In addition, each wing stages a highly realistic combined exercise once a year under Air Force auspices, such as one I witnessed in California.

Californians own 6,311 active civil aircraft, the largest registration of any State. This figure helps explain why the patrol's California Wing is both the biggest in the Nation and the busiest in number of air searches. Its 6,700 members, who own 500 planes, flew 32 Air Force-approved search-and-rescue missions in 1955, more than any other State.

California holds two big training missions each year, one for the northern part of the State and another for the southern. Members call these practice alerts SARCAPs (Search-and-Rescue, Civil Air Patrol).

Fletcher and I flew into Stockton Airport one Saturday morning for the northern SARCAP. We watched in amazement as gaily painted private planes converged on the scene like bees at a nectar party. By midmorning more than 650 volunteers and 80 aircraft had reported (page 642).

Some groups set up headquarters in hangars. Others moved into buildings once used by an Air National Guard outfit. Officials quickly organized a command and message center.

Air Rescue Service gave them a staggering problem. One of our own planes, said ARS, is "missing." It took off on a training flight around northern California and hasn't been heard from since. This means it could be down anywhere in a 25,000-square-mile area.

Anticipating a search covering a big part of the State, headquarters had established advance bases at Salinas, Santa Rosa, and Fresno. Orders sped out dividing the area into nine sections, each assigned to a group of squadrons.

So that everyone would get a good workout, ARS men placed distress panel markers on the ground in all sections. Pilots had to find them and guide ground parties to the scene. Meanwhile, other ARS personnel kept telephoning clues—some of them false—to headquarters: a farmer had heard a low-flying aircraft . . . a sheriff reported rumors of a crash in his county. . . .

By day's end all the markers had been found. Then ARS announced that on Sunday they would stake out the major target, prime object of the entire operation, and it could be anywhere.

Day began with chapel, but I begged leave. ARS had confided its secret to me, and at 4 a.m. Air Force Master Sergeants Stephen Holloway and V. L. Linford routed me out of bed to help place the target.

We drove 96 miles, mostly over serpentine mountain roads, until we reached a meadow near the top of 4,430-foot Mount Hamilton in the Diablo Range east of San Jose. There we laid out a fabric panel topped by bright strips of aluminum foil and settled down to enact our role of survivors. The time: 7 a.m.

Mirror Flashes, "Here We Are!"

The view alone was worth the trip. Bluish, hazy ridges extended as far as the eye could see, and deer grazed in a vale below us.

Even a hawk would have envied Linford's eyes. At 7:55 he spotted an aircraft, a minute speck against a faraway ridge, and Holloway repeatedly flashed his distress signal mirror. Without changing direction the little plane faded from view.

We saw several other planes during the next half hour, but all were far away. At 8:55 Linford aimed the mirror at a ridge-jumping plane some 30 miles north of us. Surprisingly, it banked around almost immediately, flew toward us, passed directly overhead, and disappeared (page 638).

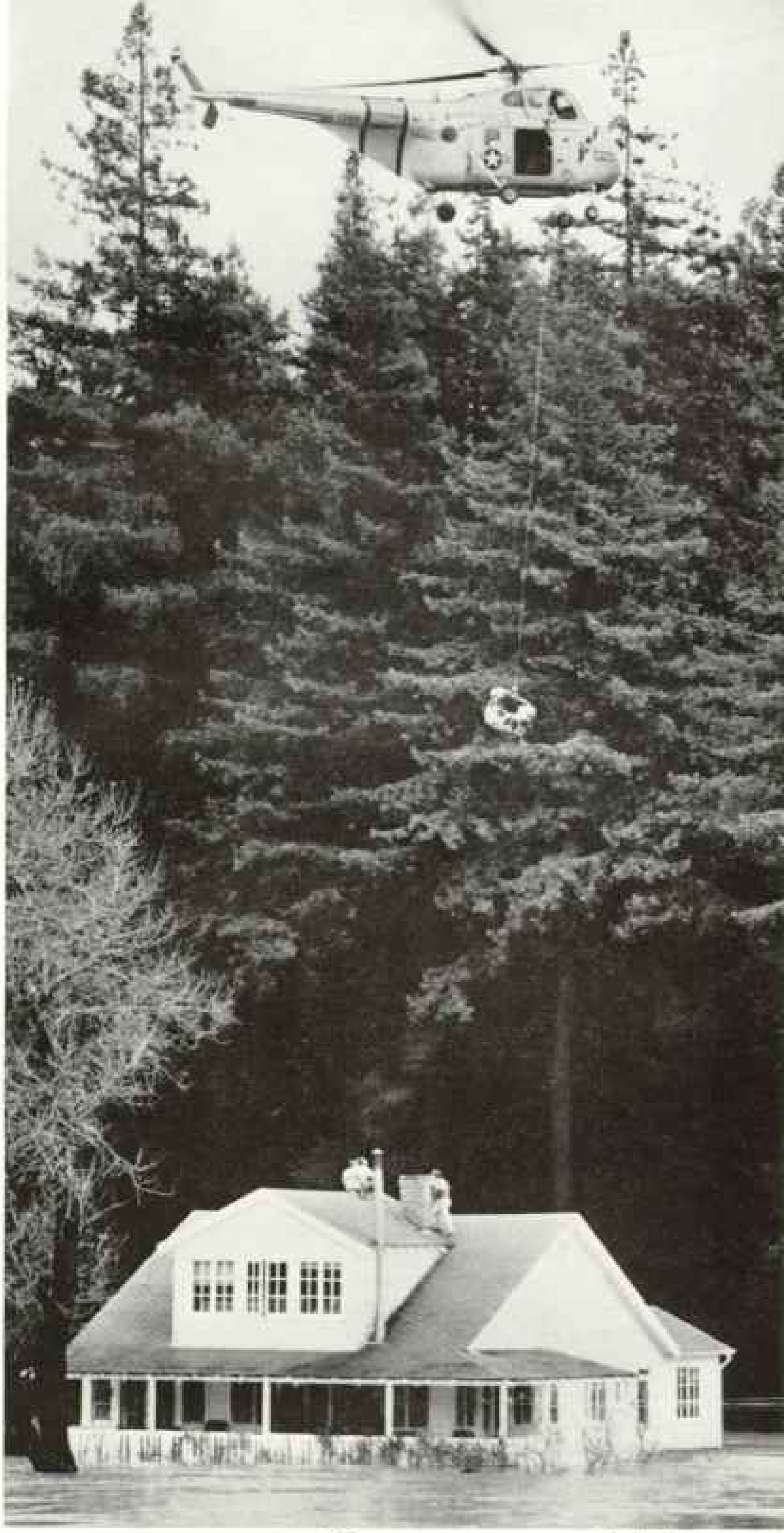
"He couldn't have missed us," said Linford. He was right. Soon half a dozen little planes were buzzing overhead. They dived repeatedly in an attempt to read identifying numerals painted on the aluminum foil.

Here, I mused, was the minuteman code in action. These flyers were civilians with families. Some had acquired comfortable paunches and many responsibilities. A number would never see 45 again. Yet still they flew these tricky mountain downdrafts, knowing engine failure might mean death. Since 1948, 18 volunteer pilots and flight observers have been killed on search-and-rescue missions.

Search and rescue work is relatively incidental in CAP's program for its 50,500 cadets, among them nearly 10,000 girls. Senior members enroll these teen-agers (15 and up) for aviation training based on half a dozen texts compiled and written at national headquarters. Each boy and girl gets a minimum of 100 to 150 hours of instruction over a two-year period.

Later the cadets take stiff written examinations. If they pass, they win certificates of proficiency signed by Gen. Nathan F. Twining, Air Force Chief of Staff, and Maj. Gen. Walter R. Agee, CAP national commander. Certificate holders may enlist in the Air Force as airmen third class, and they generally receive special consideration for entrance to Air Force ROTC and Aviation Cadets.

Classroom work and examinations comprise only part of the instruction; the rest is much more exciting. Cadets, with parents' permission, go up on orientation flights (page 642). Seniors do not give them pilot training, but



653 Wide World

Rescue Basket Raises Mother and Daughter to Safety

Its light planes hampered by torrential rains, one CAP group used cars and a boat for mercy missions during California's disastrous floods last December. The boat spotted this marooned family at Guerneville and radioed for help. Within minutes, the Air Force helicopter was hovering overhead.

scores of honor cadets win CAP scholarships to local flying schools.

In 1955 some 9,000 cadets, including nearly 2,000 girls, participated in nine-day encampments at Air Force bases (page 658).

CAP sent 145 outstanding boy cadets abroad in 1955 to 21 nations, and these countries sent a like number of their own youngsters here. The purpose: international good will and the furtherance of aviation education.

Boys from the United States were divided into teams, each of which spent a month in another country, often as guests of an aero club. Lads from foreign lands visited CAP wings and lived with member families.

And the girl cadets? Those from the continental United States conducted an exchange with their counterparts in Alaska, Hawaii, and Puerto Rico.

Canadian Cadets Win Drill

At present only the United States and Canada participate in the International Drill Competition. Local, regional, and national contests determine the best individuals to compete against a crack military drill unit representing the Air Cadet League of Canada.

The 1955 contest took place on a wet, windswept airdrome at Toronto. Looking on, I could detect no difference in the precise lines, the intricate maneuvers. Judges passed up and down the ranks, scribbling notes. They announced their decision that night at the Canadian National Exhibition in downtown Toronto, where cadets demonstrated drill routines before a vast grandstand throng. The winner: Canada, by a few points.

Youngsters from both teams were seated on the sidelines. They were in semidarkness, and most of the crowd missed what happened next. The American boys immediately walked over to the Canadian cadets and smilingly shook the hand of each.

This incident helps explain why CAP can say that, so far as its national headquarters can determine, not a single cadet has ever been brought before a juvenile court.

J. Edgar Hoover, Director of the Federal Bureau of Investigation, has long been an admirer of the cadet program. When I asked his opinion of it, he wrote me:

"Certainly the work of the Civil Air Patrol, through the teaching of aeronautical subjects

and the inculcation of military discipline and courtesy, is one very effective means of reducing the opportunity for juvenile delinquency. Discipline and respect for law and order are intangibles that develop when the young personality is directed into absorbing and constructive pursuits.

"I believe that the cadet program of the Civil Air Patrol is a unique contribution in the fight against juvenile delinquency, as well as added insurance that we will have eager young explorers probing the unknown airways of tomorrow."

Air Force ranks include more than 30,000 former cadets. Senior members express satisfaction in the fact, but point out that their

---

← **French Planes at Chambéry Wait to Bear U. S. Exchange Cadets into Alpine Skies**

Rugged Stampe SV–4 biplanes, known in Europe for acrobatic ability, are standard trainers for French flying clubs.

Dent du Nivolet, the peak in background, rises 5,093 feet. U. S. Air Force, Official

↓ **Unusual Civil Defense Airstrip Handles an Atom "Casualty"**

Evanston and Skokie, Illinois, jointly maintain Eadie airfield in case Chicago is bombed. Only CAP and mercy planes may land on the field, a grassy strip between a busy boulevard and a canal.

purpose is to interest both boys and girls in *any* phase of aviation as a career. The aircraft industry, surpassed in the Nation only by the automobile industry in number of employees, badly needs trained personnel.

"I joined CAP primarily because of the kids," many members told me. Some dig into their own pockets to buy shoes and uniforms for cadets. Others devote nearly all their spare time to the youth program.

Ted Limmer and Bob Faulkner, of the Palmdale, California, squadron, test-fly jet aircraft for Lockheed. Though often tired after betting their lives on untried planes, they spend nights and week ends training Palmdale cadets.

"If our work helps put just one boy into the new Air Force Academy, it will be more than worth it," Limmer told me.

Harold B. Kinison, an Eastern Air Lines pilot, spent his 1955 vacation working with cadets at their Mitchel Air Force Base encampment. Later he rewarded one of his prize pupils, 17-year-old Bruce Beh of Plainville, Connecticut, with a ride in the cockpit of his airliner on a scheduled run. I accompanied the boy and was amazed at his penetrating questions about radio, navigation, and instrument readings. Yes, Bruce said, he's "hooked" for aviation; he wants to be an Air Force pilot first, then go into aeronautical engineering.

Civilians Take Command

CAP supports its youth work and other activities with relatively little government financial help. Members buy their own uniforms. Adults pay $3 national dues each year, a total of about $120,000, and varying amounts to wings and squadrons.

Fifteen States vote some funds to their wings. The Air Force cannot contribute money, but it does give solid support through professional leadership, office space at air bases, and matériel, including some 500 obsolete light aircraft recently donated to the volunteers.

General Agee and the headquarters staff are Air Force personnel. Except for this top-level group, civilians command all units. They can turn to Air Force field liaison officers for advice and help.

The law entitles CAP to obsolescent armed forces equipment, such as radios and generators, provided no Federal agency wants the surplus matériel. But other civilian organizations share an equal priority on most items, so the pickings often are slim. Many squadrons and individuals buy their own equipment.

Straining Cadet Fights the Tug of an Air Force Parachute →

Page 657: Nearly 9,000 CAP cadets last year attended annual encampments at Air Force bases, living like regular airmen and taking intensive ground-school courses.

This cadet, whose training does not include jumping, learns that the bailed-out airman must immediately get out of harness or collapse the chute, else the wind will bowl him over. Man at right is an Air Force sergeant instructor; practice takes place at Mitchel Air Force Base, Long Island.

Lower: Youths tackle a classroom problem in aerial navigation. Two lads hold an oversize demonstration model of the E-6-B computer, the flyers' handy gadget that quickly figures such problems as rate of fuel consumption, drift, and true speed.

General Agee wants to increase cadet enrollment to 100,000 and expand the aviation education program, but he says the Air Force and its minutemen can't do the job alone.

"It will take outside funds," he told me. "We need scholarships for selected high-school graduates to continue their aviation education in college."

Maj. Gen. Lucas V. Beau, who retired as national commander at the end of 1955, agrees emphatically with his successor. General Beau commanded the volunteers for eight years and organized the present program. He, more than any other individual, is responsible for CAP's vitality and growth.

It has been proposed that prominent citizens undertake an industrial fund-raising drive for the cadet program, but a decision has not been reached. No one suggests outside support for the adults. They can fend for themselves, a proud tradition that goes back to World War II.

Private flying enthusiasts founded CAP six days before Pearl Harbor. By war's end the volunteers had flown more than 24,000,000 miles on antisubmarine patrol in their own single-engine planes. They set up an aerial courier service for defense plants, flew tracking missions for antiaircraft and searchlight crews, patrolled the Mexican border on the lookout for spies, and performed a dozen other dangerous and often thankless tasks.

Then, as now, members served without pay, and 56 gave their lives.

At first CAP was attached to the Office of Civilian Defense; later the Army Air Forces

(Continued on page 665)

Jet Plane's Wing Makes a Lecture Platform for a Cadet Class at Mitchel Field

Eighty-three CAP youngsters last summer attended an encampment at Mitchel. Eighteen gather around this T-33 trainer. An obsolescent B-25 Mitchell, propeller-driven bomber of World War II, rests on the concrete apron.

659

Instructor Demonstrates a Model Gyroscope. Two Pilots Stand By for Questions

Jet flyers in crash helmets, oxygen masks, communications gear, and parachutes look like men from another world. Model gyroscope serves to explain smaller counterparts used in instruments like compass and artificial horizon.

Florida Unit Patrols the Beach at Evening in Plane and Sand Buggy

Every day the Naples CAP sends its Sundown Patrol along the southwestern Florida coast. Boatmen, happy to see the buzzing plane, wave it off if all is well. But when there is trouble, the plane radios surface rescue teams, and away roar boats and sand buggies.

"Ramblin'" Leon McCormick installed airplane tires on his jeep for better traction in sand.

CAP's Yellow X Says: "Ignore This Old Wreck"

The Air Force wants known crashes marked so that passing aircraft will not keep reporting them as fresh ones. CAP helps in this job.

In the Everglades the Florida CAP uses air boats (opposite, lower). These vehicles can do 50 miles an hour over a few inches of grass-covered water.

This Miami team marks the remains of a Marine Corps jet west of Fort Lauderdale.

CIVIL AIR PATROL
USAF AUXILIARY
RAM 'N' RUN

CAP Planes Scan Chicago's Lake Front Following an "Air Raid"

Civil Air Patrol in some States serves as the official flying arm of Civil Defense groups.

The author found the Illinois Wing preparing for action in case of an atomic attack, its members busily practicing their roles. One of their most important jobs will be the monitoring of ground radiation. CAP planes equipped with special instruments would fly low, measuring the intensity and extent of contamination.

The wing believes three to five such reconnaissance teams, each with five airplanes, five pilots, five observers, and 19 ground crewmen, could trace a "hot cloud" originating at Chicago. These light aircraft simulate such an emergency. Besides radiation monitoring, they practice reporting on bomb damage and traffic jams. Armed with such information, headquarters could divert traffic from dangerous or congested areas.

662

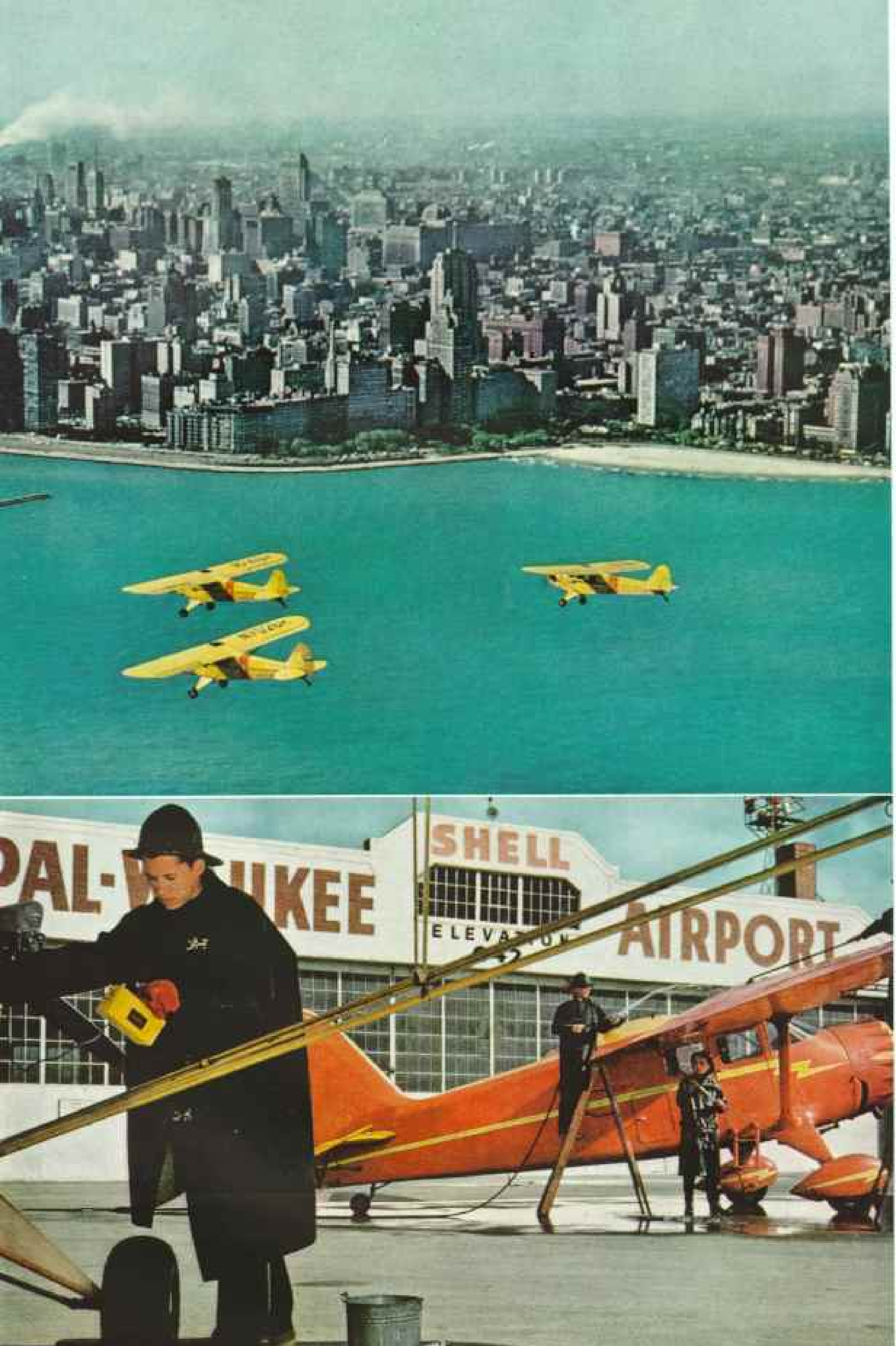
← "Chicago Bombed!" Says This Evacuation Map

Girl cadet holds messages from planes aloft on a practice mission. CAP officer posts the reports on map at Civil Defense headquarters. Red arrows trace the imagined movements of emergency-aid convoys; black ones show the flight of refugees. Blue arrows indicate the cloud's drift to the southwest.

"Hot" Plane Gets a Cooling Wash →

Page 663: Aircraft monitoring ground radiation would try to avoid the wind-driven fallout from an atomic cloud, but they might fly into the drifting, invisible particles accidentally.

These CAP members at Pal-Waukee Airport practice decontamination by hosing down a Stinson Reliant. Another man checks a ship with a Geiger counter.


SHELL
AIRPORT

Air Force Academy Cadets, Recent Members of CAP, Inspect a Matador Guided Missile

Former CAP men make up a tenth of the new Air Force Academy's student body. Lowry Air Force Base, Denver, Colorado, houses the school while permanent quarters rise at Colorado Springs. Missile decorates the temporary campus. These students in Air Force blue guide a visiting CAP cadet.

supervised its work. After a period of post-war doldrums, Congress approved in 1948 a bill giving the organization official auxiliary status with the Air Force.

In the event of atomic war, a host of new tasks may confront CAP volunteers.

If an enemy did unleash the atom on our cities, CAP would support Civil Defense with aerial damage surveys, radio communication, evacuation of injured, and airlift of food and medical supplies.

Recently volunteers also began training for a highly specialized and difficult assignment: radiation monitoring. Civil Defense officials have stressed repeatedly the danger of fallout from minute radioactive dust and bomb particles. Drifting with the wind, this lethal shower might well contaminate large areas.

CAP Teams with Civil Defense

How CAP could best be used following an atom burst is still being worked out. Some areas are staging exercises which can be adapted to any of several roles. In Operation Cue, a Civil Defense maneuver held during the 1955 series of Nevada bomb tests, volunteers of the Nevada Wing flew low over the area after the fallout, measuring ground radioactivity. The Tennessee Wing has also demonstrated CAP's potential by finding radioactive materials from Oak Ridge planted in the countryside for a test search.

With these precedents in mind, several wings are forming air teams for fallout detective duty, and additional States have programs in an earlier stage. In Illinois they are planning to map the radioactive fallout after it settles.

Weather forecasters can predict the fallout pattern in general, but officials believe air reconnaissance and follow-up are needed to determine the changing conditions of the deadly shower. Planes equipped with radiation-survey instruments would monitor the area where the vast, unseen cloud had settled.

At the invitation of the Illinois Wing, I flew as an observer in a grimly realistic radiological training flight. Some hours earlier Chicago had been hit by a mock bomb attack that theoretically leveled the city.

The mission began deep in a bombproof, underground control center in a secret location. There officials had gathered for a briefing before a wall map of northern Illinois (page 662). They pointed out to me the presumed area of fallout, a big wedge-shaped slice of terrain to the southwest of Chicago.

"Based on wind readings, this map shows approximately where fallout occurred a few hours ago," said Lt. Col. James J. Mitchell, Illinois Wing coordinator for Civil Defense. "It extends as far to the southwest as Peoria, 140 miles away, and covers an area of more than 7,000 square miles.

"The flyer's job is to determine the extent and intensity of contamination. If we know this, Civil Defense officials can then evacuate the area or order people to remain under shelter until it is safe to leave.

"You may wonder how much radiation our air crews could take. Each man would carry a dosimeter, resembling a fountain pen, which would tell him of his cumulative exposure in plenty of time to avoid danger."

Within an hour Mitchell and I climbed into a Piper Tri-Pacer and took off from Pal-Waukee Airport at Wheeling, 10 miles northwest of Chicago. We would simulate a patrol along the western fringe of the fallout area.

"This is really a communications test," Mitchell said. "I will radio position reports to the control center, omitting only the radiation readings we would give in an actual emergency. It should sound realistic."

And it did. We were flying south from Wheeling when the colonel suddenly banked to the left, flew the new heading for a few minutes, then veered sharply to the right in a 90° turn. His voice barked crisply into his microphone:

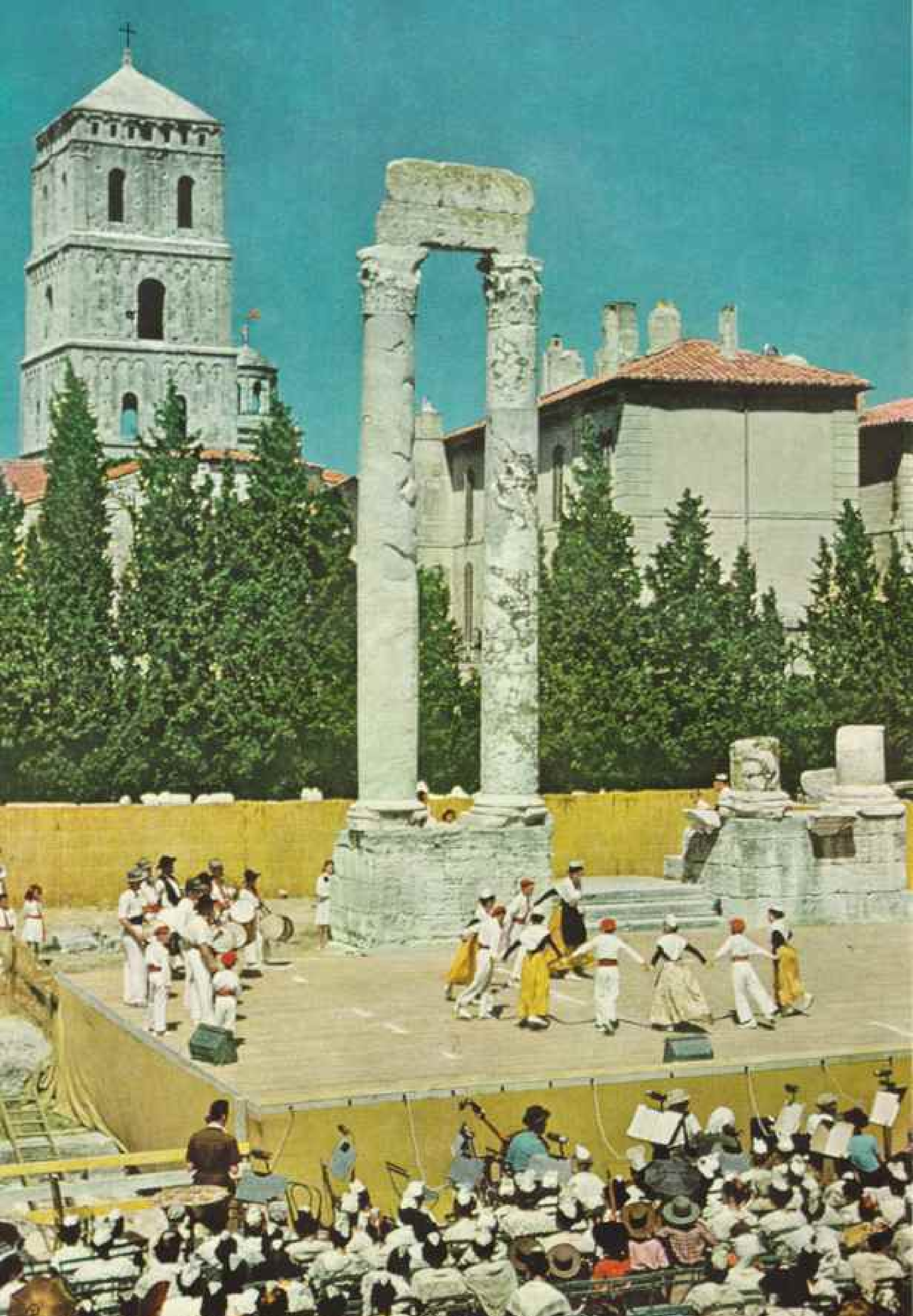
"Yellow Fox One, this is Blue Fox Five. We are directly above Bensenville at 1,000 feet. Time: One zero one seven. At edge of fallout. Our heading: One nine zero degrees. Acknowledge."

For the next hour we flew above the Illinois countryside. Whenever the colonel seized his microphone, it was all too easy to imagine that a deadly, invisible fall had drifted down on towns and farms.

Each Volunteer Finds His Reward

Later, back at the airport, Jim Mitchell reminisced about his 14 years of service in Civil Air Patrol and the many volunteers he had known. I shall never forget one particular remark, for it brought into focus something I had sensed in hundreds of members met during the previous six weeks.

"We want nothing for our work," he said. "All we get is an inner satisfaction—but often it feels very, very good."



The Camargue, Land of Cowboys and Gypsies

Wranglers Wear Rubber Boots and Volunteers Dodge Bulls for Fun in the Rhône Delta, Where Lightheartedness Is a Way of Life

By Eugene L. Kammerman

A FRENCH cowboy who straddled his horse in Wild West getup, but who was shod in a fisherman's floppy rubber boots and armed with a long trident, was the first friend I made in the Camargue.

Next came a fat and jolly Gypsy king called Coco, the most picturesque resident of this odd bit of real estate in the south of France, who dropped in for lunch. And before long I encountered herds of "good-natured" bulls, witnessed comic and bloodless "bullfights," watched Gypsies wade into the Mediterranean to pray to their patron saint, admired a dozen beautiful girls of Arles in costumes straight out of Alphonse Daudet's drama *L'Arlésienne*, and—what next? Nothing could have surprised me at the end of that lighthearted week in May!

Not in the Camargue, which centuries ago grew fondly accustomed to such extravagant goings on. Nor in Arles, chief market city for the Camargue and capital of ancient Provence, where magnificent Roman ruins, the warm Mediterranean sunlight, and an almost tangible aura of history combine to gladden the heart of a traveler.

The origins of Arles are somewhat obscured in the mists of history, but the genesis of the Camargue is plain for all to see. An accident of geography splits the swift-flowing Rhône River on the northern outskirts of the city, 30 miles from the Mediterranean (map, page 670). The two branches, Grand and Petit Rhône, form two sides of a rough triangle, with Arles at the apex and the sandy shores of the sea as its base. The salty, level delta lying between the two courses is the Camargue.*

Van Gogh Enraptured by Camargue Colors

The delta is a flat and sparsely populated country of small ranches, flooded rice fields, lonely swamps, and salt flats (page 688). But Arles is a busy little metropolis where the winding streets echo the sputter of motorcycles and scooters, the tread of tourists, and the hurly-burly of a weekly fair and market which it proudly claims is the largest in all France.

There is beauty in the place. Vincent Van Gogh, the famous Dutch painter who arrived in Arles in 1888 and spent two of his maddest and most productive years in that city and the Camargue, found the area "as beautiful as Japan for clearness of atmosphere and colorful effects."

He wrote that the water forms patches of fine emerald or rich blue in the landscape just as is seen in Japanese crepe prints. To his eye the pale sunsets made the fields appear blue and the sun was "gloriously gold."

And when, at the height of the burning Provençal summer, Van Gogh traveled south to Les Saintes Maries, he found red, blue, and green fishing boats anchored off the sandy beach, and a landscape of old gold, bronze, and copper even though the azure of the sky was blanched with heat.

Henry James, the writer, admired the stately ruins of Arles and the beauty of its "straight-nosed Arlésiennes," yet found himself puzzled by the city's attraction for him. "As a city," he wrote, "Arles quite misses its

---

Page 666

← Skirts Swirl to a Gay Tune as Youths Skip Beneath Ancient Columns in Arles

Greeks from Massilia, the modern Marseille, were the first known settlers of Arles. Then came the Romans, who built this theater, now in ruins.

Capital, crossroads, and religious center of Gaul, Arles became the third city in Constantine's empire, outshone only by Rome and Constantinople. Some 100,000 persons, five times the present population, lived in the ancient city. Sacked by barbarian and Saracen, Arles revived in the Middle Ages as a center of Provençal culture.

Vincent Van Gogh came to Arles in 1888-89 to paint its sun-drenched scenes. Frédéric Mistral rhymed the city's glories in the melodious tongue of the troubadours. Georges Bizet evoked Arlésienne beauty in his music.

Where togaed Romans once played the farces of Terence and Plautus, school children here dance to the music of flutes and drums. The theater's marble columns have stood 2,000 years. Gray stone tower on the left identifies the Church of St. Trophime.

Kodachromes by Walter Meayers Edwards, National Geographic Staff

* See "Camargue, the Cowboy Country of Southern France," by Dr. André Vialles, National Geographic Magazine, July, 1922.

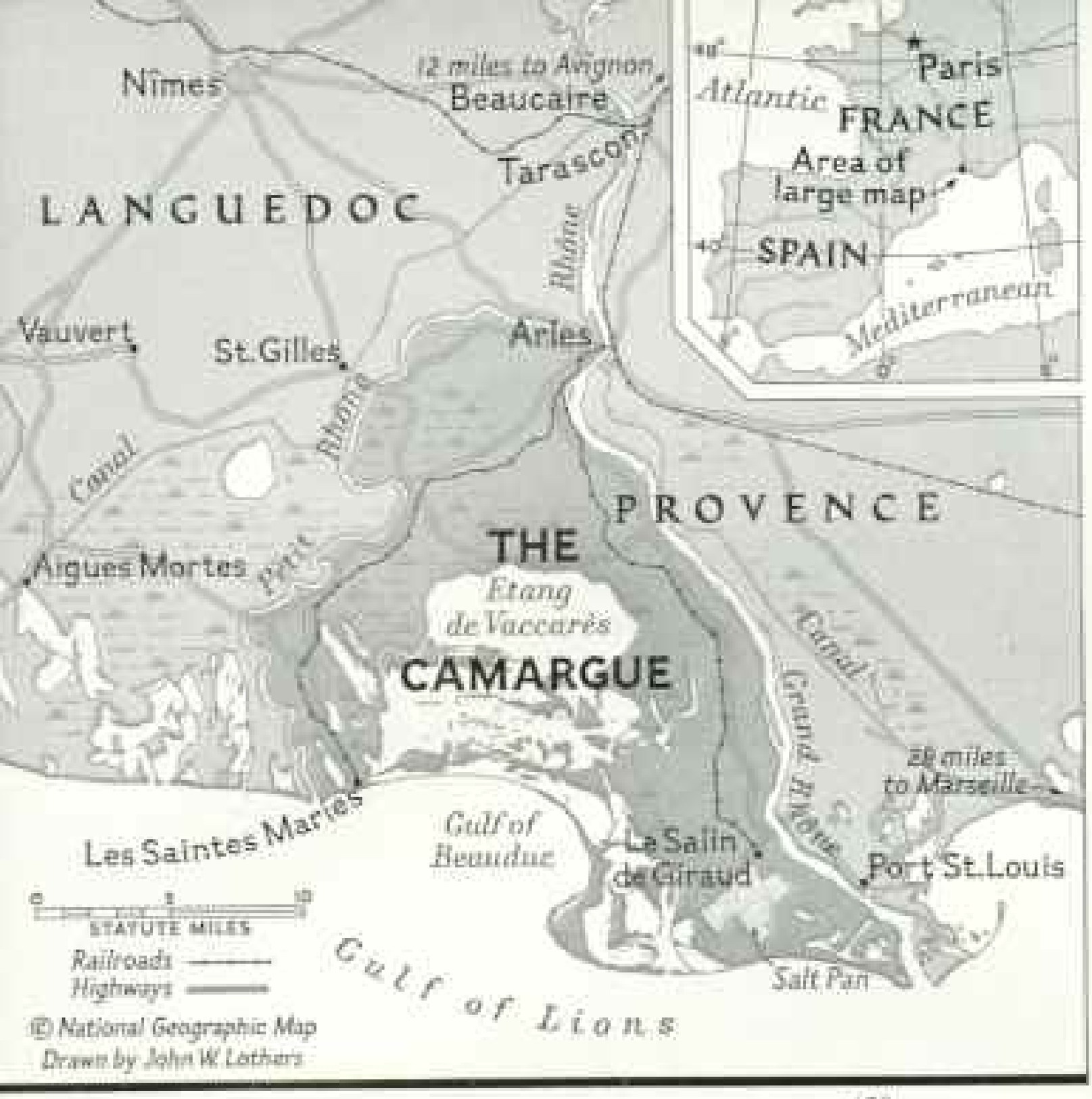
Arles Crowds the Banks of the River Rhône

In the first century, St. Trophimus, a disciple of St. Paul, carried Christianity to Gaul through the gates of Arles, the "Gallic Rome."

Today the Romanesque tower of St. Trophime's, named for the missionary, rises (center) above tiled roofs and winding streets. Arches in the distant left mark the Roman amphitheater (page 676).

River of Crusaders and commerce, the now canalized Rhône fans out near Arles and embraces the delta lands of the Camargue (pages 688, 696). Here a motor barge chugs toward the sea, 50 miles to the south.

◆ A gleaming marble figure contemplates floral geometry in the public gardens of Arles. The city's coat of arms blooms in background.



Ancient Rome Lives On in Southern France

Roman Senator Annius Camar, a rich landholder, gave his name to the Camargue delta, a wilderness domain of black bulls and white horses. Rome built great cities at Arles and Nîmes and left ruined monuments and aqueducts.

From castles at Tarascon and Beaucaire and watchtowers at Arles and Nîmes, Provence stood guard against barbarian, Saracen, brigand, and Rhône corsair. Avignon, fortress-city of seven medieval popes, withstood 10 years of siege. St. Gilles was a stronghold of the Huguenots.

Here in the country of the troubadours, Aucassin wooed Nicolette and St. Martha vanquished man-eating monster Tarasque.

Van Gogh's land of the olive and the vine basks under a sulphur-yellow sun. Cypresses stand like green-black obelisks against the Mediterranean sky.

effect in every way; and if it is a charming place, as I think it is, I can hardly tell the reason why."

I found myself less puzzled than the critical Mr. James. For Arles in the spring and summertime is a gay and friendly place, where a seemingly endless succession of parades, pageants, costume fetes, and theatrical spectacles gives new life to the sun-baked stones of the enormous Roman amphitheater and the graceful if less well-preserved Théâtre Antique (pages 666, 676).

Perhaps the principal charm of this history-laden city is the way its people and their cowboy and Gypsy neighbors make almost daily use of those magnificent structures that are souvenirs of a glorious past. Not for them a solemn reverence for antiquity; they respect their treasures, yes, but those structures were made to be used, and they use them.

Where Men and Animals Match Wits

Romans once watched combats between gladiators and beasts in the great amphitheater, one of the largest of its kind in ancient Gaul. Here brave men still test their skill and courage against the Camargue's wiry little black bulls. The massive walls, decorated with Corinthian and Doric columns, still echo to the frenzied shouts of spectators as men and animals match wits.

The stage of the ancient theater, where two of the original eight soaring columns still stand, is also a center of public interest. Here are no bored guides with windy lectures, but lovely girls, dressed in the area's colorful costumes, treading the intricate steps of Provençal folk dances or singing songs handed down from mother to daughter through the centuries.

Arles Glittered as City of Kings

The history of Arles is inseparable from that of the Camargue. When, after Caesar's sack of Marseille in 49 B. C., it became the capital of Roman Gaul and the most important commercial city in the area, it depended for sea-borne commerce on a canal cut across the salty marshes to the south. And when barbarian invasions inundated Arles in the fifth and sixth centuries, the Camargue suffered as well. The Saracens occupied both city and delta in 730.

Arles was the seat of the kings of Burgundy between 879 and 1150. There followed a century when it took the status of independent city-state. Then it returned to the counts of Provence.

The latest chapter in the city's hectic history was written during World War II. In 1944 Allied aircraft bombed Arles trying to destroy the Rhône bridge across which the Germans were moving troops and supplies. The bombs demolished Vincent Van Gogh's home, but left the bridge intact.

Dangling Scissors Complete Michèle's Festive Costume

This slippered maiden pauses beside a broken column of the Roman theater in Arles (page 666). Her *costume de Mireille*—perky lace cap and shawl, black waist and apron, and flowing skirt—takes its name from Frédéric Mistral's epic poem, *Mireille*—"I sing the love of a Provençal maid"—which sparked the 19th-century revival of Provençal language and ways.

"One should speak of Greek statues," the poet said of slender beauties like Michèle Croze, thinking no doubt of their Hellenic profiles and expressive black eyes. Tanned, oval faces and upswept jet tresses confirm their fabled beauty.

Folk Dancers Perform at Arles

Many Arlésienne costumes have been handed down from mother to daughter for 100 years or more. Skirt colors vary, but lace shawls are always white.

Walter Meayers Edwards,
National Geographic Staff

The Roman background of Arles accounts for its magnificent ruins, but certainly not for the relaxed temperament of its citizens and those of the Camargue. That delightful attitude toward life, some observers hold, floated down the Rhône from Tarascon, just to the north. There dwelt Daudet's amiable hero and slayer of imaginary lions, Tartarin of Tarascon.

Another likely theory holds that the Camargue's happy-go-lucky philosophy moved in from easy-does-it-let's-have-fun Marseille, a few miles east, when the too-efficient Romans took charge there.

Scholars may differ as to the reason, but even the most casual visitor soon finds that the warm Camarguais heart beats chiefly for a bit of distraction and a glass of *pastis*, an anise-flavored aperitif. It forgives almost anything in a fellow creature but the loss of his good humor.

Today's Bad Bull Is Tomorrow's Meat

Even the herds of smallish, fleet Camargue bulls are subject to this rule, my cowboy friend assured me solemnly. The bullfights for which they are raised are far from savage. A too-disagreeable bull finds himself cut out of the herd one day and into steaks the next!

Poor soil and the broiling summer sun make life hard enough. The little bulls and a few

Like Giant Saucers, Roman Theater and Arena (Left) Break the Tiled Roof Pattern of Arles

Ramparts that enclosed the Roman city have vanished with time, but Arles still huddles about its ancient monuments. Homes and shops rub shoulders along intimate streets. Buildings stand so close that most daylight is squeezed out of storied lanes, once paved, according to Henry James, with "villainous little sharp stones" that made walking "penitential."

Three medieval watchtowers rise from the arena's upper tier (left). Railway tracks skirt the city beyond the cemetery; trains compete with barges for Rhône Valley commerce (page 669). Arles is market center for the Camargue.

In this aerial view, St. Trophime's tower and part of the cloisters appear at lower right. They dwarf the two marble columns of the ancient theater (page 660), used after Roman rule by city dwellers as a quarry for building homes, churches, and fortifications. The theater had all but disappeared when restoration work began in the 17th century.

Photo Groff—H. Renard

hardy sheep barely manage to subsist. But why worry? "Enjoy what you can" seems to be the local motto.

If most of the several dozen *gardians*, as the cowboys of the Camargue are called, dress suspiciously like western film stars and slouch like Gary Cooper—so much the better for the next fete (page 686).

And, with the puzzling exceptions of the rubber boots and the trident, everything in sight that first morning in the Camargue seemed borrowed from a "horse opera." Ten-gallon hat, gay checked shirt, lasso, little cow pony with comfortable western-style saddle—even the semidesert landscape covered with lichens and an odd tamarisk. Who would say that this was France? But those fisherman's boots, on a horseman . . . ?

The gardian smiled at my first question.

"*Eh, bien*, our bulls are unreasonable sometimes," he explained. "They wander off into the salt marshes and get bogged down. The same might happen to my horse were I to follow mounted. So I go on foot. The boots keep my feet dry."

The long-handled trident was for prodding the bulls along from a convenient distance. It is the ancient and characteristic tool of the French cow hand, this one told me, and remarkably useful. He himself preferred it to the lasso, carried only for catching horses.

For Michel Nou de la Houplière was proud of the old Camargue traditions. Here cowboys were riding long before the Spaniards brought horses to the New World. For example, the harness of his mount, made largely of hair from the manes of his own horses, included a kind of supplementary rein. Legend had it that the rein was originated to control the half-wild ponies that came to the Camargue with Attila's hordes. Today it is kept only because of ancient custom.

Saddle in Style for Centuries

Michel's saddle followed local fashion in being high in front and rear, the cantle almost like the back of an armchair, quite unlike the English style more usual on the Continent. Differing from our own western-style saddle only in its lack of a horn, this type has been used in the Camargue for centuries. And Michel's trousers, like those of almost all the gardians, were of a type pecu-

liar to this region—almost skintight throughout their entire length.

His horse, Nistou ("kid" in Provençal), whinnied reproachfully when Michel dismounted to tie him up. Horse and man rubbed cheeks as Michel crooned in the ear of the little Camarguais. Nistou was typical of the breed, rather short, rarely measuring 60 inches at the withers, shaggy, and off-white in color.

Strong, tireless, and capable of great speed for short distances, the little Camarguais are prized principally for their sure-footedness (page 684). They can turn like a well-trained polo pony at top speed, and rare indeed is the Camargue bull, no matter how wily, that can escape their relentless pursuit.

Sport with a Gentle Bull

A few hundred yards across the *prairie*—the French word means about the same as in the United States, but less of it—stood a split-log corral which, like much of the Camargue scene, looked to my uneducated eye just like its American counterpart. A number of gardians, most of them dressed like Michel, were seated on the fence, chatting with a handful of women visitors.

They were all watching a visiting Spanish bullfighter working with cape and bull. The bull, probably because the tips of his horns were carefully padded, did not seem very enthusiastic.

"Here's a really gentle bull," said Michel. "Why don't you take a try?"

Cries of enthusiasm . . . such a little bull . . . such a young bull . . . so gentle, really, as bulls go . . .

The Camarguais is a practical joker, but I did not know this then. I climbed gingerly down, into the corral. Encouraged by the fact that the bull ignored me completely, I ventured out toward the Spaniard, who had been rewarded with a few furious charges. These he dodged nimbly enough, merely by pivoting in place. A calm eye and a quick twist—as simple as that, it seemed to me. Urged on from the fence, I took the cape myself (page 692).

"Wave your little flag," laughed Michel. I tried this, feebly, while the bull pawed the earth, head ominously lowered. Both of us were gathering courage. He charged.

I stood there. It seemed the safest thing to do; the bull was faster in a flat race. And besides, the bullfighter had seized me from behind, very firmly. At the right moment, he forced me to pivot—and the bull was far off on the other side of the corral, buffeting the fence. Amid cheers I began to walk toward him.

The excited creature charged at once. I found myself lying flat on my back in the dust. Laughing shouts from the gallery bade me rise to my feet, but my feet would not obey.

Finally, remembering the bull, still at large and presumably thirsting for more of the same sport, I managed to get up. The beast stood calmly by the fence. This "good-natured" little animal plainly asked only to be left in peace, and I was willing.

"But such a little bull, really . . . *so gentil* . . ." I heard, as I mounted the fence.

Horses Branded Western-style

The rest of the morning looked more like work. The young horses of the ranch—the yearlings and the two-year-olds—had been driven in from the prairie for branding. Michel, accompanied by several other gardians, entered the corral with them. His father, *manadier*, or owner, of the largest herd of horses in the Camargue, presided over the branding fire.

One by one Michel lassoed the skittish youngsters as they raced around the gardians in a tight circle. Each was brought to earth and its long mane sheared to be braided during winter nights into rope and harness. Once down, each animal was branded on the shoulder. I asked if the young bulls were branded in the same way.

"By a much easier method," replied Michel. "We have a hundred people anxious to help us and to pay for the privilege of doing the heavy work!"

"Pay you?"

"Certainly. Tomorrow is Sunday. Come over and have lunch with us, and you will see."

The rendezvous next morning presented

Page 674

← American Girls Dine on the Terrace of Hotel Jules César in Arles

The hotel (right) occupies a 17th-century convent; some guest rooms are cells formerly used by nuns.

Here an Arlésienne serves sun-ripened fruits of Provence to Linda McCullough and Jean Shor (right). A onetime Carmelite chapel stands in the background.

Where Lions Roared and Romans Cheered, French Gladiators Face Bulls in a Bloodless Sport

Gone are the ravening lions, "the murmurs and shudders, the thick voice of the circus," as Henry James noted. Purple awnings no longer shade the naked arena, and burning incense has ceased to mask the reek of blood. Instead, gymnasts snatch a cockade from the bull's horns. Sometimes they are hurt; the bulls never.

Walter Meayers Edwards, National Geographic Staff

Gaunt, Ruined Arches Hold Up Empty Provençal Sky; Arles Amphitheater Has Lost Its Top Tier

Once 25,000 Romans thronged the arena for holiday spectacles. Upper galleries gone, the stands now seat 15,000. Twelfth-century watchtower recalls perilous times when some 300 houses and a church huddled here for safety. Restored, the arena stages festivals and bullfights, such as the *Cocarde d'Or* shown.

another little tableau strikingly like a scene from the American West. A cow pony stood obediently beside a brushwood fire; heating in the coals lay a branding iron. All about lay open prairie, sparsely dotted with lichens and distant herds of cattle. A clump of scruffy little tamarisks stood near by.

Suddenly the illusion was shattered. Out of the tamarisk, his arms laden with firewood, strode a bronzed young cowboy—in a proper French beret. One more surprise! A few gardians are violently opposed to "dressing the part."

Taking the Bull by the Horns

By the time the branding iron had turned a cherry red we were joined by workmen and farmers from a near-by village, who arrived in several overloaded trucks. Perhaps because pastis, as one of them explained, "protects a man from this formidable sun," they had partaken liberally of it. These members of a *club taurin*, or bull club, formed themselves into a long line on either side of the fire.

Galloping from the herd came a scattered troop of gardians, driving before them a young bull. He fled to the right, bawling fearfully under the onslaught of a dozen eager amateur assistants. He managed to throw most of them aside, although one had so firm a grasp of the animal, which he had taken by the horns, that he was dragged some yards. The bull dodged back, right into the shouting mass of pursuers.

Finally the whole confused tangle of men and bull tumbled in our direction, and the bull was thrown to the ground. The nearest gardian thrust one of the paying workers aside and firmly planted his branding iron. It was obvious that he cared little for these villagers and their sport. Before the morning was over, a promised minimum of seven bulls had been captured and branded. Two others withstood the mass attacks of the amateurs and returned to the herd unscathed.

"Talk about American efficiency," said René, one of the gardians. "These *types* from the villages not only save us a lot of hard work, but they pay the patron thirty or forty thousand francs for the privilege."

I had to admit that not even the snort was wasted in this operation.

At noon we walked half a mile or so to Michel's *cabane* (a small house), René leading

Fiery-eyed Bull Lends a Helping Horn as His Tormentor Vaults the Fence in Arles

Tense moments occur when a bull blunders over the barricade. Spectators scatter instantly, some jumping into the ring. Van Gogh called the Arles bullfights a "sham," but the crowds impressed him as "magnificent."

Photo George Arles

679

↑ Men Flee the Charge of an Angry Bull

High-spirited fun, rather than death, marks the bloodless bullfighting popular in Arles. Every man is out for a good time. When a Camargue bull starts breathing fire down his neck, he feels no disgrace in heading for the fence.

Each bull carries a red cockade on his forehead, a tassel on each horn, and strings between the horns. The *razeteur*, or bullfighter, gets cash and points for snatching these prizes with a steel comb. Contestants slap the bull's rump, wave shirts, and shout insults.

When a bull keeps decorations intact for 15 minutes, the band strikes up the Toreador song from *Carmen* and his owner takes a bow.

The high-scoring razeteur wins a "golden" cockade, the *cocarde d'or*. Best bull gets a like award.

→ Jean Thibaud, a Camargue rancher, displays the trophy won by his bull Frisé, meaning curly. Retired, Frisé went blind and ended up as steaks. His mounted head still shows cockade, tassels, and strings.

Walter Meayers Edwards,
National Geographic Staff

his horse out of courtesy. On the way we met four gardians especially splendid in their rodeo regalia—and mounted in an old United States Army jeep. This rough little rider, they told me, is the perfect vehicle for the Camargue save only for its heavy consumption of fuel in a country where gasoline costs about 60 cents a gallon.

The cabane was about 30 feet long by 15 wide, rounded at one end and square at the other. Its rather low walls were made of local clay, plastered over, and topped with a high, sharply sloping roof of rushes from the near-by swamps arranged in half a dozen overlapping layers down from the central ridge. As tradition requires, the round end faced the east, where Christ died, and bore a small cross at its peak. The door was at the other end.

Michel's cabane was a bit larger than the usual gardian home, but otherwise typical. He had built it in a month, with the aid of a few friends. It would easily last 25 years, perhaps longer. Here he lived alone, managing his herd, for his parents had retired to Arles close by.

680

Two St. Marys Parade in a Boatlike Litter Borne by the Faithful

Camargue tradition records that Mary Jacobe, sister of the Virgin Mary, and Mary Salome, mother of the Apostles James and John, landed here with several companions about A.D. 40 after fleeing persecution in the Holy Land.

Les Saintes Maries, named for the two sea-borne Marys, has drawn pilgrims for untold centuries.

Some 30,000 persons thronged to this Maytime festival. Processionists marched from the saints' shrine to the sea and back. They included Gypsies, Arlésiennes in lace caps, Camargue *gardians* (cowboys) astride white horses, and men wearing the traditional Provençal whites, with black string tie and broad sash.

Eugene L. Kammerman

682

On this hot day the cool interior of the house was most welcome. Michel and his father, Maurice Nou de la Houplière, always called "M'sieu Nou," were popular hosts, and I found a number of other manadiers with their wives. The Spanish bullfighter of yesterday was present, and—of all people—an enormously fat man called Coco, who modestly introduced himself as "king of the French Gypsies."

Lunch Features Beef and Rice

Other royalty was present. Jacqueline Pastre, Michel's married sister, was a slender brunette with the aquiline nose and distinctive cheekbones of the true beauty of Arles. She had been elected queen of the Camargue by the gardians, and it was easy to see why.

She and her mother served us well. Green olives and sliced sausage of Arles began the meal. The true sausage of Arles is made with horse meat, but I did not question these delicious bits. They were followed by tomatoes stuffed with meat and peppers, a Provençal specialty I have tasted many times in that happy land and always with pleasure. Roast beef was the main course, served with rice from the irrigated fields so successfully developed after World War II (page 694).

Cooking and salad, a local green, were rich in olive oil, which must be brought from outside the Camargue. The dessert of strong goat cheese testified to the rarity of cows in the pasture-poor district. It was all washed down with a sharp little red wine produced in the vicinity.

For the time, bulls are still important there, and over coffee the men smoked and discussed their prices, lower than they had been just after the war. The food shortage of the German occupation had cost even the most amiable bulls their lives. Camargue being outside the normal meat-marketing channels, it was temptingly easy for a rancher to sell his bulls on the then patriotic black market, and it remained temptingly easy long after the black market had become less useful.

Good Bull Sees with Horns

Breeding bulls for meat, however, is regarded as a necessary evil by the old-line manadiers. Breeding fighting bulls for the local *courses libres*, or free-for-alls, is not only more fun and more likely to lead to local fame; it can be far more rewarding financially.

A really good bull, one which "sees with his horns," to use the local expression, brings his owner both fame and a modest fortune. Such an animal will appear in as many as a dozen contests a year, earning thousands of

Mounted Cowboys Salute Sarah, the Gypsy Saint, on Her Annual Return to the Sea

Europe's Gypsies revere Sarah, Egyptian handmaiden to the two Marys, as the mother of their race. Many come from afar to honor her. The fact that the Church has not canonized Sarah seems only to increase their fervor (page 690).

Each year Gypsies dress Sarah in new garments, adding them to the bulky wardrobes of bygone years. After an all-night vigil in her dark crypt, they carry her on a litter to the beach. Then, acting out the landing of the town's saintly founders, Sarah's devotees parade to the old church where she rests.

"*Vive Sainte Sara!*" they shout.

The fortresslike church rears lofty battlements and bell tower above the sand and marshland spot where a spring is said to have miraculously issued forth, refreshing the holy band of refugees.

Tridents held aloft, the riders here form an honor guard as Gypsies wade into the Mediterranean with Sarah's carved and painted image. This ceremony precedes the procession of the two Marys by a day (page 680).

Festive Crowds Dance in the Streets

Bullfights, horse races, jousts, and dancing round out the Saintes Maries fete. These carefree couples jitterbug in the town square. *Mercerie Epicerie* is the sign of a haberdashery-grocery.

684 Dmitri de Djemid-Bernett

Teeth Bared, White Manes Flying, Untamed Stallions Duel in a Camargue Corral

The Camargue horse—squat, heavy-jowled, with bulging belly and bristly coat—wins no beauty prize. But he rides down bulls with a racehorse sprint, wheels nimbly, works hard and long. Born wild, he can fend for himself on the salt-caked prairie; his hard hoofs need no shoes. When autumn and winter rains make the Camargue a sea of mud, this intelligent mount provides the only sure transportation.

Shaggy Mongolian ponies of Attila's hordes may have sired ancestors of this fighting pair. Manes will be clipped and the hair plaited into bridle rope.

dollars in four or five years. And the owner occupies a position roughly analogous to that of the manager of a world boxing champion.

Coco and I had a little chat about a coming Gypsy festival to be held next week end at Les Saintes Maries, so-called "capital of the Camargue." On both Saturday and Sunday the Gypsies would attend Mass in the 12th-century church there and then march to the sea behind religious images. No one knows when this pilgrimage really began, but it is at least as old as the church and probably much older.

Coco's real name was Emmanuel Baptiste—a Gypsy king who never went a-gypsying, but bought and sold used cars in a Camargue village. A quarter of a century of reign over his unruly brothers, he assured me, had shortened his life. (Recently I learned that he had died.) Royal griefs seemed to agree with Coco, for he rolled rather than walked, and kept a huge smile and a large thirst for pastis to the fore. Nonetheless, I began to appreciate the heavy weight of a crown when he offered me friendly advice for the coming week end.

"Before you enter the church," urged Coco, "put your money inside your shirt. Be twice as careful in the processions. Years ago, one of my brothers managed to take my wallet. He became so famous for having stolen his king's wallet that now the younger men seek glory by repeating another such coup."

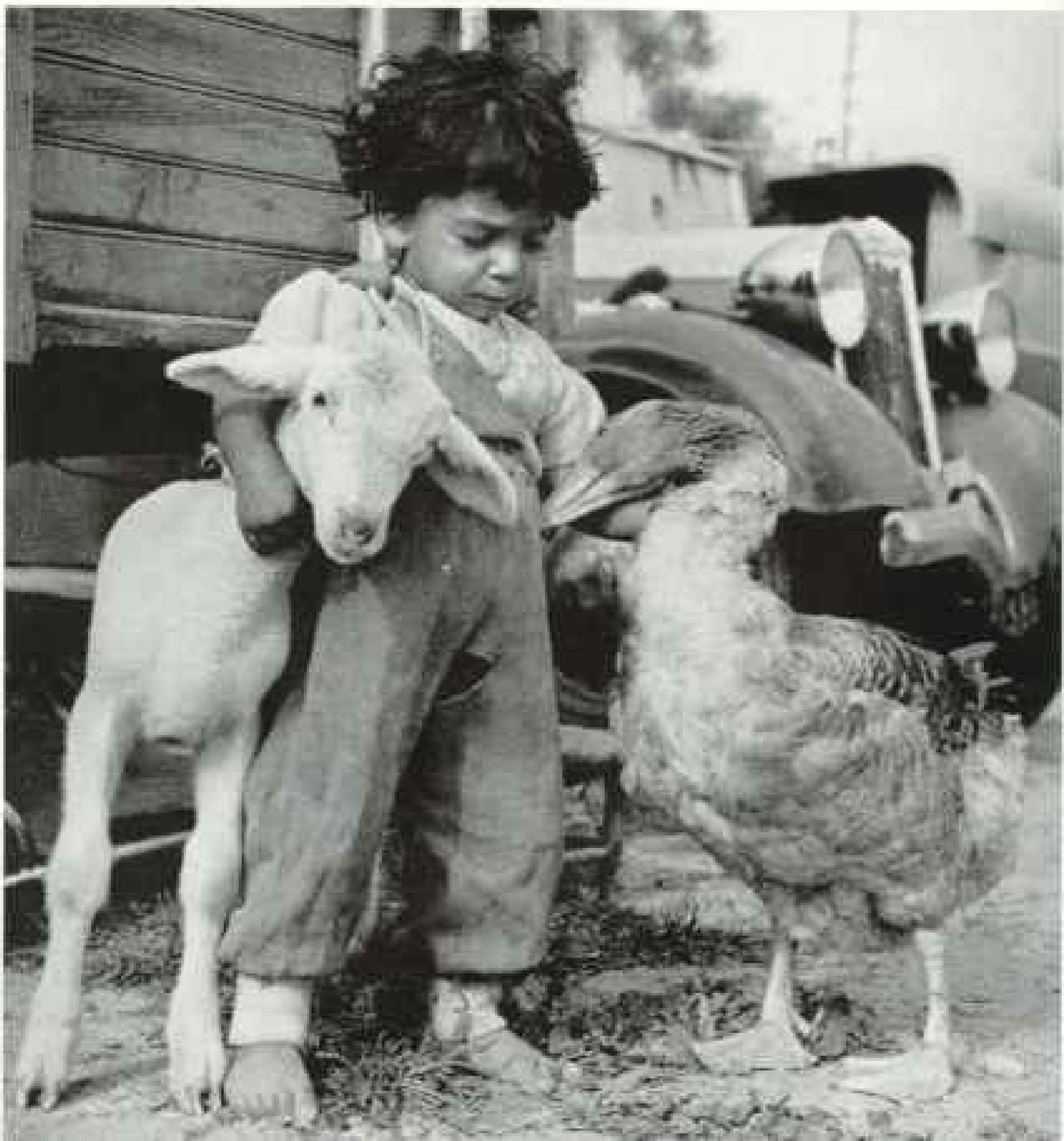
The vanity of youth! Coco shook his head sadly.

"You will even see me, sometimes," he added, "striking behind me with my arm as I lead my brothers to the sea. It is to defend my wallet."

In the afternoon, members of the bull club chased the young bulls about the corral. Although men were knocked down, no one ever got hurt, because the bulls' horns were usually guarded. René came by once to laugh again at these foolish villagers who had paid M'sieu Nou for the privilege of more or less "educating" his bulls up to their final role in the ring. Full-grown bulls would be unaccustomed to men, and perhaps dangerous, without these Sunday afternoons.

Most of the week I took advantage of the warm sun and of the magnificent beach near Les Saintes Maries, for I had come south on vacation. A few sailboats, beached early every morning by fishermen, shared my solitude. The beach at Les Saintes Maries is of smooth sand, with a gentle slope into the Mediterranean, surprisingly chilly in May.

One afternoon I drove through a kind of American desert landscape to the village of



Goodbye Forever! Playtime Pals Part Before the Feast

The Gypsy caravan's arrival in Les Saintes Maries brings the fatal day of banqueting. This boy tearfully tries to protect lamb and goose, his companions on the road, from their culinary destiny.

After the dinner, Gypsies will gather around a fire amid the trailers, tents, and horse-drawn wagons to listen to guitars and dance.

Tousled hair, smudged face, and tattered garb reflect this lad's unbounded freedom.

Edition Tomasin-Tarbes

Le Salin de Giraud. As its name indicates, this is the site of an important saltworks, where sea water is evaporated in shallow pools by the heat of the sun. A large chemical plant has also been established here.

On the way back, we stopped at a cluster of empty cabanes, built by the German occupation authorities as a concentration camp for Gypsies. As king, Coco issued a "declaration of war" and then went into hiding, to save his life. Many of his tribe were less fortunate and died at this spot or elsewhere.

This Is the Camargue, Not Hollywood

Highlight of the week was an encounter with the Old Guard, or rather gardian. He was the son and grandson and many times great-grandson of gardians, an elderly manadier named Raynaud. Painful thrift over several generations had managed to accumulate a little land, a few bulls, and some horses.

"We are not in the cinema here," M. Raynaud snorted. "Here we work. No butterfly gardians."

The sturdy veteran sat his horse in a battered felt hat that Hopalong Cassidy would never claim, an old vest, and other plain garments. I had found him in wooden shoes which he exchanged for heavy farm boots before mounting. But even M. Raynaud had a weakness: the handsome tooled-leather saddle hanging in his stable, he announced proudly, had been in use by his family for 72 years.

"For work," he added. "I don't go to parades."

But the old man's sons, as I later noticed, showed up in full splendor at the great occasions of the Camargue. It was rumored that they kept their finery in a neighbor's house—certainly not at home—but that is their secret.

Toward the end of the week, swarthy strangers began to show up in Les Saintes Maries—the Gypsies, of course, but what a disappointment. *They* certainly did not dress the part. The modern Gypsy, judging from this cross section, wore the same clothing as everyone else. And—from the strongest evidence—after everyone else was finished with it! The same observation applied to his automobile. Most Gypsy families came that way, although a few of the more prosperous towed trailers as well. The one or two positively wealthy families boasted cars, suits, and trailers that gleamed.

Only a few horse-drawn wagons and an occasional gay traditional dress showed glimpses of a more romantic past. With logic the young girls in costume demanded that non-Gypsies like myself pay for the spectacle they provided. Snapshots cost me dearer than anyone else, because the quick-witted youngsters sensed that I was a journalist.

Coco rescued me from one indignant mother, who felt that I had robbed her family of bread by giving only 50 cents for a picture pose. I led him to an old automobile at the edge of camp, beside the blue Mediterranean. A well-swaddled baby inside, and mother cooking over a fire as she watched some toddlers, were normal components of a rolling Gypsy home. But what explained the absence of tires on all four wheels?

No Tires, No Temptation

"A wise man," approved Coco, pausing to wipe his brow with an enormous bandanna produced from his GI trousers. "None of our brothers will be tempted to steal his tires; they are inside the car."

In the ancient church's crypt, Coco showed me the statue of the Gypsy "patron saint," Sarah. It is in her honor that the Gypsies have made pilgrimages to Les Saintes Maries every May for untold centuries. (Most of the few hundred Gypsies present were from France, since political conditions had kept the strong representation in eastern Europe at home.)

Sarah was enshrined as a wood and wax figure, half life size, in a simple blue dress draped over at least a dozen older garments. Every year she receives a new gown from her flock, but no one dares strip her of the old ones and they rot in place. Strung on either side of Sarah were old shirts, undershirts, baby garments, shoes, and even a neck-

---

Page 686

◀ **Camargue Cowboy Carries a Goad in Place of a Lariat**

This young man divides his time between herding cattle and shepherding vacationtime riders, French equivalents of the American "dudes." He works for Carbarel ranch (page 691).

A bull's skull decorates the plastered bunkhouse. Wicker demijohn holds drinking water, scarce in this region of salt flats and marshes.

Camargue horsemen use the three-pronged staff to prod and turn bulls (page 689).

Kodachromes by Jean and Franc Shor, National Geographic Staff

Drowned Range, Sandy Wastes, and Shrub Support Camargue's Half-wild Bulls

This aerial view shows one of the shimmering sheets of brackish water that break the gray-green solitudes. Black cattle are Camargue stock, a strain kept pure since ancient times.

Lower right: Riding at full gallop, trident in hand, a cowboy cuts bulls from a corralled herd on the Thibaud ranch. Those he selects will go into the bull ring (pages 676-679).

↓ Ranch Hand, Like a Telephone Lineman, Climbs a Pole to Check Herds

Cacharel's ranges come into sight from this perch, one of several that dot the low, flat terrain. A white Camargue horse stands tethered below. The small pillion behind the saddle seats ladies.

Kodachromes by Joan and Franz Shor (below) and Walter Meayers Edwards, National Geographic Staff

tie; religious medals and snapshots were pinned on her dress. Left there to commemorate past aid or to request future assistance, these objects lent a distinct atmosphere to the crypt. No garment had been washed; they had all come right off their owners' backs.

"How would Sarah know their owners?" asked Coco. "How would she find them, to help, if the vital oils of the body were lost?"

Lipstick kisses left on Sarah's face by the more demonstrative formed, it seemed, another sure link with her sanctity. Plenty of candles, a more prosaic tribute, burned in the crypt.

"Poor Sarah," sighed Coco. "Dark and alone, all year, waiting for us. Now she has light."

In the choir of the church I saw what he meant. A Gypsy woman glided past a shrine and, hardly pausing, plucked away two candles burning there. These she bore off to Sarah's crypt. The town merchant told me that he rarely sold church candles to the Gypsies; they had more convenient ways of providing for "poor Sarah."

Boat Brings Saints to Camargue

The venerable pastor of the church interrupted Coco and led us to a niche in the choir that was filled from floor to high ceiling with simple paintings and miscellaneous offerings. In the center appeared the recipients, two vividly painted, carved wooden figures of women, each about two feet high, placed in a small boat.

"St. Mary Salome and St. Mary Jacobe," he announced. "Followers of Christ and the recipients of our prayers this week end." He turned to stare at Coco, who, however, would not reply.

"With other of His followers," he continued, "they fled from the Holy Land after His death, in a small boat. After days at sea without food or drink, they were cast ashore at this spot. Here they found a miraculous spring, now in the center of the church, and here they founded their town."

We looked at a little covered well in the center aisle.

Coco could be silent no longer.

"You can't deny that St. Sarah was in that boat."

The priest agreed that tradition gave "an Egyptian servant named Sarah" a place in the little craft.

"The blessed Sarah sits in heaven to protect us," grumbled Coco when the priest had left. "But these *roumis* (non-Gypsies) are jealous of her."

Later the pastor told me that "St." Sarah was no saint at all, so far as the Roman Catholic Church was concerned, which was why she must rest below, in the crypt. Nevertheless, because she brings the Gypsies into the fold, in their own fashion, she was tacitly condoned, he implied.

Gypsies Insist Sarah Is a Saint

Although, after all this explanation, Saturday morning's Mass could not be considered to be in her honor, Sarah was sitting in front of the congregation. This was largely composed of Gypsies. Earlier they had held a meeting in Sarah's crypt to discuss tribal matters and to elect a "queen," a young girl of particular beauty.

During Mass the Gypsies were plainly in the grip of religious fervor.

"*Vive Sainte Sara! Vive Sainte Sara!*" was their fervent cry. The old priest did not deign to notice it.

Sarah, now seated on a litter, was carried out of the church by several men and followed by the Gypsies, chanting her praises. Outside were a dozen or so mounted gardians, in their best costumes. No public event in the Camargue, be it wedding or political rally, is complete without them, nor without the Arlésiennes, also present.

These young women were delightful in their beautifully colored long skirts of silk, lace-trimmed blouses, and little caps of lace. Their costumes—traditional to near-by Arles,

Page 691

Camargue Hosts Talk Ranching with a Visiting Texan →

Gilbert Colomb de Daunant and his wife (center) speak English, having lived several years in the western United States. Their guest at Cacharel ranch is Linda McCullough, from Wichita Falls.

Cacharel is owned by Gilbert's brother, Denys de Daunant-Bennett, well known for his documentary movies and illustrated books on the Camargue. Denys built the ranch house with his own hands. Heavy beamed ceilings, thick plastered walls, and tile floors keep the room cool in summer heat, and the deep fireplace warms it in winter.

Kerosene lamps and candelabra on the mantel are ornamental, for electricity does the lighting. Vases of swamp grass and a bowl of zinnias bring Nature's colors indoors.

Kodachrome by Jean and Franc Shor, National Geographic Staff

although most of the girls were from Camargue villages—have all been handed down from mother to daughter for generations. These beauties followed the gardians, who led the way.

Then came the priest, a semiofficial chaperon of the procession in spite of himself, King Coco (sure enough, now and then striking behind him to protect his wallet), Sarah, the Gypsies, and scores of the curious. The Gypsies sang loudly on our way through town to the sandy beach.

"*Vive Sainte Sara! Vive Sainte Sara! Vivent les Saintes Maries!*"

The pastor hadn't a chance, try as he might, for he was heavily outnumbered.

We marched a few hundred yards along the beach, and then into the water plunged the riders, to form a semicircle around the Gypsies and Sarah, who followed (page 682). A few of the gay fishing boats floated near by. The inevitable "*Vive Sainte Sara*" was repeated many times, while the pastor waited on shore.

On our way back, I commented to him on the fortresslike character of the church, which stood like a father among his infants high above the red-tile roofs and pastel cottages of the town. All around lay the azure sea.

The priest told me that the church had been built for defense as well as for prayer. The original 12th-century structure had been enlarged and rebuilt in the 15th century by *le bon Roi René*, King of Provence, to serve against the frequent Spanish invasions.

Crowds Jam Streets for Fete

Conspicuous by their sunglasses and city clothes, a horde of strangers crowded the streets Sunday morning. An estimated 30,000 showed up, for the fete of the two St. Marys, which was to be celebrated that day, in spite of the Gypsies' continued and fervent loyalty

"A Good-natured Bull . . . So Gentle . . ." Paws Earth and Takes Dead Aim at the Author

Fun-loving Camarguais prevailed on Mr. Kammerman to face a bull in the practice ring. A professional fighter "seized me from behind [and] at the right moment he forced me to pivot." Missing, the bull hit the fence, wheeled, and knocked the author flat. Brass knobs over horns averted serious injury (page 675).

From Joseph L. Kammerman

693

Cow Hands Lunch with Their Hats On; One Invites His Dog to the Table

A housewife feeds the hearth with grapevine roots. Steel trident heads rest on the mantel beneath a bull's horns.

to Sarah, is the great event of the year in that part of the world.

It seemed as if every one of the visitors had been packed into the church by a hydraulic ram, with the Gypsies one shouting mass of prayer and perspiration at the front. Today Sarah was back in her crypt, and it was the two St. Marys in their little boat who at this stage occupied the place of honor in church and in the procession, once more, to the sea.

They were carried there by the same Gypsies who had borne Sarah yesterday, and the Gypsies now continued to shout for her. One time more the bell of the ancient fortress-church, silent yesterday, tolled behind pilgrims marching slowly to the sea and shouting the praises of rival saints (page 680).

"*Vivent les Saintes Maries!*" shouted thousands of Provençals.

"*Vive Sainte Sara!*" The Gypsies could not be drowned out.

Once again, gardians, Gypsies, and fishing boats in the water paid tribute to an ancient belief. The Bishop of Arles, who had led the procession in richest regalia, blessed them all and the sea that had brought the saints, official and unofficial, so long ago. Several devout Gypsy mothers bathed their infants in the sanctified waters.

694

Wine Grower Sprays His Vines from a Rubber-tired Chariot

Vines thrive in the north of the Camargue, driving roots deep into the sandy soil and shielding grapes from the sun with thick green leaves.

Vulnerable to parasites and rot, the plants demand constant protection.

Using the tank cart's twin nozzles, this grower prepares to spray copper sulphate. Later he will crush the grapes and barrel the juice. The resulting *vin ordinaire* will be consumed locally.

← Rice Weeder Sinks to Knees in Water

When World War II cut off France's imports of rice, bulldozers began to convert the Camargue's briny marshes into diked paddies. Irrigation projects washed out the salt and channeled fresh water from the Rhône.

Today the Camargue supplies a third of France's rice. Acreage given to rice already has overtaken the grape's, which had a head start of 2,000 years.

This Spaniard comes from the rice fields of Valencia, because few Camarguais are skilled in the cultivation of rice.

Kodachromes by Joan and Peter Shaw, National Geographic Staff

After lunch I finally saw a full and formal —if that is the phrase—Camargue bullfight, called a *course Provençale*, or *course libre*, in a large concrete arena at the edge of town. First came a French rodeo rider, rope tricks and all, even a pair of chaps, who specialized in sticking paper streamers into the bull at full gallop. Mounted gardians played *jeu du bouquet*, which involved one rider's defending a lady's bouquet against those who rode up to wrest it from him, and similar games. It was not too difficult to trace these tussles, and their formal rules of courtesy, back to medieval chivalry, or so I thought. The Camarguais themselves knew only that the games were "very old."

Michel, who excelled in the games, as did his father, found me in the stands and led me down to the shoulder-high fence just inside and parallel to the high inner wall of the arena. The circular alley thus formed was a favorite vantage point for the initiated, and I soon found out why.

Half a dozen young men, volunteers all, jumped into the ring. A bull dashed into their midst and the bullfight had begun in earnest. Michel pointed out several ribbons, called a *cocarde*, tied between the bull's horns (page 679).

"These 'bullfighters,' the *razeteurs*, will snatch the ribbons one by one," he explained, "then grab the string that held them."

Aigues Mortes, Its Crusading Ardor Spent, Drowses Beneath Massive Limestone Walls

Louis IX began the fortification of Aigues Mortes (Dead Waters) in the Rhône marshes. Its walls rose so high that no outsider could see a rooftop or belfry within. Here the king and his army twice embarked for the Crusades, in 1248 and 1270. The final foray took Louis to Carthage, where he died of the plague. In the Hundred Years' War, Burgundians captured the city by surprise. Royal troops, retaking it, massacred the invaders and entombed the bodies in a tower beneath heaps of salt. Dungeons in the Tower of Constance (center) could tell many a tale of torture. Silting eventually cut off Aigues Mortes from the sea.

Walter Meayers Edwards, National Geographic Staff

Alarmed Flamingos Sprint Across Camargue Shallows and Become Airborne, One by One

France's Rhône delta and southern Spain's Guadalquivir marshes are the flamingo's only known nesting grounds in Europe. France sets aside some 37,000 acres of Camargue marshlands as a sanctuary.

697

Kodachrome by Jean Dragesco

Serpentine Necks Snap Forward, Legs Stretch Back, and Wings Spread Out Like a Seaplane's

Some 600 flamingo chicks hatch in the Camargue in an average year. Mature birds, standing more than four feet high on pink stilts, dress in white. Here, above the Etang de Vaccarès, they reveal a faint underwing pink.

A Stately Flamingo Dips Serpentine Neck to Feed Her Chick

In the wind-swept marshes of the Camargue, flamingos live in a world all their own. In late April, sometimes each second or third year, they build a city on the flooded plain. Mud nests crowd together like rows of flowerpots upside down.

Gregarious birds gabble and preen as they wait for their young to break out of their white-shelled prisons.

In their first two weeks the chicks bill-feed on a "pigeon's milk" regurgitated by their doting parents.

But many ways of the flamingo seem strange. Sometimes the females lay eggs on the open ground and abandon them (as on right).

Although adult birds can find their way back to the home nest, they do not appear to recognize their own offspring. But a stray chick is welcomed and cared for at any nest in flamingo city.

Le Curieux, Radio-Guillaume

698

past as I hurled myself over the fence into the ring, where I found the others.

But there he was again, inside the ring.

It is chiefly for this mad affair that the bulls are raised, although in a few Provençal cities they are fought and killed in the Spanish manner. In the Camargue the *course libre* is a ruling passion, and a fleet-footed, daring razeteur is a local hero. The usual prize offered for the feat is a dollar or two—and glory—although in some of the larger cities of Provence a particularly famous razeteur may receive several hundred dollars for a single afternoon's work.

The razeteurs rushed about the ring to confuse the animal, raced up behind him to slap his flanks, and, if he charged, ran for dear life. It was no disgrace to flee or to leap the wooden fence.

At one point, after photographing the now enraptured stands, I turned to speak to Michel. But he had disappeared. So had everyone else in the little alley. For the bull had leaped the barrier and was running straight at me! The frightened animal tore

What a scramble! We all went back over the fence, into the alley. I myself fell on my back and tried to hold the camera out of the way as a giggling old woman tumbled down on me. And all this scrambling over the fence and back again—this was the great thrill of the week for many a Camarguais. For although the razeteurs were marvelously adept, when hard-pressed, at taking the fence at one leap—so was the bull! He often followed them over the fence and into the alley.

At the end of this strenuous afternoon Michel offered me a pastis at an outdoor cafe. Gypsies were packing their derelict cars and breaking camp, across the way. A gardian waved as he passed by with a laughing Arlésienne riding in front of him on his horse.

"One fights off boredom in the Camargue, *n'est-ce-pas?*" he said with a smile. It was the only understatement I ever heard in that delightful delta.

↑ "Anybody Home?" Bee Eater Returns to His Nest in a Sandbank

On the ground, *Merops*'s legs are barely long enough to separate body from shadow. Gliding on chestnut wings, he is grace itself. Observed with insect in beak, this Camargue specimen whistled to his nest-digging mate and rewarded her with the morsel.

↓ Black-winged Stilt Can See Her Image in the Flood-plain Waters

Camargue's stilts live in colonies, as bee eaters do, but prefer homes in swamps. Using slender beaks and three-toed feet, they pile up mud-and-rush nests in water often six inches deep. This nesting *Himantopus* folds long pink legs that gave the bird its name.

Maytime Miracle in Sherwood Gardens

By Nathaniel T. Kenney

National Geographic Magazine Staff

THERE is a lovely garden in Baltimore, Maryland, that belongs to everybody. The recorded owner is John W. Sherwood, businessman and philanthropist. The rest of us owners—we number maybe a million—allow Mr. Sherwood to meet the tax bills, seed the lawns, and pay the gardeners.

How did this unusual state of affairs come about?

"Why, I can't really say," said Mr. Sherwood the last time I saw him. "I just never put up a hedge. People wandered in. One fine Sunday in May about 20 years ago I stepped off my back terrace and found myself surrounded by people, hundreds of them.

"Clarence Hammond—he's my head gardener—came up looking anxious and asked if he should try to get them out. I watched a minute, and I didn't see anybody picking flowers or doing anything he shouldn't.

"So I told Hammond, no, everything was just fine. And when the *Sunpapers* reporters came to investigate the traffic jams around Highfield Road way, I told them it was only the people of Baltimore enjoying their garden.

"That's about the way it happened. That's the way it's been ever since."

And so it has, except that over the years the ownership has increased to include people from every State in the Union and many distant lands, thanks to Mr. Sherwood's feeling that anybody who sees and loves the flowers becomes an owner.

The Magic of Flowers

Every May, year after year, Baltimore newspapers publish stories that may end like this:

"Although more than 30,000 people visited Sherwood Gardens on Sunday, not a flower was picked or a twig broken."

This is the magic of flowers. I have seen it at work.

From school buses come excited, shouting children. They rush headlong toward the banked masses of azaleas, daffodils, tulips, and pansies. Suddenly they stop. They fall silent. They draw together. They walk gently to the flowerbeds, and some go to their knees.

At first I thought they were praying, but then I saw they were smelling the flowers.

"For childhood it is as good as prayer," said a quiet voice behind me. A nun stood watching. "God moves in mysterious ways—and God is in all gardens."

Clarence Hammond tells me that 50 years ago the parents and teachers of north Baltimore's small boys used to say the Devil, not God, inhabited this spot.

"There was no garden then," he said, "but a pond where bullfrogs croaked and dragonflies flashed in the sun. The grownups hated this place, for we played hooky to hunt the frogs and came home covered with mud."

Garden Grew of Its Own Accord

A real estate company's dumpcarts filled in Abell's Pond in 1912 and developed the fine residential section now known as Guilford. Mr. Sherwood first bought land on the site in 1925. He patterned his Georgian house after Westover, the Byrd family mansion on the James River in Virginia.* The garden just grew as Mr. Sherwood filled in bare spots in the view from the house (page 702).

From the beginning he used boxwood, magnificent specimens acquired from the neglected gardens of colonial estates in southern Maryland. He planted trees and shrubs, particularly evergreens. It is his continuing frustration that visitors rarely notice the evergreens; without their background the flowers would lose half their effect (page 704).

Sherwood Gardens is a spring garden; except in spring it is a cool and peaceful place of vivid lawn, dark evergreens, and tall rustling trees. Come May, a rainbow explodes.

(Continued on page 709)

* See, in the National Geographic Magazine: "History Keeps House in Virginia," by Howell Walker, April, 1956, and "Stately Homes of Old Virginia," by Albert W. Atwood, June, 1953.

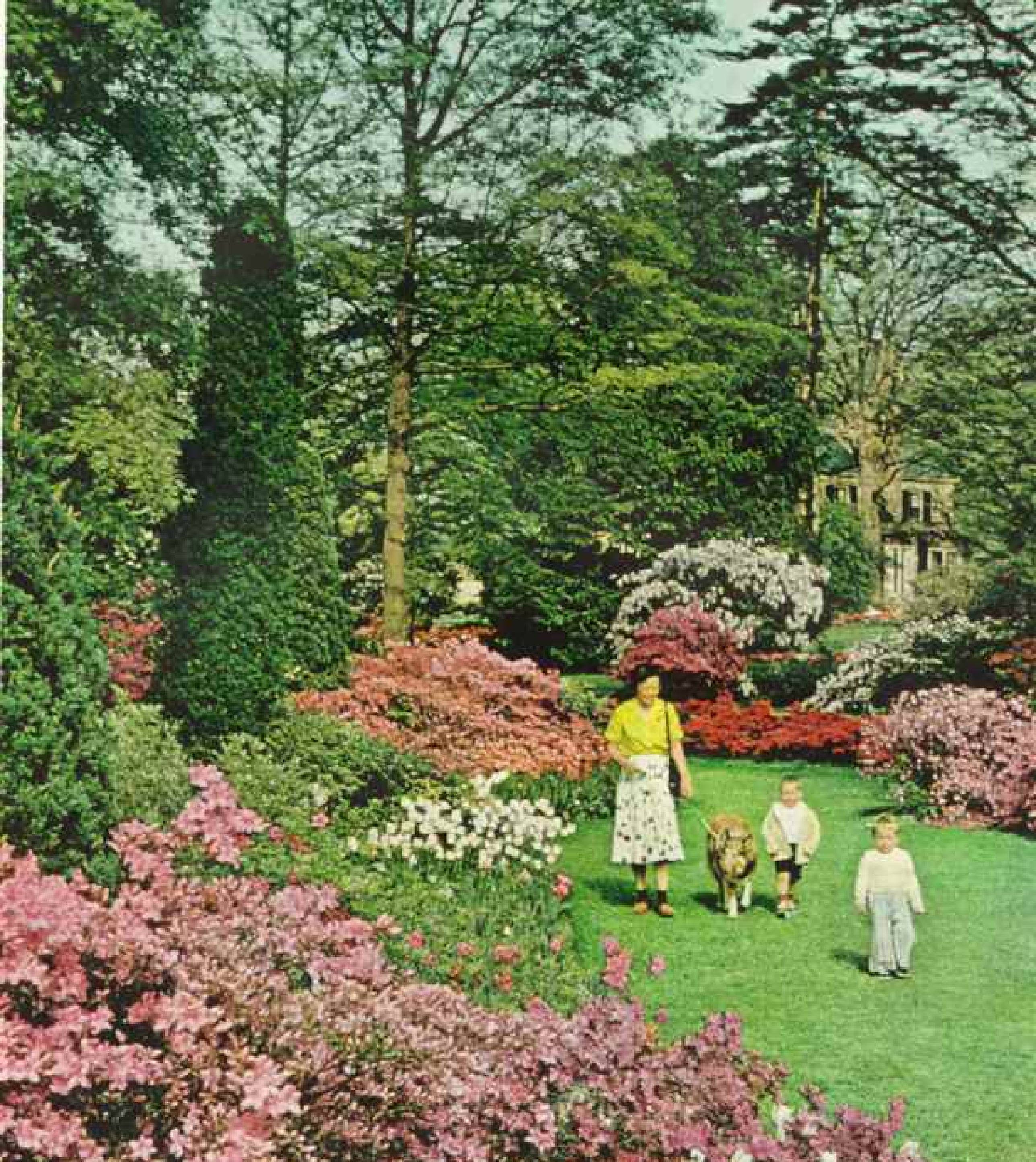
Page 701

Spring in Sherwood Gardens: Guests Stroll a Flower-banked Lane →

Each spring a dazzling display of 100,000 tulips, 10,000 azaleas, 15,000 pansies, and many flowering trees turns this Baltimore, Maryland, estate into a showplace. More than 100,000 persons a year see the show without charge. Dogs usually are barred.

Darwin tulips and *kaempferi* azaleas border this path. Machine-clipped red cedars sway above the blooms at left.

Staff Photographer Kathleen Revis



Visitors Roam Velvet Lawns Beneath Flowering Trees

This spring, as they have for some 20 years, thousands of sightseers will park their cars bumper to bumper near the seven-acre estate of John W. Sherwood in suburban Guilford and tour the grounds on foot.

Tulips from the Netherlands, azaleas from the Orient and Europe, and Swiss pansies give the gardens an international flavor. Nearly four tons of tulip bulbs are planted in the fall to create different color patterns each spring. Pansies, produced by a Baltimore nursery, are also replaced annually.

Azaleas provide a permanent backdrop; many stand 10 feet high. Dogwood, wisteria, flowering crab apples, and Japanese cherry trees add their beauty.

➔ The ivy-clad Georgian mansion fronts Highfield Road. All-white Bride's Garden, at corner of the house, displays snowy tulips, azaleas, and pansies. Dogwood trees at left blossom above pansies.

Page 703, lower: Ida Lynn Cummins admires the yellow-red Color Beauty, a Cottage tulip.

➔ Tulip beds are laid out with studied carelessness. Yellow Belle Jaune blends with white Vesta.


Wherever your lives may
in each, make you the
world a bit more beautiful
and better because you
have lived in it.

Pink Dogwood and Pastel Azaleas Stand Out Against the Green Background of Spring...

Sherwood's imported evergreens include Chinese holly, Swedish juniper, Himalayan pine, Asian cypress, and cryptomeria from Java. The gardens boast one of the country's finest collections of old English boxwood.

705

Staff Photographer Joseph P. Blair III

..Shaped Cedars Stand Guard Among the Blooms; Shade Trees Tower Above Manicured Lawns

More than 100 oaks, maples, tulip trees, gums, hickories, and other forest giants stud the grounds. The grass carpet, severely trampled during the six-week exhibition season, regains its beauty in two months.

Seventeen Varieties of Azalea and 41 of Tulip Splash Color Across the Gardens

Soil is the key to Sherwood's beauty. Gardeners work tons of leaf mold and sand into light topsoil. Moles are unknown; carefully tended soil discourages them.

Tulips are planted six inches apart and six inches deep. Beds are treated with bone meal at planting time and left unmulched in winter: tulips thrive in frozen earth.

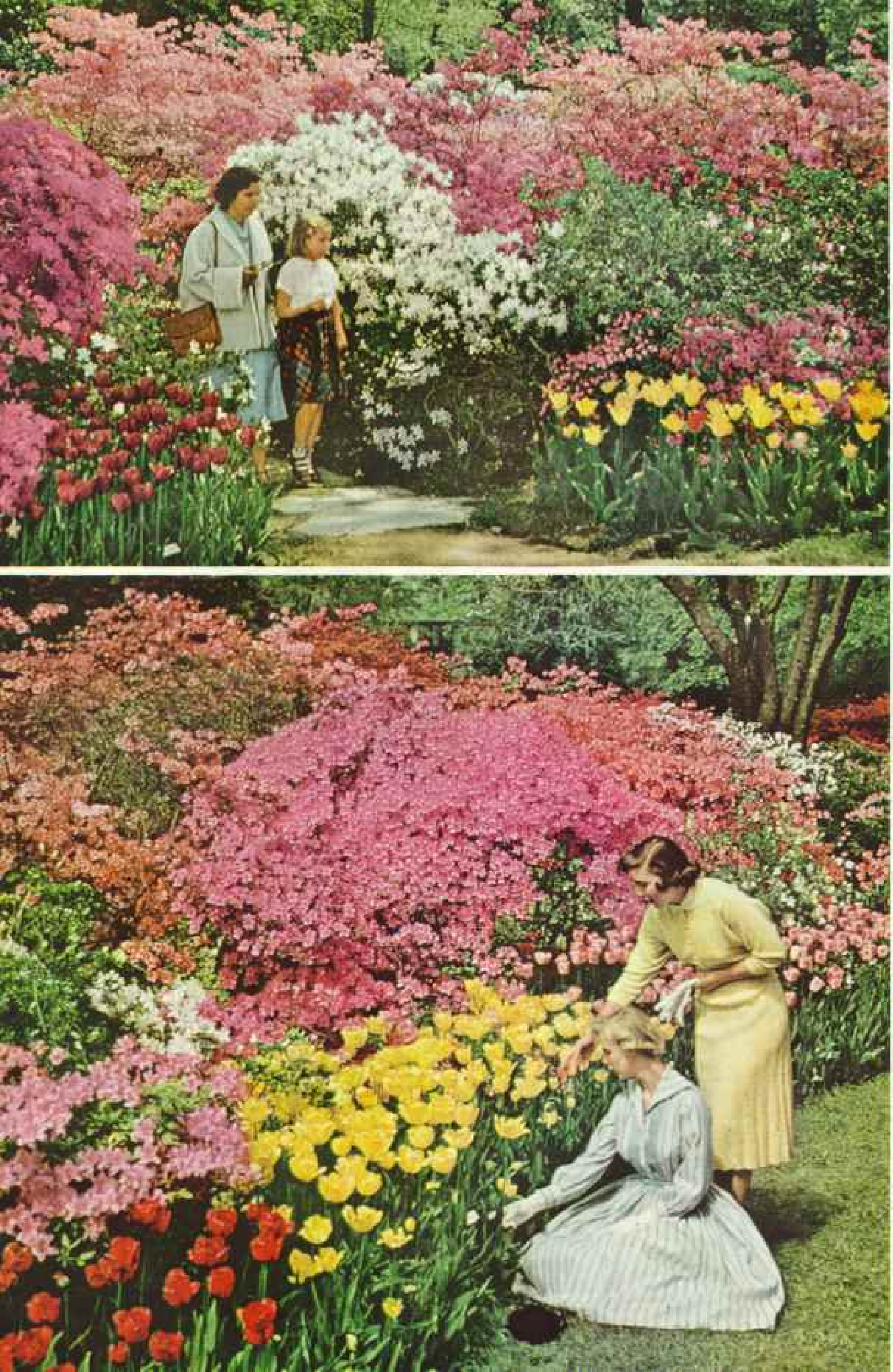
Although tulips are perennials, they reach the height of their glory during the first blooming season. Sherwood digs up its bulbs each summer and replaces them in the fall with imports from the Netherlands. Discarded bulbs go to schools, churches, and hospitals.

Many of Sherwood's imported azaleas, unlike the American varieties, are delightfully fragrant. Several Dutch strains were derived from the American honeysuckle, itself a variety of azalea. Pure-white *Japonica alba*, lavender-tinted *Ledifolia rosea*, and the white Damask Rose are prized specimens.

Above: Cerise *kinodegiri* azalea hugs the ground. Varicolored *kaempferi* grows up to 10 feet.

← Azalea's star-shaped flowers resemble those of the rhododendron, a close relative.

→ Page 707: A young tulip fancier tiptoes up closer for a look at Scarlet Glory's blooms.



Blooms froth from crab apple and cherry. The painted monkey faces of pansies form gay carpets between islands of dazzling tulips and daffodils. Bees buzz over cascades of wisteria.

This annual miracle comes about through the practice of simple, albeit expensive, rules.

"First," said Andrew Jackson, assistant gardener, "dig up everything two feet deep and replace with good leaf mold and sand."

"Every year," said Clarence, "add a ton of new leaf mold, a ton of ordinary packing-house plant food, some grass seed, and one good spraying."

"Then," said Mr. Sherwood, "order new bulbs from the Netherlands every year."

"Love everything that grows in the garden," Andrew said quietly.

"Amen," said Mr. Sherwood.

Moles, those furrowers of lawns, are unknown, probably because all the digging and walking about ruins their tunnel projects. Gray squirrels abound but rarely dig up tulip bulbs, because they are planted six inches deep. When they do, they take only one bite, which seems to convince them that tulip bulbs are not for squirrels.

"But they're death on crocuses," Clarence said. "I cover the crocus beds with wire netting, or the squirrels would eat them all.

"And dogs! They love to run and race through the flowers. Crackety, crackety, crack—and there's a whole swath of tulips down."

Two Ladies Crash a Party

One might think that near neighbors would view Sherwood Gardens with a certain amount of disfavor; during the six-week flowering season, they may not, by police regulation, park their cars in front of their homes, and often they cannot get out of their driveways, so thick is the traffic.

"One time some of our visitors crashed a lawn party down the street," Andrew told me. "Two nice elderly ladies, they were. They saw all the tables, so they went in and asked if they could buy some sandwiches too.

"Well, sir, the host told them just join in, and they had a fine time."

Other neighbors likewise take the period of activity in stride. Mr. Sherwood helps them do so with gifts of flowers from his cutting gardens.

Among the less usual happenings in the garden have been several marriages.

"One part I call the 'Bride's Garden,'" Mr. Sherwood told me (page 702). "All the flowers in it are white. The little sign I put up must have given these couples the idea to be married there.

"I didn't know any of them until they came up and asked me. I said it was a grand idea, and I helped with the arrangements as much as I could."

Garden Inspires Symphony Music

Sherwood's flowers so inspired the composer Franz Bornschein that he wrote "The Earth Sings," a symphonic fantasy later played by the Baltimore Symphony Orchestra. That was just before World War II.

Some years ago I saw something in Sherwood Gardens that wrenched my heart. A group of children came, but they did not run; they dared not—they were blind. Teachers led the youngsters to the flowers, and they learned to know the blooms by their feel and smell.*

In his long life, Mr. Sherwood has done more than most for his city and State. He has helped solve conservation problems and aided Baltimore's symphony orchestra. He lends his art treasures to museums for all to see. His business gives work to thousands. I think, though, he gets more pleasure from seeing people share his garden than from any other thing.

I asked him what it was about the garden he liked best.

But just then the school buses arrived, and the children poured out. Some, from a part of the city where there is only concrete and asphalt, rolled on the grass. Then the magic began, and the young voices trailed away into stillness. Some of the children knelt to smell the pansies.

I looked at Mr. Sherwood, but he was watching the children. I doubt if he heard my question, but I had my answer, nevertheless.

Page 708

← *"Beauty Is Nature's Coin, Must Not Be Hoarded . . ."*—Milton

Why were Sherwood Gardens established? "If someone has been made a bit the happier," says owner John W. Sherwood, "or inspired to create a garden, then our purpose has been fulfilled."

Both illustrations show tulips and azaleas.

* For additional information on Sherwood Gardens, see "Maytime in the Heart of Maryland," 10 ills. in color, National Geographic Magazine, April, 1941.

Jungle Journeys in Sarawak

Cameras at Ready, the Wife of a British Colonial Officer Meets the Peoples of Borneo in Longhouse and Rain Forest

By Hedda Morrison

With Illustrations from Photographs by the Author

I LIVE in Sarawak, northwest Borneo, land of the White Rajas and abode of former head-hunters and pirates. My husband Alastair is an officer in the British Colonial Service.

Primarily, I suppose, I am a housewife, for I cope with domestic matters in a steaming tropical land that swarms with beasts and birds, insects and snakes, and contains people who keep the skulls of deceased enemies as items of household furnishing.

At the same time, I like to feel I am a fairly accomplished jungle traveler. At least I have learned to keep quiet when a honey bear is encountered on the trail or a snake entwines itself around my ankle.

Life Among the Gentle Skull Collectors

Wherever I go, I take my cameras, and I like best to photograph the varied folk of Sarawak—gentle, kind, and friendly people, even when they are owners of skulls.*

One evening Andin came to see us in our house at Sarikei. Andin is a chief among the Sea Dyaks. Also known as Ibans, these Dyaks form the largest cultural group in Sarawak, numbering about 213,000 persons. Recent immigrants to Borneo as these things go, their ancestors may have hailed from somewhere in the Yunnan region of China.

Andin, a tall man with a little straw hat trimmed in artificial red flowers atop his straight black hair, brought me an invitation to visit his house a week later and to take what photographs I wished. I accepted.

Since Dyaks have a weak sense of time, I gave him a string with seven knots, one of which he would undo each day. I would arrive the day he untied the last knot.

* See, in the National Geographic Magazine: "Keeping House in Borneo," by Virginia Hamilton, September, 1945; "Sarawak: The Land of the White Rajahs," by Harrison W. Smith, February, 1919; and "Notes on the Sea Dyaks of Borneo," by Edwin H. Gomes, August, 1911.

Paddles Swish in Sarawak, Land of Jungle Rivers

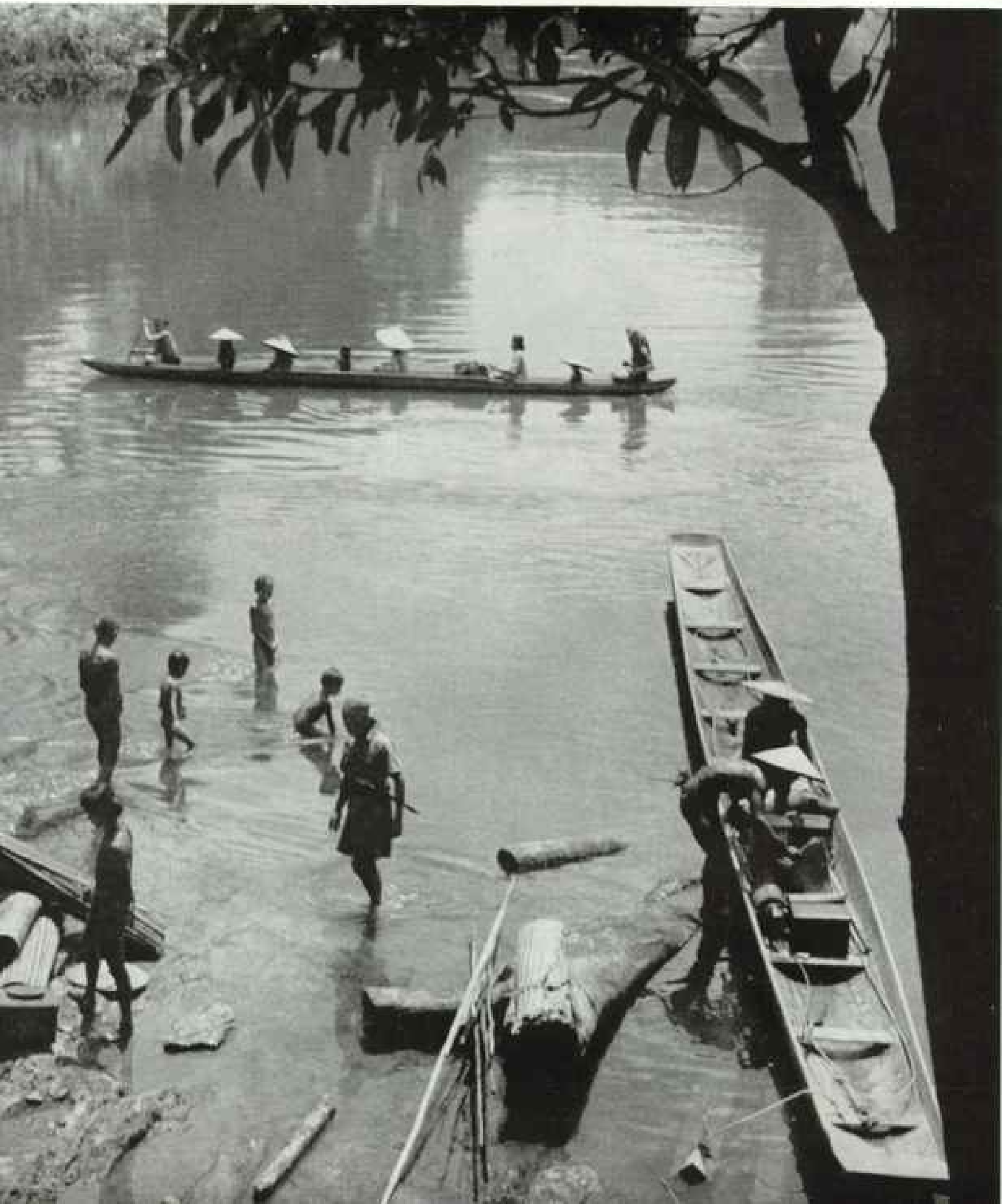
Parasol hats, made of palm leaves, shield passengers in a dugout canoe gliding past a market-place landing on a placid stream. More prosperous tribesmen of Sarawak (pronounced with the emphasis on the second syllable) drive their boats with outboard motors. People on the shore, having paddled miles to the bazaar, load their purchases in a canoe. Youngsters play in the shallows.

To photograph Sarawak folk at work and play, Hedda Morrison journeyed hundreds of miles throughout the British Crown Colony on the northwest coast of Borneo. The German-born photographer and her husband, a British Colonial Service officer, found the pagan people gentle and friendly.

I traveled by boat up the muddy flood of one of the tributaries of the Rajang, the tidal banks covered with low-growing palm trees and swamp jungle (map, page 716). Andin's house stood not far from the limit of navigation, on a clear stream running down from the hills.

I was a little pained to find that by the house there was no jungle, only groves of tall fruit trees and rubber gardens. True jungle is to be found only in the farther hills and in the low-lying swamps, which are too wet for cultivation by the Borneans.

When we came into view, Andin's people started to beat gongs. Women and girls in short home-woven skirts came down the path.



712

Baram River Longhouse: A Whole Village on Stilts Huddles Under One Roof

Silver ornaments and flowers gleamed in their glossy black hair. They took me by the hand and led me to the longhouse.

A longhouse is a whole village under one roof. Dyaks still live in them as their ancestors did. One longhouse may have 10 to 60 families in residence.

Each family has an inner room; all share in the long communal room, which lies next outside, and in an open, unroofed veranda running the length of the longhouse outside the common room (opposite and page 714).

Under their democratic system of government the families of each longhouse elect a headman. The headmen of from 20 to 30 longhouses then elect a chief, who acts as their representative with the Government and settles land and family disputes.

For safety in the days of head-hunting raids, Dyak longhouses were built on stilts. They still are, for want of a valid reason to change. The people enter by notched-log ladders, which formerly were pulled up in time of danger (below).

Home-brewed Hospitality

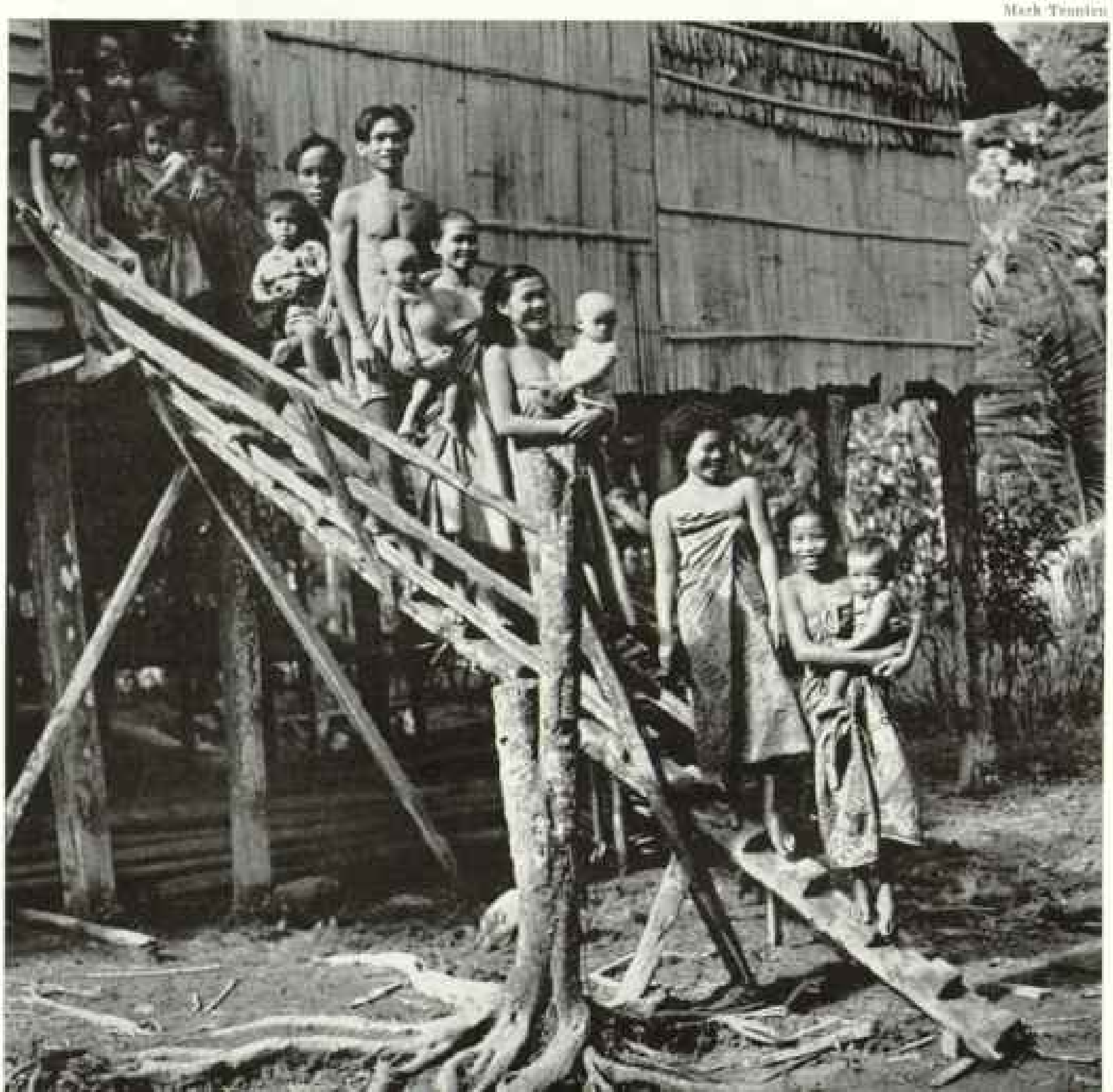
The ladders are worn smooth with use and made slippery by rain or by water spilled by the girls carrying it up from the stream. I slithered up the log at Andin's house, and there he stood with a crowd of children.

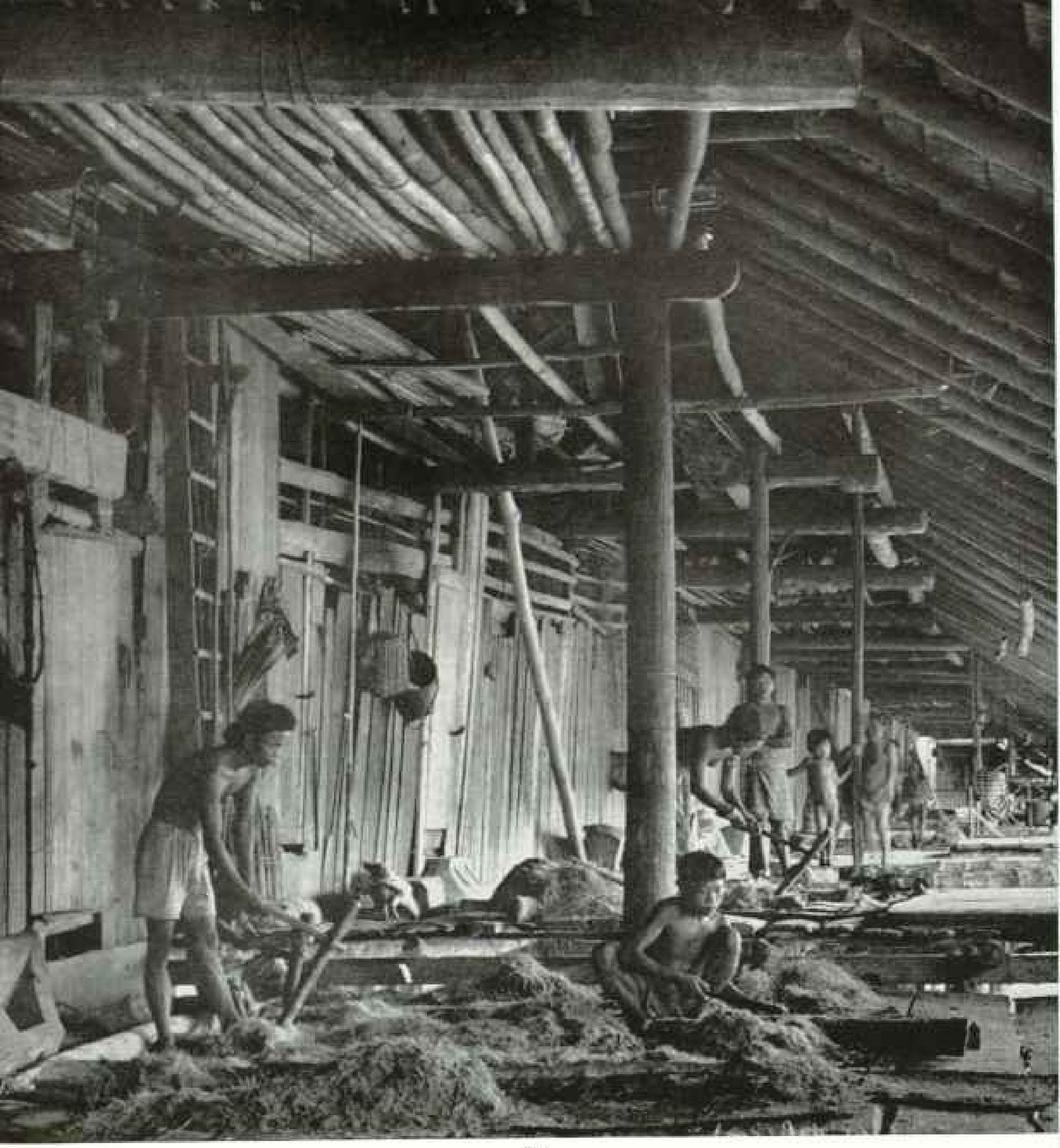
As I reached the top, he waved a squawking chicken over my head. Girls gave me home-brewed rice beer. I was careful only to sip from each cup, for there were many, and the sun was hot. In Dyak country one may with politeness sip a proffered drink, then pass it back for the donor to finish.

Smiling Descendants of Head-hunters Crowd a Longhouse's Notched-log Stairway

In Sarawak's old days of tribal warfare, stairs could be pulled up for safety. These Sea Dyak, or Iban, families lined up to greet the photographer. In many such communal dwellings, skulls hang from the beams. Since the grisly trophies date from the uncivilized past, colonial officers regard them as legitimate possessions, though they were not the author's idea of "proper decorations for a jolly party" (page 715).

Mark Tomlins





Inside the house it was cool and clean. Girls were beating drums and gongs, making a great deal of noise. Before we sat down on the chief's fine floor mats, I shook hands with almost everyone in the longhouse, including children.

Chicken-feather Rites Precede Meal

From the inner room girls brought out plates of rice, eggs, tobacco, betel nut, and salt, setting them before me in rows of seven plates each. Coached by giggling girls, I took something from each plate and piled it upon a larger plate. I crowned the pile with chicken feathers dipped in blood after lightly touching those sitting near me so that a little blood was left on each.

The chief waved the chicken over the crowd and made a speech of welcome. I, too, waved the chicken. Then someone took it away to cook for my lunch.

My dish with its crown of spattered chicken feathers was put in a special part of the house as an offering to the spirits. The crowd ate the food in the little plates. The rice beer went the rounds.

It was a cheerful, convivial scene, although conversation was difficult. My hosts spoke

715

Dyak, akin to Malay, which the servant I had brought with me turned into the simple market Malay I understood to some extent.

I suppose there were skulls grinning from the shadows above us; but I chose not to look up. As long as they obviously date from the old days, they are perfectly legal and figure in occasional Dyak ceremonies. I must say, however, they are not my idea of proper decorations for a jolly party.

After the feast I explored the house. Many of the people, industrious as most Dyaks are, were hard at work. One youth was making a casting net, another a canoe paddle. An old woman wove a blanket with a beautiful pattern showing hornbills calling from the top of a durian tree.

I was the first European woman to visit the house, and everything I did excited curiosity. Laughing, chattering throngs followed me from room to room. As the afternoon wore on, more Dyaks came home. Hunting parties brought fresh-killed game. Women arrived from the fields with baskets of vegetables, and children with food for pigs.

Bathe Before You Enter

"Has it been raining?" I asked my servant. "Everyone is dripping wet."

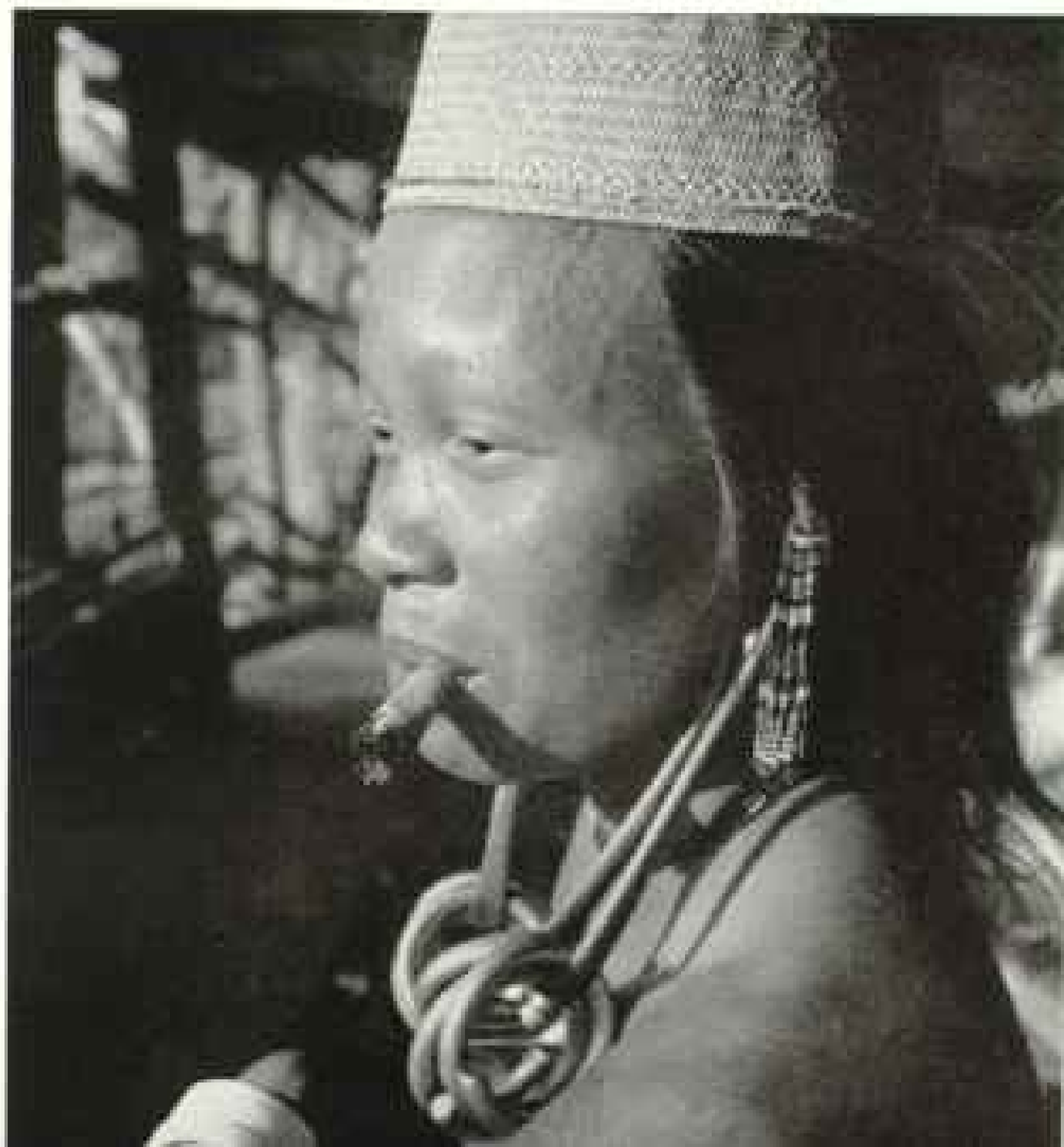
"They have just bathed," he answered. "These people always do that in the evenings before they come to the house."

The coterie of Dyak girls that constantly seemed to surround me caught the gist of the conversation. Twittering with apologetic sounds, they bore me to the stream.

← Some Work, Others Relax under the Roof of a Kejaman Longhouse

Dwellers care little for privacy. Each longhouse family has a partitioned sleeping chamber behind the planked wall and a work space on the covered communal gallery at its doorstep. Beneath the house pigs grunt, dogs bark, and fighting cocks quarrel. Floor planks bear the marks of hand-hewing. Householders in the foreground scrape the pithy heartwood from sago palm logs (page 730). Most Borneo peoples eat starchy sago only when a rice crop fails.

↓ A Kejaman girl of the upper Rajang River country enjoys a cigar made of local tobacco wrapped in a banana leaf. Both men and women of her tribe distend their ear lobes with heavy metal bangles.



Sarawak, Once the Domain of White Rajas, Faces Asia Across the South China Sea

Not until 1946 did the last Raja, Sir Charles Vyner Brooke, cede his huge private estate to the British Crown. Thus ended 105 years of Brooke family sway over 47,000 square miles of equatorial jungle, a home of orangutans, deadly cobras, shy clouded leopards, and more than half a million people of various cultural groups. Next to the new Crown Colony of Sarawak lies all that is left of Brunei, Islamic Sultanate whose ruler in 1841 gave Sarawak to the first White Raja, Sir James Brooke. Britain has still another Crown Colony, North Borneo, on the northern coast of the world's third largest island.

There, wrapped in a sarong, I bathed luxuriously. It takes some doing to transfer from one's own clothes to a sarong in full view of a multitude, but it can be accomplished modestly by judicious wriggling.

That night I slept on my camp bed in an inner room of the longhouse. The place was full of noise—people talking, dogs quarreling, pigs grunting beneath the floors, and cocks crowing—but I was glad to have others near me in the jungle night, and I slept quite peacefully.

Dyak Girls in High Heels

In the morning my all-girl escort of the previous day quickly formed ranks about me, only this time they appeared in the shocking incongruity of European evening gowns and high heels. Some postwar relief organization, I gathered, had sent these things to Sarawak in woeful ignorance of what the well-dressed Dyak girl wears in the jungle.

Bent on showing off their finery to other girls in a neighboring longhouse, my friends had me make the various delicate adjustments that spell success for a gown. They donned the high heels at the bottom, not the top, of the ladder, and we set forth in uncorseted splendor.

Sad to relate, the gay attire failed to survive the rigors of rushing streams, steep slopes, and slashing pathside grasses. When they arrived at their destination, the girls borrowed sarongs from their friends and gave the wrecked finery to the longhouse children, who could not have been more delighted.

Next day I went home to Sarikei to develop my films. Sarikei is on the lower Rajang, a large river that reaches the sea by multiple mouths after threading a vast swampy delta.

717

Government Party, Off to Meet Tribesmen in Their Homes, Wades a Jungle Stream

The men, with porters carrying their gear, head for the Trusan Valley. A Murut chief with shotgun leads.

718

Tribal Headman Stomps and Poses in a War Dance; the Dog Sleeps On

Barred tail feathers of hornbills decorate the dancer's cap, which has a split-bamboo framework. He wears a war coat made of goatskin, ornamented with a pearly shell in front and hornbill feathers behind. The solemn-faced musician plunks away on a guitarlike instrument called a *sape*.

Here was my husband's first post in Sarawak. Here we learned the art of living in exotic parts, and here we learned the history of the land, more like a Hollywood script than sober fact.

British Soldier's Reward: Sarawak

In 1839 a well-to-do Englishman, Sir James Brooke, arrived in Kuching to find the uncle of the Sultan of Brunei trying to suppress a rebellion. Brooke, a skilled soldier, offered his services and was accepted. Within a year he had put down the rebellion, and later as reward the Sultan made him hereditary Raja of Sarawak, first of the fabulous White Rajas.

Sir James's successor, in 1868, was his nephew, Sir Charles Brooke, who expanded his uncle's holdings to Sarawak's present boundaries. On the death of Sir Charles in 1917, Sir Charles Vyner Brooke inherited the unparalleled "estate."

The Japanese overran and occupied Sarawak during World War II. In 1946 Sir Vyner put an end to anachronism by ceding his domain of 47,000 square miles, containing more than half a million people of various cultural groups, to the British Crown.

My husband and I came to Sarawak in

1947, and well do I remember that first "government issue" house in Sarikei!

Of brick and concrete, it sat on pillars. Ironwood shingles covered the roof. It had a very large central room into which almost every night our Dyak friends silently slipped. By established custom, the people of Sarawak, and especially Dyaks, call at the homes of officials in the evenings for social visits and sometimes, though it is not encouraged, to talk business.

Chairs Are Not for Dyaks

Chairs, the Dyaks feel, are only for the old, the crippled, and Europeans; so the tribesmen squat on floor mats as they would do in their own homes. We offer drinks and cigarettes, and the talk goes round and round.

Mostly the conversation is that of countrymen everywhere—harvests, prices at the bazaar, news of friends, scandals in the longhouses. I noticed, however, that it always gets around to guns and outboard motors, the two most highly prized possessions in Borneo.

When the people go, they take such illustrated papers or magazines as we can spare, for they love to paste photographs on the walls of their longhouses.

Our house had electricity, a rarity in Sarawak. We also had a water tank filled by rainstorms. To get running water, we pumped by hand from this tank to a smaller one on the roof. The kitchen and servants' quarters were in a separate building nestling against the back of the house. A bedroom and bathroom flanked the central room.

I organized my photographic darkroom in a little room beside one of the baths; water came through the wall via a hose, did its various cooling and washing duties for the films, then went out under the door to the outside through another hose.

Most days were too hot for handling delicate photographic emulsions, so I worked at night. Although Sarawak lies close to the Equator, blessed coolness descends in the evenings. I remember few nights when I did not welcome a blanket.

The house perched on a small hill overlooking a dusty road. Overloaded buses, people on bicycles, and pedestrians with goods slung from poles passed by in the mornings on their way to the bazaar, or street of shops, beside the river.

Shops of the Sarikei bazaar were two-story buildings, each divided into five or six combination mercantile and living establishments. Kitchens adjoined the backs of the stores. Family quarters were upstairs, and so in many

Sister Learns How to Tap Rubber

Whole families—Dyaks, Chinese, and Malays—take part in rubber production, long Sarawak's main industry.

Most plantations are small. This Chinese youngster guides the girl's hands as she makes an incision in the tree bark, from which latex will flow.

720

Pepper Vines, Carefully Tended, Climb High

Chinese farmers grow most of Sarawak's pepper, a leader among the colony's agricultural exports. Vines quickly cover hardwood poles used as supports. Berries (inset) turn red when ripe. Dried in the sun, they produce black pepper. For milder tasting white pepper the dark outer skin is removed. Morrison, Fix

---

cases were sleeping lofts for Dyak customers who might want to spend the night in town.

Wares included almost everything a Dyak could fancy: salt fish, kerosene, rice, flashlight batteries, soya sauce, cloth, beer, brassieres, and silver belts. One merchant specialized in guns and outboard motors.

Much of the commerce was really barter. Instead of money, buyers paid in rubber and rice, sago, gutta percha, rattan, the jungle resin called dammar, and jelutong, a wild latex used for making chewing gum.

As everywhere in the Orient and South Pacific, Chinese ran the shops. It seems probable that the first Chinese came to the Borneo coast in junks more than 1,000 years ago. Today they number around 167,000, forming

a racial group second in size in Sarawak only to the Sea Dyaks. Many are staunch Methodists, having been recruited from the mainland by the American Methodist Mission.

They came to work in the rice fields, but that crop proved unprofitable; so those who did not turn to trade became rubber or pepper growers. Their many rubber and pepper gardens average only about five acres in size, for the Brookes discouraged large estates.

Work Comes Before School

Three miles from our house stood the home of a pepper grower, Ngu Ee King. I used to bicycle out in the mornings, for in the afternoon Ngu's two older boys would be at school. Chinese schools of the Sarikei district all start at 1 p.m. so the children can work mornings in the gardens.

Of Ngu's household, only the grandfather, a patriarch with a long beard, had been born in China.

More than 95,000 Malays form the third most important community in Sarawak. The White Rajas relied heavily on the support of these people in ruling the country, and Malays still provide numbers of Government officials from their ranks. They are Moslems.

My husband's first local leave came after a year and a half at Sarikei. We decided upon a trip and set off up the Rajang in an outboard-powered canoe loaded with our camping gear and my cameras; rivers are the main arteries of travel in Borneo.

We traversed the difficult rapids above Kapit with the aid of a famous Dyak river pilot called Laju. He sat calmly in the bow and indicated with little gestures just where in the roaring welter of waters our canoe should go.

At Belaga, where we stayed for 10 days collecting bird skins for the Sarawak Museum, a Kejaman chief was our host. Here, in his household and those of his neighbors, we saw the evil effect of ancient superstition on primitive people.

Families Subsist on Wild Sago

Although the harvest had just been brought in, many families had no rice and were living on wild sago, which grows abundantly in the area. Before this tasteless starch can be made edible, it must be pounded for hours; all day the noise filled the longhouse.

Seeking to find the reason for the meager harvest, Alastair held palavers in which the word *pantang* cropped up time and again.

Tattooed Tribesman Learns to Write So He Can Be a Teacher

In a largely illiterate land, the Government's Batu Lintang Teacher Training Centre at Kuching starts with fundamentals (page 729). This young Kayan is learning romanized Malay and later will study English.

"What's a pantang?" I wanted to find out.

"That's a taboo," Alastair said. "Our hosts seem to have more than their share. Because of them, they've had to stop work periodically during the growing season and go home while the rats and insects ate up the crop."

The plight of the Kejamans and the constant scudding rain clouds depressed us. We were glad to get away. We traveled two days up the Beluga River, walked across the watershed to Tubau, and floated down to Bintulu, center for the timber and jelutong trades.

Harvesting Birds' Nests for Soup

"Have you ever eaten bird's-nest soup?" asked a Government official.

I confessed that, although I am fond of Chinese food, bird's-nest soup was so expensive I had never tasted it.

"Well, at least you can see a nest factory," said the official, and so we made a pleasant coastwise voyage in his launch to Niah, where limestone hills are honeycombed with immense caves.

In the early morning we stood at the entrance to one cavern. Clouds of bats flew in, a torrent of swiftlets poured out. We followed the bats. A few nest collectors were inside; their torches glowed in the echoing dark.

The floor was thick with bat guano, musty-smelling and soft underfoot. In places the deposits are many feet thick and provide, especially at the deeper levels, a source of valuable fertilizer which is extracted by enterprising Chinese. Innumerable bats hung above us, and a number of baby swiftlets which had fallen from their nests fluttered pathetically about.

Solemn Friends Look On as a Dyak Boy Gets the First of Many Painful Tattoos

Tattooing, once the mark of warriors, now serves certain tribes primarily as decoration. Here the artist completes a stylized design. On his client's shoulder he drew the pattern in a sooty ink. Now he taps with a stick on an instrument containing three needles, thus driving the ink under the skin. Infection usually results from such treatment but rarely proves serious. The women of some tribes are also tattooed.

Shy Penans, Sarawak's Jungle Nomads, Trade for Beads in the Home of a Kenyah Chief

Penans avoid settled places except on market days. Then they drift in to trade wild resins and woven mats for the things they do not make, such as beads, cloth, swords, and salt (page 730). They seem at ease only in the deep jungle, where they live on wild sago and small game killed with blowpipes (page 735). This woman's expression tells the chief, watching from his armchair, that he is about to close a deal.

The birds build on the ceilings, using a salivary excretion for building material. Harvesting the nests takes daring. The collectors build rickety galleries of bamboo, rattan, and wood; they clamber up these to reach even the highest and farthest spots.

A storm beset us on the return passage to Bintulu, and we put into a small river for shelter. Looking seaward, we were impressed to see an old Chinese launch going steadily on through the gale.

"That's not superior seamanship," scoffed the Government man. "The captain never turns his launch in a seaway for fear she'll capsize. He just keeps on."

When later we sought passage out of Bintulu, we found to our horror that this same Chinese launch was the only craft available! Already it held a party of Dyaks who had been working in the Seria oilfield of Brunei.

The boat was overloaded, for the Dyaks all had treasures they were taking home to their families—Malay blouses and sarongs, silver belts, bottles of cheap scents, European shirts, shorts, and hats.

That night we were packed like sardines on the hatch. One of the Dyaks would not stop talking and several times tried to pull the pillow from under my head.

Sarawak Has No Railway

But these journeys, though official, were great fun and always interesting. The country has no railway and few roads or airfields. Fleets of Chinese launches call at larger river and coastal ports, but their captains keep no schedules. Away from the big rivers one goes afoot or by canoe.

The ubiquitous outboard is not always infallible. It cannot negotiate shallow rapids; so the boatmen get out and push. Its propeller shear pins break when the water is clogged with floating debris. In such places the men take to the paddles.

It is pleasant for a change to be paddled in a small canoe. The boat jerks forward to the rhythmic paddling, each stroke ending with a thump against the side of the canoe. In the shallows the paddlers stand gracefully erect and pole the craft along by main force, shouting encouragement to each other in the wilder stretches of water.

Once the paddles pushed me to a modest longhouse of five families who worked in silver, a craft usually left to the Chinese. These silversmiths were Malohs, related to Dyaks. They knew nothing of molds, but hammered the metal by hand.

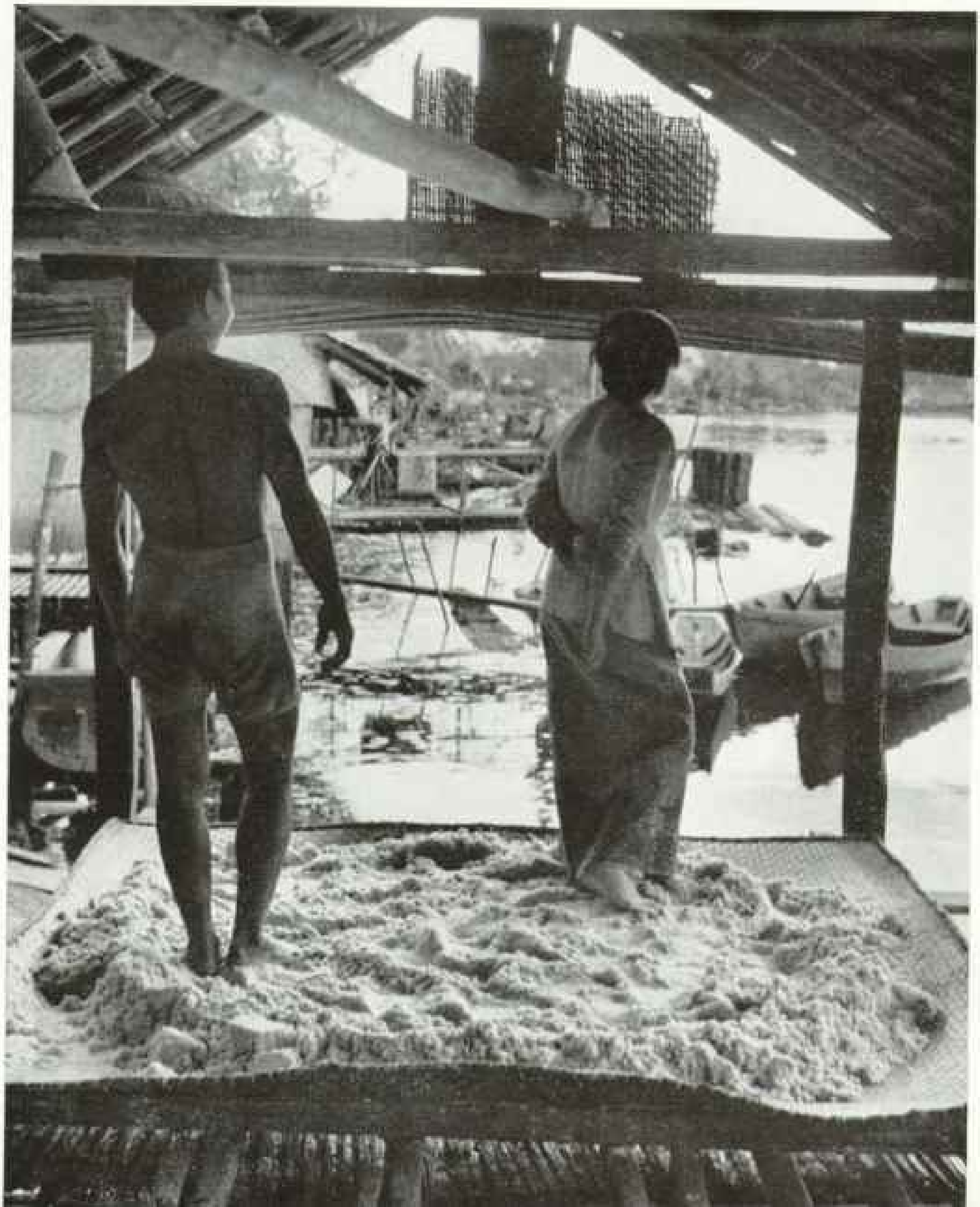
The Malohs specialize in the silver corsets Dyak girls wear on feast days. They make

← Tiny Canoe Tows a Train of Sago Logs, Grist for a Melanau Home Industry

Page 724: Starch for export and for a locally used biscuit flour comes from sago palm groves in swampy coastal areas. These logs float to one of the rasping mills that have largely replaced hand methods.

↓ Feet Shuffle in Malay Dance Patterns as a Couple Tramples Sago

Water ladled over sago pith fresh from the mill dissolves the starch. Nimble feet press the milky liquid through a mat of woven sago leaves into a trough below, where the starch settles out (page 730).



them of many little silver rings strung together on rattan, then hang old Dutch guilders or Chinese and Malayan dollars to the bottom of the finished garment (pages 732 and 733).

In our ignorance we asked after the rice crops; whereupon the Malohs laughed gaily.

"We buy our rice," they told us. "Why should we trouble to plant it? We have all the silver orders we can fill; it keeps us very busy and brings us much money."

Closed Season on Human Heads

I went by myself to visit the Land Dyaks, who live in the westernmost section of Sarawak. Their resemblance to Sea Dyaks ends with their name; indeed, the two Dyak groups are traditional enemies, and the wandering Sea Dyaks probably would have exterminated their physically smaller cousins but for Sir James Brooke.

Before Sir James's rule began, the Brunei noblemen who controlled Sarawak had an arrangement with the Sea Dyaks whereby the Iban warriors were allowed to attack the Land Dyaks without interference. The Ibans kept the heads of those they slaughtered, while the captives were handed over to the Brunei rulers as slaves.

Sir James found the Land Dyaks reduced to a pitiful remnant of a once-numerous tribe. He announced a permanently closed season, and today they have made a good recovery to about 47,000 people.

Their womenfolk wear brass rings around their arms, legs, and necks. In the old days the girls wore enough to cripple them, but they have been shedding the ornaments gradually, so that now they suffer only some distortion of the calf muscles.

727

Kuching: Ocean-going Ship Docks in Sarawak's Capital

Rebellious Chinese gold miners captured and sacked Kuching in 1857. Malay and Sea Dyak warriors faithful to the White Raja put a speedy end to the revolt. Today the town has some 45,000 inhabitants and a traffic problem. Cargo booms of the *Rajah Brooke* frame Kuching's commercial section; the white building with a tower is police headquarters. Twenty miles downstream lies the South China Sea.

728

One Hat Shelters Two as Mother and Child Bathe in a Limpid Stream

Sea Dyaks love bathing. Their longhouses almost always stand on the bank of a river. During the day they spend hours splashing in the cool shallows. The mother holds gourds for carrying water.

Around the Land Dyak village of Kampong Pichin we saw eroded, stony fields. Later, in the Government's Rural Improvement School at Kanowit, we were to see beaming young couples learning how to work the land properly to avoid this sort of thing.

For hundreds of years the peoples of Sarawak have practiced the primitive, wasteful *ladang* system of rice culture. Slashing and burning a patch of jungle, they plant a crop, harvest it, then move on to a fresh patch; thin jungle soil will not produce a second worthwhile crop.

If on a slope, the abandoned land erodes. Even if not, it must lie fallow for years before it can be used again successfully. As population pressure increases, land tends to be worked again too soon and eventually may be permanently ruined.

The Kanowit school advocates the system of irrigated rice. It also teaches vegetable farming, for better diet; it has courses in elementary hygiene and child care. The students, who are married couples, attend for two years.

New Schools Going Up

In Kuching, the old-fashioned capital city of Sarawak (page 726), we visited another important school, the Batu Lintang Teacher Training Centre. The firm but generally benign rule of the White Rajas brought many benefits to Sarawak, but education was not one of them. Now the Government is building and staffing schools at a rapid rate.

At Batu Lintang, Sea Dyaks and Land Dyaks study shoulder to shoulder. Melanaus, Muruts, Kayans, Kenyahs, Kelabits, and Malays work for the day when they may go home and teach the children of their tribes (page 721).

Readers of Agnes Newton Keith's *Three Came Home*, a story of civilians interned by the Japanese during World War II, would recognize the school buildings at Batu Lintang, for as barracks they constituted one of the camps in which the "three" suffered.

Where Women Are Downright Beautiful

I mentioned Melanau students. These tribesmen, dwelling on the coast, are probably the best looking people in Sarawak. The women frequently are downright beautiful.

Some Melanaus are Christians; others, known as Liko, are still pagans. A large proportion, however, are Moslems, converted long ago by the missionaries of Islam, who enjoyed much success along all the coasts of the Malay Archipelago. The census numbers them at some 35,000 souls altogether.

In Melanau country, casuarina trees fringe sandy sea beaches. Villages lie just inland, hugging chocolate-brown streams that drain swamps heavily underlaid with peat.

The main industry of the people is the cultivation of sago palms. The trees grow in swamps and would dwarf the hill sagos on

Trap Holds Fish and Fisherman Too

Western methods suggested by the Government have thus far failed to interest Melanau and Malay fishermen greatly. This weir, set in coastal shallows, has long wings that guide the fish into the woven chamber. Since the trap cannot be lifted like a net, the Malay owner enters at low tide and dips out his catch. In the net is a tasty pomfret.

which inland peoples depend for emergency sustenance.

Cultivated sagos grow to some 40 feet in height and live about 15 years. Just as they reach maturity, the Melanaus cut them down and chop them into logs small enough to drag to the villages (page 724).

The pith at the center of the sago logs is gouged out and rasped by hand or machine until it has the consistency of coarse sawdust. Over this substance, spread on a mat or placed in a basket, the Melanaus pour water. At the same time they vigorously stamp and pound it (page 725). The woody fibers are left on the matting while the milky-looking water carries away the starch and deposits it as a cheesy mass in a trough below. Dried, it becomes a locally used biscuit flour and the sago of commerce.

More than 15,000 tons of this nearly pure starch are annually exported to Great Britain for puddings and for textile sizing.

The Melanau swamps contain trees regarded as almost worthless in prewar days. Today's demand for timber has sent the tribesmen into the morass with saws and axes. The most valuable tree they fell is the ramin, once regarded as a pest that competed with the jelutong trees for space.

One of my husband's duties entailed tour-

Dirt Road Makes a Democratic Meeting Ground for District Officer and Wards

Here the author's husband, district officer of Lawas, demonstrates one reason why Sarawak people like their government: he takes an unceremonious seat to chat with a visiting Kelabit group. Later Mr. Morrison lent them the empty jail for the night when he learned they had no place to sleep.

731

Flanked by Respectful Women, Baleng Writes a History of His People

This educated tribesman is a Kayan, whose ranks, like those of the Muruts, were decimated by smallpox, cholera, and influenza in the latter part of the last century. Baleng, typing romanized Malay, uses a modern machine but sits on the floor to do so. Women with elongated ear lobes form an awed audience.

ing longhouses with the district's chief. Notebook in hand, he would take a census of people and guns. Then he listened to complaints and requests, settling as many as possible on the spot. Next he gave medicines to the sick, and after that examined the longhouse. An exhortation to keep the building in repair usually was necessary.

A chief's strange reaction to the flight of two little birds across his path taught me that Sarawak folk are still very superstitious and have a great belief in charms, spells, and ill omens. I had thought sometimes that ill omens were only excuses to get out of distasteful jobs.

How to Get Rid of a Spell

Beginning an inspection trip to which he looked forward eagerly, this chieftain turned gray when the birds took wing. He headed back to the longhouse we had just left.

"What's wrong with him?" I asked. "Is he sick?"

"The birds flew across his path," explained Alastair, "and he thinks that if he doesn't go back to the house for the night, he'll never come back there alive again."

Guile saved the day. We persuaded the chief everything would be all right if he merely left his official jacket at the house in his stead, and we went merrily on our way with our guide in his shirt sleeves.

Omens and Charms Rule Dyak Lives

More serious were cases in which a bad dream caused a divorce, or a rattan tree's thunderous fall on a still night frightened an entire community into moving to a new site. In one house a man complained that his wife had been killed by an ill-disposed neighbor who had concealed a bottle containing a very potent spirit in his room.

Serious, too, was the case of the small boy, ill with fever, whose parents refused our offer of medicine and called in their magicians instead.

These worthies set up a rattan pole topped with a white flag and hung with beads and

732

Skillful Maloh Craftsmen, Cross-legged in an Airy Workshop, Fashion Silver Ornaments

Skilled tribal silversmiths, the Malohs use no molds, but hammer the metal by hand. The man standing in the background operates a machine for drawing silver wire. The Dyak girls' holiday corsets, like the ones on the mat in the foreground, are made of little silver rings strung together on rattan (page 725).

charms. At the base of the pole they placed a plate with a little water, into which they dropped "healing" stones.

There was lengthy mumbo jumbo, part of it taking place while the two magicians huddled under a blanket, and some eerie dancing about the rattan pole. Finally they massaged the boy with the healing stones.

The idea seemed to be that the evil spirit in the boy would leave the human victim and climb the pole. On this hopeful note the ceremony was concluded.

The parents, of course, were acting out of the deepest love, for the peoples of Sarawak adore children and spoil them.

The Dyaks in particular frequently adopt youngsters. They do not care whether the children are Dyaks. Since they live among Chinese, who value boys more than girls, the Dyaks adopt many Chinese baby girls. These grow up thoroughly happy and are soon indistinguishable from their Dyak sisters.

Some people might consider that Sarawak women also are spoiled. A woman can divorce her husband, she shares family property fairly with her husband, and she is consulted on all important matters.

In Sarawak one may still meet elderly gentlemen with the backs of their hands tattooed to show they have been successful head-hunters. The Dyaks believe that their exploits have brought virtue to their communities, but nevertheless these charming and respected elders have probably all been guilty of the most brutal murders and massacres in their youth. A cruel, sneaky business was head-hunting, for few victims ever fell in fair fight.

There was a flare-up of head-hunting as late as the 1930's under the leadership of a chief called Ason. He organized parties of rebels who attacked the Government forces and persons loyal to the Raja. A good many heads were taken. The rebels eventually surrendered and Ason was pardoned, but he was made to live quite a number of years in a remote station.

Such was the humane practice of the White Rajas. Rebels and head-hunters were banished to some place where they were provided with a livelihood. Eventually they would be sent home and in some cases, though not in that of Ason, made chiefs. After this they nearly always became faithful supporters of the Government for the rest of their lives.

Cook Forecasts a Transfer

One night Alastair stepped into our kitchen for something or other. The cook looked up from the range and said, "Sir, you leave soon for northern Sarawak."

By this time we knew the ways of the mys-

Sarawak Belles Model Festive Wear

Sea Dyak women, excellent weavers, spun the cotton thread for these skirts and collar, then dyed and wove it into intricate patterns. Silver coins dangle from the belts of mother and daughter.

Morrison, Pix

Cockfight Fan Fondles a Feathered Scrapper

Both Sea Dyaks and Chinese go in strongly for cockfighting, a legal sport in Sarawak. In combat the birds slash each other with razor-sharp steel spurs. Owners and backers bet heavily on the matches.

734 Morrison, Pix

terious East well enough not to doubt the validity of such news tips from one's servants. Ten days later my husband told me he had received official orders to make the transfer.

Our new station was Lawas, near Brunei Bay, an arm of the South China Sea overhung by jungle-clad mountains. We lived in a 50-year-old administration building where my husband also had his offices.

Our domicile was riddled with white ants (termites). Snakes, bats, and immense toads had no inhibitions about sharing the quarters.

Tribesmen Saved American Flyers

The British-protected Sultanate of Brunei, all that is left of the old Malay state that once dominated Borneo and from which comes the island's name, has an estimated population of only 54,000, yet its Seria oilfield produces more than 3,000,000 tons of petroleum a year and makes Brunei one of Asia's most prosperous countries.

In neighboring Trusan Valley lived the Murut people, a tribe I had long wanted to visit. More than one American flyer shot down in their country during World War II owes his life to them, a fact which may surprise some who know them superficially as a dour and obstinate people.

Cholera and smallpox decimated them around the turn of the century. There are now about 3,000 Muruts in the Trusan, although Indonesian Kalimantan is home for many more.

Perhaps because of their sufferings, they used to be sadly addicted to drink. Missionaries converted them to Christianity in the 1930's. Today they drink no more but sing hymns fervently each morning before dawn and last thing at night.

Feuding Folk Won't Be Buffaloed

Muruts count their wealth in antique beads, old Chinese jars, and buffaloes. Rarely has there been a more inconvenient monetary system; the big, dull-brown jars are difficult to lug through the jungle without breaking, and the buffaloes live half wild and often dangerously near Murut villages.

Buffaloes brought us up the Trusan Valley. Not literally, for buffaloes do no useful work in this area, not even plowing. Actually, we walked for nine days along the banks of the nonnavigable Trusan, largely so that my husband could arbitrate quarrels arising over buffaloes.

One quarrel had been going on for half a century! The original beasts involved had of course been dead for years, but the families still feuded about who owned their inadequately marked descendants snorting and

thrashing in the underbrush. Somehow my husband settled the business.

Then we ran afoul of buffaloes in another way. Requesting porters to accompany us through uninhabited country over to the Limbang, we were told that so many people wanted the honor that it was impossible to select the privileged ones.

The polite, ingenious explanation puzzled us only briefly. We learned that the entire village actually was engrossed in a major buffalo deal of some kind, and nobody would leave until it was concluded.

When finally we did get our porters, it was to set out on a journey I shall never forget, for on it, for the first time, I met the Penans in their own natural surroundings of savage mountains and mysterious jungle.

We were tired after almost a week on the trail. Always the sand flies, the curse of Borneo, darted and bit. Leeches clung to our legs, causing painful sores. At night we let the Muruts make us little shelters rainproofed with bark and leaves.

Some of the Muruts with us had moved to the Trusan from an adjacent valley after the last war. With amazing certainty they found their way through what appeared to me to be featureless jungle.

No one had used the trail for years. Game was plentiful and trustingly tame. We ate fresh meat, deer or pig, almost every day.

As we plodded along, our carriers suddenly came to a halt, talking excitedly about some small signs in the undergrowth. Far away we heard the unexpected but unmistakable bark of a dog.

"Penans," said the Muruts.

The Muruts set off to contact the unseen Penan tribesmen. They made toward the source of the noise and shouted and called. Complete silence descended on us. At last came an answering call and a shouted conversation. Eventually we climbed to the top of a steep ridge where the Penans cautiously

Silent Blowgun Shoots a Poisoned Dart

With such weapons, made of eight-foot lengths of hollowed hardwood, some Sarawak tribesmen still hunt wild boar, deer, edible monkeys, and jungle fowl. They prefer modern firearms when they can get them. Powerful vegetable poisons tip the darts, carried in a long quiver at the hunter's waist. Rosamnis Zeller

736

Penan Duet: Atop a Grassy Hill, Wild Men of Borneo Pipe Plaintive Music

The nomads play *keluris*, made from gourds and lengths of hollow bamboo. Far from primitive, these wind instruments contain vibrating reeds. The wandering Penans probably made neither the keluris nor the sword of the man at right, but bought them from settled tribes. The author describes a chance jungle meeting with Penans as a high point of her adventures in Sarawak (page 735).

awaited our approach, a little party of shyly smiling jungle folk.

Strong and well built and far from primitive in appearance, these nomads yet seemed to belong more to the wilds than to the haunts of men. An air of stillness surrounded them, as well it might, for they are adept at creeping silently upon a deer at a jungle pool or a monkey asleep in the bush.

They carried long polished wooden rods. I realized that these were the famous blowguns with which they hunted. Round quivers at their sides held poisoned darts for these fantastic weapons.

"They can hit a shilling at 30 feet," said Alastair admiringly, measuring with his eye the width of a small ravine separating us from the Penans. "Quiet shooting, too. Piff! The animal runs a little way, the poison takes hold, and there's the family dinner."

At the time of the last census in 1947 it was estimated that there were fewer than 2,000 Penans in the country. They drift unobtrusively into the towns with beautiful black-and-white mats they have woven, trade them for salt, tobacco, and cloth, then melt back into the depths of the jungle (page 723).

Some of our Muruts who had lived in the Limbang recognized the Penans as old friends. Quiet greetings were exchanged. We struggled across the ravine to see the jungle dwellers' rude hut and meet their wives and children.

Soon we were on our way again. The Penan men said they would go with us to a point where a stream crossed the trail. They moved beside us, laughing and chatting with the Muruts.

We came to the stream, and I turned to say goodbye to our new friends. They had vanished. Only the Muruts splashed through the roistering brook.

NATIONAL GEOGRAPHIC SOCIETY

SIXTEENTH AND M STREETS NORTHWEST, WASHINGTON 6, D. C.

ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

To carry out the purposes for which it was founded sixty-eight years ago, the National Geographic Society publishes the National Geographic Magazine monthly. All receipts are invested in The Magazine itself or expended directly to promote geographic knowledge.

Articles and photographs are desired. For material The Magazine uses, generous remuneration is made.

In addition to the editorial and photographic surveys constantly being made, The Society has sponsored more than 100 scientific expeditions, some of which required years of field work to achieve their objectives.

The Society's notable expeditions have pushed back the historic horizons of the southwestern United States to a period nearly eight centuries before Columbus. By dating the ruins of vast communal dwellings in that region, The Society's researchers solved secrets that had puzzled historians for 300 years.

In Mexico, The Society and the Smithsonian Institution, January 16, 1939, discovered the oldest dated work of man in the Americas. This stone is engraved in Mayan characters. November 4, 291 B. C. (Spinden Correlation). It antedates by 200 years anything else dated in America and reveals a great center of early American culture, previously unknown.

On November 11, 1935, the stratosphere flight of the world's largest balloon, *Explorer II*, sponsored by The Society and the U. S. Army Air Corps, reached a world-record altitude of 72,395 feet. Capts. Albert W. Stevens and Orvil A. Anderson took aloft a ton of scientific instruments and obtained results of extraordinary value.

A notable undertaking in astronomy was launched in 1949 by The Society and Palomar Observatory of the California Institute of Technology. This project photographed vast areas of space, making available to observatories all over the world, at less than cost, the most extensive sky atlas yet achieved.

In 1948 The Society sent seven expeditions to study the sun's eclipse on a 5,320-mile arc from Burma to the Aleutians.

A Greek cargo ship sunk in the Mediterranean 2,300 years ago was found in 1952 and is being excavated by the National Geographic Society-Calypso Marine Archaeological Expedition led by Capt. J.-Y. Cousteau of the French Navy.

The National Geographic Society and the Royal Ontario Museum in 1951 explored and measured newly found Clubb meteor crater, 11,590 feet in diameter, in northern Quebec.

The Society and individual members contributed $100,000 to help preserve for the American people the finest of California's sequoias, the Giant Forest in Sequoia National Park.

One of the world's largest icefields and glacial systems outside the polar regions was discovered in Alaska and Yukon by Bradford Washburn while exploring for The Society and the Harvard Institute of Exploration in 1938.

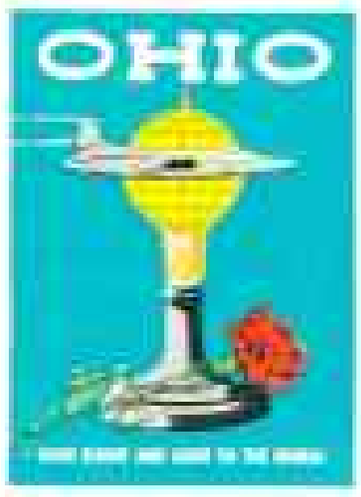
enjoy OHIO

BEAUTIFUL BALANCE FOR WORK AND PLAY

Take life *easy* this summer in friendly Ohio—the state with *everything*. Cruise, swim or ski on sparkling Lake Erie. Glide over modern highways. Photograph our massive rivers, quiet canals, prehistoric Indian mounds. Enjoy the sunny contentment of peaceful inland lakes, wooded hills and picturesque farmlands. All these, plus many more vacation delights await your pleasure in Beautiful Ohio.

TOP: *Old Man's Cave in photoscenic Hocking Valley.*
CENTER: *Peace Memorial, Put-in-Bay. Lake Erie Island area offers some of the finest smallmouth bass and walleyed pike fishing in the nation.*
BOTTOM: *Ohio is the second largest industrial state in the U.S.A.*

WRITE FOR NEW OHIO COLOR BROCHURE AND DECAL: Ohio is happy to send you informative brochures and this colorful auto decal, "Ohio Gave Flight and Light to the World."



Dept. G-4

The Ohio Development and Publicity Commission
21 West Broad Street
Columbus 15, Ohio
Please send free brochures including "Enjoy Ohio" and Ohio's color decal.
Name _____
Address _____
City _____ **Zone** _____ **State** _____

Grand Canyon of Yellowstone and Lower Falls, which plunges downward for 308 feet.

Magnificent, new Jackson Lake Lodge . . . Teton range in the background.

YOUR Yellowstone Vacation

IS NOT COMPLETE WITHOUT SEEING Grand Teton

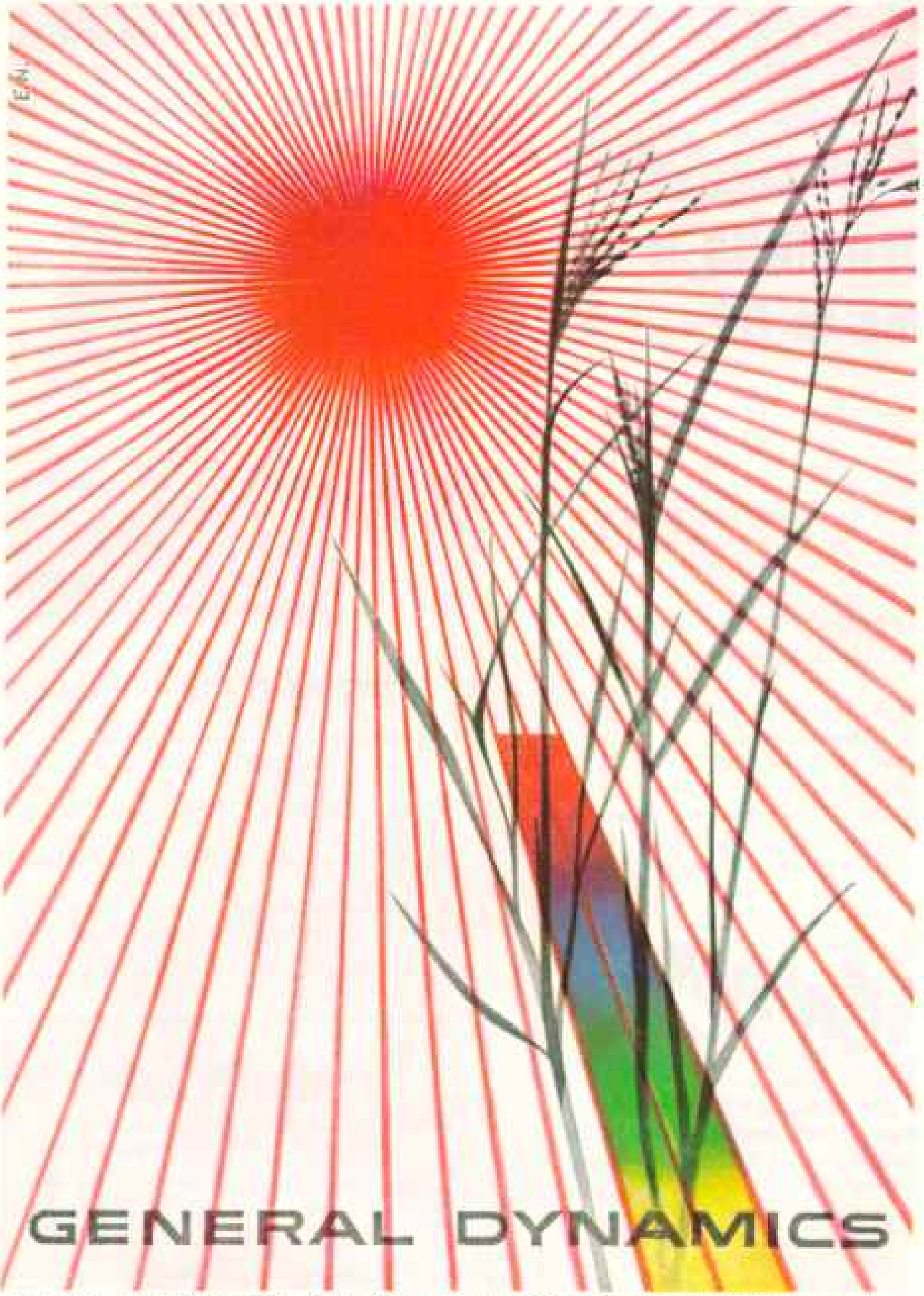
UNION PACIFIC RAILROAD

To enjoy a delightful contrast in Nature's storehouse of scenic attractions, you'll want to include the breath-taking, mountainous grandeur of Grand Teton with the magic land of Yellowstone. These two picturesque National Parks are only a few miles apart. Union Pacific provides the most relaxing, pleasurable way to reach them. Write us, in care of Room 745, for illustrated booklet and information about a trip to these vacationlands.

UNION PACIFIC RAILROAD

OMAHA 2, NEBRASKA

Power for Peace . . . Gandhi said: *"To the millions who have to go without two meals a day the only acceptable form in which God dare appear is food."* Creative uses of atomic radiation in agriculture can help give more and better food to all peoples, everywhere. Atomic contributions to the agricultural development of undernourished nations, with "no strings attached", will offer new proof to the world that we practice the brotherhood we preach.



GENERAL DYNAMICS

GENERAL DYNAMICS CORPORATION · 445 PARK AVENUE, NEW YORK 22, N. Y.

GD
C-L
EB
GA
E-D
C-V
S-C

He helped AMERICANS ★ come to CANADA

Ontario is proud of its famous Mohawk Chieftain Thayendanegea or Joseph Brant who, along with Col. John Butler of Butler's Rangers, helped many a Loyalist during the War of Independence. To-day many Canadians claim descent from the refugees he helped and protected.

EVERYONE FINDS FUN IN ONTARIO

Fun in the way of fishing, hunting, canoeing, camping, swimming, water skiing, to say nothing of visiting historical spots, doing the stores and generally seeing the sights. And remember—accommodations and food are of the best, and there are liberal U. S. custom allowances.

ONTARIO

Canada's Family Vacation Playground

Denise McDonald, Ontario Travel Hostess,
Room 458, Parliament Bldgs., Toronto 2, Ont.
Please send me free literature about Ontario vacations.

NAME .....

STREET .....

CITY ..... STATE .....

PLEASE PRINT

FREE! "How to be sure your safe is a safe place FOR YOUR RECORDS"

NEW 24-PAGE MOSLER BOOKLET TELLS YOU

- what makes some safes dangerous
- how much protection to expect from a fireproof building
- what records should get priority in a small safe
- what's needed to collect fully on fire insurance
- what special precautions to take with cash
- what to look for in buying a new safe

and answers to dozens of other vital questions.

FREE! Mail Coupon Now!

The Mosler Safe Company Since 1848

DEPT. NG-28 320 Fifth Avenue, New York 1, N.Y.

Please send me FREE booklet described above.

NAME .....

COMPANY .....

ADDRESS .....

CITY .....

ZONE ..... STATE .....

THAT OTHERS MAY LIVE

This is the motto of the Air Rescue Service, proved by their actions. Last year alone, the 40 Air Rescue Squadrons flew 3,954 missions totaling 29,035 hours to give aid and comfort to 30,796 people, military and civilian, rescuing 2,619 from certain death. Grumman is proud to build the Albatross amphibians flown by the USAF Air Rescue Service.

GRUMMAN AIRCRAFT ENGINEERING CORPORATION

Bethpage • Long Island • New York

Designers and builders of supersonic Tiger, transonic Cougar, S2F sub-killer, Albatross amphibian, metal boats, and Aerobilt truck bodies.

Call out the reserves

with a touch of your toe!

Ford gives you up to 225 horsepower

for *INSTANT GO WHEN INSTANTS COUNT!*

NOW you can get even *more* of the lightning that's made Ford V-8 the world's favorite "eight."

The 225-h.p. Thunderbird Special V-8, biggest, performingest engine in its class, is available in *most* Fords! Or you can have the 202-h.p. V-8—the standard "8" in Fairlanes and Station Wagons, optional in other models. All Fords offer the Mileage Maker Six. These engines pass in a wink with "whoosh" in reserve, you'll *know* you're safer.

And *all* Fords have the *extra* safety of Lifeguard Design—the beauty of Thunderbird styling.

FORD V-8

World's largest-selling "eight"!

FREE

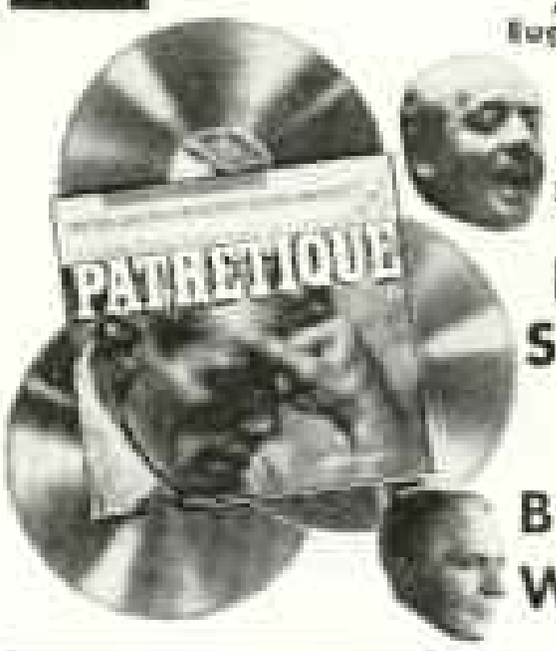
YOUR CHOICE OF ANY ONE OF THESE MAGNIFICENT SETS OF

THREE 12" COLUMBIA (Lp) RECORDS

If you join the Columbia (Lp) Record Club now—and agree to accept as few as 4 selections during the coming 12 months

3-RECORD SET #1

Treasury of Great Classics



Eugene Ormandy conducting The Philadelphia Orchestra

TCHAIKOVSKY
Symphony No. 6 "Pathetique"

Sir Thomas Beecham, Bart., conducting the Royal Philharmonic Orchestra

BEETHOVEN SYMPHONY NO. 8

SCHUBERT SYMPHONY NO. 8 "Unfinished"

Bruno Walter Conducting the Philharmonic-Symphony Orchestra of New York

BRAHMS Variations on a Theme by Haydn —Academic Festival Overture

WAGNER Siegfried Idyll **SMETANA** The Moldau

3-RECORD SET #3

TREASURY OF GREAT MOOD MUSIC

STRAUSS WALTZES by
ANDRE KOSTELANETZ
Andre Kostelanetz and his Orchestra play ten waltzes.

IN THE DANCING MOOD
LES BROWN ☆ ERROLL GARNER
HARRY JAMES ☆ LES ELGART
PERCY FAITH ☆ SAMMY KAYE
America's most popular orchestras play your favorite music for dancing. 12 numbers in all.

AMONG MY SOUVENIRS
PAUL WESTON and his Orchestra
Dreamy arrangements of Embraceable You, Pennies From Heaven, I'll See You Again, and more.

3-RECORD SET #2

JAZZ HALL OF FAME

BRUBECK JAZZ GOES TO COLLEGE

Jazz At Columbia — Swing
☆ Benny Goodman ☆ Harry James
☆ Gene Krupa ☆ Duke Ellington
☆ Charlie Barnet ☆ Buck Clayton
☆ Count Basie ☆ Lionel Hampton

Jazz At Columbia — Collector's Items
☆ Bix Beiderbecke ☆ Louis Armstrong ☆ Bessie Smith
☆ Red McKenzie ☆ Eddie Condon ☆ Wally Rose
☆ Bunk Johnson ☆ Pete Johnson
☆ Jimmy Lunceford ☆ Teddy Wilson

These 3 records are a jazz library in themselves — presenting jazz greats of every period and style.

3-RECORD SET #4

BROADWAY HALL OF FAME

THE PAJAMA GAME
(Original Broadway Cast Recording)

Starring John Raitt, Janis Paige, Carol Haney, Eddie Foy Jr. — singing all the tunes from this musical.

SONGS TO REMEMBER
DOROTHY KIRSTEN

Percy Faith, Russell Case and Orchestra join Miss Kirsten in 13 songs.

BEWITCHED
MORTON GOULD

11 songs arranged and conducted by Morton Gould. Includes *September Song, So In Love, Where or When.*

Build a Fine Library of the World's Greatest Music—at Tremendous Savings!

Yes! You may have, FREE, any one of these valuable record sets, each containing *three* magnificent 12" Columbia (Lp) records!

We make this unique offer to introduce you to the money-saving program of the Columbia (Lp) Record Club . . . a program that selects for you each month the greatest works in every field of music — performed by the world's finest artists and reproduced with the astonishing brilliance for which Columbia (Lp) records are famous!

HOW THE CLUB OPERATES

To enjoy the benefits of the Club's program—and to receive your 3-record set *free*—fill in and mail the coupon, indicating the Club division that best suits your musical taste: Classical; Jazz; Listening and Dancing; Broadway, Movies, Television and Musical Comedies.

Each month you will receive free the informative Club Magazine which describes the current selections in all four divisions. You may accept or reject the monthly selection for your division. You may also take records from other divisions, or you may tell us to send you NO record in any month.

Your only obligation as a member is to accept as few as four selections from the almost 100 that will be offered to you during the next 12 months, and you may cancel your membership at any time thereafter. The records you want are mailed to your home and billed to you at the low price of only $3.98 plus a small mailing charge.

FREE BONUS RECORDS GIVEN REGULARLY

The 3 records sent to you now represent an "advance" of the Club's bonus system—given to you at once. After you have fulfilled your membership obligation by purchasing four records, you will receive *an additional free Bonus record of your choice for every two additional Club selections you accept.* These 12" Columbia (Lp) Bonus records are pressed exclusively for Club members in limited editions, not available elsewhere at any price!

CHOOSE YOUR 3-RECORD SET NOW

Indicate which 3-record set you want free, and the division you prefer. Then mail the coupon at once. You must be delighted with membership or you may cancel without obligation by returning the free set within 10 days.

COLUMBIA (Lp) RECORD CLUB
165 West 46th St.
New York 36, N.Y.

MAIL THIS COUPON NOW!

COLUMBIA (Lp) RECORD CLUB, Dept. 364
165 West 46th Street, New York 36, N. Y.

Please send me as my FREE gift the 3-Record Set checked here:

☐ Set #1. GREAT CLASSICS ☐ Set #3. GREAT MOOD MUSIC
☐ Set #2. JAZZ ☐ Set #4. BROADWAY HALL OF FAME

and enroll me in the following Division of the Club:
(Check one box only)

☐ Classical ☐ Jazz ☐ Listening and Dancing
☐ Broadway, Movies, Television and Musical Comedies

Each month you will send me the Columbia (Lp) Record Club Magazine which describes the records offered in all four Club divisions. I have the privilege of accepting the monthly selection in the division checked above, or any other selection described, or none at all. My only obligation is to accept a minimum of four records in the next twelve months at the regular list price plus a small mailing charge. After accepting four records, I will receive a free Bonus record for every two additional records I purchase. If not delighted with my membership, I may cancel within 10 days by returning all records.

Name.....
(Please print)

Address.....

City.....Zone....State.....

CANADA: Prices slightly higher. 11-13 Soho St., Toronto 2B

If you wish to have this membership credited to an established Columbia Records dealer, authorized to accept subscriptions, please fill in the following information:

Dealer's name.....

Dealer's address.....

"No Thanks, I Don't Want Any"

Says Oklahoma Editor

TOM B. PHILLIPS
Owner—Publisher
Holdenville Daily News
Holdenville, Oklahoma

No Thanks, I Don't Want Any

A circular letter received by the editor and we presume by many others, advertises a big "saving" on fire and automobile insurance to which we have the following reply:

"No, thanks! We shall be obliged to reject the offer . . . We get reasonable insurance rates by purchasing our insurance protection from established, reputable local agents who are here on the ground and whose services will be available should we have a loss against which we are protected in the standard insurance policies in our safe. We would not be obliged to indulge in lengthy correspondence with some stranger in Kalamazoo, or Timbuktu. The local boys would be on the job, would check and report the loss, and settlement would be made without difficulty or quibbling.

"Moreover, the established insurance agents are our friends and neighbors. They help support our schools which two of my kids attended for about 10 years, and from which they were graduated; they help support the churches that provide me and mine spiritual stimulation; they help support the police agencies that protect my property against plunder; they help support the fire department that protects my property against fire; they help support the city, school district, county and state governments that bestow many blessings upon me.

"Why should I take my insurance business from these benefactors, these friends, these fellow citizens and give it to some foreign concern that doesn't care a tinker's dam about our town, except for what profit they can extract from it?

"The few cents I would save on every hundred dollars of insurance protection I now have wouldn't begin to compensate me for the trouble and inconvenience in event of a loss. It isn't worth the difference.

"Cheap insurance is like any other cheap commodity; it's very apt to be more expensive in the long run."

Editorial—Daily News, Holdenville, Oklahoma

Yes, Mr. Phillips, there's only one kind of insurance— THE BEST YOU CAN BUY!

That's the kind you get when you insure through your local agent or broker. He is your neighbor — on the spot to tell you what protection you need, and on the spot to help you should you have a loss!

For the name of a nearby America Fore Agent call Western Union by number and ask for Operator 25.

America Fore
INSURANCE GROUP

★ The Continental Insurance Company
★ Niagara Fire Insurance Company
★ Fidelity-Phenix Fire Insurance Company
★ The Fidelity and Casualty Company of New York

Elbow Room in Paradise

Springtime in Miami

gay, uncrowded, sunny . . .
a golden parade of perfect days. The famous 24-hour merry-go-round of fun and action . . . or quiet, sun-blessed relaxation if that's your medicine. Year's finest fishing, "beaching," boating, sightseeing, golf . . . Miami's bright and beautiful spring season, with miles of luxurious elbow room in which to enjoy it . . . and springtime rates that smile a special welcome!

In spring, as always . . .

Miami

GIVES YOU MORE OF
EVERYTHING!

Come soon. Mail coupon now for FREE Miami Booklet in full color!

Dept. of Publicity, Literature Section 56-4
320 N.E. 5th St., Miami, Florida

Name _____

Address _____

City _____ *State* _____

ENGINEERS:

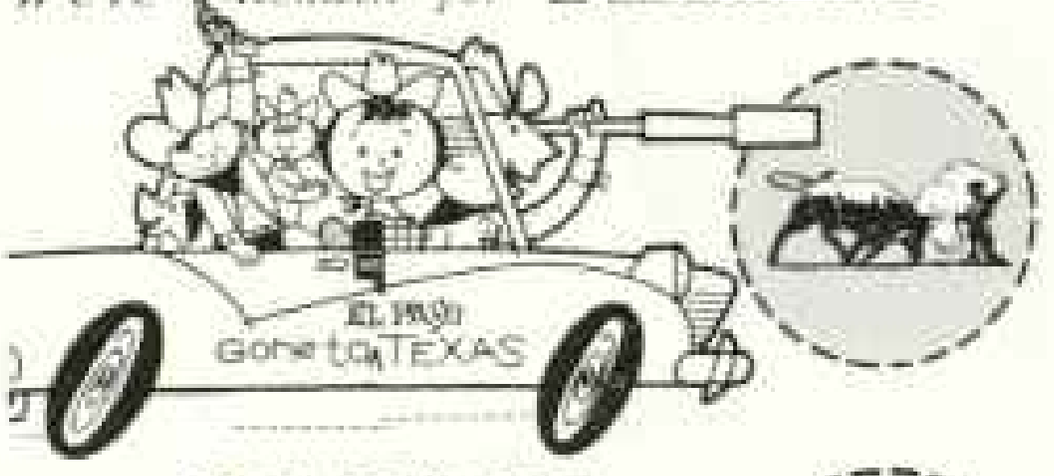
How's the climate where you live?

Douglas Aircraft Company has ground-floor opportunities for all kinds of engineering talents in locations where living conditions are wonderful, all year 'round. (Not one Douglas engineer owns a snow shovel.)

Write today for information about challenging work with the world's largest aircraft manufacturer with $2 billion backlog in aircraft, missiles and electronics.

Send resume to
C. C. LaVene, Box 620E
Santa Monica, Calif.

We're headin' for TEXAS



down **EL PASO** *way!*

Texas-Size Vacation Ahead!
Friendly folks, Missions, Mt. Cristo Rey, Carlsbad Caverns, White Sands, Big Bend, Mountains, Rodeos, Cowboys, Sports. Picturesque Mexico next door. Fun for all. Cost is small.

Gowns by Irene

A discerning look at any of the nation's finer gathering places will usually reveal a surprising number of Cadillac cars in attendance. This is, we think, entirely logical. For through the years, Cadillac has been the consistent and overwhelming choice of those who choose without restriction. And how *well* they have chosen.

In beauty, in luxury, in performance, in everything that makes a motor car a pleasure to own and to utilize . . . Cadillac stands completely apart. We cordially invite you to see and drive this latest version of the "car of cars" soon. Your dealer will be privileged to serve you at any time.

CADILLAC MOTOR CAR DIVISION • GENERAL MOTORS CORPORATION

Cadillac

...and

TRAILWAYS

does all the planning

free: Dream-Aids and free planning...Whether it's a tour folder you need or a complete itinerary, we'd like to help.

You'll find vacation dream material galore in these new Trailways Tour Folders. In full living color, they cover all of America's dream vacation spots. Fill in the coupon and show us your dream vacation-land...and we'll send you facts...and fancy to help make your dreams come true.

TRAILWAYS, DEPT. NG-56
1012 14th St., N.W., Washington, D. C.

Please send me one of your free full color vacation folders. I am interested in ☐ expense paid tour ☐ escorted tour ☐ vacation trip. (Check one)

To_____

From_____

Approximate Leaving date_____

Name_____

Street Address_____

City_____ State_____

TRAILWAYS

1012 14TH STREET N.W., WASHINGTON, D. C.

Some people have all the fun!

Join them—on a Water Wonderland Vacation

MICHIGAN STYLE!

BLUE LAKES . . . BROAD SANDY BEACHES

MORE SPORTS, MORE RESORTS

There's so much fun for *all* the family — in Water Wonderland! Together, you'll share waterside play at any one of 11,037 sparkling lakes...roam through beauty-lined forests . . . or sun yourselves along the 3,121 magnificent miles of Great Lakes scenic shoreline.

You'll discover something *special* for everyone, too! Play golf or tennis, swim, fish, ride, hike, go sightseeing. At night, sleep well in your choice of more than 4,000 pleasant resorts or a well-appointed hotel room . . . awake refreshed for another glorious day of family fun—*Michigan Style!*

Please Drive Safely

MICHIGAN TOURIST COUNCIL
ROOM 11, CAPITOL BUILDING, LANSING 4, MICHIGAN

I would like Michigan's 76-page color booklet and vacation guidebook of the regional area checked.

Name _____

Address _____

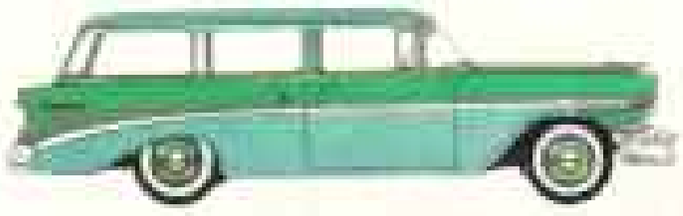
City & Zone _____ State _____

1 ☐ Upper Peninsula Development Bureau
2 ☐ West Michigan Tourist Association
3 ☐ East Michigan Tourist Association
4 ☐ Southeast Michigan Tourist Association

Seats a whole baseball team

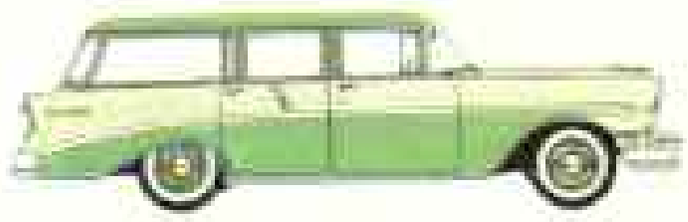
beautifully!

THE BEL AIR BEAUVILLE—4 *doors, 9 passengers, interior finish in washable vinyl and nylon-frost pattern cloth.*

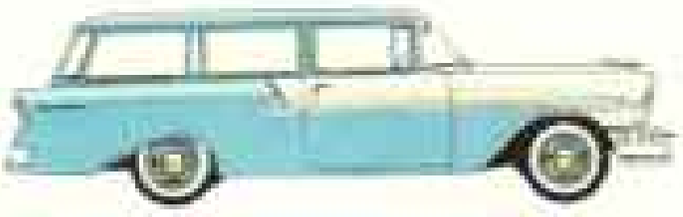


THE "TWO-TEN" HANDYMAN
2 doors, 6 passengers, all-vinyl interior.

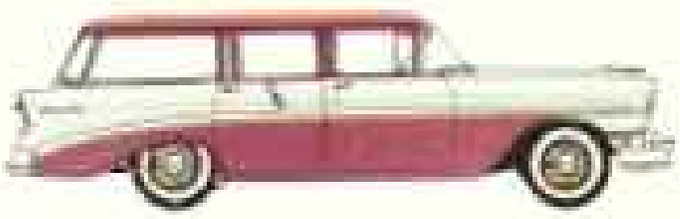
THE DISTINCTIVE, LUXURIOUS NOMAD—*2 doors, 6 passengers.*



THE "TWO-TEN" TOWNSMAN
4 doors, 6 passengers, loads of cargo space.



THE "ONE-FIFTY" HANDYMAN
2 doors, 6 passengers, versatile and thrifty.



THE "TWO-TEN" BEAUVILLE
4 doors, 9 passengers.

It's one of 6 sprightly new Chevrolet station wagons

If you're joining the fast-growing station wagon set, be sure to look these new Chevrolets over. They're very good looking, as you see. All of them have fine, sturdy and quiet Fisher Bodies. All offer you a choice of the new "Blue-Flame 140" six, or V8 horsepower up to 205. And all of them pack Chevrolet's special brand of performance that breaks records on Pikes Peak and makes your own driving so much easier, safer and more pleasant.

Color and interior choices are wide, practical and unusually handsome. Your Chevrolet dealer will be glad to show you. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

set your course for *most* fun afloat

with Evinrude *Whispering Power!*

ALL'S CLEAR — you're set for years of pleasure ahead — with your fast and able Evinrude-powered cruiser! Delightful runs to lovely coves far up the shore. Carefree week ends afloat. Family vacations brimming with happy adventure. At modest cost you enjoy the comforts of larger inboard cruisers. And performance that is *luxury afloat!* You speed in the tranquil quiet of Whispering Power. You relax in blissful smoothness that makes riding seem like sailing. SEE YOUR EVINRUDE DEALER. Look for his name under "Outboard Motors" in your phone book. Learn how easily you can join in the fast growing sport of outboard cruising. He will gladly help you choose the boat and motor exactly suited to your needs. Write for free catalog of the complete Evinrude line—9 models, 3 to 30 horsepower—3 models with finger-touch electric starting. EVINRUDE MOTORS, 4245 North 27th Street, Milwaukee 16, Wisconsin.

A Division of Outboard, Marine & Mfg. Company
In Canada: Mfd. by Evinrude Motors, Peterborough

Evinrude

quiet Outboard Motors

THE LAURENTIAN MOUNTAINS look down on Ste. Adele-en-haut in Canada's Province of Quebec. This is the kind of dream spot that's easy to find among Canada's more than a million lakes and countless streams — superb settings for completely satisfying holiday living. See your travel or transportation agent soon.

For refreshing outdoors fun

over half the world's fresh water

in cool, uncrowded

Canada

...Vacations Unlimited!

You'll get action a-plenty from your favourite gamefish in Canada's array of vast and vivid National Parks.

Colourful pageants and festivals call to mind Canada's rich, romantic past. It's a land where history truly lives.

Unforgettable scenes of natural glory are everywhere in unspoiled, exciting Canada.

Tangy seas meet tawny shores along 59,000 miles of scenic, splendid Canadian coastline.

01.1.13 56.05
CANADIAN GOVERNMENT TRAVEL BUREAU, OTTAWA, CANADA

Please send me the CANADIAN VACATION PACKAGE!

Name _____
PLEASE PRINT

Address _____

Town _____ *State* _____

before you renew a single policy, find out about Hartford's 1-Policy "Package" Plan

There are two ways to insure your home, your personal belongings and your personal liability.

One way is to buy three or more separate insurance policies.

But there's a much better way! Let your Hartford Fire Insurance Company Group Agent tell you about it.

Let him combine the fire, theft, liability and other insurance you need for your home. Get ONE policy—a *Hartford "Package" Policy.* Doing this can save you as much as 20% of what you would have to pay for separate policies giving you the same broad and dependable protection.

Don't overlook the real *convenience* of a Hartford "Package" Policy, either. Just one policy to keep track of . . . one policy to pay for. And, if you wish, installments can be arranged to fit your budget.

Get the whole story of this modern protection from your Hartford Group Agent now. Or, if it's more convenient, mail us the coupon below. We'll send you easy-to-read literature describing our 1-Policy Plan.

A final—and important—point. There's no need to wait until your present policies expire before enjoying the advantages of a Hartford "Package" Policy. Your Hartford Group Agent can arrange the details for you at once.

All this dependable Hartford protection in one package!

Our 1-Policy Plan insures you against

Fire	Aircraft Damage	Hail
Windstorm	Vehicle Damage	Smoke
Liability	Vandalism	Collapse
Theft	Falling Objects	Explosion
Losses away from home	Glass Breakage	Additional Living Expense

. . . and other hazards, too.

Year in and year out you'll do well with the

Hartford

Hartford Fire Insurance Company
Hartford Accident and Indemnity Company
Hartford Live Stock Insurance Company
Citizens Insurance Company of New Jersey
Hartford 15, Connecticut
New York Underwriters Insurance Company
New York 38, New York
Northwestern Fire & Marine Insurance Company
Twin City Fire Insurance Company
Minneapolis 2, Minnesota

—CLIP—FILL OUT—MAIL TODAY—

Hartford Fire Insurance Company Group
Hartford 15, Conn., Dept. G

Your modern 1-Policy "Package" Plan sounds interesting. Without obligating me in any way, please send the literature you offer.

Name _____

Address _____

City _____ Zone _____ State _____

ONE EASY
TRAVEL
DECISION
CARRY

NCB
TRAVELERS
CHECKS

Wherever they decide to go, travelers all agree on one part of their plans... National City Bank Travelers Checks. It's like taking their bank with them when funds are in this safe, spendable form. Here's why this famous travel currency is known as "The Traveler's Friend":

- Refunded promptly if lost or stolen
- Accepted around the globe like cash
- Cost only 75¢ per $100; issued in handy denominations
- Buy them at your bank

NATIONAL CITY BANK TRAVELERS CHECKS

Backed by The First National City Bank of New York
Member Federal Deposit Insurance Corporation

Dad Relies On Know-How

He Flies The New Air France
Super G Constellations

The most modern planes in the world, kept to peak standards of performance by over 5,000 skilled technicians. Daily non-stop flights from New York to Paris and Mexico. Tourist and First Class accommodations. Regular flights from Boston, Chicago and Montreal. The utmost in luxury, a famed cuisine. You pay no more!

OVER 4,000 PERSONS A DAY TRAVEL TO 230 CITIES IN 72 COUNTRIES BY

AIR FRANCE

THE WORLD'S LARGEST AIRLINE WITH 155,000 UNDUPLICATED ROUTE MILES

SEE YOUR TRAVEL AGENT, OR AIR FRANCE:
New York • Atlanta • Boston • Chicago • Cleveland
Dallas • Detroit • Los Angeles • Miami
Philadelphia • Pittsburgh • San Francisco
Washington, D.C. • Mexico City • Montreal
Toronto • Vancouver • Havana • Puerto Rico
Fort de France • Point a Pitre • Panama • Caracas • Bogota

Dept. M-10
AIR FRANCE, 683 FIFTH AVE., NEW YORK, N. Y.
Please send me free booklet I have checked below.
☐ Touristop Plan ☐ Spain and Portugal
☐ Tri-Color Tours ☐ France ☐ Italy
☐ Travelair Credit Plan ☐ Germany
Name.....
Street.....
City.....State.....

The "K-100" gives you a *40-foot* film run with just *one* winding

Gives you the kind of travel movies people usually pay to see!

Magnificent new Cine-Kodak K-100 Turret Camera accommodates world's finest cine lenses . . . has double-length film run!

You'll get 16mm movies of unsurpassed beauty—whether you shoot travelogs, family documentaries or sports events!

The new K-100 is built to accept your choice of any three great Ektar Lenses. You can shift from the standard *f*/1.9 or *f*/1.4 25mm lens to an auxiliary wide-angle or telephoto lens with a click of the turret. Matching viewfinders instantly *and automatically* frame your scene.

With its double-length film run, the K-100 Turret lets you keep on shooting while others stop to wind! You can get *all* the action—and get it beautifully!

Other outstanding features of the K-100: telescopic-type viewfinder that adjusts to your vision . . . full 6-speed range—single-frame to slow motion . . . adapts to electric motor drive or hand cranking for special effects.

With superb Ektar *f*/1.9 or *f*/1.4 Lens and matching viewfinder, $315 or $415. Ask your Kodak dealer about small down payment and easy terms. (Prices include Federal Tax and are subject to change without notice.)

Eastman Kodak Company
Rochester 4, N.Y.

Kodak
TRADE-MARK

Keep friendships alive–by telephone

The years and the miles need not dim old friendships. The warmth of your voice over the telephone can keep them alive.

So why lose touch with friends you'd like to see more often but can't? Wherever they are, call them up and talk things over *personally*. It's easy to do. And the cost is small.

Isn't there someone you'd like to call right now?

BELL TELEPHONE SYSTEM

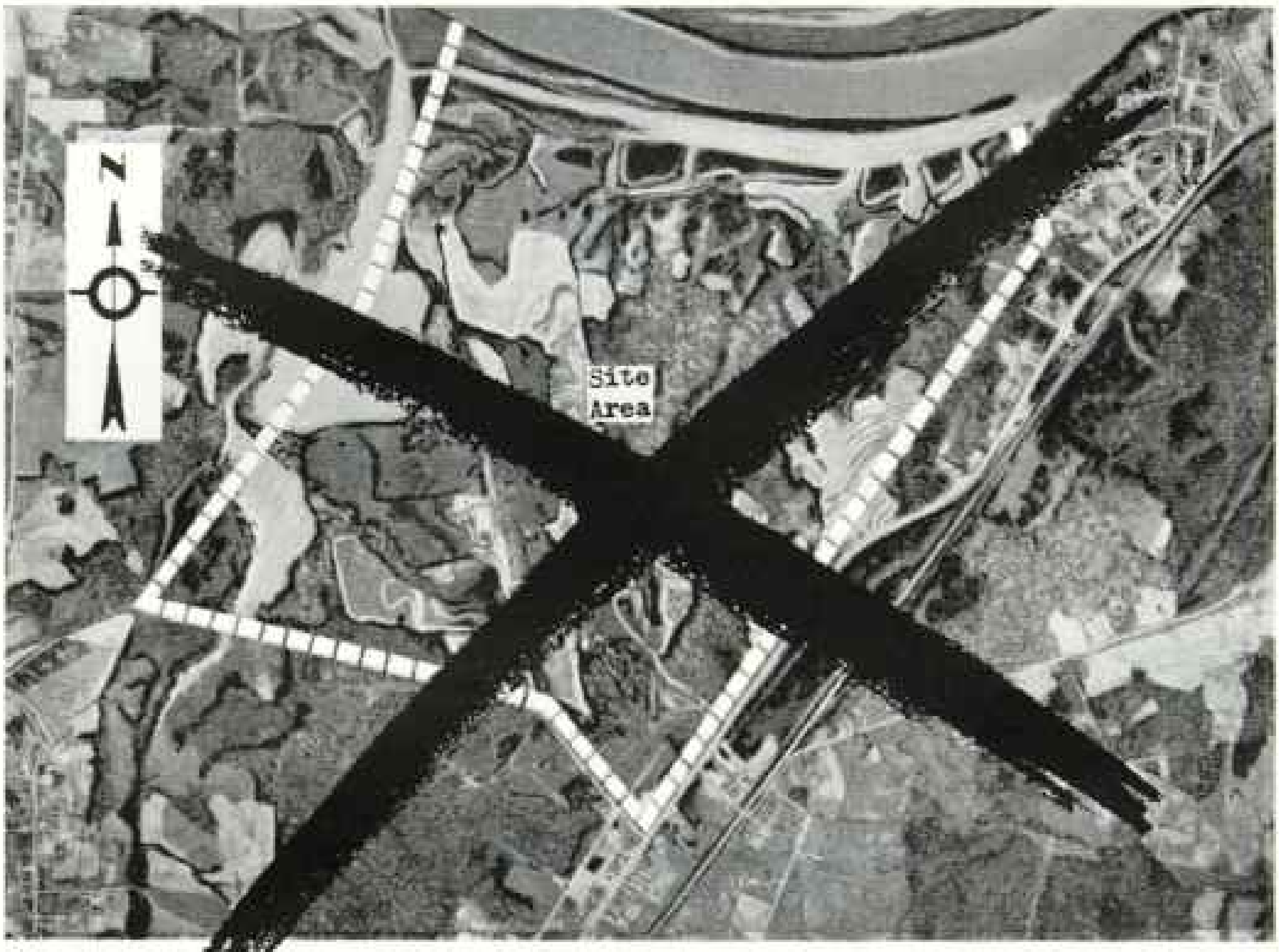
LONG DISTANCE RATES ARE LOW

Here are some examples:

Pittsburgh to Cleveland	45¢
Detroit to Indianapolis	65¢
Dallas to New Orleans	95¢
Atlanta to New York	$1.20
Los Angeles to Boston	$2.00

These are the Station-to-Station rates for the first three minutes, after 8 o'clock every night and all day Sunday. They do not include the 10% federal excise tax.

Call by Number. It's Twice as Fast.



PERFECT PLANT SITE

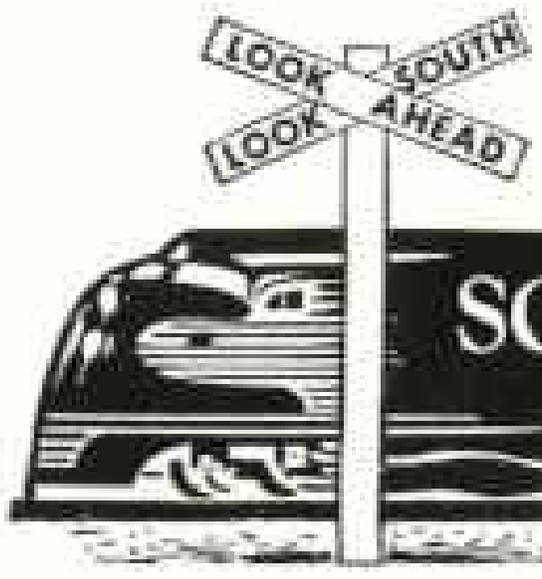
(for someone else)

PLANT SITE SPECIFICATIONS ARE highly individualized. That's why it does not disturb our Industrial Development people in the least to have you turn thumbs down on a "picture-book" site such as this one.

They recognize that many factors enter into plant location studies. And they know, too, that chances are they *do* have just what you are looking for. As one of the largest and most experienced industrial development agencies in the South, the Southern's Industrial Development Department has complete and detailed information on hundreds of available sites of every size, kind and description.

This comprehensive "one-source" service for so many industry location possibilities throughout the Southland is set up to serve you —competently, completely and of course in strict confidence. Let us hear from you so we can help you.

"Look Ahead—Look South!"



Harry A. DeButts
President

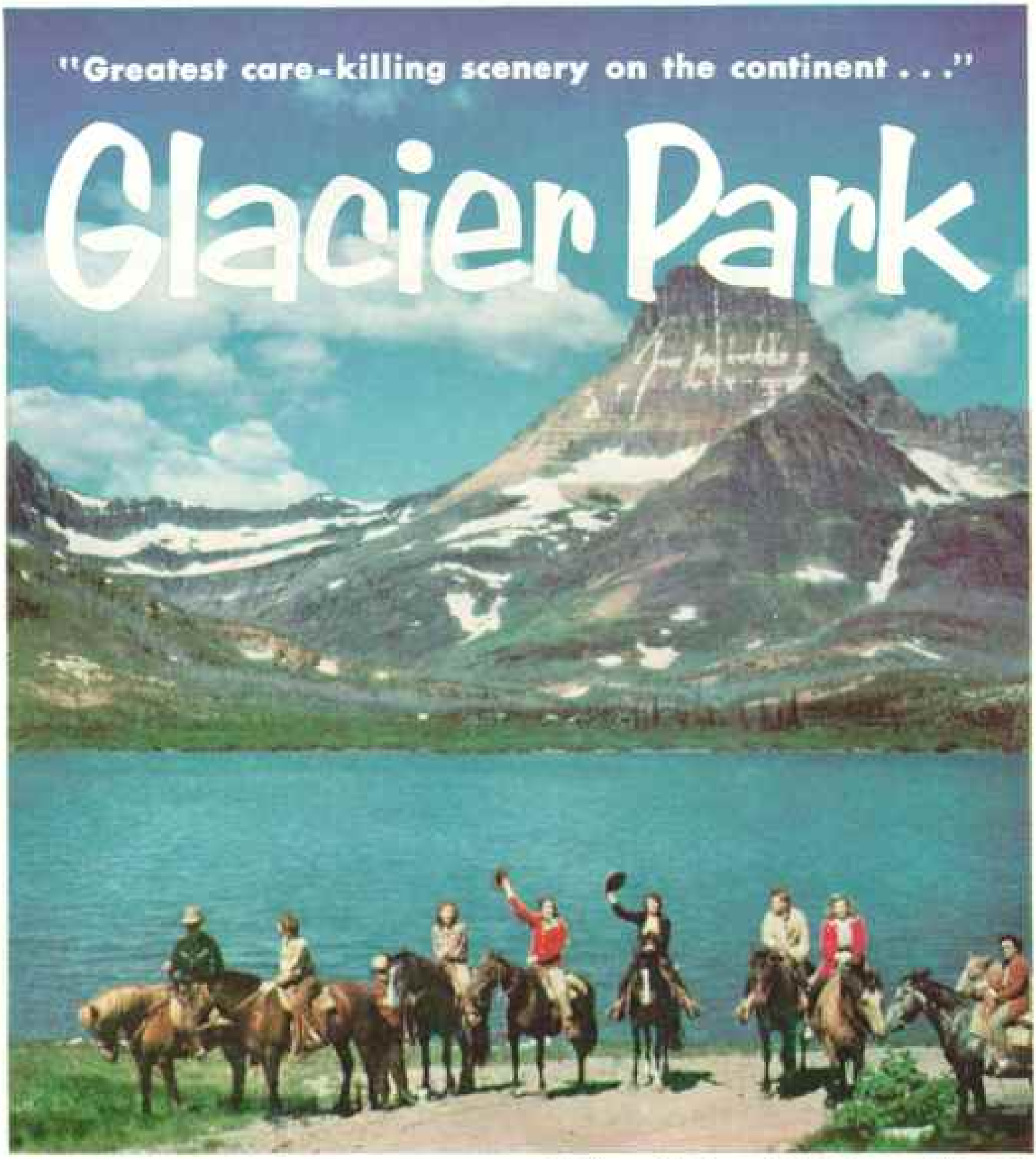
SOUTHERN RAILWAY SYSTEM

WASHINGTON, D. C.

The Southern Serves the South

"Greatest care-killing scenery on the continent . . ."

Glacier Park



Trail riders at Swiftcurrent Lake, near Many Glacier Hotel

Glacier National Park, 1583 square miles of rugged mountain beauty in the Montana Rockies, is indeed a haven for those who like to escape the hustle and bustle of our hurry-up civilization. Stay in Glacier Park's commodious hotels, located in the very midst of breath-taking splendor. Make your whole summer vacation care-free . . . go and return on Great Northern's streamlined Western Star. It's great!

For full information, write P.G. Holmes, Passenger Traffic Mgr., Dept. G2, Great Northern Railway, St. Paul 1, Minn.

GREAT NORTHERN RAILWAY

Glacier National Park is on the main line of GREAT NORTHERN RAILWAY

Imagine! You've arrived by plane or train in northern Michigan—rented a Hertz car there. Want to picnic? Easy! Get going . . .

Free as a breeze to roam as you please—*just rent a Hertz car when you get there!*

THAT picnic place awaiting you on some secluded northern lake is only hours away via fast plane or train. You're always vacation days ahead this way, and free as a breeze to roam as you please when you rent a Hertz car there.

Choose your spot . . . relax and loaf . . . in the clean, green beauty dreams are made of. You've arrived in the midwest's magnificent northland. Vacationing at its best—sure is when you get the most from each day the Hertz way!

Wherever you plan to go, take a train or plane, and ask Hertz to meet you with a new Powerglide Chevrolet Bel Air, or other fine car. Your vacationing's *all* vacation, yet you have a car to drive as you own until it's time to go home. You'll find Hertz' special weekly rates a pleasant surprise, too.

It's easy to rent a Hertz car

For on-the-spot vacation use, or to drive the entire trip, call your local Hertz office (under "H" in the phone book) and reserve a car anywhere. Just show your driver's license and proper identification. Hertz honors: air, rail, most all hotel credit cards; Diners' Club and Hertz Charge Cards.

Low cost! At Hertz' Sault Ste. Marie, Michigan office you pay $45.00 a week plus 9 cents a mile—only $12.60 a person if 5 ride 200 miles—gasoline, oil . . . Public Liability, Property Damage, Fire and Theft Insurance, $100 deductible collision protection included. Rates may vary slightly in different cities.

Call any of over 1000 Hertz offices in over 700 cities worldwide. Hertz Rent A Car System, Dept. 856, 218 S. Wabash Avenue, Chicago 4, Illinois. Phone: WEbster 9-5165.

More people by far... use

HERTZ

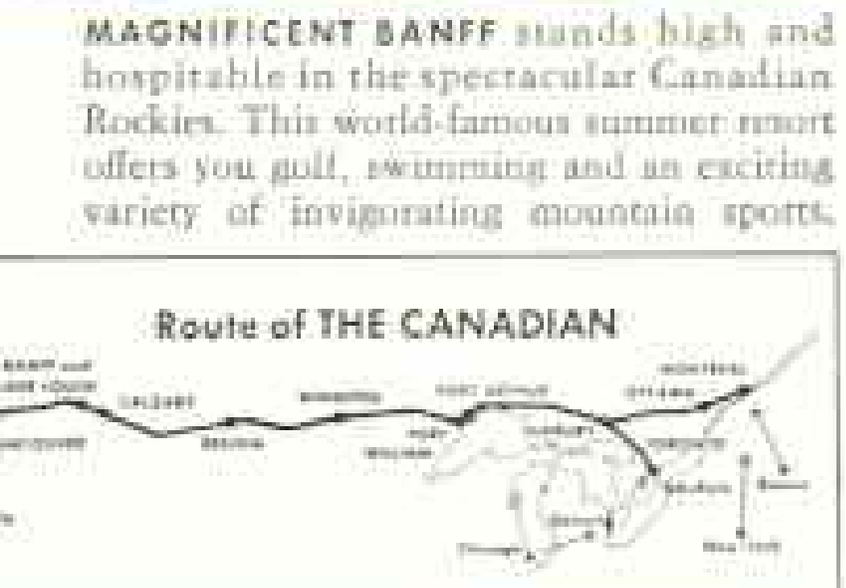
Rent a car

THE CANADIAN shown here in the Bow River Valley offers coach, tourist or first class accommodations at no extra fare.

Canadian Pacific presents Banff and Lake Louise from the Scenic Domes of

The Canadian

MAGNIFICENT BANFF stands high and hospitable in the spectacular Canadian Rockies. This world-famous summer resort offers you golf, swimming and an exciting variety of invigorating mountain sports.



Now Canada's only Dome Train takes you through the Canadian Rockies to world-famous resorts.

When you board THE CANADIAN for fabulous Banff and Lake Louise you go in luxury all the way!

On your spectacular journey you'll have a front-row seat to an endless pageant of ever-changing natural wonders. High up in air-conditioned Scenic Domes you'll thrill to the breath-taking beauty of the Canadian Rockies. And your entire trip will be made pleasant and memorable by Canadian Pacific hospitality.

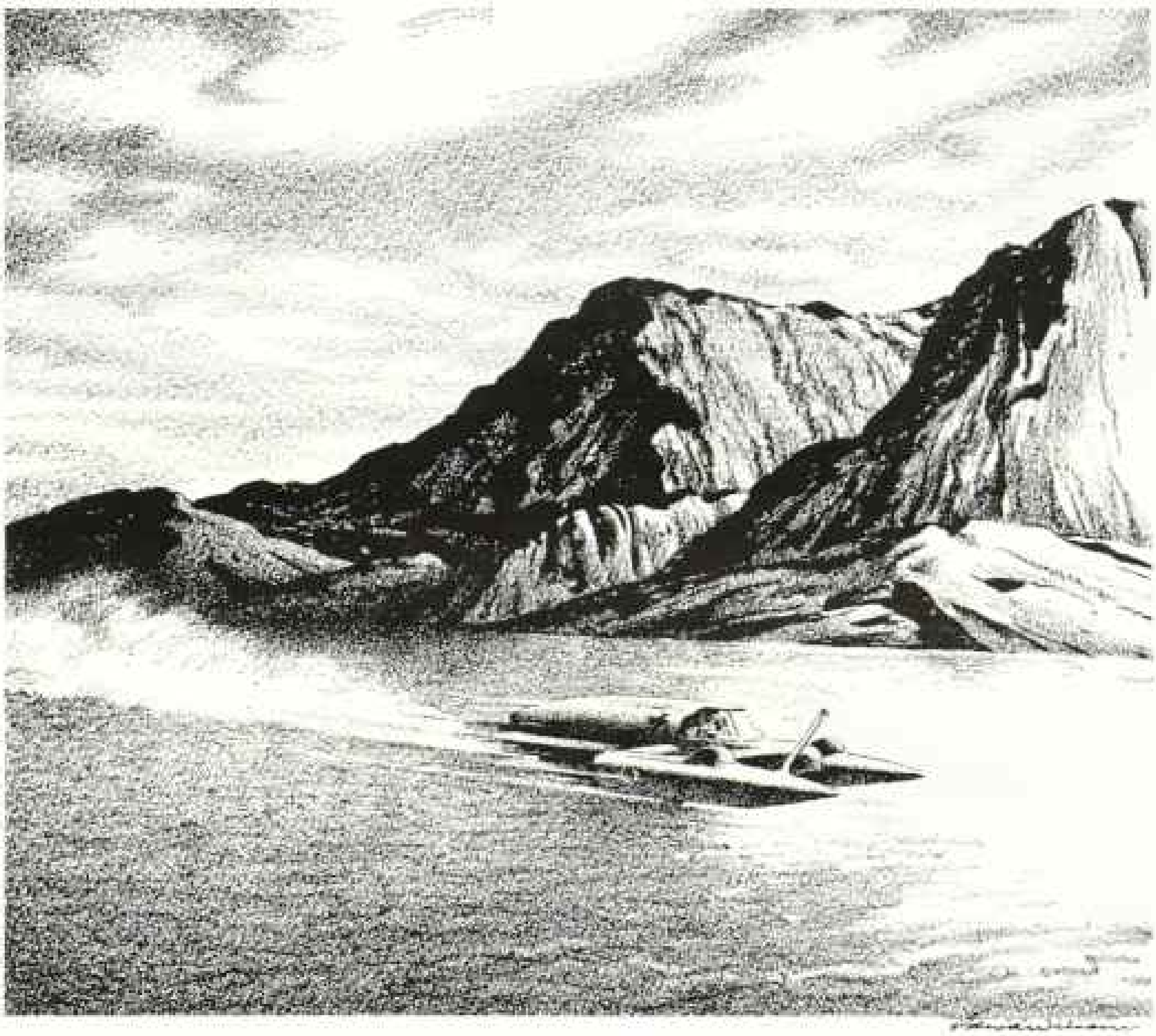
You'll enjoy mile after mile of impeccable service rendered graciously in attractive and uniquely Canadian surroundings. You can take your meals informally in the Skyline Coffee Shop or dine sumptuously in the Deluxe Dining Room Car.

THE CANADIAN is in daily service between Montreal and Vancouver, and Toronto and Vancouver ...carries you comfortably across Canada under smooth diesel power.

Plan now to visit Banff and Lake Louise by train. Ride Scenic Domes at no extra fare. For reservations and details about accommodations see your local agent or Canadian Pacific in principal cities in the U. S. and Canada.

THE MURAL LOUNGE is intimate and relaxing. A colorful mural painted especially for Canadian Pacific by a leading Canadian artist creates a mood that makes refreshment truly enjoyable.

DELUXE COACHES provide new roomy comfort at thrift prices. Seats are reclining armchairs with full-length leg and foot rests and adjustable head rests. All seats aboard coaches are reserved.



Behind the Ships that Set the Pace...
a Master's Touch in Oil

World's fastest jet boat, Donald Campbell's Bluebird—216 miles an hour . . .

World's fastest propeller-driven boat, Slo-Mo-Shun IV—178 miles an hour . . .

All the Atlantic Blue Ribbon Winners, from the Mauretania to the S. S. United States . . .

Maiden voyage of the world's first atomic-powered submarine . . .

Two-fifths of all the world's freighters . . .

The race horses and work horses of the seas have one thing in common—SOCONY MOBIL'S *master touch* in lubrication.

Good reason! When the chips are down—when records are at stake—when schedules must be met—the men who know marine machinery look to SOCONY MOBIL for its protection.

★ ★ ★

Wherever there's progress in motion—in your car, your factory, your farm or your home—*you, too, can look to the leader for lubrication.*

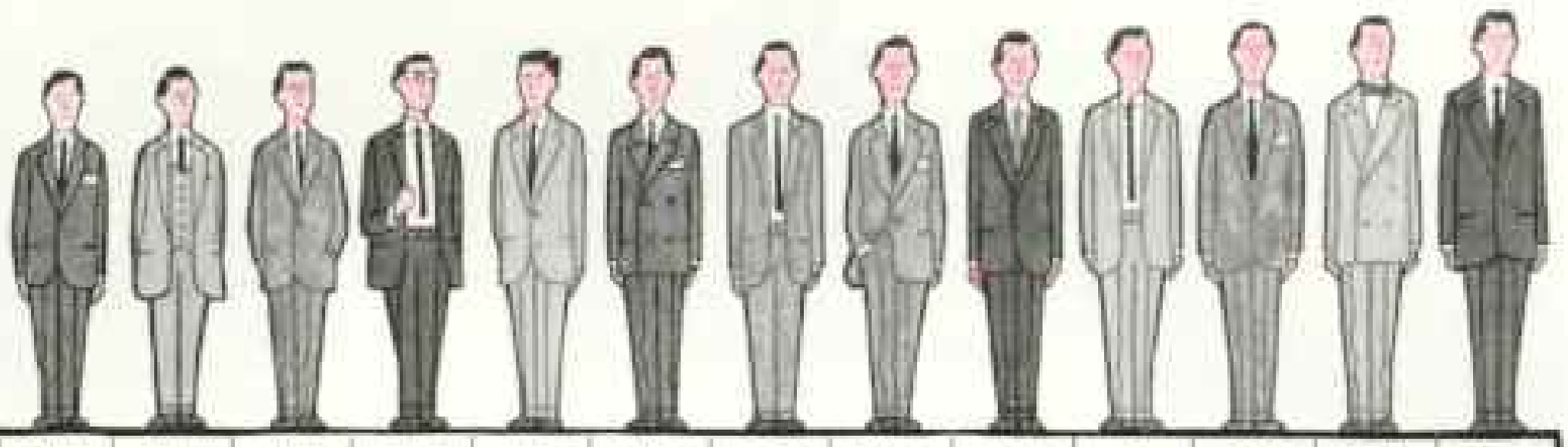
SOCONY MOBIL OIL COMPANY, INC.

LEADER IN LUBRICATION FOR NEARLY A CENTURY

Checked your weight lately?

MEN*

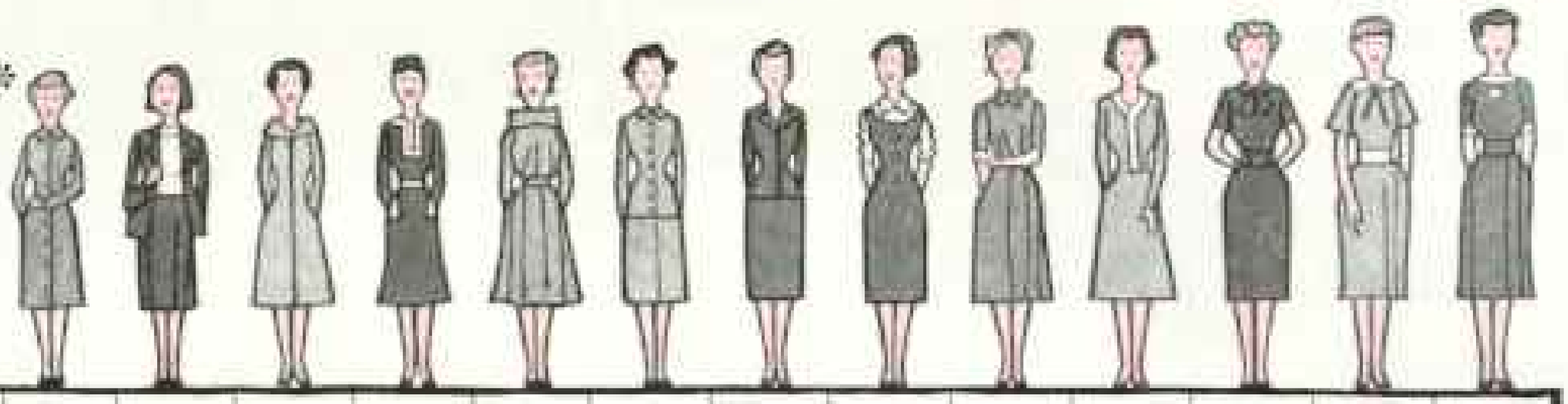
Fully clothed,
1 inch heels



HEIGHT	5'3"	5'4"	5'5"	5'6"	5'7"	5'8"	5'9"	5'10"	5'11"	6'	6'1"	6'2"	6'3"
Small Frame	119-128	122-132	126-136	129-139	133-143	136-147	140-151	144-155	148-159	152-164	157-169	163-175	168-180
Medium Frame	127-136	130-140	134-144	137-147	141-151	145-156	149-160	153-164	157-168	161-173	166-178	171-184	176-189
Large Frame	133-144	137-149	141-153	145-157	149-162	153-166	157-170	161-175	165-180	169-185	174-190	179-196	184-202

WOMEN*

Fully clothed,
2 inch heels



HEIGHT	4'11"	5'	5'1"	5'2"	5'3"	5'4"	5'5"	5'6"	5'7"	5'8"	5'9"	5'10"	5'11"
Small Frame	104-111	105-113	107-115	110-118	113-121	116-125	119-128	123-132	126-136	129-139	133-143	136-147	139-150
Medium Frame	110-118	112-120	114-122	117-125	120-128	124-132	127-135	130-140	134-144	137-147	141-151	145-155	148-158
Large Frame	117-127	119-129	121-131	124-135	127-138	131-142	135-145	138-150	142-154	145-158	149-162	152-166	155-169

If you've gained unneeded pounds, consider these facts:

1. At ages 20 and over, men and women who are considerably overweight have a mortality rate about 50 percent higher than their "trim" contemporaries.

2. High blood pressure occurs more than twice as often in overweight people as in thinner people.

So, excessive poundage burdens more than your two feet. In fact, overweight affects many vital organs and hence is associated with many life-shortening conditions.

On the other hand, if you reduce . . . *and keep your weight down* . . . you should increase your chances for long life and good health. You will certainly look and feel better, too.

Some quick-reducing diets may be almost as bad for your health as the constant stress of overweight. So, avoid all diets not prescribed by your doctor.

When you plan to reduce, visit your doctor. He will determine your desirable weight and, most important, he will give you a balanced, varied diet that everyone needs.

If you are overweight and want to reduce surely and safely, these "do's and don't's" may help you:

Do say "no" to all high-calorie foods . . . rich desserts, gravies, sauces and social-hour tidbits. Do exercise moderately to help burn up unneeded calories.

Don't use "reducing drugs" except on your doctor's recommendation. Don't give a second thought to second helpings . . . no matter how tempting they may be. Don't expect immediate good news from the scales. One or two pounds a week is a safe, sensible rate of weight loss.

Metropolitan's booklet *Overweight and Underweight* gives other suggestions to help you. Mail the coupon below for your free copy.

* *Desirable weights for men and women of ages 25 and over based on numerous Medico-Actuarial studies of hundreds of thousands of men and women.*

Metropolitan Life

Insurance Company

(A MUTUAL COMPANY)

1 Madison Ave., New York 10, N. Y.

Metropolitan Life Insurance Company
1 Madison Avenue, New York 10, N. Y.

Please send me a copy of your booklet *Overweight and Underweight*, 550-N.

Name _____

Street _____

City _____ **State** _____

Girl Scouts at New Salem State Park, Illinois

New Salem—where the spirit of Lincoln still lives

Lincoln drifted into New Salem in 1831, a gangling, raw-boned youth, uncertain as to a career. Here he served as postmaster and surveyor . . . courted Ann Rutledge . . . soldiered . . . entered politics. And here, in this rude frontier village, the seeds of greatness first sprouted. When he left six years later, he was on his way to keep a date with destiny.

Today's youth, visiting this hamlet above the Sangamon River, can see the village just as young Lincoln saw it. The cooperage where he studied law . . . the store where he clerked—over 30 buildings in all have been faithfully reconstructed and authentically furnished with heirlooms of the Lincoln period.

They gave Lincoln a fine tomb down at Springfield and a magnificent memorial in Washington. And on a South Dakota mountainside you can see his face carved 70 feet high, and a fine sight it is. But New Salem, with its rough simplicity and quiet dignity, is most like the man himself.

When you go there you'll know why people say that his body is down at Springfield—but his spirit is at New Salem.

FREE Tour Service

If you would like to visit New Salem, or drive anywhere in the U.S.A., let us help plan your trip. Write: Tour Bureau, Sinclair Oil Corporation, 600 Fifth Avenue, New York 20, N. Y.—also ask for our colorful National Parks Map.

SINCLAIR SALUTES THE GIRL SCOUTS OF THE U.S.A. Through this great organization, more than half a million women volunteer their services to instill in our nation's youth, the ideals of freedom and justice fostered by Lincoln and other great Americans. By promoting conservation, outdoor living and community service, Scouting is helping over two million girls to become more useful citizens in a free world.

SINCLAIR

A Great Name in Oil

think how proud you'll be . . .

Sheaffer's

white dot Snorkel pens, pencils and ballpoints

Sheaffer's White Dot is a reminder that no one owns finer writing equipment than yours.

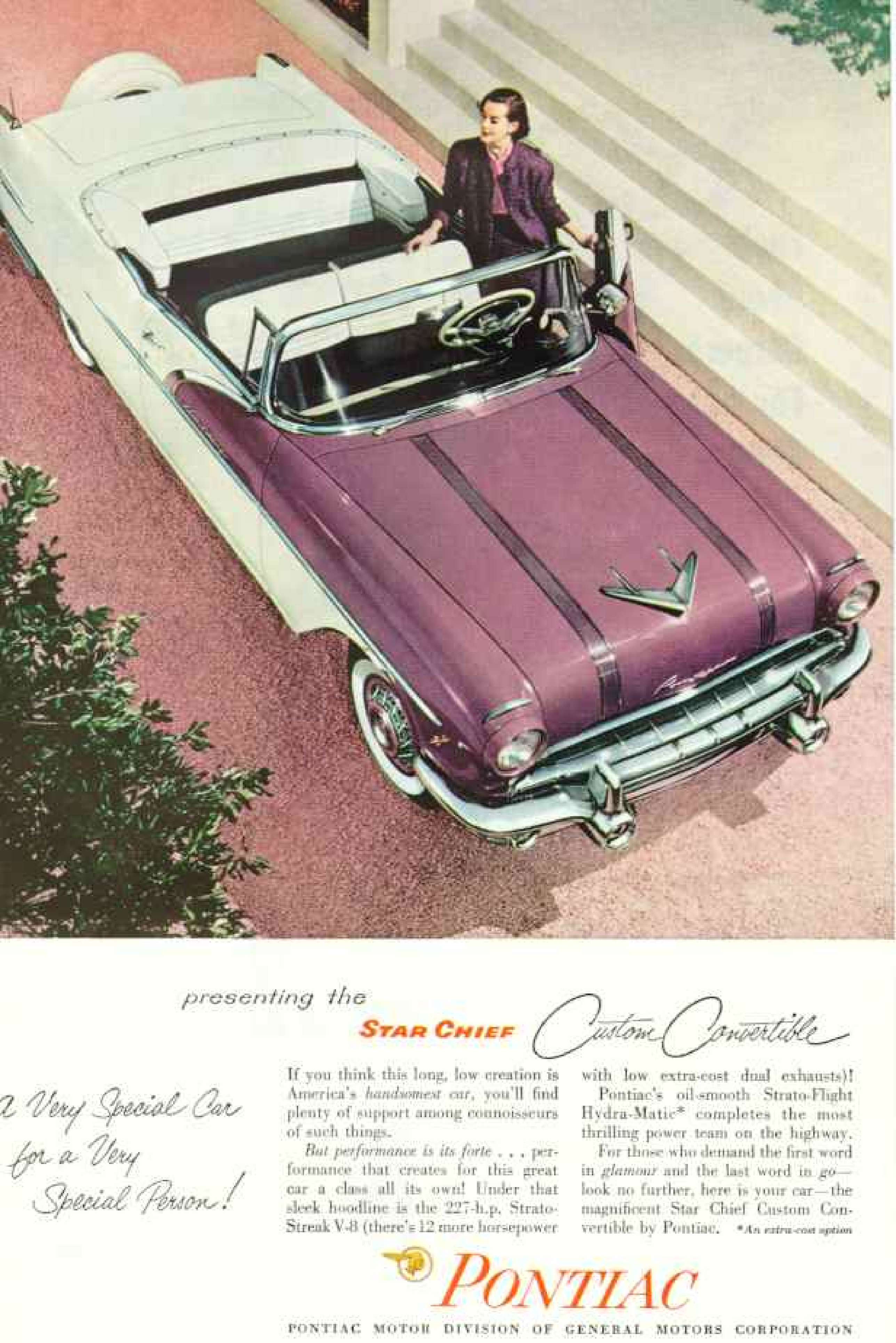
Here is luxury without extravagance. For nothing else tops its class, yet costs so little to enjoy.

Even more important is the confidence you feel with each word you write. These superb instruments become part of you and your daily life. Each helps you express *your* personality on paper.

There's a White Dot Sheaffer at your price. Why not make one yours?

When it comes to writing—
come to Sheaffer's

W. A. SHEAFFER PEN COMPANY, FORT MADISON, IOWA, U. S. A.
IN CANADA: GODERICH, ONTARIO IN AUSTRALIA: MELBOURNE
IN GREAT BRITAIN: LONDON



presenting the

STAR CHIEF *Custom Convertible*

a Very Special Car
for a Very
Special Person!

If you think this long, low creation is America's *handsomest car*, you'll find plenty of support among connoisseurs of such things.

But performance is its forte . . . performance that creates for this great car a class all its own! Under that sleek hoodline is the 227-h.p. Strato-Streak V-8 (there's 12 more horsepower with low extra-cost dual exhausts)!

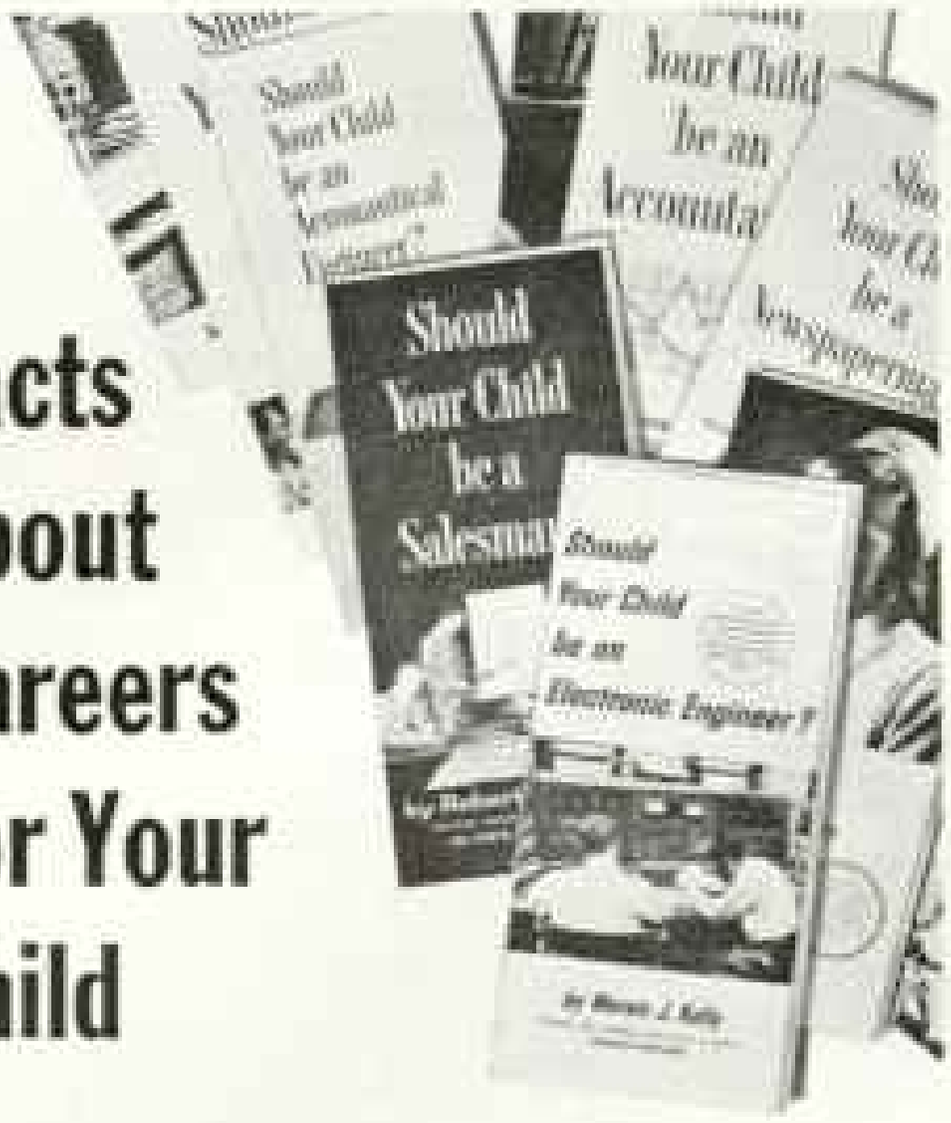
Pontiac's oil-smooth Strato-Flight Hydra-Matic* completes the most thrilling power team on the highway.

For those who demand the first word in *glamour* and the last word in *go*—look no further, here is your car—the magnificent Star Chief Custom Convertible by Pontiac. *An extra-cost option

PONTIAC

PONTIAC MOTOR DIVISION OF GENERAL MOTORS CORPORATION

Facts About Careers For Your Child



Send today for these informative

FREE BOOKLETS

from New York Life!

Now . . . as a public service . . . New York Life offers a series of thought-provoking booklets that may help your child decide on a career!

Prepared by leading authorities, these fact-filled articles first appeared in New York Life's continuing series of career advertisements in national magazines. Now available in booklet form, they are yours *without obligation*. Perhaps one of them will help you guide your child in planning his future.

Check the booklets you want . . . MAIL TODAY

New York Life Insurance Company

Dept. NG-4, 51 Madison Ave., New York 10, N.Y.

What would your child like to be?

- ☐ Doctor
- ☐ Lawyer
- ☐ Chemist
- ☐ Newspaperman
- ☐ Accountant
- ☐ Public Servant
- ☐ Aeronautical Engineer
- ☐ Salesman
- ☐ Home Economist
- ☐ Printer
- ☐ Pharmacist
- ☐ Dentist
- ☐ Architect
- ☐ Nurse
- ☐ Teacher ☐ Former
- ☐ Owner of His Own Business
- ☐ Electronic Engineer
- ☐ Banker
- ☐ Also booklet on "The Cost of Four Years of College"

Name_____

Address_____

City_____ Zone_____ State_____

Come READ THE EARTH'S OWN DIARY

at the **BIG BADLANDS**

and the **BLACK HILLS** of South Dakota

Twenty million generations of men could have lived since the Badlands emerged from a prehistoric sea. Today these colorful Badlands tower in formations of fantastic splendor . . . most weirdly beautiful of Nature's creations . . . the diary of her works. Just 60 miles east of South Dakota's Black Hills, the world-famed Badlands are a *must* for your Black Hills vacation. See them this summer!

SOUTH DAKOTA DEPARTMENT OF HIGHWAYS

A. N. PANKOW, Pub. Dir., PIERRE, SOUTH DAKOTA

WRITE FOR THIS FREE COLOR FOLDER! . . . 32 pages of things to do!

Uncrowded CANADA'S *Favorite Playground*

MANITOBA

There's adventure for ALL the family in Manitoba — land of water, sand and sun . . . of rugged scenic beauty . . . of wonderful fishing, golden beaches, clear blue lakes. Excellent accommodation, exciting shopping bargains.

Mail coupon for free 40-page vacation guide.

Bureau of Travel and Publicity
313 Legislative Building
Winnipeg, Manitoba, Canada

Name_____

Street_____

City_____ State_____

56-58

INSIDE THE RIM OF ADVENTURE!

Bodies and Wheels
for Automobiles,
Trucks, Highway Trailers.
Railway Passenger Cars
and Disc Brakes.
Agricultural Implements.
Plastic Laminates,
Vulcanized Fibre and
Insulating Materials.
Nuclear Energy
Radiography Units.
Jet Engine Components.

Budd

CUSTOM-MADE TRAINS

■ Here are three completely different trains. The Pennsylvania's low-slung, lightweight tubular train. The New Haven's new train, in which every car propels itself. The Santa Fe's Hi-Level cars in the new El Capitan. All go in service this year.

Common to all of them, however, is the strength and safety of their stainless steel construction, found in all railway cars built by Budd.

Each has been built to meet a special need. For the Pennsylvania, lighter weight. For the New Haven, faster schedules . . . speeds up to 110 miles an hour. For the Santa Fe, to provide a better view with better riding comfort and transport more passengers with fewer cars. They demonstrate the ability of Budd to envision needs and apply imaginative engineering to meeting them.

The Budd Company, Philadelphia 32.

Easiest way to do a week's dictation: put it on 5 Dictabelt Records

HERE'S all the dictating you're likely to do in a full week at the office—recorded on five little belts of plastic.

They're DICTABELTS—the exclusive dictation records of the Dictaphone TIME-MASTER dictating machine. The *real cost?* Less than any other dictating medium! DICTABELT *economy* is only one reason why more people buy TIME-MASTER than all other dictating machines combined.

Other reasons: (1) *DICTABELTS are clearest* of all dictation records. (2) *They're unbreakable, and flexible*—can be mailed or filed like ordinary letters. (3) *Dictation is visibly recorded* so you always know your place. (4) *DICTABELTS can't be erased* by accident. (5) They're used just *once*.

Learn to *work easier and faster*—with DICTABELT. Write Dictaphone, 420 Lexington Ave., New York, N. Y.

The Dictaphone TIME-MASTER *dictating machine.*
"Takes the words right out of your mind."

DICTAPHONE CORPORATION

In Canada, write Dictaphone Corporation, Ltd., 204 Eglinton Ave. East, Toronto . . . in England, Dictaphone Company, Ltd., 17-19 Stratford Place, London W. 1. Dictaphone, Time-Master, Dictabelt and Time*word are registered trade-marks of Dictaphone Corporation.

The modern S.S. Independence anchored off historic St. Mark's Square, Venice. Photo courtesy American Export Lines.

try **EXCLUSIVE PUSH-BUTTON FOCUSING**

Graphic® 35

COLOR SLIDES . . .

of your vacation will make it a living experience for years. And the Push-Button Focusing Graphic 35 was designed to make picture-taking more fun for everyone. Even beginners can get beautiful pictures easily—the kind of pictures you'll be proud to show. Has shutter speeds to 1/300 second, choice of *f*/3.5 or *f*/2.8 lens, Visi-Ready footage scale, exclusive Spectramatic Flash Settings.

No other miniature camera offers so many features plus Push-Button Focusing. The quality of the pictures and of the workmanship found in the Graphic 35 reflect the 65 years of Graflex experience in manufacturing fine cameras. For descriptive folder write: Dept. NG-56, Graflex, Inc., Rochester 8, N.Y.

Camera with f/3.5 lens	$77.50
Camera with f/2.8 lens	$87.50
Leather carrying case	$ 7.50
Clip-on flash unit	$ 6.50

ONLY $775 DOWN

GRAFLEX® *Price-Winning Cameras*

Prices include federal tax where applicable and are subject to change without notice. Prices are slightly higher in Canada.

BATHE your way to HEALTH

We call it "*occupational fatigue*"—some call it *nerves* or say they're plain *bushed*. Find relief and rest here with beneficial pleasure. Complete resort facilities. Hostess plans activities. 47 hot springs supply world's most famous thermal baths under regulation of the U. S. Nat'l Park Service. *Write for literature.*

THE *Majestic* HOTEL & BATHS

201 PARK AVENUE **HOT SPRINGS**

NATIONAL PARK, ARKANSAS

EASY-TO-PLAY SPINET ORGAN

The New

CONN "MINUET"

Everything you want in a spinet organ is yours in this great new CONN "MINUET"...and it's so easy to play, you'll enjoy beautiful music from the very first day! But hear it! You'll choose CONN by tone alone!

CONN *organs*

Free ILLUSTRATED BROCHURE

See your Conn organ dealer, or write us today. Also ask for free booklet, "How to Choose an Organ."

C. G. CONN Ltd., ORGAN DIV. Department 326, Elkhart, Indiana

Here's Helpful Information ABOUT New England

Whatever your heart desires, New England has it! Send for the new Vacation Travel Kit to help you plan where to go.

Contains colorful pictorial map, 48-page booklet listing 238 Museums and Historic Houses, suggested tours, descriptions of 365 places to stay, prepaid cards that entitle you to free information about any N. E. state.

Send a dime now for your passport to pleasure

THE NEW ENGLAND COUNCIL
1031-M Statler Building, Boston, Mass.

I enclose 10¢ to cover postage and handling of your Vacation Travel Kit. I am interested in
☐ New England, the state of ☐ Maine ☐ New Hampshire ☐ Vermont ☐ Mass. ☐ Connecticut ☐ Rhode Island.

I am planning a trip in..... (month)

Name.....

Address.....

City..... State.....

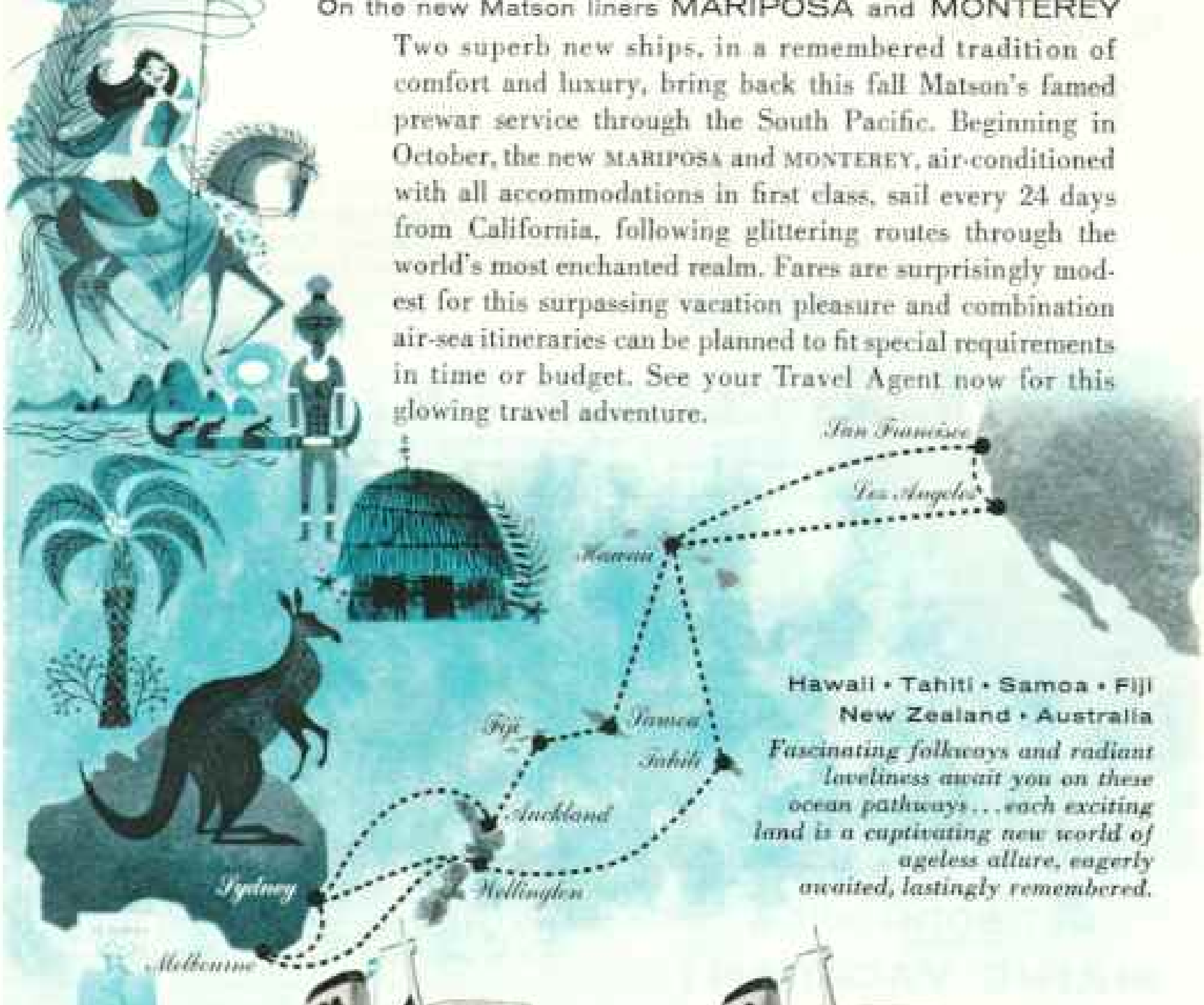
Again!

YOU CAN CRUISE THE ENCHANTED

South Pacific

On the new Matson liners MARIPOSA and MONTEREY

Two superb new ships, in a remembered tradition of comfort and luxury, bring back this fall Matson's famed prewar service through the South Pacific. Beginning in October, the new MARIPOSA and MONTEREY, air-conditioned with all accommodations in first class, sail every 24 days from California, following glittering routes through the world's most enchanted realm. Fares are surprisingly modest for this surpassing vacation pleasure and combination air-sea itineraries can be planned to fit special requirements in time or budget. See your Travel Agent now for this glowing travel adventure.

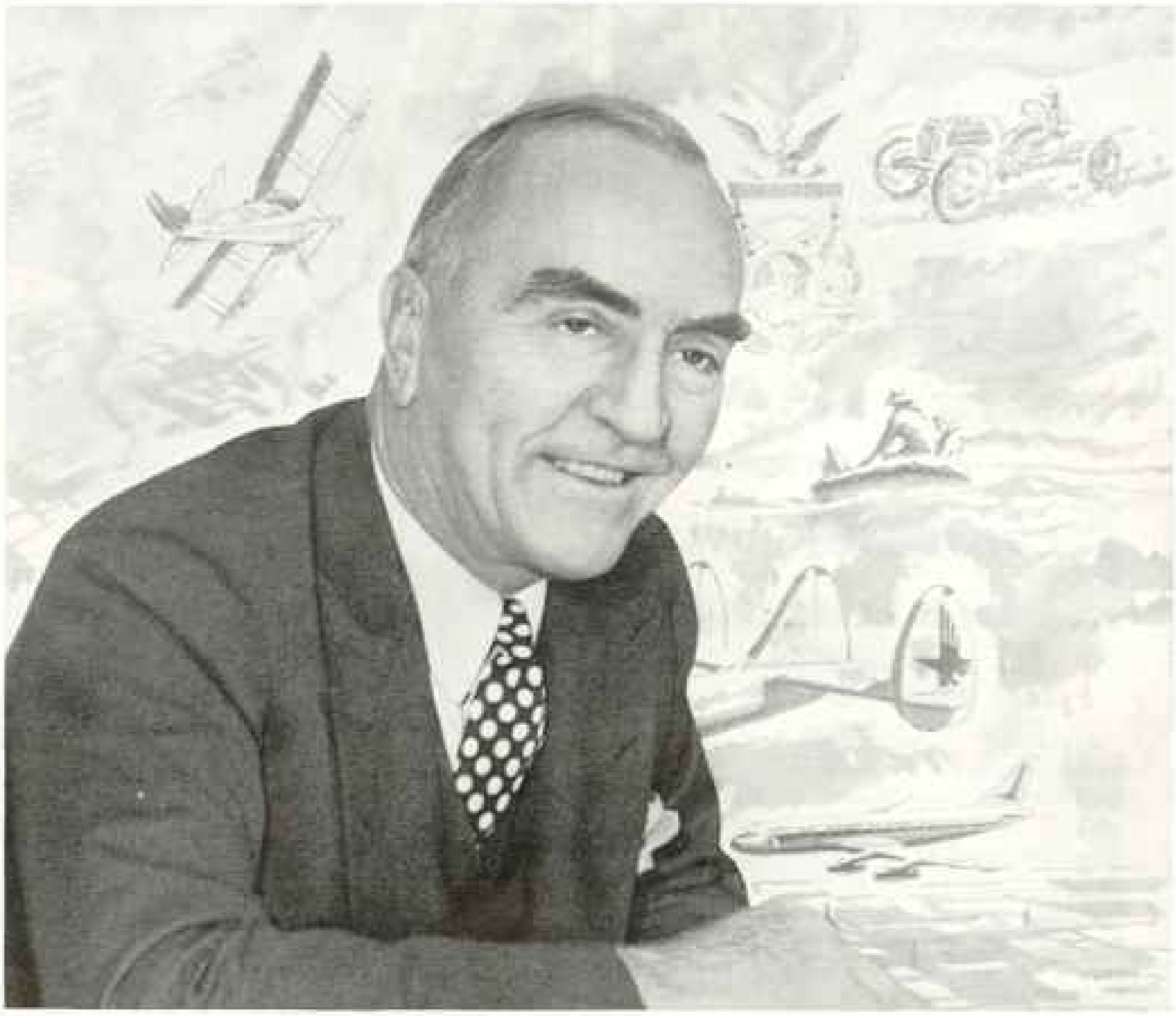


Hawaii • Tahiti • Samoa • Fiji
New Zealand • Australia

Fascinating folkways and radiant loveliness await you on these ocean pathways . . . each exciting land is a captivating new world of ageless allure, eagerly awaited, lastingly remembered.

THE OCEANIC STEAMSHIP COMPANY **Matson Lines**

See your Travel Agent or any Matson Lines office: New York, Chicago, San Francisco, Seattle, Portland, Los Angeles, San Diego, Honolulu



CAPT. EDDIE RICKENBACKER, chairman of the board, Eastern Air Lines, dean of the air transportation industry, World War I "Ace of Aces," World War II hero.

THE MIRACLES THAT FREEDOM WORKS

"It is America's mission to show the world what free men can accomplish. For instance, our incredible progress in aviation is powerful proof of the practical miracles that free men, competing in a free enterprise system, can produce.

"Progress like this is the very essence of America. Every individual, every industry contributes to it. Look at what our oilmen have done: The gasoline that 'powered' my Spad fighter in World War I would stall your car today and wouldn't even turn a propeller on a modern airliner!

"No one man or company could improve fuels so much—so fast. It takes the research of many men in many oil companies—all competing in the search for a better product at less cost for more people.

"As long as our competitive system stays free and healthy, oilmen will meet every challenge. By 1959, they'll be ready with the vast supplies of special fuels needed for our new fleets of jet airliners which will take you from New York to Florida in 2 hours and around the world in 40 hours.

"We must guard this freedom of competition well. America's leadership in the jet age will grow out of our freedom of competitive enterprise, created by the free people of this country to keep America growing, secure and strong. Remember, only the strong can be free."

Eddie Rickenbacker

TRAVEL QUIZ
(FOR MAY)

The dodo bird lived in:

☐ *Malaya* ☐ *Morocco* ☐ *Mauritius*

The dodo bird, now extinct, was once a resident of the island of Mauritius in the Indian Ocean. Unable to fly, he didn't travel much. So he'd never appreciate The First National Bank of Chicago Travelers Checks as you will. Anywhere you go in the world, they're good as cash.

Which is the "Beehive State"?

☐ *Utah* ☐ *Oregon* ☐ *Rhode Island*

"Beehive State" is the nickname for Utah—where tourists make a beeline for fascinating Salt Lake each year. On *your* western vacation, carry First National Bank of Chicago Travelers Checks. Each denomination ($10, $20, $50, $100) is a different color to prevent confusion.

Leading banana producer is:

☐ *South America* ☐ *Africa* ☐ *Burma*

For bananas—and vacation fun—visit South America, world's leading banana producer. And for a secure feeling, take along First National Bank of Chicago Travelers Checks. Only you can cash them. Prompt refund if lost or stolen. Ask for them at your bank.

The First National Bank of Chicago
Travelers Checks

For All Business and Vacation Travel

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

RECOMMENDATION FOR MEMBERSHIP

PLEASE FILL IN BLANKS BELOW, DETACH, AND MAIL TO

The Secretary, National Geographic Society
Washington 6, D. C.

_____ 1956

I nominate _____

PRINT NAME OF NOMINEE

_____

STREET

_____

CITY, ZONE, & STATE

_____

OCCUPATION

for membership in

NATIONAL GEOGRAPHIC SOCIETY

Membership dues, which are for the calendar year, include Subscription to the National Geographic Magazine.

_____

PRINT NAME OF NOMINATING MEMBER

_____

ADDRESS

DUES: Annual membership in United States, U.S. Poss., and Canada, $6.00; countries in the Postal Union of the Americas and Spain, $6.50; British Isles, £2 6s. 5d. British sterling ($6.50); elsewhere, $7.00. Life Membership, $150.00 U.S. funds. Make remittances payable to and send direct to National Geographic Society. S-56

Please fill in these spaces IF this is a GIFT membership:
I enclose $_____ for nominee's dues. Please send gift announcement card in my name to my nominee: ☐ Yes. ☐ No.

Camps

CULVER

SUMMER SCHOOLS
ON LAKE MAXINKUCKEE

8 HAPPY WEEKS OF CULVER TRAINING

In NAVAL and HORSEMANSHIP SCHOOLS (boys 14-18) and WOODCRAFT CAMP (boys 8½-14). Regular Academy personnel. Exceptional housing, dining and health facilities. 1200-acre wooded campus. Emphasis on correct posture, initiative, courtesy, self-reliance. Optional tutoring. All land and water sports. Moderate cost. State catalog desired.
59 Lake Shore Way — Culver, Indiana

FARRAGUT NAVAL CAMPS
Summer of adventure on Toms River for boys 8-18. Trips on 65-foot flagship. 42 land and water activities. Modern buildings. Tennis. Athletic fields. Approved summer school program available. Catalog.
Farragut Naval Camps, Box LC, Toms River, N.J.

LEN-A-PE Boys 7-17. In Pawnee near N. Y. and Phila. 22 alike tpts. Indians, cowboy, magician, nurse, A-1 care and food. Horseback and canoe trips, sailing, bands, crafts, dances. Sunday services. R&R. Indian Lodge—lakefront guesthouse. **David E. Keiser, 7733 Mill Road, Philadelphia 17, Pennsylvania,** MElrose (Phila.) 5-7982

OGONTZ Warm Mountain Camp in New Hampshire. Girls 6-19 in 4 age groups. 750 acres on mountain lake. Riding cultus, swimming, sailing, canoeing, aquaplaning; farm and trail riding; tennis, hockey, golf; art, crafts, music, dramatics. Trips. Tutoring. Booklet. **Abby A. Sutherland, Box 600, Ogontz Center, Pa.**

Coed Schools

ELGIN ACADEMY Creative preparatory. Coed, grades 7-12. Small classes. Individual PAR goals through personalized guidance. Balanced activities. Sports, gym, pool, music, drama. Art gallery. Modern dorms. Endowed. Est. 1839. Write for catalog.
M. L. Brott, 117 Academy Pl., Elgin, Illinois

QUARTER CIRCLE V BAR SCHOOL Cattle college prep school on 10,000 acre cattle ranch. Ages 10-18. Sound training in fundamentals. Accredited. High scholastic standards. Home for each student, mealtime, chores. Sports, pool. Dry climate. Also summer camp.
Charles N. Orme, Jr., Director, Mayer, Arizona

WAYLAND ACADEMY Near Milwaukee. Christian. Coed. College prep., grades 9-12. Accred. Small classes. Christian environment. Drama, music, speech. Athletics. 2 gyms, pool. Winter sports. Dorms. Est. 1855. Catalog. **R. A. Patterson, Headmaster, Box 73, Beaver Dam, Wisconsin**

WESTTOWN A Friends' school. Prepares boys and girls for college under the moral and spiritual standards of Quaker education. Grades 9-12. Openings in 9th grade only. Graduates in over 125 colleges. Established 1799. Catalog. **J. Kirk Russell, Dir. of Admissions, Box 655, Westtown, Pa. (near Philadelphia).**

Home Study

Educate Your Child at Home

Kindergarten—9th grade. With famous Calvert *School-at-Home* Course you can give your child an approved education. Complete, easy-to-follow teaching manual; lessons, books, supplies. Guidance by Calvert teachers. 100,000 children have been taught by this method, incl. those who travel, live in remote areas, are handicapped, stars and tots. 58th yr. Catalog. Give age, school grade.

CALVERT SCHOOL
32 TUSCANY RD., BALTIMORE 10, MD.

Do You Make These Mistakes in English? MANY persons say "between you and I" — use "who" for "whom" — don't know whether to use one or two "m's" or "r's." Every time you speak or write you show what you are. Effective English brings you added advantages, better opportunities. You can improve your English through Sherwin Cody's 100% self-correcting principles. Write for FREE book "How You Can Master Good English in 15 Minutes a Day." No obligation. **SHERWIN CODY COURSE IN ENGLISH. 1293 Central Drive, Port Washington, N. Y.**

It's Quick, Easy, Fun To Learn A LANGUAGE by LINGUAPHONE

At home, quickly, correctly master French, Spanish, German, Japanese, Modern Greek, Russian — any of 34 languages through Linguaphone's Recorded Conversational Method. World-wide educational endorsement. One million home-study students. Save time, money. WRITE for FREE BOOK.
LINGUAPHONE INSTITUTE
29-056 Rock. Plaza, N. Y. 20, N. Y.

Girls' Schools

FAIRFAX HALL An old Virginia school in the famous Shenandoah Valley. Accredited 4 years high school, 2 years college. Liberal arts, secretarial, music, art, dramatics, home ec., interior dec. Sports, pools. Private stable. Catalog. **Wm. R. Gates, Prop., Box N-565, Park Station, Waynesboro, Va.**

KINGSWOOD-CRANBROOK Thorough college preparation, general courses. Boarding, grades 8-12; day, grades 7-12. 36 acres on lake near Detroit. Unusual opp. in arts, handicrafts, science. Music, drama, sports, flying. Catalog.
156 Cranbrook Rd., Bloomfield Hills, Mich.

LINDEN HALL Junior College and School for Girls. Cultural and Vocational. Music, Home Economics, Secretarial Sciences. Fine and Commercial Art. Dramatic Art. Preparatory and General Courses. Beautiful Campus. All Sports. Riding. Swimming Pool. Moderate Tuition. **B. K. Horne, D.D., Box 65, Lititz, Pa.**

MARYWOOD COLLEGE Accredited Catholic college for women. Liberal arts, librarianship, vocational home ec., teaching (elem., sec.), music, art, drama, sci., med. technol., psych., soc'l. A.A., B.S., B.M., M.S. Sports. Dorms. Catalog. **Box E, Scranton, Pa.**

MONTECITO SCHOOL FOR GIRLS Your daughter will love going to school in beautiful Cairbrook. Ocean, mountains. Oak-studded campus; pool, horses. Outdoor sports all year. Gr. 8-12. Accred'd. Mem. Cal. Assn. Ind. Schools. **Homer N. Burnes, Ph.D., Santa Barbara, California**

OAK GROVE A Friends school for girls. Emphasizes Preparation for College and Gracious, Purposeful Living. Music, Art, Speech. Grades 7-12. International enrollment. Riding included. Joyous Outdoor Life. Beautiful fireproof Quadrangle. **Mr. and Mrs. Robert Owen, Box 140, Vassalboro, Maine**

SULLINS COLLEGE For young women. Accredited Jr. Coll. Liberal Arts & Career Courses. Music, Sports, Art, Sec'l., Med. Sec'l., Med'l., Home Ec., Phys. Ed., Ballet, Equitation. Outstanding social program. All sports. Lake, Pool, Golf. Riding. Est. 1870. Catalog. **William T. Martin, Pres., Box N-5, Bristol, Va.**

Vocational

BRYANT COLLEGE Get a head start! B.S. degree in 2 yrs. Save time, money. Business admin., acctg., finance, sales, & med. sec'l, retailing, advtg., 4-year business teacher tr., 1 year sec'l diploma. Coed. 22 bldgs. Enlisted Reserve unit on campus. Vet. app. Catalog. **Enrollment Dir., Providence 6, R. I.**

INDIANA TECHNICAL COLLEGE B.S. Engineering Degree in 27 months. Aero., Chemical, Civil, Electrical, Mechanical, Electronics (inc. Radio and TV). Drafting, 1 year. G.I. approved. Earn board. Demand for grads. Enter June, Sept., Dec., Mar. Free catalog.
156 E. Washington Blvd., Ft. Wayne 2, Indiana

KATHARINE GIBBS Outstanding secretarial training for high school, private school graduates. Special course for college women. Resident facilities. Catalog: **Asst. Dean, 21 Marlborough St., Boston 16, Mass.; 230 Park Avenue, New York 17; Montclair, N. J.; 155 Angell St., Providence 6.**

Boys' Schools

AUGUSTA MILITARY ACAD. "The Friendly School." Distinguished ROTC school in Shenandoah Valley. Jr. & Sr. Divisions. Boys 8-20. Accredited. Graduates in leading colleges. All sports; pool, gym. Organized 1742. State 4-star rating. Catalog. **Col. C. S. Roller, Box N, Ft. Defiance, Va.**

BLAIR ACADEMY A Presbyterian school for boys, with an established reputation for college preparation. In northern N.J. near Del. Water Gap. Wide choice of sports and activities. Lower School includes 7th and 8th grades. 108th year. Sept. 18. **James Howard, Hdm., Box 17, Blairstown, New Jersey.**

BOLLES OF FLORIDA

Fully accredited. Distinguished academic record. Grades 7-12. Conference-type classrooms. Varsity and intramural sports for all. Year-round golf, tennis, sailing. Outdoor swimming pool. Military or naval training. Write for illus. catalog.
Registrar, Box 5037-N, Jacksonville, Florida.

BORDENTOWN MILITARY Accredited. College preparatory. Business, general. Aviation. Outstanding record of college entrance. ROTC. Boys taught how to study; remedial reading. Sports. Jr. School. 75th yr. Summer session. Catalog. **Registrar, Box 655, Bordentown, N.J.**

CARSON LONG Boys' Military School. Educates the whole boy—physically, mentally, morally. How to learn, how to labor, how to live. Prepares for college, life or business. 120th year of character building. Overall charges $1150.00. **Box 21, New Bloomfield, Pa.**

CARTERET SCHOOL Superior College Preparation. Accredited. 1st Grade to College entrance. Small classes. Reading Techniques. Phonics. Homelike dormitory. Large gym. 40 acres atop Orange Mt. Moderate rate. N. Y. 1hr 20 min. Request Booklet E-7. **Carteret School, West Orange, N. J.**

CASTLE HEIGHTS Military Academy

Accredited. Preparation for College and Government Academies. Junior School in separate plant. Boys taught to study and inspired to excel. Highest standards. R.O.T.C. 17 modern buildings. Every boy in athletics every day. Outdoor sports year round. Non-profit. Swimming pool, golf, aviation. Summer school and camp. Apply early for 1956-57. For "22 Points" and catalog, address: Col. H. N. Armstrong, Pres., Lebanon, Tenn. (Near Nashville)

COLUMBIA MILITARY ACADEMY Fully accred. Prepares for Colleges and Gov't Academies. 14 buildings, 9 built by U. S. Gov't. 2 gyms, pool. ROTC. Weekly reports. Jr. School. All sports. Band, Orchestra. Summer School. Write for catalog and "11 Features", **Dept. N, Columbia, Tenn.**

COLUMBIAN "THE SERVICE-ACADEMY PREP" Intensive, individualized preparation for West Point, Annapolis, Air Force Academy, etc., and all civilian colleges. How-to-study training. Est. 1909. Summer school. **Columbian Preparatory School, 1854 Biltmore Avenue, Washington 9, D. C.**

CULVER

4th grade. Thoroughbred preparatory. Accredited. Develops initiative, self-reliance, courtesy, character, leadership. All sports. Exceptional academic. Living facilities. ROTC: Artillery, Cavalry, Infantry, Band. 1100-acre campus on Lake Maxinkuckee. Catalog. 59 Pershing Way, Culver, Ind.

DELBARTON SCHOOL Select country day and boarding school for boys, grades 7-12. College preparation only. Excellent record. Active sports program. Small classes. Friendly atmosphere. 400 acres. Near N.Y.C. Catalog. **Rev. Stephen A. Findlay, OSB, Morristown, N. J.**

FARRAGUT
College Preparatory — Naval Training

Two separate schools: Toms River, N.J.; St. Petersburg, Fla. Accredited. Preparation for all colleges, gov't academies. Separate Junior Schools. Guidance, for college & career. Sports, boats, bands. Summer school & camp. Specify catalog.
Admiral Farragut Academy, Box L, Toms River, N.J.

FISHBURNE MILITARY Accredited college preparatory. Distinguished record since 1879. Grades 8-12. Small classes. Homelike influences. R.O.T.C. Highest Rating. All sports. Indoor pool. Gym. Rubdown. Varied social program. Catalog. **Col. E. P. Childs, Jr., Supt., Box N, Waynesboro, Va.**

GEORGIA MILITARY ACADEMY 5 Miles from Atlanta, Ga. Winter and Summer School. Accredited. R.O.T.C. Highest Gov't rating. Reading clinic. 3 gyms. Expert athletic coaching. Indoor pool. Special Junior School. **Col. W. N. Brewster, President, College Park, Ga.**

GREENBRIER MILITARY SCHOOL 107th yr. The School of Achievement. 7th & 8th grades & H.S. and Junior College. ROTC. White Sulphur Springs golf & swim pool. Athletics for all. New Rifle range & gym. Catalog, write **D. T. Moore, Box M 305, Lewisburg 3, W. Va.**

FORK UNION MILITARY ACADEMY

One ONE SUBJECT PLAN of study in Upper School (grades 9-12) has increased honor roll 50%. Develops concentration. Fully accredited. ROTC highest rating. 12 modern bldgs., 2 completely equipped gyms, pool. Splendid environment, excellent health record. Junior School (grades 4-8) has separate buildings, sym. Housemothers. 50th yr. For ONE SUBJECT PLAN booklet and catalog write:

Dr. J. C. Wicker, Box 305, Fork Union, Va.

HARGRAVE MILITARY ACADEMY

FULLY accredited. College preparatory, general courses. Grades 8-12. How-to-study training; remedial reading; individual guidance. Separate Jr. School. All sports. Summer School. Est. 1909. Catalog. **Col. Jas. H. Cosby, Box N, Chatham, Va.**

HOWE MILITARY SCHOOL

ACADEMIC training in spiritual environment. Accredited prep, business. Potential Achievement Rating gives each boy a goal. Jr. School. Sr. ROTC. New dorms and pool. Episcopal. Summer Camp. Catalog. **S. B. Bouton, 956 Academy Pl., Howe, Ind.**

JUDSON SCHOOL

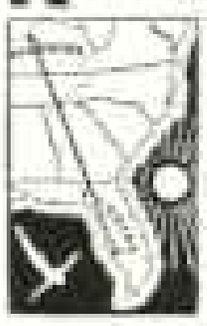
RANCH school for 100 boys 6-18 in healthful, warm, dry climate. Small classes; accredited to eastern and western colleges; riding & polo included in tuition. Tennis, swimming, fishing, pack trips. 20th year. Catalog. **H. N. Wick, D. M. Ashley, Dirs., Scottsdale, Arizona**

KEMPER

Leading Military School for 110 years. Accredited; highest academic standing. Individual attention to each student. Grades 8-12. Junior College. Modern buildings. All sports. Write for Director of Admissions. **Kemper Military School, 1956 Third St., Boonville, Missouri.** Our representative will call with complete details. No obligation.

KENTUCKY MILITARY INSTITUTE

A School with a winter home in Florida



PREPARATION for college under ideal climatic conditions all year. Oldest private Military School in America. ROTC. For illustrated catalog and "Why Florida" folder, address:

Col. C. B. Richmond, Pres.
Box N Lyndon, Ky.

MANLIUS

FOUNDED 1869. For boys. Accredited. Grades 7-12. Complete college preparation. ROTC. Highest U. S. Army rating for over 50 years. 120-acre campus. Remedial reading. Sports. Band. Summer session. Tutorial assistance. Catalog. **Robert N. Weekes, The Manlius School, Manlius, N. Y.**

MARION INSTITUTE

115TH YEAR. Accredited Junior College, 4-year College Preparatory in heart of Deep South. Special preparation for Army, Navy, Air Force Academies. Senior R.O.T.C. Sports. Mild climate. Careful individual attention. Write for catalog. **The Registrar, Box N, Marion, Alabama**

MASSANUTTEN MIL. ACAD.

ACCREDITED all colleges. In healthful Shenandoah Valley. Friendly teachers. Small classes. R.O.T.C. All sports. Gym. Pool. Band. Rifle Team. Riding. Junior Sch. 6th grade up. For catalog, address **Col. H. N. Benchoff, Box 44, Woodstock 1, Va.**

McDONOGH

One of the Nation's leading preparatory schools. Grades 1-12. Accredited. Prepares for all colleges. Small classes, guidance. Art, music. Dairy & animal husbandry, business courses. Semi-military. Sports. 2 gyms, indoor pool. 80 horses. Est. 1873. Catalog: **R. L. Lanhorn, Ed.D., Box 106, McDonogh, Md.**

MERCERSBURG ACADEMY

GRADUATES outstanding in leading colleges. Boys. Grades 9-12. Remedial reading. Public speaking. Small classes. Beautiful campus. Gymnasium. Pool. Athletics for all. Established 1893. Catalog. **Charles S. Tippetts, Ph.D., Box N, Mercersburg, Pa.**

MIAMI MILITARY ACADEMY

ACCREDITED. 35 acres on Biscayne Bay. College prep. & H. S. Separate buildings grades 1-8. Avoid winter illnesses. Band. Riflery. Swimming. Fishing. Golf, Tennis. All inclusive fee $825 school year. Catalog. **Box 25, 10601 Biscayne Blvd. Miami 38, Fla.**

MILFORD

CONSTRUCTIVE preparatory school for boys. Famous for its teaching since 1910. Grades 9-12. Very small classes develop good study habits. Optional acceleration for mature students completes 1½ years' work in 12 months. Spacious campus. Summer session starts July 5. **William D. Pearson, Hdm., Milford 11, Conn.**

MISSOURI MILITARY ACADEMY

AND Separate Junior School. 66th year. Grades 8-12. Fully accredited. Senior R.O.T.C. Friendly and inspiring teachers. Complete graduate program. All sports. Riding. Golf. 30 acre lake. 5 athletic fields. 250 acre campus. Catalog. **Col. C. R. Stribling, 956 Main St., Mexico, Mo.**

MORGAN PARK MILITARY

SUPERIOR academic program under inspiring faculty. Accredited; 90% enter college. Small classes. Grades 4-12. ROTC. Cavalry, Band. Fine arts. Shop. Sports; teams for all. 53rd yr. Catalog. **Col. C. L. Jordan, Box 756, Morgan Pk., Chicago 43, Ill.**

NORTHWESTERN MILITARY AND NAVAL ACADEMY

COLLEGE prep. est. 1888. Accredited. 25 mi. to Chicago, 75 to Milwaukee. Avg. class 15. Fireproof buildings. Modern facilities. 60 acres on lake. Sr. ROTC Basic. All sports; sailing. Summer Camp. Catalogs. **55 So. Lake Shore Road, Lake Geneva, Wis.**

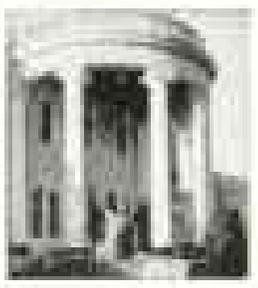
OAK RIDGE MILITARY INSTITUTE

ITH yr. Grades 8-12. Jr. College. Limited enrollment, small classes, supervised study. ROTC highest rating. Band. All sports; indoor pool, golf. Catalog. **Col. T. O. Wright, Supt., Box A, Oak Ridge, North Carolina.**

ONARGA MILITARY SCHOOL

TRAINS for character. Individual study program; homelike living. Accredited. College preparatory, business. Small classes. Guidance. 9th grade up. Farms, pool. Low tuition. Chicago 80 mi. Catalog. **Col. L. W. Adams, Box W, Onarga, Illinois**

EDUCATIONAL TROUBLE SHOOTERS



Individualized Plan—Each Student a Class

For those with educational problems — successful college preparation and general education. **Our tests discover causes of difficulties** and we (1) devise individualized program to overcome difficulties; (2) make up lost time; (3) instill confidence; (4) teach the art of concentration, and science of study.

Faculty 17; Enrollment 80; 30 years' experience. Write Edward R. Knight, Ph.D., Headmaster,

OXFORD ACADEMY

Box G-95, Pleasantville, New Jersey

PEDDIE

COLLEGE preparatory. Grades 8-12. Endowed. Fully Accredited. Guidance; remedial reading; public speaking required. All sports; golf, swimming. Junior School—separate dorms, housemother. 200 acres. Summer session. 51st year. Catalog on request. **Dr. C. O. Morong, Headm., Box S-N, Hightstown, New Jersey.**

PEEKSKILL MILITARY ACAD.

125th yr. Over 90% of graduates enter well known colleges. Small classes. Band. Glee and Camera clubs. Riflery. Athletics for all. Golf. Swimming pool. Grades 5-12. Separate Sr. & Jr. Schs. Illustrated Catalog. **Hdm., Bx. 305, Peekskill-on-Hudson 3, N. Y.**

PENNINGTON

COLLEGE preparatory, general courses. Accredited; graduates in 60 colleges. Grades 7-12. All sports; gym, pool. New dorm. Guidance; remedial reading. Crafts, shops, music. Moderate rate. Endowed. Est. 1838. Write for catalog. **Ira S. Pimm, D.D., Box 20, Pennington, New Jersey.**

PERKIOMEN

BOYS taught how to study. Graduates in leading colleges. Homelike atmosphere. Grades 7-12. Noted for excellence in teaching reading techniques. Sports for all. Modern dorms. Near NYC, Phila. 62nd year. Summer school. Catalog. **Stephen N. Roberts, Headmaster, Pennsburg, Pennsylvania**

PILLSBURY ACADEMY

PREPARES boys for college or career. Fully accredited. Grades 6-12. Small classes, individual attention. All sports; swimming pool. Military training. 99th year. Moderate cost. For catalog write: **Lloyd Holsinger, Headmaster, Box 357-N, Owatonna, Minnesota.**

RANDOLPH-MACON ACADEMY

MILITARY. Accredited. 85th Year. At northern entrance to Skyline Drive. Prepares for college by intensive study methods. Fireproof bldgs. Superior equipment. For catalog and "Your Boy": **Col. John C. Boggs, Pres., Box E, Front Royal, Va.**

RIVERSIDE

Health and interest assured by Spring and Fall in Georgia Mts., Winter at Hollywood, Florida—two complete school plants, each with all facilities. Outdoor sports year round.

Fully accredited college preparation. Also Post Graduate Dept. Constant association with selected teachers who live and eat with cadets. Weekly reports. ROTC. Progress GUARANTEED. Reasonable all-inclusive fee. Outstanding record. Athletics for all. Separate Junior School, grades 6-8.

For illustrated catalog, address

GENERAL SANDY BEAVER, President

WINTER NEAR MIAMI Box 305-N, Gainesville 3, Ga.
FALL & SPRING IN BLUE RIDGE MOUNTAINS

ST. JOHN'S MILITARY ACADEMY

St. John's System develops responsibility, multiplies study, assures rapid academic progress. Exceptional teaching, small classes. Grades 7-12. Accredited. Reading Clinic. Sr. ROTC. Fireproof dorms. Sports. Summer camp. Est. 1884. Catalog.

Dir. of Admissions, Box 1356, Delafield, Wisconsin

SAINT THOMAS MIL. ACAD.

PREPARATORY training in Catholic environment. Accredited. Attention to each boy. ROTC. All sports; golf, pool, gym. Band, choir. Chapel, infirmary. 45-acre campus. 52nd year. Catalog. **Box 2, Rev. Leo White, St. Thomas M.A., St. Paul, Minn.**

SHATTUCK SCHOOL

HOME, Grades 7-12. Balanced educational, religious, military. Accredited college prep. General courses. Small classes. Sr. Basic ROTC. Sports. Gym, pool, golf. Episcopal. Est. 1858. Summer School. Catalog. **Dir. of Admissions, 585 Shumway Hall, Faribault, Minn.**

STAUNTON MILITARY ACADEMY

In Beautiful Shenandoah Valley. Thorough college preparation; fully accredited. Individual guidance. Band. All sports. 2 gyms. Pool. Fine health record. Fireproof buildings. Separate Junior School. Illus. Catalog write **Supt. S. M. A., Box D-5, Staunton, Va.**

SULLIVAN SCHOOL

EFFECTIVE and thorough preparation for Annapolis, West Point, Coast Guard and Air Force Academies, and all colleges. Catalog. **Wendell E. Bailey, graduate U.S.N.A. 1934, Principal, Box D, 2107 Wyoming Avenue, N.W., Washington 8, D. C.**

TENNESSEE MILITARY INSTITUTE

BOYS planning to attend engineering schools and leading colleges need thorough preparation. Over 90% of graduates enter colleges. Grades 8-12. Small classes. 82nd yr. Catalog. **Col. C. R. Endsley, Box 147, Sweetwater, Tenn.**

TEXAS MILITARY INSTITUTE

DISTINGUISHED Texas military school. Traditions of manliness, honor, courage. College preparatory, grades 8-12. Study techniques, guidance. Small classes. All sports. ROTC. Episcopal. Est. 1893. Catalog write **Box 38, 800 College Blvd., San Antonio 9**

VALLEY FORGE MILITARY ACADEMY

"At the Nation's Shrine"

Prepare your boy for leading colleges while he trains for a commission in the Armed Services. Small classes, highest academic standards. Prep. School and Jr. College, fully accredited: Arty., Cav., Inf., Senior Div. ROTC. All sports, Band. Ages 13-20. **Catalog, Box M, Wayne, Pa.**

WENTWORTH MILITARY ACADEMY

TRADITIONS of manliness, professional leaders started here. 4-yr. High School; separate 2-yr. College. Accredited. Sr. ROTC. CAA flying. Modern buildings, country club. All sports; pool. Summer School. 77th year. Catalog. **Col. Sellers, 856 Wash. Place, Lexington, Mo.**

WESTERN MILITARY ACADEMY

EMPHASIS on self-confidence, self-direction, how-to-study. Small classes, guidance. Grades 7-12. Career analysis. Jr.-Sr. R.O.T.C. Athletics; riding, pool. 79th year. Near St. Louis. Catalog: **Col. Ralph B. Jackson, Supt., Box N-5, Alton, Ill.**

Telephone Man Helps Save Five from Tidal Waters

Quick action prevents tragedy when family is marooned in hurricane

AWARDED MEDAL—Robert A. Gillespie, of Block Island, R. I., was awarded the Vail Medal for "courage, endurance and ingenuity" in helping rescue five people. Vail Medals, with cash awards, are given by the Bell System for acts of noteworthy public service by telephone employees.

Hurricane winds of 110 miles an hour were creating a tidal wave when the telephone operator at Block Island, Rhode Island, received a call for help from a family marooned in a cottage.

"I was in the telephone office," says installer repairman Robert A. Gillespie, "when I heard of the call. I'd been through hurricanes. I knew they might be in real trouble."

Quickly enlisting the aid of two other men outside the building, he drove his company truck to within 400 feet of the isolated cottage, as near as the high water would allow.

RESCUE AT HAND. Telephone man fights his way through swirling waters to bring marooned cottagers to safety during hurricane.

"We could see that three poles led toward the cottage," says Bob Gillespie, "so we took handlines and a rope from the truck. We secured one end of the line to the first pole and waded to the second pole. There we tied up our line and kept wading to the third pole."

But they were still thirty feet away from the marooned family when they got as far as the rope would go—thirty feet of dangerous, rushing water.

Bob Gillespie's companions guarded the ropes while he fought his way to the cottage.

He made three trips through the rising tidal waters. First he carried a small boy to the comparative safety of the forward end of the rope.

Then, with considerable difficulty, assisted two women and a man and another boy. And finally, though almost exhausted, he guided the entire group along the all-important rope lifeline that led to high ground and safety.

HELPING HANDS—*The spirit of service of telephone men and women is shown not only in the dramatic situations of fire and flood and storm, but in the everyday affairs of life. Thousands of times every day, and through the long hours of the night, the telephone and telephone people help those who are ill or in trouble or confronted by some occasion that needs a skilled and willing hand. Just having the telephone close by gives a feeling of security and of being close to people.*

BELL TELEPHONE SYSTEM


For Air Conditioned Living
SPRINGFIELD
Blankets
Wonderlight
Ideal for air conditioned homes on chilly summer nights . . . perfect as the second blanket in winter, fall or spring . . . the beautiful, all-season Wonderlight is unsurpassed for luxurious warmth without weight.
⅔ pure wool, ⅓ nylon . . . bound all around with fine nylon satin binding
Springfield . . . THE NAME FAMOUS IN BLANKETS
THE SPRINGFIELD WOOLEN MILLS COMPANY, Springfield, Tennessee
"ALSO CREATORS OF FINE WOOLEN FABRICS"
Send 10c for your copy of Springfield's booklet "What You Should Know About Fine Quality Blankets"