

VOLUME LXXVI

NUMBER THREE

THE NATIONAL GEOGRAPHIC MAGAZINE

SEPTEMBER, 1939

Thirty-two Pages of Illustrations in Full Color

Rio Panorama

With 12 Illustrations

W. ROBERT MOORE

Carioca Carnival

34 Natural Color Photographs

Old and New in Persia

With 20 Illustrations and Map

THE BARONESS RAVENSDALE

Gilded Domes Against an Azure Sky

15 Natural Color Photographs

STEPHEN H. NYMAN

Chesapeake Odyssey

With 32 Illustrations and Map

JOHN MALONEY

Life's Flavor on a Swedish Farm

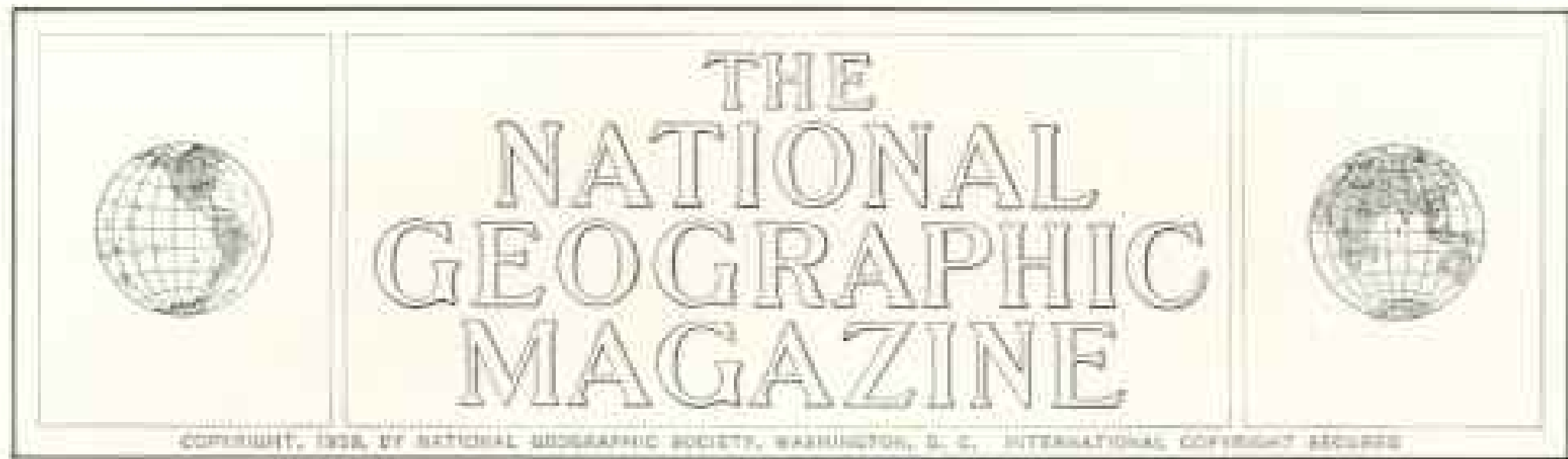
With 23 Illustrations and Map

WILLIS LINDQUIST

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

\$3.50 A YEAR

50c THE COPY



RIO PANORAMA

Breath-taking Is This Fantastic City amid Peaks,
Palms, and Sea, and in Carnival Time It
Moves to the Rhythm of Music

BY W. ROBERT MOORE

With Illustrations from Photographs by the Author

THE River of January proved a myth. André Gonçalves—if indeed it was he, as most historians now believe—was wrong. The vast reach of water on the newly discovered Brazilian coast, into which he sailed on New Year's Day, 1502, and which he named Rio de Janeiro, was not the mouth of a mighty river, but a bay.

No myth is Rio de Janeiro, gigantic Brazil's gay capital, which has grown on the western shores of this bay. But it almost seemed so to us when, the twelfth morning out of New York, the throb of the propellers of our Good Neighbor Ship, the *S. S. Uruguay*, slowed down for the first time.

INCREDIBLE CRAGS FOR SKYSCRAPERS

Straight into the midst of incredible mountain crags we steered. Mists and fog so distorted the perspective that they appeared like the paintings of some ancient Chinese master who had piled peak upon peak to portray his bizarre Garden of the Gods. *Rio couldn't be here, but it was!*

Morning breezes soon blew away the mists, but not Rio's unreality. Peaks, pinnacles, and bold granite buttes are the city's skyscrapers, its skyline. Sheer from the sea, and above shimmering sickles of sandy beach fringing the Atlantic and the bay, they soar heavenward on every side.

There's Gavea, whose name may mean either the crow's nest or the sail of a ship, but whose queerly shaped top seems with less fancy to form an old Crusader castle, complete with guard towers. There's Dois Irmãos, the Two Brothers, overlooking the seaside suburbs of Leblon and Ipanema.

Unmistakable landmark to Rio is Pão de Assucar (Sugar Loaf), a bare granite cone standing sentinel at the narrow gateway of the bay, with a spiderlike aerial tramway climbing up and down on its web strand from Urca.

Rearing high above the city is Corcovado, the Hunchback, a precipitous pinnacle that has become a 2,300-foot pedestal for a colossal statue of Christ. Beyond slumbers bulky Tijuca, with the profile of a reclining giant. These, and numerous other forested hills, segment the city or form its spectacular backdrop.

Not content with these wonders, Nature has marshaled countless other green hills and granite spurs to bracket island-studded Guanahara Bay.

CAPTAINS "PARK" THEIR SHIPS

In famed Sydney Harbour, Hong Kong and its broad roadstead, the Bay of Naples, and San Francisco, writers have sought comparisons. I have seen them all, but still I



THE SKIPPER "PARKS" HIS SHIP AT RIO'S FRONT DOOR

The cruise steamer *Franconia* ties up beside Praça Mauá at one end of Avenida Rio Branco, the capital's chief thoroughfare (Color Plate XVII). Passengers enter the city through the pleasant park. Beyond the pavilion of the Touring Club of Brazil and the Customhouse (left) extend long docks, where 4,000 ships are discharged annually. This view was taken from the offices of the American Consulate General in the 22-story skyscraper home of *A Noite*, one of Rio's leading newspapers.

was unprepared for the fantastic panorama of Rio and its vast aquatic amphitheater (see color series).

Once you shift your eyes from mountains or bay and begin picking out business blocks and residential districts from ship deck to convince yourself that perhaps Rio may be like many another port, save for its amazing setting, the captain starts *parking* the steamer!

Unbelief again!

Automobiles and carriages halt in parks; ships never. But they do—in Rio. Right alongside the formal square of Praça Mauá, or only a few berths away along the quays, all passenger steamers come to dock. Here are no grimy wharves to greet you; instead, you may pass through a bright, airy pavilion where a complimentary cup of Brazilian coffee serves as an introduction.

Neither do you have to thread blocks of unsavory streets or dingy alleys to get to

the center of the city. The Avenida Rio Branco, Rio's Fifth Avenue or Champs Élysées, begins at the Praça where you walk down the gangplank. From water front to water front this wide resplendent thoroughfare cuts arrowlike across the peninsular heart of the capital.

At its upper end it joins the Avenida Beira Mar, "Edge of the Sea." This splendid marine drive skirts the park of Praça Paris, swings around curving Flamengo Beach, dodges the Mount of the Widow, describes a semicircle about the shore of Botafogo Bay, and halts in the shadow of Urca and Sugar Loaf (page 286).

Thence, changing its name frequently along the way, the avenue kinks again to avoid a hill, thinks better of it and plunges through a tunnel, to emerge now on the open ocean front where stretch the scalloping beaches and elite residential sections of Copacabana, Ipanema, and Leblon.



Photograph by Alfed T. Palmer

ONCE AN AQUEDUCT, NOW A BRIDGE FOR STREETCARS

Built in 1750, it conveyed the water supply of Rio between the hills of Santa Thereza and Santo Antonio until a more extensive system was installed for the rapidly growing capital. Its use as a car line will soon be ended if the hill of Santo Antonio is cut down to fill in the water front (page 304). Stalls of an open-air market often spread beneath its lower arches.

Eventually, miles beyond, the highway loses its marine identity amidst delightful mountain roads high up on the bastions of Mount Gavea.

But we go too fast. It is a thrilling scenic drive, replete with breath-catching charm. So let us return to the Rio Branco and begin a more leisurely tour of inspection.*

NEARLY 600 BUILDINGS RAZED TO MAKE ONE STREET

Better to appreciate the man-made portion of Rio today, one should flip back a few pages of history. Up to the turn of the present century, the town, like Topsy, "just grewed." Its cluttered buildings, twisting, narrow streets, and lack of sanitation were profanations against its magnificent natural

* See "Gigantic Brazil and Its Glittering Capital," by Frederick Simpich, in the NATIONAL GEOGRAPHIC MAGAZINE for December, 1930, and "Rio de Janeiro, in the Land of Lure," by Harriet Chalmers Adams, September, 1920.

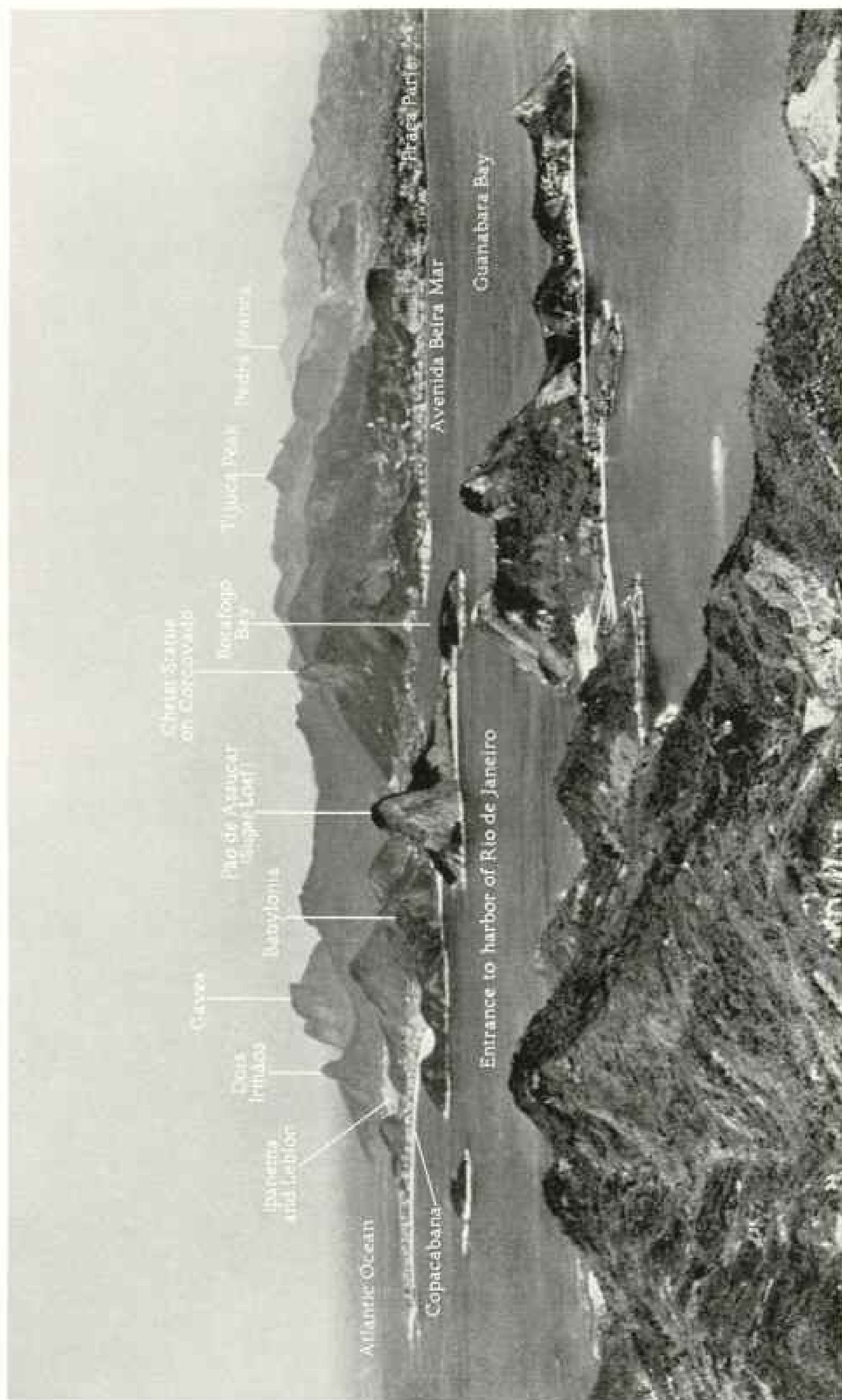
background. For long years the city almost continually had been a breeding center for fevers.

Then, in 1904, Rio began a vast program of renovation and rebuilding. Numerous buildings were torn down, streets cut, sea walls put around the water front, and sanitation measures instituted.

To carve out the one-and-one-half-mile-long Avenida Rio Branco alone, nearly 600 buildings were razed (Plate XVII).

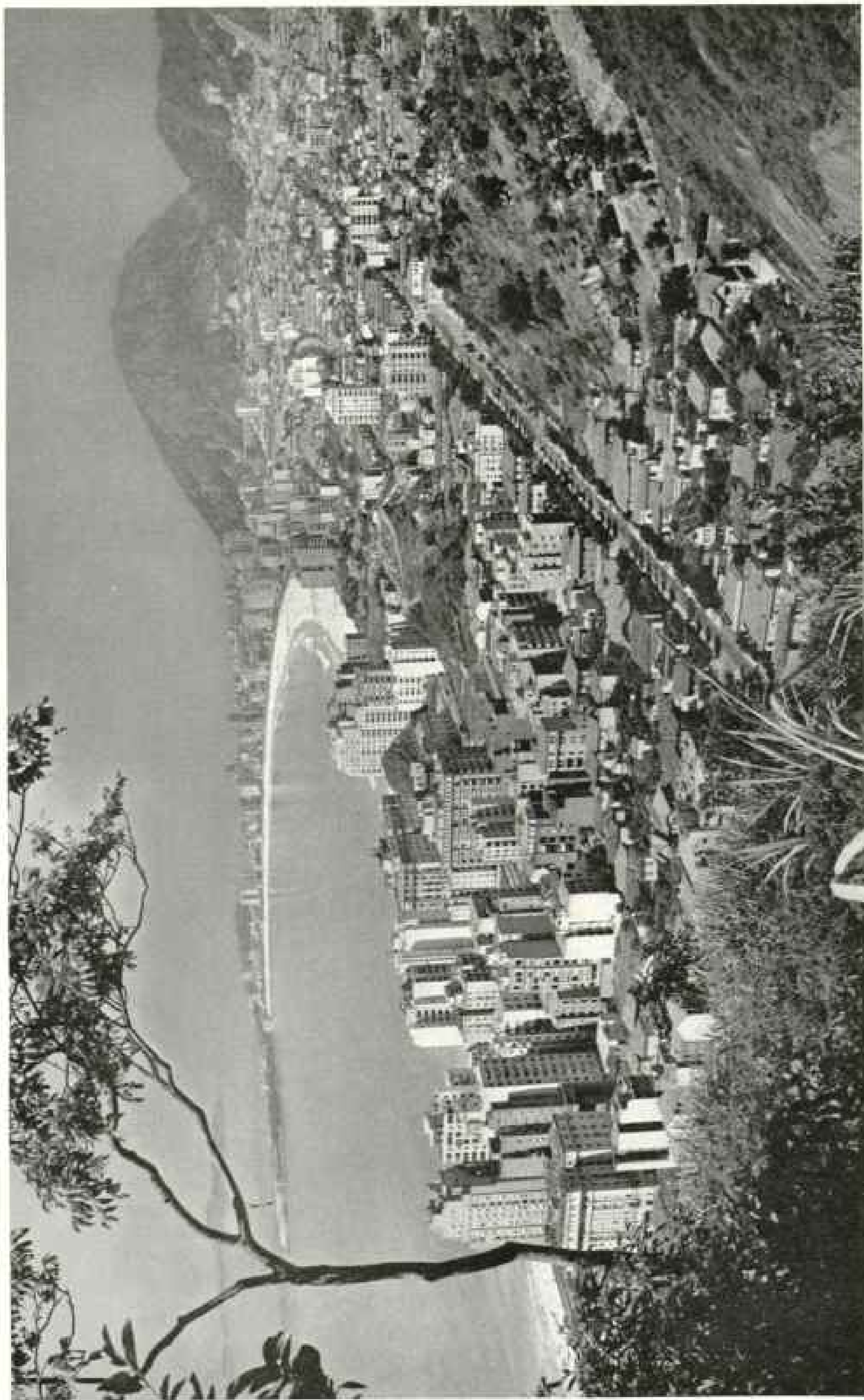
Looking down some of the side streets that it severs, you gain a good idea of what most of the town was like years ago. The Rua do Ouvidor, aristocratic shopping center which crosses it about midway, is so narrow that no wheeled vehicles are allowed. Many of the others have become one-way channels for traffic.

The *Cariocas* (Rio residents) are proud of this 108-foot-wide business axis. Lined on either side and down the middle with trees, Rio Branco is a friendly thoroughfare.



A BREATHE-TAKING PANORAMA OF TOWERING CRAGS UNFOLDS BEFORE VOYAGERS ROLLING INTO RIO'S HARBOR

Bold in outline, landmark after landmark comes into view as the arriving ship steams slowly in from the Atlantic (left), through the harbor entrance and into Guanabara Bay. Beyond Praca Paris (extreme right), the steamer moors near the Avenida Rio Branco in the heart of the city (page 284). Like a mighty river, the sprawling city starts in the hills, flows through narrow valleys, and spreads out on plains and crescents of sandy beach.



WHERE SKYSCRAPER APARTMENTS LINE COPACABANA, FISHERMEN DRIED THEIR NETS LESS THAN 40 YEARS AGO

Facing the open sea, the crescent-shaped beach is now Rio's Riviera and a favored residential district. Many private homes have given way to modern buildings and hotels. Beyond the hills in the distance, on another scarp of sandy beach, spread the still newer residential sections of Ipanema and Leblon (pages 290 and 297).

Three lanes of traffic move in each direction, while waiting taxis park parallel under the trees in the center.

Here are shipping offices, banks, Government ministries, cinemas, clubs, and cafes.

Parisianlike, some of the cafes spill out on the street, and if you sit at one of the tables, sooner or later you see all Rio pass, or stop for a drink. Cafes here have not lost the meaning of their names, for the Carioca drinks *café*, heavily sweetened as in the souks of the Levant.

WILDLY WAVING SEA OF STONES

Besides its language, one of the capital's most striking inheritances from its parent Portugal is its patterned sidewalks. But "Rolling Motion" Square and the main *avenidas* in Lisbon never had such areas of confusing stone paving.

Set with a mosaic of black and white stones, plazas and paths seem to billow and wave in the bright sunshine. Elsewhere huge butterflies, flowers, and countless formal patterns form the design.

In front of the Jockey Club a paved horse stares through a huge paved horseshoe. On the opposite side of the *Avenida*, at the Naval Club, rock fish swim gaily about steering wheels while seahorses cavort among tridents, crossed anchors, and life buoys.

If the Plaza of Floriano Peixoto, in front of Cinelandia, were a bit nearer, you feel sure that these vivacious marine creatures would swim over their chain boundary and frisk about in that wildly waving mosaic sea (Plates III and XXI).

Art in several forms centers around *Praça Floriano Peixoto*. Here is the Municipal Theater, with a flavor of the Paris Opera in its architecture. Here, too, is the *Bellas Artes*, or Academy of Fine Arts, and beside it the National Library.

When Napoleon pressed his campaigns into the Iberian Peninsula in the early 1800's the Portuguese rulers, Dona Maria I and her regent son Dom João VI, hastily picked up their baggage, throne, and court and sailed over to Rio to await the time when war clouds should blow over.

Among their quickly assembled possessions which they loaded on shipboard were many paintings and the books and rare manuscripts of the Royal Library. Though the court returned to Lisbon in 1821, after a sojourn of 13 years, these remained in

Rio and formed the nucleus about which the gallery and library have grown.

Across the way, and around the corner facing *Passeio Publico*, is the realm of celluloid—Cinelandia (Plate XXI).

HOLLYWOOD MOVIES PREDOMINATE

Of ten motion picture houses grouped here, I saw one showing the new Brazilian film "Banana da Terra," and another a German film. All the rest were American productions. Advertised changes of programs were also American, except for one British film.

Perhaps one should include in the category of art the *Institutos de Belleza* and *Cabelleireiros para Senhoras* (beauty salons and ladies' hairdressers), for the women of Rio keenly follow the styles of upswept hair, or whatever the mode of the moment happens to be, and sit for "Ondulações permanentes, Tinturas e Manicures" (permanent waves, dyeing, and manicures).

Standing alone in the square beside the obelisk that marks the upper end of *Avenida Rio Branco*, is Monroe Palace. This ornate structure housed the Brazilian exhibit at the St. Louis Exposition of 1904 and was later dismantled and moved here. Seat of the Federal Senate until that body was dissolved, Monroe Palace is now in use by the Ministry of Justice (Plate III).

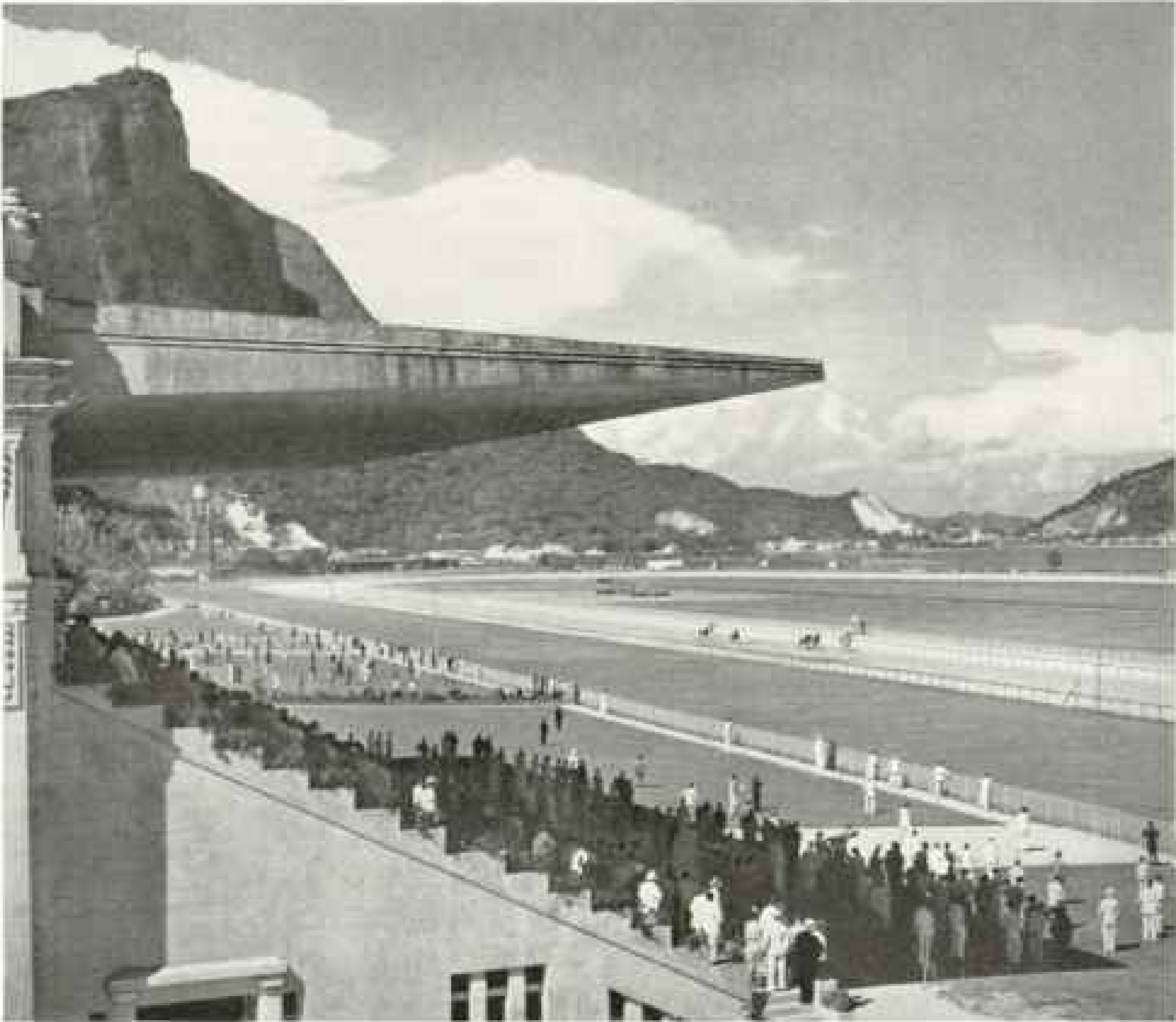
To the right stretches *Praça Paris*, built, during Rio's rebuilding campaign, on land reclaimed from the sea. With its sparkling fountains, formal gardens bordered with flowers, hedges trimmed in fantastic shapes of animals, pavilions, and fancy pillars, and its wide, pleasant walks, the *Praça* is a delightful place beside the bay.

Before continuing along the marine drive, let us make a short detour to the left, where many new buildings are rapidly rising.

CITY COOLED BY REMOVING A HILL

Once a high hill, the *Morro do Castello*, stood here. On it Rio began its permanent growth in the late 1500's when that industrious colonizing leader Mem de Sá and his nephew Estacio de Sá settled the issue as to whether this should be a French- or Portuguese-speaking land by routing the French from near-by Villegaignon Island.

In 1922 engineers began work with hydraulic machinery to sluice the hill into the bay. In doing so they created an airport, added some 14 blocks to the business section, and air-conditioned the city!



ONE OF THE FINEST IN THE WORLD IS THE RACECOURSE OF THE RIO JOCKEY CLUB

Nestling beside the blue waters of Rodrigo de Freitas Lagoon beneath towering Corcovado, this famous track draws visitors from all South America. Like the visor of a jockey's cap, grandstand roofs jut out over the spectators. No supporting columns block their view (page 290).

Yes, air-conditioned. The hill hitherto had blocked off the sea breezes, and when it was leveled the temperature in the downtown area dropped more than five degrees.

Several ministries are to occupy the site of the Morro. Already the Ministry of Labor, Commerce, and Industry is completed and the 15-story skeleton of the offices for the Ministry of Health and Education has reached its full form. Glass windows will almost wholly encase its sides.

PLANES TO UNITED STATES AND EUROPE

A moment's walk from this center, and only a few minutes' drive from any part of the business district, is the Santos-Dumont Airport, one of the most centrally located land- and seaplane terminals of any city in the world (Plate XXII and page 302).

Pan American Airways Clippers come skimming down the bay twice a week from

Miami and take off again on their homing flight. Land liners then speed passengers and mail back and forth to Buenos Aires, and link with lines on the west coast.

Smaller Panair do Brasil seaplanes connect coastal cities and the Amazon, while land planes radiate out to Porto Alegre, Recife, Belo Horizonte, Uberaba, and Poços de Caldas. The local VASP darts back and forth to São Paulo twice a day.

French and German routes bring Europe next door. British and Italian services also are projected.

Moored to one corner of the air base by a bridge is Villegaignon Island where, in 1555, the French planted their colony and stayed until finally ousted by Estácio and Mem de Sá twelve years later. Gray modern buildings of a naval school now cover its surface, but around its base several rusty cannon remind one of some of

the earlier exciting days in the Guanabara.

A block or so from the air terminal is the Caes Pharoux, the embarkation point for the ferries that ply the bay. Nearly 58,000 fares pass through the turnstiles every day. Most of the passengers commute between Rio and Nictheroy across the harbor, though 5,800 ride back and forth from Governador Island and another 2,000 explore the idyllic charms of Paqueta Island, far out in the bay (Plates VII and XXIV).

HIDE BAREFOOT AND SAVE A CENT

Here is probably the cheapest ride on earth, this trip to Paqueta. A three-hour round trip on the leisurely side-wheeler cost me a nickel.

I could have gone even more cheaply—barefoot! Timetables parenthesize *descalço* (barefoot) in listing second-class fares. On bare feet you walk through one turnstile; with shoes on you walk through another. On the ferry there's no distinction, but on the round trip you save a cent!

The twenty-minute trip to Nictheroy is about three cents for those fully shod; *descalço* is two. Years ago when the regulation was made, *milreis* were worth more and the difference between first- and second-class fares meant much to barefoot workers.

Returning again to the Avenida Beira Mar, we head toward Sugar Loaf. Along Flamengo Beach hundreds go swimming, while others line the sea wall and look on. In the evenings the walls are again crowded with persons enjoying the cooling breezes (Plate VIII).

At Botafogo Bay, farther on, Cariocas take to the water much more seriously. Here are regatta clubs, whose strong-limbed, bronze-backed members go scooting over the bay in long, slender shells. Here are clubs where, if one doesn't want to join in the strenuous cross-bay swimming contests, he can dip in an artificial pool.

Here, too, is the Fluminense Yacht Club, with many trim sailboats, speedboats, and launches riding at anchor or cutting white wakes in the water. Pontoons of aviation school planes also kick up long banners of spray as they taxi back and forth and take to the air.

DIZZY ASCENT TO SUGAR LOAF

A good second best to flying is the aerial cable car ride up to the peak of Sugar Loaf, some fifty feet taller than New York City's

Empire State Building. The ascent is made in two stages. The first swings out and up over Praia Vermelha to the top of Urca. The second line cuts high over a forested ridge and rises toward the sheer granite wall of Sugar Loaf, 1,300 feet above the sea.

The timid need not worry, for cables and cars were designed to support 150 times the weight they carry! Cars cease operating if there are high winds. Nerve tension need come only from the spectacular view that unfolds.

From this lofty vantage point Rio takes on new color and contour. Another dimension seems suddenly to have been added to the majestic peaks and the broad bay.

Save in form only, the view is never twice the same. Under the brassy sun at midday, or when violet and blue tones creep up the mountain sides in the evening, as long ribbons of mist hang in the zigzag valleys, or again at night when the lights appear like strings of golden beads and wavy pendants against purple velvet, the color changes are kaleidoscopic.

Going up one afternoon in the hope of picturing a tropical sunset, I asked the car conductor if he ever looked at the scenery.

"I've gone up and down twelve years now; it's an old story," was his reply.

"But there are times when seas of clouds rise and fall, and in moonlight when the view is—," and he touched his ear lobe with his fingers in a Brazilian gesture to indicate that here was something exquisite.

On one ascent I met Miss Sugar Loaf. This five-year-old youngster bears the distinction of being the only person born on the peak and was appropriately given the name of Pão de Assucar. Her father cuts silhouettes of many visitors who come up to enjoy the aerial vista.

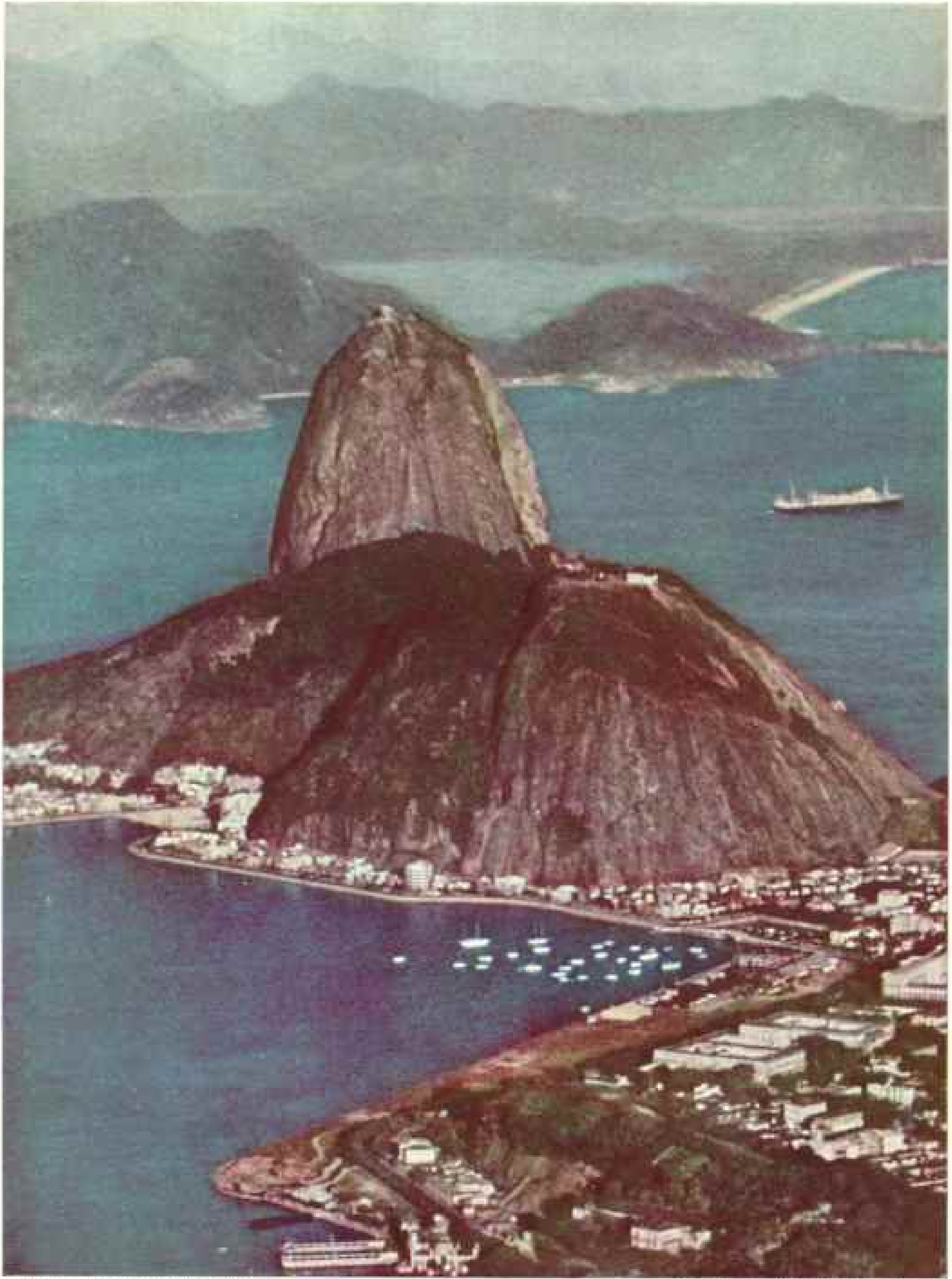
COLD CURRENTS IN THE TROPICS

Outside the bay, its three-mile crescent of sandy beach washed by Atlantic rollers, is Copacabana, Rio's delightful Riviera. Only a few years ago this coastal strip was largely barren waste, where fishermen dried and repaired their nets. Now tall apartments, hotels, and aristocratic homes fill the whole area (Plate XIX and page 287).

Thousands swim, breast the breakers, play handball and *peteca* (a large feathered shuttlecock batted with the hands), or just loaf on the sands and acquire sun tans.

One day I went out for a swim, however, and got a shock that reminded me of the

CARIOCA CARNIVAL



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Kodachrome by W. Robert Moore

SUGAR LOAF, GAUNT SENTINEL, GUARDS THE PORTAL TO RIO DE JANEIRO

Cars suspended from aerial cableways carry visitors to the 1,300-foot pinnacle. From sprawling Red Beach (right) one skyway rises 750 feet to the white station on the summit of Mount Urca (center). Another car continues the dizzy ascent to the top of the big dome, where a breath-taking view of the city, mountains, and island-studded bay spreads below (Plate VI).



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Kodachrome by W. Robert Moore

HOW CAN HE KEEP HIS HEAD DOWN WHEN SCENIC HAZARDS ALL AROUND DISTRACT?

On other greens and fairways of the Gavena Golf and Country Club, views of the blue sea, virgin jungle, or a white-steepled church conspire to multiply scores. The club is reached by a coastal road opened by Albert, King of the Belgians, when he visited Brazil in 1922.



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BRAZIL'S PRESIDENT DWELLS IN MARBLE HALLS

Royal palms flank the avenue leading to Guanabara Palace, one of President Vargas' three large residences. Before the country became the United States of Brazil in 1889, this building was the home of royalty.



Rephotograph by W. Robert Moore

MOSAIC PAVING WAVES AND BILLOWS IN DAZZLING SUN

On a hot day the curved patterns in black and white stones seem to melt and run away. Granite Monroe Palace, beyond, housed Brazil's exhibit at the 1924 St. Louis Exposition. It was moved here and rebuilt, stone by stone.



A RED-WINGED SNIFE SKIDS OVER THE BLUE LAGOON

One of the Two Brothers peaks, and flat-topped Gavea Rock, both Rio de Janeiro landmarks, form a backdrop. At the water's edge, right, rises the stadium of the Flamengo Yacht Club.



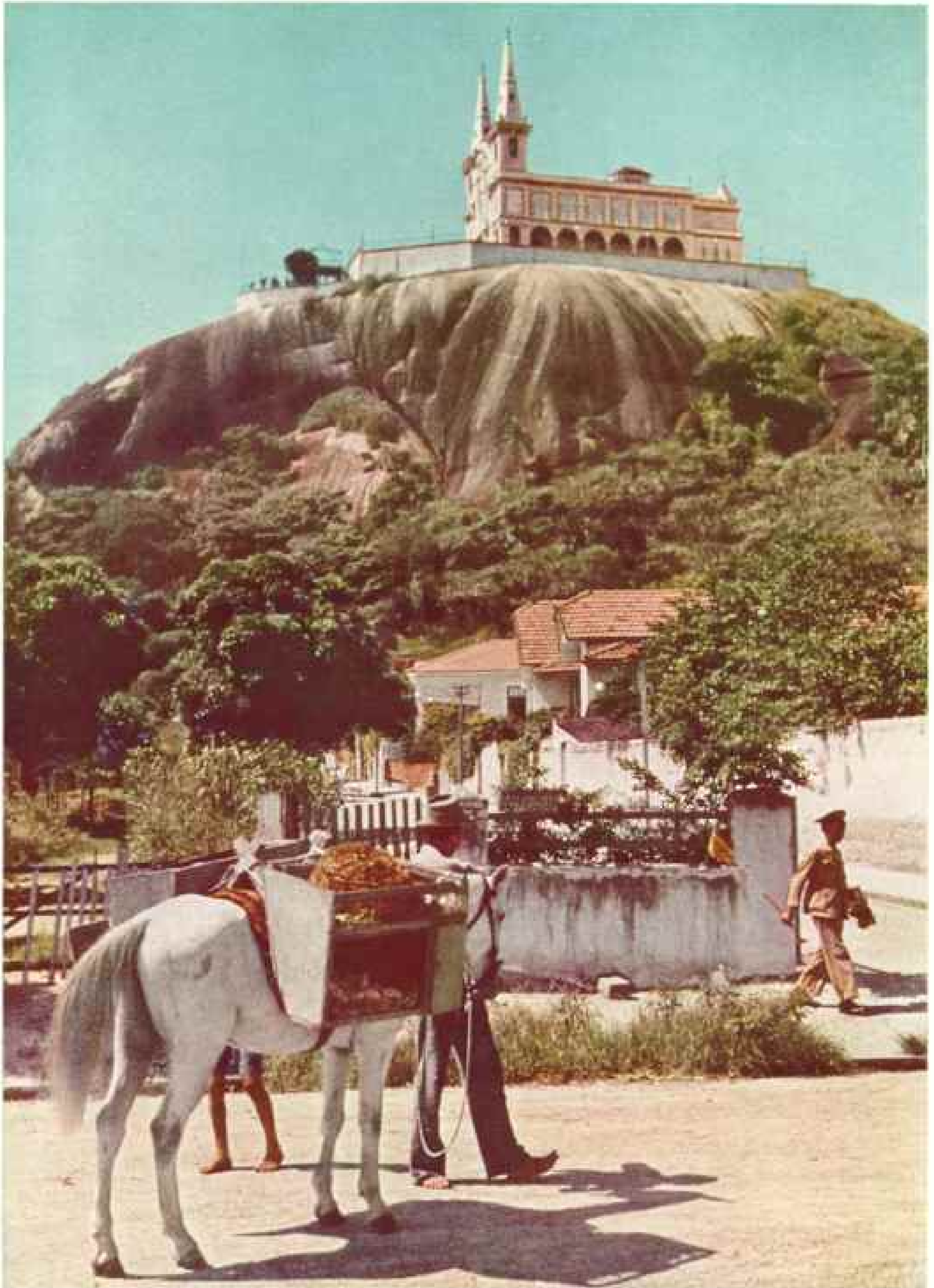
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Kodachromes by W. Robert Moore

ON A ROCKY SHELF BESIDE THE SEA, FISHERMEN MEND THEIR NETS

Sharks, eels, and cuttlefish are mixed with fine food varieties when hauls are made. Rio anglers find a paradise when the bluefish run here, on the eastern side of Guanabara Bay.

CARIOCA CARNIVAL



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PIGRIMS CLIMB 365 STONE STEPS TO REACH PENHA CHURCH ON THE ROCK

Thousands, observing the annual October festival here, formerly made the ascent on their knees. Now the practice is forbidden because, as worshipers increased, accidents became frequent. On the wall a health brigade member has placed a yellow flag to show the house is undergoing sanitary inspection.



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Kodachrome by W. Robert Moore

RIO'S MOUNTAINS, SEA, AND WORKS OF MAN BLEND IN A MIGHTY PANORAMIC SYMPHONY WHEN VIEWED FROM SUGAR LOAF

The broad back of Mount Urua (Plate 1) looms in foreground. Below it, at left, formal gardens take the place of the barracks which housed a mutinous regiment. The Third Infantry rebelled in November, 1935, and its quarters were wrecked by shelling of loyal troops. Two vehicular tunnels now pierce the rocky heights beyond, which formerly separated Copacabana Beach (left) from Botafogo Bay (right). Corcovado, surmounted by its giant statue of Christ, towers in right background.



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SANDY BEACHES ARE RIO FRONT YARDS

Fashionable apartments, of ultramodern architecture, line the Avenida Atlântica near the heart of the city.



Kodachromins by W. Robert Moore

MERMAID, CARIOCA STYLE

Having just been awarded the title "Miss Brazil," she has come to Pajuçará Island, quiet resort in Guanabara Bay, for an outing (Plate XXIV).



SEA BREEZES COOL STROLLERS ON FLAMENGO PROMENADE



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Kodachromes by W. Robert Moore

RIO RELEGATES LUMBERING OXEN TO THE SUBURBS

The yoke, hauling a cart laden with stones, will not be permitted to enter busy traffic areas.

times when, as a youngster in Michigan, I tried to be the first to go swimming in early spring. The chilly water dissipated any unbelief that I might have had regarding the story that two live penguins drifted up on the beach a few years ago!

By a strange quirk of winds or tides, cold currents occasionally sweep in close to shore. They seem to come straight from the Antarctic, though the water probably shows a less marked drop on a thermometer than it does on the enthusiasm of bathers used to the normally warm temperatures.

Ipanema and Leblon, on another curve of the coast, are more recent suburban developments than Copacabana. Back of the narrow strip upon which they have grown is the large Rodrigo de Freitas Lagoon, connected with the sea by a narrow canal.

A short detour around one side of this reach of water brings one to the Jockey Club (p. 289). Whether one wishes to place a few milreis on the "winner" or not, the course is worth a visit, just to see its elaborate buildings and lovely surroundings. The courses of Melbourne, Longchamp, Santa Anita, or many another cannot surpass it. Horses on the home stretch seem to be thundering straight down from the pinnacle of Corcovado, or from an avenue of royal palms in the Botanical Gardens.

The mention of royal palms immediately suggests a visit to the Gardens, for here is the mother palm to all the hundreds of tall, columnar, duster-topped trees that lend grace to gardens and streets.

The "palma mater," though old, is still lusty. Brought from Mauritius Island in 1809, it was planted by Dom João VI when the Portuguese court ruled in Rio.

"We take every possible care of it," said the director. "Several times it has been attacked by lizards; we've even called the fire department to clear them out."

BRAZIL GETS ITS NAME FROM A TREE

Not far away from this historic palm I was shown specimens of trees that also made Brazilian history—in fact, gave the country its name—the *pau brasil*.

Spiny of trunk and limbs, these trees were used as dyewood. Pieces of the wood, which Amerigo Vespucci and other early explorers took back to Europe, suggested red-hot coals, or *brasil*. So Brasil, or Brazil, the country became, rather than Terra da Vera Cruz, which the Portuguese navigator, Cabral, first called it.

In the library of the Ministry of Foreign Affairs I later saw an original map, dated 1512, on which the name "Brasil" appears for the first time. It is spelled with an "s," as is the official Brazilian usage today, rather than with a "z." On the same map our Atlantic seaboard still carried the name "India Nova"!

In the Botanical Gardens one can also see huge clumps of giant bamboo, traveler's palms that store up water, and cart-wheel-size floating leaves of the *victoria regia* that will hold up a child.

"Here's an interesting specimen," said the director, pausing beneath a tall, straight, sparsely limbed tree. "It's the *pau mulato*, from the Amazon region, which shipbuilders use there as masts."

"Don't touch it," he cautioned as I reached out to rub my fingers over the glossy, chocolate-colored bark that seemed to have the texture of satin. "It is so delicate that your nails will cause an abrasion. See what happened when one man put his hand against it."

There was a scar where each of his five fingers had pressed. Though thin-skinned, the tree has a formidable enough scientific name—*Callicophyllum spruceanum*.

Beyond Leblon the coastal road becomes Niemeyer Avenue; it was inaugurated by Albert, King of the Belgians, during his visit to Rio.

SCENIC HAZARDS BEGUILE THE GOLFER

I am not a golfer, but were I an expert I should dislike playing a competition match on the course of the Gavea Golf and Country Club. I'm sure my score would be about 250, instead of the Club's par of 69. Scenic hazards are too great.

Tee off for your first drive and your eye is distracted by a row of palm trees and the precipitous slopes and castellated top of Gavea Mountain. The second hole gives another visual handicap, for your glance strays at once to the strip of blue sea or to the peaks of the Two Brothers.

Even should you get accustomed to these by the time you've reached the fifth hole, the sixth will add new hazards of purple-flowering bushes and a wall of green forested hills. Later, virgin jungle, a row of flamboyants, or jack fruit trees and singing birds divert your attention from the game.

At the twelfth you drive straight up the narrow ridge of a hill. Once you gain the top, there's a horseshoe of mountains on



BRUSH MEN MAKE THE ROUNDS IN RIO, TOO!

Carrying an assorted collection of brushes, feather dusters, brooms, and even a wicker wastebasket, he climbs up and down the steep hills, visiting residential districts. Prices are cash and delivery immediate—no free samples!

three sides; the sea is on the other. Even a charming white-steepled church, perched on a hill, conspires to multiply your strokes.

Yes, I'm sure that I'd rule out competition golf on the Gavea course, and make the game an excuse only for looking at the scenery (Plate II).

FISHING UNDER THE SOUTHERN CROSS

From the seaside slope of Gavea the main road twists inland. Another winds down to sea level beside Tijuca Lagoon, where Brazilian friends invited me to go fishing one night by moonlight.

We caught few fish, though one of the men cast his circular net hundreds of times where we saw silvery flashes in the water. But it mattered little. Seeing the dark bulk of Gavea silhouetted against the moonlit sky and the Southern Cross riding high in the heavens, I felt amply recompensed for staying out till nearly sunrise.

Even more than Australia, which is often called the Land of the Southern Cross, Brazil uses this group of stars as an emblem. The Cross appears on the national coat of arms, on postal boxes, buses, airplanes, shops, and on several of the small coins. The all-sleeper night express that runs between Rio and São Paulo is called the *Cruzeiro do Sul*.

"If you want to keep your bearings going about town, look for Corcovado. The statue of Christ faces eastward over Botafogo Bay," a friend told me when I first arrived in Rio.

STATUE OF CHRIST A LOFTY LANDMARK

From almost any section of the city the monument atop the sharp peak is a conspicuous landmark, day or night. In the evening, when its floodlights are turned on, it appears alabaster white against the dark sky.

Go up to the terrace at the base of this towering figure and you gain an even more

aerial-like view of the city than from Sugar Loaf, for it is a thousand feet higher.

Of preference, make the visit in the afternoon when the sun is at your back. Stay and watch the sharp-pointed shadow of Corcovado creep across the city toward the peak-punctured bay. By that time you have lingered long enough to wait a bit longer for the lights to be turned on.

Like lightning bugs they begin to shine, blink, and quiver. More and more join until you think you see millions spread out far below you. Technical men may quibble about relative candlepower, but none can deny that Rio's public illumination is one of the most effective in the world.

Both a cogged railway and a motor road wind up the mountainside close to the summit of the Hunchback. Much of the way the route passes through forests. Lianas trail from many of the trees. Splashing the green foliage are yellow-flowering acacias, purple Quaresma, and silvery imbaubas.

The Quaresma, or Lent, bushes are so named because they are usually in full bloom during the Lenten season. On some of Rio's hillsides they seem like light purple clouds. The slender candelabra-limbed imbauba trees owe their silvery luster not to flowers, but to the fact that the older



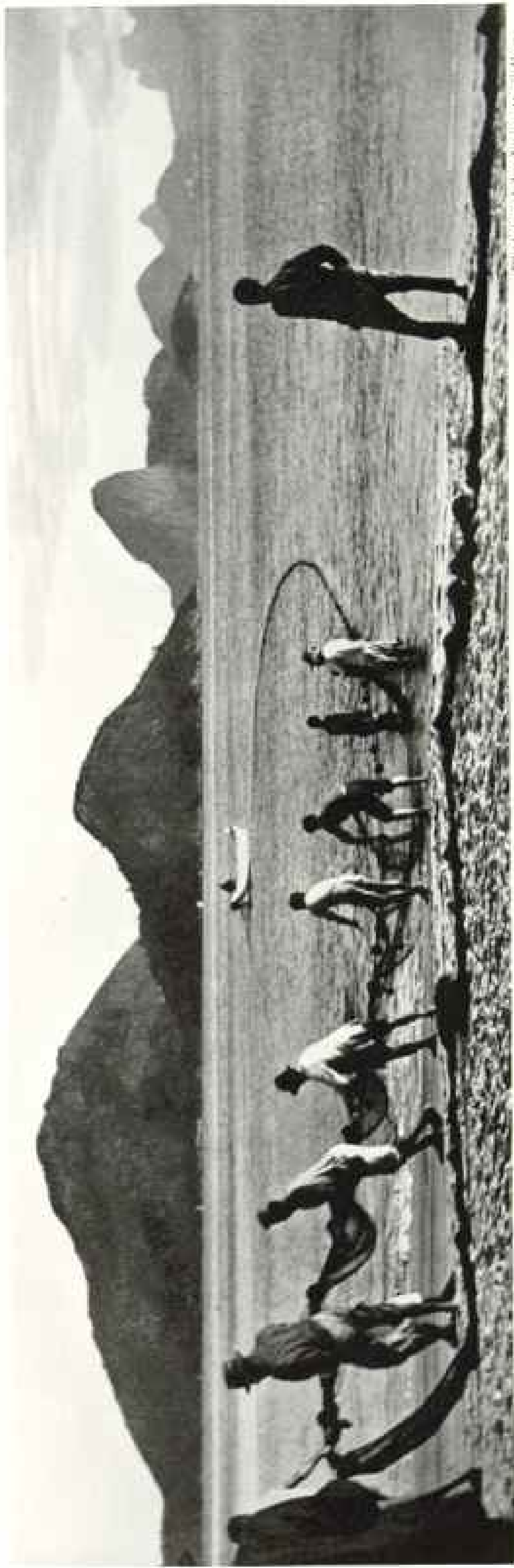
"EX-TRA! READ ALL ABOUT IT!"

Thus, in its Portuguese equivalent, seems to cry the bronze newsboy of Rio. With wide-open mouth, floppy hat, and patched trousers, he would be at home on any busy street the world over. Placed here by one of the city's newspapers, he qualifies as the capital's quietest newsy.

leaves turn whitish on their upper surfaces before they drop off. The young red-tinted leaves appear in a cluster, unfold like a yawning dragon mouth, and eventually spread out like fingers and turn green.

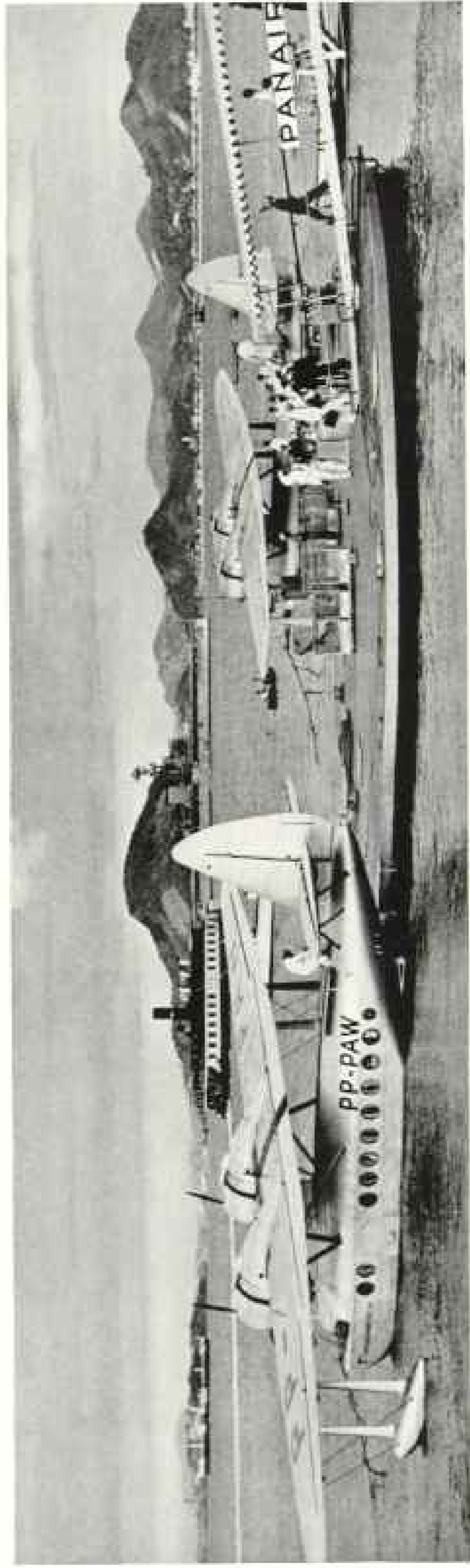
KALEIDOSCOPIC CITY FROM THE AIR

On the mountain roads to Mesa do Imperador (Emperor's Table, where Dom Pedro II used to sit and read state papers while enjoying the view), Chinese Vista, and other spectacular lookouts high up on the slopes of Tijuca, are also many jack fruit trees imported from India, with huge



Photograph by Jeninaute Sellers

THE RAIN SQUALL HAS PASSED, SCHOOLS OF FISH ARE IN THE BAY, SO THE FISHERMEN MAKE A RAPID HAUL



TWO SKYLINERS COME TO REST IN GUANABARA BAY BESIDE THE NEW SANTOS-DUMONT AIRPORT

One has just arrived from the Amazon; the other, still discharging its passengers, has winged down from Miami on the twice-weekly service of Pan American Airways.



BUS PASSENGERS ALONG THE AVENIDA RIO BRANCO FIND ALL HOURS ARE RUSH HOURS

Here they pause on the mosaic pavement near Rua do Ouvidor, the city's elite shopping lane. Portuguese-speaking Rio has an estimated population of 1,600,000—second only to Buenos Aires in South America, and larger than any city of the United States except the "big three," New York, Chicago, and Philadelphia.

light-green fruit growing from their trunks and limbs.

"Would you like to have a real view of Rio?" asked a young Brazilian who called on me one morning.

"From where?" I inquired.

"The air."

I needed no second invitation. Soon we were soaring over the city, its marvels multiplying as the altitude needle rose on the dial. As we banked sharply above Corcovado, all Rio became like a giant fireworks pinwheel spinning on this pivotal peak. When we looked down on the Avenida Rio Branco, it seemed as if a ship had plowed straight through the town, leaving a green and white wake as it passed.

Motoring about Rio, one is aware that chauffeurs make circuitous detours; from the air one sees why. Like slender rivulets, the city starts in the hills, runs through narrow valleys, and spreads out on the beaches and plains bordering the bay.

Some sections seem close enough together for one to stand on top of the dividing ridge and toss pebbles onto the roofs on either side; yet one may have to travel miles to get from one locality to the other.

From high in the air, Guanabara Bay becomes surprisingly like a map picture of entire Brazil. But the similarity ends with its outline. The blue water is strewn with a hundred islands, large and small. Bare granite boulders, not large enough to be called islands, are also scattered about.

Big Governador Island fills a sizable area in the northwestern corner of the bay. Paqueta, with its palms and circlet of white beaches, is a gem even from our 5,000-foot altitude.

"Those arrow-shaped pointers in the water are fish traps," the pilot volunteers.

We swing over marshy flats on the northeast side of the bay. Through them course several serpentine streams, some of the loops almost folding back on one another.

"The Government plans to rectify these streams and carry out drainage projects so that the entire area can be converted into fertile gardens. The fields you see are bananas and oranges," he tells me.

SKYWARD-POINTING "FINGER OF GOD"

Climbing steadily, we clear and circle the Organ Mountains. Their name is derived from the organ-pipe appearance of several tall sharp crags.

One of the outstanding pinnacles is called the Finger of God. From some angles it looks remarkably like an up-pointed index finger, other rocks forming the knuckles of the closed hand.

These mountains form part of the barrier that reaches a thousand miles along the coast. Because of the range, the majority of Brazil's population and development has been concentrated along the seaboard.

The circuit over the hill resort towns of Petropolis and Therezopolis is a matter of moments. Petropolis was the summer capital of Dom Pedro II while he was emperor. Brought back from Europe, the bodies of the once-exiled ruler and his consort now lie in the Petropolis cathedral. Members of the royal family still live in this delightful hill town.

Like a tangled thread thrown at random on the mountains is the excellent concrete highway that links Petropolis with Rio. A cogged railway also climbs the steep slopes; in some places its track tilts at an angle of 19 degrees.

RIO LOOKS TO THE FUTURE

Back to earth again, I went out to see what the City Planning Commission intends to do to Rio in the near future.

Some of the maps and large models of projected changes that its director, Dr. José Oliveira Reis, showed me were as striking as the contrasts between photographs made of some areas twenty years ago and now.

"We're going to pull that down as we did Morro do Castello," said the doctor, pointing to Santo Antonio hill just back of the Rio Branco and Praça Paris.

"We shall use the earth to fill in between the corner of the airport and Praça Paris to make gardens and public playgrounds. The Avenida Beira Mar will be widened and a high-speed thoroughfare put all along the bay. That means one new tunnel and the widening of the one on the way to Copacabana.

"From the civic center we're now building on the site of the old Morro, we're extending the marine Avenida into a perimetrical thoroughfare. The central market by the quays will be replaced by commercial shops and apartments."

On a large wall map the doctor also traced several red lines where arterial streets were to be built to shorten routes and reduce traffic on the Avenida Rio

Branco and in other congested districts.

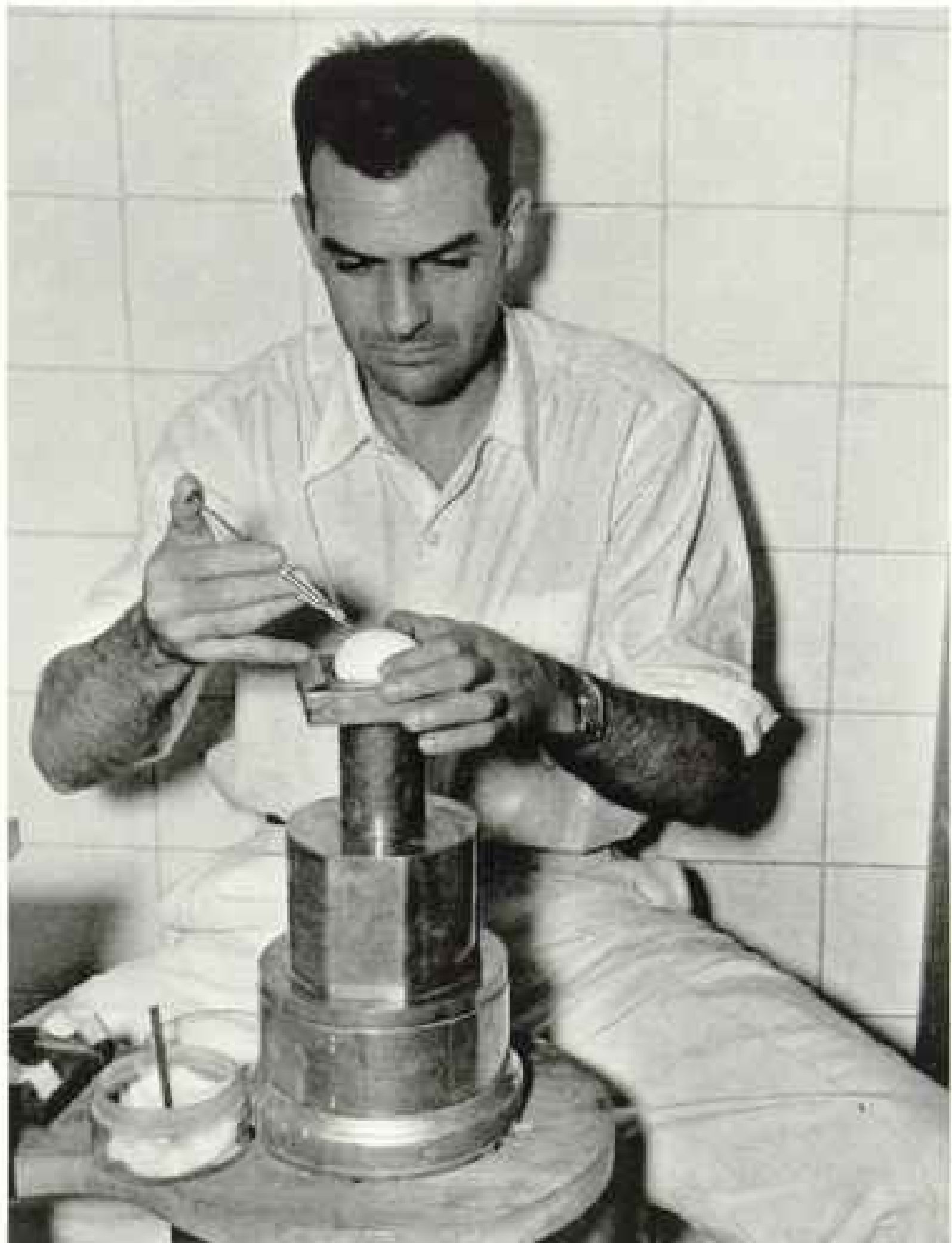
One of these schemes, that of cutting a path straight through the business district in line with the palm-bordered Mangue Canal, is far more ambitious than was the creation of the Rio Branco. The canal is to be covered with a speedway leading to the suburbs and the São Paulo highway.

COMBING THE CITY FOR MOSQUITOES

What General Gorgas did for Habana and Panama in stamping out yellow fever, Dr. Oswaldo Cruz did for Rio in the early 1900's. Rio was cleared of a scourge that had plagued her since 1849.

But the work still continues. Yellow fever workers comb the city, systematically searching for mosquitoes and for places where they breed. To keep a clean city clean is easier than to try to clean it up should an epidemic strike.

One day I went out to watch the anti-mosquito inspectors at work. I saw them searching every nook and cranny in gardens and inside the houses, looking for breeding places—leaky faucets, tin cans, in leaves of banana plants, drains, bathrooms, water jugs, and plant jars. Tin cans are punched full of holes, drains sometimes dosed with oil, and careless householders first are warned, then reported and fined.



UNHATCHED CHICKS HELP CURB YELLOW FEVER EPIDEMICS

Partially incubated eggs are "needled" with fever virus; the tiny hole is sealed with paraffin, and the embryo allowed to develop for a few more days. The chick tissues are then dried, pulverized, and converted into vaccine, the virus having lost its dangerous properties to become a mildly reacting safe immunizer. With this recently developed vaccine, more than a million persons were inoculated against jungle fever last year (page 306).

Other workers hunt for live mosquitoes. With flashlights they examine walls, peer under tables, chairs, beds, and behind bric-a-brac, yes, even inside hats on a hanger. If they spot a mosquito they catch it in a suction gun and chloroform it so that its species may be determined.

Two men whom I saw had worked all morning and had caught but a single mosquito; it was not a *Stegomyia*.

Clear up the few endemic centers and yellow fever will vanish, sanitarians once thought; now they know differently. Just

when it seemed that yellow fever would be banished from the Americas, a new problem entered the picture.

It was jungle yellow fever.

How does that concern Rio? From Brazilian and Rockefeller Foundation doctors who are co-operating in the yellow fever services I learned the answer.

FEVER FIGHTERS DEVELOP NEW VACCINE

Unlike urban yellow fever, which flourished in large centers of population and was transmitted from man to man by the mosquito *Aedes (Stegomyia) aegypti*, jungle yellow fever appears in sparsely populated districts. Monkeys and perhaps other jungle animals are infected; other mosquitoes than *Stegomyia* also are carriers. That much scientists know; there are other factors yet to be disclosed. Man's part in the cycle of infection apparently is purely accidental.

But so long as people working in the fields close to the forests become infected, there is always the possibility that yellow fever may thus be transmitted to town. So Rio chases mosquitoes, while yellow fever specialists sweat in their laboratories to circumvent such an occurrence.

"Obviously, we can't kill off all the monkeys and mosquitoes in the vast South American jungles, but fortunately we now can vaccinate," said one of the doctors.

After years of patient research an effective preventive weapon has been found. In air-conditioned chambers I saw this vaccine being prepared. One room looked more like a hatchery than a scientific laboratory, as in it hundreds of hens' eggs were being incubated.

One stage of the preparation of the vaccine consists of inoculating partially incubated eggs with virus and then allowing the embryo to develop briefly (page 305).

Yellow fever research in the field and in the laboratories of the Yellow Fever Service on the grounds of the Oswaldo Cruz Institute ranges from studying monkeys, experimenting with mice, and examining all cases of sudden death from fevers, to keeping mosquitoes infected with deadly yellow fever within multiple screen cages.

The Oswaldo Cruz Institute itself is one of the finest research organizations in South America. It conducts extensive work in tropical medicine and manufactures serums and vaccines for human and veterinary uses. Its numerous departments

range through most of the gamut of natural history "ologies." Bugs, butterflies, and bacteria are all studied and catalogued in this building of Moorish design.

In one laboratory are bottled and studied more than 9,000 worms, large and small. In another room I saw keen-eyed scientists giving artificial respiration to a frog!

Just offshore, on Pinheiro Island, is a marine biological station. Here, too, is a monkey farm where two hundred animals live freely under natural conditions. To see them go to the beach to take baths almost like humans is an amusing sight.

HERE CALL 4,000 SHIPS A YEAR

Several times while in São Paulo I heard the remark: "In São Paulo we work; in Rio they play."^{*}

True, Rio does not have as many large mills and factories, but the people work. For one thing, Rio's dock workers handle three million tons of cargo that are picked up or discharged by the 4,000 ships that enter and clear the harbor every year.

Large quantities of foodstuffs and materials for local consumption are also processed in this city of some 1,800,000 inhabitants. And, as in Washington, D. C., many residents are Federal employees.

Not all of the 556,000,000 fares that catch streetcars every year, nor the 80,000,000 bus goes and 2,800,000 ferry riders are entirely pleasure bent!

Incidentally, in Rio, streetcars are never called street cars or even trams; they are always *bondes*. This curious name comes from the fact that the first tickets sold on the cars appeared at the same time as the issue of bonds for the national loan in 1868.

GAY RIO IN CARNIVAL MOOD

Yes, Cariocas work; but they also play.

One of the most amazing things in this amazing city is Carnival (Plates IX to XVI). Officially, it lasts for the three days preceding Ash Wednesday. Actually, the people begin parties and beach parades weeks in advance.

"This isn't Carnival," several told me when they saw me taking photographs of the paper-costumed dancers on the beaches. "Wait till real Carnival."

"Carnival is madness," said a doctor who was driving me around Rio one day. "I

* See "As São Paulo Grows," by W. Robert Moore, in the NATIONAL GEOGRAPHIC MAGAZINE for May, 1939.

CARIOCA CARNIVAL



"ON WITH THE DANCE! LET JOY BE UNCONFINED!"

All Rio de Janeiro heeds Byron's words and joins in the annual three-day pre-Lenten frolic. Thousands of costumed merry-makers take over the city streets.



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Kodachromes by W. Robert Moore

A LULL BEFORE THE STORM—OF CONFETTI!

Soon they will be in the thick of the automobile parade, for which nearly every car in Rio is pressed into service.



40 National Geographic Society
A MUSICAL HIT, "GIRL GARDENER," INSPIRED THIS COSTUME



Konjathirams by W. Robert Moore
PIERRETTES SEEK A TARGET FOR THEIR STREAMERS



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IMAGINATION RUNS RIGHT WHEN CARIOCAS DESIGN CARNIVAL GARB

Gaily clad workmen band together in *bloco*, or groups, and top the streets, singing and dancing day and night. Though hundreds of songs are composed each year in Rio de Janeiro's Tin Pan Alley, two or three of the most popular airs are sung over and over to the exclusion of all others.

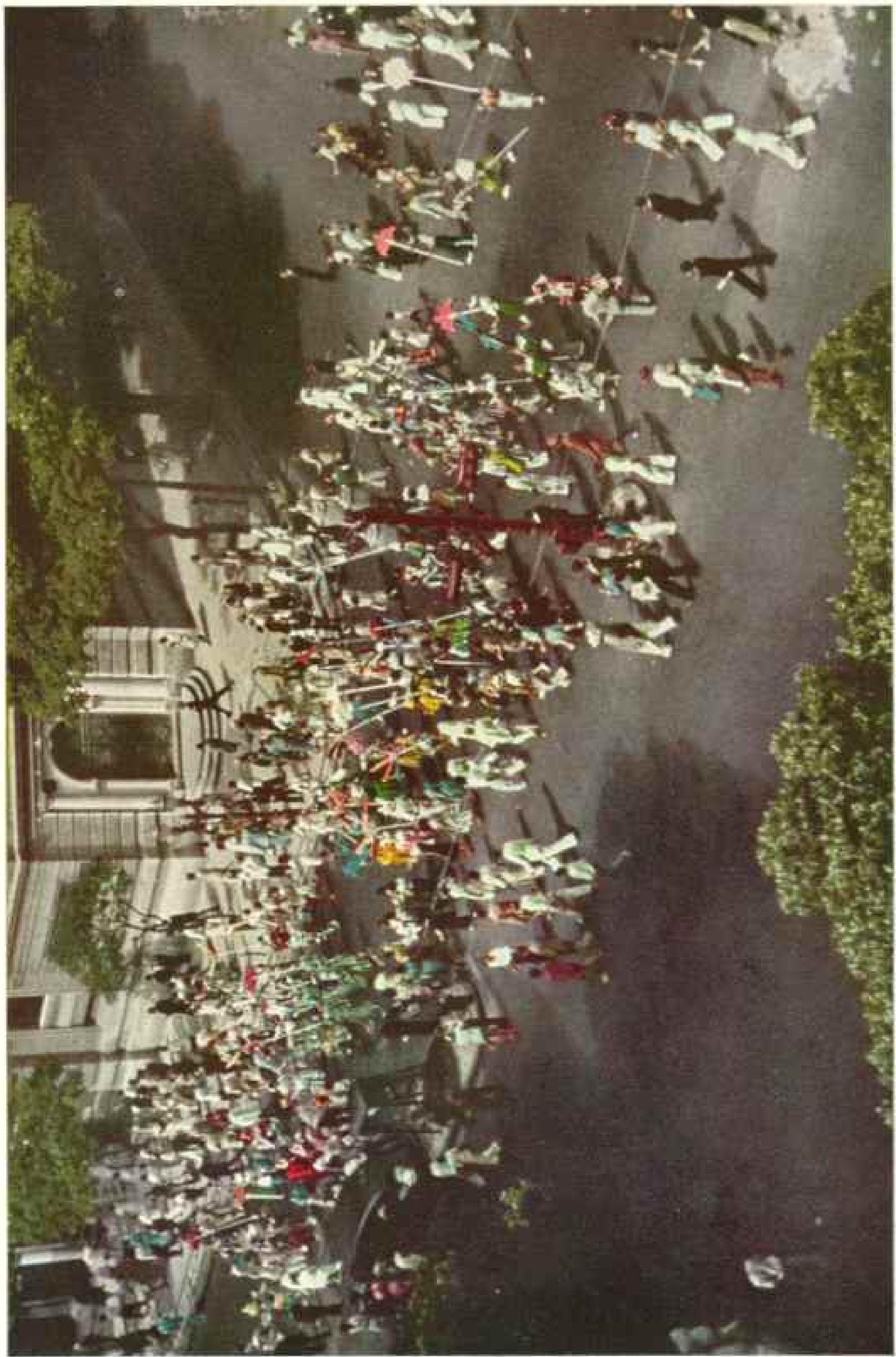
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TUMBOURINE DUET



Kodichroms by W. Robert Moore
"BEAUTIFUL FLOWER" PERSONIFIES A 1991 CARNIVAL SONG



Kochabroune by W. Robert Moore.

TO THE DYNOTIC THUMP OF DRUMS AND TAMBOURINES, A WORKMAN'S GROUP STRUTS DOWN AVENIDA RIO JURANCO

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"PRINCESSES" RUD SHOULDERS WITH THE THIRONG



Photographs by W. Robert Muir

BUCCANEER AND INDIAN WALK ARM IN ARM



Kodachrome by W. Robert Moore

FANTASTIC CARNIVAL WARRIORS HAIL A BOUGIFY "AMAZON QUEENS"

Among the crowds that watch the parades are visitors from the United States. Cruise boats plan their itineraries to be in Rio de Janeiro at Carnival time.



A CARIOCA ORIENTAL AMUSES ONLOOKERS WITH HIS FOOT-POWERED MOUNT



© National Geographic Society

Photographs by W. Robert Muir

STREAMER- AND CONFETTI-STRUCK CARS ARE MASSED IN THE CARNIVAL PARADE. Occupants in gay overalls pause for a breathing spell on Flamengo Drive. "Embassy from the Garden of Allah," reads the lunmakers' banner.

CARIOCA CARNIVAL

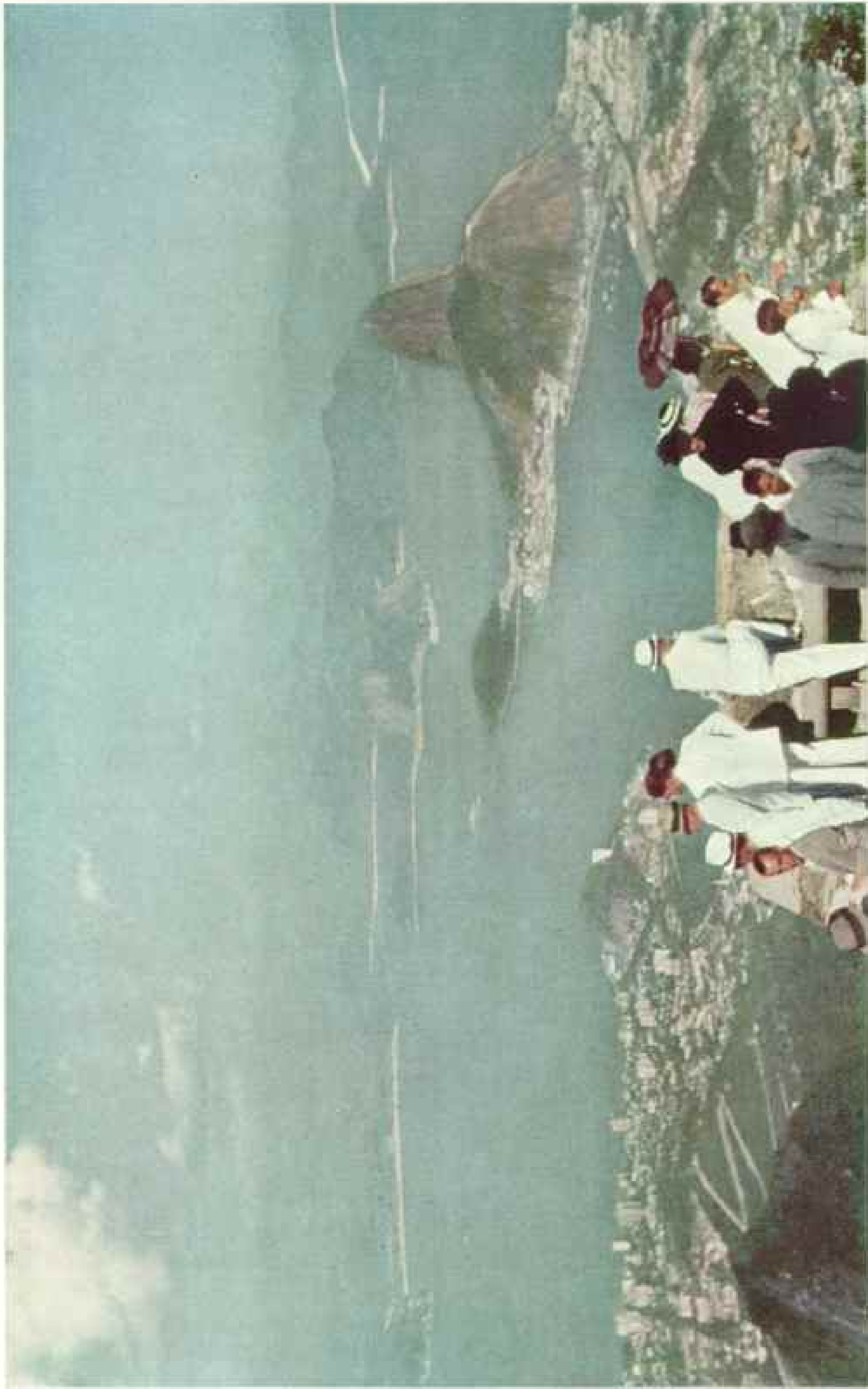


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Kodachrome by W. Robert Hoop

ENGINEERS CUT AVENIDA RIO BRANCO THROUGH RIO'S HEART IN SIX MONTHS

To carve the city's "Main Street" across a maze of narrow streets and crowded buildings, 590 structures were razed. The boulevard stretches for a mile and a half from north to south, linking the harbor with Flamengo Bay (background). The photograph was made from the 22-story building of the newspaper *A Noite*. Cafe patrons sip coffee under the trees on the wavy sidewalk, Paris fashion.



© National Geographic Society

Kodachrome by W. Robert Moore

FROM CORCOVADO, RIO GLISTENS LIKE A JEWEL IN ITS SETTING OF BLUE SEA DOTTED WITH PURPLE AND JADE MOUNTAINS

At the foot of Sugar Loaf (right center) nestles the fashionable residential area of Urca, on filled-in land. A Coast Artillery fortress occupies the white speck in the channel entrance, less than a mile wide. The Flamengo district lies in left foreground and directly beyond, across the harbor, is Niteroy.

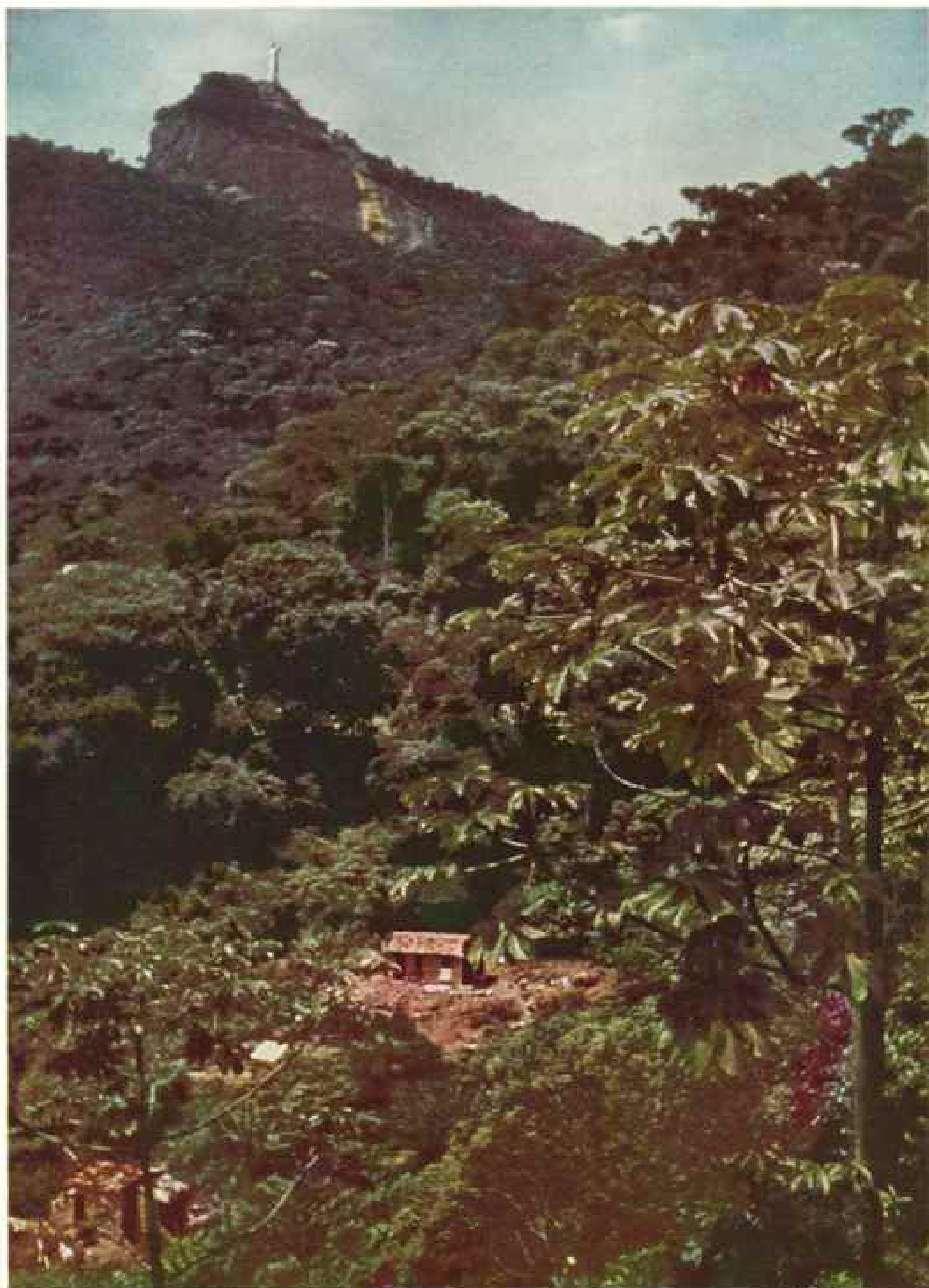


Reproduction by W. Robert Moore

CARIOCAS BATHING IN THE SEA ALL YEAR ROUND

Copacabana Beach is only fifteen minutes from the heart of the city. Unlike New Yorkers, whose trip to the seashore calls for a long subway or automobile ride, most Rio de Janeiro residents can reach their favorite bathing place by walking. All morning long the sand swarms with people; a quick dip during lunch hour is common for office workers. Virtually every apartment house fringing this section has been erected in the last ten years.

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Kodachrome by W. Robert Moore

FOREST-CLAD SLOPES REACH UP TO THE GIANT FIGURE OF CHRIST ON CORCOVADO

Sailors far out at sea can spot the inspiring figure, 130 feet high, on its rocky eminence 2,300 feet above the sea. The summit of "The Hunchback" is reached by funicular railroad and highway.

CARIOCA CARNIVAL



RIO'S "CINELANDIA" FRONTS ON A PLAZA

Nearly every office building in this section (right background) houses a motion picture theater on its main floor. At the end of the tree-lined square is Monroe Palace (Plate III). The Municipal Opera House stands in right foreground.



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Kodachromes by W. Robert Moore

SERPENTINE PAVING LEADS TO BRAZIL'S SUPREME COURT BUILDING

The National Library (left) and the Academy of Fine Arts front on the broad Plaza of Floriano Peixoto.



© National Geographic Society

LAND AND SEA PLANES FROM FAR AND NEAR ARRIVE AT SANTOS-DUMONT AIRPORT.

Behind the landing field a new business section has sprung up, where once stood Castle Hill. Rio de Janeiro razed the hill to ventilate congested areas better, and dumped the earth into the bay to make the airport. The jetty at right encloses a destroyer and submarine basin, part of the new navy yard.

Kodachrome by W. Robert Moore



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Kodachrome by W. Robert Moore

(LANS) FROM CRESCENT-SHAPED BOTAFOGO BAY. APARTMENTS AND HOUSES BY THE HUNDREDS STRETCH ROW ON ROW

In extreme background is the racetrack of the celebrated Jockey Club. Tree-lined Avenida Oswaldo Cruz, in right foreground, is known as "The Avenue of Connection" because it is one of the principal thoroughfares which link Botafogo with Flamengo Bay (Plate XVII).



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Kodachrome by W. Robert Moore

FLAMBOYANT TREES AND BROMELIADS LEND A JUNGLE TOUCH TO PAQUETÁ

Rio visitors to this island resort in Guanabara Bay, where automobiles are barred, explore wild tropical growth and exotic gardens from timeworn vicinias.

shall escape it by going out of town." A moment later, quite unconsciously, he was humming one of the popular Carnival tunes and tapping out the rhythm on the car.

More and more Carnival copy filled the newspapers. At first programs and pictures appeared under a banner head, "Carnival," on an inside sheet. Later they invaded the front pages, and among illustrations of floats I found: "Mussolini Escapes Death, see page 2"; "Sr. Oswaldo Atanha confers with Mr. Sumner Welles, see page 3." Many papers announced limited editions or none at all on Carnival days.

Rio's equivalent of Tin Pan Alley spends months prior to Carnival hammering tunes on battered pianos, picking them out on guitars, and thumping them out on drums or anything that will make a noise. In one booklet I saw 280 songs. From these emerged four or five hit tunes.

WHOLE CITY MOVES TO MUSIC

On radios, in night clubs, among musical organizations, at Rio's social clubs, and on the street you heard the ones that caught on. These celebrants sung, tom-tommed, stamped to in parade, and danced to over and over again during the days of Carnival.

On Carnival Saturday tom-toms began beating and the sound of chanting swelled as if some weird jungle rite were beginning. Throughout the afternoon and evening crowds surged through the city—wild feathered Indians, men burlesquing in women's dresses, women in men's outfits, clowns, sailors, and countless other characters.

Almost anything made a costume. For a few cents one could buy a yellow sweat shirt or a yellow derby and be in Carnival style.

In groups large and small, sometimes singly, they danced and jigged with the distinctive Brazilian movement of hips, shoulders, and feet to the insistent hypnotic thump of drums, tambourines, and grunting *cuicas*. (A *cuica*, usually made from a keg, resembles a long drum with a resined string attached to the inside of the head; this when pulled gives *Uup Uup* sounds that seem a cross between a bass viol and the croak of a bullfrog.)

"This isn't Carnival; wait till tomorrow," said several friends.

"What then is Carnival?" I wondered.

At nine o'clock next morning small groups appeared on the Rio Branco outside my hotel: at noontime there were thousands.

By midafternoon buses were rerouted from the Avenida, and in their stead four lanes of cars wedged through the surging crowds. In one car I counted twenty people; ten to fifteen was a common load.

Here were Pierrots, Pierrettes, comely pirates, Portuguese, and Russian princesses; bulky Bahianas, laden with shiny beads; fantastic cats, girl gardeners, and grass-skirted Hawaiians; people in Scotch plaids, Spanish mantillas, and baggy Syrian pants.

Here, too, were Turks, Tatars, Tyroleans, tar babies, and enough satin-clad soldiers and sailors to take Rio by land or sea.

CONFETTI BY THE TON

Countless tons of confetti and serpentines were tossed between cars and over the crowds. Everyone carried small glass or metal siphons of etherized perfume and shot it everywhere. Legs, necks, and bald heads were favorite targets for the quick-drying icy streams.

"Keep your eyes open if you get hit in the face," I was cautioned. But try to, even though one knows that the freezing effect will be gone in an instant!

When cars stopped, as they did often, many of the occupants piled out and danced round in circles or joined other tom-tomming groups. Several times our car became the center of such a circle singing "Americana, I love you," a Carnival tune.

"Is this Carnival?" I asked as I elbowed my way through the gay, singing crowds to my hotel near midnight. Someone nodded, and I got a squirt of perfume in the eye. Insistently, the drums still thudded outside when I went to sleep.

Next morning my room seemed to have more traces of Carnival than did the Rio Branco. Street cleaners had flushed and swept away confetti and serpentines.

But the celebration was not over. Again in the afternoon, like a tide, Carnival throngs began moving through the streets.

Exploring the city, I saw costumed people—rich and poor alike—everywhere in doorways and gardens, groups singing and jigging up and down the thoroughfares, and thousands congregated in the squares.

Streetcars were fantastically festooned with celebrants who pounded on drums, rattled tambourines, and clanged car bells as they rode toward centers of revelry. The youngest that I saw in festival dress was just over three months old, the oldest close to threescore years and ten.



RIO'S SIDEWALK BUILDERS FIND JIGSAW PUZZLES SIMPLE

The workman wearing a paper cement sack as a sunshade places the wooden pattern for the design. Others set white stones, about two inches in size, around it. Then the men remove the guide and fill in the vacant spaces with black stones. Sand is tamped into the crevices to hold the pieces firmly in place (page 288).

"Those are all cooks," said my chauffeur, pointing out a yellow-satin-dressed group of colored paraders, on one of our excursions. "Housewives have to prepare their meals or eat out, for the servants all vanish. It's Carnival for everybody."

Everybody except the police. Theirs was a tremendous task directing traffic. Black Marias, delightfully labeled "Assistencia Policial," were stationed in centers of activity, yet I saw only three in use.

"How do you like Carnival?" I asked a tired-looking policeman on a busy corner.

"Fine," was his answer, "but not here!"

On Tuesday again, frolic makers came early. Cars filled the Corso until six in the afternoon, when Rio Branco, Praça Mauá, and Praça Paris became solid seas of humanity. Later in the evening police somehow pushed paths through crowds to allow gigantic floats to pass.

Colossal constructions in papier-mâché and paper blossoms, mounted on long

trucks drawn by several spans of mules; these floats were built by several long-established Carnival clubs. Some were elaborate allegories, others pictured early days in Rio. A giant Peace float displayed side by side the portraits of Presidents Roosevelt and Vargas. Carnival hit tunes were themes of others.

When the floats had passed, thousands went home or to their clubs; others stayed to dance in the streets. As outside, so in social organizations, places were packed. More than a hundred clubs held dances each night. At 1:30 in the morning I saw tired groups resting and sleeping on each others' shoulders while waiting for buses or trams. Carnival was nearly ended.

The throb of drums still echoed in my ears when friendly farewells were said and I stepped aboard a waiting airliner. Through its windows I had a final sweeping view of Rio's matchless panorama as we climbed high and flew southward.

OLD AND NEW IN PERSIA

In This Ancient Land Now Called Iran a Modern Sugar Factory Rears Its Head Near the Palace of Darius the Great

BY THE BARONESS RAVENSDALE

JUST half a century after my father, Lord Curzon, had gone out to Persia as correspondent to the *Times*, of London, I satisfied a long-cherished desire to visit that ancient country.

How greatly the Persia I saw under the new name of Iran differed from the land my father had traversed so laboriously! In his two volumes he recorded customs and anecdotes now quickly fading in a tremendous wave of modernization.

Our travels began at Pahlevi, Iranian port on the Caspian Sea (map, page 329). In two American cars we drove through vaporous tropical jungle to Resht, where we slept in a newly opened modern hotel.

MOTORCAR REPLACING CARAVAN

Let me here quote from my father's book, *Persia and the Persian Question*, his reference to Resht in 1889 as an eye-opener to our different modes of travel:

"At Resht the traveler will form his first experience of that Persian wayfaring of whose pleasures and pains I shall have so much to say. Here he must decide between the only two practical methods of travel in that country: riding *châpar*, i.e., by Government post, or riding with his own animals and appointments by caravan. The former means rapid, if exhausting and sometimes painful progress; the latter is unutterably tedious, as the same animals must be used day after day."

We, on the contrary, departed next morning in admirable hired Dodge motorcars, and drove along the beautiful tropical seaboard of the Province of Mazanderan. This is the native province of His Imperial Majesty Riza Shah Pahlevi (page 330).

Some weeks later, on my way to Bandar Shah, I passed the valley of his birth-place, which adjoins the railway in its progress from that port to the capital via Firuzkuh. The men working on the tea and cotton plantations in this tract were paid a modest wage by the Shah. However, I wondered who would fill the huge new hotels pushing their heads into the air.

Here in this oriental setting appears an Iranian version of the south of France. Formal gardens descend to the seashore; flights of steps are protected by rampant lions, alternating with statues of undraped besilvered ladies clutching electric-light bulbs in their fingers.

The enjoyment of these Monte Carlo conditions of life cost at that time about \$5 a day for room alone; thus far there had been no heavy booking.

HIGHWAY INTO THE HEART OF IRAN

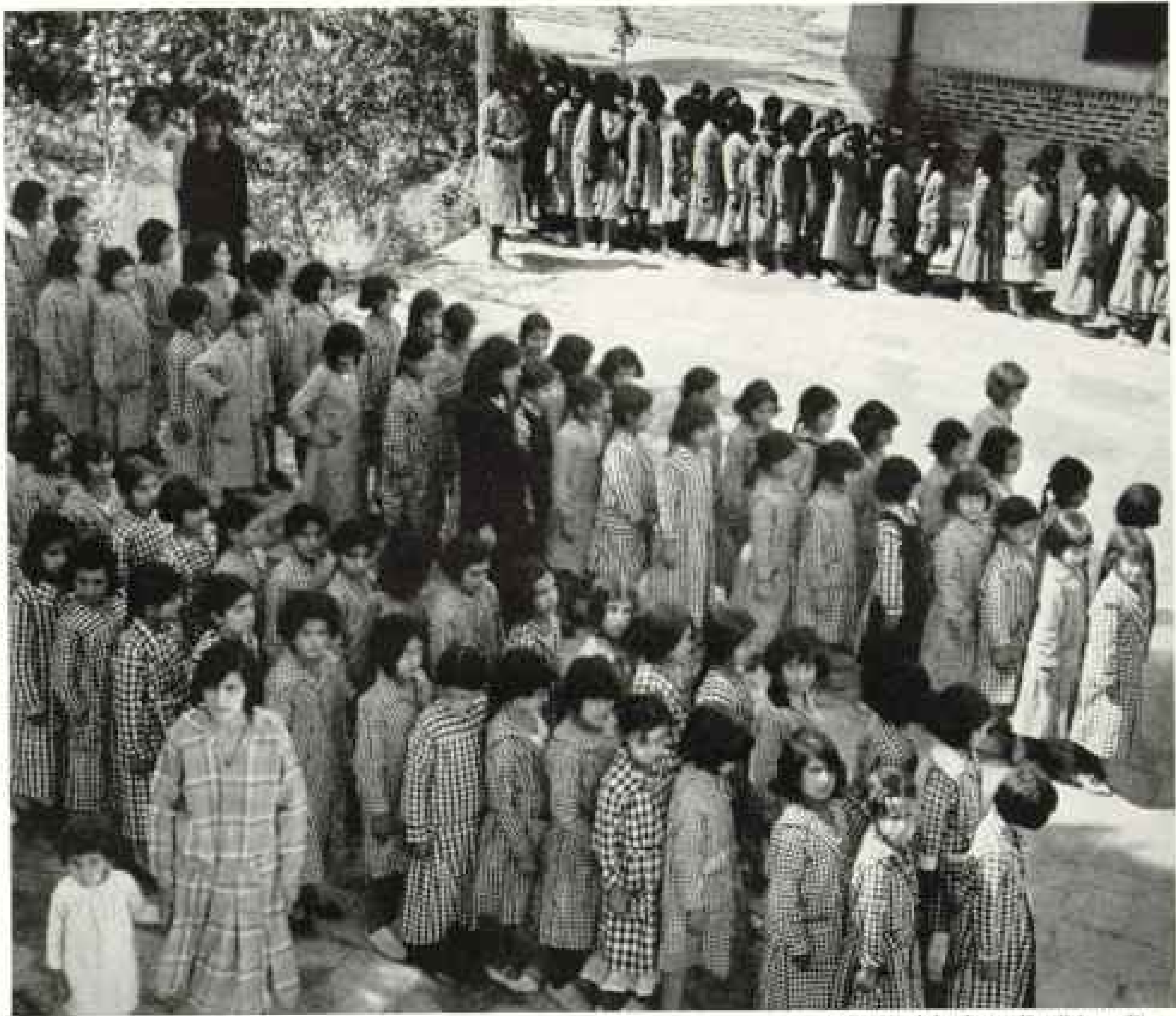
We climbed the superb Chalus road, which ascends in incredible twists and turns up and through the amber Elburz Mountains. At last, passing over the crest, it emerges upon a magnificent plateau which seems to stretch into eternity.

There was no such road in the days of my father's visit. He went by way of Kazvin, which lies on the main route to Kermanshah and Khanaqin. And if we wonder what has caused these splendid roads to be made by the present Shah, one not insignificant factor was the arrival of the cheap motorcar during the war (page 351).

It will be remembered that this great country of Iran, as we are now invited to call it, much larger than France, Germany, and Italy combined, had lain practically dormant since the days of Shah Abbas. Reigning from 1586 to 1628, that greatest ruler of the Safavid Dynasty restored Iran to its fullest glory. He ensured the safety of the caravan routes, and along the hundreds of miles of dusty track decaying bridges and splendid caravanseries still testify to the encouragement that enlightened ruler gave to merchants and travelers passing through his country.

ROADS NOW SAFE TO TRAVEL

Iran today is going through another awakening under its present ruler. The endless dusty roads are safe again for travelers; bandits will not molest the unfortunate who, on one of the older roads, suffers the seventh puncture in a day from



Photograph by Lotte Errell from Pix

IRAN NO LONGER FROWNS ON EDUCATION FOR GIRLS

Schools for feminine students are increasing annually, for the old-fashioned idea of the Orient that women need no schooling is vanishing. Small, earnest girls wear checkerboard dresses.

the countless nails left behind by donkeys and horses that plod their way over the hand-raked surface.

All this means much to the Irani of to-day. Previously they had to "stay put" in the town or hamlet where they were born; now motorbuses whirl them across these limitless distances to all the big cities. They can see their country as it is progressing, read newspapers, study in schools, and become citizens of the world.

Their patience fortunately is limitless; for often the buses break down and all the occupants may have to sleep the night by the roadside, while the driver and innumerable assistants lie underneath the bonnet, banging away at repairs.

TEHRAN BURSTS UPON THE VIEW

On reaching the summit of the Elburz Mountains, we saw stretched away in front of us the limitless gray-brown plain until

we hit Tehran. "Hit" is the word, since, curiously, like many Iranian cities, the capital suddenly bursts upon the horizon out of seemingly blank space.

The city is rapidly developing into a modern metropolis. Numerous old structures have been pulled down, among them the lovely tiled gateways leading out onto the great caravan roads to Kazvin, Meshed, and Qum.

Façades of many of the new buildings are copied from the Achaemenian palaces at Persepolis, with columns whose capitals are adorned with bull and lion heads.

The Gulistan Palace, belonging to the Kajar Dynasty (1794-1925) and containing the much disputed Peacock Throne, is admirably preserved.

This Peacock Throne was supposed to have been brought by Nadir Shah in 1739-40 from Delhi, but my father asserts that it was discovered in a broken and piecemeal



Photograph by Paul from Three Lions

"SHOW YOUR PASSPORT—YOU'RE AT THE CITY LIMITS!"

Wayfarers must present credentials every time they enter or leave a large town in Iran. This system, although tedious at times, has improved public safety (page 355).

condition by Aga Mohammed Shah and that he had it made up into the throne of modern shape and style now standing in the Palace at Tehran (page 331).

CAMELS RELEGATED TO OUTSKIRTS

There is little of the old Persia in modern Tehran. The new streets teem with cars, trucks, buses, and power carriages. The trains of softly padding camels now remain on the outer fringes of the city. There are several modern hotels, and we stayed comfortably in the Hotel Firdausi.

In the newly erected House of Parliament there is a machine which taps out the names of all incoming members; also of those absent, on whom a fine is imposed.

For those who love old Persia, certain merchants still have lovely pots, enamels, and miniatures, and "antiquaries" in the city make one's mouth water with the beauty

of their Luristan bronzes and Rayy pottery.

Some fine old palaces outside Tehran are now used as hospitals or military colleges. If they could speak, what tales of splendor those blue and green tiles and cut-glass inlays could relate of the beauties of silk and brocade and the revelries of a thousand and one nights.

Tehran's splendid racecourse has up-to-date stands and a royal pavilion. I hoped to see His Majesty attend the meeting, but at the last moment he canceled his visit, and the disappointed diplomats wore their full regalia in vain. The army owns most of the race horses and most of the gentlemen jockeys are army men.

VANISHING OF THE VEIL

His Majesty's daughter attended the races in modern dress. Banning of the *chuddar*, or veil, for women in Iran has



Photograph from *Business Revenudle*

DONKEYS LEAD THE WAY TO A BAS-RELIEF PORTRAYAL OF PERSIA'S PAST

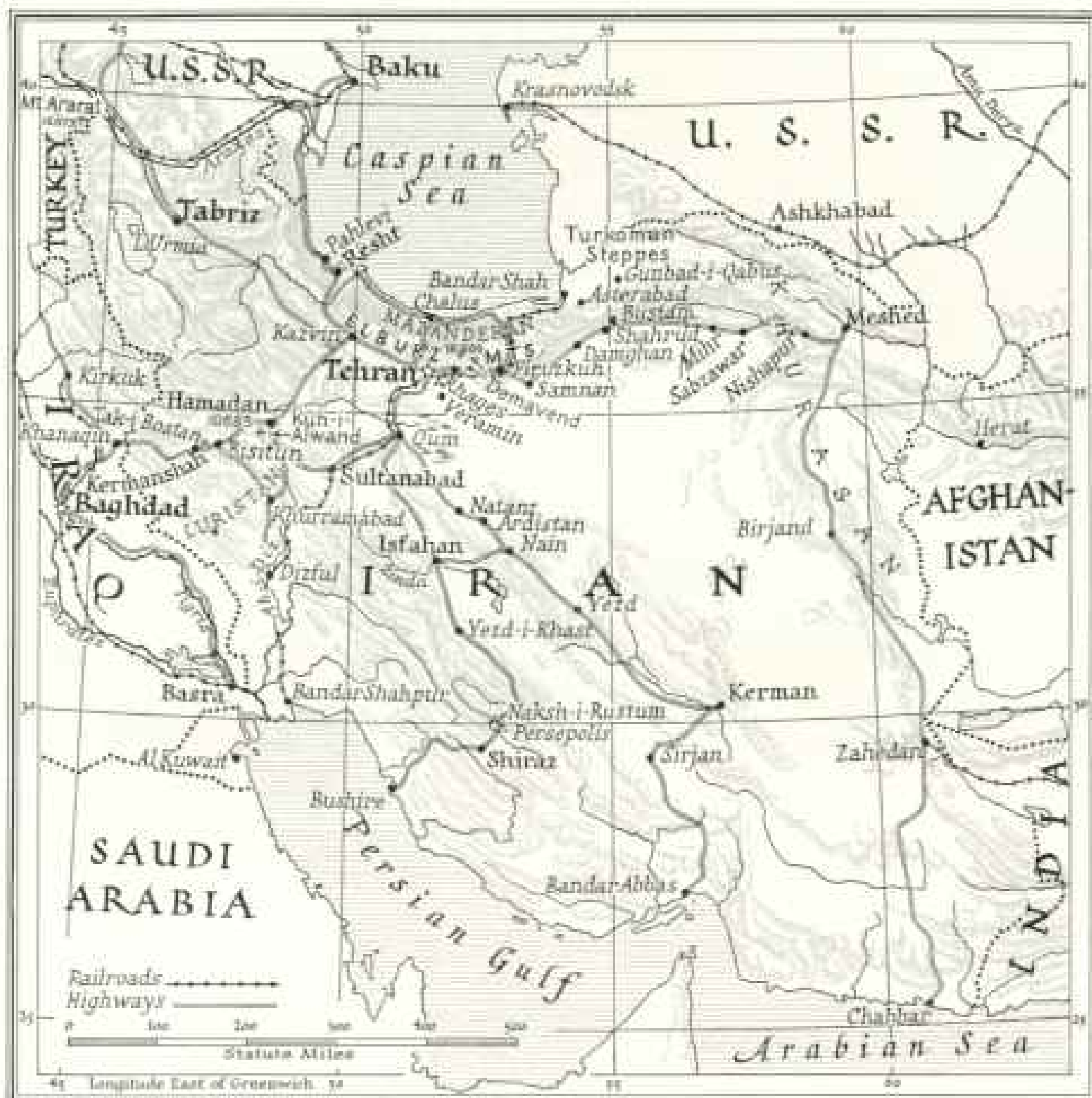
The carving, one of several depicting notable events in the days of the Sassanian kings, is cut from a stone cliff at Naksh-e Rostum. Local inhabitants gave the place its name, which means "Pictures of Rostum." They mistakenly connected the carvings with exploits of their legendary hero, Rostum, immortalized in Matthew Arnold's stirring poem, *Sohrab and Rostum*.



Photograph by Paul from *Three Lions*

DENTISTS PUT TEETH INTO THEIR ADVERTISING IN IRAN

A recent decree permits the use of only Persian characters in lettering public signs. As a result, pictures often appear with the lettering, so foreigners may recognize the type of business.



Drawn by C. E. Riddiford

LOCOMOTIVE WHISTLES BREAK THE STILLNESS OF THE LAND OF "ARABIAN NIGHTS"

From the Caspian Sea to the Persian Gulf, a new ribbon of steel bisects Iran. Completion of the costly line, which runs from Bandar Shah to Bandar Shahpur, has been one of the highlights in the campaign of Riza Shah Pahlevi to modernize this country where Omar Khayyam sang and Darius the Great led his armies. From Iraq and Turkey to India and Afghanistan, and from Soviet Russia to the Arabian Sea, new industrial and engineering projects rub shoulders with ancient ruins. Centuries-old camel trails are now replaced by motor roads. The author began her travels at Pahlevi on the Caspian Sea (page 325).

brightened the color of crowds. The long black enveloping veils of the women, which made even a race-track crowd seem somber, have given way to colorful European dresses and hats (pages 334-5).

Because army maneuvers were going on near Demayvend when I first reached Tehran, no cars were available for touring. Most had already been commandeered by the army, and the rest were in safekeeping.

Fortunately, His Majesty is aware of the wealth of ancient buildings and mosques his country possesses. Unlike many other

orientals, who so often seem not to care to preserve their beautiful monuments, he has started a survey of such buildings and, at considerable sacrifice, money is being liberally allocated for the preservation of these exquisite relics.

A few miles beyond the paved streets of Tehran one forgets the rush of modernization going on within the city, and the dust of animal caravans dims the eyes as one reaches the ancient capital of Rayy (Rhages), where Harun-al-Rashid was born. How many civilizations its ruins



Photograph by Pazi from Three Lions

ADMIRERS OF RIZA SHAH PAHLEVI WOVE HIS LIKENESS INTO THIS CURTAIN.

Eighteen years ago Iran's ruler marched into Tehran with 2,500 soldiers and took over the government. Five years later he was crowned Shah. He placed the crown upon his head with his own hands, as did Napoleon.

conceal can best be told by Dr. Erich F. Schmidt, successor to Professor Ernst Emil Herzfeld at Persepolis.*

THE ANCIENT SETTING IS UNCHANGED

Away to the left, dwarfing altogether the distance between, towers the mighty cone of Demavend, a mountain which signifies as much to the Persian as Fujisan to the Japanese.

Though the chimneys of His Majesty's cement factory near by testify to the huge strides being made in the industries of the country, nothing can change the glory of the setting sun, turning that eternal snow-capped peak a blush rose and covering the dusty plain with a carpet of gold, across which the tinkle of camel bells sends a message charged with the ancient history of this magnificent country.†

Looking down on that golden radiance from the old fort of Rayy, I knew that the landscape of Iran, unique unto itself, had eaten into my very soul.

The 300-odd miles from Tehran to Isfahan afford a perfect example of this endless dusty amber plain, bounded by scraggy mountain ranges that turn burnt sienna,

orange, and vermillion as the sun plays on them throughout the burning day. There is little that is tangible by which I can describe this; therein lies its wonder.

A grim salt lake like a palsied hand stretches in front of the traveler before he reaches Qum, one of the sacred cities of the Shia faith. There in the sanctuary lies the body of Fatima, the sister of the Eighth Imam, who himself lies buried at Meshed, the first sacred city of Iran (Plates I, II, III, VII, and VIII). She died A. D. 816. Visitors are now permitted to go inside these holy precincts at Qum to gaze at art treasures in a newly opened museum. Two colorful minarets and a golden dome blaze endlessly into the pitiless sky.

Unique sweetmeats adorned many bazaar

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "Exploring the Secrets of Persepolis," by Charles Broasted, October, 1933, and "Citroën Trans-Asiatic Expedition Reaches Kashmir: Successfully Crosses Syria, Iraq, Persia, and Afghanistan to Arrive at the Pamir," by Maynard Owen Williams, October, 1931.

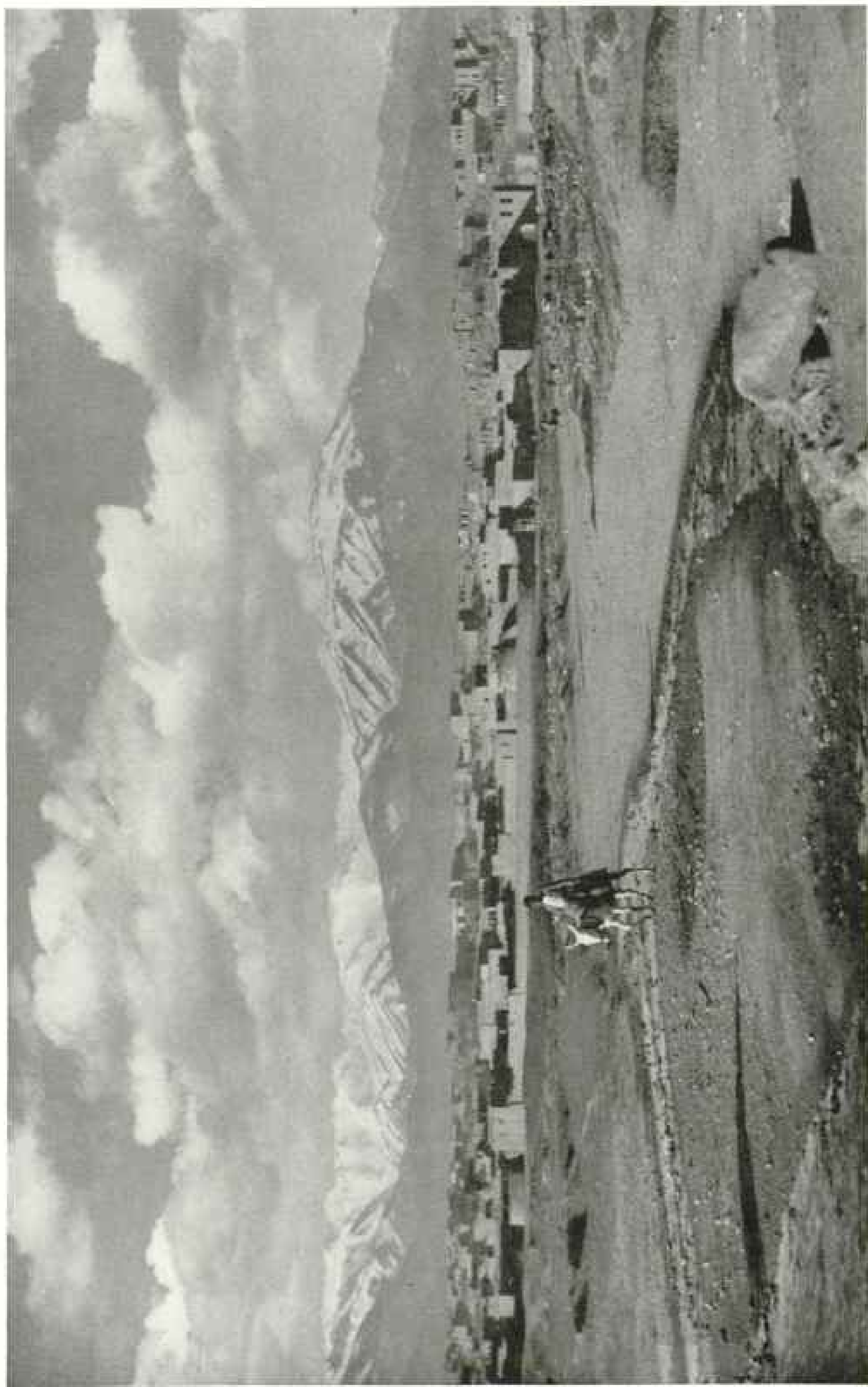
† See "Modern Persia and Its Capital; and an Account of an Ascent of Mount Demavend, the Persian Olympus," by F. L. Bird, NATIONAL GEOGRAPHIC MAGAZINE, April, 1921.



Photograph by Maynard Owen Williams

A MORE RECENT THRONE OBSCURES THE JEWELLED PEACOCK DAIS IN GULISTAN PALACE

Scholars believe the graceful structure behind the jeweled chair contains parts of the famous Mogul royal seat at Delhi, which was carried to Persia in 1739 by Nadir Shah (page 326). Across the back two carved peacocks spread their glittering tails, inlaid with rubies, emeralds, and pearls. At the top shines a revolving sun of diamonds. Dragons of green enamel support two steps by which former monarchs ascended to the platform, there to sit cross-legged in oriental fashion.



Photograph by Alice Schutick

A THOUSAND YEARS BEFORE THE BIRTH OF CHRIST ASSYRIAN CARAVANS PUSHED INTO ANCIENT HAMADAN

The famous rug center at the foot of Alwand Mountain, today a bustling city, lies midway between Tebran and Baghdad. Here the Medes stored their plunder when they captured Nineveh, and Cyrus later kept the fabulous wealth seized from Croesus. Beneath a domed mausoleum in the heart of the city stand the legendary tombs of Esther and Mordecai.



Photograph by Maynard Owen Williams

CALLERS PASS THROUGH A PERSIAN GARDEN TO ENTER TEHRAN'S MUNICIPAL BUILDING

Ponds, fountains, and flower beds stud Sepah Square, once known as the Square of Cannons, in the heart of Iran's capital.



© AP by Errell from Black Star

VEILED WOMAN—OLD STYLE

When the wearer did not wish to be recognized, she pulled down the horsehair visor, through which she could peek. Now she is forbidden to veil her face.

stalls, and even the flies did not deter me from buying a delicious honey treacle biscuit. When we stopped for a picnic lunch by the roadside, the Iranian country folk tendered us fine hospitality. They brought out their Persian rugs and spread them on the ground for the visitor to rest on while they offered eggs and melons for practically nothing. There is restful charm, after scores of miles of grim desert, in a tiny oasis with running water in a deserted Persian garden, with little children peering from open doors.

Unforgettable is the approach to Isfa-

* See series of paintings, "Faces and Fashions of Asia's Changeless Tribes," by Alexandre Incevoleff, NATIONAL GEOGRAPHIC MAGAZINE, January, 1936.

han. Out of the earth-colored atmosphere the Zinda River winds slowly along the wide valley, creeping through groves of whispering trees, and then suddenly there flash upon the gaze the heavenly blue domes, marvelously shaped, exquisitely tinted (Plate VI). No other city of the East ever had more colorful signals to lure the traveler to her portals.

The fluttering avenue called "Chahar Bagh" (The Four Gardens), planted by Shah Abbas, is the Constitution Hill of Isfahan. The young bloods of Iran mooch amiably up the gentle slope, passing the splendid blue-tiled Madrasah (or sacred college) of the 18th century, till they reach the Maidan-i-Shah, a magnificent plaza

560 yards long by 174 wide.

Our hotel in Isfahan, again called Firdausi, gave us excellent food and attendance. My room opened onto a balcony overlooking the Chahar Bagh.

At dawn, with a rosy blush warming the dome of the adjoining Madrasah, I crept out to look down on the long lines of camels padding slowly past, their haunting bells droning through the silence, and only the occasional raucous yells of their keepers breaking the spell.

The delicate Ali Kapi, or palace for public audiences, looks serenely down on the Maidan-i-Shah, the scene of the ancient games of polo.* Now only the stone goal

posts testify to what took place there; for, alas, a pond and modern flower beds surrounded by iron railings transform one of the noblest city squares in the world. The Government offices now surround the graceful Chahel Situn, or "Hall of Forty Columns."

A charming Governor gave us of his unbounded hospitality in a tea party with delightful Persian sweetmeats and cakes fit to ruin the digestion forever. He took pleasure in introducing me to men who remembered my father. I even met the son of the noble with whom my father had stayed in Isfahan.

Another charming Iranian gave us a sumptuous Persian meal one night in his genuine old Persian house. Dish after

dish of spices, raisins, and sweets followed on luscious rice mixed with meat and fowl, tender and soft as cotton wool.

Again, the covered-in bazaars afford limitless delights, not only in purchases but in the bustling crowds.

Three points of splendor hold the eye in Isfahan. One is the Masjid-i-Shah, built by Shah Abbas I with 18 million bricks in the early 1600's (page 336). No richer blue could be imagined than the tiles of the dome and the graceful minarets.

The Masjid-i-Shaik Luft Allah has rare designs of curving branches and flowers on its resplendent dome. Then, lastly, the venerable Masjid-i-Jumeh, or Friday mosque,

holds such intricate and delicate brickwork on its domes and archways that women could find eternally new patterns for their cross-stitch samplers.

A SUGAR FACTORY IN PERSEPOLIS

Leaving that sublime city of running waters and green trees, I next reached Persepolis. Looking out on the limitless brown plain from the capital of the Achaemenian Empire, I saw not far away a large sugar factory rearing up its mighty modern head, yet another sign of change.

In spite of ancient and modern in such close proximity, the view from the great terrace today is even more superb than it



© AP by Ertell from Black Star

TODAY, VISOR AND VEIL GONE, WOMEN WEAR EUROPEAN DRESS

Here the visor is up, the way it was usually worn. The young woman has on the black cloth garment that envelops her from head to foot.



Photograph by Arthur Upham Pope.

WALLS OF ALABASTER AND FAÏENCE ARE MIRRORED IN THE WATERS OF
A COURTYARD POOL.

Moslems gather in the Masjid-i-Shah, or royal mosque, at Isfahan for devotions. The building, erected by Shah Abbas I in the seventeenth century, is faced with brilliantly enameled tiles. It is on the south side of the great square (Plate VI and page 335).

was in the time of Darius I, or of his son Xerxes; for the massive outer wall protecting the palaces is gone, and the battered columns and the magnificent double stairways stand open to the winds of heaven.

One of the resident young archeologists showed me to my dismay my father's scratched signature, "G. N. Curzon, 1899," in one of the windows of Darius's Palace. But the name is in distinguished company; on the giant winged bulls at the doorway of Xerxes' Palace are the signatures of many well-known historians and explorers of the 19th century who have passed that way.

On the ride to Naksh-i-Rustum, near Persepolis, I was fortunate in meeting a small migration of tribes moving slowly down with all their flocks to the plains for autumn and winter pasturage. Along with

the children, their black cloth tents were piled high on the camels. These simple people were coming down from the upland valleys where they had spent the hot months. The Shah, however, wishes to discourage these yearly migrations and so keep the tribes settled and unarmed.

We went onward to Shiraz. Its beauty lies for me in the peep of it from the police post up the mountainside, with the domes quivering like jewels in the setting sun.

It is worth returning to Tehran by another route to appreciate the delicacy of the minaret and doorway of Natanz where sapphire and turquoise blue twine their vividness in inscriptions and flowerlike patternings. Lace stuccowork in the fawn-colored brick mosque of Ardistan forms a rare lily design. But I did not have time to visit



Photograph by Paul from Thier Lion.

THROUGH A LOOP TUNNEL, IRAN'S RAILWAY PUSHES INTO THE DIZ RIVER VALLEY

The two entrances to the curved underground route are not far apart, but at different levels. Since this photograph was made, the entire line which links the Caspian Sea and the Persian Gulf has been completed. The line, 865 miles long, crosses two mountain ranges and a desert.

the ancient city of Yazd where the Zoroastrians still have their fire temples. Incidentally, two interesting fire altars are still to be seen just beyond the Naksh-i-Rustam rock reliefs (page 328).

The village of Yazd-i-Khast is an interesting sight in its forbidding grimness, jutting out over the new road with its haunted empty-window eyes (page 350).

CAR TROUBLE MEANS SLEEPING OUT

Returning beyond Qum, late at night, we found one of our car loads, sent off earlier in the day for Tehran, in trouble by the roadside. After a half dozen punctures, the passengers had given up for the night, as the chauffeur finally confessed that none of his tubes would fit.

I next motored up north again to the Caspian, viewing the incredible structure

of the Shah's railway creeping slowly through this stupendous mountain gorge. The Trans-Iranian Railway, about 865 miles long, now extends all the way from the Caspian Sea to Tehran and on to the Persian Gulf. It took ten years to build. Trains began to operate on the whole length of the line in December, 1938.

Several stations before Bandar Shah my car was placed on a truck, and the train slowly chugged up through His Majesty's cotton fields, where the workers were plucking and collecting the fluffy tufts.

At the straggling little portlet of Bandar Shah a charming Swedish couple entertained us at dinner in their home. Our host was the railroad's chief engineer. They were preparing for the visit of His Majesty to inspect the progress of his precious railway. The station waiting room

was allocated to us for the night, and how thankful we were for our sleeping bags that softened hard boards and tables! The French Minister arrived late that night by car and pitched camp near Asterabad.

Next morning when we picked him up to go with us to Gunbad-i-Qabus, he told us tales of an evening's shoot by flashlight, when he had killed deer, jackal, pig, and porcupine in the low surrounding scrub. We tasted of all these animals later when, exhausted and famished after our long day's outing, we had supper with him.

We unfortunately collected a guide who said he could take us safely across the limitless Turkoman Steppes to the Tomb Tower of Gunbad-i-Qabus, but whose sense of direction proved to be nil. He rushed us madly into bogs and quicksands; but I assumed, after careering blindly about for hours, that that glorious brick needle must surely beckon us very soon from 10 or 15 miles away. At last, sure enough, the noble tower showed itself in the glittering afternoon sunlight, alone and majestic, an arrow of dainty fawn-colored bricks, dexterously laid, clear-cut against the distant snow-capped mountains.

HOSTAGES HELD IN A MAUSOLEUM

A pathetic group of old men were huddled in this superb mausoleum, temporarily a squalid prison, for these venerable beings were being held as hostages for their sons who had deserted across the border. The Government is making an effort to civilize the Turkomans, bring their boys into schools, teach them sports, and give them a sense of responsibility.

Dotted over the plain are still to be seen some Turkoman felt tents with their interior walls beautifully embroidered in colored wools. I fear it will not be long before these relics of the nomad tribes on these limitless steppes are lost forever. As I have already mentioned, the policy of to-day is to check the migrations of these wandering creatures (who for centuries have roamed the spaces with only heaven to approve their nightly resting place), and settle them in permanent mud brick houses.

From Tehran to Meshed is about 550 miles, but telephone messages ahead can procure the traveler a bedroom in one of the many garages run by the Russians who are to be found in Samnan, Damghan, and Shahrud. In none of these towns did we receive anything but the most courteous of

welcomes and the fullest facilities for seeing the sights. Buses stop at all the garages. Many are crammed with pilgrims for Meshed.

One can procure a perfectly good bedroom with a brass bedstead and a hand mirror with pink roses surrounding it. If desired, a toothbrush and hairbrush lie ready on the table. Oleographs of His Majesty the Shah adorn the walls.

In one garage the bedclothes struck me as looking slightly "used," and the garage owner, only too anxious to accommodate, suggested that I use the cotton curtains, which had just been newly washed and hung.

HORSE TRAVEL WAS WEARISOME

I took about four days motoring up to Meshed, stopping often to examine the monuments. By traveling all day, one can make the journey in two days. Four English miles go to a Persian *farsakh*, but my father says: "The Khurasan *farsakh* is famed beyond all others for its odious and seemingly inexhaustible length—a compliment in reality to the funereal monotony of the road."

In his day the route was divided into 24 stages, the posthouses averaging about 23 miles apart. My father completed the journey in the opposite direction, from Meshed to Tehran, in nine days, averaging 60 miles a day, and he approached Meshed via the northern route from the Caspian. Though fast riding, according to him, was an accomplishment for which the Persians were famous, his miserable steeds could never have justified this boast. He writes:

"The best-known characteristic of the Persian post horse is his incurable predisposition to tumble. I could not make out that either a tight rein or a slack rein had very much to do with the occurrence of this phenomenon, and I ended by concluding that the Persian post horse has a certain regulation number of falls in the year, which may be distributed either by accident or as he pleases, but the full tale of which some hidden law of necessity compels him to complete."

The road to Meshed abounds in exquisite buildings. Bustam, surrounded by snow-capped mountains, holds concealed in lush green trees venerable minarets and mosques, like colossal nuggets of turquoise and sapphire. Never did dark and pale blues rush more intoxicatingly after each other in such a wealth of tracery around doorways and arches.

GILDED DOMES AGAINST AN AZURE SKY

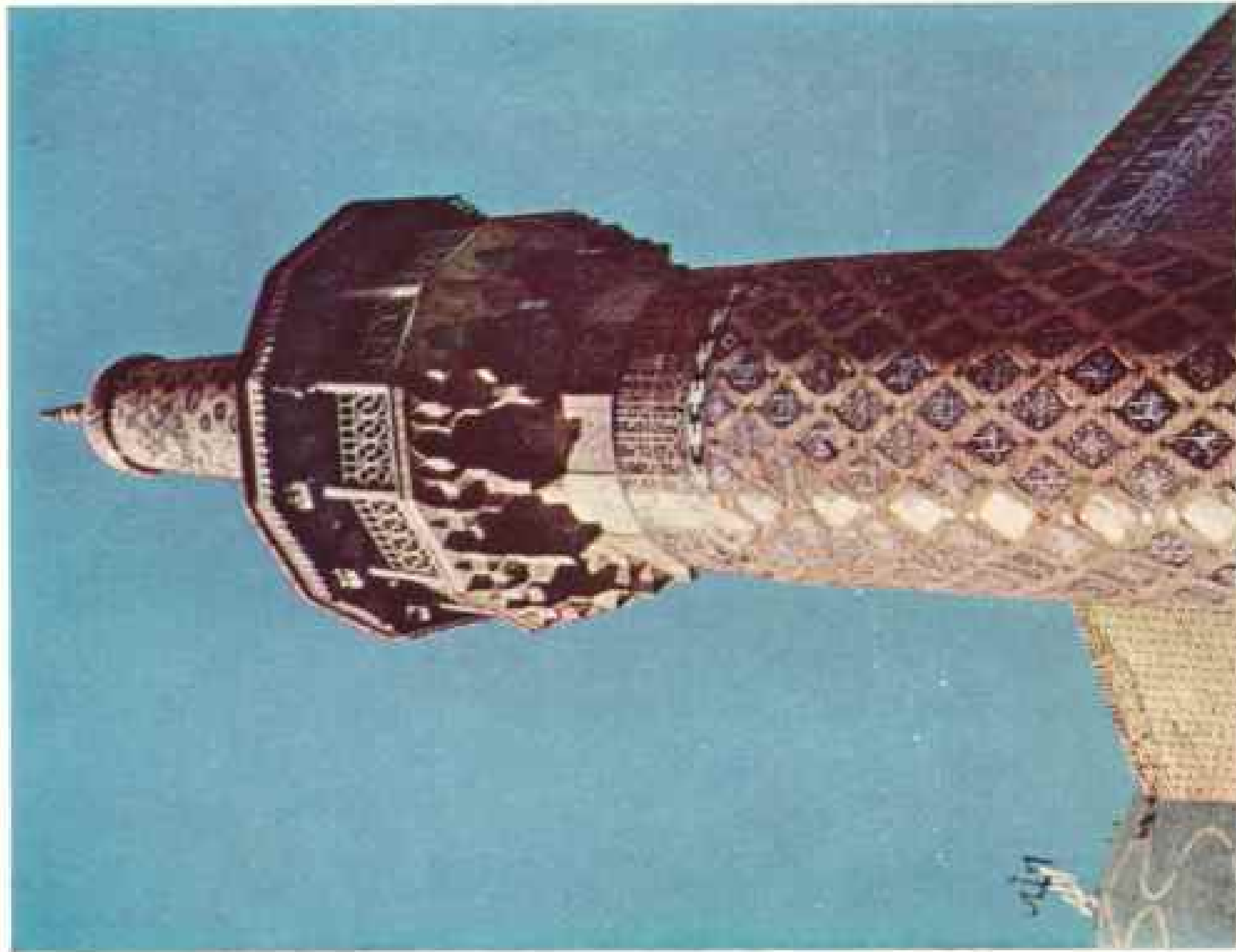


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Kodachrome by Dolphin H. Nyman

COPPER OVERLAID WITH GOLD ENCASES DOME AND MINARET OF IMAM RIZA SHRINE

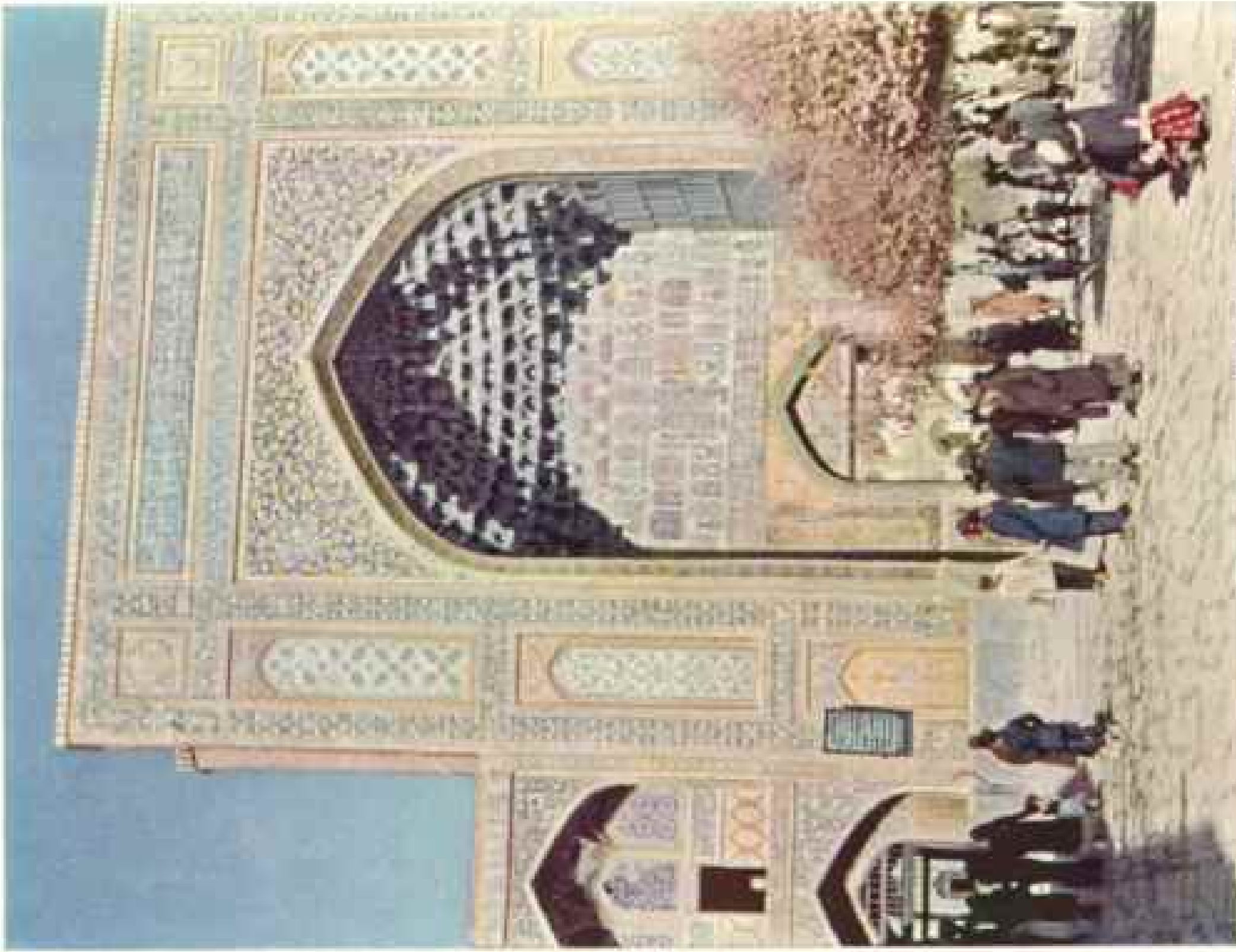
From a base of alabaster rise the walls and portals of multicolored tiles in the Holy City of Meshed. Each year 100,000 Shia Moslem pilgrims from all parts of Iran (formerly Persia) kneel at the tomb of their spiritual leader, who died a thousand years ago. He was a martyr, they believe, who was poisoned when he was about to become caliph, or ruler. Also buried here is Harun-al-Rashid, hero of the *Arabian Nights*.



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"MAY ALLAH ACCEPT HER WORK"

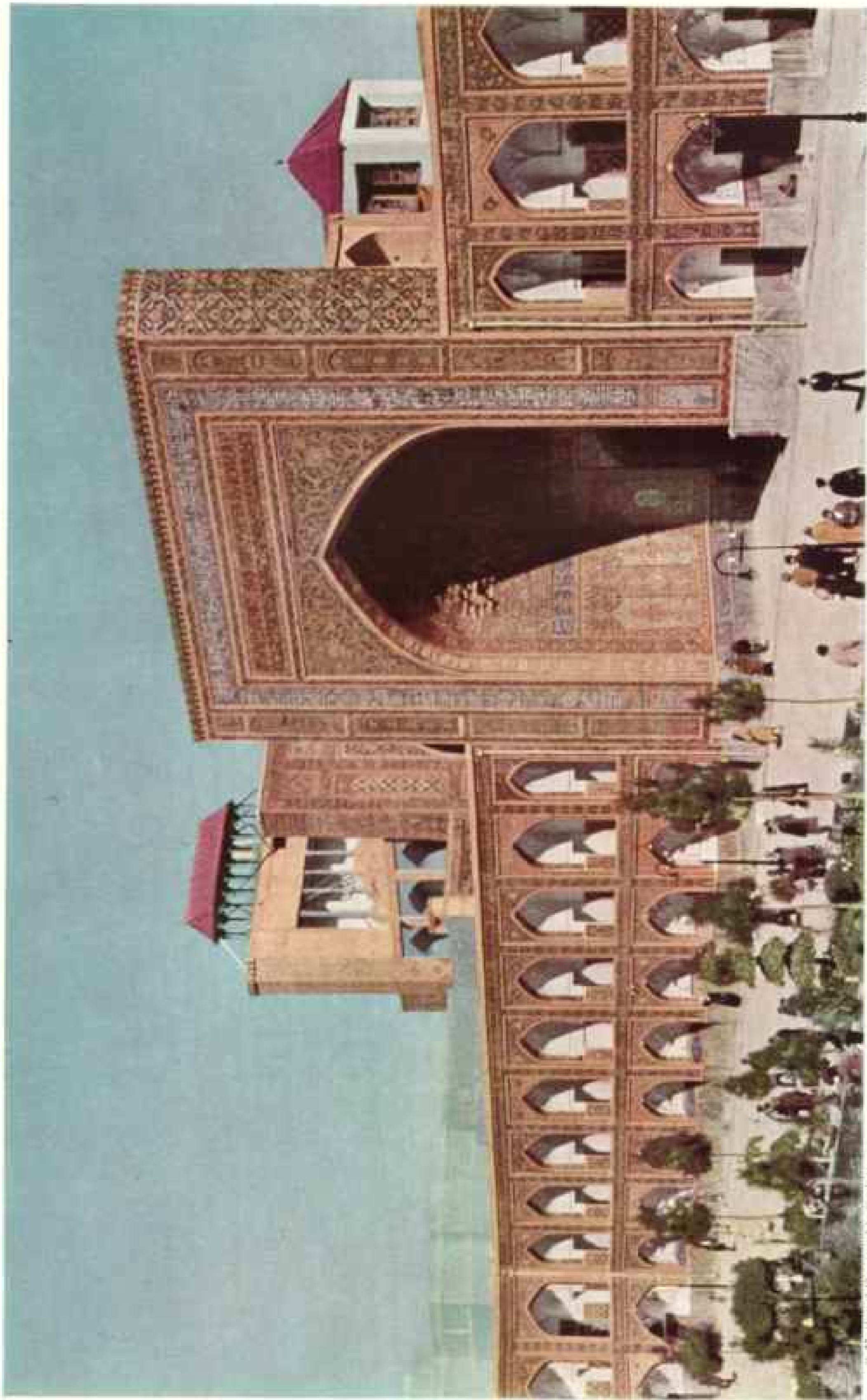
So reads a part of the inscription on this minaret and mosque in Meshed. The buildings were erected by a woman, the noble Gawhar Shah, wife of a shah and mother of two famous sons, an astronomer and a painter (Plate VIII).



Kodachrome by Stephen H. Symon

PILGRIMS REACH THE PORTAL TO MESSED'S GREAT COURT

Exquisite tilework ornaments this entrance to the shrine (Plate I). Shia Moslems attain the ambition of their life when they reach the Holy City. One shah journeyed here on foot from his capital, 500 miles away.



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GIFTS FROM THOUSANDS OF PILGRIMS HELPED ERECT MESHED'S IMPOSING NEW COURT OF IMAM RIZA

Kodakrome by Stephen H. Symon

Grandiose inscriptions border the tiled gate, one of the outer entrances. In recent years much of the shrine's income, about \$100,000 annually, has been devoted to civic betterment. Modern housing projects are under way and an up-to-date hospital has been built.



NEWLY DYED YARN, SPREAD OVER POLES, DRIES IN THE SUN AT TEHRAN

Natural dyes, extracted by old-time methods from roots, leaves, flowers, and certain animal products, still are used in Iran. Only in a few localities have synthetic dyes been introduced.



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Kadachumes by Stephen H. Nymma

SECRETS OF THE DYE POT GIVE TO IRAN RUGS THEIR LUSTER

After the wool has been washed, it is dipped into one or more vats to attain the proper shade. Then it is hung up to drip and afterwards plunged into cold water.

GILDED DOMES AGAINST AN AZURE SKY



PERSIAN RUGS, NEW AND OLD, RECEIVE AN ICY BATH AT RAYY

At the foot of a rocky hillside, 4,000 feet above sea level, fabrics brought from Tehran are washed in a bubbling spring. Rugmakers say the mineral content of the water imparts a sheen.

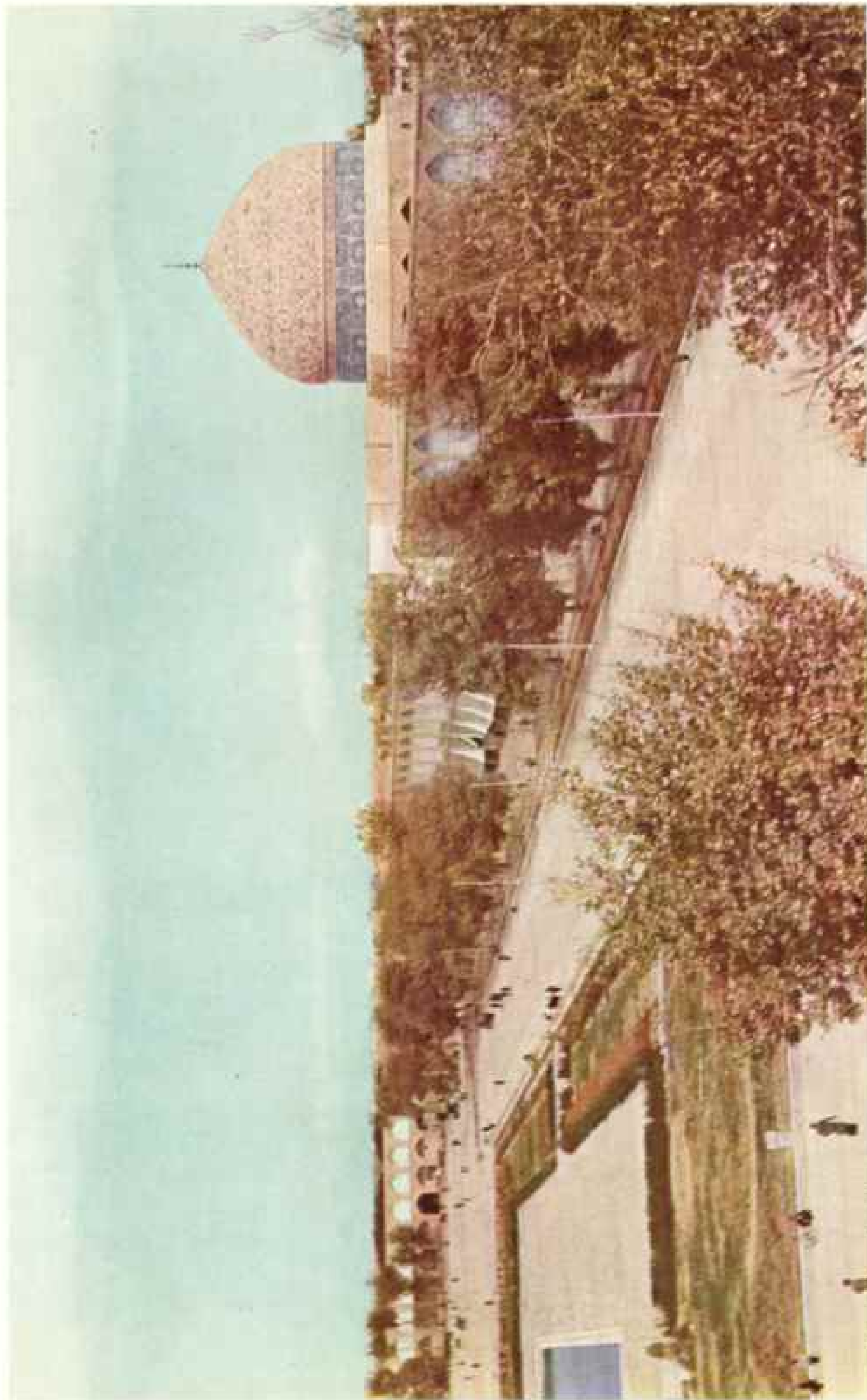


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Kodachromes by Stephen H. Nyman

PRECIOUS RUGS STAIN THE CLEAR SPRING WATER IN NATURE'S WASHTUB

First they are thoroughly shaken at the edge of the spring, and then thrown in. The barefooted workmen stomp and rub them vigorously.



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COURT AND BLUE-FILLED DOME RECALL THE VANISHED GLORY OF ISFABAN, ONCE "HALF THE WORLD" TO EVERY PERSIAN

Kodachrome by Stephen H. Nyman

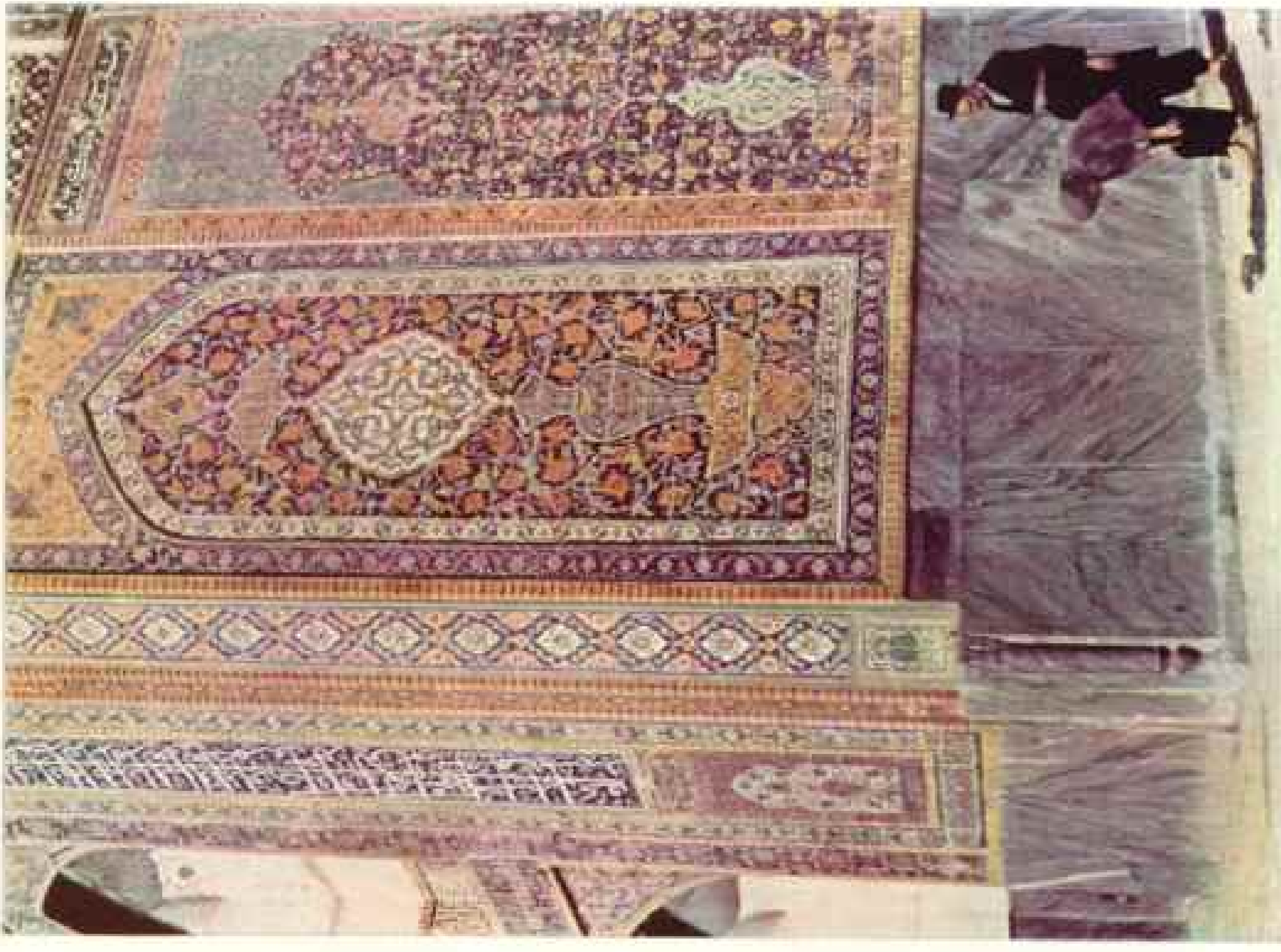
Modern landscape engineers have built a pool and planted shrubbery (left) where polo players once rode furiously. The game originated in Iran. Restored is the Mosque of Shukh Luff Allah (right), built more than three centuries ago, when this capital was new. Stunted sycamores and plane trees stand before the two-story arcades, with recessed arches, which flank the courtyard. Beyond the buildings stretch bazaars, where buyers may walk for more than three miles under covert.



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SHOES REMOVED, A SHIA MOSLEM APPROACHES THE SHRINE

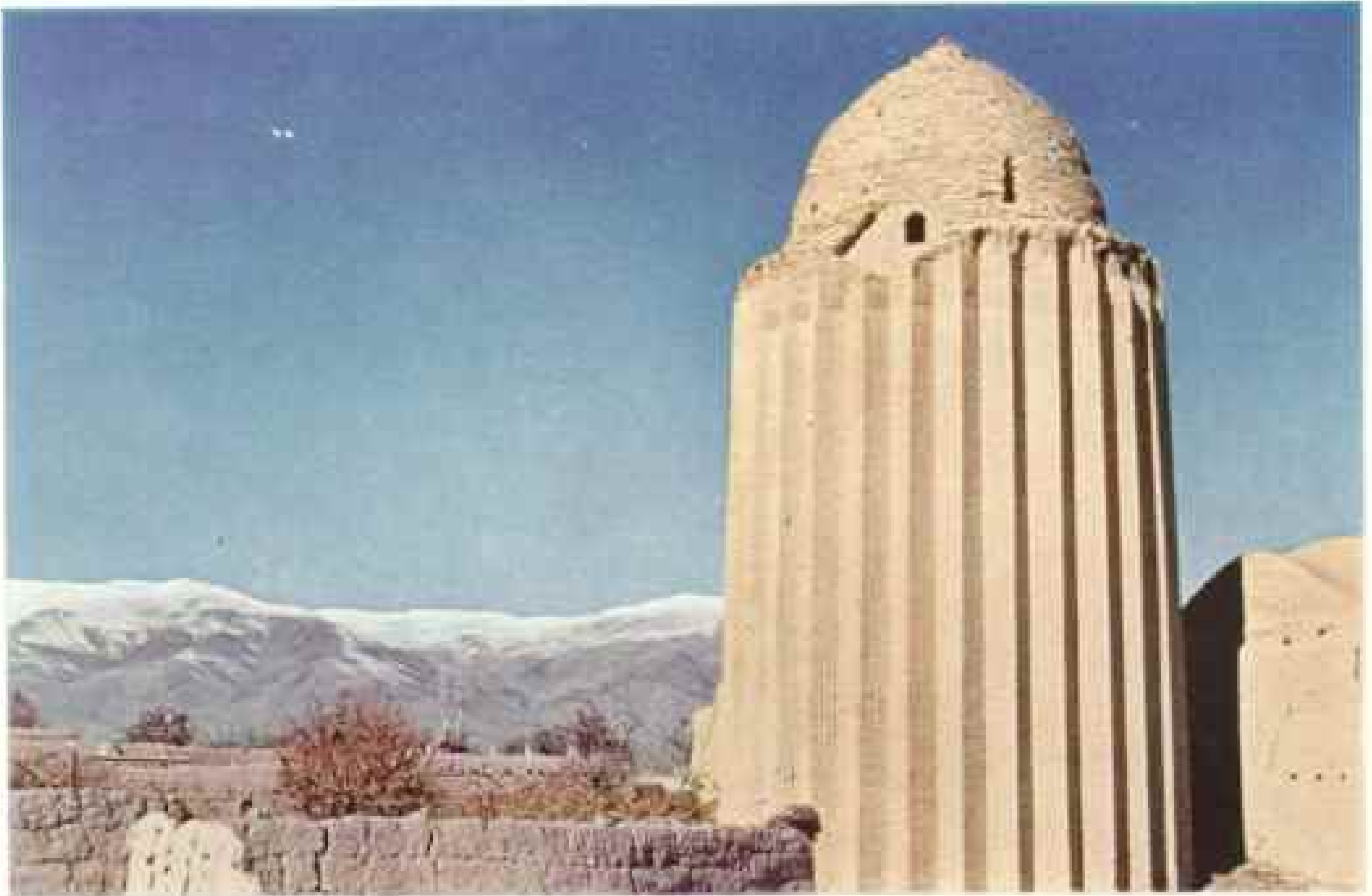
A halved rug of rare beauty covers an entrance to the tomb of Imam Riza. The walls are of cream-colored alabaster, gold plates, and tiling.



Kodachromes by Stephen H. Nymni

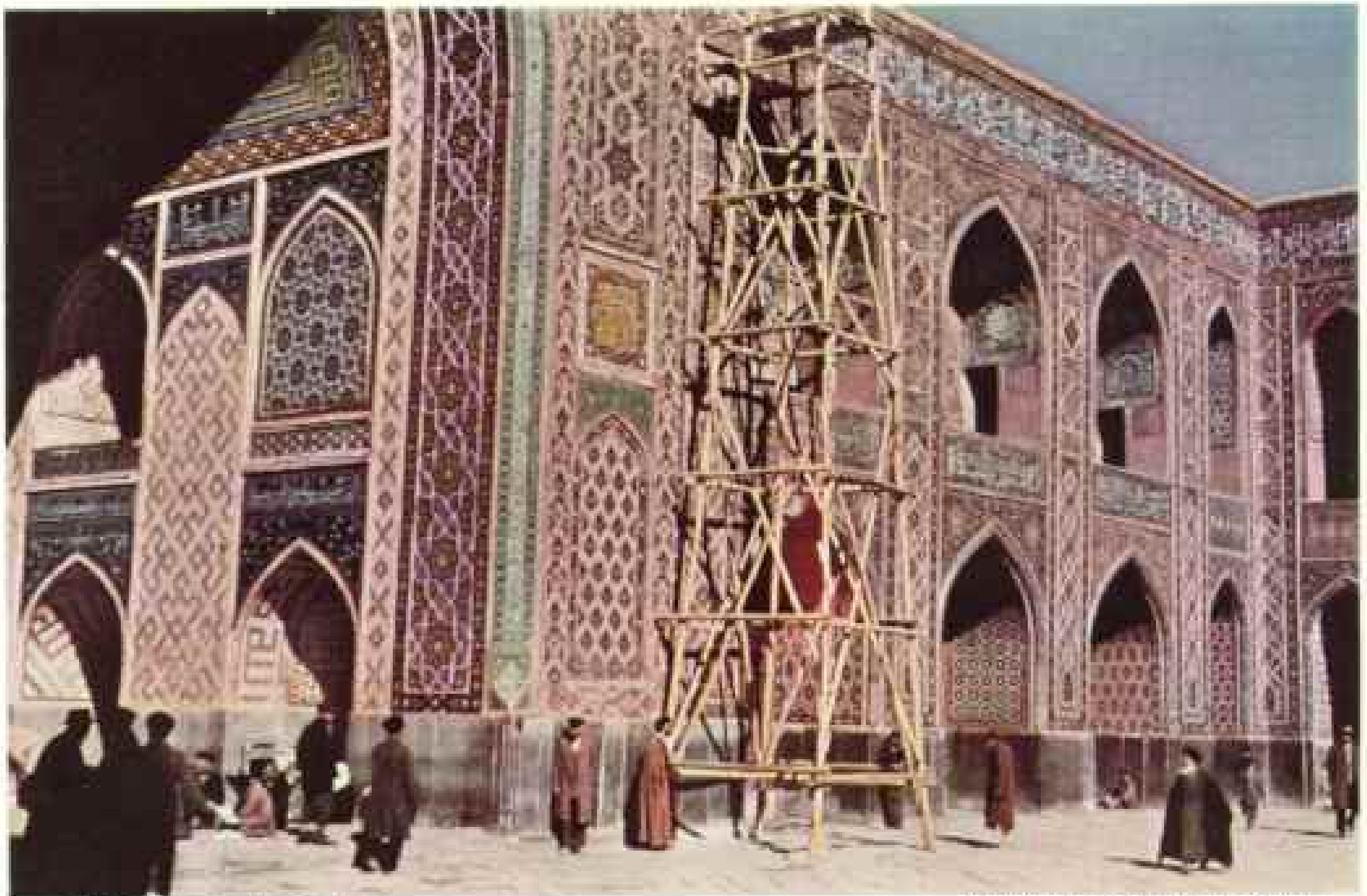
PILGRIMS REVERENTLY BOW THEIR HEADS IN THE GREAT COURT

After they visit the tomb they earn the title of Meshidi and may be buried in consecrated soil within the shadow of the Mosque of Imam Riza (Plate 1).



NEAR BOSTAN'S OLD ROUND TOWER LIES THE SHRINE OF AN ANIMAL LOVER

Legend tells that Bayazid, buried here, found an ant in his luggage while traveling. The dervish immediately went back to his starting place to return the ant to its home.



© National Geographic Society

Kodachromes by Stephen H. Nymann

WORKMEN REPAIR THE TILE AND ALABASTER MOSQUE OF GAWHAR SHAD

When the revered builder, wife of Shah Rukh (Plate II), came to Meshed to inspect the structure early in the 15th century, she brought with her 200 beautiful women attendants. All of them were married to students in a college she had established in the Holy City.

Damghan has an exquisite minaret, and also the tomb tower of the Forty Daughters (A. D. 1054) with a bewilderingly beautiful brick inscription. At Mihr is one of the finest of all Shah Abbas's caravanseries. In the village one can buy delicious hot partridges, freshly cooked, and sold for a few pence in a sandwich of soft bread.

Near Sabzawar is a graceful minaret (A. D. 1111), one of the finest in Iran. The recently repaired tomb of Omar Khayyam at Nishapur tries unsuccessfully to compete with the beauty of the tomb of the brother of Imam Riza, alongside it.

Since Meshed is the most sacred city of Persia, I desired to go there, if only to look on the exterior of the dome of Imam Riza's tomb (Plate I), and peep from afar at the polychrome exterior of the Gawhar Shad Mosque, unsurpassed anywhere else in the country (Plates II and VIII).

Black-browed Afghans, wild Baluchis, Indian traders, Caucasian devotees, Turks, Tatars, and Mongols make a bewildering kaleidoscope as they pour into Meshed.

On the approach to the city from the mountain heights, piles of small pebbles by the roadside testify to the first glimpse the pilgrims have had of their "Mecca."

Originally I had not the faintest hope of entering the sacred shrine; up to the time of this visit (1935) only a limited few Infidels, disguised, had succeeded at the risk of their lives. Everywhere, however, the Shah is slowly breaking down fanaticism, and in all cities one now can visit the mosques with a guide. Qum and Meshed are the sacred Shia strongholds and were the last to succumb.

FAKE MULLAHS OUSTED

The power of the mullahs is slowly being broken. Many so-called mullahs had no right to bear the name, or to wear the green turban as descendants of the Prophet, and so batten on the masses. His Majesty now demands a stiff and honorable examination of all wishing to become or remain mullahs.

Some weeks before I reached Meshed an unpleasant episode had complicated the situation as regards Imam Riza's shrine. A certain mullah had gravely inflamed the pilgrims by attacking all forms of modernization, such as the abandonment of the chud-dar, the drinking of wine, and the wearing of European clothes.

Pilgrims were requested to leave the mosque precincts. Misunderstanding the

situation, and imagining the sacred precincts were a sanctuary against all trouble, they remained and got involved in a wildly inflammable group which raided the shops in the *Bast*,* breaking them up and tearing the European clothes off the shopkeepers.

The Governor rushed in Baluchi troops with machine guns, and many were killed. The true figures will never be known, as lorries were hurried down to bury all dead, and it is better to ask no questions.

SEEKING ACCESS TO HOLY OF HOLIES

This was all the more reason, one would think, for my not being allowed to enter the shrine when I got to Meshed; but two of my friends from the British Legation in Tehran had been conducted through it under the protection of the Governor before my arrival and this raised my hopes considerably.

My visit to His Excellency the Governor of Khurasan was vital. How different from that of my father, who said: "Our conversation was not of surpassing interest, as the Governor contented himself with civil and conventional replies. I asked him if he thought railways were likely to come to Persia. 'If God be willing, yes,' was the somewhat ambiguous rejoinder."

My father was merely conducted over the roofs of the bazaars to the spot where he could see the sacred buildings, and he claimed the modest distinction of being the first English Member of Parliament to enter the walls of Meshed.

Soon after my arrival the Governor graciously sent for me with my friends about 8:30 a. m. My companions sat completely mute, while for twenty minutes I discussed with His Excellency in French the possibilities of a police escort for the four men of our party who were leaving for Afghanistan at dawn next day. He explained to me the dangers of the road were very great, since a notorious bandit who had held up and robbed several Britishers had not yet been caught. After an endless argument on this subject, we discovered the bandit was on another road.

How was I to get to the prime question haunting my mind? Luckily, the acting British consul chimed in, remarking,

* Not only the buildings of the shrine, but also an area reaching to about a hundred yards beyond its gates on each side, are considered sanctuary (*bast*). In former times, criminals who succeeded in reaching this area could live there in safety. It still contains lodgings and bazaars.



Photograph by Ewing Galloway

NO LONGER A NOMAD, A LITTLE KURD GOES TO SCHOOL

Within the last decade, Riza Shah Pahlavi, ruler of Iran, has burned the tents of Kurdish wanderers and settled their owners in villages. Banditry has been greatly reduced. Instruction in this outdoor school was principally religious, but a system of state education is being built up rapidly.

"Lady Ravensdale and her friends are all earnest pilgrims."

PERMISSION TO VISIT THE SHRINE

Even then the Governor shied from the subject and continued about the police escort, but before my departure he surprisingly came back to it and said he would arrange for us to go through the shrine that afternoon. My woman companion and I must go disguised in the black chuddar, but he could not attempt to disguise six-foot Englishmen as Turkish pilgrims.

Since time is often of little importance to

the Iranian, the supposition was that the expedition would take place in the late afternoon. My companion and I were to rehearse the wearing of our chuddars at 2 p. m. with two charming Iranian ladies who were to lend us two of theirs and accompany us through the shrine as guides. On entering the consulate for this rehearsal, I found the shrine official waiting to conduct us to the mosque immediately. I quickly sent for the Englishmen, while we went through such hasty efforts at keeping the chuddars on our heads as time would permit.

We four ladies went in my car to the entrance of the shrine, while the men were to follow in a cab. That wait outside the Bast was nerve-racking. A policeman kept asking our two

Persian ladies why we were hovering about. I expected discovery and a row any moment, for spies and devotees were always hanging around the outer fringe of the mosque and pushing away any foreigners with cameras or impertinent peering eyes.

I thought we should never get to the other side of the heavy chains that hang across the Bast gateways. At last our men appeared with the head official, and we moved nervously through the Bast into the great tiled courtyard.

I had unbuttoned my shoes, ready to shed them quickly. I feared my chuddar would

slip, and I was in an agony lest I should lose my little Iranian lady. She was tiny, and the crowds were terrific, swaying and surging in every direction. These two admirable ladies propelled us through the great gold doorway which guards the shrine of Imam Riza, and we deposited our shoes with hundreds of others in a lobby entirely used for that purpose.

EXCITED ZEALOTS
FORM A SEETH-
ING MASS

By that time we had missed the men of our party, and we four women were alone in this swaying, struggling mass of pilgrims, all surging toward the innermost shrine. It was about the most terrifying experience of my life.

Picture a succession of chambers decorated in cut glass like the glittering facets of millions of diamonds. These rooms were packed with a shrieking mob of devout worshipers kissing the exquisite silver doors leading toward the shrine, murmuring verses of the Koran, kneeling in scores, and bumping their heads on the lovely alabaster floors in a frenzy of devotion.

All this took place long before we got to the Imam's tomb. When we arrived there, we slowly made a procession around the sarcophagus.

That innermost chamber, of glorious cut



Photograph by Paul from Three Lions

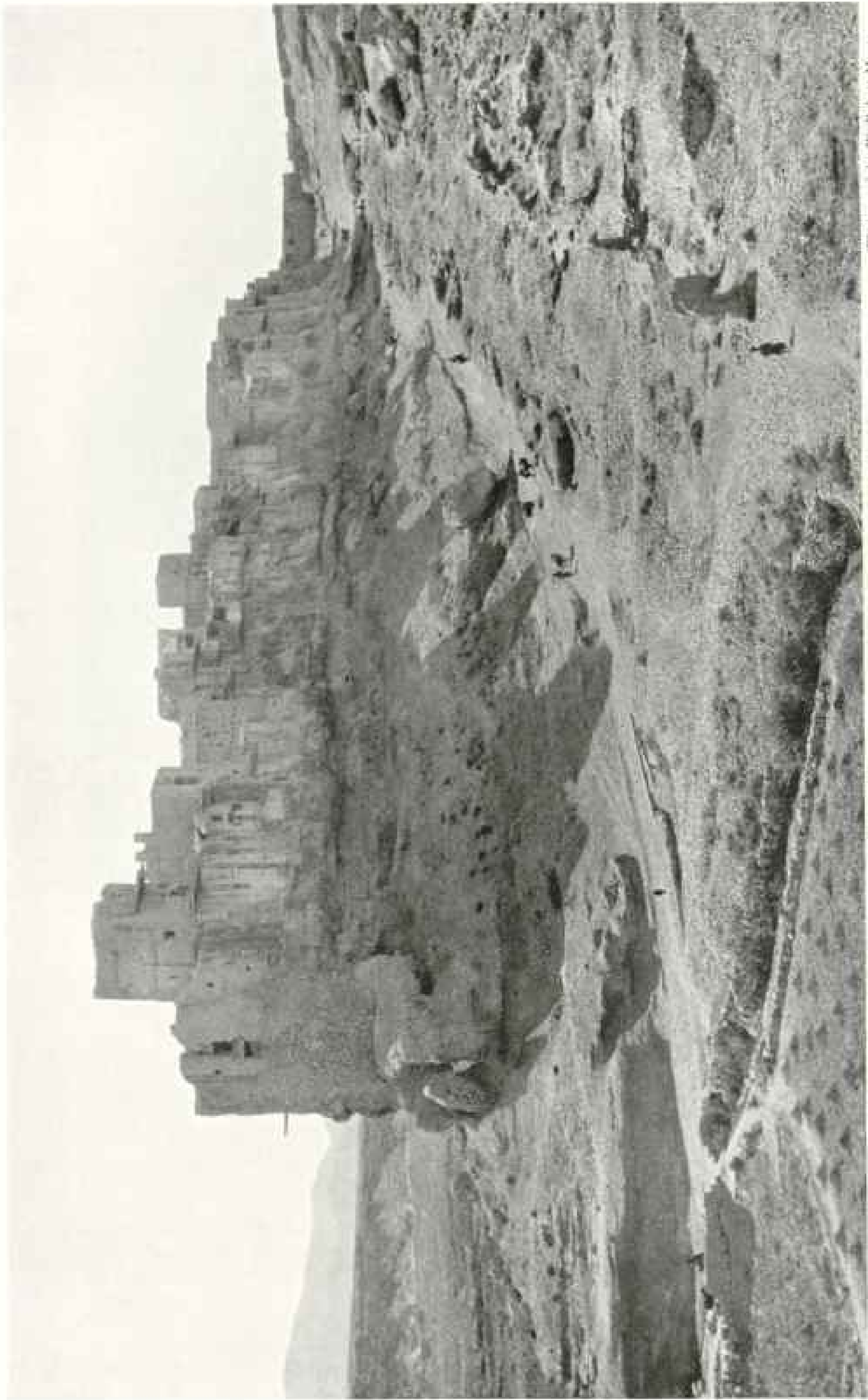
IRANIANS STILL COUNT ON AN ABACUS

The old-fashioned "calculator" contrasts strangely with its surroundings in modern hotels, restaurants, and offices of Tehran. Usually the first row of counters, which are strung on wires, stands for units; the second for tens, and so on. Such primitive "adding machines" still are widely used.

glass with floral designs in gold, was a seething mass of excited zealots, struggling and fighting to get near the great silver cage in which the coffin lies, handing their children over the heads of the crowd to kiss the bars or tie on a tiny piece of cloth.

Though I suppose that no devout pilgrims ever look up at the unbelievable tiles in the different domes and adjacent chambers, I meant to see as much as my frightened eyes could take in.

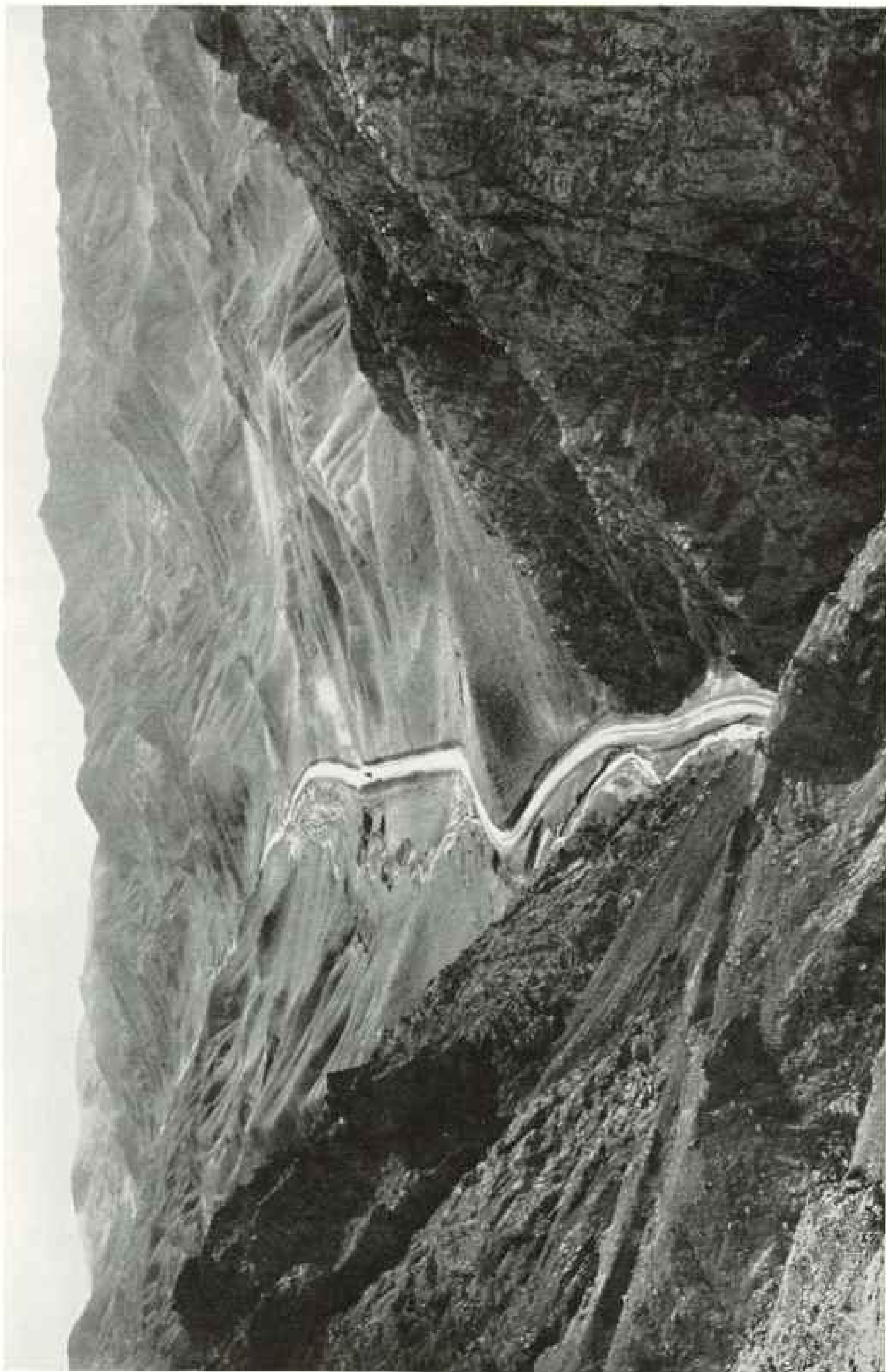
Having completed this alarming progress around the shrine minus any protection,



Photograph by W. Robert Moore

LIKE A GIANT SHIP OF STONE STRANDED IN A DRY RIVER BED, YEED-I-KHAST RISES HIGH ABOVE A ROCKY GORGE.

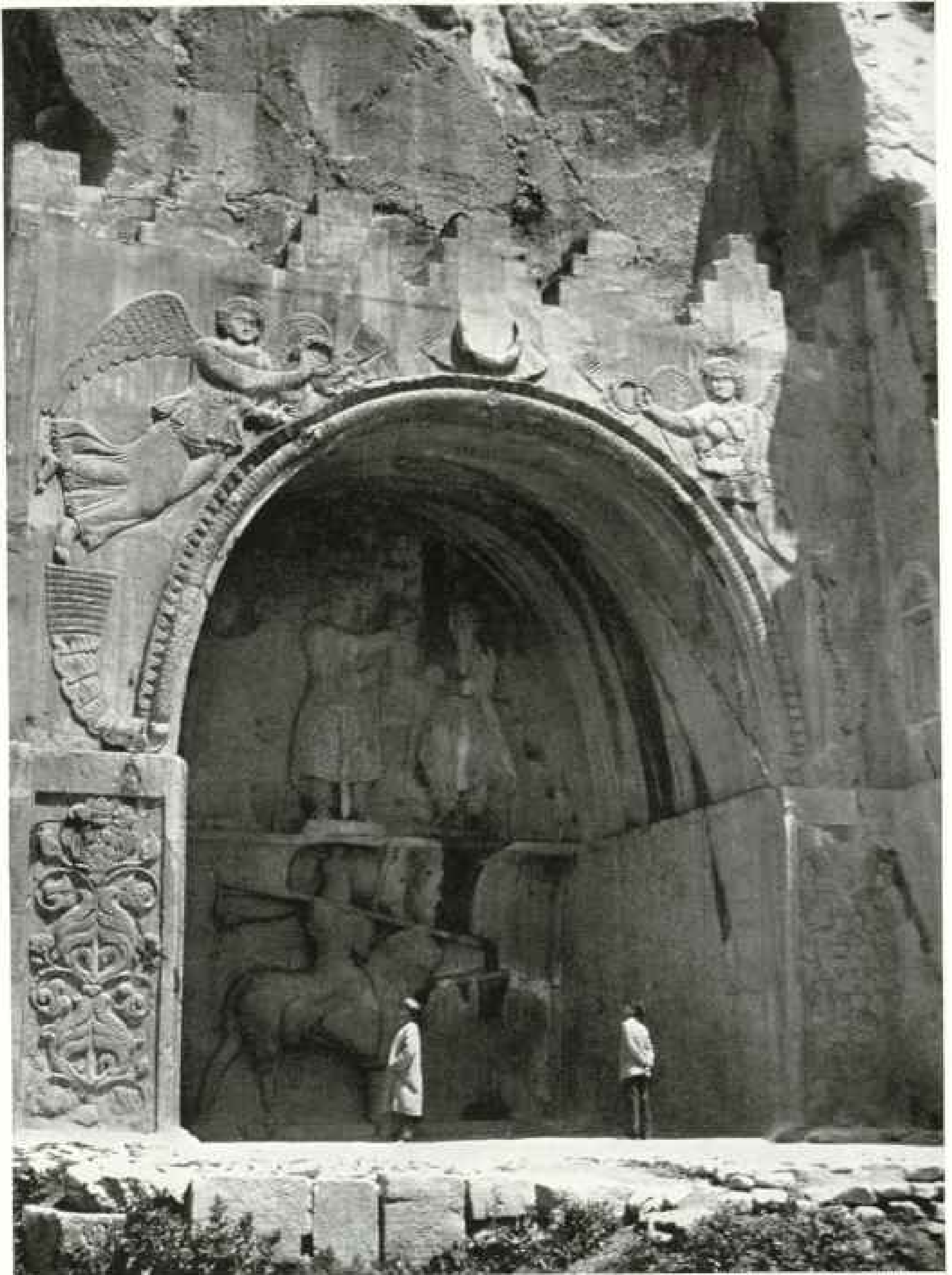
"God Willed It" is the meaning of the name of this remote town south of Lefahan, to which a single drawbridge permits entrance. Zeki Khan, with his troops, visited it in 1779. He became angered when the townspeople refused to comply with all his demands. For revenge he ordered his soldiers to haul the leading citizens down over the cliffs to their death. After 18 had thus perished, his men rebelled. They cut the ropes of his tent, which collapsed upon him, and the villagers then rushed in and killed him.



Photograph by Wilbur

THROUGH THE KHURASAN WILDERNESS A NEW MOTOR ROAD WINDS SOUTHWARD FROM MESHED

*Amoy tribesmen, Turks, and Baluchis dwell in the wild, rugged country in this northeastern province. Gypsies also wander from one fertile spot to another.



Photograph by Alice Schilek

GIANT FIGURES OF CHOSROES II KEEP CENTURIES-OLD VIGIL IN A MAN-MADE GROTTO

Artists of the Sassanian monarch carved statues in the large recess, hewn from solid rock, at "Grottoes of the Garden," near Kermanshah. Winged figures resembling angels, surmounting the arch, have been restored. On the back wall of the alcove a ledge separates two panels. On the upper panel deities present garlands to the king (central figure). Below, Chosroes II, who reigned thirteen centuries ago, rides "Black as the Night," his favorite charger (page 354).

we emerged into a neighboring chamber. Shrine officials by that time had discovered our defection and hustled us into another room where the males of our party were waiting to commence with us the walk around the Imam's tomb. Since we had got through safely once, the temptation was too great not to repeat the experience and have yet another glimpse of the chamber.

This time we had several shrine officials and a chanter, who murmured verses of the Koran in our peregrination around the tomb. I noticed some superb jewels, swords, diamond aigrettes, and scabbards hung over the Imam's tomb, offerings from previous rulers in Persia. The supposed burial place of Harun-al-Rashid in the same area has faded into insignificance by the side of the Eighth Imam.

Forever indelibly stamped on my mind will be the agonized look of about eight mullahs, kneeling by the wall, reading their Korans. They saw our little group filing through; their looks were not of murder or hatred, but of pain, as if we had done some injury to their innermost souls that could not be repaired. They had the appearance of cowed and beaten men.

One of our Englishmen, knowing Persian, heard many times muttered, "Foreigners," "Infidels."

HOOR OF EVENING PRAYER

We were permitted to gaze all too briefly on the beautiful polychrome façade of the Gawhar Shad Mosque, built in 1418 by the wife of Shah Rukh (Plates II and VIII). In a private room looking full onto the burnished gold dome of the Imam's shrine, we were shown Korans from the Treasury that made the spirit weak for sheer beauty and delicacy of design.

As we left the mosque, the hour of evening prayer was approaching, and the great drums and gongs were thundering out the invitation to prayer. The pilgrims were kneeling in thousands or performing their ablutions in the sacred fountains. A sinking sun caught the



Photograph by Alice Schalek

HIGH ON THE ROCKY WALL AN ANCIENT EGOTIST RECORDED HIS EXPLOITS

Darius the Great ordered his sculptors to carve this group on the face of Bisitun mountain, near Kermanshah. The monarch is shown passing sentence on ten captive kings. When deciphering the inscriptions a century ago, Sir Henry Rawlinson, then a young British army officer, found the key to the old Eastern languages (page 354).



Photograph by Haruosi Ravenolale

WALLS OF TAK-I-BOSTAN RECORD A SIXTH-CENTURY BOAR HUNT

On an inner side of the arched grotto of Chosroes II (page 352) sculptors carved the vivid scene. Beaters, mounted upon elephants, drive frenzied boars toward the royal barge where the king awaits them, armed with bow and arrows. In adjoining boats, girls play harps to amuse the king.

great gold doorways in a fiery glow as we hurried out. The thrill was over! Today visitors may readily pass through those splendid courts and chambers, but they will never know what others experienced in the days when Meshed was still an unapproachable stronghold of the Shia faith.

At 4 o'clock the next morning I rose to see my four companions off to Afghanistan. The police escort dutifully turned up at 5, jammed so tightly in a small car that they would need minutes to unload before the attack of the bandits.

A prodigious argument was going on with

the head officer, and it developed that he was looking for Lady Ravensdale to protect. I assured him I had only an overcoat concealing my nightgown and had no intention of entering Afghanistan. He needs must go to the telephone and call the Governor to rectify this error.

After 25 minutes' delay my friends in the two cars disappeared in a cloud of dust. The head officer finally reappeared with yet another soldier buttoning on his uniform, and they leisurely followed the cars they were assigned to guard at all costs.

When I left Tehran, the first snows were capping the mountains that protect the city, and I traveled via Kazvin, Hamadan, and Kermanshah.

At Bisitun, high up on the moun-

tain scarp, I gazed on the famous inscription of Darius the Great in the Babylonian, Elamite, and Old Persian characters. This inscription, it will be remembered, gave the key to Sir Henry Rawlinson for deciphering the cuneiform inscriptions. At Tak-i-Bostan I looked at the wonderful rock carvings of Shapur II and III of the 4th century. The superb workmanship displayed in the boar hunt in the grotto of Chosroes II is a delight to all (page 352 and above.)

These were my last archeological memories of Persia, but still we had to battle with a few more police posts. I am fully

aware of the immense service these police posts in every town have rendered in the rounding up of bandits, deserters, and objectionable characters, but I found even my insatiable zeal for travel melting on arrival at the sixth or seventh police post of the day, when the commandant looked at my passport upside down and asked me my mother's birthday and the Christian name of my father. Picture a motorbus tour, 70 or 80 strong, being held up like that. They would be there for hours (page 327).

Knowing the Government was really eager that the beauties of the country should be open to travelers, I ventured to suggest this reform, and Iranian correspondents have written me since that the situation is considerably altered and that such troubles now rarely hold up the visitor.

OLD GIVING WAY TO NEW

Today in Iran there are hordes of bright little boys, rushing out of schools with businesslike attaché cases. They are dressed in European clothes and wear military caps. One little fellow asked a friend of mine the distance between New York and Boston. These youngsters are becoming the capable young citizens of the future.

Though the chuddar is no more, I regret



Photograph by Segrovian

·HOMEMADE BREAD IS BAKED IN A HOT PIT

The housewife is about to slip the thin sheet of dough from the pad into the heating chamber. Embers at the bottom keep the walls so hot that two hundred "shoots" of bread may be baked at one firing.

the passing of some of the old sights, like the old men in their flowing robes and their henna-dyed beards entering the mosques to pray.

I hold for Iran the warmth in my heart that my father held for her. She has bewitched me with her enchantment, with the blue tiles of her mosques, the burnt sienna and rose madder of her endless plains, and the violet blue of her mountains tipped with snow. I want to see her make good in her new and great experiment as one of the noblest countries of the world from which we can all learn something.



Photograph by Joseph S. McCoy, Jr.

TALES AS TALL AS HER TOWERING MASTS ENSHROUD VENERABLE "AUSTRALIA"

A Civil War prize still in service, the schooner was captured by the United States brig *Perry* off the North Carolina coast in 1862, when she was under British registry as the *Alma*, and was running the blockade. Some Chesapeake Bay historians believe *Australia's* keel was laid in the 18th century, and that under another name she was captured by the Americans while participating with a British fleet in the bombardment of Fort Mchenry in 1814. Once completely rebuilt, and often repaired, most of her original timbers are gone. Today *Australia* is owned by the Woodfield Fish and Oyster Company, of Galesville, Maryland, and placidly plies the Bay with cargoes of coal and oyster shells.

CHESAPEAKE ODYSSEY

An 18-foot Sailboat Follows the Course of Captain John Smith around This Spacious Bay of History, Commerce, Sea Food, and Nautical Lore

BY JOHN MALONEY

CAPTAIN WILLIE NEWTON, craggy face tanned by strong sun and salty winds, leaned his ax against a pine log and gazed affectionately on a little boat sailing into the harbor.

"Aye, she's confident appearin'," he said as the trim craft luffed to her mooring, "and don't she, now, do all my braggin' for me?"

His words and manner reflected an artisan's delight in fine handiwork. And justly so, for the boat skimming in with the grace of an albatross was his creation, hewn from tree trunk into canoe forty years ago.

Cruising Chesapeake Bay, we had put into Messick, Virginia, for the night, our 18-foot sailboat spray-drenched by the long beat down from the Potomac's mouth.

As chips flashed fresh and white from pine logs he was shaping, Captain Willie told us the hardest thing about building log canoes was delivery to the purchaser.

"Aye, man, I love my boats," he sighed. "When I build a thing so beautiful I want to keep her myself."

Captain Willie was practicing an art older than white men's knowledge of the Western World. When Captain John Smith in 1608 was seeking a passage to Pacific and South Sea waters through a Chesapeake tributary he was amazed at Indian skill in building similar log canoes.

"With great lack of tooling help," he wrote, "they yet build exceeding well."

IN THE WAKE OF CAPTAIN JOHN SMITH

We were following Smith's tracks around America's "Mediterranean," poking up rivers and coves that were wedges of entry into the then unknown country. During winter evenings in Washington, D. C., we had traced the colonial captain's original courses as logged in his *True Relation* and *Generall Historie* (page 359). Log canoes were only one of many links we were to find connecting the early explorer's day with ours.

As owner and skipper of the mahogany-hulled sloop *Tralece*, I carried as additional crew Bob Miller, Washington high school

lad, who was mate and second in command, and Malcomb Delbos, member of a foreign embassy staff, our navigator and cook.

Because of her 7-foot beam, 18-foot overall length, and big open cockpit, *Tralece* was sometimes called "the bathtub" by sportive friends. She was suited for this "voyage of rediscovery," because there were few shallow tributaries she could not explore. Her 26-foot mast carried 200 square feet of canvas, yet she drew only 18 inches with centerboard up, three feet with it down (page 360).

Ever since Captain John Smith's day the Chesapeake has been a concourse for coastal and sea traffic. Many clipper ships, at the height of their popularity and usefulness in the nineteenth century, took shape in Bay shipyards and sailed out over the Seven Seas, making records that still stand for vessels propelled by wind. And of the surrounding country, Smith wrote backers in England:

"Heaven and earth never agreed better to frame a place for man's habitation. . . . Here are mountains, hills, plains, valleys, rivers, and brooks all running most pleasantly into a fair Bay, compassed but for the mouth with fruitful and delightsome land."

Colonists who followed Smith depended upon the inexhaustible supplies of fish and shellfish before crops were cultivated or when they failed. Today fishing is still a major source of income for both Marylanders and Virginians, and the Bay's sandy beaches are centers of recreation for 20,000,000 persons living within easy driving distance of its shores (map, page 360).

One day's sailing southward from the Potomac brought us to Mobjack Bay, an 18th-century pirate's lair. Here we took on Stephen Decatur, great-grandson of the commodore and enthusiastic authority on America's naval past.

Next day we tacked into the York River's mouth. As we passed Gloucester Point, Decatur said, "Believe it or not, we are sailing over the hulks of British men-of-war,



Photograph by Paul Pryor

"MINE'S A DISAPPEARIN' TRADE," SAYS CAP'N WILLIE

He is one of the few builders of log canoes left in the Chesapeake region (pages 357 and 377). When large tree trunks were available he hewed hulls from two logs in his Messick, Virginia, shipyard. Generally, now, he uses three smaller logs—two for the sides, one for the bottom. Indians built fires in the logs and scooped the charred hearts to shape foremen of these canoes.

sunk 158 years ago during the Siege of Yorktown (page 367).

"When Lord Cornwallis attempted to establish a southern naval base here," he explained, "his plans were short-lived. Ten British ships were bottled up in the river by De Grasse's fleet. American and French batteries on shore sank them."

BURNING YORKTOWN FRIGATES

Later we read an eye-witness account of this naval action by the American army surgeon James Thatcher. "A red-hot shell

set fire to the *Charon*, a British 44-gun ship, and smaller vessels in the river, which were consumed in the night. From the bank of the river I had a fine view of this splendid conflagration. The ships were enwrapped in a torrent of fire, spreading with vivid brightness among the combustible rigging and running with amazing rapidity to the tops of the several masts, while all around was thunder and lightning from our numerous cannon and mortars."

For more than a century and a half these wrecks rested undisturbed in 60 feet of water. Research experts delving into Revolutionary history wondered if the wooden hulls could still be there.

In 1934-35, as a joint undertaking by the Colonial National Historical Park

and the Mariners' Museum at Newport News (page 362), divers were lowered from barges. Groping through mud and oyster shells in the murky light, they encountered two wrecks, men-of-war beyond doubt.

Uncovering the hulks with high-pressure streams of water, the divers found many barnacle-encrusted relics: eight 12-pounder guns, pewter drinking mugs and candle sticks, long pieces of rope and hawsers with anchors still intact, and cans of bright-red paint used to camouflage the decks so that squeamish sailors would not become



EXCITING ADVENTURES OF CAPTAIN JOHN SMITH ARE PICTURED IN ENGRAVINGS FROM HIS "GENERALL HISTORIE OF VIRGINIA," FIRST PUBLISHED 1624

Depicted here are scenes of the doughty captain's fights with the Indians, in which he slew three warriors and was captured (left center); "Their triumph about him" (upper left); "Their confuration (trial) about C. Smith" (upper center); "C. Smith taketh the King of Pamaunkee prisoner 1608" (upper right); "King Powhatan comands C. Smith to be slayne, his daughter Pokahontas begs his life" (lower right); a map (center) of the regions about "Roanoke" Island and the "Ould Virginia" coast from Cape Henry (right) south to Cape Fear (left); and "C. Smith takes the King of Paspabugh prisoner."

faint-hearted when blood flowed. Hulls were too fragile to hoist, but, except for sails, nearly every item of a frigate's rigging was recovered (page 363).

The officers of those ships must have lived well. From the captain's quarters 200 wine bottles were brought up; but the divers were disappointed because the corks had rotted and let in Bay water! Cleaned of mud and barnacles, the bottles glowed with iridescence as a result of the long submergence. Mortars for grinding pills were discovered, possibly for the treatment of hangovers and seasickness!

Names of the ships remain a mystery, but logs and naval lists are being searched to find a record of a certain "Edward New." His name, the only clue to the vessels' identity, was scratched on one of the bottles.

We docked at Yorktown's ferry slip and

saw the marker on the spot where Lord Cornwallis surrendered to General Washington, the king's men marching to the field with their regimental pipers playing "The World Turned Upside Down!"

Yorktown was a cargo-piled port in colonial times, but now it is only a village. Sight-seers stroll along streets once crowded with swaggering ship captains, colonial dandies, and planters bringing their tobacco and potatoes for shipment to Europe and the West Indies.

Yet sometimes still the steep bluffs under Yorktown echo the sharp staccato of ships' bells and orders bellowed from navigation bridges, for battle fleets have assembled on the York's wide estuary during every American war since the Revolution.

We sailed away from Yorktown with a promising dawn, but as we rounded Old



Photograph by Willard R. Culver.

"TRALCE" PAYS A CALL AT SMITH ISLAND

Oil stove on dock, Chips sets the coffee boiling while Skipper lowers the sails. Although only 18 feet in length, *Tralce's* 7-foot beam allowed "stretching" room for four sleepers. A canvas cover across the boom sheltered the crew in rainy weather.

Point Comfort and ran before the wind into Hampton Roads the sun disappeared behind dark clouds. A menacing sea became purple, and whitecaps shattered into bullets of spray as the wind blew up for our first taste of ugly weather.

Tralce heeled, staggered up, and heeled again. As we sighted Fort Monroe's walls dimly through the mist, a real southeaster struck and we lowered sails just in time to prevent a spill.

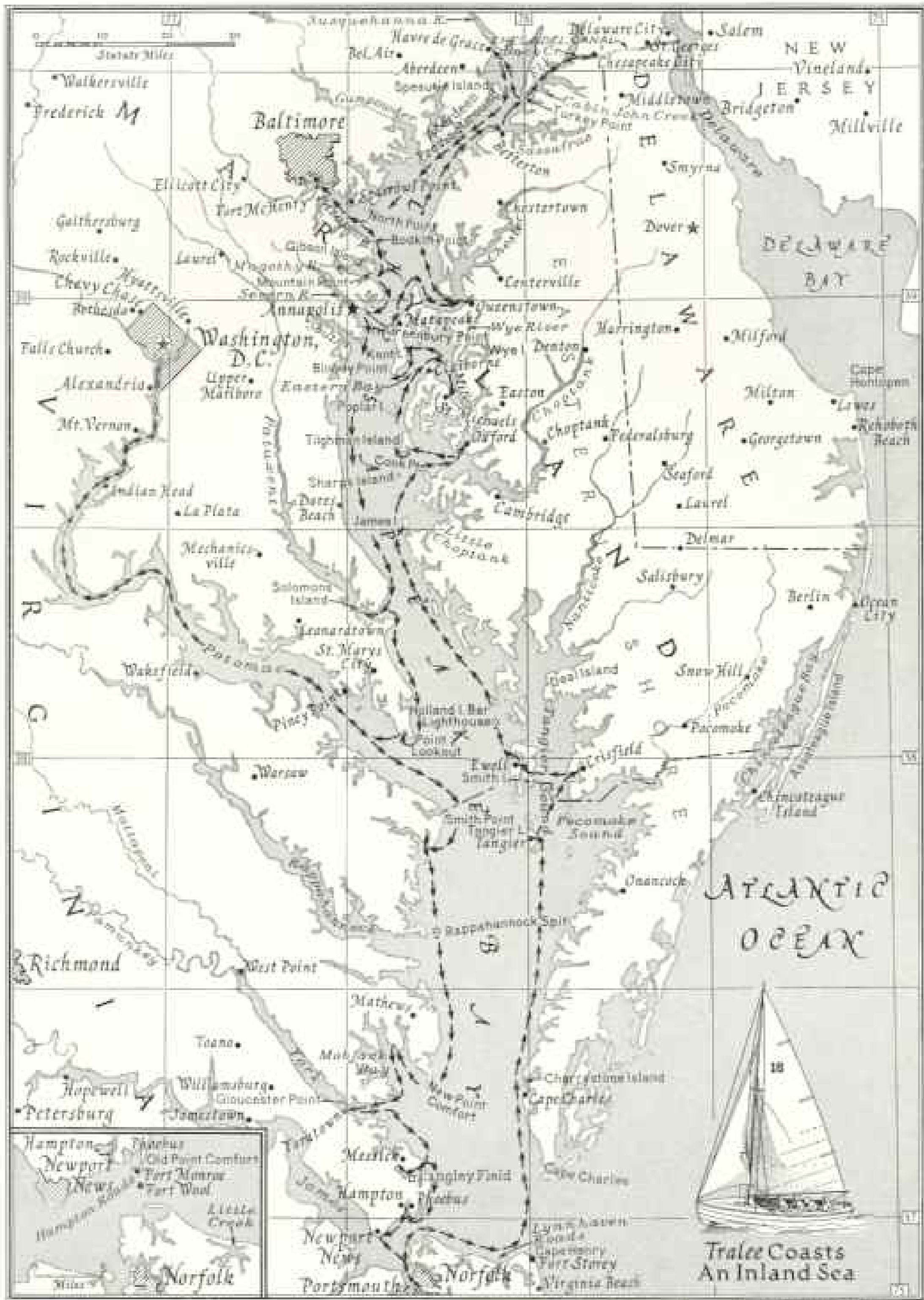
BIRTHPLACE OF AMERICAN MEN-OF-WAR

Singing "Blow the Man Down," we worked our way, under reaching jib only, into the Hampton Yacht Club's cosy anchorage. There members helped us spread sails to dry in their loft, and drove us to a dinner of sizzling grilled salt-water eels and—what a combination!—Chinese chow mein, in Newport News.

From the ways at the Newport News Shipbuilding and Dry Dock Company have gone merchantmen and American naval vessels to carry commerce and prestige into every port from Penang to Spitsbergen (page 370).

"Our affection for ships we've built follows them through far seas like that for absent sons and daughters," Homer L. Ferguson, president of the company, told us. "And they turn homeward when they're in trouble, to have their engines repaired, their hulls repainted, and the barnacles scraped from their bottoms."

While we stood looking over the yard from the steel flight deck of the aircraft carrier *Yorktown*, then building, word came that the *President Hoover*, luxurious Pacific liner off these ways, had been bombed by airplanes on the Yangtze below Shanghai.



Drawn by Newman Bunstead and Ralph E. McAloer.

IN CAPTAIN JOHN SMITH'S TRACKS, "TRALEE" CRUISED CHESAPEAKE BAY

Following the shoreline and poking up tributaries of "America's Inland Sea," the little sloop's skipper and crew spent 78 days on their voyage. They touched at many places first visited by the Bay's earliest explorer.



NEW ENGLAND WHALERS CARVED SCRIMSHAW FROM WHALEBONE AND WALRUS IVORY.

The collection in the Mariners' Museum at Newport News is one of the largest in the country. A harpooner's yarn is illustrated on whalebone (upper left). Spurlike designs were for crinkling pie crusts; the carving with four designs (center) is a "buskin," or corset stay. At right, a knife sheath.



Photographs by Paul Pryor

A YOUNG ENSIGN STUDIES NAVAL HISTORY AT FIRST HAND

The log of John Paul Jones' "Continental Ship of War," *Ranger*, is a guarded treasure in the Mariners' Museum. The entry for Tuesday, April 27, 1779, reads, "This day begins with rainy weather"—but the crew cleaned ship, nevertheless. One year later *Ranger* was captured by the British at the fall of Charleston, South Carolina, and added to the Royal Navy under the name *Halifax*.



Photograph by Paul Fryer.

WATER COVERED THESE RELICS OF BYGONE FRIGATES FOR 153 YEARS

Recently, divers located hulks of British men-of-war sunk off Yorktown in 1781. In the Mariners' Museum at Newport News are displayed cannon, wine bottles, table silver, cans of red paint, and many objects recovered from the muddy bottom of the York River (page 358). The rigging blocks of lignum vitae (center and lower right) still revolve freely, and the anchor hawser (on wall in background) could hold a fair-sized ship.

"When Simon Lake in 1898 took the first successful submarine, the *Argonaut First*, out through Hampton Roads for trial runs in the Chesapeake," Mr. Ferguson said, "Jules Verne prophesied that submarines and navies of the air would be factors in the next war!"

In the mold loft, where parachute spinners for fifteen America's Cup defenders could be laid out without touching, we saw a heavy cruiser flat on the floor! Actual-sized templates of a 10,000-ton vessel were being fitted by sections before corresponding parts were fashioned in steel.

Residents of this James River section are particularly "ship minded." A young real estate dealer sailed with us across to Norfolk to explain new housing developments for workmen. In his office we examined handmade clipper models and forgot slum-clearance projects!

NAVAL HISTORY MADE HERE

"Norfolkians insist the War of 1812 was brewed in our harbor," he said. "On June 22, 1807, British officers of H. M. S.

Leopard boarded the U.S.S. *Chesapeake* shortly after she had sailed for the Mediterranean, and demanded the right to search the ship for deserters. Commodore James Barron refused. Thereupon the British vessel opened fire with broadsides on the unprepared *Chesapeake* and forced her to surrender. Although five years elapsed before hostilities began, the 'Chesapeake Affair' was a major cause of the war."

David Farragut in 1826 gathered youngsters from warships anchored here in Hampton Roads and established America's first naval school, a floating "Annapolis" aboard the U.S.S. *Alert*. Ninety-three years later almost 300,000 young Americans sailed past *Alert's* old anchorage to fight in France.

In a bullet-shaped amphibian plane from Hampton Roads Naval Air Station we looked down on factories for assembling automobiles, weaving silk, freezing fish, packing oysters, cleaning peanuts, rolling steel doors, processing soy beans, canning and pickling fruits, stemming tobacco, knitting underwear, roasting coffee, and making paints, veneers, and cement.

"Upriver at Jamestown America's foreign commerce was born," our pilot said, "and here below us it was cradled." Flying at 2,500 feet, we could see eight trunk railways spreading fanwise into the interior.

WHERE "MONITOR" FOUGHT "MERRIMACK"

Inside Fort Monroe we chatted with artillerymen living in quarters where Jefferson Davis was kept a Government prisoner for two dreary years. Under massive walls of stone and earth an enlisted man showed us the bedroom of the former President of the Confederacy.

From atop the walls President Lincoln watched Federal ships shell Confederate privateers across the Roads at Norfolk. And from the fort we could see where was fought the battle between those forerunners of modern ironclads, the *Monitor* and the *Merrimack*.

As we examined scale models of these strange-looking sea-fighters in the Mariners' Museum, we could imagine the excitement caused in the fishing fleets when they were first sighted. To Chesapeake sailors the ironclad was "a sea serpent thrashing along, smoke spouting from its gills"!

INTO THE CHESAPEAKE'S MOUTH

From Norfolk's inner boat basin we sailed again on a dull, fog-obscured morning. Army bombing planes from near-by Langley Field roared over our heads as *Tralce*, matching speed with two local yachts, reached down Hampton Roads. In protected waters they showed us their heels, but once we struck open stretches *Tralce* plowed ahead while her crew dipped the burgee in farewell.

Holding past Lynnhaven Roads, we plotted our course to carry us across the Bay's mouth from Cape Henry to Cape Charles, New World "Pillars of Hercules."

Fog, thickening, obscured all before us as we sailed across the merging waters of the Chesapeake and the Atlantic.

Mate Bob suddenly shouted, "Must be a storm brewing! I hear thunder!" But it was only the big coast artillery gun of Fort Storey, firing at targets 17 miles at sea.

A CLOSE SHAVE IN THE FOG

The Chesapeake of John Smith's time was untraveled water, except for casual Indian canoes. But crossing the steamer lanes between the Capes today in a fog is a different matter.

Sandwiches were being distributed when Mate Bob, dozing at the tiller, sat up suddenly.

"I hear foghorns!" he warned. Almost simultaneously two deep blasts shattered the gloom, one to starboard only a cable's length away. Seconds passed slowly as we tooted our horn. Soon we heard the noise of propellers churning water, and the swish of bow waves. Cook jumped up on *Tralce's* foredeck.

"She's on us!" he yelled, and dropped our one foghorn overboard in his rush to rip zippered jacket off.

Could we clear? There were clangings of engine-room bells aboard the mountainous hulk bearing down on us, more thrashing of propellers. *Tralce* bobbed like an empty bottle as the steamer slid past, thirty feet to spare. On her stern were Japanese characters and the name *Fusan Maru*.

As the freshening southwest breeze lifted the fog, we picked up faintly the lights of Cape Charles Harbor. The mate, enjoying the fair breeze with lee decks awash, called out, "If we had a *real* cook-navigator now, we'd have dinner on deck and keep running up the Bay, wouldn't we, Skipper?"

It worked! While cook set up his two-burner gasoline stove, *Tralce's* bow was turned due north with Polaris as a steering mark.

Two miles to starboard lay the Virginia peninsula's low-lying coastline, dimly bathed in moonlight. On beaches here, Indians introduced settlers to the delights of Chesapeake terrapin, clams, and oysters. At midnight, with Vega showing bright through our port shrouds, we passed Cherrystone Island, Virginia's famous "clam ground."

Fifty miles above Cape Charles the peninsula narrows until in places only eight miles separate Atlantic swells from the comparative quiet of the Bay. From many little harbors alongshore, schooners, "bug-eyes," "pungies," and other small craft loaded with melons, strawberries, and potatoes, sail across to city markets.

The moon sank early in the morning hours, and in the darkness *Tralce's* wake was clearly outlined by a phosphorescent trail astern. The mate and cook stood turns with me at the tiller, the two off duty stretched out on floorboards for cat naps.

Awaiting a breeze at seven o'clock, we scrubbed decks between dives overboard



Photograph by Paul Pryor

WOULD YOU LIKE A MICKEY MOUSE OR A MERMAID?

Much patronized by merchant marine seamen and Navy sailors is this tattoo artist at Norfolk. He offered *Tralce's* crew 1,500 designs to choose from. None was quite suitable, however! Artists use electric needles and fast-color dyes.

while Cook Delbos prepared pancakes with honey. Mate Bob was under *Tralce's* teak bottom detaching seaweed from the center-board and rudder when skipper, standing on the bow, shouted:

"There's some big monster swimming toward us!"

Mate's hop aboard was amazingly fast! As the creature swam closer, we saw that it was a loggerhead turtle, ragged patches of moss growing on its three-foot-wide back. Head drawn under its shell, it waved huge flippers to propel itself through the swell.

Quickly we fashioned a noose and attempted to lasso the turtle, but it disappeared with a piglike grunt when the rope touched its hard covering, shattering dreams of soup and stew.

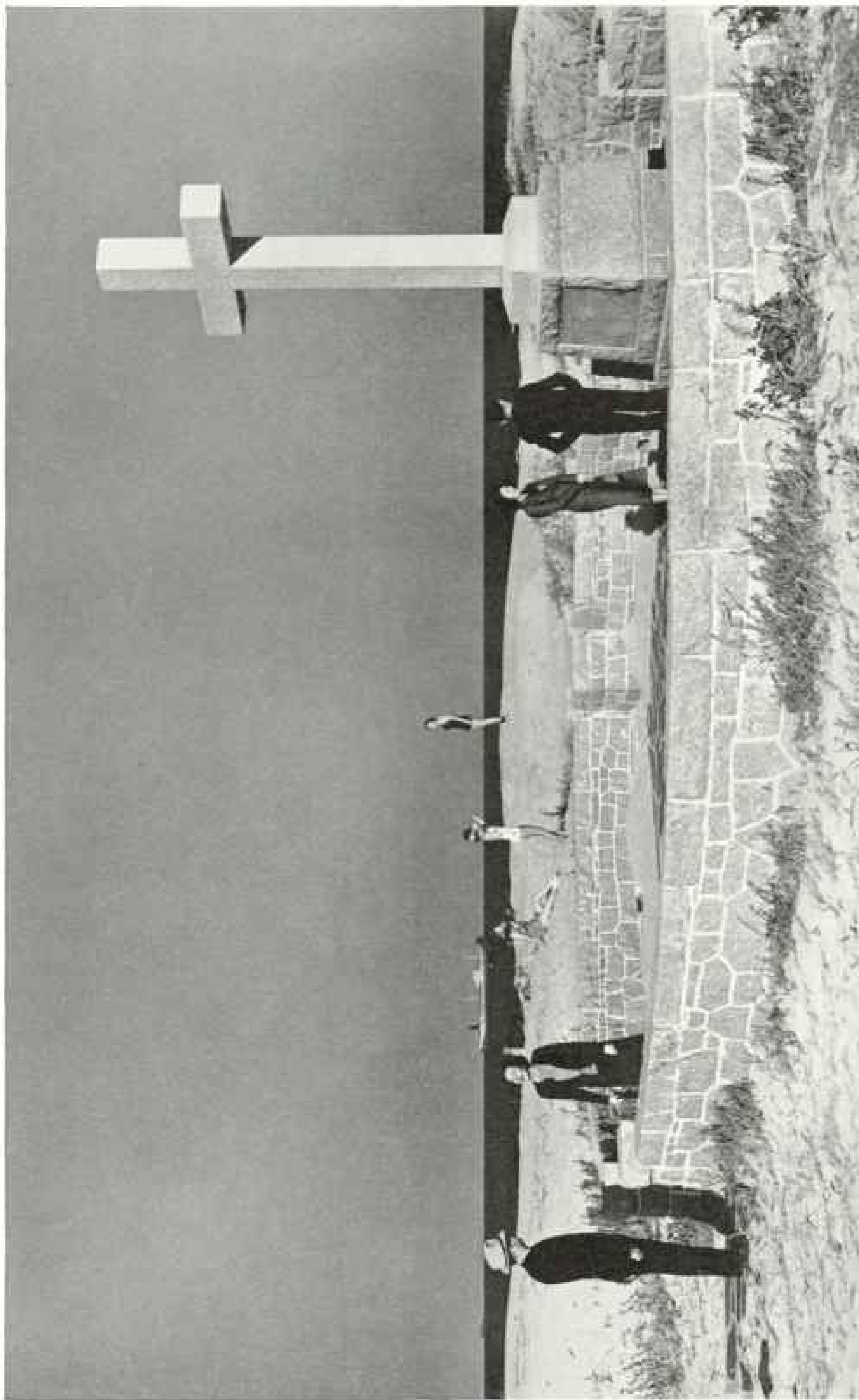
We passed Pocomoke Sound and, just south of Tangier Island, ran close to the derelict U.S.S. *Texas*, her steel decks awash at low tide. Well-placed Navy bombs sent her to rest here in 1919, a life of usefulness as a guardian of our coasts

ended. Fish swam through rents and portholes in her sides—shadowy occupants of wardrooms and captain's quarters where war games once were planned.

At Tangier's channel buoy a crabbing boat threw us a line for a tow. On the dock inside we found my young brother, up from inland Tennessee for his first taste of sailing and salt water. Christened "Chips," he was put to work repairing sails and rigging.

PRESIDENT WILSON'S PARTY WAS MISTAKEN FOR ENEMY RAIDERS ON TANGIER

Tangier village reminded me of bits of rural Ireland I had tramped through years before. Its two narrow, crooked streets of spick-and-span houses, with zinnias and bachelor's buttons growing along the walks and honeysuckle climbing the fences, seemed Old World in atmosphere (p. 378). Women in gingham bonnets gave shy greeting as they passed. Older men, some looking as though they might be kin to time itself, smoked clay pipes in sunny corners.



Photograph by Willard K. Calver

HERE, ON CAPE HENRY, CAPTAIN JOHN SMITH AND HIS COLONISTS FIRST LANDED IN AMERICA

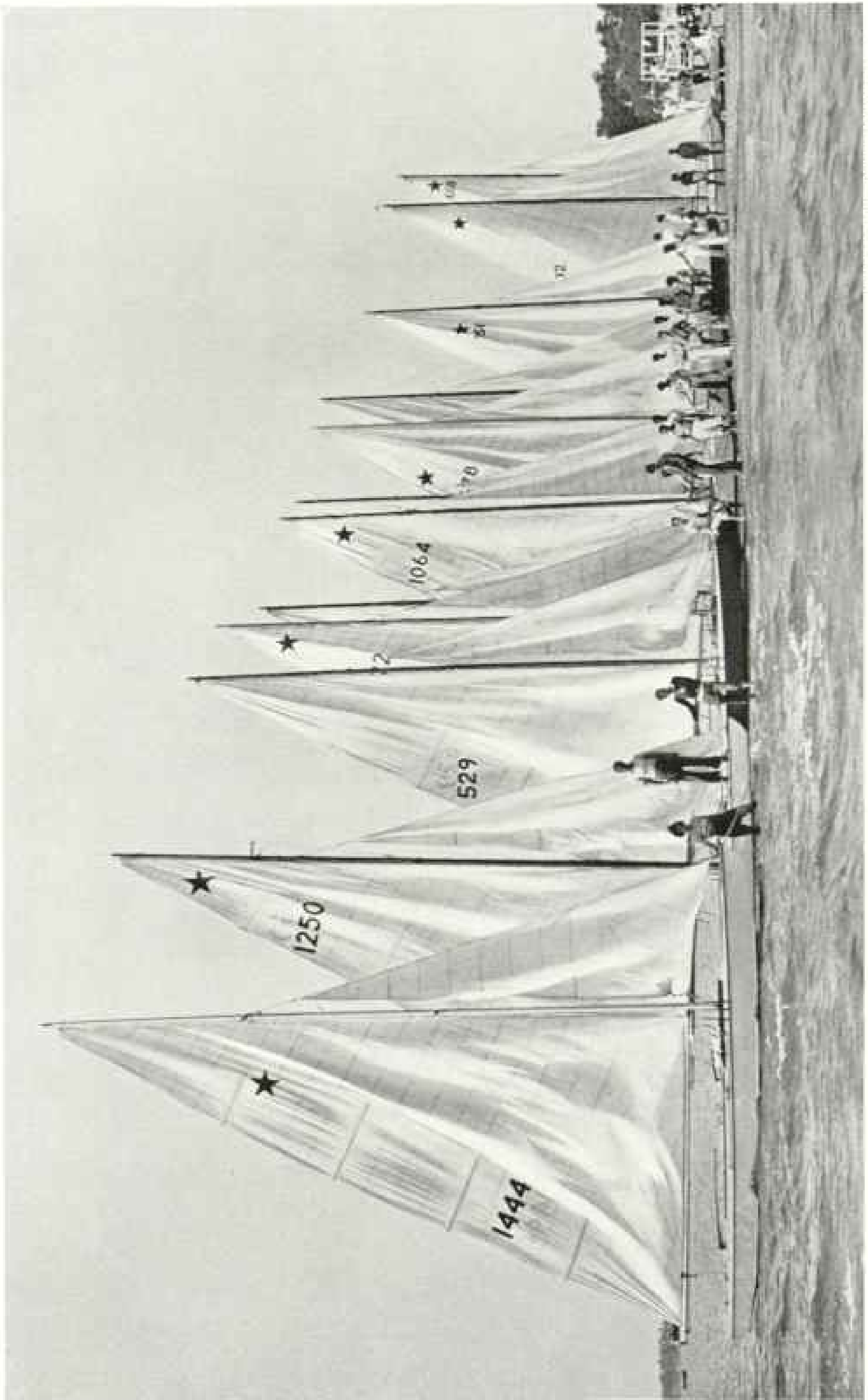
Ships under the command of Captain (later Admiral) Christopher Newport sought shelter in the Chesapeake on April 26, 1607. This forced landing led to the founding of Jamestown, on the James River, the first permanent English settlement. After planting a wooden cross where the stone shaft now stands, John Smith wrote to his backers in England: "The show of land there is white hilly and . . . and along the shores great plenty of pines and firs."



Photograph by Willard H. Culver

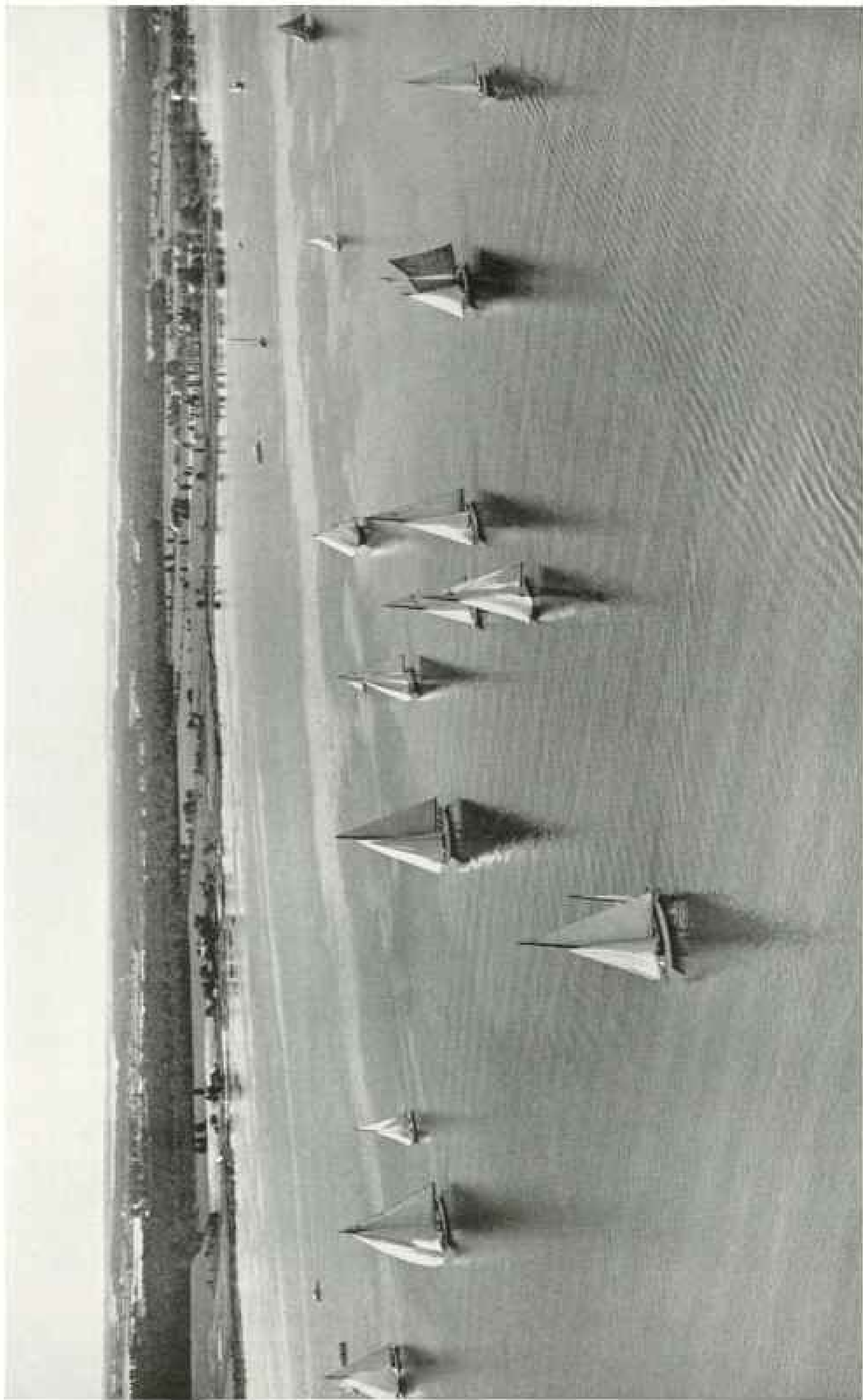
COLORS STILL FLYING, THE GRAND FRENCH BATTERY AT YORKTOWN LOOKS TODAY AS IT DID IN 1781

As a unit in the first parallel that encircled the British army, it helped silence enemy artillery and force the surrender of Lord Cornwallis. The gun in the foreground is a French stone mortar used during the siege. The three cannon in the background are American cast-iron guns of 1797. The red, white, and blue flag at the left was flown by the Gatinois Regiment, which served with gallantry and distinction at Yorktown. The French Royal flag, on the traverse (right), was flown by the French troops in America. The United States National Park Service restored the battery in 1955.



WHITE SAILS FLUTTERING LIKE BUTTERFLIES' WINGS, STARS AT GIBSON ISLAND LINE UP FOR A LABOR DAY REGATTA

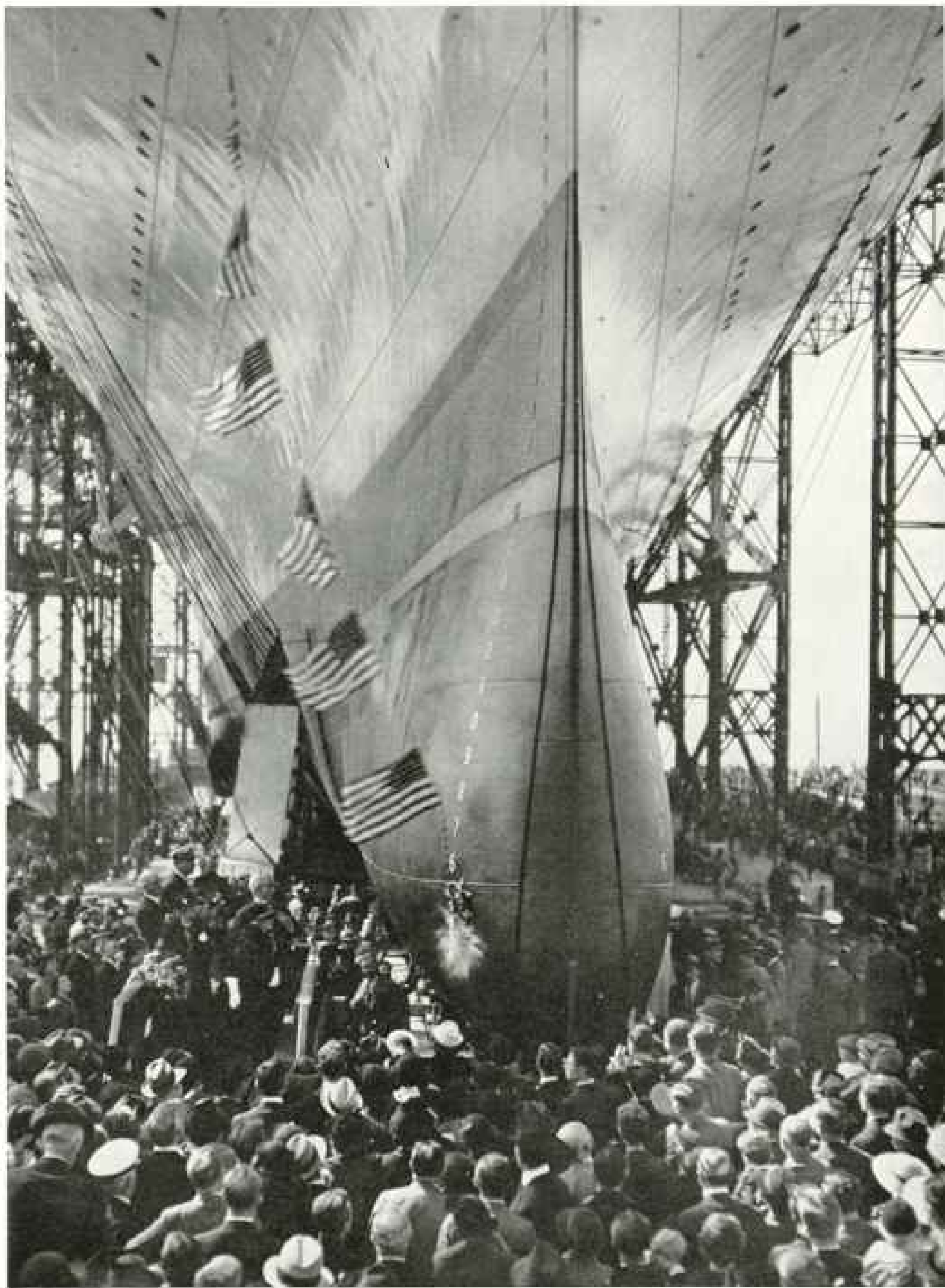
Photograph by Melville Bell Grosvenor



Photograph by H. Rollins-Hollyday

HOW RACES ARE WON! YACHTS AT TOP HAVE CAUGHT A FAINT LAND BREEZE, PASSING THE BECALMED ONES (FOREGROUND).

Chesapeake winds sometimes are light and tricky in summer months. Alert skippers take advantage of wind shifts to bring their boats home first, as is illustrated in this race of the Chesapeake Bay Yacht Club. Freshening puffs, indicated by ruffled waters along the shore, have billowed out the spinnakers and mainsails of some of the yachts, while the sails of the others hang empty. In the background lies pleasant Eastern Shore farmland, deeply indented with rivers and inlets.



CRASH! "I CHRISTEN THEE 'ENTERPRISE'!"

In October, 1936, this new aircraft carrier slid down the ways of the Newport News Shipbuilding and Dry Dock Company, and in May, 1938, she was commissioned by the United States Navy. Now she is a part of the fleet and is home to 2,072 officers, sailors, and aviators, and 90 bombers, pursuit ships, and observation planes which land and take off on her big flight deck. This is the prow of the *Enterprise*, not her stern. The bulbous bow decreases "skin resistance" and shapes the flow of water along the hull, giving her a maximum speed of approximately 32.5 knots (page 360).

During World War days President Woodrow Wilson, week-ending aboard the Presidential yacht *Mayflower*, led a party ashore here for a stroll and was amazed to see windows of homes closed and barred. An old man finally ventured out to explain the "deserted village." Natives, glimpsing gold braid and military uniforms, had fled, thinking the group was the crew of a raiding German submarine!

Vocations on Tangier are limited. Of the island's 1,500 residents, all men are fishermen except eight storekeepers, the doctor, minister, and four schoolteachers. "And even we like to handle a hook and line occasionally," the minister said.

"We have our problems, though," a storekeeper explained. "Accustomed to isolation and few contacts with mainland folk, we're undecided whether to welcome visitors for their money or preserve our simple life."

"Which school of thought is winning?" I asked.

"Greed is in us, too," he answered.

But we found no greed on Tangier. Housewives offered us cabbages and jars of home-grown figs; fishermen gave us crabs and fish.

Into every conversation crept yarns about the famous "Parson of the Islands," Joshua Thomas, who traveled between the settlements on Tangier, Smith, and Deal Islands in the log canoe *Methodist*, exhorting sinners, marrying the young, and burying the dead.

While the British were preparing to assault Baltimore in 1814, their ships anchored off Tangier and quartered their men ashore. Parson Thomas endeavored to convince them of impending failure.

"'Ye'll never take the place,'" an old fisherman quoted Thomas as saying, "and sure enough, they didn't. But before they moved on to storm Fort McHenry at Baltimore the poor critters begged parson to pray for them—and he did, for those that deserved it!"

"'But those we kill,' the parson warned in his prayer, 'may God protect their starvin' families back in the auld country!'"

"THE ADMIRAL" COMES ABOARD

We were hoisting sail at daybreak for a run across Tangier Sound to Crisfield, Maryland, when a barefoot ten-year-old peered down from the dock above us.

"Maw said if'n you'd take 'im then paw couldn't drown 'im," he mumbled, dropping an animated sack into the boat. Inside we found a badly frightened kitten, half-grown, with snow-white markings on coal-black coat. When we looked up the donor had fled.

The uninvited guest promptly crawled into the bow and made a place for himself atop our baggage. He became "The Admiral."

Heading *Traloe* toward the mainland, we slipped through lines of gasoline fishing boats and sailing vessels going to market with rich hauls of fish or decks loaded with farm products. Unpleasant odors of others passing to windward indicated fish refuse destined as fertilizer for growers up the Bay's many tributaries.

In Crisfield we visited a terrapin farm to see diamondbacks being raised for city customers willing to pay \$25 to \$35 a dozen for them (page 372).

By pre-arrangement National Geographic photographer Willard R. Culver joined us here for a trip to Smith Island, nine miles offshore.

We headed into rough water outside Crisfield's harbor. Spray flew half mast-high. Oilskins were commandeered from the crew to protect camera cases from seas that splashed into *Traloe's* cockpit.

"Do you think she can take it?" we heard Culver ask Chips, and were too busy with tiller and mainsheet to laugh when Chips answered, rather doubtfully, "I . . . don't . . . know." But we *did* make it.

A circuitous channel led into Ewell, largest of Smith Island's three villages. Because our arrival had been expected for days, "Mother" Whitelock, wife of the mailboat concessionaire, had come to the docks when our white sails were sighted, wind-and-wing.

On the landing crowded with men, women, and children eager to see our "funnin' (pleasure) yatcht" the gracious lady who was our sponsor on the island seemed dumbfounded:

"Merciful heavens!" she gasped as we climbed ashore. "You didn't come from Washington in that mite of an open boat?"

"Come ashore," she said when canvas had been furled and decks tidied, "and I'll see if I can roust up a bite." As recorded in *Traloe's* truthful log, the "bite" included these:

Oysters on the half shell, oysters scal-



Photograph by Jacobi Clayor

WHICH SHALL IT BE?

Into the tub and on to the market, or back into the pound? The immediate future of these diamondback terrapins at Crisfield, Maryland, depends upon their width across the back. If large enough, they command fancy prices (page 371).

loped, oysters fried—three to a golden-brown cake and direct from our host's oyster beds—crabmeat salad, green beans and slaw, stewed apples and fig preserves, and porkchops we couldn't touch for lack of space!

Smith Islanders live to themselves. Until Captain Whitelock "imported" a small truck to haul heavy freight to the other two island villages, some had never seen an automobile. We met old people who had ventured only to Crisfield on the mainland, then hurried home to escape noise and confusion that frightened them.

RED CROSS SUCCORS ICEBOUND ISLANDERS

When Chesapeake Bay froze almost solidly in January, 1936, and boats could not cross Tangier Sound, rumors spread that Smith and Tangier residents were starving. Red Cross food was dispatched from Washington and Crisfield to be dropped by parachutes, and islanders had their first close-up view of airplanes.

Community life centers around three Methodist churches in the villages, and "camp meetin' time" climaxes their year. Captain Whitelock's mailboat is their sole

connection with the mainland. A Red Cross nurse watches the health of 900 residents during harsh winter months.

"Come to our square dance tonight," the village schoolmistress said when she came down to inspect *Tralce*. That evening, in a warehouse, 50 young men and women danced to music from a nickel-in-the-slot phonograph, drank soda pop, and laughed at our crude attempts to imitate their staid and stately steps.

Fuel must be imported from the mainland, so we were surprised to see fishing boats rotting along tidal creeks. I asked a 15-year-old who volunteered as camera carrier why one ship skeleton we came across was not burned long ago (page 374).

"Belongs to Bill Evans," he answered.

"Wouldn't he let you burn it?"

"Don't think so; he's been dead ten years."

"SNAKE HAWKS" ARE SMITH ISLAND WEATHER PROPHETS

To Captain Whitelock we commented on the excellent weather and favorable winds we had had since casting off from Point Lookout eight days earlier.



Photograph by A. Aubrey Bodine

AWAITING A CHANGE OF RAIMENT

Crabs are left in shallow floating boxes until they shed their hard covering. Before the new armor hardens, the "soft-shells" are removed from the water and shipped to market, carefully packed in seaweed. Because of their many changes of shell before reaching maturity, crabs are frequently called "Beau Brummells of the sea."

"You've got to pay back all this southeast weather, lads, and don't forget it," he prophesied, pointing to dragonflies hovering close over the water. "When them 'snake hawks' fly low, watch out for a change!"

Docks were crowded with our new friends when we hoisted sails early next morning. Even Admiral, now thoroughly at home aboard *Traloe*, arched his back and purred a farewell as we slowly worked down the channel to open water.

Outside in the open Bay crisp morning air and a cloudless sky promised a smooth run northward to the Choptank. Off Holland Island Bar Lighthouse a school of "puffin' pig" dolphin, graceful deep-sea mammals seldom seen in the Chesapeake, passed close to us in swift pursuit of mackerel. Leaping from wave to wave, they rapidly left us astern.

In the lee of James Island, at the Little Choptank's estuary, we anchored among a fleet of bugeyes and pungies awaiting ebb tide (page 380). "Come aboard and eat with us," the Captain of the *Jennie V* of Cambridge called, and to the cook's delight we accepted.

Enjoying fried sea trout and corn-on-the-cob, we admired the spick-and-span decks and fishing equipment.

"She must be a new boat," Chips said.

The owner-skipper laughed. "During the Spanish-American War my father used her to carry Eastern Shore foodstuffs to battleships in the Patuxent River, and she was old then!"

YARN OF THE PIRATE BUGEYE, "MARY PARTRIDGE"

"Bugeyes make spankin' good pirate ships," the *Jennie V's* skipper told us. "Did'je ever hear tell of the *Mary Partridge* and old Cap'n Kim Caleb?" When we shook our heads, he leaned back against the railing and filled an evil-smelling pipe with home-grown leaf:

"Cap'n Kim come to the Bay country from nobody knows where. 'Put me up a bugeye 80 foot long and double quick,' he says to a boatbuilder at Solomons Island, and throws a fistful of gold pieces on the ground to show he meant business.

"Well, sir, that there bugeye warn't built more'n a month afore Cap'n Kim



Photograph by Willard R. Culver

A MEMORIAL TO A DEPARTED FISHERMAN IS THIS DESERTED HULK.

Wood fuel must be brought from the mainland to Smith Island. Yet rotting boats whose owners have died ashore or been lost at sea are held inviolate monuments to the men who skippered them through calms and storms.

showed his rightful colors. He wuz a pirate! An' off Rappahannock Spit down Virginia way he took his first boat, a leaky Bay schooner fightin' head winds and beatin' into Norfolk.

"Revenue cutters laid for 'im up creeks and behind fishin' fleets, but Cap'n Kim could always smell 'em," the skipper went on. "Every time they chased 'im he'd show 'em his heels, and he wouldn't stop fer rough water at the Capes, neither.

"But 'e wuz got," the skipper chuckled. "Grandpap and the oystermen finally got 'im!

"He come up on a dredgin' fleet one day by Sharps Island, and when he luffed up he hollered fer 'em to throw 'im their money and five bushels of oysters. Grandpap talked low to them around 'im, and afore Cap'n Kim knowed it all the boats

wuz headin' in to the *Mary Partridge*, and they smacked her bows first. All the oystermen had their muzzle-loaders out when they hit. My own grandpap shot 'im!"

"And got the reward for his 'carcass'?" I asked.

"Shucks, no," he said. "When he wrote Washington they told him there wuz a war bein' fit between the States, and that Jeff Davis wuz the Secretary of War that promised the reward, so his promises warn't worth their weight in dry seaweed!"

At 5 o'clock the tide was flood, and with a pleasant sound of creaking gear the fishing fleet hoisted sails and stood out from shore closely bunched, tacking southward toward the Capes.

Around Cook Point in the Choptank we found a snug-appearing little inlet and anchored for the night. We were inflating



Photograph by Paul Fryor.

FISH TRAPS ARE THE BANE OF SAILORMEN ON THE BAY

Shaped like giant spears, long nets on poles fringe both shores to snare migrating fish. In the haul from this pound net near Dares Beach, Maryland, the fishermen took hardheads or "croakers," herring (alewives), shad, Norfolk spots, and perch.

rubber mattresses, used as makeshift bunks on the floorboards, when Chips glanced up at the burgee at the masthead, and remarked, "Maybe Captain Whitelock and his 'mosquito hawks' were right. Wind is shifting and those black clouds are moving toward us from the nor'east."

Admiral climbed on deck, peeped overboard at the waves beginning to slap alongside, then huddled back against the mast, mewling and glancing shoreward.

Mate Bob and I stood watch as the night grew blacker. *Tralce's* steel backstays whined as the wind tore past. The boat pitched and rolled like a young colt straining at the halter. Hail bombarded the deck and the tarpaulin across the boom that formed our "cabin."

Our 40-pound anchor began to drag. Anxious moments followed while we worked

Tralce farther from shore and dropped a spare 20-pounder. For three hours we tossed until a steady rain began, bringing calm.

At dawn cook went ashore and over a driftwood fire prepared a breakfast of grilled sea trout and fried corncakes *à la Maryland*. Before the sun was up we were off again.

Arriving at Oxford, we found a forest of tall masts and white sails. Six-, eight-, and ten-meter class yachts, sleek white cutters and schooners designed for ocean racing, log canoes, bugeyes, swift little skipjacks with raked masts, power cruisers, and star and comet sailboats lay off the flag-bedecked water front.

For two days starting guns boomed over the Choptank as races were run in heavy winds and light (pages 368-9, 377, 381).

During an evening aboard a sleek, white-hulled eight-meter (49-foot racing sloop), we heard amusing yarns of races and storms. Our hosts laughed when they recalled how the Chesapeake's freakish tides had tricked them into losing an overnight race.

TOWED BY AN ANCHOR!

"As night approached off Annapolis, the nearest rival yacht was some distance astern," the skipper said. "After dark the wind calmed and our sails flapped emptily. Suddenly, however, we saw the approaching red and green lights of our competitor, whom we thought becalmed far behind. Steadily she came, passing us on our port side. We could even hear her skipper whispering, 'Steady boys! Keep her as she is. Don't touch those sails.'

"Frantically we tried everything to make our boat go, but the other pulled ahead. Finally, in desperation, we let the anchor go. The instant it took hold our bows began to cut the water, and realization dawned. We had been drifting backward on the flood tide, while the other boat was at anchor."

While we made sail on our last morning in Oxford an old fisherman admitted that "city sailors" were puzzles to him:

"Beats me why all you grownups git out in them little boats and gad up and down this tricky Bay," he said. "I tell my old woman sich folks must have minners (minnows) in their haids!"

The god of winds was with us on the run around Tilghman Island, up Eastern Bay and the Miles River to St. Michaels, the sleepy little port where racing got its real start on the Bay before 1840.

SOME RACES COMIC, OTHERS TRAGIC

Comedy was mingled with the racing in those days. Log canoes were dragged on shore with sails furled. At a signal crews hauled the boats into the water, fixed rudders and made sail, many times tangling their gear and upsetting their craft.

Racing craft in the good old days were not pampered, fancily rigged boats, but oyster or fishing canoes used for practical purposes on all but gala days. Cash prizes were awarded and losers were presented with hams—"to grease their bottoms."

"During the War between the States races 'to the death' took place," a member of the Miles River Yacht Club at St. Michaels told us. "Southern sympathizers in canoes raced Yankee guard boats to run the blockade."

Natives of St. Michaels like to tell how their great-grandfathers tricked British warships bombarding the little port in 1813. Realizing enemy intentions in advance, residents carried lamps and lanterns to their rooftops. Guns trained at the "lighted windows" overshot the village and cannonballs fell harmlessly in fields hundreds of yards from the water front.

After a night at St. Michaels we sailed across Eastern Bay, and went ashore on Kent Island to look for traces of William Claiborne and the first trading post established for traffic with Indians on the Chesapeake.

Off this island one of the first naval engagements in North American waters took place, when Claiborne, who established his "factory" there in 1631, resisted efforts of Lord Calvert's colonists to claim the territory for Maryland.

Here, too, on an inlet opening onto Eastern Bay, one of America's earliest seagoing vessels was constructed. Claiborne and his "Kentish men" brought the materials, including tar, iron, pumice, square nails, and ship timbers up the Bay in canoes from "Kecoughtan," as Hampton, Virginia, was known to Indians and early settlers.

Claiborne dreamed of building a great shipyard here, and brought indentured shipwrights from Jamaica and the Thames to shape the hulls. But his dreams, like so many others conceived in that early New World, were shattered abruptly. Lord Baltimore and Maryland won the fight with Virginia for Kent Island, and Claiborne returned to London to seek redress he never found.

A descendant of early Kent settlers walked with us along the island shore pointing to supposed sites of Claiborne's blockhouses and depots for storage of furs and corn he later shipped to England. On the island, too, he showed us an old brick building which traditionally was the manor house of Claiborne.

"Before the Civil War a dozen plantations supported wealthy families here," my friend said. "But riches are like insects; when their wings grow out they fly away, and today Kent farmers are not so prosperous."

LEGEND OF BLOODY POINT

I asked him how Bloody Point, the southwestern promontory of the island and familiar to all Bay sailors, received its name.



Photograph by H. Robin Hollyday

"LAY OUT ON THOSE BOARDS, FELLOWS, BEFORE THIS GUST TURNS US OVER!" SHOUTS
"JAY DEE'S" SKIPPER

Graceful log canoes, patterned after the original Indian models, still race on the Eastern Shore at St. Michaels and Oxford. They carry a tremendous press of sail for such a narrow hull, and are manned by large crews who lie out on the balancing outriggers. When the wind lightens between puffs, they must quickly crawl back into the boat or risk a ducking! As the craft tacks, the boards are transferred to the opposite side. An early explorer wrote: "The Indians call this Watry Waggon Canoo, a Vessel none can brag on; Cut from a Popular tree or Pine, and fashion'd like a Trough for Swine."



Photograph by Willard R. Culver

THERE'S NO TRAFFIC PROBLEM ON TANGIER ISLAND

The village's one narrow lane leaves no room for automobiles or horses, but it suffices for the closely knit fisherfolk who dwell on the isolated island in the Chesapeake. When President Woodrow Wilson, unannounced, walked ashore accompanied by naval aides in uniform during the World War, villagers hid behind barred doors, thinking an enemy submarine crew was invading their normal quiet (page 371).

"According to an old legend," he said, "an outlaw was hanged there and left swinging for days. Vultures eventually tore his body from the ropes. People around here say that on stormy nights the poor man still moans so that he can be heard above the noise of the wind."

Off Queenstown on the Chester River, where we anchored for the night, the sharp crack of rifles and small cannon split the stillness on a December night in '88. The Maryland police steamer *Governor McLane* attacked nine bugeyes banded together for mutual protection against the "law," scattering and sinking most of the fleet. Although many shots were exchanged, no lives were lost, and this was the last major battle in a century-long series of oyster wars.

From Queenstown we laid our course to the Bay's head. An overnight stop at Betterton, where yachting friends filled us with Maryland fried chicken, was our only

pause before reaching Cabin John Creek on the Elk River. There in a quiet haven we let go the anchor, after a day of cross-chops and adverse winds.

"Would you like to tow upriver?" the skipper of an 80-foot cruiser from New York called. We took his line gratefully, and two hours later turned into Back Creek to sight the tall drawbridge across the Chesapeake and Delaware Canal at Chesapeake City.

With an Army engineer along to see that we "got into no mischief," we remained on the bridge when it was raised 140 feet to allow a Norwegian tramp steamer to pass into the Chesapeake.

CANAL HELPS SAVE THE UNION

"George Washington and Benjamin Franklin advocated the canal's construction," the engineer said, "but little was done about it."



Photograph by Willard R. Culver

A SHORT CUT FROM BALTIMORE TO PHILADELPHIA AND EUROPE

The 14-mile Chesapeake and Delaware Canal, first opened in 1829 but recently deepened, cuts across the peninsula between the Chesapeake and Delaware Bays so that Baltimore sea traffic need no longer round the Virginia Capes (map, page 361). When the center span of this bridge at Chesapeake City, Maryland, was lifted to the top of the towers, *Traler's* crew watched ocean-going vessels pass under. In the distance gigantic dredges complete the digging.

"When the Capitol and White House were burned and Washington sacked by British General Robert Ross, and Rear Admiral Sir George Cockburn in 1814, Congress saw the need for quick transportation of troops, and belatedly appropriated \$450,000 to assist Maryland, Delaware, and Pennsylvania in digging the huge 'barge ditch.'

"The expenditure was justified," he continued. "At the beginning of the War between the States the canal helped save the Federal Government!

"On April 17, 1861, Virginia seceded from the Union and moved troops toward the National Capital where only a handful of men were guarding the city. Since every railway bridge from Baltimore to Havre de Grace had been burned, Union men could not be rushed to Washington overland.

"In Philadelphia every shallow-draft steamer was seized by Federal officers.

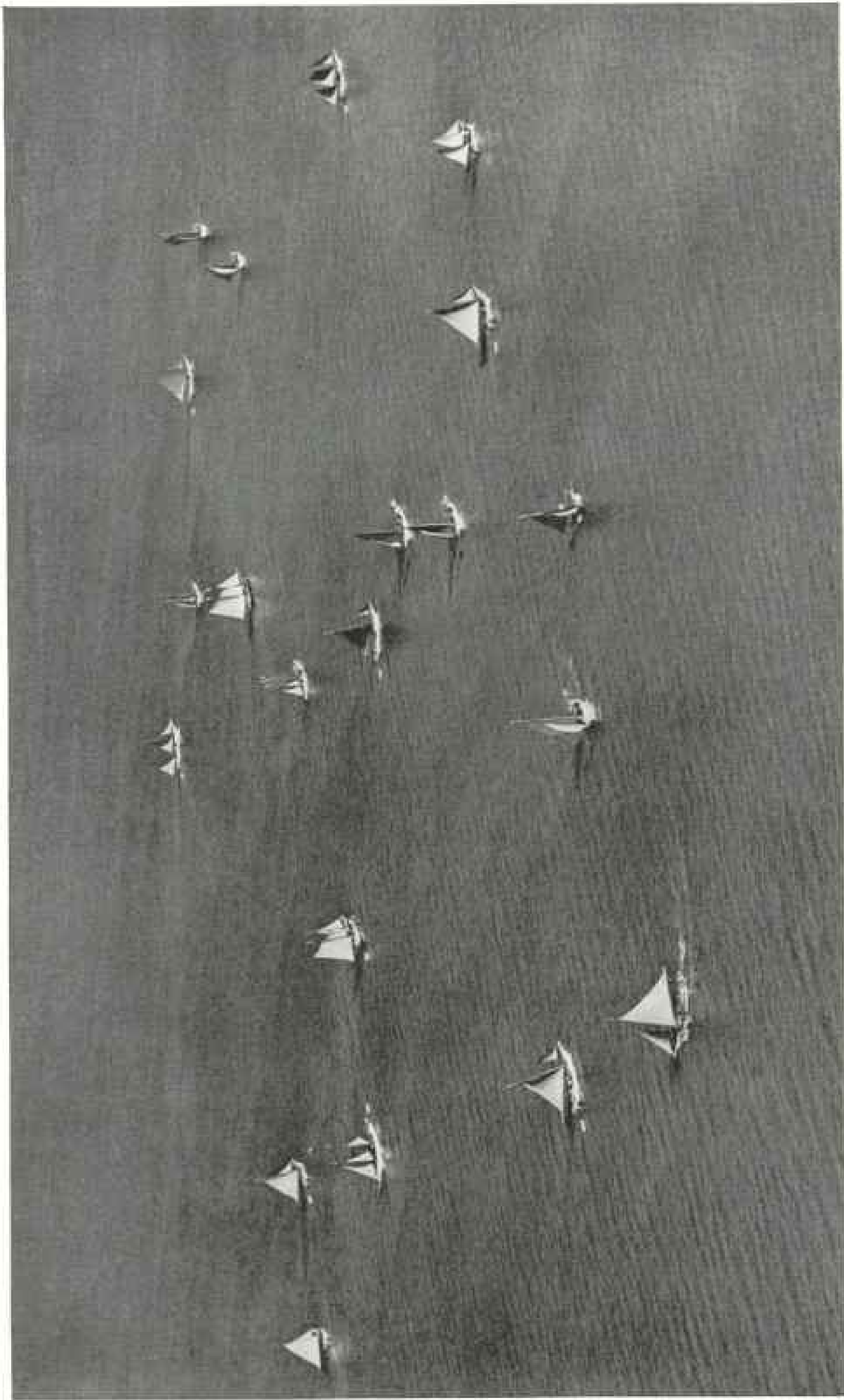
Troops were loaded quickly, rushed down Delaware River and through the canal to Annapolis. They arrived in Washington when Confederate troops were storming the bridges across the Potomac. Lincoln himself said the canal was the Union's salvation."

Improvements completed early in 1938 moved Baltimore and Chesapeake ports 330 miles nearer Philadelphia by enlarging the channel to carry ocean-going vessels.

Rain poured next morning, but we put on oilskins and ran before the wind to Turkey Point at the mouth of the Elk River. There we anchored in a sheltered cove and climbed steep cliffs to visit America's only woman lighthouse keeper (386).

From Turkey Point we turned north-westward to Havre de Grace at the Susquehanna's mouth.

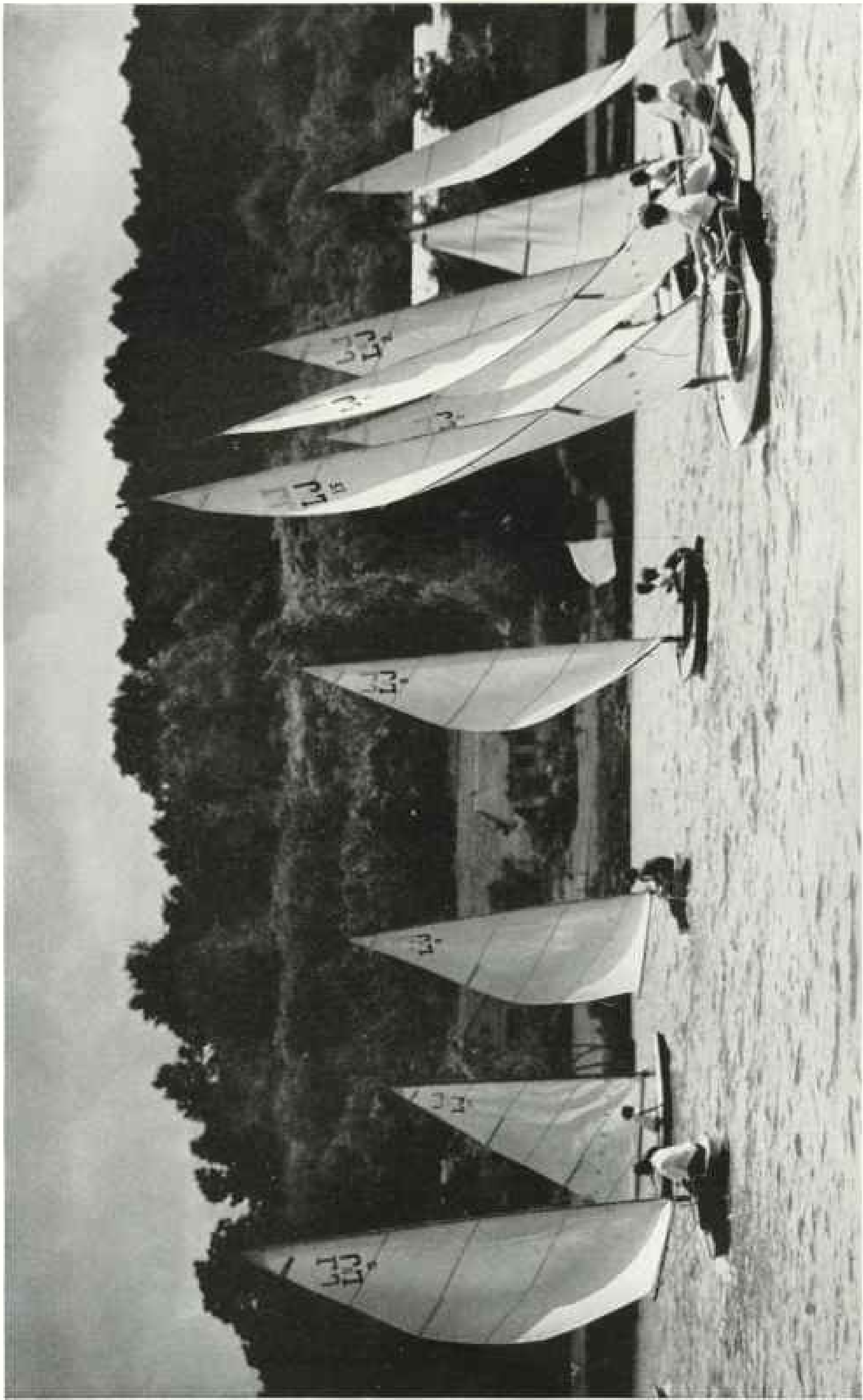
"For 46 years Captain Harry Moore has been a hunting guide on the Susquehanna's



Photograph by H. Robins Hollyday

THE ERA OF SAIL HAS NOT PASSED ON THE CHESAPEAKE—OYSTER DREDGERS MAY NOT USE POWER

Maryland and Virginia conservation laws prohibit the use of powered craft when dredging from public oyster beds. As a result, commercial sailing vessels are still common sights on these waters and such distinctive craft of the region as the Bay schooner (two left-center), the bug-eye, with two raked masts (upper center), and the skipjack, with single raked mast (foreground), have been preserved. These vessels are sailing slowly back and forth across the beds off Poplar Island, dragging big wire-mesh scoops over the bottom to scrape up the oysters. It was such a fleet of oystermen that put a finish to the pirate Cap'n Kim Cable (page 173).



Photograph by Robert F. Kujescho

A JAM AT THE WEATHER MARK—JUNIOR SKIPPERS RACE IN "L. J." BOATS AT GIBSON ISLAND

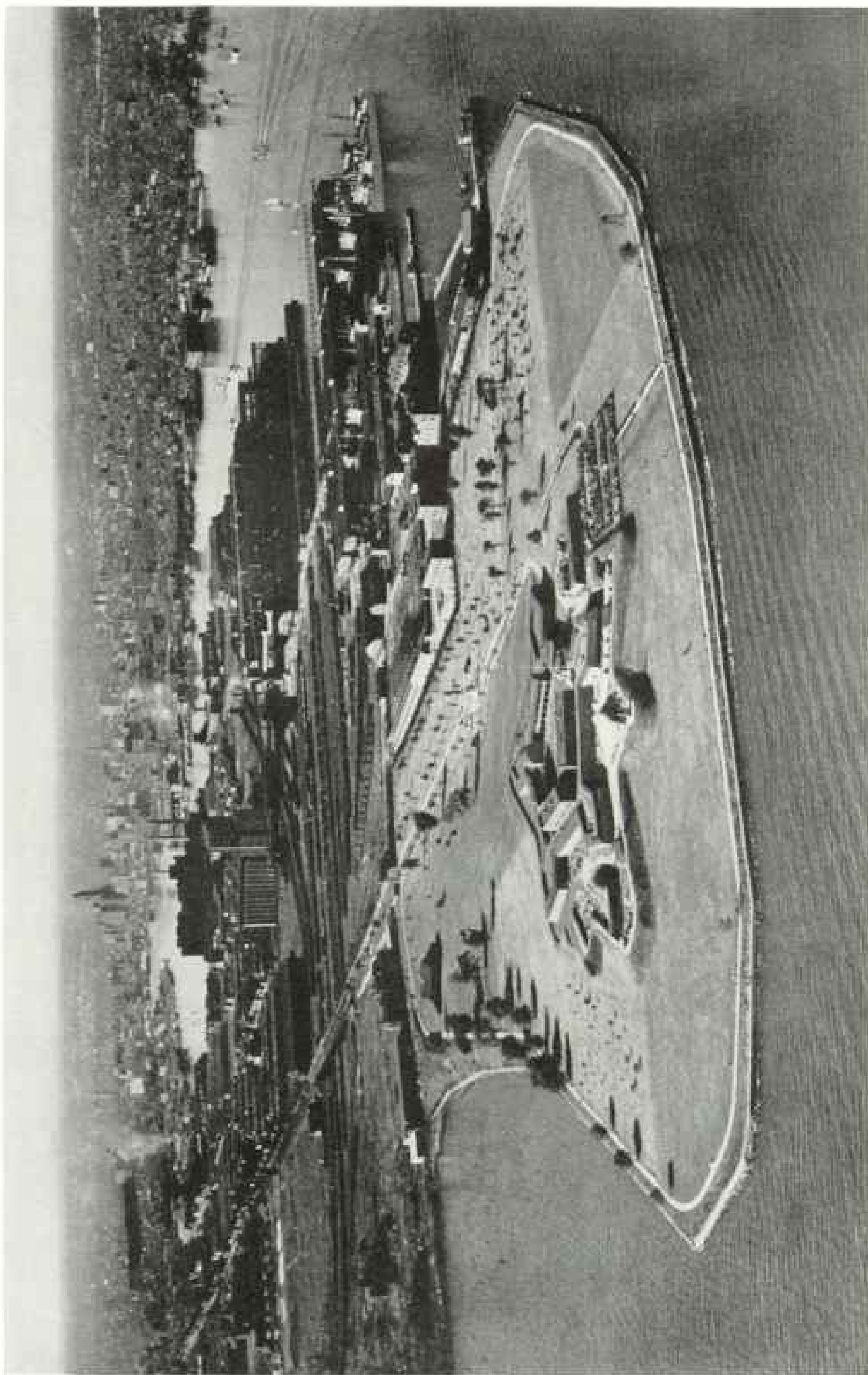
To qualify for the Junior Fleet, the five-to-fourteen-year-old youngsters must be able to swim fifty yards. They take their racing very seriously. Parents watch the races from large yachts anchored in the harbor and listen to the "seagoing" language passed back and forth between the youthful captains. The 11-foot boats, designed by Lowndes Johnson, cannot sink. Skippers are trained to cling to their little ships until rescued should they turn over in the sudden squalls that occur on the Chesapeake.



Photograph by A. Aubrey Bodlan

"HELLZ A POPPIN'" OVER THE BETHLEHEM STEEL PLANT AT SPARROWS POINT.

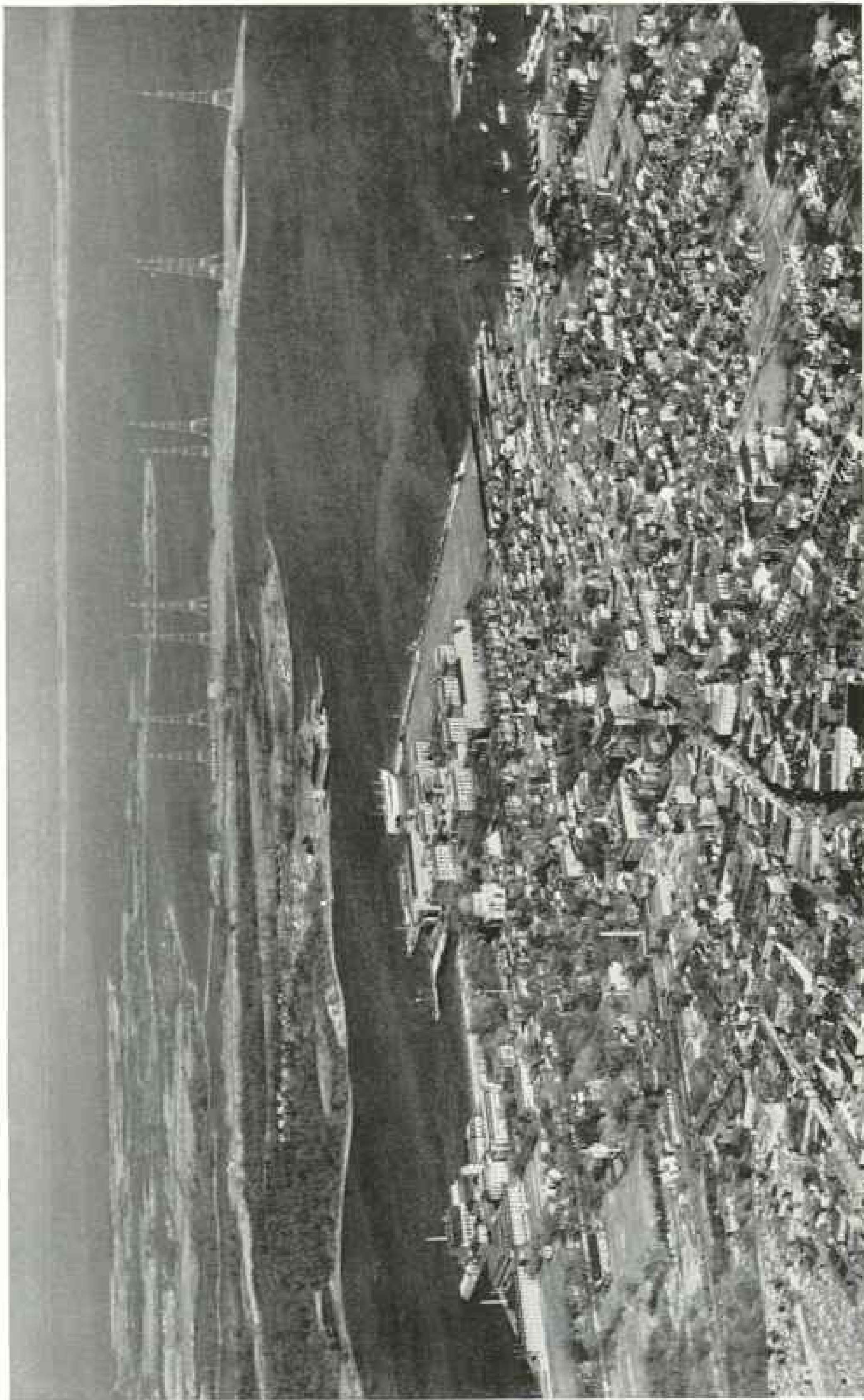
Into this blast furnace on the Patapsco River below Baltimore is poured iron ore, coke, and flux (a mixture of limestone and dolomite). Resultant steel may go into nails, refrigerators, automobiles, or streamlined trains. Steel for San Francisco's Golden Gate Bridge was rolled here. By-products of the furnace include cooking gas, coal tar, cement, fertilizer, and road-building materials. Nightly glow of hot slag from the furnaces points the way to Baltimore for sailors far out on the Bay.



Photograph by Robert T. Kulescha

FORT MCHENRY SPLITS ASUNDER BALTIMORE'S THREE-PRONGED HARBOR AND COMMANDS ALL ENTRANCES.

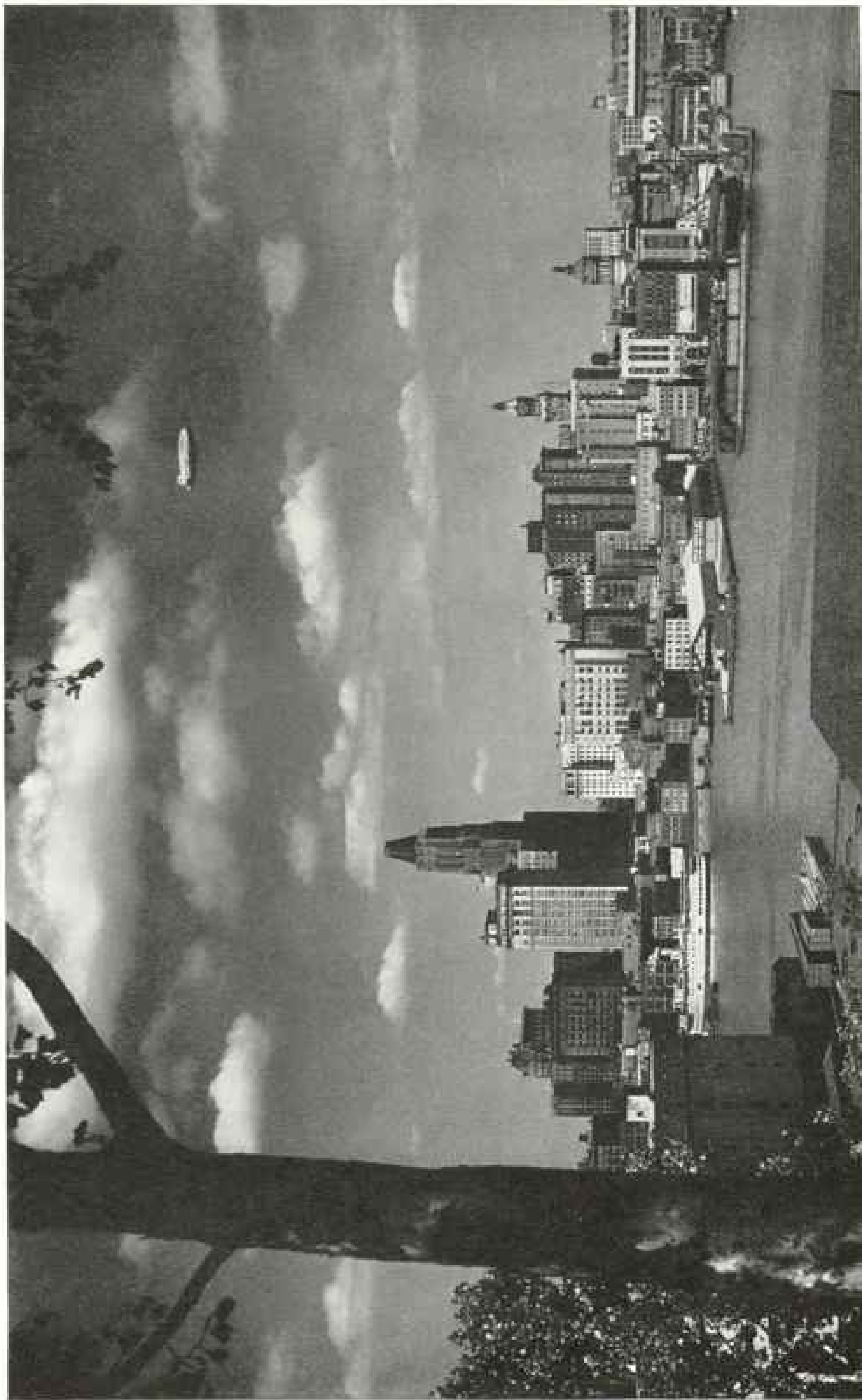
The flag that inspired Francis Scott Key waved "o'er the land of the free and the home of the brave" from a staff where the present and former canton rows inside the ramparts. Clipper ships from many seas docked along "Canton row" on the opposite side of Northwest Harbor (upper right), which comes to a dead end in the business heart of the city. Chesapeake Bay is ten miles down the Patuxent River from the fort (pages 386 and 397).



Photograph by Robert F. Kniesche

FUTURE ADMIRALS ARE TRAINED AT ANNAPOLIS, WHERE COLONIAL FORT SEVERN ONCE STOOD

When the United States Naval Academy was founded in 1845, fort buildings were used as classrooms. Today Bancroft Hall, one of the world's largest dormitories, covers its site at the mouth of the Severn River. The sharp spire (lower center) is Maryland's State Capitol, surrounded by a city proudly preserving many fine colonial homes (page 391). Across the river is Greenbury Point and the Naval Radio Station. On the Chesapeake's far shore (upper right) lies Kent Island, seat of Claiborne's colonial trading post (page 376).



Photograph by A. Aubrey Budline

FROM FEDERAL HILL PARK LOOMS SKYSCRAPER ROW ACROSS BALTIMORE'S "MAIN STREET" DOCKS

Up this canyonlike finger of the city's spacious harbor (page 383), come bananas from South America, melons from Maryland "landings," and oysters and crabs from the State's vast "sea-food pasture," Chesapeake Bay. Docking in the business section, steamers carry passengers to isolated Bay places where they also unload yokes for ox teams, supplies for tobacco farms, millions of cans for Eastern Shore tomato growers. Once a signal tower on Federal Hill flashed merchants the news of incoming clippers bearing silk from China, coffee from Brazil, and spices from the Indies.



Photograph by Willard R. Culver

SAILORS' LIVES ARE IN HER HANDS

Mrs. Fannie M. Salter, cleaning the lenses and filling her lamps, is the only woman lighthouse keeper in the United States. Beams from her light, at Turkey Point, Maryland, guide boats into the Susquehanna River channel or up Elk River to the Chesapeake and Delaware Canal.

tidal flats," Maryland's United States Senator Millard E. Tydings had told me in Washington. "Don't fail to look him up." On the back porch of his house we found the 76-year-old guide.

"God's provisionin' was plentiful all about when I was a boy," he told us. "An' many's the time I've seen two men come home at night with 2,000 fowl as their day's shootin'. Wild celery out on these flats drew ducks and geese here by the millions, but times is changed now, and not so many come."

Cap'n Harry recalled how tracks were laid across the frozen Susquehanna in the eighties when a railway trestle burned.

"Passengers got out and walked over," he reminisced, "but the engineer just tooted his whistle and puffed across as unconcerned as if he were rattlin' across Kansas!"

SHELLS SCREAM OVERHEAD

On the run back down the Bay, luck was with us again. The wind shifted to the northeast, just right for us.

Bowling past the U. S. Army's Aberdeen Proving Ground, we were nearly scared out of our wits. Half-ton shells screamed over

our heads to fall, with great spurts of flying water, three miles beyond us in a restricted zone. Fish must lead an exciting life there!

We made a perfect run that night. The sky was ablaze with starlight and winds held steady from twilight till dawn. Late on the second day we passed Sparrows Point with its towering steel works and shipyards, then reached up the Patapsco (page 382).

Soon Baltimore's tall buildings came into view and then star-shaped Fort McHenry, still bristling with cannon (pages 383 and 392). Whitecaps were flashing as we sailed over the spot where Francis Scott Key, detained by the British, wrote amid the roar of battle "by the dawn's early light . . . our flag was still there."

At dusk we docked at the Maryland Yacht Club, where sailing members made us welcome.

Next day Baltimore's port captain took us water-front sight-seeing in a city launch. "This month," he said, "ships cleared here for 46 foreign countries and scores of coastal ports."

Although Baltimore today is a great



Photograph by A. Antony Bodine

SUMMER TIME IS WATERMELON TIME ALONG THE CHESAPEAKE

Characteristic of Baltimore is this dockside scene of rapidly disappearing cargo delivered to market by wind-propelled schooners and lugeyes.

manufacturing and educational center, her charm to lovers of the sea comes from the traditions of her shipyards and the famous clippers that made her name known equally in Canton hong and European counting houses.

Those were the days when the scents of gin, nutmeg, cinnamon, almond, and tobacco mingled with the smell of tar and the salty air around the docks; when daughters of merchant princes lifted hooped skirts over mud puddles in the main streets, and gilded bowsprits of famous Baltimore clipper ships peered into dockside windows.

Streets were alive with sailors. Shipmasters, pilots, owners, underwriters, buyers and sellers—all flocked to Baltimore town.

Modern commerce has not destroyed the lure of the water front, although foreign flags along her docks today fly mainly from steel-hulled freighters. Ship chandleries and second-hand stores are still filled with goods reminiscent of the sailing era. Old men and young loiter on street corners gossiping of ships in port and chances for "landin' a berth" in salty terms their fathers or grandfathers would fathom.

Privateering played a big part in Baltimore's early life. Around 1795, while Britain and France fought, some 45 vessels manned by Marylanders but flying the French flag played havoc with English shipping from Antwerp to Genoa, reaping rich harvests of loot destined to become the foundation for many family fortunes.

During the Revolution Maryland citizens equipped and sent out 248 privateers. It was still a profitable venture when the United States and England fought in 1812.

Captain Jonathan Hightower of His Majesty's Navy acknowledged their effectiveness when he was rebuked by the British Admiralty because he had taken so few prizes:

"What can I do?" he retorted. "The Chesapeake's a nest of pirates!"

Not content to rest on past nautical laurels, Baltimore-built ships of the air are now winging their way across the Pacific to Hawaii, the Philippines, and China. While we sailed around the harbor a giant airplane destined for Soviet Russia's use was launched with a roar.

On his first voyage, Captain Smith loitered three days where Baltimore now



Photograph by A. Aubrey Bodine

DAUGHTERS OF THE OLD WORLD PREPARE A NEW-WORLD DISH

Polish and Lithuanian women deftly slice juicy corn from its cob at a Baltimore canning factory. Aboriginal Americans showed colonial settlers how to increase production and quality of "maize" by planting fish as nourishment for seeds. In the background tomatoes are also being prepared for the cannery. Such products from Bay farms are brought to Baltimore factories from plantation wharves by small craft, many propelled by sail alone.



Photograph by H. Robins Hollyday

FERTILE ISLANDS ALONG THE CHESAPEAKE WERE SOURCES OF COLONIAL
FOOD SUPPLIES

The numerous waterways of Maryland's Eastern Shore are still the main "highways" for transportation of island produce. Many private estates along the Chesapeake's shores are entirely surrounded by water. In the center lies Wye Island, with Eastern Bay and Kent Island beyond.

stands, and so did we. But time pressed, and when a powerboat offered a tow downstream to Bodkin Point and the Bay, we accepted gratefully.

Favorable winds carried us south to the Magothy River that afternoon. We cautiously worked our way around a fleet of racing star boats as we put into Gibson Island, home of one of America's outstanding yacht squadrons (page 368).

Gibson Island was sandy farmland until recent years when a Baltimore sportsman visualized its advantages as a yachting center. A rambling clubhouse now serves as a splendidly appointed home for sportsman skippers. Summer residences peep bayward through stately pines.

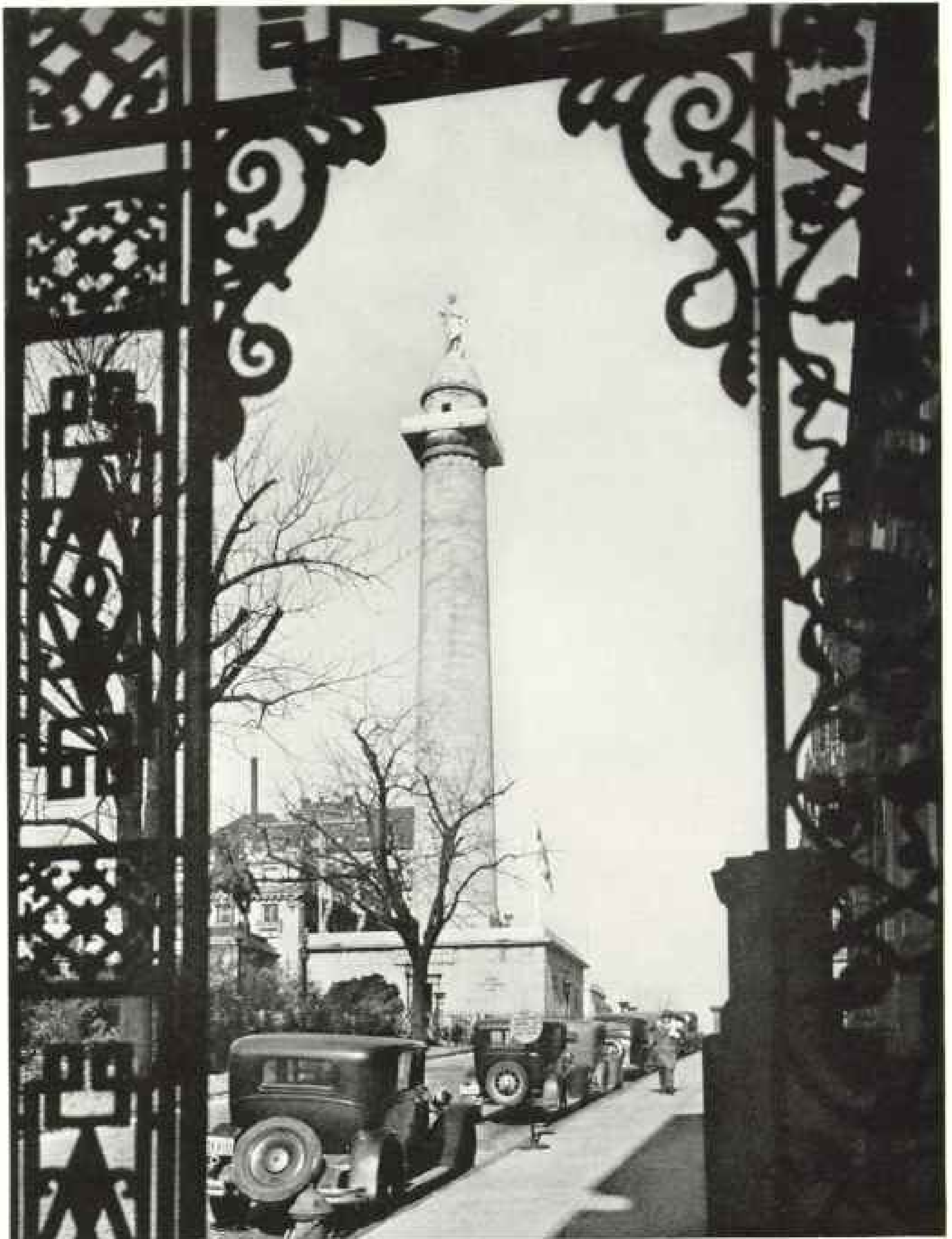
In the landlocked harbor on Saturdays and Wednesdays, dozens of "midget" skip-

pers from five to fourteen years old race 11-foot one-design sailboats and 16-foot Barnegat Bay "sneak boxes." Sizes of skippers and craft are no gauge for their cunning at the tiller or the seriousness with which they follow the racing rules (page 381).

RACING TO HAMPTON ROADS

Sails were being bent on booms and there was much activity aboard larger yachts the afternoon *Traloe* was maneuvered up to the boathouse dock. "What about coming aboard for a race to Hampton Roads?" 40-foot cutter *Binker's* skipper called out. "We need another man to crew."

Hastily assembling a seabag of extra togs, I left *Traloe* in Mate Bob's charge and climbed aboard. Twelve sleek craft tacked



Photograph by A. Aubrey Bodin

MOUNT VERNON PLACE IS BALTIMORE'S TRAFALGAR SQUARE

This oldest city memorial to George Washington, dating to 1810 when the Maryland Legislature authorized a lottery for its erection, gave the State's metropolis its nickname, Monumental City. To the right of the 188-foot Doric column flies Maryland's black, red, and gold flag, one of the oldest insignia now used in the world, flown generations before the Stars and Stripes. Farther to the right, through the wrought-iron grillwork, for which the city is famed, is the Peabody Conservatory of Music, and to the left is the Florentine Walters Art Gallery, containing unique ceramics, ancient armor, and lacquer pieces.

southward bound for Norfolk when the starting gun boomed off Mountain Point that evening at six o'clock.

Silently through the night *Binker* split the waves, while searchlights from ships of many nations made spectres of white sails as the fleet raced down "our sea road," as Baltimore skippers proudly call the Bay.

A few yachts hugged the Bay's shallow western shore and dodged through lines of fish traps—continuous nets sometimes 500 feet in length—as a short cut. Our skipper took no chances, but stayed beyond the steamship channel to minimize dangers of fouling nets or going aground, as some of our competitors did.

Before sunrise the second morning we picked up the light marking the finish at Hampton Roads. The race committee was greeting us from the deck of a tug at the line when we saw other sails peeping over the horizon. Through a megaphone came welcome news: "You're first of your class to finish!"

Late the next afternoon, after my overland return to Gibson Island, we were off on John Smith's tracks again.

Tall radio masts of the high-powered Naval Radio Station towered over us as we rounded Greenbury Point and turned into the Severn River to anchor in the United States Naval Academy boat basin (page 384).^{*} There Midshipman Gordon Gayle greeted us from a dock closely packed with amphibian planes.

"You're just in time," he said, "to see a gang of plebes initiated into the intricacies of sailing."

A hard-boiled bosun shouted instructions at the first-year men making sail with a landlubber's awkwardness. "Watch yerselves on them slippery decks," we heard him growl. "Not that I give a tinker's, but yer parents may object if ye get wet!"

Boys from inland States whose previous nautical experiences were confined to bathtubs or swimming pools spend four years in intensive training here and are graduated capable of assuming junior officer duties in the fleet.

In 1842 Midshipman Philip Spencer, son of Secretary of War John C. Spencer, was hanged at sea from a brig's yard-arm for conspiracy to mutiny. Newspapers of that day pointed to the absurdity of

using the Navy as a reform school for incorrigible youths. Public agitation was successful; the U. S. Naval Academy was founded in 1845 at Fort Severn.

STATE CAPITOL: WHERE WASHINGTON RESIGNED HIS COMMISSION

With Midshipman Gayle as guide, we explored the narrow streets of colonial Annapolis. In the State Capitol we saw the room where General George Washington resigned his commission as Commander in Chief of the Continental Army.

"Washington's diary records numerous visits to Annapolis," a State official said. "In those days this was a busy seaport and great wealth was concentrated here, based upon rich tobacco lands, cheap labor, and a high level of cultivation sustained by close contacts with Europe."

That afternoon we strolled over St. John's College campus to see the "Liberty Tree," a tulip poplar estimated by some to be 600 years old. Under its branches Virginia Puritans whom Lord Baltimore welcomed as colonists smoked peace pipes with Susquehanna Indians in 1652.

We had been following John Smith's course 21 days-actual sailing time. Unusual luck had been ours; only five days had been spoiled by rain. But fortune was against us here; we were stormbound two days. Finally we donned oilskins and sailed out to make the best of the bad weather.

Running wing-and-wing before the wind past the chalky white cliffs of Maryland's western shore, we came to the wide mouth of the Patuxent River, birthplace of fine Bay craft from colonial times.

Here in the sheltered harbor off Solomons Island (large and deep enough to hold the navies of the world, the natives boast) planters and early shippers came, to have Patuxent men build their hugeyes, pungies, and skipjacks. The bushel was measure for craft sizes—"to carry 800, or 600, or 300 bushels of oysters," they'd say—for tonnage was unknown or disregarded.

Boatbuilding is not a forgotten trade at Solomons. In a busy shipyard we saw sleek new schooners and cutters, fitted with the latest chromium gadgets and streamlined masts and booms, ready for launching.

"The hurricane of '33 unearthed grim reminders of early oystering here," a local fisherman said. "When waves washed soil off a small island in the harbor we saw skeletons of murdered men who, years ago,

^{*} See "Annapolis, Cradle of the Navy," by Arthur A. Agaton, in NATIONAL GEOGRAPHIC MAGAZINE, June, 1936.



Photograph by William Smith

GUNS LIKE THESE SAVED BALTIMORE IN 1814

Through the late afternoon and early evening of September 13, British ships poured a heavy bombardment of shot into Fort M'Henry. When darkness fell, American General George Armistead temporarily silenced his guns. Thinking the fort was demolished, the besieging fleet moved closer. Suddenly a devastating fire from the fort wrecked many vessels and compelled the fleet's retreat. Detained by the British, Francis Scott Key penned *The Star-Spangled Banner* while "... the rockets' red glare, the bombs bursting in air, gave proof through the night that our flag was still there!" General Armistead's statue looks across the harbor to the Union Shipbuilding Company docks (page 383).

had been thrown overboard from oyster boats at the season's close in order that wages would not have to be paid. Captains reported their deaths as caused by swinging booms, and thus the expression 'paying off by the boom' became a colloquialism in the Bay Region."

UP THE POTOMAC, "BLOWING HOME"

At Point Lookout, where the Potomac flows through an eight-mile-wide estuary into the Chesapeake, we tied *Tralce* to a pier and went ashore to tramp over marshy ground where 20,000 Confederate prisoners were quartered in tents through hot summer days and winter gales, and where fevers

and pneumonia mowed down men more effectively than guns. Weeds waist-high are growing over trenches, still easily discernible, where Union men defended the Point against Confederates sent by Lee to effect the prisoners' release.

We were casting off our mooring, ready to turn up the Potomac toward Washington's Corinthian Yacht Club and home, when a squall-filled cloud reared its threatening head over Virginia's Eastern Shore across the Bay.

"Let's make it blow us home," Mate Bob dared, and so we turned upriver, the sou'-easter sending *Tralce* plowing through a spray-lined furrow.

LIFE'S FLAVOR ON A SWEDISH FARM

From the Rocky Hills of Småland Thousands of Sturdy Citizens Have Emigrated to the United States

BY WILLIS LINDQUIST

With Illustrations from Photographs by the Author

ABOVE the plains of southern Sweden rises the highland Province of Småland, a rocky plateau which at one time, thousands of years ago, was an island in a nameless sea.

Comparatively few Americans visit Småland; yet it has closer ties with the United States than any comparable area in the Scandinavian countries, since this rugged region is virtually the fountainhead of Swedish emigration to America. From its steep gullies and rocky slopes have come approximately one-third of the Swedish emigrants to the United States—almost two hundred thousand in all.

Centuries of hard struggle for a living are deeply graven upon the mold of life in that out-of-the-way province, and if there is any place where the spirit of old Sweden still lives on, I felt it must be in the "outback" of Småland (map, page 396).

ELECTRICITY FROM RUSHING STREAMS

After making arrangements to stay with a farmer living in that region, I set out from Malmö, the southernmost seaport of Sweden (page 401). An electric train bore me northward over the rich plains of Skåne that sweep onward and onward like a green, rolling sea to the far hills of Småland.

It was late afternoon when I arrived at the little village of Horda. There a brother of my host introduced himself and led the way to a car he had hired to take me the remaining five and a half miles to the farm called Högakull. Every Swedish farm has a name. Högakull means "high little hill."

My new acquaintance was known as the "Director," having acquired his title as directing manager of one of the many local electric power plants along the rushing streams.

"I am leaving my bicycle in town," he remarked as we climbed into the motorcar. "I can get it another time."

I asked him if there were many automobiles in Småland.

"None of the ordinary country folk has a 'bil.' Such things are only for the town

people, the business men, and of course those who live in the manor houses." *

The narrow gravel road turned left after passing a few houses and dipped into a lowland of bogs and fields that had once been a lake bottom before the advent of drainage ditches, crossed the flat, and leaped into the cool shade of timbered hills. Large neat stacks of split logs and gray piles of sawdust lay here and there along the side of the road.

We met a man on a bicycle who drew over to the edge, got off his wheel, lifted an old battered felt hat to us, and stood there watching with open curiosity until we were lost in the bend of the road.

At intervals the forest opened to small rugged patches of field. The thick stone walls about them, made of stones from the fields, twisted and turned over the slopes like giant gray caterpillars. We clattered over small bridges with swift streams below them, saw flashes of blue lakes through screens of leaves and branches, then finally turned into Högakull.

GREETED WITH CAKES AND COFFEE

Near the foot of the barnyard stood an old thatch-roofed barn, gray and beaten with age. Close by was a mossy open well with a pail above it. And then, as we drove through a leafy arch between tall maples, we saw the farmhouse, the tool shed, and a new barn, all painted a bright red with white trimmings. Flowers were blooming in the garden and around the house.

The farmer, Carl Johansson, in a blue cotton tunic and rubber boots, came to meet us with a grin (page 395). He had little to say, but fairly rushed me to the coffee table. There were five or six kinds of cookies and tarts and two kinds of cake. The farmer's wife, Jenny, wasn't satisfied until I had tasted them all. Modest, shy, she had the peculiar faculty of blending with the shadowy corners of the room so that you hardly knew she was about.

* See "Country-House Life in Sweden," by Amelie Posse-Brázdová, NATIONAL GEOGRAPHIC MAGAZINE, July, 1934.



THE SWEDISH NATIONAL PASTIME—COFFEE DRINKING

On ordinary days coffee is served at breakfast, at eleven in the morning, at one o'clock dinner, and at four-thirty in the afternoon. The coffee is weak; sugar and cream are used generously. Six or seven kinds of cakes and cookies are essential. The author remembers having fourteen cups in one day. Here an extra session is held upon the arrival of afternoon guests. Immediately behind Jenny, the farmer's wife, at right, sits the "Director" (page 395), now almost a member of the family. At the other end of the table, in the checkered dress, is Lisa, the daughter of the house.

There were flowers on the table and flowers in my room, but the one thing that caught my eye more than anything else, that first day, was the immaculate, white-washed open hearth in each of the living rooms (page 398).

These fireplaces were different in style and shape from any that I had ever seen, and in their recesses, hiding the black stones, were neatly woven screens of fresh juniper boughs that seemingly washed the air with a faint fragrance of medicated purity.

SHOES PARKED AT THE DOOR

The cleanliness of that house! You would have been tempted, as I was, to leave your shoes at the door and walk about on the long rag rugs in your socks. That is what the farmer and his family do.

But then, none of them has any shoe-strings to untie. Their clumsy-looking wooden-soled shoes fall from their feet almost automatically as they mount the steps, unless, of course, it happens to be Sunday, when they wear ordinary leather shoes with laces and don't bother to take

them off. Usually you can tell who is home by the shoes at the door.

When coffee was over, Lisa, the 16-year-old daughter, and her brother, Per, 18, were presented with stiff formality. Except for the curtsy, Lisa, with her freckled face, red bobbed hair, and cotton print dress, might have been an American farm girl. They were both extremely shy and seemed eager to get to their milking (page 397).

The Director and I went to the top of the hill overlooking Lake Rymmen and he pointed to a dozen or more small islands where pines grew as thick as the bristles on a brush.

"Twenty years ago those islands were nothing but barren rock heaps," he said. "The Swedish Forestry Commission ordered us to plant trees on them. We did so. Now they instruct us to thin the trees out from time to time as they grow."

During my stay at Högakull the Director spent much of his time in the forest, clearing away stunted trees and brush. The real work of cutting timber for the market doesn't begin until snow falls, when the logs



HÖGAKULL'S MASTER, SICKLE ON SHOULDER, GREETES HIS GUEST WITH A GRIN

Carl, the author's host, has an odd way of laughing way back in his mouth. He loves to repeat ghost stories he heard as a child, and is something of an artist at description. "Why, do you know," he says, "the road through the woods used to get so black in those days that if you were to stick out your tongue you couldn't see to get it back in again. Yes, yes, so it was!"

can easily be moved with sleds to one of the many sawmills along the railroad track.

The importance of those timbered hills and islands to the people of Småland is more easily understood in light of the fact that almost fifty per cent of Sweden's exports are forest products (timber, pulp, paper, and so on).

ABANDONED FARMS RECALL THE RUSH TO THE UNITED STATES

During the next few days, while Per and his father were busy with the last crop of hay, and Jenny and Lisa were canning raspberries, red currants from the garden, and wild lingonberries and blueberries that grow everywhere on the wooded hillsides, the Director took me for long walks through the hills.

We tramped along irrigation ditches which convert large areas of swampland and sour bogs into fertile fields, and over narrow winding paths through pine forests.

More interesting than the forests themselves were the occasional clearings, thick with underbrush and tall weeds. In some of them were ruins of small huts and

depressions that had once been wells.

A chapter of our American history is written in many of these lonely places. At the turn of the century thousands of farm folk in the hills of Småland were struck with "Amerika fever."

Families struggled for years to save enough money to send one of the children to the United States; he or she in turn sent money back to the others, until finally there were none left but the aged parents. When they died, their huts quickly fell to ruin and the forest slowly engulfed the small fields.

HATS OFF IN COURTELY SALUTE

On these walks we often met people on bicycle or on foot. When that happened, both the newcomer and the Director would take their hats off by way of salute. If I were to remove my hat in the same manner to an American woman, she would accuse me of rank sarcasm. It isn't merely a matter of tipping the hat. Each man takes it off completely and swings it down in a wide arc to the level of the hip. I've often wondered how they manage in a snowstorm.



Drawn by C. E. Edillford

FOUNTAINHEAD OF SWEDISH EMIGRATION
TO AMERICA IS ROCKY SMÅLAND

Here the author, an American, came to visit the uplands where his father was born. Some 200,000 sons and daughters of Sweden, about one-third of those who have made new homes in the United States, were born and brought up in this rugged agricultural region north of Malmö (page 395).

A typical conversation at one of these chance meetings goes somewhat like this: After the proper introduction the neighbor says, "Oh, so you are the American who gets so much mail."

"Yes."

"How do you like Sweden?"

"Very much."

"That trip across the ocean, it must be a terrible thing."

"No, not so bad."

"Let me see, to come to Sweden you only have to cross one ocean?"

"The Atlantic, and then there is the North Sea."

"Oh, well, that little pond!"

COFFEE CAPACITY LIMITS CALLS

Frequently, too, we stopped in to greet families who lived along the way, but, owing to our limited endurance as coffee drinkers, there were never more than four such calls in any one day.

No matter what time we happened to come, coffee was always the first thought of our hostess. Under the social code of Småland she would have been most impolite had she not invited us to coffee, and we, on

the other hand, would have been equally rude had we refused.

In many of the houses we visited, the living room served also as the bedroom, the unique folding bed shoved against one of the walls usually being covered with a brightly-colored afghan. American calendars and whiskered ancestors in large gilded frames are the principal wall decorations and it is not uncommon to find a huge grandfather clock standing in one of the corners.

WRESTING A LIVING FROM ROCKY FIELDS

One busy day followed another at Högakull. When the hay crop was in, Carl, armed with a sickle, went into the yellow, waving fields of grain. He cuts his hay and his grain exactly as his father and grandfather did before him. Lisa and Per followed as he cut, picked up the grain, and tied it into sheaves that were later threaded on uprights.

The small fields would not warrant the purchase of modern farm machinery, but even if such machinery were given to the farmer as a gift it could not be used on most of the fields of Småland because of the number of rocks and bowlders. It takes a skillful hand with the sickle to avoid them as it is (page 397).

You might well imagine from this that the farmers are a lazy lot, keeping their fields in such a state, but that is far from the case. It is difficult for one who has never seen Småland to visualize a place where the very surface of the earth looks more like an endless series of rock piles than anything else. These rocks are the discouraging factor which drove thousands of Swedish people to emigrate to the United States.

Breaking new land to the plowshare and clearing it of rocks is an endless task. Only two or three of the oldest fields at Högakull are rock-free (this does not mean stone-free, as stones up to the size of an egg are an inherent part of the texture of the soil) and yet, winter after winter, tons of granite are blasted from the earth, placed upon skids, and hauled out upon the frozen lake where it is left to sink to the bottom when the ice melts (page 402).

During the bright days of harvest, when the kitchen had taken on the aspect of a cheese factory, a white linen tablecloth was spread over the table in the shade of the large elm and at 11 in the morning and 4 in the afternoon Jenny's thin voice, sounding the call to cups, floated over the land and echoed faintly in the hills.



LISA, DAUGHTER OF THE HOST, PEELS POTATOES IN THE BACK YARD

If a stranger should come along, this shy girl would quickly disappear into the kitchen and stay there. Upon being introduced, she curtsies and finds some excuse to hurry away. Like all sisters, she loves to tease her brother, Per.



SOMETIMES THE SMALL HAND SICKLE IS USED AT HÖGAKULL

Grandfather's curved blades are still kept in good order. The going may be slow, but in some fields the stones are so thick that the hand sickle is still the most efficient implement for cutting grain.



A SELDOM-USED OPEN HEARTH IN THE PARLOR AT HÖGAKULL

During cold weather the parlor is usually closed up, to conserve fuel. Therefore the pasteboard cut hasn't been disturbed by heat for years.

The farmer frequently came in from the field with a small sheaf of wheat or rye tucked under one arm. Between sips of coffee he would sit back and count the number of kernels on each stalk with the point of a penknife to select those heaviest with grain for next year's seed. On those rocky fields of Småland no trick in the science of crop culture can be overlooked.

RIGHT CHURCH, WRONG PEW

Never shall I forget my first visit to a Swedish church. Lisa and I went to the one at Rydaholm. The white walls of the ante-chamber were hung with old relics of nobil-

ity and in one corner were wooden stocks which imprisoned the ankles. The stocks used to stand at the entrance, when occupied, so the parishioners might see the sinful ones.

We were late and the church was well filled. I followed close upon Lisa's heels and sat down beside her. Strange, I thought, people kept looking at me from all sides, long after natural curiosity should have been well satisfied. I began to do some looking myself and suddenly realized that the old system of women on the left and men on the right still prevailed. I was seated with the women, the only man left of the center aisle!

The Director later took me up into the tower of the church so I might see how church bells are rung by foot. A huge wheel with a treadle was coupled to the bell by means of a short shaft, and the ringer, who stood at one side of the wheel, rang his bell by stepping upon the treadle each time it swung back.

Unlike most church towers in Sweden, the one at Rydaholm has two peaks. This, according to the Director, was because of the unusual dimensions of the tower itself, which was built long before the Reformation as a watchtower. At that time Småland was a buffer state and the scene of many battles between Sweden and Denmark; for the southern part of Sweden was then in the hands of the Danes.

As we left the church, the Director explained that the small buildings in a row across the way were the horse stables for churchgoers. He smiled suddenly.

"They used to sell strong drink right here on the church steps after the service. That was to make the blood sing in the veins during the long, cold ride home through the snow."

Like other Sunday afternoons, this one was spent with company over coffee, and more coffee. Whenever a group of Swedes gets together, the conversation invariably turns to people and families. On the strength of what I heard at such conversations, I think the average Swede has a more intimate knowledge of distant cousins, great-aunts, and step-nephews than any other people on the face of the earth.

Possibly the explanation of this flair for names and relatives is to be found in the extraordinary importance placed upon the family as an institution. Every festival, every national holiday or local celebration, every church function, is first of all a family affair. The family group constitutes the very nerve center of society and that, I think, is the rock upon which modern Sweden is built.

It was a month before I really became accepted as one of the family at Högakull and was permitted to dine at the family table in the kitchen. Before that, the men had been eating with me in the living room while Jenny and Lisa remained in the kitchen.

KITCHEN THE KEY TO FAMILY LIFE

Much of the small house was locked to me during those first weeks and I felt very



SWEDISH COSTUMES OF OLD HAVE LARGELY BEEN SUPPLANTED BY THE GINGHAM GOWN

In some far-flung hills of Småland, time has a way of standing still and it is as easy to walk into the last century as it is to walk across the street. Girls like this one, who go alone into the hills to milk the cows, come back sometimes with extraordinary tales about the little dwarf who mysteriously appears to help with the milking and then vanishes.

much as if I were staying at a small hotel. But once I was welcome in the kitchen I could at last join in their small talk, and, what was equally interesting, the small talk of the bewitching old lady who comes three times a week for milk. She pays two or three cents a quart for it and gets coffee every time she comes.

Every variety of cookie and cake in the pantry is heaped upon the old lady's plate, and if she isn't able to eat them all, which happens frequently, Jenny wraps the rest



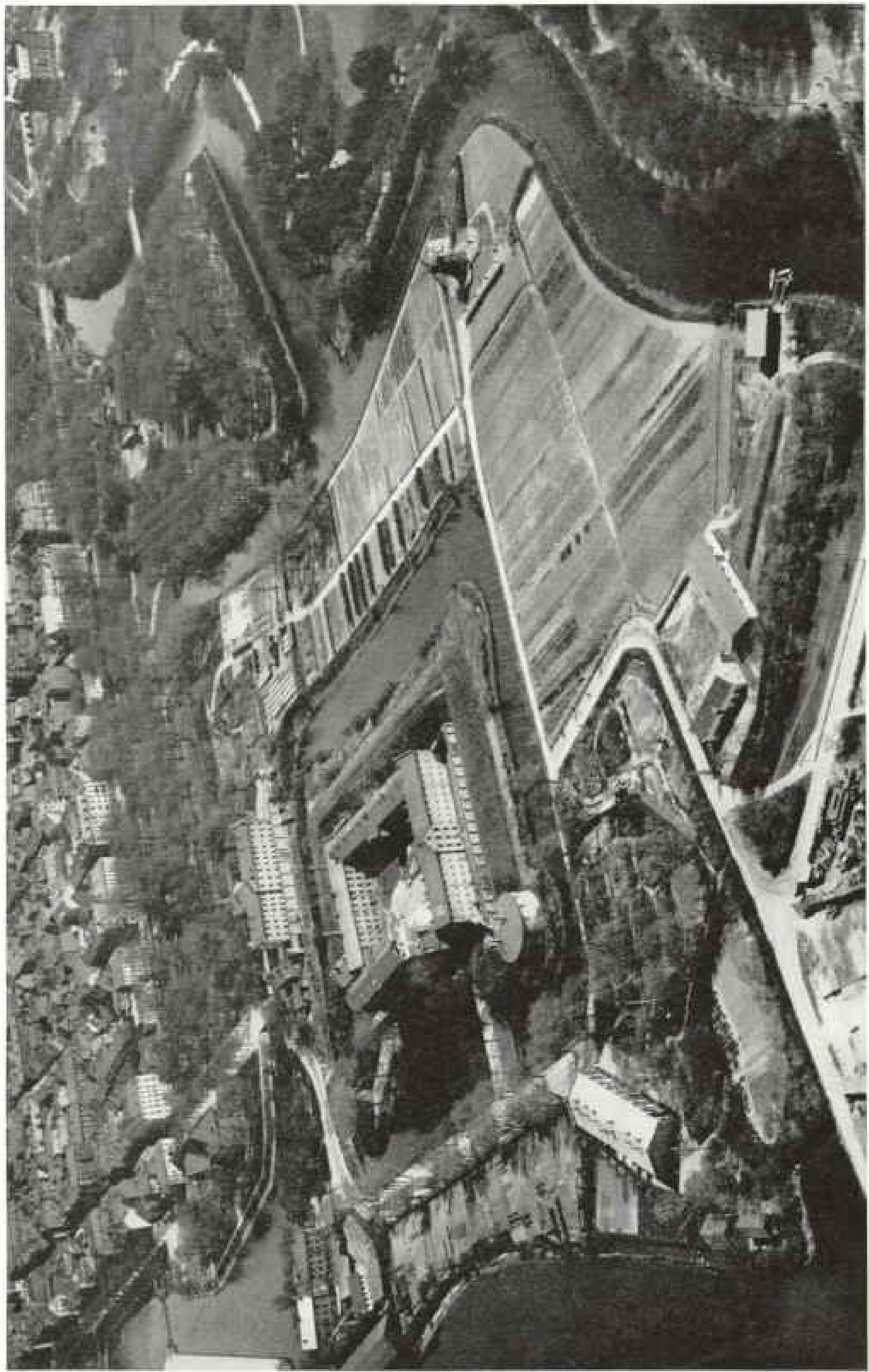
BEAUTY AND THE MECHANICAL BEAST

Although she is a Simland country maid, her bobbed hair and sport dress give her the flash of a Stockholm girl. The lightweight motorcycle is the type most commonly seen on the narrow roads of Simland.



ROCKS DON'T DO THE SCYTHE ANY GOOD!

Wherever a farmer is cutting hay or grain, a crude sort of stool, a pail of water, and a whetstone are near at hand. Frequent halts are necessary to resharpen the blade, dulled by the ever-present stones.



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THE EARL OF BOTHWELL, THIRD HUSBAND OF MARY QUEEN OF SCOTS, ONCE LANGUISHED IN MALMÖ'S ANCIENT CITADEL

A network of canals has replaced the strong fortifications which surrounded Malmöhus Castle (center) in the days of the Hanseatic League. Southernmost part of Sweden, the city is less than 20 miles from Copenhagen, across the sound. It ranks second only to Stockholm as an industrial center.



THE ENDLESS TASK OF TAKING ROCKS FROM THE FIELDS LASTS ALL WINTER

In the fall the boulders are lifted by hand derricks and dragged to the edge of the field. When snow comes they are placed upon skids, hauled far out over the frozen lake, and left there to sink when the ice melts (page 396). Rocks found balancing upon the surface gave rise to tall stories about giants, who were in the habit of throwing them many miles in moments of wrath.

of them in a paper and has her take them home. Charging for the milk seems to be little more than a technicality.

Coming back to the small talk, it isn't so much what the old lady says as how she says it. She exemplifies a trait so often found in those women of the pines and hills, a peculiar habit of making a flat statement and then, as if fearing contradiction, whittling it down with one qualification after another until the entire effect is negative.

As we were having coffee one morning, the old lady told about a trip she had once taken, and finished off with, "The scenery up at Nydala is very, very beautiful."

There was no answer to that, no sound but the sipping of hot coffee from saucers, and perhaps she took the inverted hissing to be reproving. Anyway, she went on, "Yaaaaaaa—not nicer than other parts of Sweden, of course, but it isn't ugly to look at. I'll say that."

With the exception of the small sales made to the old lady, Carl never sold any of the milk from his six or seven cows. Jenny made use of it in a number of ways in cheeses, butter, and a variety of puddings.

Carl's primary interest was veal. When he had several calves ready to sell, or some sheep or pigs, he took them to one of the farmers' fairs which are held as often as once a week at Värnamo.

Per and I pumped our bicycles about fifteen miles to attend one of them. It was half carnival, half a rustic marketplace.

Long rows of temporary stalls sold everything from dresses to cabbages. There were ice cream shops, quick-lunch counters that made me think of hot-dog stands, side shows, a merry-go-round blaring forth American jazz, a fast-talking peddler selling canes, fancy hats, and pins. He craved our indulgence because he had to support a "two-legged cat."



LISA WASHES DISHES AT THE KITCHEN STOVE.

The small iron range is in the hollow of what once was an open fireplace. The dark door beyond the hand of the daughter of the household opens to an oven that hasn't been used since the stove was installed. Note the indispensable coffee grinder (second from left) on top of the mantel.



"PUTTE," VETERAN FARM HORSE, IS MORE AT HOME PULLING A PLOW. For 23 years the animal has been a faithful member of the family at Högakull. Saddles have seen little service in Småland since bicycles gained favor.



BIRCH-BARK DISK ON SCYTHE HANDLE NEATLY LINES UP THE GRAIN.

When the reaper cuts the stalks, they fall against the disk in an even row. With a twist of the wrist, the cutter deposits them on the ground, all the heads pointing in one direction and ready for the binder (background). To use modern machinery on the rocky hillside fields of Småland is, in most cases, impossible.



TOMORROW IS SUNDAY—CARL FEELS HE MUST KEEP UP WITH THE SWENSONS

The horse buggy is still the usual form of conveyance on short trips to church or to some coffee fest on Sunday afternoon in Småland. Such is about the extent of traveling done by the family. The farmer and his son and daughter have bicycles which they use upon lesser occasions. Hay under the back seat is lunch for the family horse, "Putte" (pronounced "Put-tee").

Behind all this was the animal market where horses, oxen, calves, sheep, and pigs were calmly being bought and sold within small knots of men.

BARGAINING AT A FARMERS' FAIR

There was no coming down to brass tacks at that market. Purchaser and seller started out with the weather, then politics, and kept avoiding the subject at hand. Time meant nothing, and no matter how eager a man might have been to buy a certain horse or cow, he never let on that he was more than mildly curious.

The man who owned the beast made it clear that he wasn't particularly keen about selling such a fine animal, unless, of course, he could get a very fine price for it. Likely as not it was a case of no sale, but if one did occur you got the impression that each was doing the other a decided favor.

Second only to the market as a social institution are the unique open-air museums found in every province of Sweden. They take the place of public parks and picnic grounds, on the one hand, and museums on the other.

These museums are relatively new as the history of Sweden goes, dating back only about sixty years to the time when Dr. Arthur Hazelius started his collection of everyday articles of Swedish country life. He felt that each piece had a special significance which could be appreciated only if it appeared in its proper setting.

He hit upon the idea of furnishing old homestead buildings with them, each item in its related place, creating an exact picture of a rustic home of perhaps a century ago. This led to the establishment of Skansen, famous outdoor museum of rural arts and crafts at Stockholm.

The idea caught on quickly in other parts of Sweden. Neighborhoods were awakened to their own particular variety of provincialism and were eager to preserve it from modern standardization. Local societies were formed, open-air museums established, and interest in the work stimulated by lectures and social evenings.

We went to one of these *gammalgårdar* (old farms) one Sunday afternoon. It was miles from any town, having been established on an old homestead back in the



SMÅLAND'S BELL TOWER STILL SUMMONS WORSHIPERS

Once the tall wooden structures were common throughout Sweden. Their design was inherited from the Middle Ages and they were countryside ornaments in their own right, for they were built separately from the church edifices. This unpainted, shingle-covered tower, which stands by the side of the Öjaby Church 20 miles southeast of Hordun, is a much-prized relic of a day that has passed.

hills. On a clearing at one side of the old buildings, temporary benches and a platform had been erected. During the afternoon there was a band concert, a lecture by an official from Stockholm, a short play, and, by all means, coffee and ice cream.

But more interesting than all that was the museum itself. The main room of the house was a combination kitchen, living room, and bedroom, with a great open fireplace in which kettles were hung from hand-forged cranes; there were two-story bunks against one of the walls, unique oil lamps, rude tables, wooden bowls and plates, a candle-making device, and a spinning wheel.

At the entrance to one of the smaller buildings

sat an old man in provincial costume making wooden shoes, and at odd moments during the afternoon a quartet in knee breeches and red or green stockings sang folk songs to the accompaniment of an accordion.

I looked in vain for one of the old Viking rune stones. For some strange reason the sponsors had not seen fit to acquire one of those graven stones that lie about the countryside. I have seen several of them among the rock heaps at the side of the road, one, in fact, not a mile from Högakull; yet rarely is any attention paid to them.

Toward the last of September, when all



THE ALMS BOX IN FRONT OF ÖJABY CHURCH RESEMBLES A SMALL SAFE

Smaland churches still observe the old custom of seating women on the left side of the center aisle and the men on the right (page 398).

the sheaves of grain had been stored in the loft to await the diminutive thresher, the farmer, Per, and I dug potatoes, Lisa and the old lady who buys milk joined forces to clip the sheep (page 412), and Jenny washed the wool and spread it on racks to dry in the sun and wind. The autumn days were typically crisp ones with the smell of wood smoke in the air, for somewhere in the hills the Director was gathering and burning large piles of brush.

As the days grew shorter the men came in from the fields earlier and supper was served about 8 o'clock instead of 9 or 9:30 as it is in the summer. This meant evenings



HAY IS A LARGE AND IMPORTANT CROP ON THE SWEDISH FARM.

Farmers cut their hay several times each summer—heavy and good cuttings, too, because of the frequent rains. Still there is never enough for the long winter, so it becomes necessary to feed chopped-up grain-straw as a substitute. The thatch roof on the old barn is covered with gray moss.

by the kitchen fire, not unlike the evenings spent on many American farms. Jenny usually picked up her knitting. Lisa read love stories, while Per, always practical, turned to the farm journal or thumbed through a mail-order catalogue. The daily paper from Stockholm was more to the taste of Carl and the Director.

Lisa and Per sometimes visited friends or had company during the evenings, but that was about the extent of their recreation. The nearest movie was miles away and dancing was looked upon with disfavor.

Although Högakull had the only radio that I remember seeing in a farmer's home, it was seldom used during the evenings unless an important political speech was being

broadcast. The radio stations are operated by the Government. There is no advertising and the programs consist of lectures, dramatic skits, and music, from American swing to Wagner. There is a good variety of programs to choose from, since a turn of the dial brings in stations from all over Europe. The radio is on during the breakfast hour, when the farmer listens to the weather report and the news broadcast.

The only other modern notes about the house are the electric light and the American cream separator.

Like most rural houses in Småland, the one at Högakull is actually a log cabin. The logs are squared and the chinks filled with plaster or reindeer moss. Plaster



THE SPINNING WHEEL'S HUM IS SELDOM HEARD ON THE FARMS OF SMÅLAND

Only the older women care to bother with spinning in modern Sweden. They spin yarn for heavy mittens, stockings, socks, and mufflers, and spend the long winter evenings by the fire with their knitting. Like most of the other dwellers in the hills about Lake Rymmen, this housewife covers her unpainted plank floors with long rag rugs.

covers the inside walls, with paper over that, and on the outside, 10- or 12-inch planks are nailed vertically, each crack being covered with a narrow strip of wood.

COWS HAVE ELECTRIC LIGHT AND INDIVIDUAL DRINKING FOUNTAINS

Although not so large, the barns are built very much like those in the United States. The new one at Högakull has as many windows as the average American home. It has cement floors, separate drinking fountains in every stall, and is lighted by electricity that comes from the powerhouse by the rapids not a mile away.

Still another note of the modern age has

crept into the rhythm of life on that Småland farm. The drone of an airplane flying overhead can be heard several times a week. It is the passenger service between Stockholm, Malmö, and Copenhagen.

Tagel is the site of the only manor house in the immediate vicinity of Högakull. We were entertained there one day by Gustav, who has charge of the dairy barn and the cows. He milks the cows with an American milking machine.

Each tenant on the estate is a specialist of one sort or other and is furnished a two-room house with a small garden. He gets a small salary, and milk, butter, eggs, fruit, flour, and potatoes from the manor house.



EACH MORNING THE LAKE RYMMEN FISHERMEN HAUL IN THEIR NETS.

The average catch is from thirty to sixty perch, pickerel, eel, and pike. A dozen of the best are selected for the table. These are gutted and boiled in dill water, head, tail, scales and all. The scales are left on to prevent the fish from boiling to pieces. When done, the skin almost falls from the flesh and none of the rich flavor of the meat has been lost.



FREQUENT SUMMER RAINS MAKE IT IMPOSSIBLE TO DRY HAY UPON THE GROUND.

Four wires are drawn tight along a row of poles to keep the crop off the earth. Hay is hung upon each wire, creating a solid wall that runs half the length of the meadow. Poles and wires are moved from field to field during drying season. It takes one man about half a day to set them up.



SEEDING RYE AS THEY DID IT IN THE TIME OF DAVID

Carl Johansson, master of Högakull, fills a wooden box with rye and then walks up and down the field, casting the seed in fanlike sprays with lightning flicks of his wrist. Though the flying grain (center) is still in midair, the sower's hand has returned to the box for more seed.

In a modest way he seems better off than some of the independent farmers.

Gustav's wife, Alva, who operates a knitting machine for the "big house," served us schnapps and beer and then one of the most typical of Swedish dinners, the main course consisting of pickled herring and boiled potatoes with sour cream and salt.

They had recently sent their 16-year-old daughter to serve an apprenticeship as maid in a minister's house. Such a procedure is fairly common after the girls have finished compulsory school education at the age of 14 and taken the all-important sight-seeing trip to Copenhagen with the graduating class. In a few instances they continue their education in middle school in some near-by town (middle school is about the equivalent of high school), or take nurses' training in one of the county hospitals where persons who are unable to pay may be treated without cost.

Most of the boys seem to take as little schooling as possible and then either continue with farm work or go into city factories.

Life at Högakull has its idyllic moments.

It is the hour of sunset. Per comes from the barn with white-brimming milk pails,

leaves them at the door for Lisa, and, swinging three fish nets over his shoulder, leads me down the narrow path to Lake Rymmen.

CASTING THE NETS AT NIGHTFALL

We take the flat-bottomed boat and shove off on the windless waters. Not a breath of air ruffles the surface, blue and crystalline under a sky corrugated with wisps of cloud, and the sun flings its last feeble rays upon the treetops of the island called "Long." We go round it to the large rock and I row slowly as Per plays out the nets.

Over the mirror of water, which is changing from blue to dull gray, and beyond the sweep of shore that bends off toward Horda, lie dark, shadowy forms. They are other fishermen of Rymmen setting their nets by the strange light of dusk.

The whole world seems drenched in calm. I can understand why this last of the day's chores lies closest to the farmer's heart. There is an assuring, entrenched constancy about it, as if this, the most ancient occupation of man, had always been a part of Småland's lakes. Then the distant boats fuse into shadows as night sifts down over the lake like fine dust.



A NEIGHBOR HELPS LISA AND HER FATHER CLIP THE HÖGAKULL SHEEP

Once an animal's feet are tied, it lies perfectly still, as if it enjoyed the operation. Most of the wool is used on the farm or sold in the local community. Woolen mills in Sweden import the bulk of their raw material. Sufficient mutton is raised on the farms to supply domestic demand.

We pull for shore in the strange hush that falls before darkness. There is no sound but the dripping oars and the sloshing water along the sides of the boat. Far off and faint as the sigh of wind in the pines, the cry of a loon comes weird and lonely over the water. It stirs soundless echoes within us and we let the boat glide for a time, listening, but it does not come again.

BIRD NOTES GONE WITH SUMMER

Autumn has brought a new silence to the Rymmen. In summer the sounds were the cuckoo's melancholy note rising from the thickets of conifer on rocky slopes at the water's edge, the shrill piping of young sea-gulls crying for food, the excited twitter of small songbirds in the copse of green cedars, and the screaming challenge of the kite as it wheeled slowly high overhead.

But now, with summer gone and the birch trees changing their leaves into jittery golden tinsel, long silences brood in the sky and water, broken occasionally by the creak of a fisherman's oarlock or the cry of a far-off loon. Except for this, there is only blue space and silence and a small, small voice

as constant as the crenelated granite ramparts which flank the shores, a voice as restful as the enchantment of still reeds in the little cove where bass leap for water bugs at sundown—the small, infinite voice of water gurgling among the rocks.

There is a sharp grating of sand against the prow. Per makes the boat fast and goes on to the house while I climb out to my favorite perch on the flat rock. I sit on its cool, rough surface watching as the last light of day is drawn out of the sky and night closes down upon the land. Then, far off to the right, above the end of Lake Rymmen where dark pines on the hills of Tagel hold back the sky, the first star burns over Småland.

For a time there is nothing, nothing but the faint echoes of this land which a stranger can never quite hear, nothing but the ineffable haunting spirit that hangs over the lake day and night.

An aurora grows and pulses against the horizon until the moon, mounting suddenly over the edge of the world, thrusts its light across the lake like the flash of a Viking broadsword. It climbs into the sky, bathing everything in a downpour of silverish-green



THE THREE SMILES BELONG TO SMÅLAND SISTERS

On the Norregård farm, not far from Högakull, lives a man who might be called rich. He has two sons, two farms, a pedal organ, and three daughters. The daughters are, left to right, Svea, Anna, and Nelly. Svea is going to be a nurse, Anna goes to high school, and Nelly, happily past these uncertainties, is working on a hope chest.

wash, and gently lays a path upon the water, a lovely unearthly path as soft as the sheen of velvet.

There is a voice calling my name.

FROM SOLILOQUY TO SAUSAGE

I get up and go toward the house loathing the very thought of such a material thing as food. But as the savory odors of Swedish cooking come to me I know my mistake. Such smells as these can be the masters of men.

They change the complexion of things and I join the family. There is summer sausage, highly spiced fillet of anchovies, pickled herring, strong homemade cheeses, butter balls, rye and barley breads, and milk.

This is only the "smörgåsbord." For the main course there is boiled eel from the automatic eel trap at the rapids, small meatballs fried in onions, country sausage, boiled potatoes and gravy, and, for dessert, a rice pudding served with cream and a fruit butter of lingonberries and pears.

Most Nordics eat almost again as much as the average person, and dinner and

supper are serious affairs with little time out for conversation. But when coffee comes there is a sense of enjoyment which seems to demand expression in one form or other.

Lisa asks her father if he doesn't want a third cup and saucer full. He looks at her with the suggestion of a twinkle in his eyes and answers in a matter-of-fact way, "Yaaaaa. I would, but that last cup was so full of grounds it was really quite filling."

We sit at the table long after the dishes have been cleared away and talk of many things. The farmer tells about the old custom of bringing gifts to the minister before he performed a funeral service.

"What was given had much to do with the sermon," he continues. "If the gift was a few eggs, a cheese, or ham, you could depend upon a short service with very little breath wasted talking about the deceased.

"But things were fine if a whole pig was given. Care for us with mercy! Yaaaa. Then the dead would be praised as the perfect man and the mourners had four or five hours of crying and wailing before the

service was over. Yaaaa. So was it in my father's day."

GAME OF GETTING THE GUESTS TO EAT

One of the most amusing things about the old Swedish country life was the way in which the host and hostess of former days had to resort to strong-arm methods to get their guests to eat.

Fortunately, the guests always came, usually with that when-do-we-eat look. The trouble was that at the first mention of food the guests would scatter like so many sheep in a thunderstorm, hiding behind the house, in the shed or hayloft, behind the thinnest tree they could find, or, in fact, any obvious place where they could be easily found.

It was all part of the game. The host and hostess understood that for their guests to come out flatfootedly and accept food at this stage would be worse than crude. Much worse! It would be like asking for it. The host had to go out, find the guests, and lead them in, one by one, and serve them with heaping plates.

Although this custom does not exist in modern Sweden, its present-day sequel is another form of the same thing. I have seen guests who feel they may not properly accept food until the hostess has begged and coaxed them five or six times and made all sorts of excuses for the food.

The nice point about it seems to be that by waiting until the hostess has worn herself out talking, the guest's act of going to the table and gorging himself is accomplished with a certain dignity, as if he were going through with the ordeal out of pity for the hostess.

ORDER OF SERVING MAY CAUSE A FEUD

There are other complications, too. It is customary to serve each guest in accordance with his relative importance to the other guests present. The relative importance may be age, position in life, or, at funerals, relation to the deceased.

Naturally, each guest has his own idea as to where he should come, and if the hostess makes so unhappy a mistake as to call him later—Well! I know of an army officer who thought he ought to come first. The hostess put age ahead of his rank. That was three years ago. He hasn't spoken to the host or hostess since.

One day early in October several small groups of farmers passed along the road

with guns flopping against their backs at every step. It was the big day of the annual elk hunt.

That night one of the hunters came on his bicycle to invite us to an elk skinning. When we arrived the men were just coming out of the farmhouse and we knew we had missed coffee by inches.

The three-year-old buck they had killed was taken from the lumber wagon and hung from a rafter in the barn. Four men set to work in the yellowish light of an oil lamp. About them, in the sharp chill of October night, faces of men, women, and children made white blurs against the darkness.

There was the hiss of knives cutting through flesh, and the warm cloying smell of blood mixed with the stench of barn dung. From behind me, in the darkness at the edge of the crowd, came the low buzz-buzz of awed people as each new arrival was told the story of the hunt.

The meat was divided among the hunters and each of them contributed a portion of the tax imposed by the Government for every elk killed. The money goes into a special fund for the compensation of farmers whose crops are damaged by the animals.

Toward the middle of October most of the fall work had been completed at Högakull. The cows had been taken in from the dead pastures and put in the barn. Per had already plowed the fields and some rocks had been dragged to one side. Now he harrowed the earth with the aid of the 23-year-old horse called "Putte," and behind them walked Carl with a box of rye under his arm. He dipped into it at every third step and sent the seed flying in a great fan to the brown sandy soil.

When the dragging and seeding were done, several loads of sand were hauled from the government gravel pit and dumped and graded on the public road that passed through the farm. Other farmers with property along it were doing the same thing.

I left just as Högakull had gotten snug for the winter. On the morning of my departure there was a special send-off breakfast. Everyone was eager to be of help. The family and friends loaded my things into the buggy and stood waving as Putte drew us down the road into a glittering world of white frost and green, silent pines.

"Don't look back," the farmer begged, "because if you do that is a sign you will never come again!"

I didn't look back.

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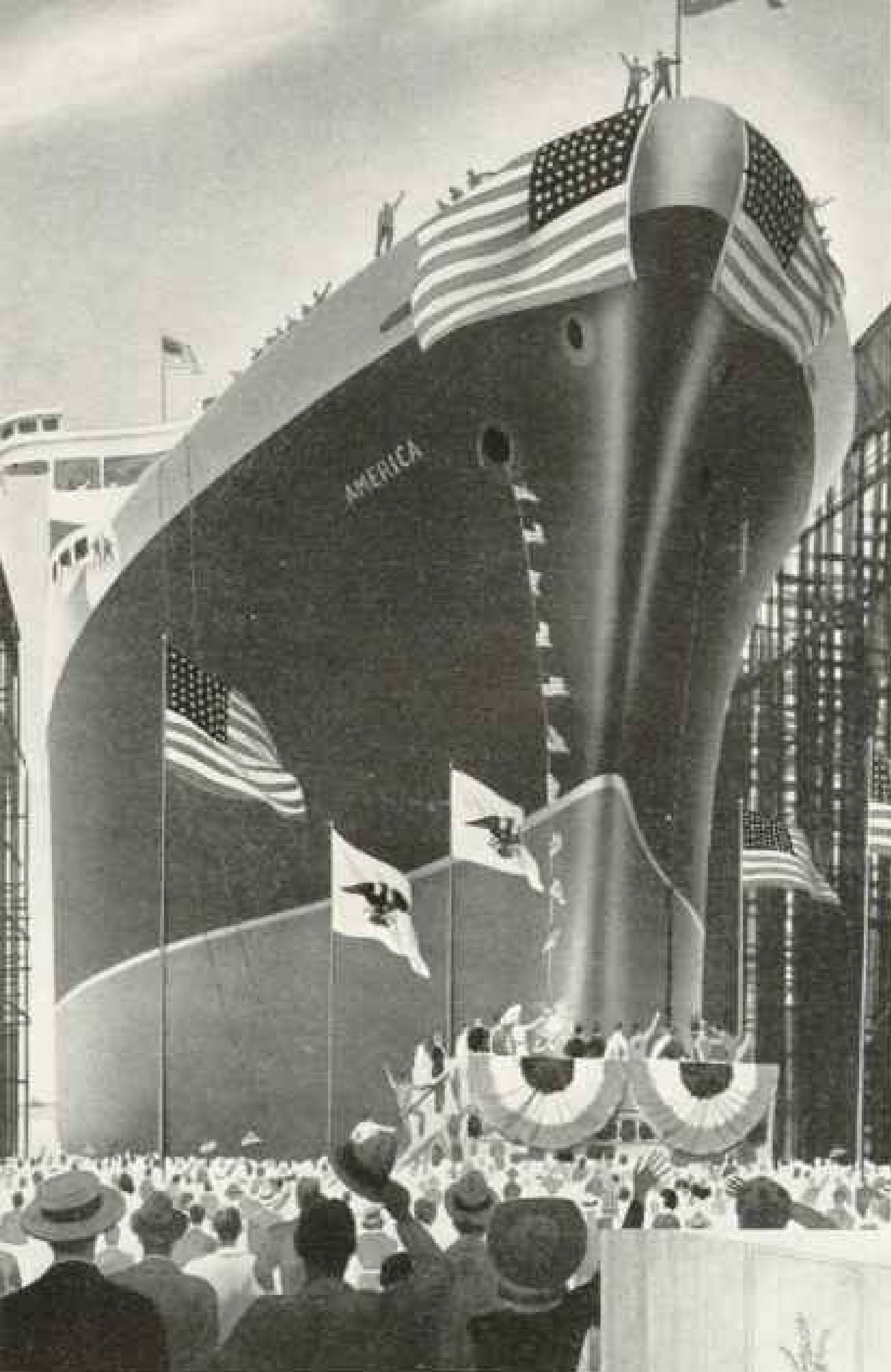
On November 11, 1935, in a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, *Kylester II*, ascended to the world altitude record of 72,395 feet. Capt. Albert W. Stevens and Capt. Orvil A. Anderson took aloft in the gondola nearly a ton of scientific instruments, and obtained results of extraordinary value.

The National Geographic Society-U. S. Navy Expedition camped on desert Canton Island in mid-Pacific and successfully photographed and observed the solar eclipse of 1937. The Society has taken part in many projects to increase knowledge of the sun.

The Society cooperated with Dr. William Beebe in deep-sea explorations off Bermuda, during which a world record depth of 3,025 feet was attained.

The Society granted \$25,000, and in addition \$75,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees in the Giant Forest of Sequoia National Park of California were thereby saved for the American people.

The world's largest ice field and glacial system outside the Polar regions was discovered in Alaska by Bradford Washburn while making explorations for The Society and the Harvard Institute of Exploration, 1937-8.



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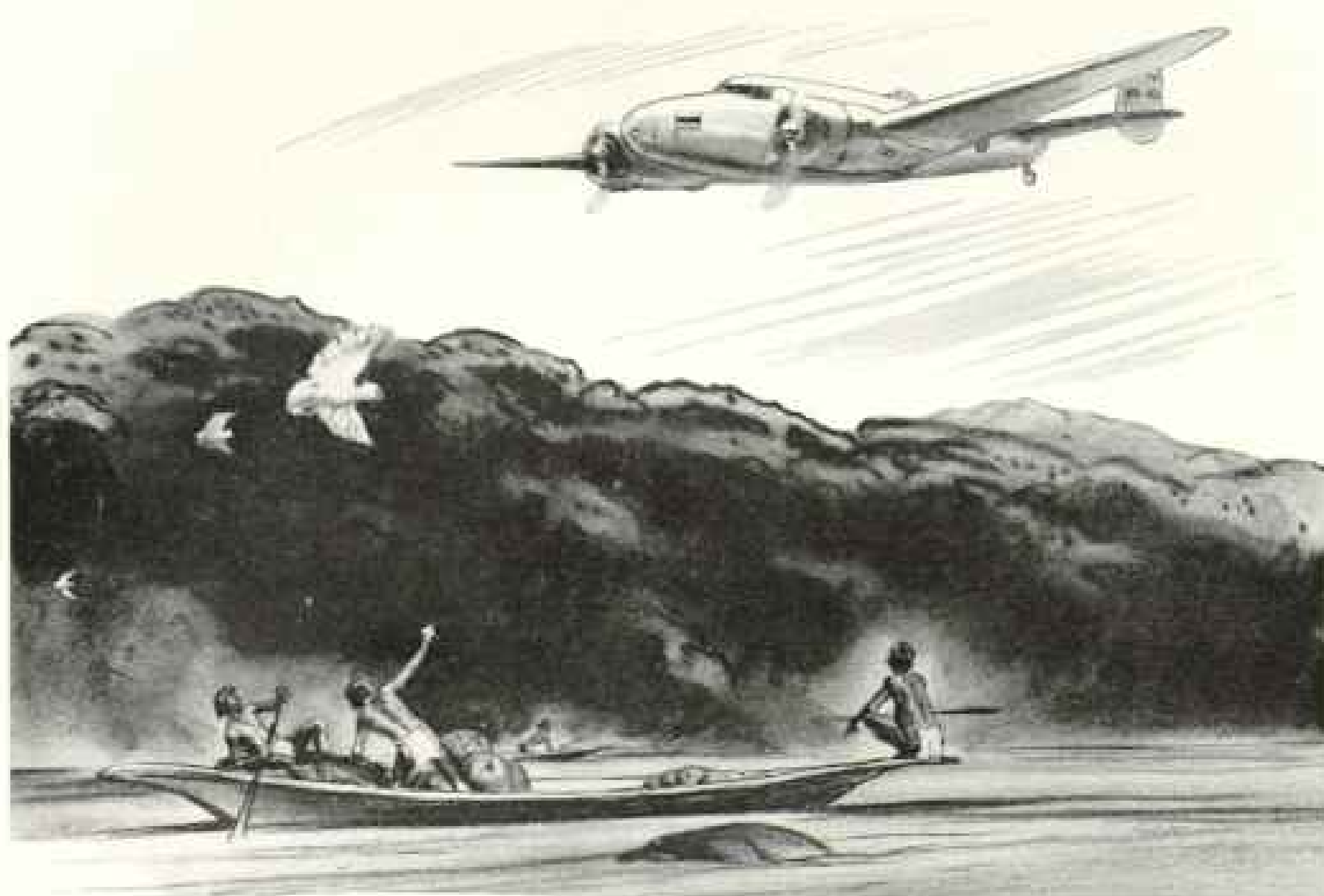
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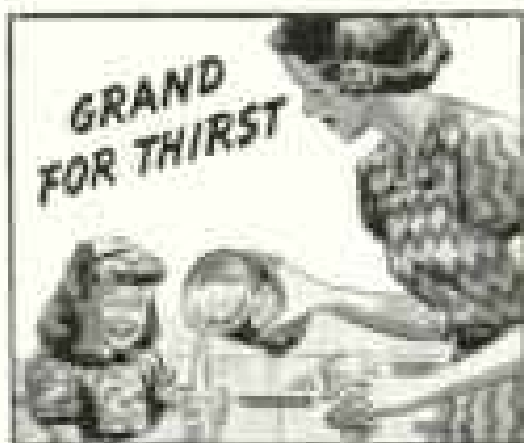
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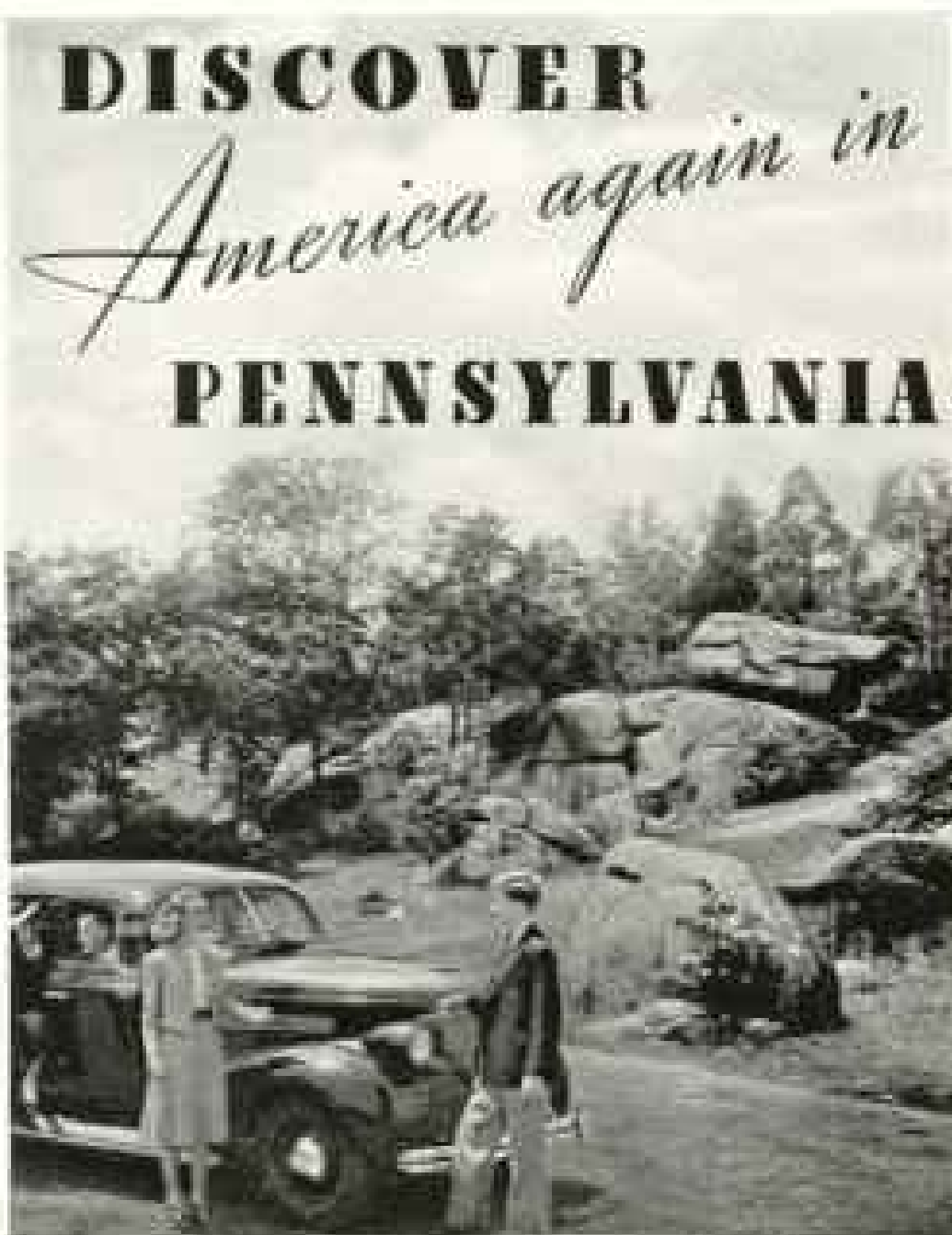
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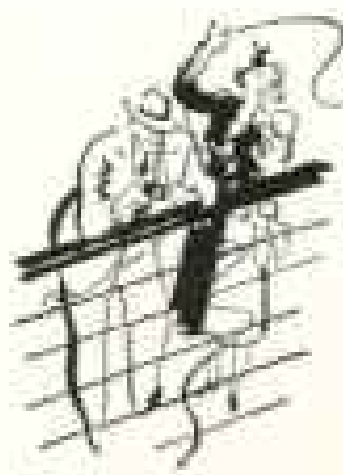
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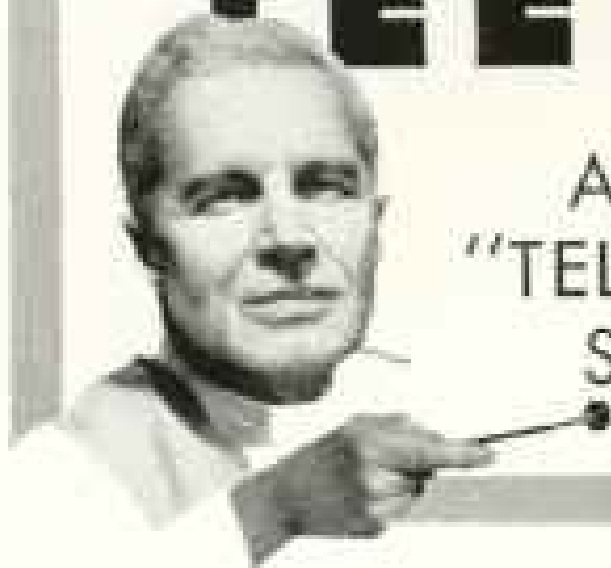
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As you and your heart grow older you may need to change your manner of living to avoid overexertion. Work and play should be regulated so that you get enough but not too much physical exercise. Extremes of effort such as pulling, straining, and

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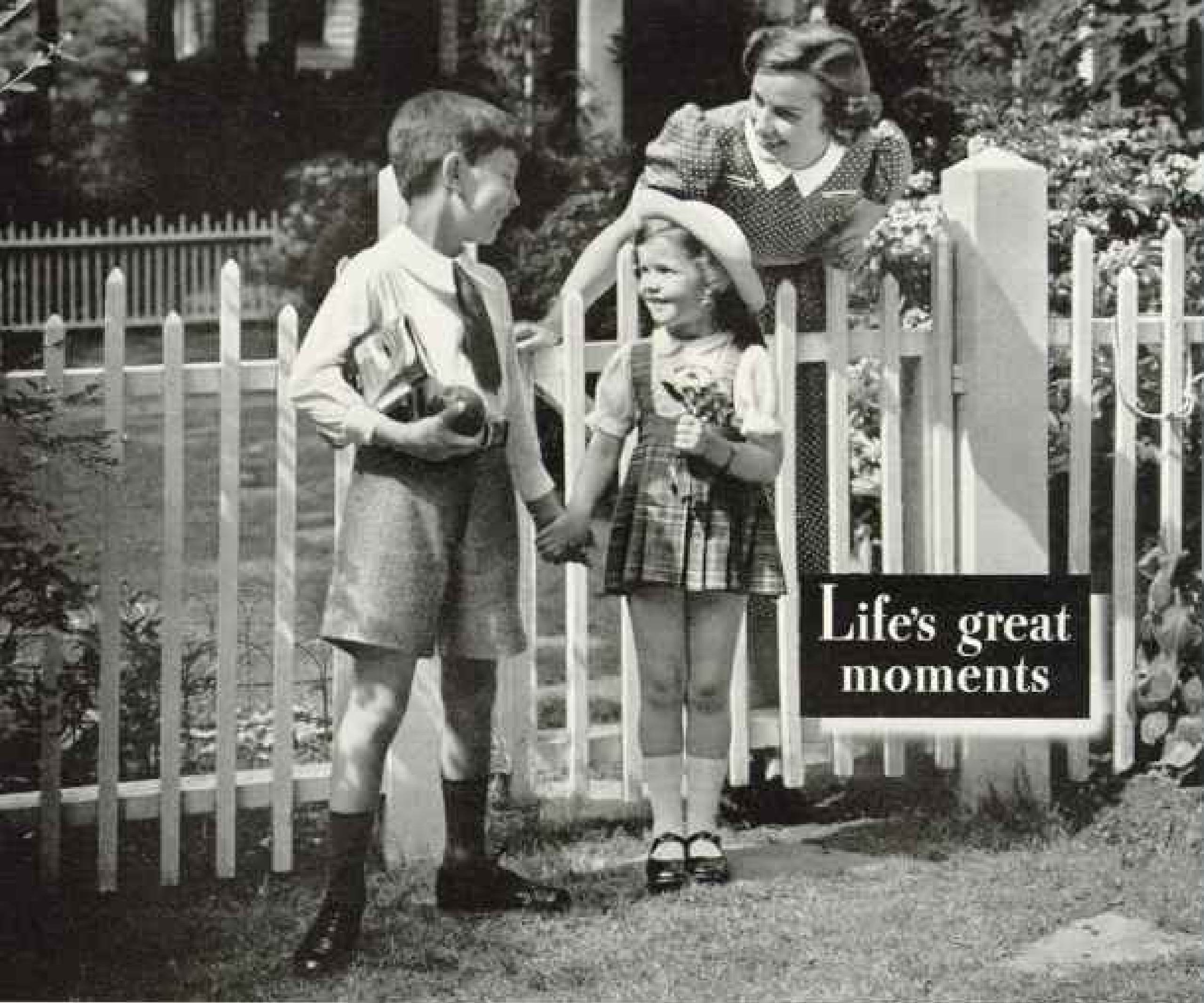
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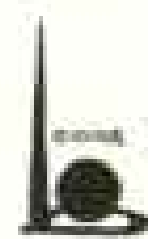
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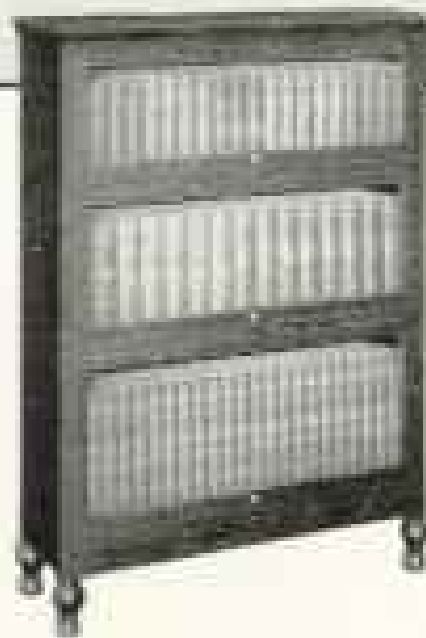
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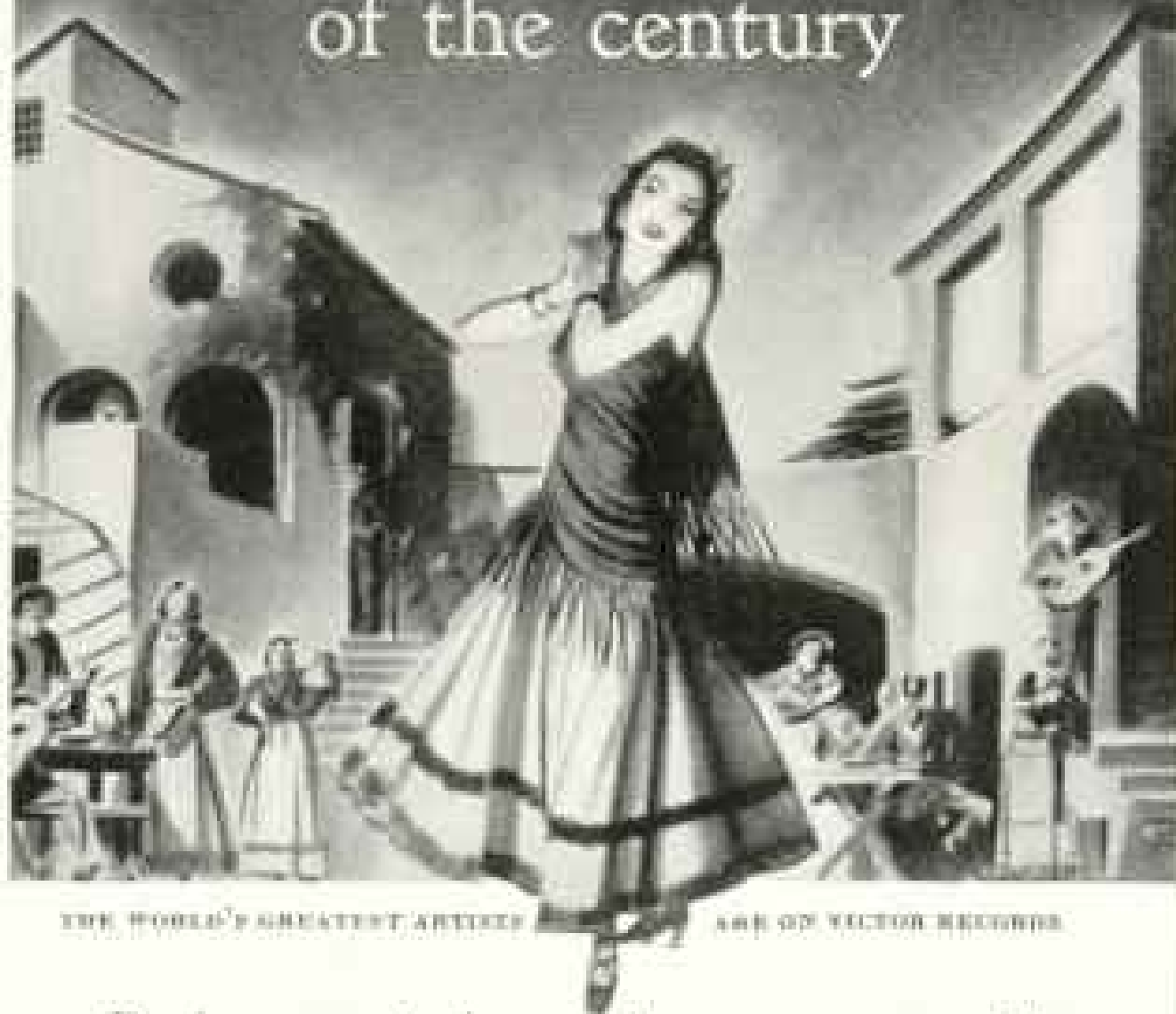
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Printers

Eckington Place and Florida Avenue
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