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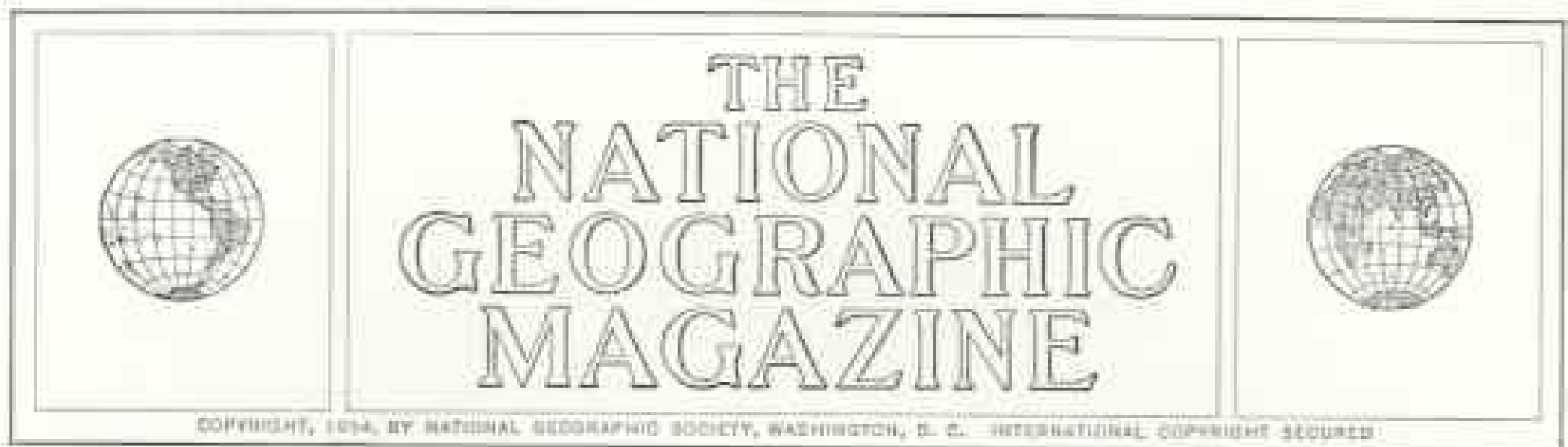
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Life in the Land of the Basques

147

A Proud People of Unknown Origin Clings to Its Unique Language and Traditional Way of Life in the Western Pyrenees

BY JOHN E. H. NOLAN

With Illustrations from Photographs by Justin Locke

WHERE the rocky Pyrenees slope down to the blue Bay of Biscay lies a land inhabited from time immemorial by a mysterious people, the Basques.

Their origin is still unknown, and their language apparently has no clear affinity with any other European tongue. Ethnologists believe them to be the oldest homogeneous racial group in Europe, perhaps dating from Stone Age times.

The Basques speak of themselves as *Eskual-dunak* and of their country as *Eskual-Herria*. A proud and conservative people, they have maintained with extraordinary firmness their physical type and their way of life.

Basques in Both France and Spain

The land of the Basques straddles the frontier between southwest France and north-central Spain, a region of rugged mountains, rolling hills, and green valleys dotted with straggling villages of white houses roofed with red tile. Almost every village has its court for playing *pelota*, the fast and furious Basque game (pages 171, 177).

Estimates vary on the number of Basques in Europe; it is probably under a million. Two-thirds live in the four Spanish provinces of Guipúzcoa, Alava, Navarra, and Vizcaya, while most of the French Basques inhabit the former provinces of Labourd, Basse Navarre, and Soule, now in the Department of Basse Pyrénées (map, page 152).

Two days out from English Dover, my friend Arthur Stubbs and I were driving across the immense sandy Landes of France toward Bayonne, northern gateway to the Basque country. Wastes of heath, wild mint, and fern rolled off to the horizon, interspersed with stands of pines hung with cups for collecting gum to be made into turpentine.

We talked of the riddle of the Basques' beginnings. The theory that they may be survivors from the Stone Age is supported by certain words in the Basque tongue, *Eskuara*, which relate to cutting tools of stone. Even stronger evidence has been found in the shape of the skull and in the blood groups, suggesting the Basques' descent from a very early European stock.

Moreover, Basques have blood groups similar to those of peoples in other fringe areas of western Europe, such as parts of Ireland, northern Wales and Scotland, and Iceland. This fact in itself has been interpreted by some authorities to mean that the Basques are remnants of a once widespread population.

The Basques themselves have an ancient legend, handed down from father to son, that they are descended from Tubal, fifth son of Japheth, who was the son of Noah.

"Tubal came to Europe before the Tower of Babel was built," the story goes; "so he alone transmitted to us, his descendants, the pure language of Eden, the tongue in which Adam wooed Eve."



Click! Click! Spanish Basque Girls Tap Sticks Together as They Dance in the Street
Only men take part in most Basque dances, but young women perform the Makil Dance. Each dancer moves a *makil* (short staff) in time to the music. This group's stage is the civic center of Anzuola.



Holiday Festivities Bring Anzuola's City Fathers to Town Hall's Flag-draped Gallery

Musicians with flutes and drums play on the Plaza de España. *Caja de Ahorros* indicates a savings bank. The Spanish flag hangs from the gallery. Nearly every window has an iron balcony filled with flowers.

"I'd like to learn Eskuara," observed Arthur cheerfully. But his enthusiasm faded when I told him that few foreigners have become fluent in the language and none has mastered all of its eight separate dialects.

"To think in Basque," as Rodney Gallop warned, "requires an entirely different attitude of mind."*

This simple sentence, for instance: "I give the beret to the man," would hop-skip something like this in Eskuara: "Beret-the man-the-to in-the-act-of-giving I-have-it-to-him."

Language Baffled Even the Devil

Approaching Bayonne, we came to the Bridge of the Holy Ghost, which spans the Adour River at its junction with the Nive.

Here we were held up behind a truck that had run out of gas, while the driver and an irate policeman gave a demonstration of the Basque tongue in action.

Since the dignity of the Basque often does not allow him to admit of being anything but right, I knew I had time during the argument to recall for Arthur's benefit the famous Basque story of the old bridge.

The Devil, it seems, decided to visit Eskual-Herria to learn the language and tempt the devout Catholic Basques.

After seven years of effort, he was forced to flee by way of the Bridge of the Holy Ghost. In his panic he fell against one of its corners. The blow knocked out of his head the only two words he had managed to learn—*bai* and *ez* (yes and no)!

Finally fuel was found for the truck, and we drove on across the bridge.

Midway, we looked down on a bit of history reflected in the smooth waters below.

It was Sainte Marie, the twin-spired 13th-century Gothic cathedral, begun when Britain ruled this part of the Basque country.

Present-day Bayonne, in fact, looks rather more like a prim English town than the largest city and cultural center of the French Basque country.

Nevertheless, it has a flavor all its own. We found one old street, Rue du Port Neuf, walled in by tall arcaded houses and shops, so dark and narrow that even at 10 a.m. it was ablaze with electric light.

Shop windows displayed Basque berets, light canvas shoes known as *espadrilles*, fine leather goods, and bottles of Izarra, a Basque liqueur.

Delicious-looking tidbits on view in a pastry

shop lured us inside for breakfast of coffee and croissants.

At a near-by table sat two young Basquaises, handsome dark-haired girls, with heads of almost classic appearance. They were sipping hot chocolate, a reminder that the cacao bean was introduced into France early in the 17th century by Jews driven first from Spain, then from Portugal. The chocolate served here is lightly flavored with cinnamon and topped with whipped cream.

Armed with a friend's introduction, we looked up the Spanish Basque brothers, Carlos and Eduardo González, who make equipment for playing pelota, also known as jai alai (page 177).

Players of one form of this hard-hitting game wear strapped to their arms a crescent-shaped wicker basket, the *chistera*. Using it as a combination scoop and sling, they smash the ball, with incredible speed and violence, against the high stone or concrete wall of a long court.

The González brothers have a reputation for producing some of the world's most accurately made chisteras. We were surprised, when they invited us into their workshop, to find it equipped only with a prosaic sewing machine and a few simple tools.

Big Scoops for Big Athletes

The materials used are strips of strong chestnut wood, bundles of canes, and pieces of calfskin. The wood forms the frame, the canes are woven into the covering, and the calfskin provides a glove into which the player's hand fits. An ordinary kettle gives off steam to soften and bend the wooden strips.

Eduardo picked up a completed chistera and poured water into the groove made to receive the ball's impact. Fully 10 seconds passed before a drop seeped through the wickerwork, proof indeed of the careful workmanship.

"We make the chistera in different sizes," Eduardo explained. "This heavier, longer type is for big men, with powerful wrists. That small one is like those used by Jean Urruty, a French champion, who is only 5 feet 7 inches tall."

From Bayonne we drove south into the heart of the Basque country.

Passing a sunken lake, la Nègresse, we reached upland Bidart, our first real Basque

* See "A Book of the Basques," by Rodney Gallop, Macmillan & Co., Ltd., London, 1930.



Happy-go-lucky Basque Fishermen in Jaunty Berets Flash Ready Smiles

These seafaring men work hard for what they earn, but spend freely in Biscayan villages like Motrico (background). Flat caps, common to the Basque provinces, take their style from an ancestral costume.

village. It lies in a rolling country of fat green fields, oak and pine groves, and round bracken-covered hills dotted with sheep.

Trim little vineyards and orchards of apple and cherry lent delicate tones to a richly painted landscape.

Mounting to billowing clouds, the Pyrenees fringed this expanse of beautiful country. Peak after peak, washed with pale blue and darker amethyst, was outlined against a luminous sky, each vivid and distinct.

No snow crowned the mountains, for the high Pyrenees are farther inland. But La Rhune's 2,953-foot summit offered some compensation, for it wore a mantle of sleet. This "Mountain of the Witches," as the Basques call it, was sprawled across the frontier to the south (page 184).

We were parked at a historic spot. Here, in 1813, the Duke of Wellington halted with his staff during his campaign to help the Spaniards drive Napoleon's forces out of Spain. Perhaps because of this accomplishment, Wellington has long been a popular figure among the Spanish Basques. They regard his aristocratic nose as first cousin to their own distinctive facial feature.

Basques Once Were Whalers

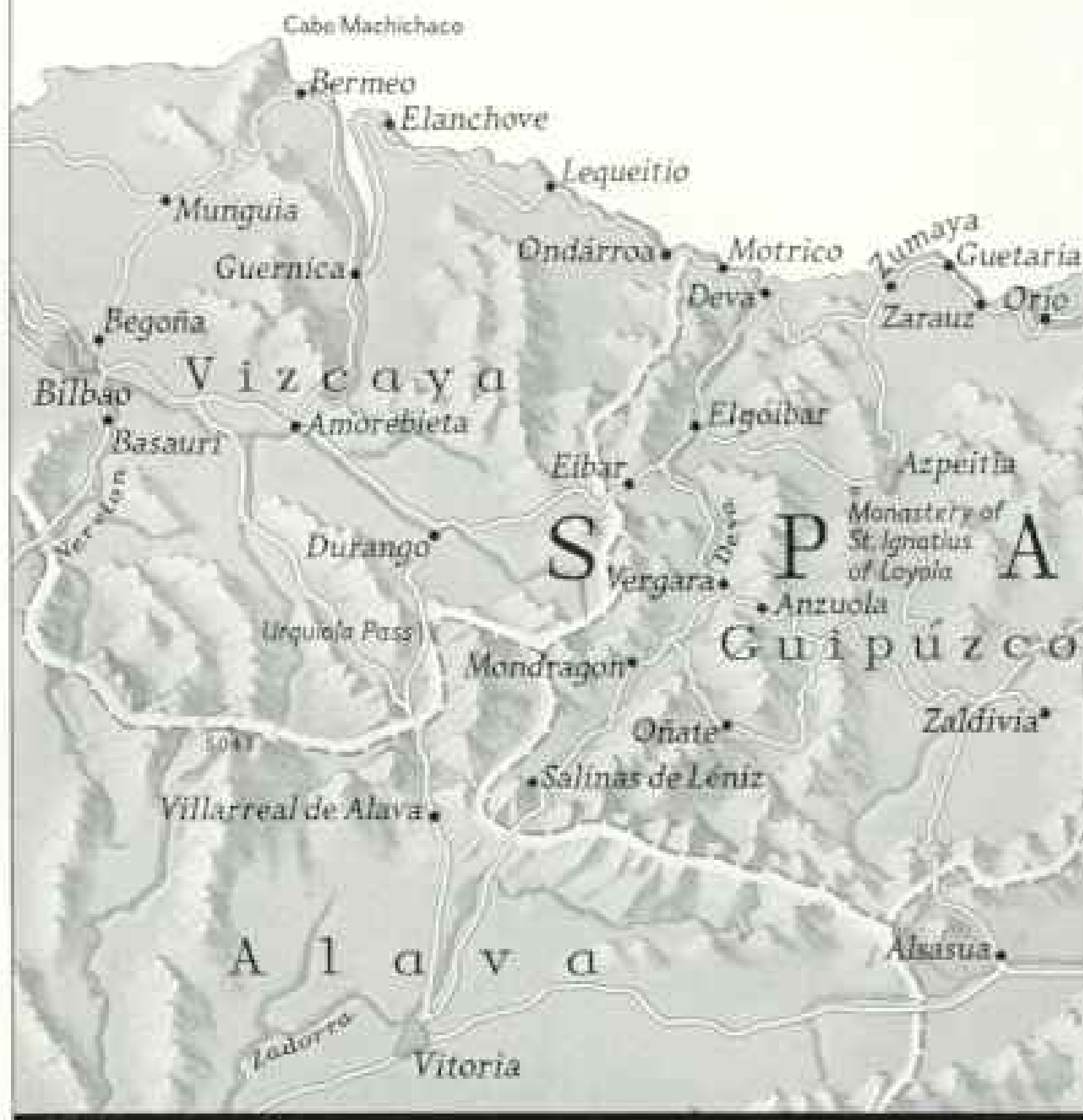
Over to the west, where the Pyrenees were lost in the blue waters of the Bay of Biscay, we could see a fleet of brightly painted fishing boats harvesting a catch.

Once the Basques hunted the right whale, *Eubalaena glacialis*, in this bay, but two centuries ago it disappeared from the area. Now tuna and sardines keep many Basque families from poverty.

A stream of passing cars with license plates of various nations gave evidence of the recent tourist influx into Labourd, least mountainous of the Basque provinces.



Bay of



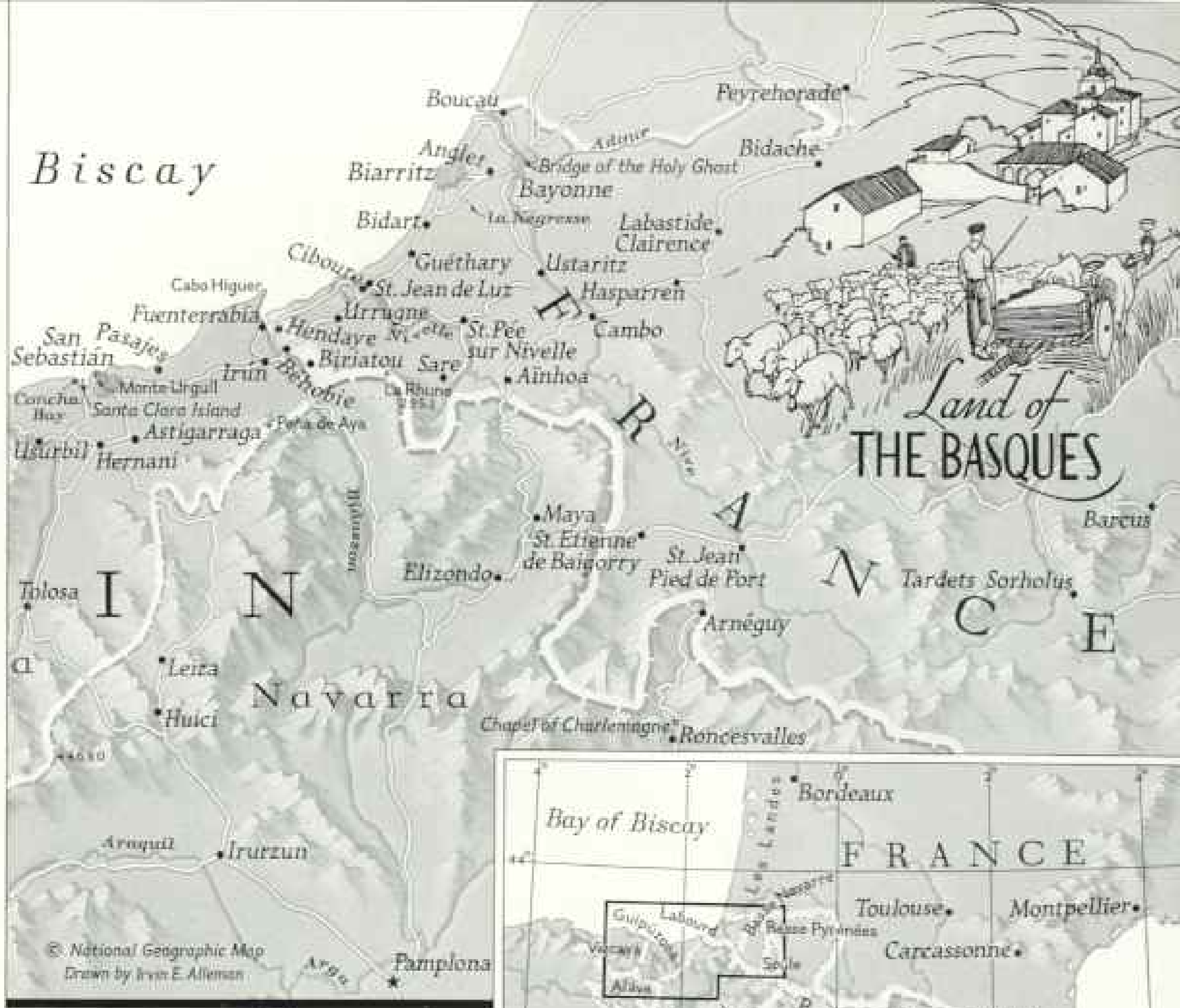
Scores of chalets and hotels have sprung up along the deeply indented coast. Built in Basque style, with chocolate-colored beams and sloping roofs, they have not marred the charm of Labourd's countryside.

The new buildings, like the older ones, are often shaded by fast-growing plane trees whose trunks have been sawed off some 12 feet from the ground. Their lower branches, trained horizontally, make them resemble gigantic parasols. Unfortunately, the trees of Eskual-Herria are naturally small. And the Basques make them smaller still by lopping off boughs to feed great open fireplaces.

Violets, daisies, and masses of primroses were in full bloom when we arrived at the cliff-top gardens of Guéthary. Wherever we turned, the grass was a vivid emerald green. Everything looked bright in this country of bountiful showers where drought is unknown.

The refreshing sea breezes that bring moisture to Eskual-Herria are not the least of this region's delights. The sudden "sun

Biscay



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French and Spanish Basques Share West Pyrenees and Biscay's Shore

Border provinces hold less than a million Basques, two-thirds of them living in Spain. These people, many of whom are shepherds, farmers, and fishermen, cling tenaciously to ancient customs. Physical and physiological traits suggest their descent from an early European stock. Their language varies so widely from others that few outsiders have mastered it.



wind" sweeps from the north across a sun-dazzled greenish-blue sky; and the "white south wind" from the southeast scatters the clouds.

The Basques have a saying that their wind from the south is "as temperamental as a woman's fancy." It comes up in sudden blasts and blows in swirls along the ground. When at last it turns indecisively to the southwest, the Basques say, "The south wind has a wing in the water."

Near Guéthary we stopped to eat at a neat wayside inn. Its whitewashed interior was flamboyant with shining copper pots and pans,

bunches of red peppers, antique brass candlesticks, plates picturing scenes of Basque family life, and a row of Basque-type swastikas.

Swastikas Decorate Wayside Inn

I have seen this ancient symbol all over Eskual-Herria, even on some gravestones. The swastika, familiar especially to orientalists as a religious emblem of the pre-Christian era, has long been prominent in Basque art, particularly in the "commalike" curvilinear form. The more familiar rectilinear design is seldom found here.

(Continued on page 159)

Elanchove, Spain, Perches Between Cliff and Bay

Precipitous Elanchove seldom sees visitors. Because of its isolation and hard life, younger men tend to move away. But the old folk, used to the steep, narrow streets and Biscaynn storms, like the snug little cove and are proud of the solid breakwaters that protect their precious boats. Their tile-roofed houses-cling to clefts in the rock.

↓ Women Mend Nets for the Fishermen

Sardine and tuna boats find haven from frequent gales within Elanchove's breakwaters. These power-driven craft set out to sea around 2:30 a.m. and return by evening if weather permits.

When the water's temperature drops, tuna and sardines remain too deep for fishing. Warm sunlight brings them close to the surface. Then nets entangle sardines, and about bamboo rods pull tuna aboard with thin steel lines and sardine-baited hooks.

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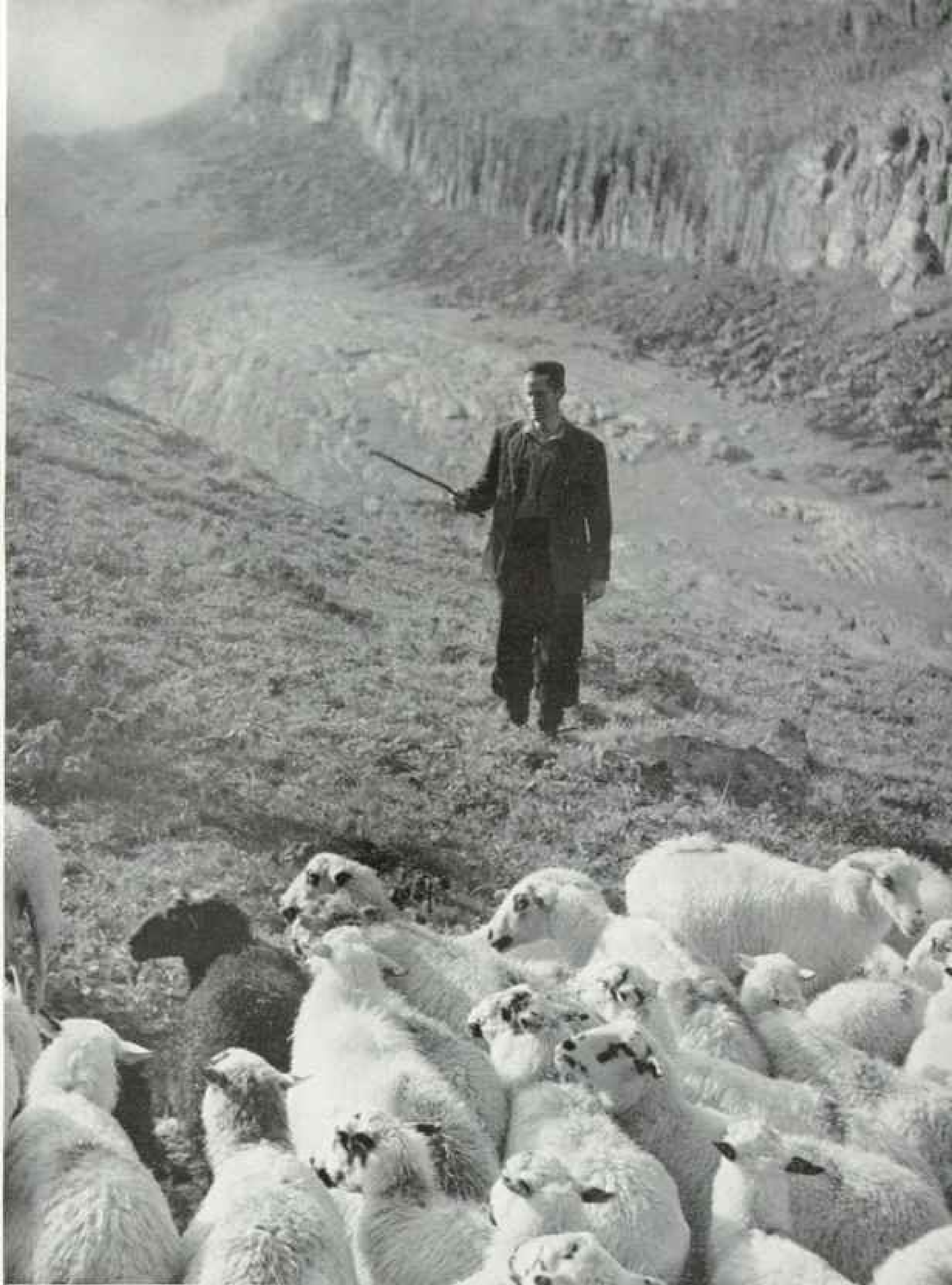






Up the Pyrenees, into the Clouds, Herders Drive Their White and Black Flock

Basques raise the Churra sheep for its meat and milk as well as wool. The animal yields coarse fleece—"mattress wool," it is sometimes called—that does not command the price of Spain's finer Merino clip.



As Sheepmen, the Basques Rank with the Best in Wales and Scotland

Faithful to their charges, oblivious of hardships, Basque herders are in great demand. An estimated 30,000 hold jobs in the American West, hundreds having been flown across the Atlantic (page 159).



Tradition Decrees Sheepskin Hats for Oxen to Protect Harness from Rain

An arched gate marks the entrance to Salinas de Leniz, Spain, a walled town named for its ancient salt mines.

The only other customer in the inn's dining room was a prosperous-looking middle-aged man of real Basque type, with statuesque shoulders and broad forehead tapering to a pointed chin. He was dressed in the usual black suit and black beret.

The beret is the national headgear, cut large in France and smaller in Spain. The true Basque wears his beret even at meals, removing it only in church, in bed, and sometimes when playing pelota (page 151).

The pretty waitress who came to take our order wore a short apron of crimson and gold over her white blouse and black skirt, which was decorated with figures of pelota players.

We chose a dish of *piperrada*, a Basque specialty as colorful as the waitress's costume. It is a tasty super omelet of numerous ingredients—eggs, tomatoes, green pimientos, onions, and a hint of garlic, garnished with spicy sausages and slices of home-cured ham.

As Arthur and I talked, I noted that our Basque neighbor smiled understandingly at certain remarks. Finally, catching my eye, he asked politely if we were Americans or English.

He seemed disappointed to learn we were English. We found out why when he told us he had learned the language in Wyoming.

Soon he was sitting at our table and telling us the story of his life. The youngest of a family of 12, he had eight brothers and one sister, who were hard put to earn a living on the old homestead.

"So," he said, "Pierre and Jean went to the Argentine, Laurent and Antoine to Uruguay, and I followed Ganich to Wyoming."

Many Basques Emigrate

This Basque family was by no means unusual. Before the 1936-39 Civil War in Spain, emigration from Eskual-Herria for centuries just about balanced the birth rate.

"There are probably 250,000 Basques in South America," our companion told us. "And there must be another 50,000 or so scattered through California, Nevada, and Wyoming. The United States has lately passed special laws admitting sheepherders, most of whom are Basques."

Basques are noted for their skill as shepherds (page 156) and are often experienced as seamen and as workers in iron and other metals. Their own city of Bilbao, largest and most prosperous of all Basque centers, has built up a flourishing trade in iron ore and has busy foundries and shipyards.

"We wandering Basques get homesick," our companion went on a bit sadly, as he sipped his coffee and puffed on an American cigar I had bought in Bayonne.

"My 20 years was a long time to be away, though I did well enough. I thank God and the United States for that.

"First, Ganich and I were shepherds on a sheep ranch. For 10 years we saved our money and never even bought a smoke or a drink. Then we rented some land and bought sheep. Ten years later, still unmarried, we sold out and came home."

I asked whether the brothers were still free men. He grinned.

"My brother found a beautiful Basquaise within two months of getting back. But here I am, a year later, still looking around!"

Own Nest "Lovely to Every Bird"

Basque social and family life is unique. Everything revolves around the ancestral House—a unit that may include the dwelling and other buildings, tilled land, meadows, heath, and mountain pastures.

Individual members of a Basque family are referred to not by their family name but by their relationship to their House, as master, mistress, son, or daughter of this House or that.

For example, Sorzabal is the legal name of the Dongaitz brothers, expert pelota players. But they are known to their compatriots by the name of the Dongaitz House in Urrugne where they were born.

"Its own nest is lovely to every bird," is an old Basque proverb. The Basque House is always open to any of its children. The only provision is that they must share the family's labors as well as its resources.

An old rule of the Basques provided that property could not legally be divided among members of a family or sold to outsiders. On the death of the head of a House, the most that the new head could do was to name a successor.

Spanish Basques still retain the old right, but in France, after the French Revolution, laws were enacted providing for equal division of family property among surviving children.

The modern French Basques, however, tend to by-pass these laws, usually through the self-denial of younger brothers and sisters. They agree either to a fictitious division or set off to seek their fortunes elsewhere.

As we rolled into St. Jean de Luz, an



One-handed Flute and Single-stick Drum Make Music for the Goblet Dance. Four Performers Lightly Tread Air

It takes long practice to play the *tsirtu* (flute) with one hand while supporting the small drum with the same arm. Musician and dancers belong to the Orlarra dance group of Biarritz. Clapping legs together ballet fashion, men on the right spring from the ground. They represent the Sweeper (with horsehair broom); the Horseman (page 163); the Man-Woman (in skirt and apron, clutching a small leg slung from the shoulder); and the Cat (holding a weapon to ward off evil spirits).

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Dancing Horseman Leaps on a Glass Without Spilling a Drop

The Zamaleain, star of the Goblet Dance, cannot see his feet beneath the hobbyhorse worn at his waist. Yet he jumps on the glass, balances a few seconds, and bounds clear with never an upset (page 161 and opposite).

ox-drawn two-wheeled cart, with no one in the driver's seat, blocked our passage. Its primitive lines reminded me of a Roman chariot, but its lowly service was that of collecting garbage.

The heads of the oxen were crowned by overhanging fleeces, not intended to provide shade, as many foreigners suppose, but to prevent rain from damaging the leatherwork on their stiff yokes.

Thin cotton bags, decorated with red tassels, protected the beasts' mouths and nostrils from flies, and a heavy canvas sheet, edged

with the Basque colors of red, white, and green, provided a bright flyproof covering for their bodies.

The oxen refused to budge from the middle of the road till the driver, a blue-bloused Basque, appeared and spoke the magic words that ended the traffic jam.

I have found the Basques a simple and honest people. A pocketbook full of money is as safe in a jacket laid aside as it is in a bank. Although the Basques are easily aroused, crimes of violence seem to be rare among them.

In former times, however, the Basques were one of the fiercest tribes in Europe. They attacked every foreigner who lacked permission to pass through their country, sometimes even bishops of their own faith.

As residents of a region that lies athwart the border between two large countries several times at war with each other, they are still suspicious of outsiders.

The newcomer must be careful how he treads. To wound the dignity of a Basque is to make him your lifelong enemy. On the other hand, a promise given is never broken.

Conservative, and thus a traditionalist, the Basque is obstinate, brave, and deeply religious. Traces of his early wildness, however, sometimes crop up at his folk dances, in games of pelota, and at weddings.

Enemies Dreaded Basque War Cry

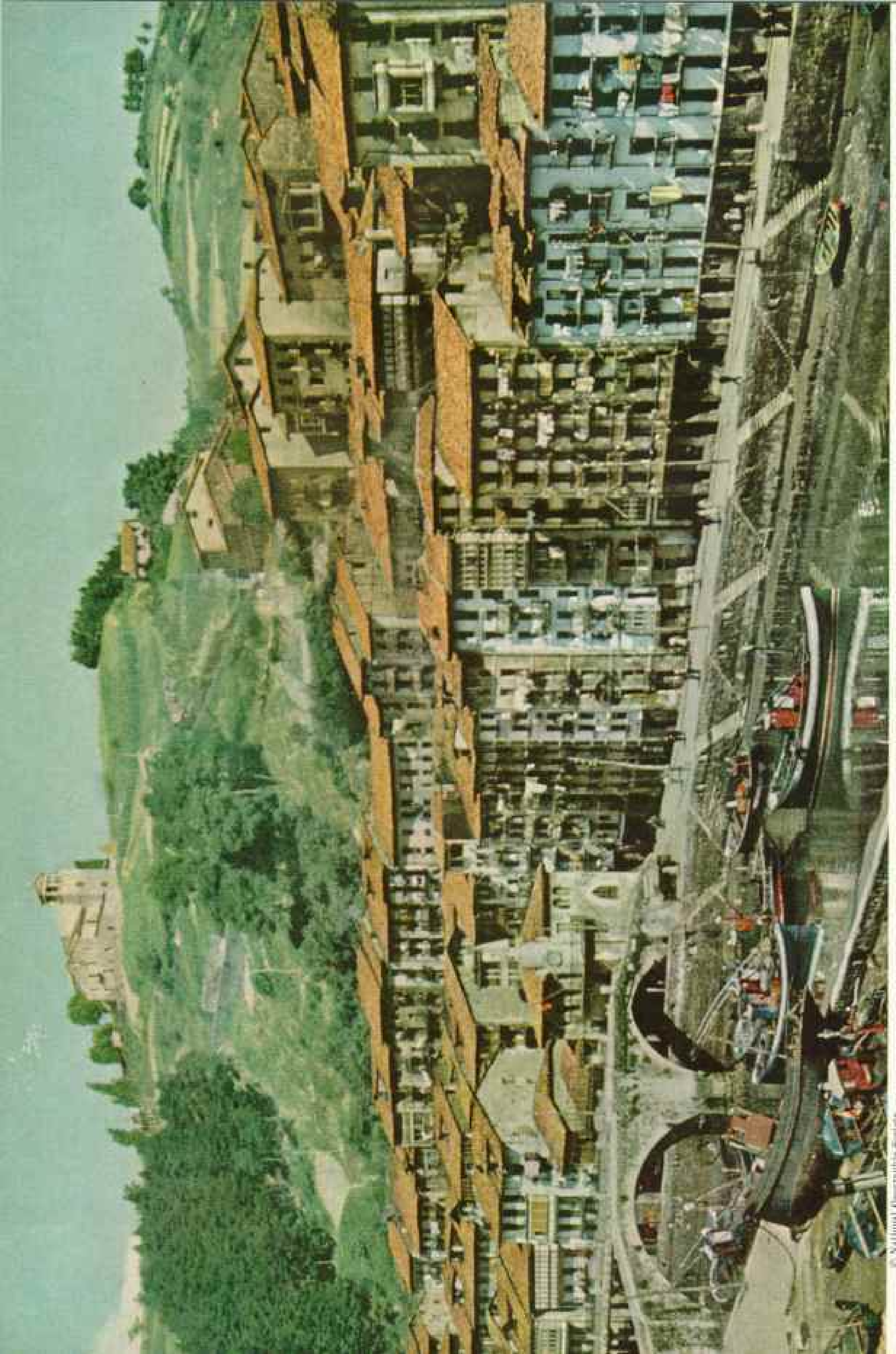
He will sing and shout when the spirit moves him, and on festive occasions still gives vent to the old war cry, the *irrintzi*, that Napoleon's soldiers, invading Spain, shuddered to hear.

(Continued on page 171)



A French Basque Dancer Leaps, Pirouettes, and Prances on His Hobbyhorse

Seen in Biarritz, the Zamalzaïn, or Horseman, performs the Goblet Dance with a wooden horse strapped to his waist (page 161). At the climax he hops upon a wine goblet without spilling its contents.



↑ Laundry Flutters from Balconies of Ondárroa's Lofty Tenements

Ondárroa, a fishing town of 5,000 people, becomes an island at high tide. Like other communities along Spain's north shore, the port shelters sardine and tuna fishing fleets. Artists instinctively love the town.

Here an old Roman-style bridge connects quays. A cemetery chapel crowns the hill overlooking the harbor.

On days when the fishing fleet dares not venture out to sea, Ondárroa's crews repair their craft. Often they gather in dockside taverns to play cards, sing, and dance.

Basques popularized whaling among Europeans; the first English whalers in the Arctic hired a boat's crew of these experts for the difficult job of harpooning.

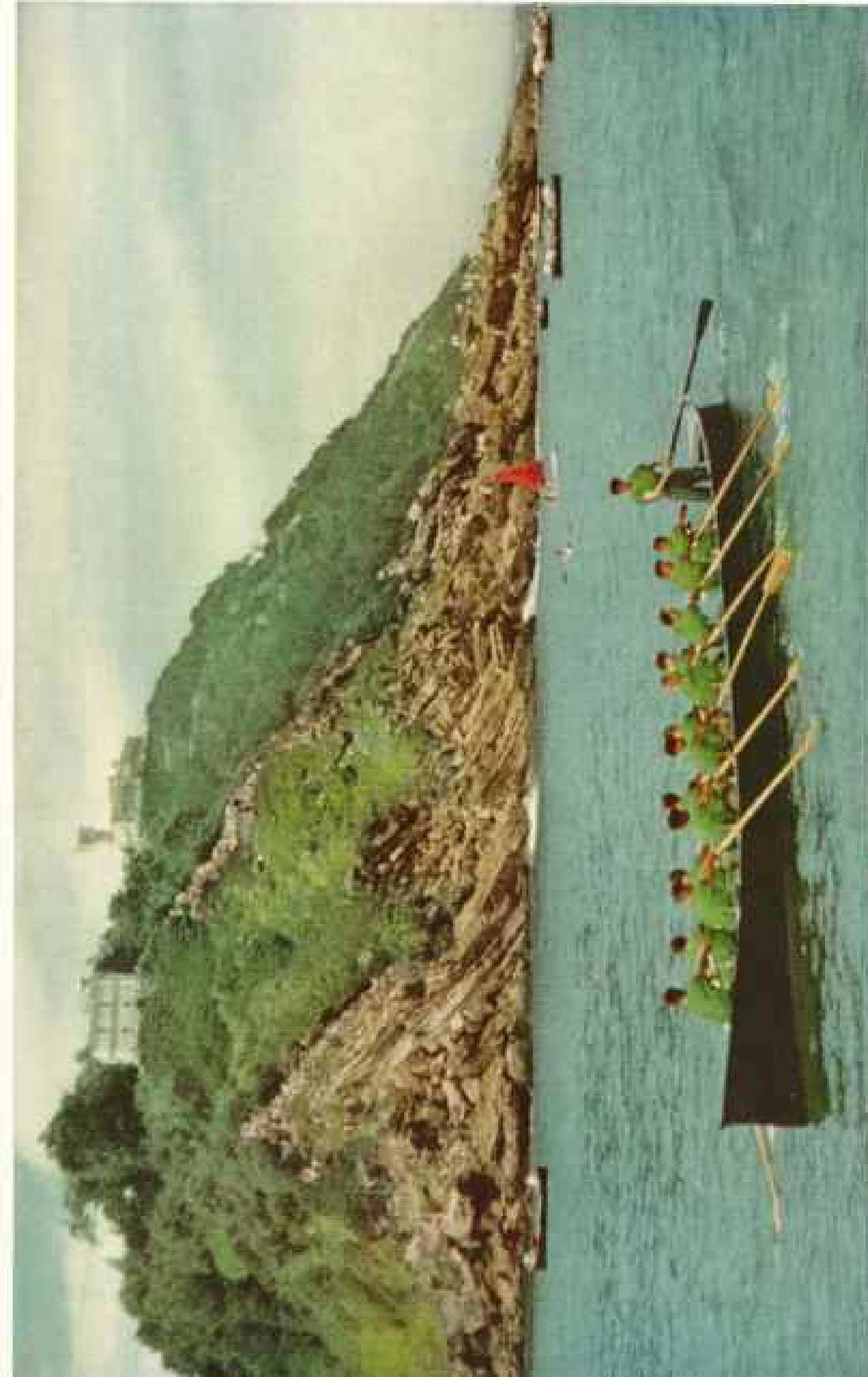
The Bay of Biscay afforded rich whaling waters until two centuries ago, when the local whales (*Eubalaena glacialis*) disappeared because of overfishing. During those early times scores of fishermen drowned every year. Violent storms remain a threat to fishermen despite sturdier boats.

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© Konstantinos for Justin D. Lamb

Hardy Oarsmen Compete

Every year Basque villages hold a rowing regatta at San Sebastián (page 178). Half a dozen long boats, each with a crew of 14 men, sweep 1½ miles out to sea and return in a test of endurance (pages 166 and 167). Spectators line beaches, ride pursuing launches, and climb the castle-crowned promontory.





Lungs Aching, Hearts Pounding, and Muscles Spent, Zarauz's Defeated Crewmen Collapse in Their Boat

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© Kodakchrome for Justin Leake





MAYATZEKO - LOREA B

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↑ Basques Enact the Return of the First Ship to Circle the Globe

Mayflower, a modern vessel representing the *Victoria* of four and a quarter centuries ago, sails into the Spanish port of Guetaria, home of Juan Sebastian del Cano, who commanded one of the five vessels in Ferdinand Magellan's earth-girdling expedition. When Philippine savages killed Magellan in 1521, Del Cano succeeded him as leader and became the first sea captain to circumnavigate the globe (1519-1522). Playing the part of Del Cano and crew, these Guetarians depict the homecoming.

← A statue in Guetaria's plaza honors Del Cano, who died in 1526. Young men watch the pageant from a wall.

↓ Del Cano, portrayed by Guetaria's police chief, and flanked by two of his men, prepares to leave the ship. They wear rags and wigs of long hair. Later, dressed in the resplendent costumes of discovery days, they paraded to the city hall.

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Our Bearers, Not Pallbearers, Carry a Coffin, Not a Coffin

Members of a fishermen's guild parade a box containing their archives in San Sebastián's bull ring on St. Peter's Day. The chest's frock-coated rider replaces St. Peter's statue, which formerly occupied the place of honor.

When I first heard this frightful sound, late at night, I sprang out of bed and ran to the window.

Outside, I saw only two Basques plodding home in the moonlight. Then, as I turned away, I heard the cry again. Beginning as a derisive laugh, it changed to a horse's shrill neigh, then to a wolf's howl, and ended like the expiring notes of a jackass's bray.

Leaving St. Jean de Luz, we crossed a bridge over the Nivelle to Ciboure, which occupies one side of a little fishing harbor crowded with the green, blue, and red boats of the tuna and sardine fleets.

Here again we met men with hair worn long, well greased, and often in ringlets, such as we had already seen in many parts of the Basque country. These dark-skinned people, called *Cascarots*, may have Gypsy blood. Some students believe them to be descendants of the Moors who conquered Spain.

Pelota Shots Crack Like Rifle Fire

In Urrugne, home of pelota champions, we saw an exciting demonstration of this old sport at the municipal *frontón*, or court, which measured about 300 feet long, 60 feet wide, and 30 feet high.

Something like a fast game of tennis, but physically far more demanding, pelota is a passion with the Basques.

The *pelota* itself, the small, heavy ball that gives the game its name, is covered with goat's hide. A trifle smaller than a tennis ball, it weighs about seven ounces. It was first bounced on the pavement by the server, who then swept it up in his scoop and hurled it against the vertical wall. Taken by an opponent, it was returned like lightning, to be caught again by another and treated in the same manner.

The first rally lasted more than a minute, until one side failed to redeliver. Served again, the ball this time struck below a black line drawn horizontally across the wall, some 36 inches above the ground. This counted a point to the server's opponents.

Serves and returns of the ball cracked against the cement wall like rifle shots.

The players wore white shirts, white linen trousers, and hemp-soled *espadrilles*, light shoes that may wear out during one game. Red and blue markings on shoulders or belts distinguish the teams.

Pelota players are temperamental. After a bad stroke, one or two would lean with

bowed head against the wall as if stricken to the heart.

Some of the many mottoes and inscriptions that we saw written over the doors of old Basque houses offered other sidelights on the character of these people. I especially remember three.

"The past has deceived me. The present torments me. The future frightens me," was one on a Cambo house dated 1707.

Another read like a placard in a modern office: "Nothing is more burdensome to busy people than the visit of those who are not."

The third was on the belfry of an old church at Sare: "All the hours shower blows on man. The last sends him to the tomb."

On the road out of St. Pée sur Nivelle (page 175), we saw typical Basque farmhouses, with the stable in a prominent place at the center of the building.

We passed old four-wheelers and tiny shays, drawn by a mule or a donkey. Horses were few, and not once did we see a tractor. It is hardly worth while to use tractors here, since the farms usually cover only 5 to 25 acres and rarely exceed 50. In any case, the machines would capsize along the steep valley slopes.

Basques, some wearing crimson sashes, were busy scything the first crop of grass. Arthur was curious about the absence of cows in the pastures. I explained that French Basques frequently keep their cattle stabled except when taking them for a drink at the stream. The pastures are so small that grass is cut by hand, with tremendous labor, rather than risk any overgrazing.

Workers Turn Soil in Unison

More than once we saw whole families turning the soil with heavy two-pronged forks. Drawn up like soldiers on parade, the workers moved together in a straight line. They would lift their forks to shoulder height, then suddenly plunge them, all together, into the ground.

At the inland river town of St. Jean Pied de Port we found children playing a game somewhat like old-fashioned hopscotch. On the local pelota court a number of squares were marked in chalk with a bird, a cow, a chistera, and a swastika.

As a child hopped from one square to another, he tried to avoid the symbol. The game was won apparently by the player with the fewest penalties.



Daily Come-and-go Keeps Frontier Police Alert

Spanning the Bidasoa River, an International bridge links France and Spain at Hendaye (right) and Irún (left). The bridge witnessed dramatic scenes during the Spanish Civil War of 1936-39 when refugees attempting to escape from Spain fell under fire from their own side.

Today housewives of both nations cross to and fro to do their daily shopping. French and Spanish Basques living no farther than three miles from the frontier get special authorizations.

Bread is France's main attraction for Spanish Basque shoppers. French Basque women buy Spanish oranges and lemons for half the price usually prevailing in their country. Customs officials, knowing the habitual border hoppers, peep infrequently into a housewife's basket and charge duty only when she transports excess goods.

← A Spanish Civil Guard checks the papers of women returning from a French bakery.

→ The cyclist passes through French customs with a loaf tied to the rear rack.



East of St. Jean we pushed on toward Soule, the smallest and one of the least traveled of Basque provinces.

After climbing a 2,000-foot range, we dropped suddenly into a deep valley dotted with farms, chestnut groves, and big flocks of sheep. By good luck we reached Barcus (population about 1,200) just as one of the most spectacular of Basque dances, the Goblet Dance, was about to be performed in the town square for the annual fiesta.

First a circle was cleared in the heart of the crowd. Then the mayor stepped forth, to the music of a small flute and drum. Resplendent in frock coat, stiff shirt, and wide beret, he was carrying a heavy goblet half filled with wine, which he placed on the ground in the center of the space.

Prancing like ballet artists, the dancers appeared and separated into two groups, called the Reds and the Blacks.

The performance represented a struggle between Good and Evil. The Reds, fantastically but richly dressed in a hodgepodge of costumes, were the Christians. The Blacks, sloppy and ragged, symbolized satanic imps.

The dress of some of the performers—the Cat, the Man-Woman, and the Swineherd—was no less fantastic than their names. The Swineherd, for instance, in black-velvet breeches, no more looked the part than did the Cat, who was wearing a white beret and carrying a sort of jumping-jack apparatus (page 161).

The Red dancers whirled and pirouetted; the Blacks attempted to interfere.

"Horseman" Leaps upon Goblet

The show's star was the Horseman, who wore strapped about his waist a miniature hobbyhorse made of a framework draped with scarlet cloth and white lace flounce (p. 163).

The goblet of wine still stood lonely and untouched in the center of the square. Advancing in turn, the principal Reds leaped over the goblet, kicking their feet together in mid-air, and yet they did not knock it over.

The climax came when the Horseman, though unable to see his own feet below his equipment, jumped onto the goblet (page 162). He stood on it with one foot, making the sign of the cross with the other, for two or three seconds. There was dead silence.

Suddenly he made a wild leap that took him clear without upsetting the glass. A roar of applause greeted the feat. Had the dancer

spilled a drop of the wine, a Basque spectator later told me, he would have been jeered from the arena.

We next crossed briefly into Spain to visit Roncesvalles, scene of the Basque victory over the rear guard of the Emperor Charlemagne's army in 778. The Frankish force was caught and overwhelmed by boulders dropped from the cliffs above.

Two memorials commemorate the event, a ruined 13th-century Chapel of Charlemagne on the Roncesvalles pass, and the little Chapel of the Holy Spirit in the village itself.

The village chapel was formerly the last resting place of pilgrims who died on the way to or from the tomb of St. James de Compostela in Spain. It is also reputed to be the burial spot of Charlemagne's slaughtered paladins, for whom Masses are still said.

Passports Closely Checked

Back near the sea, where the Pyrenees plunge into the Bay of Biscay, we again crossed the dividing line between the French and Spanish portions of the Basque country. At the frontier bridge at Hendaye our passports were closely checked, first by the French, then by the Spaniards (page 173). Two Spanish police forces (recently merged) were represented, carabineros and the Civil Guard. There were also soldiers, customs officials, and miscellaneous functionaries, including a government tourist agent.

I had been here in 1936 during the Spanish Civil War, when Irún, the busy frontier town near by, was burning fiercely under a pall of black smoke after having been drenched with gasoline and set afire.

Today, stately blocks of apartments, shops, and government offices have risen from the ashes. Occasionally, though, one still may see crumbling fire-blackened walls, melancholy reminders of a struggle that cost Spain more than a million lives.

As we entered Irún, a blue-uniformed traffic policeman signaled us to stop while a troop of cavalry clattered past. Some of the soldiers were mounted on big rawboned mules. All wore khaki and caps with dangling red tassels.

Peña de Aya's summit loomed on our right as we rolled through Béhobie on the way to Pamplona, capital of Navarra. The slopes of the mountain, 2,677 feet high, are scarred by old Roman iron mines.



Old Basque Architecture in St. Pée sur Nivelles, France, Follows Two Designs

The Basse-Navarre type with wrought-iron balcony stands beside a three-story tile-roofed building of Labourd style. Timbers in some façades are smeared with ox blood instead of paint. Cyclist and housewives carry bread.

Soon we were winding upward into the heart of the lovely Bidassoa Valley. Along the way we were halted three times by armed frontier guards, who looked inside the car for contraband, then politely waved us on.

Each guard was accompanied by a Spanish customs officer, for smuggling is engaged in by many Basques on both sides of the frontier. They do not regard evading customs as a crime, unless it is accompanied by violence.

In the days when they enjoyed local autonomy, smuggling was unnecessary. Now they take delight in "fooling the foreigners."

Pamplona spreads out on a rocky peninsula overlooking the River Arga and a highly cultivated plain. Beyond is a backdrop of wild mountains and deep valleys, in one of which St. Francis Xavier was born.

This section has rich agricultural resources that provide a solid basis for prosperity and development. Its excellent agricultural college now sponsors up-to-date methods for crop and stock raising.

Fighting Bulls Loosed in Streets

Once a year, on July 7, during the Feast of San Fermín, fighting bulls, which are to appear in the bull ring later, are set free in the streets of Pamplona to run after would-be matadors.

In a wild stampede of man and beast, even women may be knocked down and trampled (page 180). Boards protect some shop fronts, but many merchants merely trust that the mass of struggling humanity will make its own wall between charging bull and store windows.

We drove to Irurzun on an excellent highway, then mounted steadily by a rough, zig-zag road toward Huici. Thence we descended in corkscrew fashion to Leiza, centered in a beautiful wooded region (page 185).

It was Sunday morning when we pulled up before the pelota court in the Plaza del Tercio de San Miguel. The little town of 1,600 people seemed almost deserted. A few late worshipers were climbing the slope leading to a blue-gray church, and one small boy was practicing with a ball in a corner of the pelota court.

As we drove on into Zaldivia, we were met by a parish priest, who showed us a string of shaggy mountain ponies tethered to a hitching rail outside a general store.

Delighted children ran their hands over the smooth polish of our parked car. One small boy wanted to bet me that he could

reach the top of a neighboring mountain in an hour and a half, and return in another hour.

I estimated the peak was at least two miles away, but, knowing the agility of Basque children, I begged off from the bet. This caused an uproar, momentarily quelled when I gave the boy a bag of candies.

Unfortunately, as the other children crowded around, he dropped the bag: it burst, scattering its contents in the dust. A wild scramble ensued. By the time the sweets had been retrieved, most of the contestants bore scars of battle.

Near Azpeitia, in Guipúzcoa, we stopped at the famous Monastery of St. Ignatius of Loyola. The saint was born in this Province, a fact that I was constantly reminded of when I met local Basques: one in every three seemed to bear his Christian name.

The monastery's gigantic stairway, statues, columns, and a cupola some 180 feet high present a profusion of bronze, granite, onyx, and alabaster. One chapel is all onyx, with an altar of gold and steel.

Our looping mountain-to-sea route now led us again to the Bay at San Sebastián. Like Biarritz on the French side of Eskual-Herria, it has become a cosmopolitan seaside resort (page 178).

Lafayette Sailed from Pasajes

Its neighbor Pasajes holds a warm Basque-American memory. From this port Lafayette sailed in 1777 for America to aid the cause of the revolution that would give birth to a new nation.

Driving west, beyond Usurbil, we almost came to the end of all our travels. As we rounded a curve, we were startled to see, not 30 yards ahead, a huge felled tree crashing straight for the road.

Arthur braked the car so sharply that it spun completely around.

Three Basque lumberjacks appeared. Learning we were unhurt, they pointed across the road where, all but hidden by weeds, was a red warning flag we had not seen.

Apologies followed, but the road was so narrow that we had to drive all the way back to Usurbil to find space to turn around.

It was stifling hot when we arrived in Orío, a fishing port of sad old houses with narrow iron balconies coated with rust.

An odor of fish pervaded the streets. Women sat knitting in dark doorways or leaned out of windows to hang up their wash.



Bayonne Artisans Make Pelota Rackets for the Basques' Favorite Sport

In the centuries since the Basques developed the game, it has spread to far places, including Florida. Known also as *jai alai*, the sport demands enormous energy and endurance. Leverage gained by a sickle-shaped basket strapped to the arm enables a player to slam a ball against a court's wall with a resounding crack. Here a craftsman trims a wooden frame (example at far right). His brother weaves the wicker covering (page 150).

I asked a young Basquaise the way to the Calle del Ministro Hoa. She was obviously embarrassed by my stumbling Spanish and ran to a next-door neighbor for help.

Soon a smiling, chattering crowd surrounded us, but only a crippled fisherman could understand what we wanted. Hopping along on his one good leg, he led us to the corner of a small open space. Here, with courtly Spanish grace and delightful diplomacy, he apologized for his fellow citizens who failed to understand their own language.

"You asked for the Calle del Ministro Hoa," he said. "There it is, up there!"

Before us was a steep stone stairway, with iron hand rails, paved with the largest cobblestones I had ever seen. A dozen curious children raced ahead as we panted upward.

Eventually I found the house I was seeking, built of solid blocks of undressed stone, with an arched door surmounted by a sculptured coat of arms (page 182).

"This house," I explained to Arthur, "was the home of a Spanish grandee nearly 400 years ago. He was the commander of a ship, built in Orio, that sailed with the Spanish Armada but never returned."

Nearing the coast town of Zarauz, we saw several squads of Spanish infantry squatting beside the road and listening to lectures by their officers. One group was learning how to assemble a German machine gun of vintage 1914-18.

Zarauz is a charming seaside resort, framed against the mountains where the blue waters of the Bay of Biscay lap at the feet of eroded red cliffs. It has a wonderful beach, of fine sand, about a mile and a half long, and lovely walks and villas.

First Sea Captain to Circle Globe

We followed a perilous coast road, only recently damaged by falling boulders, to Guetaria, known as the home of Juan Sebastián del Cano (or Elcano), first sea captain to circumnavigate the globe (page 169).

Del Cano was one of the commanders in Magellan's exploration fleet. Taking over after his chief was killed in the Philippines in 1521, he completed the round-the-world voyage the next year.

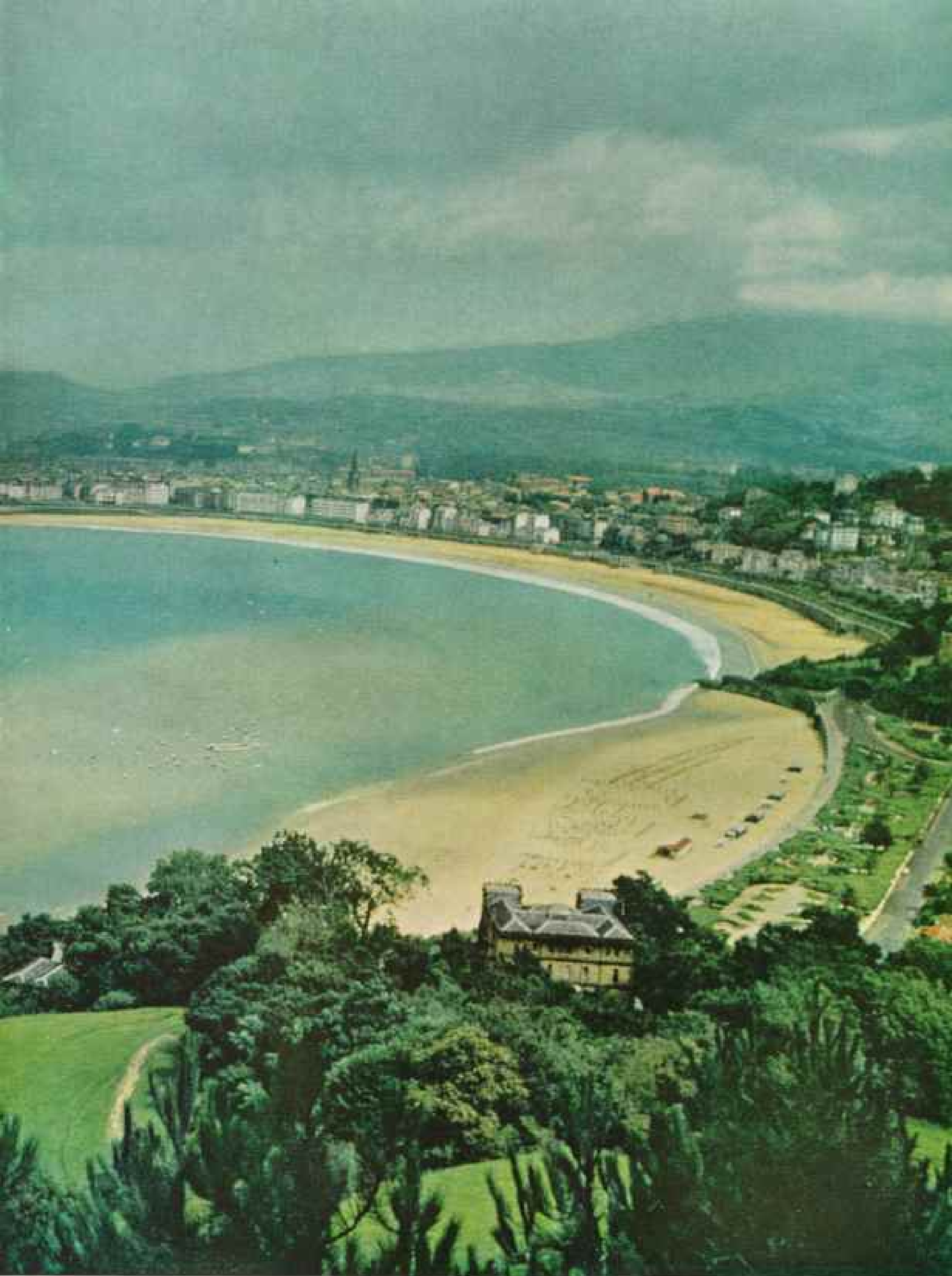
At Motrico an old fisherman told me proudly that it was a Basque who discovered

(Continued on page 183)



A Little Rio de Janeiro, San Sebastián Sprawls Around Its Crescent Harbor

Spain's most popular seaside resort was a favorite with Spanish royalty. General Francisco Franco's white yacht rides at anchor. A huge shaft tops Monte Urgull. Santa Clara Island forms a natural breakwater.



Promenade, Casino, Hotels, and Cafés Rim the Broad Sandy Beach of Concha Bay

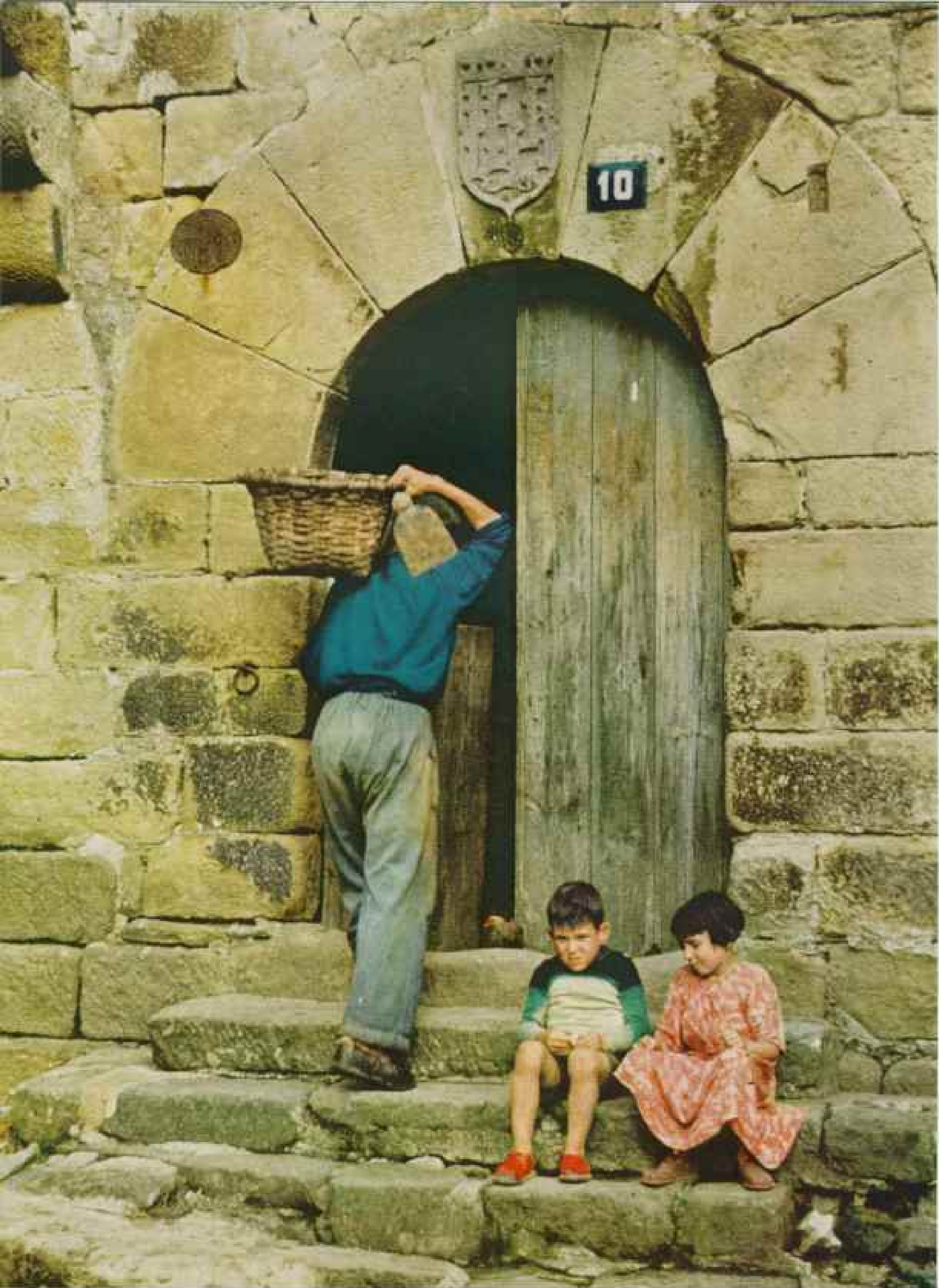
Like Biarritz on the near-by French coast, San Sebastián has become cosmopolitan. But its old sections retain their flavor: narrow streets, tall tenements, little restaurants, and salty taverns.



Amateur Bullfighters Dart and Dodge Down Pamplona's Canyon Streets

Each July townsmen turn loose fighting bulls in a free-for-all. Nimble young men prove their courage by challenging the beasts to charge. Cornered spectators sometimes climb the fronts of buildings. Hundreds are knocked down; occasionally a few are trampled or gored. Doctors have a busy day (page 176).





A Householder Enters His Moorish-style Doorway in Orio, Spain

José Macazaga Sarazua combines fishing and farming. His centuries-old home, like others in town, is embellished with a crest, but José does not know its significance. A chicken squats just inside the arch.

the America of the North and informed Columbus: "Then that grasping Genoese sailed across the ocean with another Basque as navigator," he said, "and took all the credit."

As we turned inland along the Deva River, we noticed now and then steel nets suspended above the road, erected to catch stones that might fall from buckets in which they were transported on high cables from distant quarries. After we saw one bucket, sagging and rusted, that had slipped from its pulley and was dangling precariously, we kept a sharp lookout for any rain of rocks from the sky.

By accident we received a tip that led us to one of our most interesting experiences in the land of the Basques. We had stopped at a little settlement to inquire about Salinas de Léniz, an ancient town unmarked on our map.

The place appeared deserted till I saw a woman's smiling face at a broken window.

"Are you looking for the sacred thorn?" she asked, instead of answering my query.

"The what?"

"Didn't you know? It's at Salinas de Léniz, a mile and a half ahead."

I thanked her for this surprising information and promised we would not leave without seeing the thorn. We entered Salinas de Léniz by a picturesque arch marked with a medieval coat of arms (page 158).

In Quest of the Sacred Thorn

On the curb of an old fountain in its tiny plaza two little girls sat talking in low tones. One of them, with eyes of eggshell blue, understood my Spanish and directed us to the nearby home of the town priest, Don Pedro.

The priest was out, and the old lady in black who answered our knock was more interested in where we were from than where we were going. When I told her that I was English but that I had been in the United States, her face lighted up.

"Then you may have met my son in Nevada." When she told me his name, I shook my head, and the gleam died in her face.

"You will find Don Pedro," she said, "at the Chapel of Nuestra Señora del Castillo, up that little lane."

The chapel stood on a lonely hill a hundred yards above a salt mine of Roman times.

A hunchback, working near by, showed us into the church, and presently a little old priest, at least 80 years of age, appeared. He addressed us in Spanish, apologizing for not knowing English.

"I speak only Basque, Spanish, Italian, and Greek," he remarked, eyeing us keenly. "But you have come a long way, gentlemen. What brings you here?"

"The sacred thorn," I replied. "Your housekeeper said you might show it to us."

We followed Don Pedro's shuffling steps along the aisle and up to the high altar, a magnificent work of art dated 1710.

Far up in a niche was a Madonna, the Señora del Castillo, a small carved figure of the 14th century.

"The altar is young compared with its surroundings," Don Pedro whispered. "This church was built centuries ago, on the site of another that was much older."

Near a side altar he paused before an oil painting which portrayed the hermit of Salinas de Léniz kneeling in a wilderness of rocks and trees and looking up into the shining face of an angel. A Basque priest has attributed the painting to El Greco, Don Pedro told us.

Relic Kept in Gilded Safe

The old man went into the adjoining vestry and returned in a white surplice and a crimson stole. Then he opened a gilded safe in the side altar and indicated that we should kneel.

As we did so, I saw he was holding a small gold reliquary. In it was a glass tube, and within that a white object, resembling a fishbone, about an inch and a half long. He held the reliquary to our lips to kiss.

I was curious to get a nearer view of the sacred relic. Don Pedro motioned us to follow him. Stopping in a pool of sunlight, he held up the reliquary. "Ask me what you will," he said quietly.

"Why is the thorn white instead of brown?"

"Through age, my son."

"Did it come from the original Crown of Thorns?"

"It is one of the very few. It has been traditionally accepted as such, for its authenticity is vouched for by documentary evidence dating from Roman times."

We were reluctant to leave, but miles of rough country lay between us and Guernica, the hallowed town of Spanish Basques, which we wanted to reach before sundown.

Risking a subsidiary road from Villarreal de Alava, we threaded wild defiles cut by rushing streams. Our car, spitting resentfully, at last reached the 3,504-foot pass of Urquiola.

One Roof Shelters Two-century-old Home and Stable

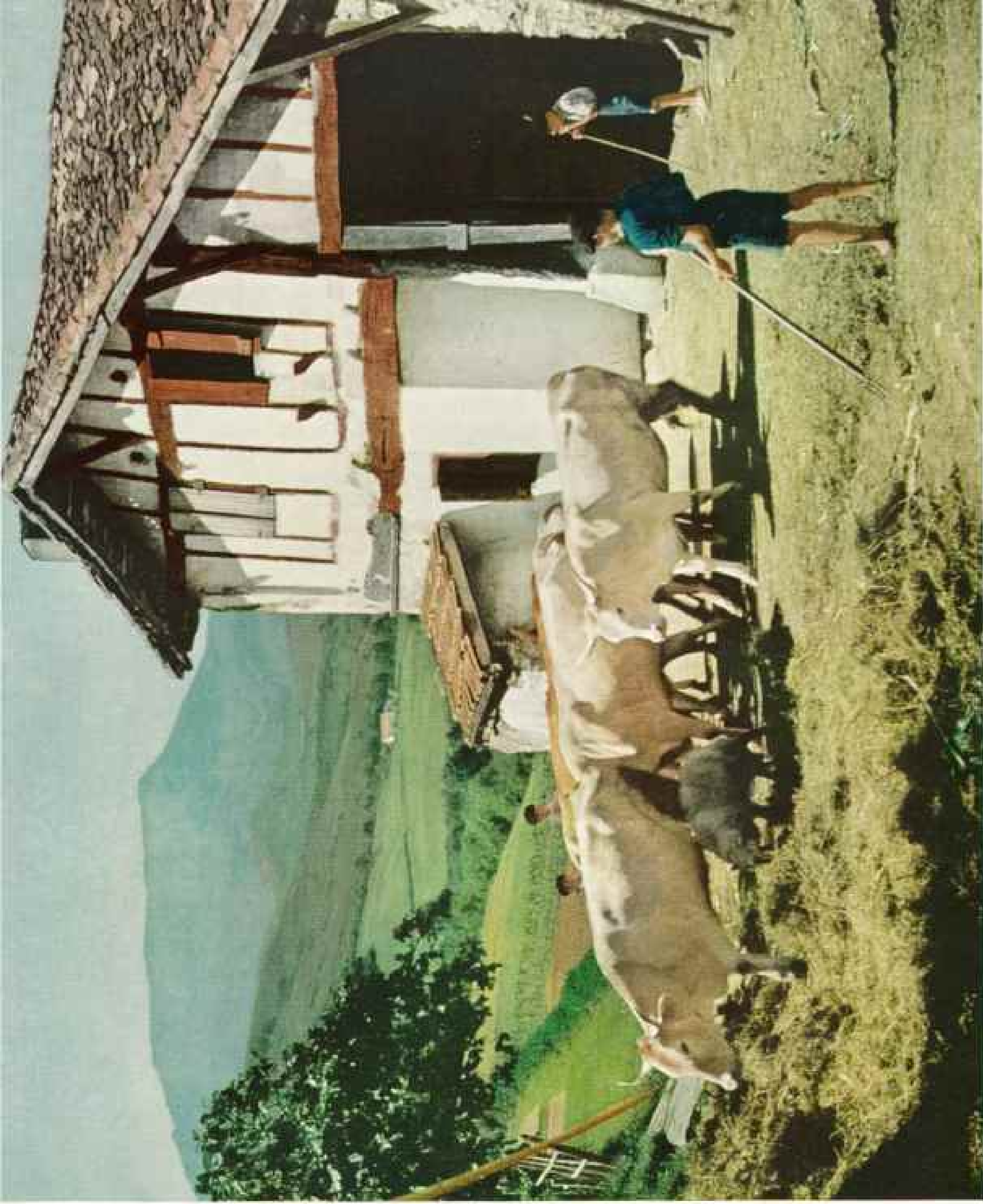
Cattle and chickens occupy most of the ground floor in Basque farmhouses. The family, living in the upper story, can hear the rattle of stall chains, the chewing of cud, and the bawling of calves. Rooster calls awake everyone in the morning. The tile-roofed building, constructed of stone strengthened with timber beams, is rustic but sturdy.

Farms range from 5 to 50 acres. Most farmers cultivate corn and vegetables; some keep trim little vineyards. Oxen and cows draw some two-wheeled carts reminiscent of Roman chariots; they also pull plows and harrows.

Farming families generally have several children doing chores. These four boys drive cattle to pasture in the green fields near the French Basque village of St. Pée sur Nivele (page 175). One of them holds a fork for spreading bracken (left) as a stable bedding.

La Rhune's 2,953-foot summit (background) straddles the border between France and Spain. In 1813 it witnessed Wellington's victory over Marshal Soult.

© National Geographic Society



Fiesta Goes Bait a Bull in the Plaza

Amateur fighters, aping professionals, tease a young beast let loose in Leiza, Spain. Bulls rarely are hurt and never are killed, but their adversaries are frequently routed or injured. The photographer saw this animal dash into a side street and chase a woman laden with groceries. She escaped into a doorway.

↓ A Basque father shows off his children costumed for a folk festival in Zarauz, Spain.

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© Kofuhyman for Justin Lecha





Basque *Rosquillas* Have the Shape but Not the Taste of Doughnuts

Molded from dough, baked crisp, and sprinkled with sugar, the *rosquilla* is to Basque fiestas what hot dogs are to American picnics. These confections go on sale at Zarauz, a resort on the Bay of Biscay.

Coming down, we looked into a vast basin ringed by mountains. Here golden sunlight dusted Durango's dark-red roofs and turned its river into silver. We entered Guernica an hour before sunset.

Center of Basque Tradition

A garage mechanic stared when I inquired the way to the town's historic treasure, the Tree of Guernica.

"You are a friend of ours," he stated rather than asked, as he gave us the directions.

Under this oak the Parliament of Biscay once met to swear allegiance to its king and to bear him, in turn, swear to maintain

the Basques' traditional rights and laws. The tree has become a symbol of Basque unity. When we found Guernica's Tree, we saw that it no longer lives. Only a stump remains.

It saddened me to think that this tree is dead and that French and Spanish Basques are now united only by race and tradition.

My gloom was brightened by an old Basque whom we met by the dead stump. He led us to a young oak planted near by.

"Will it live?" I asked.

"One never knows."

Then, sensing my meaning, he added, "But we Basques have lived a long, long time."

Washington Lives Again at Valley Forge

Memories of His Ragged Heroes Linger in the Pennsylvania Park
Where Bloodstained Snow Marked the Path to Freedom

BY HOWELL WALKER

National Geographic Magazine Staff

"WE used practically the same system of ground defense in the Korean hills as George Washington had at Valley Forge," said Lt. Joseph Hanley, a wounded U. S. Army veteran.

He was looking at the shallow trenches and low earthworks that straggle over the rolling terrain of southeastern Pennsylvania where General Washington and his ill-equipped soldiers spent the dreadful winter of 1777-78.

With Lieutenant Hanley and his friend, Lt. Richard Hawley, I toured the site of the Revolutionary encampment. My companions were walking patients at the nearby Valley Forge Army Hospital, and they welcomed an outing.

But something much deeper than the excursion draws visitors to Valley Forge. Here, in one sense at least, is the cradle of the United States. Only by courage and sacrifice amid hardships, pain, disease, and death in the bloodstained snow at Valley Forge was America's independence won. From here went men led by the Father of his Country to build a nation.*

Nowhere else have I felt so positively the presence of General Washington—not even at Mount Vernon. For me, he lives again at Valley Forge: on the wind-swept slopes, behind the breastworks, in the silence of the night.

A Week to March 19 Miles

After a series of defeats by the British, the American army of 11,000-odd despairing troops staggered to Valley Forge from the vicinity of Philadelphia. The 19-mile march took a week. Then, on a bitter December evening, the bone-weary yet dauntless brigades began a 6-month struggle for survival "without a House or Hutt to cover them till they could be built."

Icy winds lashed the exhausted army. Around scattered campfires huddled groups of men, ragged, bandaged, half-starved, shelterless. Sentries tramped blood from their own raw feet onto the frozen ground or stood in their hats to ease chilled toes.

"If things were so tough at Valley Forge,

how come they stayed here so long?" asked Hawley. "What held the soldiers together?"

"George Washington," was the best answer I could give.

The main reason for occupying this desolate post rather than the hospitable atmosphere of Reading, Lancaster, or Wilmington was to keep a close watch on the British in Philadelphia. General Washington hoped to prevent enemy raids into the neighboring Chester Valley "breadbasket," and he wanted to challenge any large-scale movement out of Philadelphia.

Aerial Views Reveal True Sites

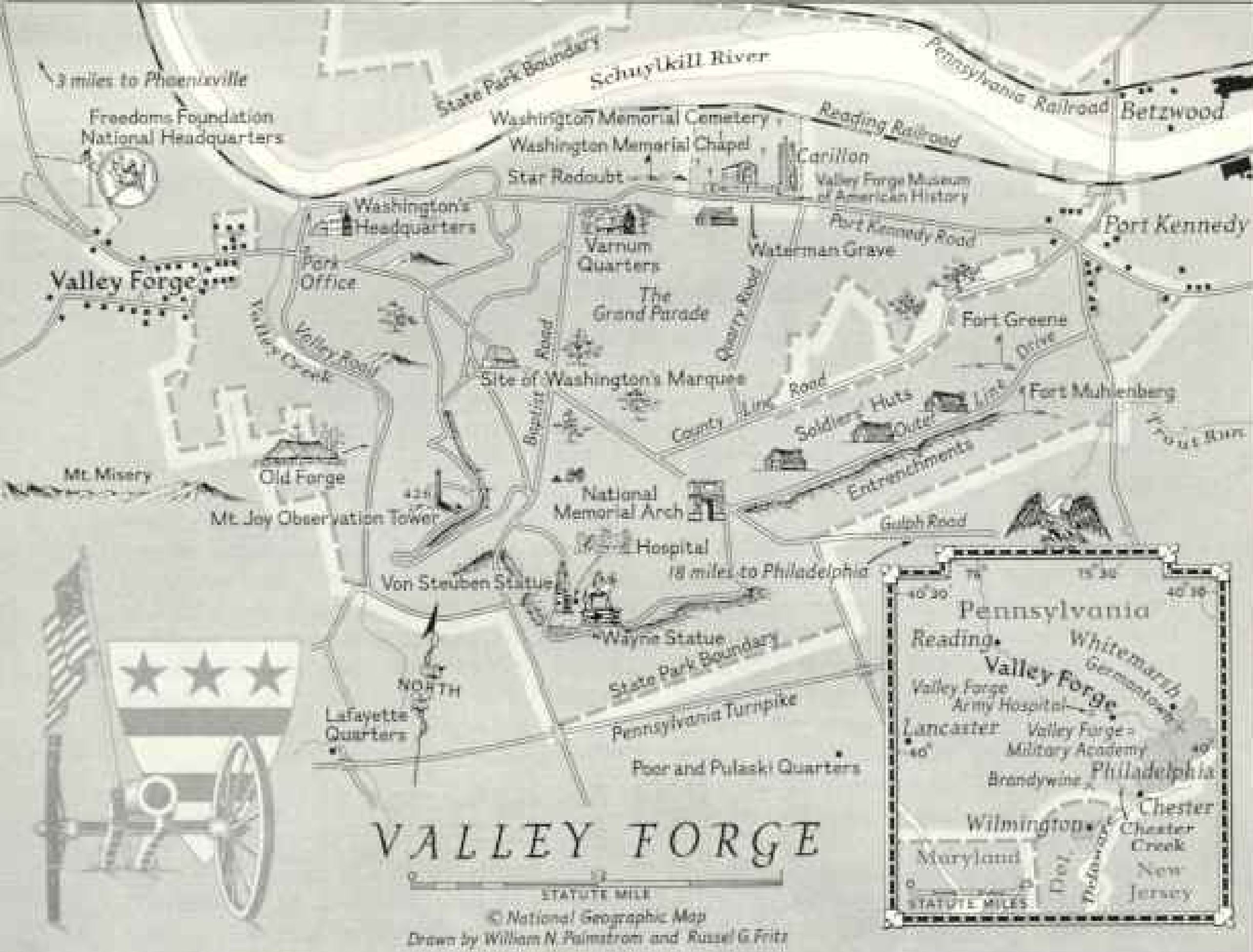
Long before this place of suffering became a State park in 1893, farmers' plows had leveled earthworks thrown up by Washington's army. Today Pennsylvania's Valley Forge Park Commission is restoring the 2,033-acre reserve to its original condition as a military camp. But the passage of 176 years has left little to guide reconstruction, and lack of documentary evidence increases the problem.

The sole Revolutionary record of possible redoubts is an unfinished map sketched by a French engineer, Louis L. du Portail, whom General Washington had commissioned to lay out the encampment. Du Portail's chart, together with historical facts subsequently uncovered, encouraged a systematic search for the correct site of a redoubt previously thought to be Fort John Moore.

First, a U. S. Army detachment vainly combed the most likely area with mine detectors. Then a U. S. Air Force reconnaissance squadron made low-altitude photographs of the sector. The air pictures helped greatly to solve the riddle of the fort's true location.

How? To build earthworks, Washington's soldiers necessarily disturbed the subsoil. Even today, vegetation shows the effect of that early interference; grass and shrubbery grow more—or less—profusely, depending upon the nature of the excavations and the soil.

* See "Shrines of Each Patriot's Devotion," by Frederick G. Vosburgh, NATIONAL GEOGRAPHIC MAGAZINE, January, 1949.



Washington's Winter Camp Is Being Restored 176 Years After His Troops Withdrew

Here Americans kept an eye on British quartered in Philadelphia. Valley Forge is named for the old forge (left), an iron mill. A Revolutionary War map guides the search for sites plowed under long ago.

To one standing on the ground, the variations in vegetation are difficult to spot. But seen from above they form a distinct pattern. An aerial photograph properly interpreted can pinpoint an excavation site.

Archeologists, digging to doublecheck the position, then can determine exact dimensions of the fort's breastworks and trenches.

So ends the mystery of Fort John Moore, redesignated Fort Greene; for history tells that Gen. Nathaniel Greene commanded the left flank where the redoubt in question stood (page 198).

900 Log Huts Housed Troops

The park commission has so far erected about 30 log cabins as copies of those built by Continental troops. Each follows Washington's specifications for the 900 twelve-man "huttts" once here (page 192).

"How do these quarters compare with yours in Korea?" I asked Hanley.

"Our architects over there preferred sandbags!" he said.

While at Valley Forge, the Continental Army felled between 75,000 and 100,000 trees for huts, hospitals, workshops, bridges, and fuel. However, reforestation is now well under way. In the last few years Boy Scouts have set out 16,000 or more seedlings. During the first half of May, visitors see some 50,000 dogwood trees in blossoming masses of pink and white (page 198).

Tracing old fortifications around the cantonment, we passed monuments to regiments recruited in the Thirteen Colonies. Some memorials reminded us that Lafayette, Von Steuben, Pulaski, and De Kalb crossed the Atlantic from France, Prussia, and Poland to help America win independence. Other European soldiers and adventurers also served at Valley Forge. And a party of Oneida Indians contributed their scouting talent.

Park guides told us that the question most commonly asked them is, "Where was the Battle of Valley Forge fought?"

Although no combat with the enemy occurred at Valley Forge, the physical ordeal



Valley Forge Cadets March Across Ground Patrolled by the Continental Army

Gen. George C. Marshall has cited the school as the "perfect example of what a military academy should be." Many graduates go on to West Point and Annapolis. Here Troop D parades to chapel (page 200).

of wintering here took its toll among the Continentals. More than 3,000 soldiers succumbed to sickness, privation, and exposure. Many of the deaths occurred in hospitals some distance from Valley Forge because the camp lacked adequate facilities for caring for the sick men. Many were buried where they died. One grave alone is identified by a modest, crudely inscribed headstone (page 197).

With another grave, unmarked, goes a sad little story about a soldier who persistently stole chickens from a neighboring farm. The owner appealed to Gen. Anthony Wayne, who seemed too preoccupied to pay attention.

"What am I to do?" the farmer asked impatiently.

"Shoot him," snapped Wayne.

The farmer did.

For most of the first bitter week of the encampment General Washington occupied a tent. He refused the comfort of a local farmhouse until his men had built some of their huts. Today a granite monument stands where Washington pitched his marquee.

This impressed Hawley, who had believed that Washington moved into the stone headquarters immediately upon arrival at Valley Forge. Hawley began to see why the Continentals, despite their misery, stuck to the General during those trying times.

Discipline Offset Discontent

The soldiers did in fact linger on the brink of mutiny. Many yearned to return to their farms, which sorely needed them. There was talk of a lost cause in the face of British superiority. Congress, they felt, had let them down, failing to supply adequate food, clothing, or funds.

However, General Washington tolerated no letup among his troops. He insisted upon strict military discipline and rigid routine; he had deserters executed as examples. Under the stern Prussian drillmaster, General von Steuben, farmer-recruits took shape as professional soldiers.

But the day-to-day struggle for existence continued. Able-bodied men cut firewood or

foraged for scarce food. Countless others lay in blanketless discomfort, too weak to stir. Epidemics of "camp fever" (probably typhus) and smallpox ravaged the community.

We looked into a hospital, a copy of the original type built at Valley Forge. The small log structure has only one room, and in the center of it stands a rustic operating table. Surgeons had to amputate frozen gangrenous limbs without benefit of anesthesia.

"Korea was rough," said Hanley, "but not like this."

Hunger was another ever-present enemy. In February, 1778, Washington wrote, "For some days past, there has been little less, than a famine in camp." Nevertheless he added, "Naked and starving as they are, we cannot enough admire the incomparable patience and fidelity of the soldiery . . ."

Mrs. Washington Went to Valley Forge

Washington's headquarters, a 2-story stone farmhouse, probably looks today much as the General and his wife left it in June, 1778. In place of the come-and-go of officers, aides, and soldiers—reporting, advising, humanly complaining—rises the babble of a constant stream of visitors (page 199).

"Why, here's Martha Washington's bedroom," someone says in surprise. "I didn't know she came to Valley Forge, too."

"That bed in George's room seems awfully short; he was a tall man, wasn't he?"

"Just hope he didn't bang his head as hard as I did, coming up that tight little stairway."

I could imagine the General in the downstairs study, his quill scratching yet another plea for supplies to an unresponsive Congress.

An exquisite tribute to the great but humble man is the Washington Memorial Chapel at Valley Forge (pages 201, 202). Beside it stands a tall stone tower, gift of the Daughters of the American Revolution, from which ring out a carillon's 56 bells, one for each State, one for the Union, and the others for a wider range in melody. At evening the national anthem echoes among the hills where 13-star flags always fly, day and night.

Now on ground where the Continentals patrolled or foraged for food spreads the Valley Forge Military Academy, commanded by Maj. Gen. Milton G. Baker. Called a carbon copy of West Point, the school, with a 6-year course, prepares youths for college (pages 189, 200).

The academy's chapel, dedicated to alumni

who have died for their country, includes a cadet honor shrine; here I read these lines:

From the embattled fields of Valley Forge
Went men who built America.
From the training fields of Valley Forge
Go men who will preserve America.

Since 1949, Freedoms Foundation has maintained headquarters at Valley Forge. To citizens who by word or deed best "speak up for freedom," the foundation annually awards medals, certificates, and cash prizes.

Recent recipients have included Dwight D. Eisenhower (before he became President); former President Herbert Hoover; the Editor and two staff writers of the NATIONAL GEOGRAPHIC MAGAZINE; army officers, ministers, cartoonists, industrialists, photographers, and school children.

"It's not by accident that our headquarters are at Valley Forge," said an executive of Freedoms Foundation. "What more appropriate place?"

In the summer of 1950 about 47,000 boys from every State and 20 foreign countries made a mass pilgrimage to the park. The jamboree, part of a crusade to "Strengthen the Arm of Liberty," celebrated the 40th birthday of the Boy Scouts of America (page 194).

50,000 Good Turns a Day

"Instead of one Revolution," a newspaper then roundly announced, "Valley Forge now has 50,000 good turns a day."

The chief Scout executive explained the choice of the site for the gathering: "Few things could do more to stir the souls of boys than camping on this hallowed ground."

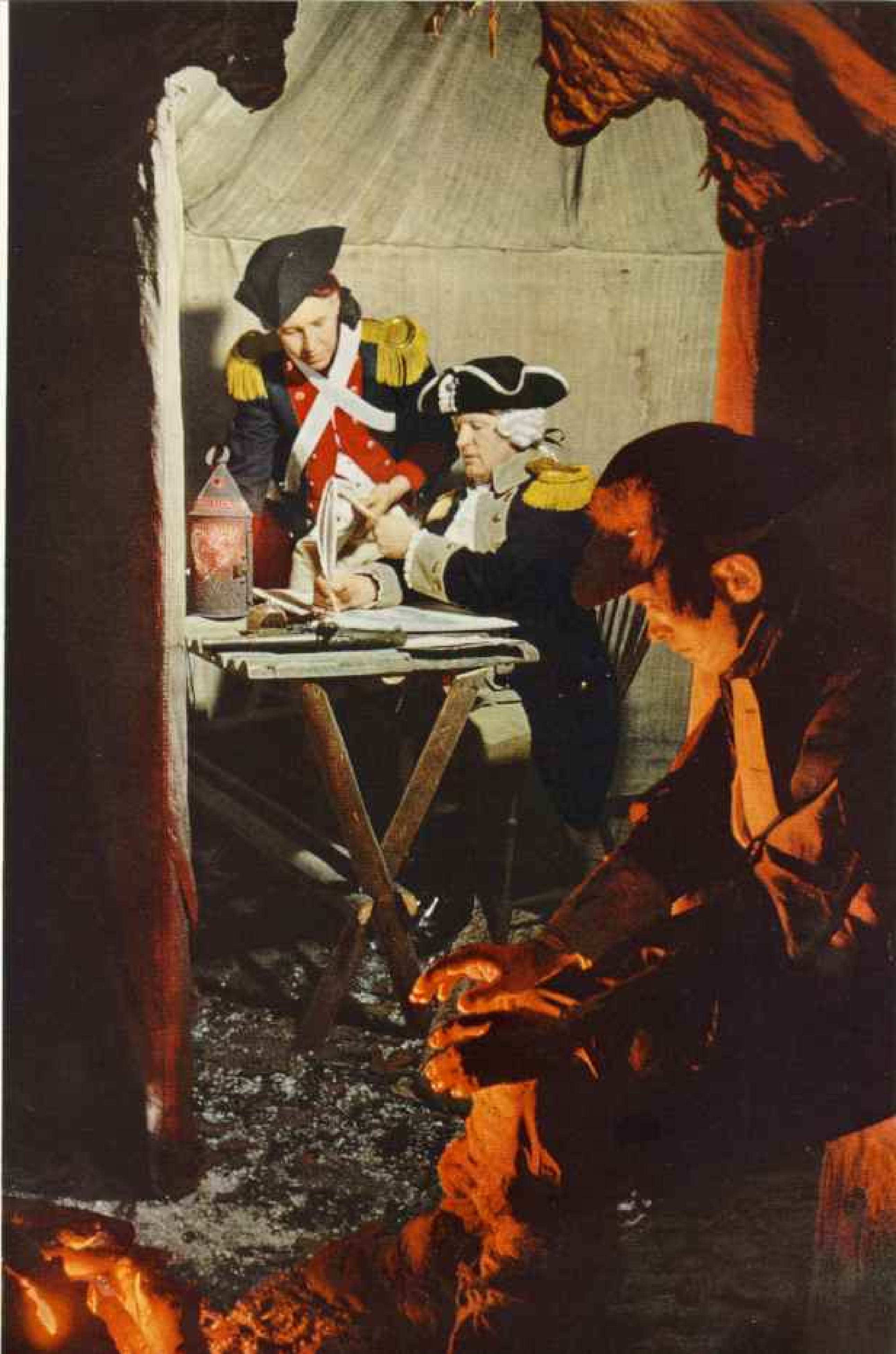
To what degree our pilgrimage stirred Hanley and Hawley I cannot say. But it brought home to me that men like them today have but recently fought again for pretty much the same things General Washington and his soldiers suffered for at Valley Forge.

Washington in Kodachrome Confers with an Aide at Valley Forge →

For the first week of the Continental Army's encampment among the Pennsylvania hills during the bitter winter of 1777-78, Washington lived and worked in this flimsy marquee. He refused to move to more substantial quarters until his men had built crude log huts. Finally the Commander in Chief transferred to a stone farmhouse (page 199).

Washington's tent is preserved in the Valley Forge Museum of American History. Live models wear copies of authentic Revolutionary uniforms. A soldier with feet wrapped in cloth warms his hands outside.

© National Geographic Society
Kodachrome by National Geographic Photographer David H. Berger



Patriots Fought "General Winter"

in Huts Like These

General Washington wrote: "To see Men without Cloathes to cover their nakedness, without Blankets to lay on, without Shoes, by which their Marches might be traced by the Blood from their feet, and almost as often without Provisions as with . . . and at Christmas taking up their Winter Quarters within a day's march of the enemy, without a House or a Hut to cover them till they could be built . . . as a mark of patience and obedience which in my opinion can scarce be parallel'd."

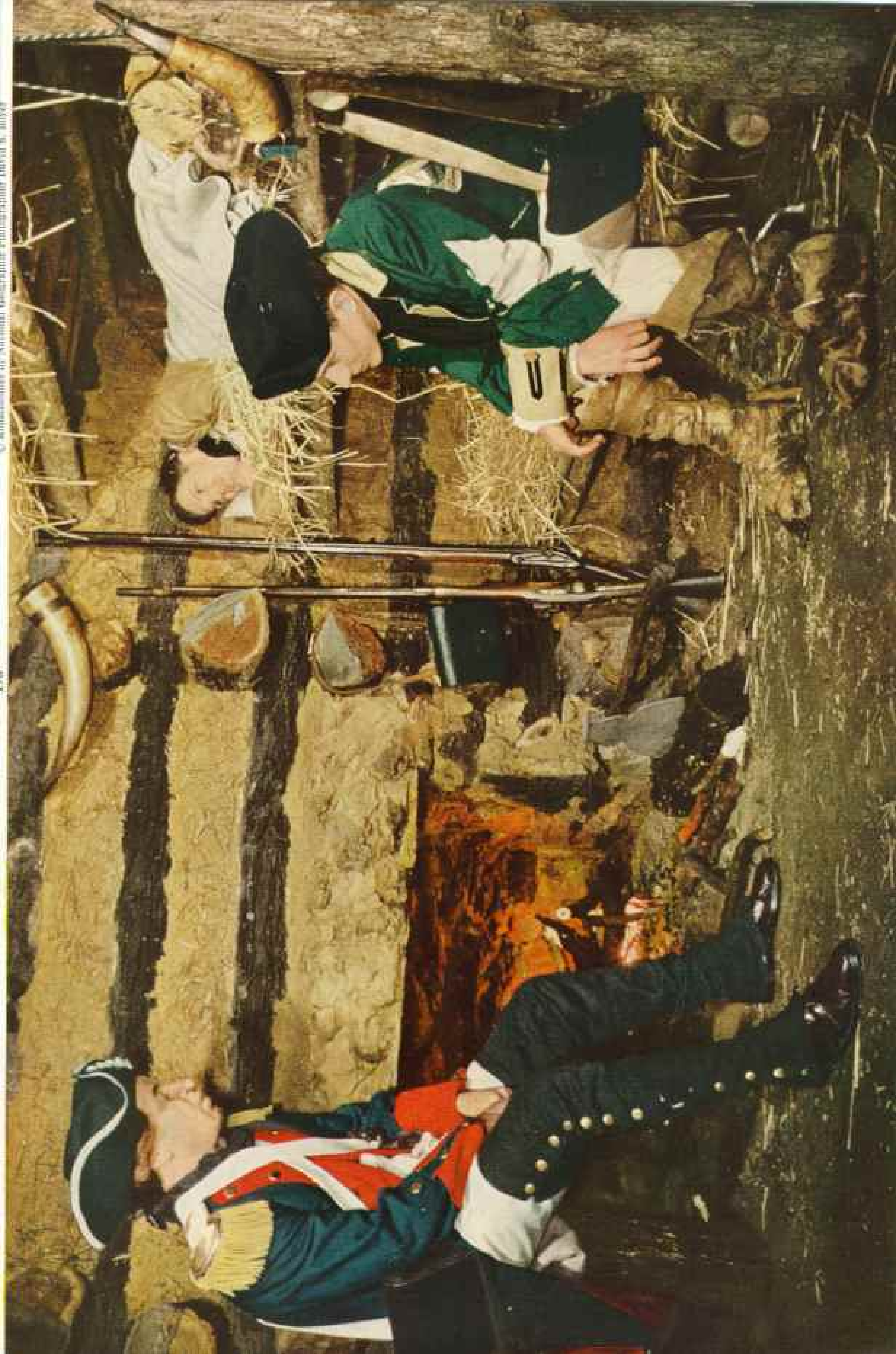
These log cabins are copies of 900 built by soldiers who endured the cruel blasts of Valley Forge. Each housed 12 men.

Inside a cabin, models in Revolutionary uniforms enact a phase of the encampment. An officer (left) argues with two soldiers who talk of going home until spring.

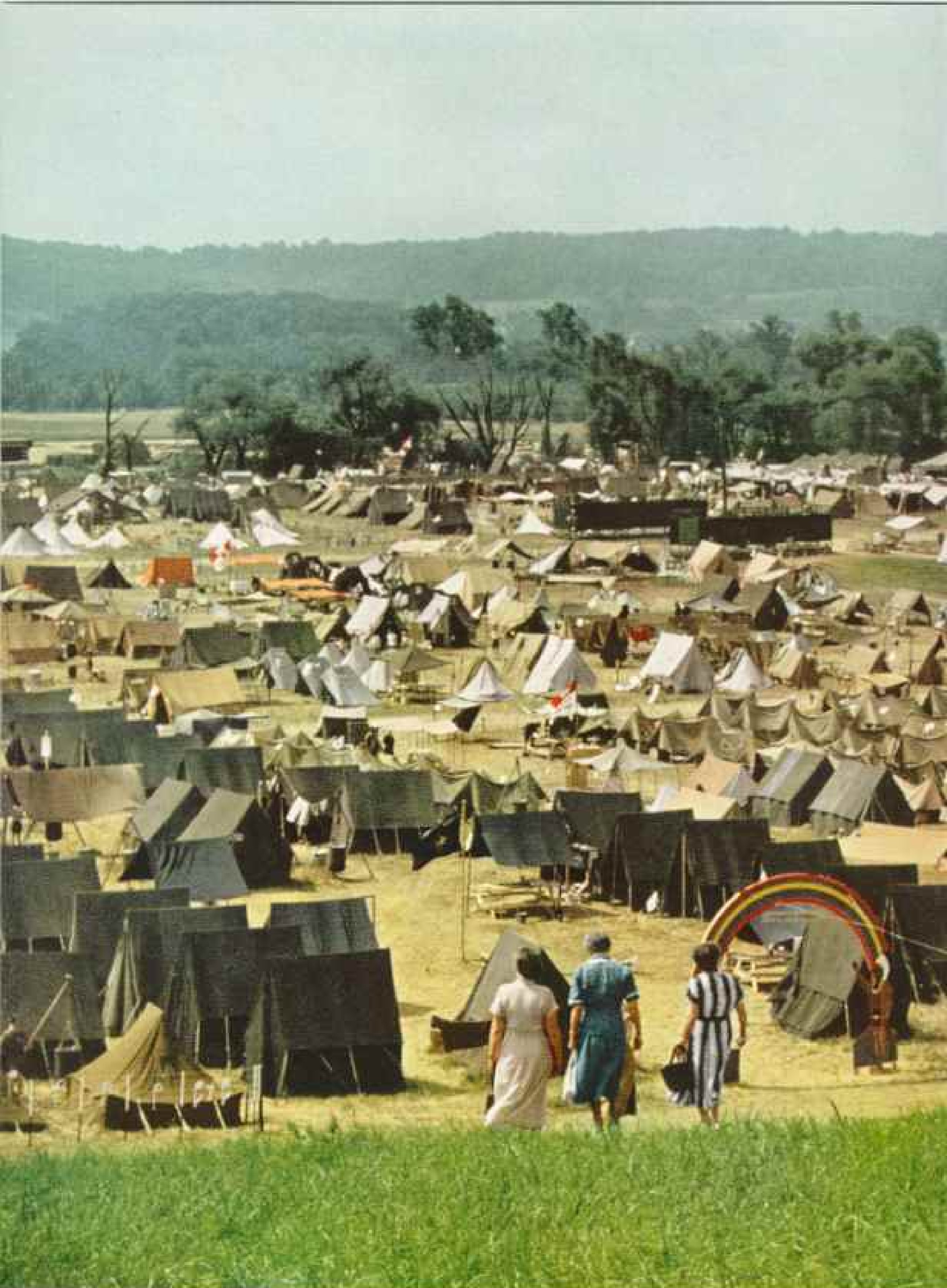
The man with feet bound in rags represents the plight of the average soldier. His comrade, too ill to move from his bunk, could consider himself lucky to have a blanket. Guns, powder horns, and ax are authentic relics.

© National Geographic Society





© Smithsonian Institution, Arctic Research Society, photo by W. H. H. H. H.



Boy Scouts, 47,000 Strong, Pitch a 625-acre Tent City for a Jamboree

Valley Forge in 1950 witnessed one of the largest gatherings of youth ever held in the hemisphere. Scouts and leaders came from all parts of the United States and 20 foreign countries.



Unlike Washington's Tattered Men, They Feel No Lack of Food and Warmth

Here, during a week-long encampment, Boy Scouts ate 35 miles of hot dogs. They stowed away enough pancakes to have made a stack nearly two miles high.



An Obelisk Marks the Only Identified Grave Among the Many at Valley Forge

No combat occurred at the encampment, but soldiers succumbed to cold, malnutrition, and disease. The Commander in Chief ordered graves left unmarked; otherwise the camp would have looked like a cemetery.



An Arch of Triumph Honors America's First Soldiers

Here, in December, 1777, a bleak chapter in American history was written. Beaten at Brandywine and Germantown, the ragged Continentals withdrew to Whitemarsh to lick their wounds, while the victorious British enjoyed the comforts of Philadelphia.

Valley Forge was selected as a new defensive base. For a week the starving, shivering force of 11,000 staggered the 19 miles to the encampment. So severe were the hardships that when the Americans evacuated Valley Forge six months later they left many dead.

The National Memorial Arch pays tribute to the heroism of Washington, his officers, and men. Its inscription is taken from the General's writings. Visitors study a map of Valley Forge Park.

→An obelisk (opposite) replaced this crude headstone, which marked the grave of Lt. John Waterman of Rhode Island.

© Reproductions by David S. Boyer (top) and Howard Walker, National Geographic Staff





© National Geographic Society

Dogwood Blossoms Soften Hills Where Soldiers Froze in Snow

New Jersey erected the monument and topped it with a Continental sentry in honor of the State's Revolutionary regiments that served at Valley Forge.

← A flag with 13 stars flies over a fort named for Gen. Nathanael Greene, commander of Washington's left flank. The fort's true site came to light in aerial pictures, which disclosed soil disturbances invisible at ground level. Cannon could be fired through embrasures like the one where these visitors stand.

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↑ Washington Made This Stone House His Headquarters During the Encampment

After seeing that his army was being housed, the General moved into the building at Christmas time. Martha joined her husband in February, shortly before his 40th birthday. She remained almost until the Army marched away in June, 1778. The house is kept much as they left it.

↓ Boy Scouts examine a cannon (not an original) in front of the headquarters.

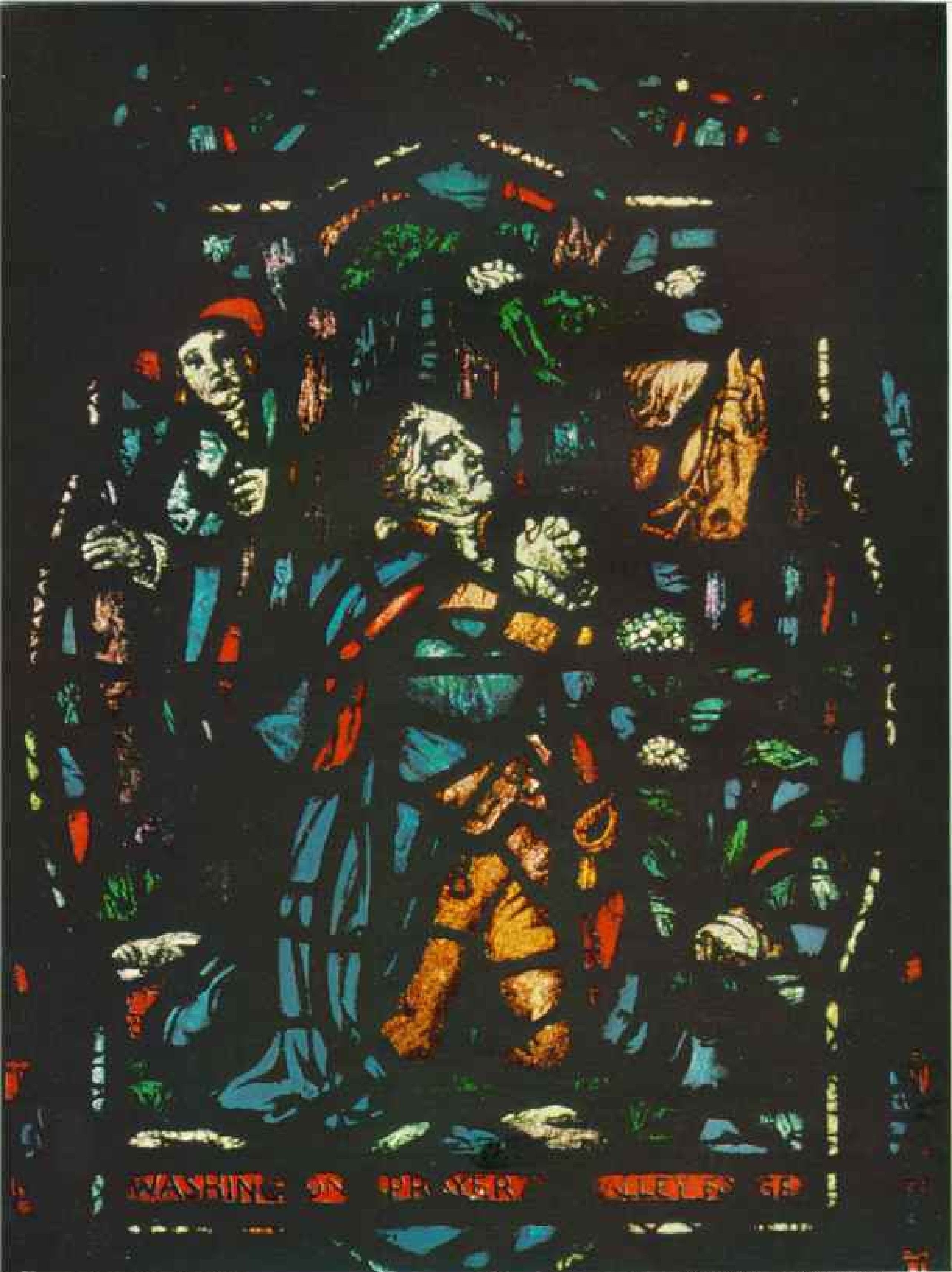




Valley Forge Military Academy's Color Guard Marches Past Hamilton Hall

(Opposite page) Washington Memorial Chapel is dedicated to God and to the memory of George Washington. Stained-glass panels depict scenes from the life of Christ. Revolutionary flags, including one with 13 six-pointed stars, hang above the oak choir stalls. The Reverend John R. Hart guides these visitors. →





Washington in Prayer at Valley Forge Inspired the Building of a Chapel

This stained-glass panel, the work of Nicola d'Ascenzo, appears above the entrance to Washington Chapel (page 201). Tradition says a Quaker found the General on his knees in Valley Forge's snow praying for his country. "I have seen this day what I shall never forget," the Quaker was quoted. "Till now I have thought that a Christian and a soldier were characters incompatible; but if George Washington be not a man of God, I am mistaken."

With Her Beaches Soft and Pink, Britain's Oldest Crown Colony
Teaches Thousands of Visitors a Lesson in Serenity

BY BEVERLEY M. BOWIE

National Geographic Magazine Staff

With Color Illustrations from Photographs by Charles Allmon

MY affair with Bermuda was not a matter of love at first sight. Many a visitor, I know full well, has stepped off the New York plane, looked once at Bermuda's turquoise waters, pink coral beaches, and lily-bordered cottages, and given his heart, in perpetuity, to the Isles of Enchantment. But I came, I saw, and nearly two weeks elapsed before I was conquered.

In this interval Bermuda admittedly played coy. She pouted behind rain clouds; she blew hot but mostly cold; she even threw a tantrum one afternoon and unleashed four small tornadoes, which flipped autos into the bay and sent roof tiles whirling about like feathers.

Master Will Shakespeare, writing about the "still-vex'd Bermoothes," charged Prospero and his sprite Ariel with having "bedimm'd the noontide sun, call'd forth the mutinous winds, and 'twixt the green sea and the azur'd vault set roaring war." I cannot, of course, be sure it was they whom Bermuda employed to hex my first fortnight. All I know is that every resident insisted this weather, even for March, was "most unusual."

In the end, however, Bermuda relented. The last squall scudded across Hamilton Harbour one April morning, the sun broke clear of its dirt-gray woolpack, and the islands lay before me, glistening, freshly laundered, scented with cedar. As friendly now as she had been shrewish, Bermuda bade me enjoy her various delights.

A World in 21 Square Miles

Over the weeks that followed, I sailed her bays and inlets; dived along her coral reefs, explored her sea-carved cliffs, lay torpid as a lizard on her talc-soft beaches, scrapped and painfully rebuilt my backhand on her pastel-tinted tennis courts, left portions of my pride on her rugged, windy links, and pedaled a bike down almost every flowered lane of her nine parishes.

I think I came to know her. Only 21 square miles in area, Bermuda has "infinite riches in a little room." No one of her parishes (each

named for some English gentleman linked to her history) quite resembles another; Paget's prim beauty looks askance at Sandy's rural ways, and St. George, former seat of Bermuda's Government, thinks of them both as Johnnies-come-lately. Yet, for all her diversity, Bermuda is small enough to be grasped and comprehended as a whole.

Though she lies 650 miles from the United States, more than 3,000 from Europe, and is, in fact, one of the most isolated spots on earth, Bermuda has never lacked admirers (map, page 208). Mark Twain said that Americans on their way to heaven stop at Bermuda and think they have already arrived.

Bermudians themselves may question the ultimate destination of some of their visitors, but they can hardly doubt their affection. In greater numbers every year, Americans flock to this "pint-sized paradise"—91,000 in 1953 alone. Three out of five now come by plane; other throngs arrive by Furness Bermuda liners.

War Ended the Horse-drawn Era

If you had inquired at random of a dozen such prewar tourists why they had come, chance would have favored this answer: "To get away from the automobile age!" For Bermuda meant to them a haven untainted by gas fumes, unruffled by the honk of horns. It meant a quiet, dusty road, a slightly creaking surrey, an unambitious horse clip-clopping through the night, the silver tinkle of a carriage bell—in a word, peace (page 230).*

Unhappily, Bermuda means that no more. World War II severely curtailed the islands' imports of hay and oats, and the Americans who set up and manned the Kindley Air Force Base required trucks and heavy-duty equipment.† Pressure mounted to have the roads black-topped and taxis permitted to

* See "Happy Landing in Bermuda," by E. John Long, NATIONAL GEOGRAPHIC MAGAZINE, February, 1939.

† See "Americans in the Caribbean," by Luis Marden, NATIONAL GEOGRAPHIC MAGAZINE, June 1942.



Hamilton, Capital of Bermuda, Gleams Beside Its Sun-drenched Harbor

Coral-pink Royal Bermuda Yacht Club at dock's edge provides a haven for sailing enthusiasts and males in search of seclusion. When wives phone, the staff discreetly asks member husbands if they are in.



Queen of Bermuda Dwarfs Dockside Buildings Beside the City's Main Thoroughfare

Tourists debarking from Furness-Bermuda's 17,575-ton luxury liner step onto Front Street—"showcase of the British Empire." The Cathedral (center) and Sessions House (clock tower) stand out above white roofs.

supplement the shrinking livery trade. In 1946 Bermuda surrendered to the internal-combustion engine.

She obtained certain conditions, however. Speeds are restricted to 20 miles per hour in the open country, 15 in town. No family may own more than one car, and visitors may not drive at all until they have resided in Bermuda 30 days. When a car has reached five years of age, it may not be sold for further use on the public roads; no jalopies will be tolerated.

Bermuda's auto traffic, in consequence, is restrained and quite demure. Hillmans, Austins, Morrisies, Fords, and other small British models purr about the roads safely and sedately; a few convertible cabs have even bridged the two eras by attaching canvas surrey tops, complete with fringe.

The fly in the ointment, or the bee in Bermuda's bonnet, is the motor-assisted bicycle. Cheap, economical, and handy, the putt-putt has multiplied with increasing rapidity. Now its high-pitched whine rises above the roads from one end of the islands to the other, as if the entire place had been taken over by outraged hornets. The Transport Control Board is experimenting with sound-level meters, and may soon use them in annual noise tests of all motor vehicles. Nevertheless, Bermuda, dozing for generations in the sun, has suffered a noisy awakening.

Visitors Add Color to Hamilton

This gasoline-powered revolution, plus the boom in the tourist trade, has given the commercial center of the islands—Hamilton—a rather hectic air. Let's look at it, as I did one Monday morning, from the vantage point of the Twenty-One Club's balcony overlooking busy Front Street (page 219).

The *Queen of Bermuda* docked three hours ago, and now her 650-odd passengers have come ashore to jostle one another in pursuit of British bargains in tweeds, perfumes, china, and doeskin (page 205). Some of the men have already donned knee-length Bermudian shorts; others, topped by berets in emphatic plaids, sport the mauve and lavender pajamas which Stateside haberdashers call "resort wear." The women gaze darkly upon the world from behind smoked glasses and spectacles with mirrored lenses in which passers-by can see their own images curiously distorted.

Around the gangplank of the excursion steamer *Chauncey M. Depew* a laughing pack

of undergraduates down for College Week struggle to get themselves, their bikes, and lunch-boxes aboard for a cruise to St. George. Above their crew-cut heads and lotion-daubed noses blares an amplified recording of a popular calypso ditty: "Don't Roll Those Blood-shot Eyes at Me!"

On the street itself, a platoon of riflemen on local maneuvers, clad in blue dungarees and green tams, thread their way on bicycles through a tangle of taxis, carriages, trucks, and low-slung buckboards loaded with cases of New Zealand butter and Danish beer.

Sailors Ride Motor Bikes

Wobbling uncertainly on their mechanical mounts, a batch of American sailors on shore leave roar by, motor bikes backfiring liberally. Two monks from a cruise ship, somewhat dazed by the sound and fury, are trying to focus their cameras on the prow of the *Queen*.

Drowsy, unworldly little Hamilton. . . . You are right to think it more nearly resembles Times Square or Piccadilly Circus. When you further consider that Bermuda as a whole, with its 39,000 residents (to say nothing of its visitors), is more densely populated than any country in the Western Hemisphere, you may understandably conclude that privacy is a thing of the past.

You would be wrong. If you want seclusion, you can find it more easily in these magical islands than in many bigger and emptier domains. Along the strand at Elbow Beach, for instance, collegians may sprawl like colonies of basking seals. But if you walk a little farther westward to Horseshoe or Cross or Sinky or Boat Bays, you will find at most seasons only an occasional couple swimming languidly toward the barrier reefs, a few children skittering like sandpipers before the milky surf, a pair of longtails wheeling and swooping in a cloudless, tranquil sky.

Nor is the South Shore the only sector in which it is possible to elude the crowd. In Somerset and Southampton you can bike for miles along the right-of-way where Bermuda's short-lived railway once ran, past an occasional grove of oranges whose fruit glows, in Marvell's phrase, "like golden lamps in a green night."

In Warwick you can wander by gray limestone cottages sleeping in flower-choked fields, Cotswold in character but set down incongruously in a riot of oleander, hibiscus, and

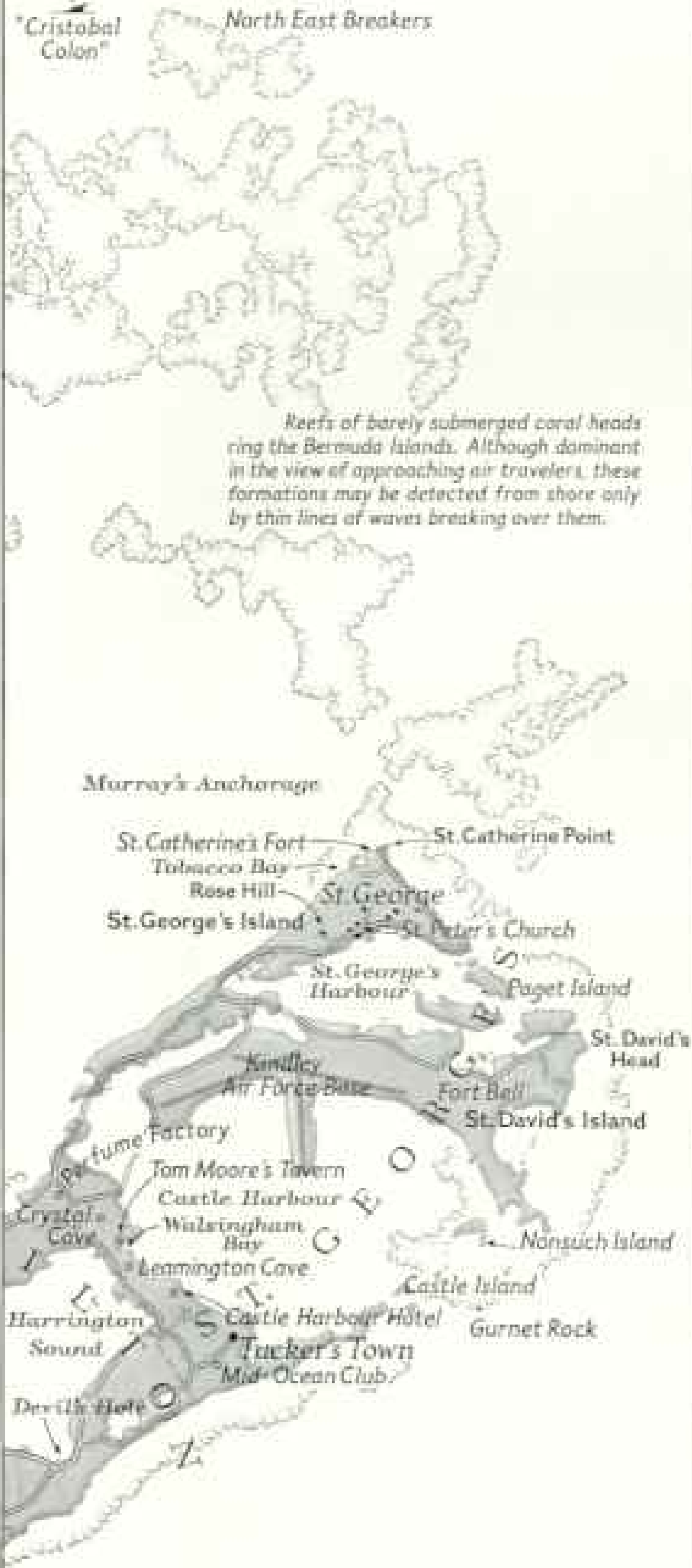


Bermuda, a Mid-Atlantic Paradise, Offers Year-round Flowers and Sun

Practical as well as pretty, the islands' snowy limestone roofs funnel precious rain water into cisterns. Cyclists wear the colony's "long shorts," which are cut no higher than two inches above the knee.

Atlantic Ocean





Bermuda

ISLANDS



bougainvillea. From the ferry landing near the Inverurie on some velvet night you can cross to Pembroke on the ferry, with the tinkle of dance music drifting over from the hotel's terrace, and, to your right along the harbor shores, the sight of little houses climbing hillward, their roofs frosted with moonlight.

How to Pick a Bermudian

Even within Hamilton itself, beneath the carnival confusion, an older, more serene pattern of living continues. If you will look a bit more closely at the tide of visitors flowing along Front Street, you can, after a little practice, pick out the Bermudians with reasonable assurance. They will be distinguished by their unhurried gait, their obliviousness to store-window displays, their casual tweeds.

There, for example, coming toward us now is Chesley E. White, deputy mayor of Hamilton and owner of one of the city's largest furniture stores. In Bedford-cord jacket, shirt collar open, his yacht-club tie at half-mast, Mr. White cleaves the motley surge of vacationists with the ease and dignity of a liner. By afternoon he will be back in his forest of furniture with shirt sleeves rolled up, actively selling his merchandise, all the way from bedroom suites to high chairs. But at the moment he is obviously bound for the Royal Hamilton Amateur Dinghy Club and a post mortem of his week end of fishing off his motor cruiser, *Sea Venture*.

Again, over there in the shade of the Smoke Shop, you can spot Sir John Cox buttonholing Will Zuill, the islands' amiable historian, for a quiet chat. Shorn of his full-bottomed wig and black gown, Sir John, bareheaded and bespectacled, looks somewhat less magisterial but just as ruddily benign as when you last saw him, presiding over Bermuda's Parliament from the Speaker's chair (page 228).

From your perch on the Twenty-One Club's balcony you will not be able to see up the hill to solicitor Donald Smith's office on Reid

← "Remote Bermudas" Lie 650 Miles from Cape Hatteras, the Nearest Land

With 14,000 white and 25,000 Negro subjects, 21-square-mile Bermuda is more densely populated than any country in the Western Hemisphere. The 300 islands and islets of the archipelago are exposed portions of a submarine volcanic mountain. Discovered in the early 16th century by the Spanish sea rover Juan de Bermúdez, the group was settled by Englishmen shipwrecked in 1609. Mail often arrives with the erroneous address, "British West Indies." Actually the closest West Indian island is San Salvador, 810 miles to the southwest.



Gibb's Hill Light, Visible 30 Miles Offshore, Guides Mariners Toward Bermuda's Coral Maze, Once a Graveyard of Ships

One of the world's oldest iron lighthouses, the 133-foot beacon was built in 1846. Port Royal Bay at left opens into Great Sound.

Free of Frost, the Islands Can Raise One Crop After Another

Bermuda's 165 farmers, chiefly of Portuguese descent, grow a variety of fruits and vegetables. But to feed themselves and their 100,000 annual guests, the islanders must import four-fifths of their menu.

College girls, having cycled to Tom Moore's Tavern on Walsingham Bay, choose a spiny lobster for lunch. Present inn was named for the Irish poet, often a guest here during a visit to Bermuda.

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© Kodachrome by Charles Allman





Bermuda's Governor Accepts an Annual Rent, One Peppercorn

When Parliament in 1815 moved from St. George to Hamilton, it leased the abandoned State House to the Freemasons of Lodge St. George. Each April the lodge treasurer in ceremonial apron presents to the Governor a tiny black pepper seed as the nominal rent. Then he escorts His Excellency and the Executive Council to the old building for a token session symbolizing the Government's right to use its chambers in time of need. Here Lieut. Gen. Sir Alexander Hood receives the ritual's 138th peppercorn. (page 232).

Street. But you can be fairly sure that at this hour he is on his veranda, squinting at the flagpole of "the Gas Works" (as he amiably refers to Sessions House) to see if the Union Jack is flying. If it is, Parliament, of which he is a Member, will be sitting this afternoon. If not, there may be time to squeeze in 18 holes.

Across the harbor from you, below one of the swank hotels, weather-beaten Bert Darrell, Bermuda's leading yachtsman and scion of a seafaring family dating back three centuries, will probably be slowly repairing a boat and dreaming of a sleek new yacht he hopes someday to construct.

Not that these or any other Bermudians invariably place pleasure before business. They are merely confident that the day will provide ample time for both.

Canny they are, and by no means indifferent to the acquisition of an extra dollar. But no puritanical furies drive them to their desks before a decent hour in the morning, or bring them back to their offices or counters before they have digested a leisurely midday meal, crowned by a cigar or by a short snooze in a deep club chair. In summer they repair early to the beach or to their boats, and every Thursday noon they lock up their shops altogether and go home.

There may be an ulcer somewhere in Bermuda; but if so, it is very lonely.

Isle of Devils Was Early Name

This relaxed attitude toward the so-called business of life has, I think, characterized Bermuda almost from the start. It stems, perhaps, from the pleasant surprises which followed the English settlers' first unhappy stumbling upon the islands.

Spanish seamen led by Juan de Bermúdez, made the acquaintance of these isolated rocks in the early 1500's, left them a name—the Isle of Devils—and a reputation as the haunt only of "tempests, thunders, and other fearefull objects." Then, in 1609, Sir George Somers' flagship, the *Sea Venture*, was blown off the course it had set for Virginia and wallowed at the will of a 4-day storm southward from the Azores, leaking like a wet paper bag. Suddenly, to his amazement and delight, Somers saw land ahead.

Urging all hands to keep pumping "and by no means to cease bayling out the water,"

he ran the *Sea Venture* as close inshore as he could, grounded it on a reef, and landed his company of 150 souls on "the dangerous and dreaded Iland, or rather Ilands of the Bermuda . . . avoyded of all sea travellers alive, above any other place in the world."

Yet it was but a few years before one of the first settlers was writing: "If any had said seven yeares agoe, that Barmuda Ilands are not only accessible and habitable, but also fruitfull, plentifull, and a safe, secure, temperate, rich, sweet, and healthfull habitation for Man, and especially for English bodies; oh how loudly would he have beene laught at, and hist out of most mens companies . . . But behold the misprision and misconceits of the world! For true and large experience hath now told us, it is one of the sweetest Paradises that be upon the earth."

Cahows Almost Begged to Be Eaten

Yet the settlers soon found that "the fairies of the rocks were but flocks of birds, and all the devils that haunted the woods were but herds of swine." The cahow birds, in fact, which the mariners met in huge numbers, seemed a 17th-century version of the fabulous comic-strip creature, the shmoo—succulent, abundant, and blithely suicidal. They would invade the settlers' cabins and wander about "with a strange lamentable noyse as though they did bemoan us to take, kill, roast and eate them."

So cooperative were the colonists that in a very few years the fabulous cahow, a member of the petrel family, was believed to have been rendered extinct. Not until 1906 did an ornithologist rediscover a solitary, wary bird (page 227).

Bermuda's history, in the three and a half centuries which have followed establishment of the first colony, might be summarized irreverently as a continuous quest for cahow-substitutes. At no time did the settlers manifest any overwhelming desire to grub their living from the soil. Their hopes turned successively from ambergris collecting to pearl diving, shipbuilding, whaling, piracy, privateering, wrecking, and blockade running, with periods of quite respectable overseas trade.

The Bermudians early discovered they could build light, fast boats from native cedar. In these they soon pressed south into the West Indies with their slaves to pick up salt during the winter. In the spring, they sailed to the North American mainland for flour, corn,

and other necessities. "Their whole dependence," as they reminded the British Parliament in 1758, was on "Salt, Cedar and sailors."

From salt, the colony's skippers quickly branched off into many other lucrative items of trade. By the time the American Revolution occurred and Britain forbade commerce with the rebels, Bermuda had become so dependent upon its North American business that its loyalty to the Crown was sorely strained.

In fact, when the Continental Congress hinted it would gladly send food to the hungry islanders in return for some gunpowder, a plot was hatched. On the night of August 14, 1775, a band of prominent citizens quietly raided the magazine in St. George's, right under the nose of Tory Governor George James Bruere, and trundled 100 barrels of good British powder over the grass and down the hill to a flotilla of whaleboats in Tobacco Bay.

From here the explosives were ferried out to a pair of swift American sloops lying off North Rock; and before the morning sun had slanted across the Governor's pillow in his mansion near by, the booty was on its way to the colonial troops in America.

Not long thereafter, a grateful Congress dispatched the first of many relief ships to Bermuda, laden with flour and meat, corn, peas, beans, and rice.

Privateering Built Fortunes

This amicable deal did not, however, inhibit some Bermudians and American loyalists from later preying upon continental and other shipping in the guise of "privateers." Upon such loot were founded some of the islands' early fortunes, and it is to this gay, lush period that many of the great houses date.

Stay-at-home Bermudians meanwhile contented themselves with the windfalls bequeathed them by Bermuda's innumerable reefs, on which storm-tossed ships piled up with gratifying frequency. Once a vessel had gone aground, it became subject, of course, to the mercies of salvage, a genial and accepted form of communal looting.

In 1846 erection of the Gibb's Hill Lighthouse put a crimp in this pastime, and the courts began to take a somewhat grumpier view of salvage operations (page 210). In 1936, for example, the Spanish *S. S. Cristobal Colon* crashed on a reef about three miles east of North Rock, and a few Bermudians,



reverting to the customs of their ancestors, rowed out to rescue some of the cargo. One man, nabbed later in possession of a handsome ship's wireless set, made this stouthearted defense before the magistrate: "Course I didn't steal it! What would I want with a Spanish radio? I don't understand a word of Spanish!" And yet, somehow, he was convicted.

Prosperity from Blockade Running

Though this kind of spoilsport attitude grew increasingly prevalent in the post-lighthouse years, the American Civil War did give Bermuda enterprise an invigorating interlude of adventure. By 1862, John Tory Bourne, a Bermudian, had set up an informal office in his St. George home to handle "commercial transactions" with the Confederacy: i.e., blockade running.

From the South flowed cotton and gold; from England munitions and supplies. The two streams met at Bourne's big dining table on Rose Hill, where mounds of coin and pound notes changed hands before a circle of attentive merchants and sea rovers. Bermuda boomed. Any able-bodied hand could get a job. Pilots and captains earned between \$3,000 and \$5,000 for a single round trip to Wilmington, North Carolina. Warehouses and wharves bulged with goods; shops and saloons did a roaring trade.

Then came the surrender at Appomattox Court House and an end to the war.

With an economic hang-over, Bermuda went back to sleep. It awoke a decade later, uneasily aware of an increasing number of strangers around the place. Gradually, realization spread that these newcomers were "tourists," that they loved Bermuda with a strange, consuming passion, and that they were willing to spend hard cash upon board, lodging, and entertainment. An industry—Bermuda's latest and largest—was born.

Not all the visitors which the first waves of steamer travel washed upon the islands' shores proved a financial or a cultural asset. In the scramble for customers around 1911, at least one New York line offered round trips to Bermuda for as little as \$10. Of its pas-

sengers, disgruntled merchants often remarked: "They came with a collar and a dollar and didn't change either."

It would be a captious businessman, indeed, who complained about the spending habits of present-day tourists. They account for 90 to 95 percent of Bermuda's income, support its many hotels and guesthouses, and give a livelihood, directly or indirectly, to most of its colored and white inhabitants. In 1953, 100,000 visitors descended upon the islands, 35,000 by ships (two days from New York), the rest by air (three hours by plane).

The average visitor's stay is nine days. Such vacationists set a frenzied pace from St. Catherine's Fort in St. George's Parish to the old British dockyard in Sandy's, determined not to miss a single "scenic attraction." They fish without hooks for tame groupers at Devil's Hole (page 220); trek through the perfume factory at Bailey's Bay, where the scent of lilies and cedar is subtly captured and bottled for export (pages 231, 235); peer at the dazzling stalactites of Crystal or Leamington Caves; pick out a lobster at Tom Moore's Tavern to be broiled for lunch (page 211); try the links at Belmont Manor or the Mid-Ocean Club; ride in a glass-bottomed boat out to the Sea Gardens; or take an "air tour" over the outlying reefs. Last (but it is just as likely to be first), they visit the Bermuda Government Aquarium and Museum.

Toothless Shark Can Only Pinch

This pleasant pink limestone structure stands near Flatts Bridge, which spans the only entrance to Harrington Sound. Here, in tank after green tank, swim the festive citizens of Bermuda's underwater world, a gaudy but impressive gang of reef dwellers varying in savoir-faire from the peacock flounder, which buries itself up to the eyes, to the velvety, dusty-purple rockfish, which yawns in monumental boredom at its guests. I was luckier than most visitors in being introduced to the tenants by the curator, Louis S. Mowbray. His father, Dr. Louis L. Mowbray, who formerly was curator, had contributed an article on fishes of the Gulf Stream to the NATIONAL GEOGRAPHIC MAGAZINE.*

We looked first at a grouper snuggled up

* See "Certain Citizens of the Warm Sea," by Louis L. Mowbray, NATIONAL GEOGRAPHIC MAGAZINE, January, 1922, and a chapter under the same title in *The Book of Fishes*, 1952 edition, published by the National Geographic Society.

Seven Stalwarts Man a Dinghy in St. George's Harbour

◀When its spinnaker is aloft, this 14-foot one-inch Bermuda fitted dinghy will carry from 700 to 1,000 square feet of sail. Crew members sometimes must bail like madmen, hold lead ballast on their chests, or dive overboard to lighten ship.



↑ Races Over, Dinghies Take a Tow Home to Hamilton

Living 650 miles from the closest land mass, Bermudians have made smart sailors from the start. Every two years, in June, ocean-going yachts sail from Newport, Rhode Island, en route to St. David's Head in the blue-water race for the Bermuda Trophy. Each April crews from England, Canada, the United States, and other countries arrive in Bermuda to compete for the Princess Elizabeth Cup (International 14's) and the King Edward VII Gold Cup (International One Designs). It's a rare year when the invaders take home all the honors.

← The scarlet postbox is one bright reminder that Bermuda is a British colony. Scattered about the islands, the boxes show an embossed crown and royal cipher.

→ Bermuda's 5,900 motor-assisted bikes have largely supplanted the older and quieter ones. Gasoline costs more than 40 cents a gallon, but a quart takes the rider from one end of the islands to the other. This girl, in front of the Cathedral, adjusts a control on her bike.

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Yachts Dry Sails After a Grueling 730-mile Thrash, Newport to Bermuda

For nearly half a century international racing craft from 28 to 72 feet over, all have competed in this famous blue-water classic. Fastest time on the course was chalked up by *Bolero* in 1950: 75 hours, 33 minutes, 32 seconds.

Here skippers from a fleet of 58 starters in the 1952 event check in at the race committee's dock at the Royal Bermuda Yacht Club. Women, not often seen on this exclusive lawn, are permitted access on such a Race Day, since some of them may be owners or crew members. Single-striped bars see belongs to the Cruising Club of America; Britain's Blue Ensign at the gaff bears initials and badge of the Royal Bermuda. More than 75 yacht clubs in the British Commonwealth are entitled to call themselves "Royal," but only 34 "deface" the Blue Ensign with their insignia.

Sloop in foreground is a local International One Design. Four boats lined up behind her are *Merry Maiden* (left), *Gettore*, *Spookie*, and *Cielon*. Winner of the race was the 46-foot yawl *Carina*.

Bermuda News Bureau

His Worship the Mayor Leaves Easter Parade

Each spring Bermudians deck scores of floats with "sculptures" built from thousands of island-grown lily blooms. All Hamilton turns out to see them drive through the streets. Spectators still perch on Front Street's balconies after the pageant.





FRANCOIS BROWN



Flippers Thrashing, a Turtle Leaps from Devil's Hole to Snatch a Baited Line

Devil's Hole, near Harrington Sound, was named by early explorers impressed by the sea's moaning surge through subterranean passages. Ravenous groupers, snappers, and loggerheads jostle one another for a lunge at hookless lines.

to his tank's intake pipe. The aerated water, in silver bubbles, seemed to flow right through the fish. "Saves him the trouble of breathing," said Mr. Mowbray. In the next tank a lean shark sucker, or remora, glided about, probing endlessly for some big fish to get a grip on. "Born hitchhiker," was Louis's comment.

The zebra fish at our right, dressed in myriad black-and-white fins like some flouncy Victorian beldame, seemed to mince past the waving anemones. At the nurse shark next door, I shuddered dutifully, but my guide merely grinned. "She hasn't any teeth to speak of. Could give you a good hard pinch, if you insisted, but she'd rather be left alone."

We meandered past the queen triggerfish, hawkbill and green turtles, red hinds sleeping vertically in the barely tremulous water, silvery chub and blue Spanish hogfish, slab-sided little fish with a faked set of "eyes" near their tails, blueheads, squirelfish, sea horses grazing in a pasture of tiny crustaceans, and finally a tank of 6-foot moray eels.

Curled about their rocklike reefs, these grass-green eels with their strange eyes of milky-blue marble looked too sluggish to be dangerous, though they are.

"Their sight is pretty poor," said Mr. Mowbray. "You can drop food in other parts of the tank, and they'll never know it. But if it falls anywhere near them, they seem to sense the vibrations and—bang!—they strike like a rattler. Couple of speckled morays went after the same piece of fish last month, while I was watching, and one of them missed and bit the other. Crushed his brain."

Invisible Fish That Weren't There

The tank with the octopuses had its usual audience of repelled yet fascinated ladies watching the 8-armed cephalopods pour themselves across the sandy bottom and over the glass window.

As we turned away, Mr. Mowbray remarked:

"If they're waiting to see one of those chaps squirt his ink, they shouldn't hold their breath. When we first pop a new octopus in the tank, he turns it black as your hat every time something annoys him. Once he feels at home, though, he just won't bother."

We stood on the Aquarium steps for a few moments, gazing at the boats dancing on the inlet's aquamarine current. From our right

came the laughter of people huddled around the penguins' outdoor pool.

"You missed our most spectacular exhibit," said Louis finally. "Rigged it up last year. The watchman forgot to check the water intake on one tank, and by morning all the fish had died. A cruise ship had just docked, and we knew there'd be a crowd down here, but we didn't have much time. So we cleared the dead ones out, ran fresh sea water in, and put up a nice new sign: 'Japanese Invisible Fish.' Great success."

Eel's-eye View of Bermuda

Many tourists, either at curator Mowbray's Aquarium or on Bronson Hartley's motorboat trips to the reefs, get a chance to explore Bermuda from below, in diving helmets. I had the good luck to help test the islands' first Aqualung—the compressed-air breathing device for free underwater exploration which Jacques-Yves Cousteau and Emile Gagnon invented in 1942-43.*

Reggie Cooper, Bermuda's current tennis champion and an enterprising businessman, had imported a new model of this lung from France. He had tried it out in a swimming pool, but he wanted Hartley and me to see how it functioned in salt water.

Bronson took it down first. Standing on his dock beside Harrington Sound, we watched him slip beneath the surface and skim off toward a little island, the only sign of his journey a trail of softly breaking bubbles.

The afternoon sun glowed serenely over the bay and the few houses huddled around it. I thought, for some reason, of a 50-year-old letter I had read from a tourist who once resided briefly on the Sound; it was, he wrote, "quiet and tranquil enough to kill a man in a week."

I was anything but tranquil, however, when my turn came to go down. I strapped on the harness holding the two air cylinders, adjusted the face mask, turned on the valve so that air flowed into the mask as fast as I needed it, and clambered slowly down the ladder. Unnecessarily, I drew a deep breath and plunged forward.

I was below—and suddenly free of gravity's dominion. The apparatus on my back had weighed a good 40 pounds at dockside; now it was as light as a Ping-pong ball, and I

* See, in the NATIONAL GEOGRAPHIC MAGAZINE: "Fish Men Explore a New World Underside," October, 1952, and "Fish Men Discover a 2,300-year-old Greek Ship," January, 1954, both by Jacques-Yves Cousteau.



Bathers at Coral Beach Enjoy an Old Bermuda Recipe: Sun, Sea, and Serenity

Enveloped the year round by warm ocean currents, Bermuda can count on air temperatures averaging 70°, water around 73°. Visitors swim in any month; most islanders shun winter dips.



Pink Sand on South Shore Is a Pulverized Coral Almost as Soft as Tale

Glass-bottomed boats take vacationists out to the more spectacular barrier reefs. But any goggled swimmer can cruise above coral patches close to shore and scan a vivid underworld of fish.

propelled myself above the sand and pin-cushion coral tufts with the languid ease of a rather clumsy dolphin.

Ahead of me I spotted a small school of silver bream; they flickered in the gentle, filtered daylight of undersea and sped away, to be replaced by a platoon of sergeant-majors, all stripes and quick, flashing movements.

Rolling over on my side, I watched a shoal of fry dance across the surface like dust motes in a shaft of sunshine. It was the first time, I thought, that I had ever been in a position to look *up* at a fish in the sea.

I glided back eventually to the Hartleys' wharf, convinced that Aqualunging had "arrived" in Bermuda. Under careful guidance, it seemed to me, Cousteau's invention should provide the islands with a new sport, a new and fascinating means of exploration.

Dinghy Crews "Expendable"

Certainly, I told myself, the kind of Bermudian who enjoys dinghy racing would have no qualms about Aqualunging. In other parts of the world a dinghy may signify a lowly rowboat; in Bermuda it is a sleek, polished cedar hull, 14 feet 1 inch long, with a deep keel and enough canvas aloft to suit a cup defender: varying from 700 to 1,000 square feet when the spinnaker is set (pages 214, 216).

Its crew, as many as seven, are strictly "expendable." In a strong wind they're needed to bail like mad and to perch on the gunwales with lead weights on their chests (human ballast to keep the open-decked boat from foundering). But if the wind drops, the skipper may order one after another to pop over the stern, to be picked up by the club's motorboat or to swim ashore.

The ideal dinghy man is a combination trapeze artist, broncobuster, surf rider, weight lifter, and master bailer. His job is, nevertheless, much sought after, and at the Royal Hamilton Amateur Dinghy Club there is usually quite a waiting list of members who seek no higher privilege than wielding a scoop in the bilges. Any afternoon after May 24 (the day Bermudians traditionally believe the water gets warm enough for their first swim of the year), the harbor can be seen studded with dinghies plunging about under heavy canvas among the International One Designs, the Luders 16's, and the International 14's.

Most Bermudian recreation, however, is less strenuous. In summer months cricket is played with the utmost gravity on a score

of different pitches. To visiting Americans the game is likely to seem, as essayist Gilbert Highet described it, "like baseball played by men who are either very polite or very ill, and sometimes both."* But to Bermudians it is clearly a ritual, deeply significant.

"Oh, Well Played, Sir!"

Archdeacon John Stow, indeed, informed me that Highet's remarks were "sheer blasphemy." Said he: "To us, baseball is cricket played by men who are either very angry or violently exhibitionist; a spectacle regarded by the performers as high tragedy, and by the crowd as low comedy."

Tennis, too, is played in Bermuda with somnolent dignity. In the cool spring months, international matches are run off briskly in the Tennis Stadium and at the Coral Beach and Tennis Club; but as summer's humidity descends, the Sunday-afternoon tennis tea takes over. Here, in the long golden twilight, Bermudians shuttle from the family grass court to the scone-laden tea table. Backhands may sag a little, and volleys suffer from a surfeit of poundcake, but the game goes decorously on into the gloaming.

Not so long ago, week ends were often solemnized with games of Living Whist or Living Chess, in which young ladies and gentlemen, disguised as cards or pawns, would be maneuvered over the lawns of country houses by their earnest elders.

One custom, so ancient no one I met in Bermuda could tell me when or why it started, still prevails: kiteflying on Good Friday. On that day young and old repair to any clear field or headland and launch their multi-sided, multicolored kites with 10- and 20-foot tails, until the whole sky over Bermuda looks like a laboratory slide dotted with wriggling protozoa.

It is not very much clearer why Bermudians fell into their habit of preparing cassava pie for Christmas dinner, or bananas and cod-fish for Sunday breakfast. Presumably the early settlers made a culinary virtue of necessity and did their best with what they had on hand. To later generations these dishes have come to be not so much articles of diet as articles of faith. As a rootless outsider, I can only report cautiously that they are not as bad as they look.

For evening entertainment the Bermudians

* From *People, Places, and Books*, by Gilbert Highet (Oxford University Press, N. Y., 1955).



Traffic Halts: Pedestrians Guide a Mast Through the "World's Smallest Drawbridge"

A hand-lowered plate spans an 16-inch slot in Somerset Bridge, which links Somerset Island to the mainland. By entering Ely's Harbour from Great Sound, this Snipe-class sailboat saves a 6-mile detour around Somerset Island.



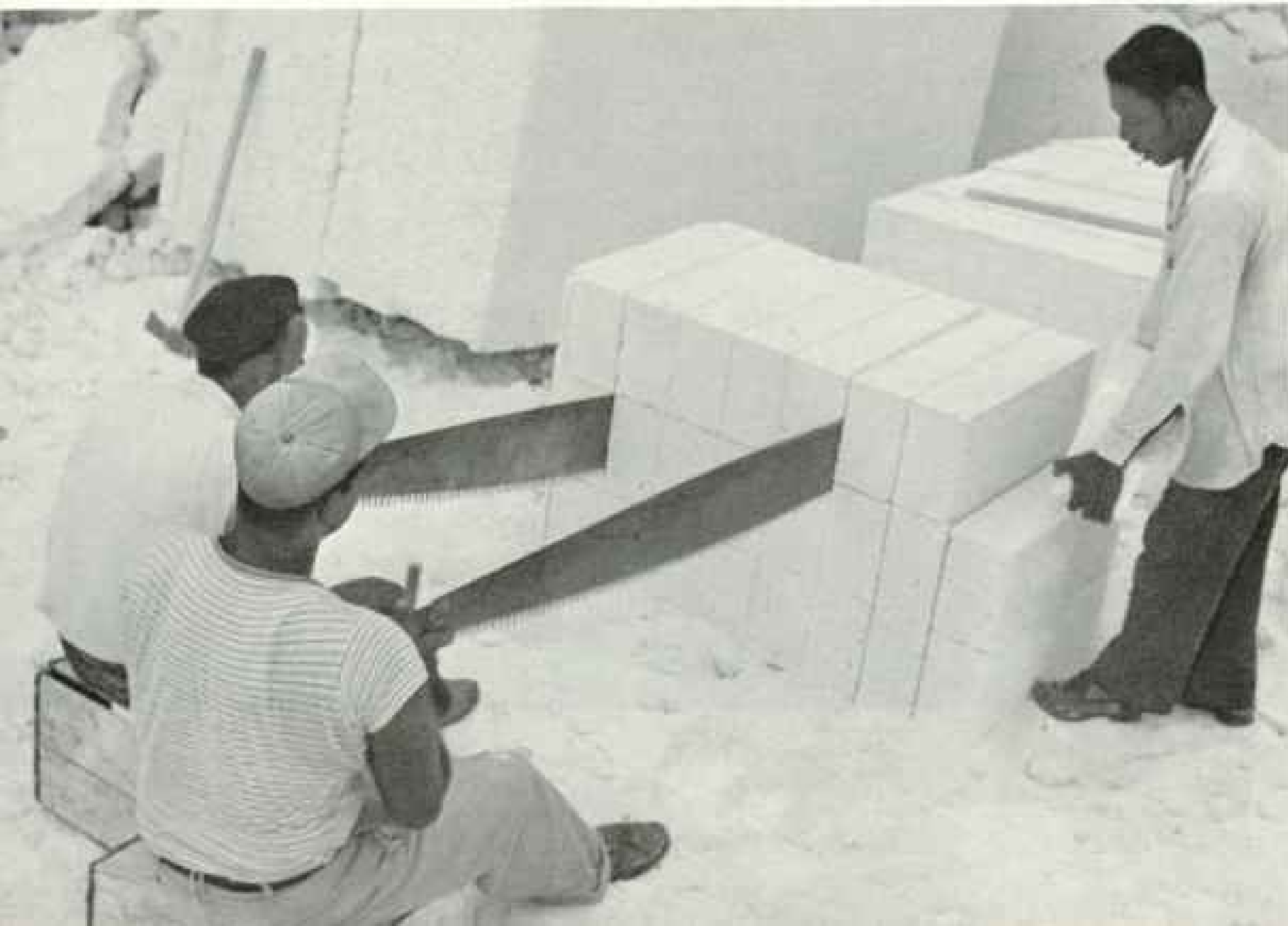
↑ **Laniel, Eisenhower, and Churchill,
the Big Three, Sit in Bermuda's Sun**

On November 24, 1953, Bermuda welcomed Queen Elizabeth II and Duke of Edinburgh. Ten days later the executive heads of the United States, Britain, and France flew in. The President's atomic energy speech before the United Nations followed the conference.

↓ **Ordinary Wood Saws Easily Slice
Bermuda Limestone, Miscalled Coral**

Volcanic mounds topped with limestone form Bermuda's islands. Any landowner who digs into his yard can quarry his own building blocks. Exposed to air, the stone hardens each passing year. Some houses appear stronger today than they did 200 years ago.

Charles Albion





Bermuda's "Extinct" Cahow Struggles in the Hands of Its Rediscoverers

Hungry pioneers found the islands thick with these plump, obliging petrels. So tame were the birds, according to one description, that "they would fall downe, . . . suffering themselves to be caught faster than they could be killed." By 1630 the "silly wilde birds" were thought to have been wiped out. Then in 1906 Dr. Louis L. Mowbray found one on Gurnet Rock. Forty-five years later his son Louis (left) and naturalist Robert Cushman Murphy discovered the nesting sites. Warier today, the cahow avoids man.

rely happily on their own resources. They have a repertory theater, a radio station, and several movie houses; but television has not yet invaded their homes. One of the pleasantest evenings I spent on the islands was at Orange Grove, Will Zuill's 17th-century house in Smith's Parish, where some fifty Bermudians had gathered to watch, of all things, a magic-lantern show. The audience's rapt attention to each slide portraying Bermuda in 1889 was something to witness.

Ex-volcano Forms Bermuda's Base

One way to see at a glance the physical changes which have come over Bermuda since those calmer days is to tour it by air. With a small fleet of Luscombe and Aeronca floatplanes at his command, Hugh Watlington has set up a kind of aerial taxi service from a Pembroke wharf just below the Bermudiana hotel.

Hugh, a veteran of the Royal Canadian Air Force, was away during my visit, but

Jim Babineau, one of his pilots, obligingly quit his jewelry store in Hamilton, and met me at the plane.

We climbed aboard and taxied across the harbor's sparkling green water, wheeling around in front of the Inverurie's terrace. "Better shut your window," said Jim. "The spray will be pelting in."

It did. Our engine roaring, we bounced along the wave caps, zoomed upward just short of my bedroom at Waterloo House, peered down the red funnels of the *Queen* as we banked above her, and headed across Red Hole for the South Shore.

The living map of Bermuda, in full color, lay spread before us. As a pattern, I was forced to admit, it made no more sense at first than a casual ink blot. Only gradually did it emerge as a loose system of great lagoons, linked by thin, hooklike arms of land: Great Sound and Port Royal Bay (Little Sound) over in the southwest; then funnel-shaped Hamilton Harbour, Harrington Sound,



Bermuda's Parliament, Oldest in the British Colonies, Dates from 1620

Slogan of many an old-time American ward heeler used to be, "Vote early—and often." Bermuda is one of the few places where this practice is legal and respectable. Acting in perfect propriety, voters may cast one ballot in each of the nine parishes in which they own property worth £60.

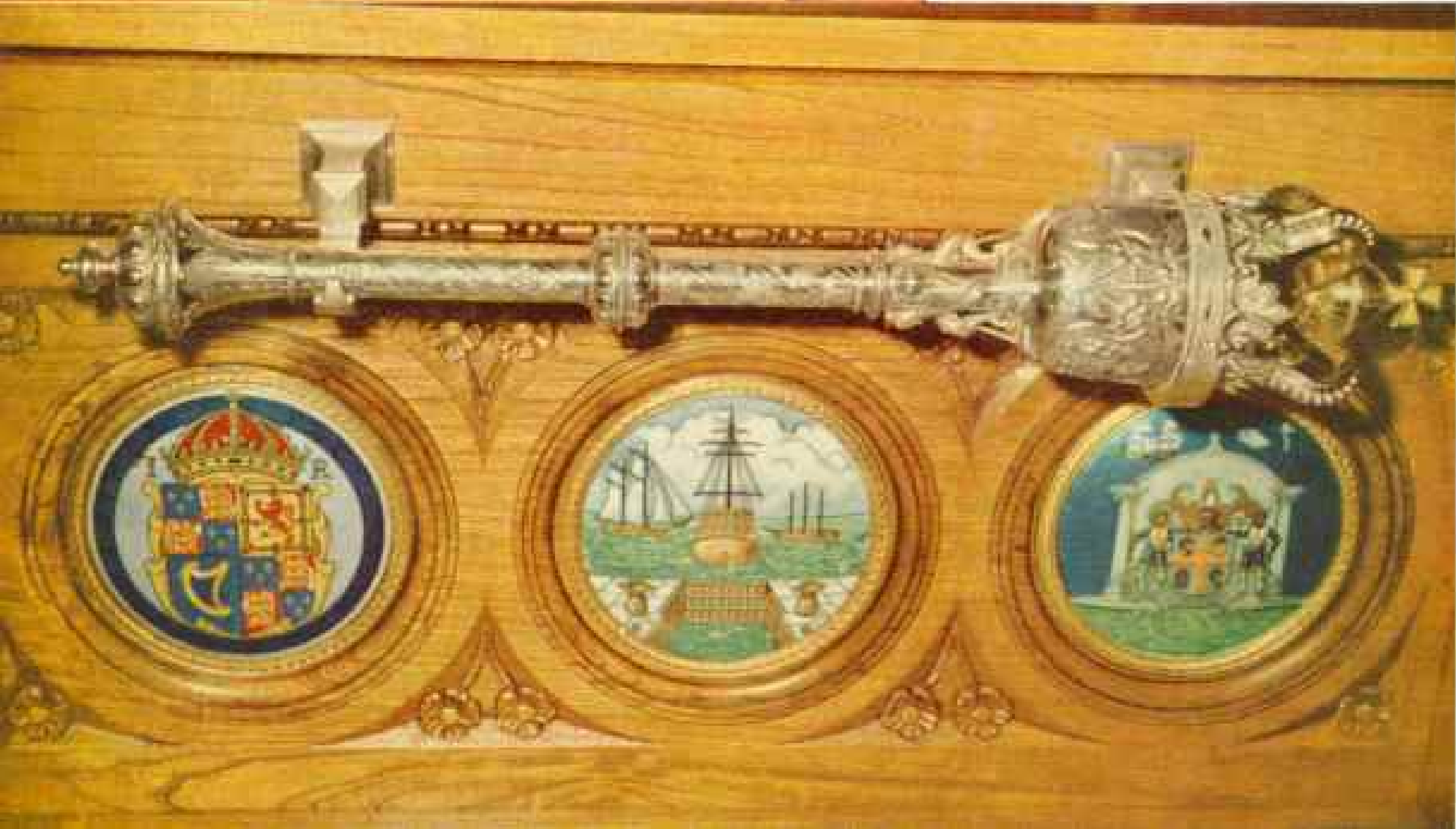
Candidates for House of Assembly's seats must own £240. As pay, they can expect only 24 shillings for a day's sitting. Their island buttressed by a lucrative tourist trade, MCP's have refused to levy direct taxes on income, inheritance, land, gifts, capital, or personal property. Revenue for a balanced budget comes largely from import duties.

◀ Speaker Sir John Cox, in full-bottomed wig and gown, presides over Parliament's sessions. The gavel at his right was made from a cedar tree in St. Peter's churchyard. The tree was used as a belfry when the first Assembly met in 1620. Clerk of the House, G. S. C. Tatem, checks the roll of Honourable Members.

✦ Silver gilt mace is borne by the Sergeant at Arms when he conducts the Speaker to his dais at the start of each session. Seal at left bears coat of arms of the Virginia Company, which settled Bermuda; center is 19th-century seal of Bermuda; right shows insignia of Virginia colony.

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Illustration by Charles Allison



and Castle Harbour; and finally, in the northeast, St. George's Harbour, almost landlocked.

Off the North Shore I could see huge, tawny patches of submerged reef and beyond them only the blue, unbroken Atlantic (page 237). From the books I knew Bermuda was, in essence, one or more eroded volcanic mounds protruding from the ocean's floor and capped, in the world's successive glacial ages, with dunes of calcareous sands. But I never felt her isolation more than when I hovered above her clustered islands and saw her as the tiny, frail, green raft she is, moored in empty, endless seas.*

The mild ocean currents which bless Bermuda with a steady, temperate, year-round climate brought her also, of course, many of the spores and seedlings which soon mantled her dunes with their incredible profusion of flora. Looking down on her fields and gardens now, I didn't know whether to be more impressed by that primeval luxuriance or by her recent losses. For the cedar blight which struck the islands in 1945 destroyed nearly a million trees, and their stark trunks still lend great areas of Bermuda a gray and ghostly look (page 235).

The Government is cutting and storing thousands of board feet every month and reforesting the islands with casuarina, mahogany, poinciana, black ebony, olive, laurel, and healthy seedlings from those cedars which managed to resist *Carulaspis visci*, the scale insect that wreaked such havoc. In 20 years, the Agricultural Station experts had assured me, Bermuda's burned-over appearance will have been erased and its foliage restored in even lusher and more varied form.

Outpost for U. S. Navy Bombers

I was aroused from such cheerful thoughts by Babineau, pointing out to me a U. S. Navy patrol bomber landing below us. Across the blue surface of Great Sound the huge sea-plane drew with its wake a broad white chalk mark. Just short of the abandoned British dockyard on Ireland Island it turned and plowed back, downwind, to the American base off Southampton.

Dipping a bit lower, our own plane skimmed the barrier reefs lying off West Whale Bay and High Point. I could see against the shore people waist-deep in the surf, casting for bonefish, pompano, or snapper. So limpid was the radiant water that if we had gone any closer I'm sure I could have told each fisherman

whether or not he had any bait left on his hook (page 233).

As we cleared the roof of the Castle Harbour hotel and approached Kindley Air Force Base, on St. David's Island, Babineau veered seaward to avoid the military zone. To our left stretched the parched runways which the Americans had reclaimed from the harbor. I could admire the energy and ingenuity which had planted this outpost of Western air defense here in the mid-Atlantic; I could not help regretting, too, the consequent uprooting of the St. David's islanders.

Shark's Oil "Barometers"

For generations these folk had managed to keep very much to themselves. They spoke—and many of them still speak—a kind of Elizabethan English, pungent and direct. The names they give each other have some punch in them: Mullethead Pitcher, Warbaby Fox, Hardmouth Foggo. Fishermen from the first, they claim they can stick their fingers in the water and forecast the weather reliably; those who don't want to wet their hands consult homemade "barometers" of shark's oil—sealed tubes in whose changing hues they seem able to read tomorrow's storms or sunshine with considerable accuracy.

The "uncrowned king of St. David's" was the late Tommy Fox who, when someone questioned the story of Jonah, made a point of publicly crawling into the belly of the next whale brought to Bermuda's shores. Fittingly enough, it was on land bought from King Tommy and subdivided that the Government resettled several hundred St. David's people who refused to leave their island.

At my request Babineau circled the town of St. George twice. Days before, I had wandered through its narrow, twisting white-walled streets with Archdeacon John Stow, trying to match his long stride as he took me up Petticoat Lane, Feather Bed Alley, and Duke of Kent Street to his low-eaved rectory on the hill. In the town's center I could make out now his church—St. Peter's, which occupies one of the oldest Anglican church sites in the Western Hemisphere.

It was here that Stow had introduced me to Alured Popple, who ruled Bermuda from 1738 to 1744. On St. Peter's wall a marble plaque to "The Good Governor" asserts that "The *Gay* and *Polite* were Charmed with the

* See "Islands of Bermuda," by William Howard Taft, NATIONAL GEOGRAPHIC MAGAZINE, JANUARY, 1921.

Motorists' Refugees Relax in Bermudian Horse and Buggy

"We, the undersigned, visitors to Bermuda, venture respectfully to express the opinion that the admission of automobiles to the Island would alter the whole character of the place. . . ."

The date of this petition was 1908. Among its signers were Woodrow Wilson and Mark Twain.

For the next 38 years Bermuda held the line. Not even the Governor was permitted to own a car, though one resigned and returned to England in protest. Only the gentle clip-clop of horses' hoofs and the silver tinkle of carriage bells disturbed the islands' peace.

But World War II brought American and British military vehicles to Bermuda, raised prices of imported grain, and cut the livery trade in two. In 1946 Parliament dropped its ban on private cars.

This driver, clinging stubbornly to his life's trade, takes visitors past a roadside hedge of oleanders.

Workers at a Bermuda perfume factory pick lily blossoms at Easter. Millions of such blooms are thouted in fat until their fragrance is absorbed; it is then extracted in an alcohol solution (page 235).





Unaffected Elegance and amiable Simplicity of his Manners."

According to Stow, Alured's father and grandfather and sundry other relatives had been bigwigs in England's Colonial Office for generations; and it was his brother who succeeded him as Governor. Said the Archdeacon to me dryly: "They kept the British Empire in the family. It was a case of government of the Popple, by the Popple, and for the Popple."

Soaring homeward along the North Shore, past Shelly Bay and its little race track, we slanted inland above the gray towers of Government House and the clifflike façade of a big hotel. Babineau jerked his thumb in its direction.

"That's the Eagle's Nest Hotel," he said. "Some college kids were staying there last year. Found a cow somewhere and took it up to their room. Fourth floor. Never knew quite how they managed it."

I looked back at the Nest with new interest, wondering which room it might have been; but already we were slipping past the Gothic bulk of Bermuda Cathedral and gliding over the Ferry Terminal. A moment later Babineau did a figure-eight turn and bounced our pontoons lightly down onto the harbor's whitecaps.

Population May Double by 1990

From the air I had been able to see Bermuda's lovely face, but not her problems. To many visitors, of course, the notion that Bermuda has any problems whatever must seem amusing.

Here is a land with full employment, no income or inheritance taxes, and a balanced budget. Its franchise is limited to property holders; it has no political parties (candidates for Parliament from each parish stand as individuals only); and relations between its poor and rich, its colored and white, have long been amicable.

Yet Bermuda's anxieties are real enough and give concern to its more thoughtful inhabitants, among them His Excellency Lieut. General Sir Alexander Hood, Knight of the Grand Cross Order of the British Empire, Knight Commander of the honourable Order of the Bath, Governor and Commander-in-Chief of the Bermudas or Somers Islands.

I had seen "H.E.," as he is genially known by most Bermudians, on various ceremonial occasions—opening fairs, leading the troops

in giving three cheers ("Hip, hip, hooray!") for Her Majesty on the Queen's Birthday, and receiving from the Freemasons of Lodge St. George their annual rent of one peppercorn for the use of the old State House (page 212).

For all such appearances the Governor is gorgeously arrayed, stepping from his carriage or motor launch in white drill, scarlet sash, plumed helmet, and sword. A big, square-cut man, he was particularly impressive as he addressed the Colonial Parliament in his Council Chamber last April.

Flanked by high British and American officers, the Bishop of Bermuda (in vestments of purple, crimson, and black), and the Chief Justice, Governor Hood declared:

"If you have to consider defense from outside aggression you will also have to consider the aggression from inside which threatens, by far from peaceful penetration, to destroy your greatest assets of beauty and peace. I have termed it a destructive spiral beginning with a rapidly increasing population requiring accommodation."

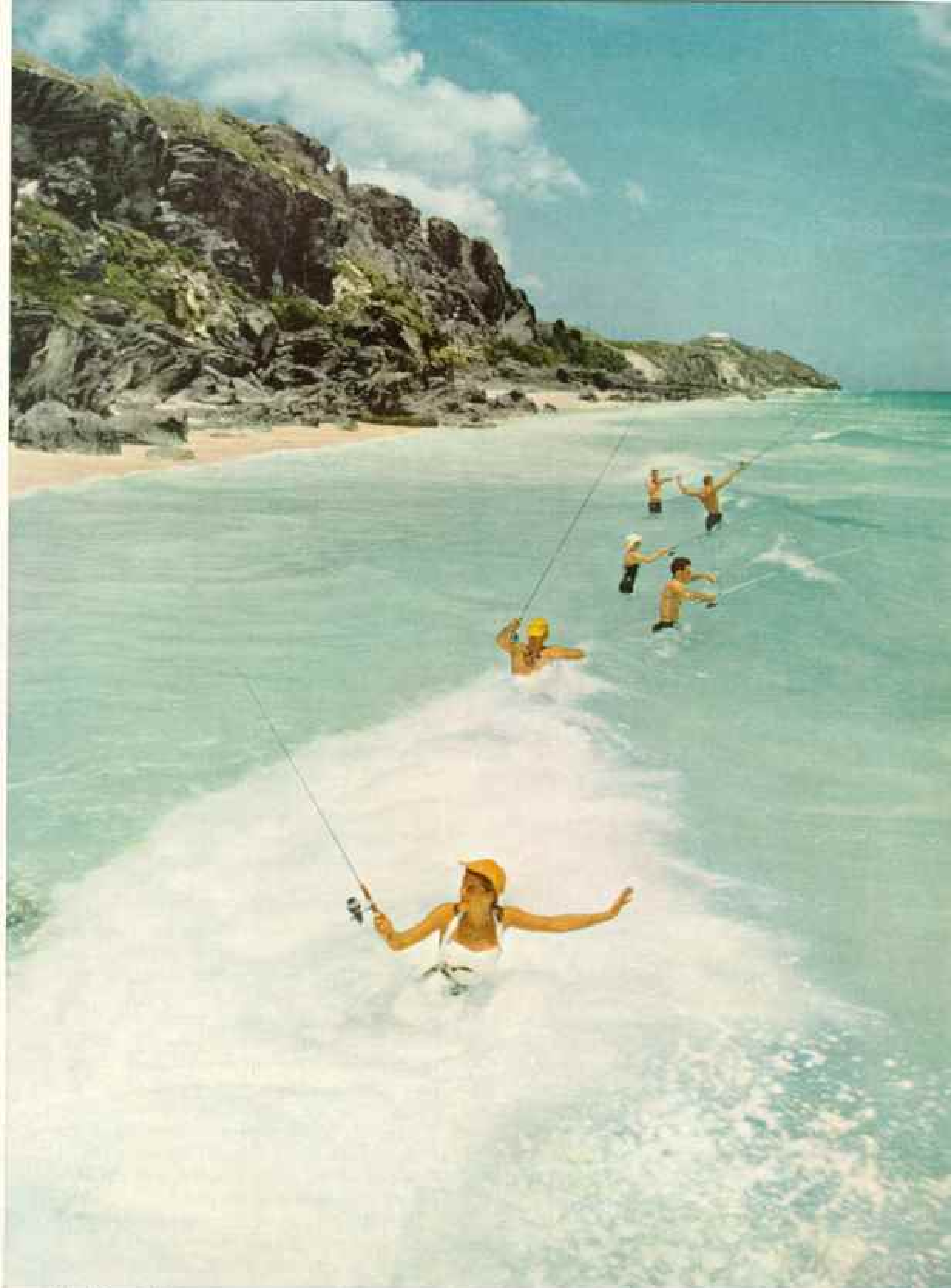
Few who heard His Excellency were unfamiliar with the facts behind his warning. The census in recent years shows that Bermuda has been adding to its population by about 1,000 persons a year. By 1990 it may have doubled. The Governor's "destructive spiral" might have this sequence: more pressure on housing and water supplies, overbuilding around recreation areas, destruction of scenic values, and a decline in the tourist trade. For Bermuda, already having a high density of population and unable to feed itself, that could spell disaster.

Yet most Bermudians I met were far from discouraged. Two measures which the Governor urged upon Parliament to cut into the spiral were: zoning ordinances to protect the islands' beaches and pleasant vistas, and purchase of the British Government's surplus landholdings in Warwick Parish, on which new housing developments might be built.

Roofs Catch Drinking Water

As for the water problem, it too seems serious to the islanders, but by no means insoluble. Bermuda depends for its drinking and washing water on the rain caught on its roofs and on the slightly brackish water from shallow horizontal wells in the hills.

A little comes also from two vertical wells dug along the North Shore on the advice of Henry Gross, a Yankee "water witch," or



Anglers Wade into South Shore's Foaming Breakers to Cast for Pompano

Bermuda counts 300 varieties of fish. Its deepwater sportsmen take huge catches of amberjack, wahoo, and bonito. A line dropped off almost any wharf pulls in a gray snapper or yellow grunt.

dowser, who operated by remote control, so to speak. Without leaving his native State of Maine, he merely passed his dowsing rod over a map of Bermuda. Later he flew down to pinpoint his sites.

In a dry spell, Bermudians must be stingy with their water. They like to tell of a rich American lady who took a palatial house in the islands for a couple of months and went gaily along, sprinkling her lawns and flower beds and paths, until someone finally told her about the drought. "Good heavens," she said, "and here I've been throwing water around like money!"

But local authorities still feel that, even with a rising population, Bermuda's basic water needs can continue to be met if each additional house is adequately equipped with its own water-catchment area, if new sites for wells are explored (with or without magic dowsing rods), and if economical processes for distilling sea water come along.

Farewell to Tommy Atkins

A problem Bermuda can do less about is her position in a world of shifting foci of power. I thought of this as I stood outside the Secretariat with Archdeacon Stow on a spring day some two weeks after the Governor had delivered his message to Parliament.

Bermudians from every part of the islands had gathered there to witness a ceremony which bore for most of them a painfully acute significance: the departure of the garrison troops of the British Army, withdrawn for reasons of military economy after 250 years of continuous duty in this colony under the Crown. The American air and naval bases and local forces would remain, but responsibility for Bermuda's defense would reside henceforth chiefly with NATO—the North Atlantic Treaty Organization.

A visible symbol of that shift strode forward now to take his place beside the Governor on the steps of the War Memorial: Vice Admiral Sir William Andrewes, then the Deputy Supreme Commander of NATO forces in the North Atlantic. Together in the hot morning sunlight, they stood at attention as some hundred officers and men of the garrison, remnants of a once potent force, marched past the ranked platoons of Bermuda's own militia and performed their last "Eyes right!" on island soil.

"A sad day for Bermuda . . ." The Gov-

ernor had said it in his little speech of farewell; I had heard it a dozen times on the lips of other Bermudians in the streets and in the shops.

"The reason we find it sad," said the Archdeacon, shading his eyes against the glare, "is that we've thought of Bermuda, for so long, as the Gibraltar of the western Atlantic. We had the garrison, and we had the great British dockyard over on Ireland Island. Now they're both gone. Frankly, we dread the notion of becoming eventually just a seaside resort and nothing more."

Three abreast in a long column, the troops paraded before us, most of them in battle dress, a few in kilts. At the head of the first unit a lean, hawk-nosed major raised his sword and flashed it down in salute.

"That's Arthur Wellesley," the Archdeacon murmured. "Direct descendant of the Duke of Wellington's brother. Ironic that he should have to lead the evacuation. Still, we're getting used to leaving places with a certain dignity: India and Burma yesterday, Bermuda today, perhaps the Suez tomorrow . . . Yes, we find it a little sad."

We followed the troops down to the docks, where the scarlet-coated Royal Marine Band played them aboard their tender to the strains of "Auld Lang Syne." Here and there in the throng a woman wept, a man stood unnaturally stiff, as if at salute. When at last the vessel pulled away from the pier, a lone piper struck up a Scottish lament.

Bermuda Stands Firm

Walking homeward through the dispersing crowds, I found my thoughts dwelling on an evening I had spent, weeks before, in Will Zuill's drawing room at Orange Grove. Three coach dogs had dozed near the hearth; a cedar fire, gently aromatic, shed its flickering light over the silver tea things; family portraits generations old looked down serenely from the lofty walls.

The talk had turned once more to all the turbulent problems which Bermuda faced, now and in the years to come, and the company's tone was a little grim.

Finally, Mr. Zuill, a stout, balding John Bull, drew himself up. "Nevertheless, I rather fancy," he declared gruffly, rocking forward on his toes and giving his coattails a defiant flip out behind, "I rather fancy Bermuda will hold her course, come wind or weather."

I rather fancy she will, too.



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Kodachrome by Charles Allmon

Bermuda's Characteristic Fragrance Is Half Flowers, Half Aromatic Cedar

Blight in 1945 destroyed nearly a million cedars and gave sectors of Bermuda a gray, ghostlike air. But craftsmen like John Davis (above) suffer no immediate shortage; for cedar, a resinous wood, must be cured for years before it can be worked into delicate curios like his.

✚ Trays of fat capture the scent of sweet peas, lilies, and passionflowers at the Lili Perfume Factory.





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Rugged South Shore Offers Lonely Beaches to Private Parties

Tucked behind gray, sea-carved headlands lie strips of pink-tinted sand where bathers can tan themselves, sprawl around picnic baskets, or float out to sun-warmed pools in the reefs.

✚ Bermuda, at latitude $32^{\circ}15'N$, is the world's northernmost coral-fringed island group, thanks to enveloping waters warmed by the Gulf Stream. A navigator's nightmare, these tawny reefs extend for miles to the west and north. Their sharp teeth have claimed a thousand vessels in three centuries.







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Ketchikanist by Charles Allmon

↑ Outward Bound, *Queen of Bermuda* Salutes Those Lucky Enough to Stay Behind

As much a part of Bermuda's life as the post office or the daily paper, the *Queen* noses her way up the harbor each Monday morning and departs on Wednesday afternoon. Hamilton closes up shop the next day, declaring a half-holiday. Far more tourists arrive now by airliner than by ship, but the *Queen's* stately comings and goings still dominate Hamilton's weekly calendar.

↓ Railbirds look down on the Somerset ferry plowing back to its terminal, on well-wishers waving from Albuoy Point, on Front Street's wharves, and on the Cathedral's gray Gothic bulk.



Britain's Fabulous Crown Colony on the South China Coast Faces an Uncertain Future with Boundless Energy and Quiet Confidence

BY GEORGE W. LONG

Assistant Editor, National Geographic Magazine

With Illustrations by National Geographic Photographer J. Baylor Roberts

TYPHOON signals were flying in Hong Kong. Rain fell in torrents as I stood at the frontier railway bridge linking the British Crown Colony to Red China.

Gangs of Chinese laborers hauled big rattan baskets of quacking ducks and green vegetables through the Bamboo Curtain. Returning empty-handed, they lined up to show stony-faced Red guards the border passes pinned on their soaking shirts (page 259).

Slow Freight to China

A hoarse whistle made me jump. Turning, I saw a wheezing locomotive slowly pushing two freight cars my way. Near the bridge it jammed on its brakes, and the uncoupled cars coasted into China.

"Traffic's light these days," said my police guide. "Mostly food coming in and occasional freight going out, like this shipment of medicine and dyes. Travelers are scarce, too: a few Chinese and now and then a diplomat, or a missionary expelled by the Communists.

"Not many years ago," he recalled as we chatted, "people crossed this border bound from Hong Kong to London, all the way by rail. The 10,000-mile journey, across Siberia, took 17 days. Now they can ride about 22 miles. This is the end of the line for almost everyone."

After the storm I crossed to Hong Kong Island and climbed by cable car to Victoria Peak, backbone of the rugged island that gives the colony its name. Before me spread one of earth's most magnificent panoramas. Far below, teeming Victoria crowds the island's long, narrow shore. Climbing part way up the Peak, the metropolis resembles a huge cliff-dwellers' city; buildings, closely packed, seem to stand like acrobats on the shoulders of those below (pages 244 and 246).

Beyond, the blue harbor with its many ships divides the island from the mainland town of Kowloon, which covers an outthrust peninsula. In the distance barren hills loom like a gigantic backdrop, screening the heart of the colony from China.*

I counted 20-odd seagoing freighters in the spacious anchorage. Freight junks clustered around each, loading and unloading cargo (page 252). Sampan, junks, launches, tugs, squat ferries, yachts, and naval craft dotted the sheltered waters. Sleek ocean liners lay berthed at Kowloon docks.

The Englishman with me, long a resident of the colony, shook his head. To my surprise he said, "The anchorage looks a bit empty. In normal times it would have twice that many freighters."

Trade with China founded Hong Kong, boomed it into a major port, and was long its lifeblood. The half-empty anchorage, the drawn Bamboo Curtain on the frontier, are life-and-death problems for the colony as it struggles to survive in the explosive and divided Far East.

British merchants in Canton, discouraged by Chinese trade restrictions in the 1830's, began looking for a base of their own. They chose rocky, almost uninhabited Hong Kong Island, a notorious pirates' lair across the wide Pearl River (Chu Kiang) estuary from Portugal's Overseas Province of Macau (map, page 245).

Middleman Between East and West

China formally ceded the island in 1842, after the Opium War, and later gave up Kowloon. The New Territories, a piece of mainland behind Kowloon plus 75 scattered islands, was leased to Britain in 1898 for 99 years. The whole colony is only slightly larger in land area than New York City; Hong Kong Island itself is about the size of Manhattan.

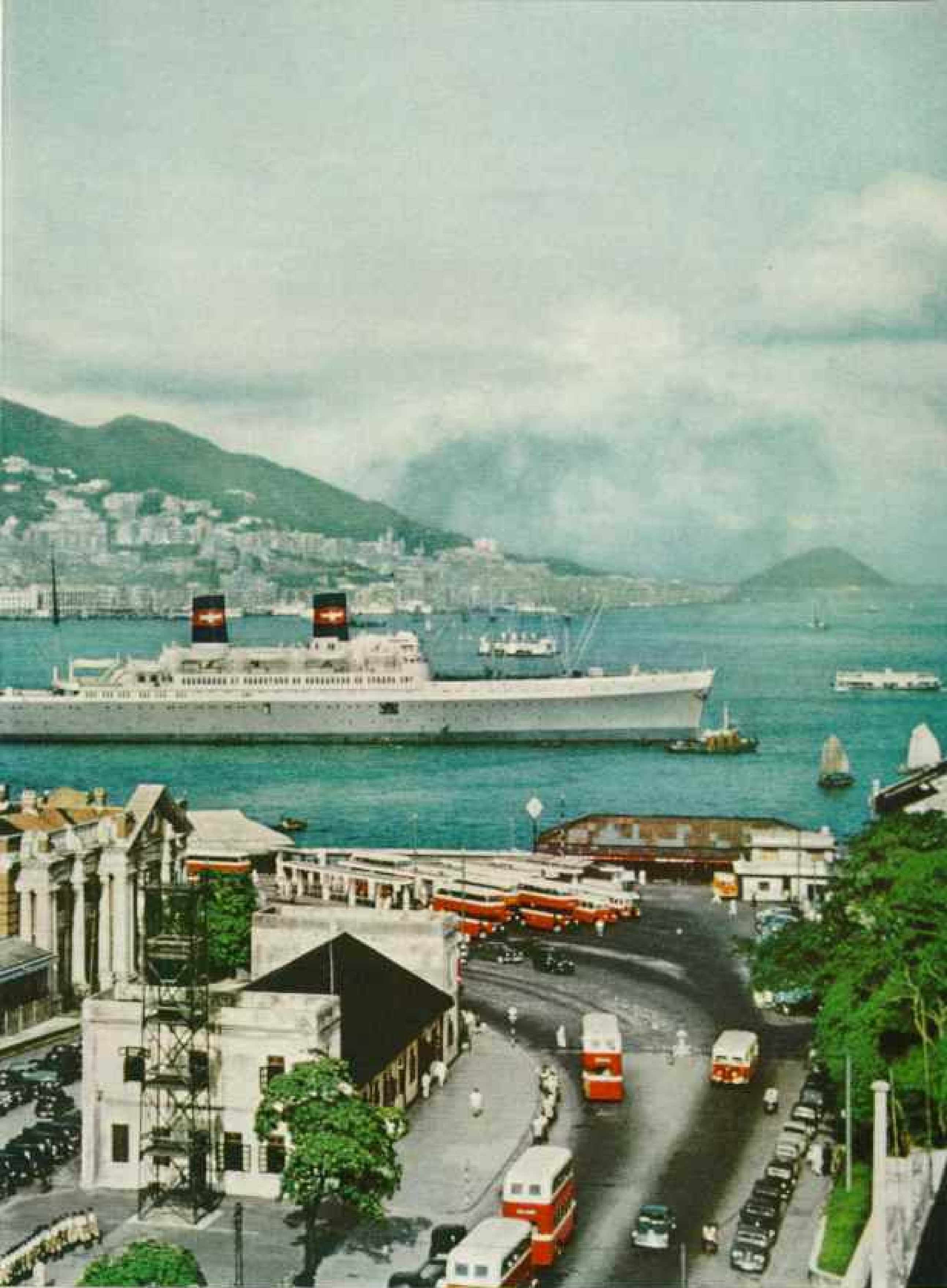
From barren island to one of the world's biggest ports in less than a century—that's the amazing story of Hong Kong. Its magnificent harbor and strategic China coast location made the colony a bustling middleman between East and West. It became the wide-

* See, in the NATIONAL GEOGRAPHIC MAGAZINE: "1940 Paradox in Hong Kong," April, 1940, and "Hong Kong—Britain's Far-flung Outpost in China," March, 1938, both by Frederick Simpich.



Hong Kong's Railroad Tower Stabs the Sky. Victoria Climbs the Cloud-draped Peak

The wide harbor separates mainland Kowloon (foreground) from steep Hong Kong Island, which gave the British colony its name. To passengers arriving by ship, Victoria looks like a city strangely stood on end.



Berthing, S.S. President Cleveland Jockeys for Position Near the Train Sheds

Railroad passengers in more peaceful times bought tickets here for Paris and London via China and Siberia. The 17-day trip was faster than by boat. Now the line stops at Red China's Bamboo Curtain, 22 miles away (page 259).

open gateway for trade between South China and the world.

World War II left Hong Kong battered and looted. Kowloon's docks were rubble, wrecks dotted the harbor, and public utilities were largely nonexistent. Seventy percent of the European houses and a third of the city tenements were gutted. During Japanese occupation the prewar population of 1,600,000 had shrunk to 500,000. To haggard British civilians released from Stanley prison in 1945, Victoria seemed a ghost city. Some doubted that the colony could ever make a comeback.

Hong Kong rolled up its sleeves, and before long reconstruction was in full swing. The harbor was cleared, docks and houses were rebuilt, and public services restored. Trade picked up; Chinese by the thousands drifted in from the mainland. Within a few years the colony was booming.

Chinese Refugees Jam Colony

But it hadn't seen anything yet. Soon a human wave of refugees, pushed by the rising tide of communism in China, hit Hong Kong. By mid-1950 an estimated 20,000 a week were pouring across the border. Before the tide receded, population jumped to 2,360,000.

The flood brought headaches—fantastic overcrowding, health problems, unemployment, and others—but it had another side. To Hong Kong fled scores of wealthy Chinese businessmen and industrialists from Shanghai, escaping while they could. Into Hong Kong banks they poured millions of dollars.

Quickly they put the money to work, chiefly in building and light industry. Block after block of "Little Shanghais"—areas of tenements over shops—sprang up on the island and in Kowloon. Tall office buildings grew in downtown Victoria. Streamlined factories, especially textile mills, mushroomed. The new industry, reaching into world markets for raw materials and buyers, pushed trade to an all-time high.

Then came war in Korea. Red China, drawing its curtain tighter, intervened. Britain began to prohibit strategic goods to the Chinese. The United States cut off all commerce with Red China and put Hong Kong and Macau under strict trade control. The United Nations called on members to deny war materials to China. The crown colony's lusty boom began to fade fast.

I saw the blow Korea gave Hong Kong graphically illustrated in the water-front office

of P. C. M. Sedgwick, Director of Commerce and Industry. A huge wall chart showed trade volume since 1945; its black line climbed steadily until March, 1951, then plummeted.

"That's when we really felt the effect of war controls," explained Sedgwick. "Now commerce is holding at something less than half the highest level.

"Fortunately, the slump is less than we feared. For one thing, our new industries employ thousands. Also, Hong Kong merchants for years have been opening up new markets, especially in Southeast Asia—countries like Malaya and Indonesia. Even in 1950 only 30 percent of our trade was with China; now it's only 20.

"Not keeping all our eggs in one basket has paid off. Our China trade dropped two-thirds in '51, and is still falling. Don't know what we'd have done without our new markets.

"We've been lucky," he mused. "Somehow Hong Kong hangs on, in spite of wars, embargoes, and Bamboo Curtains. It always has."

Chart or no chart, whenever I strolled Victoria's harbor front it bustled with feverish activity. There big square-stern cargo junks, lightering goods to and from deep-sea freighters, dock bow on. Eyes are painted on their stubby prows, and gay house flags fly from swaying masts.

Bedlam on the Water Front

Agile black-clad Chinese swarm over boats, quays, and parked trucks. They shout in sing-song Cantonese, car horns blare, deep-throated boat whistles blow, and feet shuffle under heavy loads. A raucous cry—and, as you step aside, two carriers trot by with a heavy crate slung from a stout bamboo pole between them.

Antlike, workers file up and down narrow gangplanks. They haul bags of rice, bales of cotton, boxes and big crates, or push rolls of newsprint ashore. Labels say "Made in England," "Made in Norway," in Australia, India—almost anywhere.

From one of the junks men white from head

Green-topped Rickshas Line Up → for Cross-harbor Commuters

A hundred million ferry passengers a year cross Hong Kong's mile-wide harbor. Most live in mainland Kowloon and work on the island. Here the morning rush begins at Victoria's Star Ferry terminal on Connaught Road. Banks, shipping offices, and export-import houses cluster near the water front.

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Endochrome by National Geographic Photographer J. Daylor Roberts





Funicular, Banks, and Harbor Say Hong Kong as Surely as the Eiffel Tower Says Paris

Like buckets in a well, cable cars slide up and down Hong Kong Island's steep side. A 10-minute ascent takes sight-seers 1,300 feet up Victoria Peak. There they look down on the banking and commercial center, dominated by the Hong Kong and Shanghai Banking Corporation (left) and Bank of China (page 249).

to foot carry bags of flour. To a fat tallyman sitting on the quay they give a numbered stick when they pass.

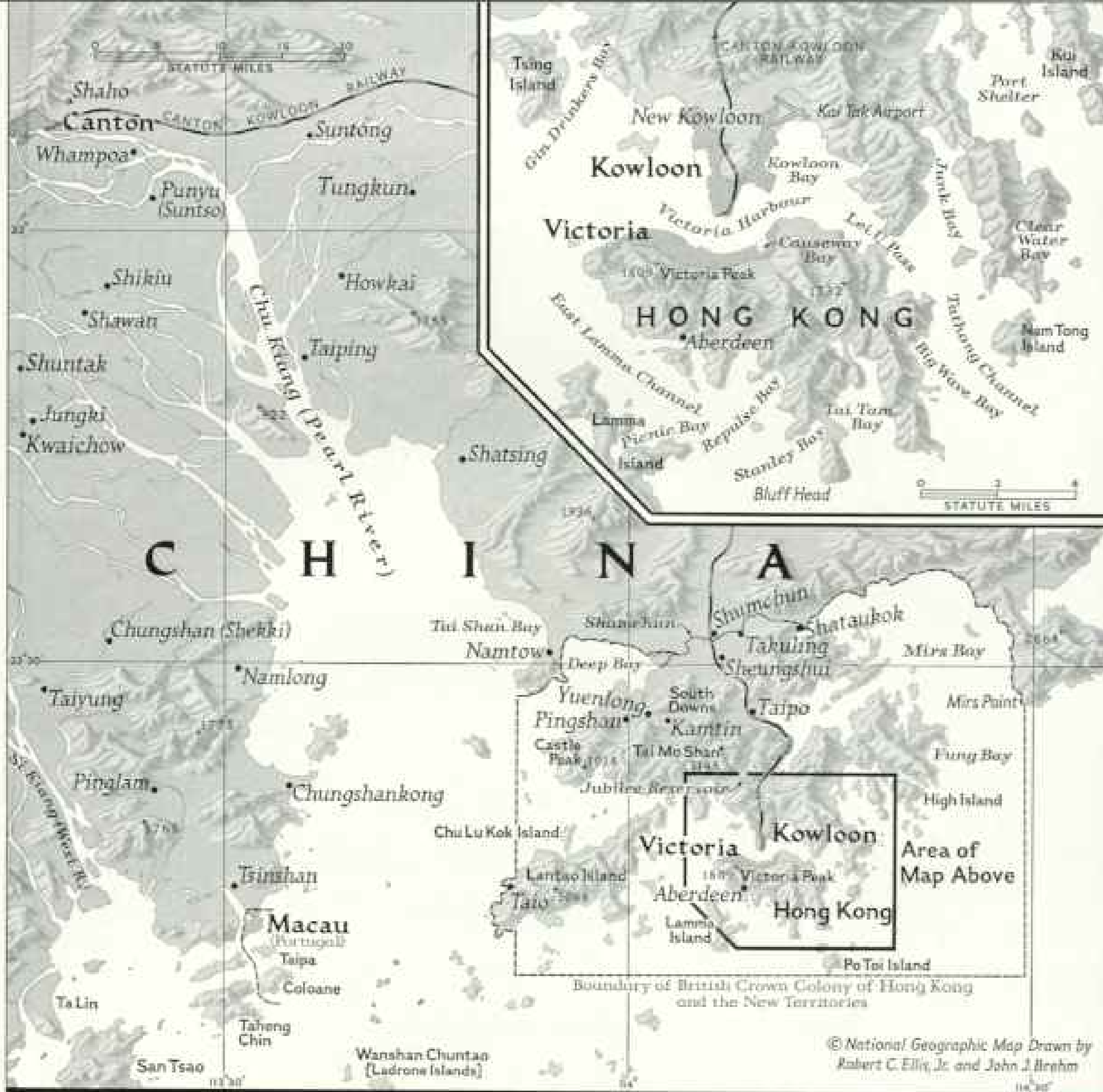
Into the boats go tea, duck eggs, silk, ginger, camphorwood chests, Chinese hats stacked like soup plates, and other Oriental goods, plus Western products being transhipped.

Afloat, youngsters play about the decks, deftly keeping from underfoot. Women do household chores, while junk masters catch forty winks or play mah-jongg. Family wash blows gaily from the rigging; herbs grow in dirt-filled cans. Chickens and young pigs hanging in baskets from the high sterns swing like pendulums.

Some 125,000 people like these live on junks and sampans, being carried ashore only when they die. They have their own language and form a separate community with its own floating shops and restaurants, its own age-old customs. Their strange craft, with ribbed, finlike sails, fill Hong Kong waters.

Piracy and Smuggling

Tales of piracy and smuggling run through many a boat family's past. Today a few junks slip occasionally into hidden China coves with forbidden cargo, but the rest keep to their workaday jobs—catching the colony's fish and hauling its food and freight.



Britain's Crown Colony Holds a Beachhead on the Edge of the Communist World

When British merchants set up a trading base on rocky Hong Kong Island, it was largely uninhabited save for smugglers and pirates. Today some 2,250,000 crowd its narrow shore and the Kowloon-New Territories hinterland. With Portuguese Macau, the colony is the last Western holding on the China coast.

With a government marine officer I circumnavigated the mountain-ringed harbor and caught the excitement of its world-wide trade. We circled towering freighters from a dozen nations, dodged ocean liners putting out to sea, and threaded a course through hundreds of bobbing local craft.

A City Stood on Edge

We cruised past miles of enormous docks, warehouses, and giant cranes. Near Kowloon new factories stood out boldly on the shore. From the water Victoria, rising abruptly under the cloud-capped Peak, looked like a city oddly stood on edge (page 240).

In a small cove we watched Chinese shipwrights building junks by hand; near by we glimpsed steel freighters on the ways in large modern yards. Over the years the harbor has spawned hundreds of deep-sea steamers and countless wooden junks; yet here the land yields no timber or metal.

Cargo junks moored in long rows filled one of the colony's typhoon shelters. Once they plied the Pearl River between Hong Kong and Canton, exchanging South China goods for the world's. Now, with China curtained off, they gather barnacles but still serve as homes for thousands.

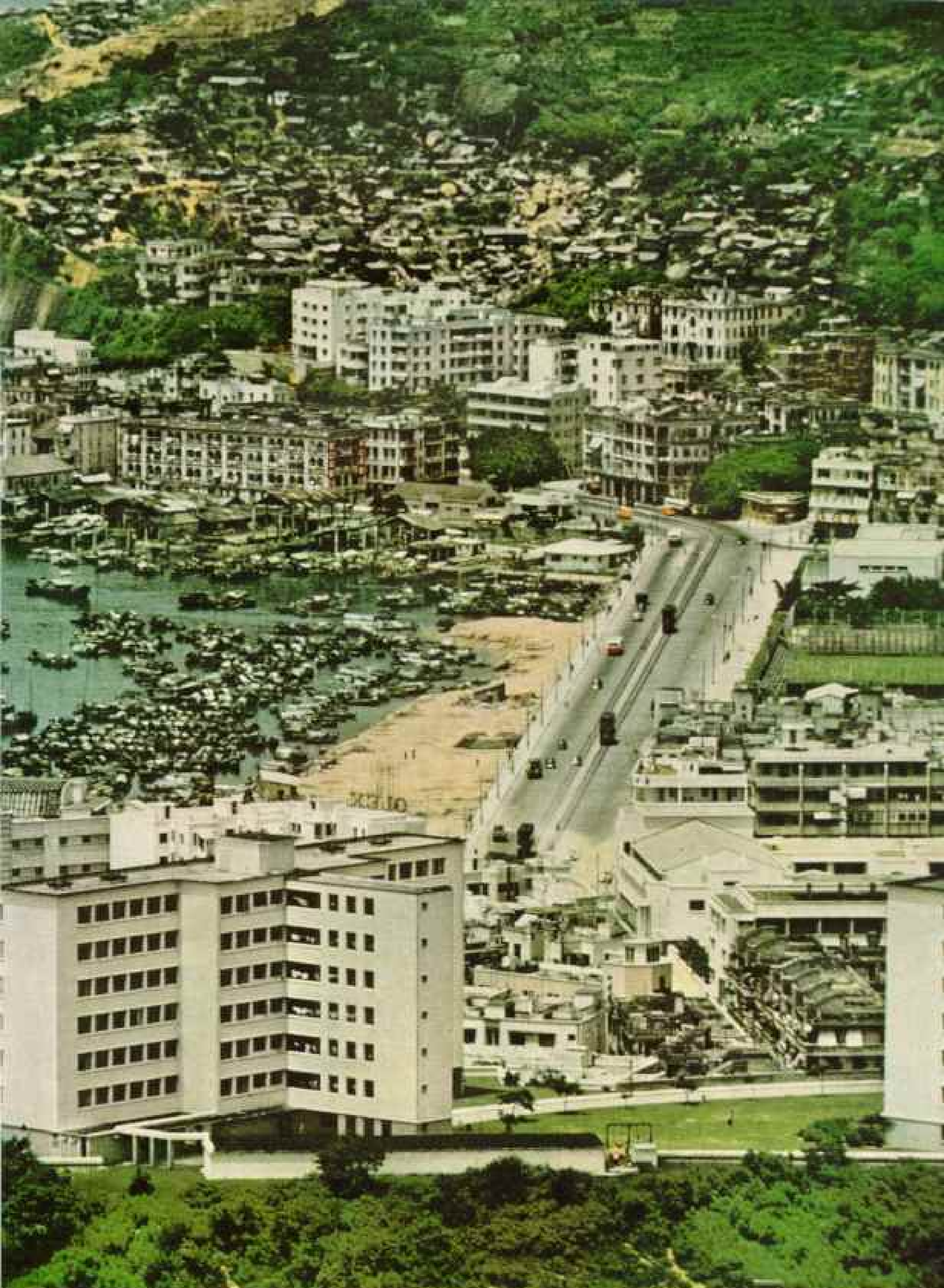
Chinese fishing craft just in from days at

© National Geographic Map Drawn by Robert C. Ellis, Jr. and John J. Brahm



Junks and Sampans, Like Water Skaters, Swarm the Typhoon Shelter in Causeway Bay

In summer high winds and violent rains plague Hong Kong for days at a time. When a typhoon approaches, large ships run to sea or hide behind the islands; junks and sampans pack shelters like this.



Luxury Flats and Shantytowns Contend for Space on Victoria Peak's Rocky Slopes

"Nature did not design Hong Kong for human habitation," one visitor remarked. New building areas can be developed only by pushing back the water or rock. This bay is now being filled for recreation grounds.



Women Sculling Sampan Taxis Cruise for Passengers in Saukiwan Harbor

A big fishing junk (left), one of 5,300 operating out of the colony, has just come in after several days at sea. Now she unloads her catch and stretches gear to dry above the littered deck.

sea filled a small bay. Paper bouquets decorated their masts; from the yardarms drying nets hung in festoons. Women washed their long black hair; fishermen hauled the catch ashore or mended gear.

Bride in a Crimson Gown

A sampan glided by; in it sat a doll-like Chinese bride in crimson, sequin-studded gown and glittering headdress. Demurely she hid her face behind a fluttering fan. Fishermen, all smiles, shouted as she passed.

Dodging big and little craft, ferryboats carry a hundred million passengers a year

across the harbor's mile-wide middle—almost enough each week to populate a city the size of Los Angeles. Most are commuters who live on the colony's mainland and work on Hong Kong Island, or vice versa (page 245).

Island workers disappear into Victoria's countless Chinese shops or the solid old gray-stone office buildings that cram its British business section. Windows there display the names of scores of shipping companies and business firms known round the world. Big hotels rub shoulders with swank stores and movie palaces. Jammed in, as in New York's Wall Street or London's Threadneedle, are a



dozen imposing banks of six nations, for Hong Kong ranks high as a financial center in the British Commonwealth.

For years the huge templelike Hong Kong and Shanghai Banking Corporation building dominated the city's skyline. Then the China of Chiang Kai-shek started to build a similar structure in 1948. It was completed by the Communists, who, for reasons of prestige, built it 20 feet taller than its rival. Side by side stand these skyscraper monuments to finance, representatives of opposing economic systems (page 244).

Victoria is squeezed between mountainside and harbor on land mostly stolen from the sea. Main avenues parallel the water, some representing old shore lines. Narrow cross

streets begin to climb steeply only a stone's throw inland and end as stone steps. A few daring roads zigzag up the Peak; big apartment buildings and pretentious homes cling there like swallows' nests.

In all Hong Kong there are only 20,000 non-Chinese. Streets teem with Oriental life and color. Tall neon signs in Chinese, works of art at night, jut from buildings by the thousands. Everywhere Chinese characters splash arcade pillars with crimson. Laundry hung on bamboo poles flaps from countless balconies. Huge floral displays on restaurant fronts announce weddings or banquets (page 261).

Crossroads of the World

All day and far into the night milling crowds rub elbows under Victoria's sidewalk arcades. On Queen's Road, the city's main street, you can watch the world go by, for Hong Kong is one of its busiest crossroads.

Pretty Chinese girls with bobbed hair and split skirts linger in front of shop windows. Ex-Shanghai businessmen in Western suits hurry to offices or appointments in restaurants or teahouses.

Throngs of other Chinese scuffle by in slippers or clack on wooden clogs. Most are dressed in pajamalike garb of a shiny black material they call "fragrant-cloud linen." It is neither fragrant nor linen, but it's practical.

India's saris and turbans mix with the California sportswear of American tourists fresh from home. British residents stride by, many wearing shorts and carrying parasols of oiled paper. Bearded Sikhs with rifles stand guard before Chinese banks and jewelry stores.

American sailors in summer whites gawk like country boys at Oriental sights. So do British Tommies and other soldiers of the Commonwealth.

Shoeshine boys call "Hello, shine 'em up" with a Yankee accent. Contact men sidle up to tourists with news of open-handed money-changers, or offer cards advertising a "Gentleman's Bespoke Tailor."

Squatting ricksha boys solicit fares or play games of chance with small coins. Chinese women, carrying infants pickaback, hawk newspapers or cigarettes. Grandmothers, minding toddlers, sit on sidewalks mending stockings for a living.

Workers moving heavy loads with rope and poles shout to clear a path. Others scramble over the bamboo scaffolding of a partly finished office building. Flowers and Chinese good-luck wreaths cram its ground-floor shops, just opening for business.



Hong Kong's Ginger Tickles Palates the World Over

Although ginger had been known as a spice for centuries, it was not until Queen Victoria's reign that a Cantonese food hawker stumbled on the idea of preserving the root. His candied spice caught on quickly with the Chinese, then with the English residents of China, who took it to Europe.

Queen Victoria, so the story goes, liked the pungent, stinging taste so well that she ordered preserved ginger served at state banquets. Whether the tale is true or false, a demand for the product spread rapidly in Europe, and a thriving industry developed in Hong Kong.

Most of the colony's unpreserved root comes from China. An embargo against goods of Chinese origin has cut off Hong Kong's shipments to the United States.

This girl displays the decorative pottery in which Hong Kong ships ginger.

↓ Silver stitching on flaming silk decks a wedding garment which may be worn by either bride or groom. Embroiderers like these are quartered within the factory.

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Illustrations by National Geographic
Photographer J. Bayler Roberts

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Heavy traffic fills streets and swirls about corners, keeping left. Policemen hold impatient throngs at intersections to let floods of double-deck buses, British cars, clanging trolleys, and rickshas pass.

Downtown stores exhibit a bewildering display of goods, for Hong Kong is a vast international market place. It's the free world's bright and bulging show window on Red China's coast, an oasis of plenty on a continent of want.

Shoppers can buy anything from Paris frocks and perfume to fine British tweeds, Swedish cutlery, Swiss watches, German cameras, Italian glass, gems from Ceylon, and a thousand well-known products made in the United States.

A free port, the colony levies almost no import duties, and prices are surprisingly low. In shop after shop I priced goods at less than I would pay at home.

Six Dollars for One

Prices are quoted in dollars—Hong Kong dollars, which are about six for one of the U. S. variety. Dividing prices by six makes things seem even cheaper to American visitors, and most of them go on a buying spree. Quickly they learn to haggle with Chinese merchants. Usually they end up paying far more than local people, but go away feeling pleased and a bit smug with their "bargains."

Nearly nine-tenths of Hong Kong's present population of 2,250,000 live packed into 6½ square miles of Victoria and Kowloon. Parts of the island city average 2,000 per acre, 14 times as many as Manhattan.

In the narrow tenements that cram these areas a dozen or more Chinese families squeeze into flats designed for one or two. Paper walls partition rooms into tiny family cubicles that are scarcely larger than the beds they screen. Some are shared, occupied day and night by different families. Occasionally, I was told, even the space under beds is sublet!

During the day these multitudes live on balconies and sidewalks, and in Victoria they fill the steeper streets and wash-draped alleys where wheeled vehicles cannot go. There they work, play, market, gossip, bathe and feed infants, eat, and sometimes sleep.

To get the feel of Hong Kong, I walked miles through these swarming Chinese streets. On some, narrowed to mere aisles by curbside booths, I shouldered through crowds of housewives bargaining for food. They carried

live prawns, wriggling fish, bits of meat, and bunches of greens dangling from rattan strings.

Stores line every street, however small, for the urban Chinese is a shopkeeper at heart. A few shops are filled with Western goods, but the rest are old-time establishments where craftsmen follow time-honored trades and dealers sell staples like rice and dried fish.

Chinese merchants, I discovered, like high-sounding names for their businesses. Here are a few I jotted down on my rambles: Peace Barber Shop, Sincere Department Store, Grandeur Electrical Company, Winsome Plastics Works, the Nice Photo Studio.

In places like Cat Street, where second-hand things are sold, I was reminded of a Near East bazaar. There clothes for sale hang from wires stretched across the street. Stores are crammed with everything from the rarest curios to tin bathtubs. On the pavement merchants spread old doorknobs, nails, screws, plumbing fixtures, and antique sewing machines. Near by, carpenters, metalworkers, cobblers, and splitters of precious firewood hammer and chop.

Everywhere sounds of work mingle with the cries of hawkers, wooden clogs smack the paving, and from upstairs rooms comes the loud rattle of mah-jongg pieces being shuffled. Radios blare the shrill, nasal tones of Chinese opera. Occasionally the bell of a blind man tinkles above the din.

In time I learned to know before I reached a certain street corner what would be happening there—two venerable sages playing chess, for example; a father and son making wire rattraps; a youth telling fortunes with a turtle's shell and three old coins.

Glamorous Miss Hong Kong

But on early get-acquainted trips I explored with a young Chinese photographer, Mr. S. L. Lee. A former Health Department inspector, Lee knows hundreds of shopkeepers and can open many doors to strangers.

Wherever we went, admiring crowds peered into the windows of photo studios and camera stores. They were gazing at pictures of a glamorous Chinese girl, an unknown refugee from the north, who recently had been chosen Miss Hong Kong. A few days later she flew to Long Beach, California. There, vying for the title of Miss Universe, she placed high among contestants from all over the free world.

On Wyndham Street Lee and I watched an artist shape a Chinese goddess from an ele-



Freight Junks, Which Lighter Most Hong Kong Cargoes, Cluster Around Merchant Ships Like Nursing Puppies

Machines Knit; Hands Add the Fancy Touches

Desire to trade with China prompted Great Britain to establish the Crown Colony of Hong Kong in 1842. For a century the city served as gateway to South China.

Today the China trade is virtually throttled by Red export restrictions, a United States embargo, and a United Nations resolution against trade in strategic materials with China. But the colony has opened new markets in Southeast Asia.

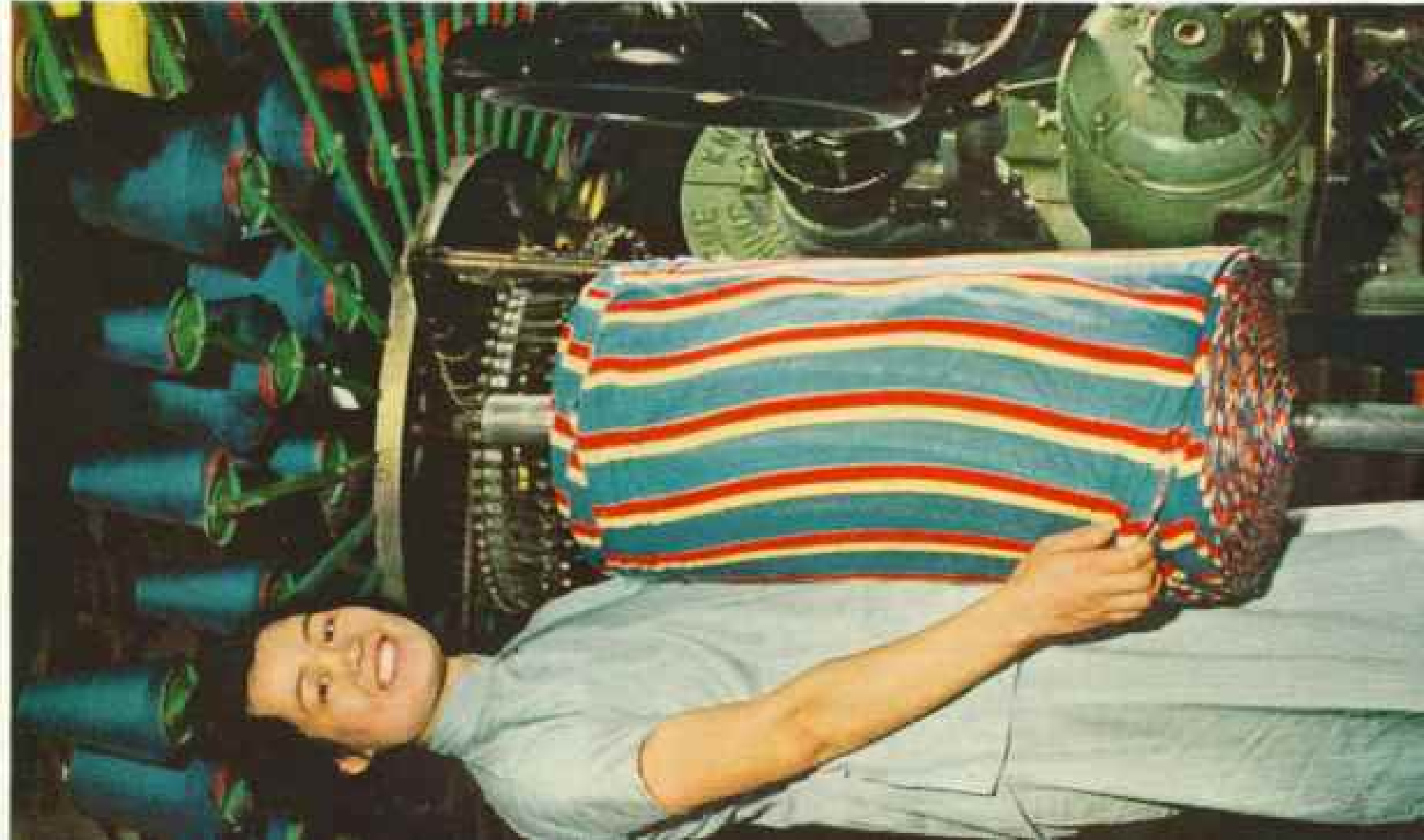
Capital, fleeing Shanghai, has built many housing developments and new industrial plants, especially in textiles.

These girls work for the Kelly Brothers Knitting Factory, a property of four Chinese who picked their business name at random from the phone book. Streamlined and air-conditioned, the mill provides piped-in music.

→ This girl, using a work table made in Reading, Pennsylvania, crochets decorations on knitted wool gloves.

← A fellow employee lifts a 40-pound bolt of cotton shirting from a tubular knitting machine made in Brooklyn. Much of Hong Kong's new machinery is American.

© Illustrations by National Geographic
Photographer J. Nathan Roberts





While Nets Dry in the Sun, Aberdeen Fishermen Clean Hulls with Flaming Rice Straw

Aberdeen, a fishing village, stands on the island's ocean side, where whalers once stopped for water. Masts rise from the homes of boat dwellers and from junks pulled up at low tide for calking and repairs.

phant's tusk. In another shop, fragrant with camphorwood, craftsmen were carving chests. Proudly the owner showed us his masterpiece. On its lid a battle scene from ancient Chinese history was carved in high relief.

"It took 14 months to do this," Lee interpreted. "There are 36 horses, each in a different pose, and 360 warriors. A museum piece—and yours for only 1,000 U. S. dollars."

Coffins—Any Size, Any Price

We browsed in busy places that were making noodles, incense sticks, soybean cakes, rice cookies, preserved fruits, bridal costumes (page 250), coffins, and paper funeral pieces. One establishment was roasting pigs whole in deep well-like ovens.

Hollow tree trunks almost filled the dimly lighted coffin shop. A red bulb burned before a small shrine. The proprietor seemed a little disappointed when he discovered that we were "just looking."

"You can have one custom-made," Lee said, "and pay anywhere from a few dollars to several thousand. Down the street you can buy in paper the things you would like in the next world—money, a car, house, yacht, anything you want. They're burned at the funeral and go up, or perhaps down, to you in smoke."

A plump fortuneteller in the Chinese Recreation Ground assured me that I wouldn't need such things for some time.

"I see a long life for you," he smiled, and, glancing at my already thin hair, he added, "You'll be bald, and fat, and rich, and have many male children. All is felicitous."

"For most Chinese," Lee said as we left, "the fortuneteller is still the most important man in Hong Kong. They go to him to learn whether a fiancé was born under lucky stars and to find out the best day to be married, start a business, make a journey, or undertake any other important venture. Merchants



A Pretty Refugee from Red China Faces the Camera for Her First Starring Movie

Hong Kong, the Hollywood of Southeast Asia, makes movies for 20 million Chinese outside China. Here Lin Dah, a student from Nanking, enacts a classic Chinese tale on location near Aberdeen (page 265).

ask him whether to buy or sell, and when. This fellow gave you his best treatment; every Chinese man wants to be rich, fat, and have many male children."

Had I remained long in Hong Kong, I would have become fat, at any rate. Night after night we dined in superb Oriental restaurants where banquet-size meals run through a dozen rich, exotic courses. For variety there were fine French, English, German, Italian, and Russian restaurants.

Perhaps my biggest gustatory thrill came, however, when we discovered in Kowloon an eating place run by a retired chief petty officer of Uncle Sam's Navy. Its menu read like any American diner's, and a chrome-and-neon jukebox blared tunes from tin-pan alley. After five months in the Far East, I never tasted anything better than the hamburger and milkshake I ordered there for lunch one day.

Paradox meets Hong Kong visitors on every hand; here the twain—modern West and age-

less Orient—not only meet but exist side by side. For the vast majority of Chinese—boatmen, farmers, and city toilers—the old ways persist, stubbornly.

"Live and let live" is the colony's proved maxim. One wife, for instance, is all the law allows a Westerner. Chinese, however, may have as many as they wish.

Road Thwarts Evil Spirits

Out in the New Territories a huge dam rises to ease the chronic water shortage. The road leading to it makes a sharp-angled Y with the main highway. This reassures the Chinese, who believe that spirits cannot turn sharp corners. If the turnoff were gently curved, evil spirits might wander up the valley, bent on mischief.

Almost in the shadow of Hong Kong University's highly rated medical school, Chinese drugstores sell remedies that include dried sea horses, centipedes, lizards, and snakes.



An Opera Star Studies Her Lines; She Wears Tradition's Make-up

In Kowloon's Po Hing (All Is Joy) Theater the author witnessed a centuries-old opera which has never lost favor despite competition from motion pictures.

"Clashing cymbals, horns, gongs, and drums provided continuous background," Mr. Long recalls. "During the five-hour performance, scene shifters and prop men drifted on and off stage, while vendors sold fruit in the aisles. No one minded the hubbub, for everyone knew the play by heart.

"Actors used symbolism strange to Western eyes. For example, girls carrying flags emblazoned with wheels represented a carriage.

"The man next to me said he had seen this play a hundred times, as he went to the theater every week."

This actress wears an everyday dress backstage. Her sequined costume hangs on the wall. Heavy makeup is common in the Chinese theater.

Worker Packages a Newfangled Product: Plastic Chopsticks

Plastics became a leading Hong Kong industry after 1949, when Red China's victory sent businessmen fleeing from Shanghai.

Today the United States sends large shipments of raw plastic to Hong Kong. There it is molded on American machinery into scores of articles from poker chips to soap cases.

Hong Kong Chinese, whose ancestors ate rice from crockery bowls with wooden sticks, now turn to the synthetic product.

Plastic bowls and chopsticks, selling for a few pennies each, pour from the Kader Industrial Company where this packager works.

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Photographs by National Geographic Photographer J. Taylor Roberts



In native hospitals you can see herbal doctors prescribing these remedies, while across the hall white-clad interns administer the latest Western wonder drugs. Patients are free to choose whichever treatment they prefer. The law requires only that dangerously infectious diseases, like smallpox, must be treated with the white man's medicine.

Over the years the British have brought to Hong Kong many benefits: schools, hospitals, good roads, law and order, social advances, and "a government that will listen," as one Chinese described it to me.

Amazing Health Record

Less noticed is the amazing public health record doctors have made against tremendous odds. When I was there, only one case of a major quarantinable disease had been recorded in more than two years. Cholera struck last in 1947, and the dread plague, often widespread in China, has been banished.

All this has been achieved in spite of ignorance, superstition, scanty funds, and the unbelievable overcrowding that came with the hordes fleeing communism in China.

Most of its life Hong Kong has wrestled with this problem of refugees. For decades every upheaval in China sent them pouring in; during calmer years the tides ebbed. Now for the first time population is set, for few would return home if they could.

Today the colony shelters at least half a million refugees. Some 300,000 squatters, people who have built shacks on public land, live in drab shantytowns that are plastered like wasps' nests on hillsides near Victoria and Kowloon. Slowly the government is resettling them in planned communities—a giant task.

With Mr. K. M. A. Barnett, chairman of the Urban Council, I visited a round of squatter towns and new villages.

"First," he said, "you must know that most of the squatters aren't refugees, nor are they destitute. Many are local Chinese who sold their living quarters to the newcomers and used the money to start a small business. Others work in our new factories or have odd jobs."

Typical was a scene near Kowloon. Box-like shacks of crate lumber and flattened gasoline tins covered both slopes of a barren valley. Sheltering 50,000, the settlement had its own packing-case shops, restaurants, refreshment stands, even beauty parlors. Women every-

where tended youngsters, tidied up, or bargained with hawkers who trudged up and down the steep paths with food, kerosene, or other wares.

A few weeks before, fire had raged across the valley floor, making 9,000 homeless. Almost before the embers cooled, snorting bulldozers began clearing the debris. Now as I watched, workers swarmed over row after row of partly finished brick-and-stucco houses.

"No free housing in Hong Kong," Barnett told me. "Government makes loans, lets contracts, provides land, water, and sanitation. These houses will cost buyers about 1,500 local dollars."

Beyond busy Kai Tak airport we visited a settlement where enterprising ex-squatters build their own homes. A rough road climbed between bare hills; bordering it was a strange assortment of dwellings. No two alike, they ranged from bamboo-and-mat huts to sturdy cottages built from stone hewn on the site. Carefully tended gardens lined a rushing stream. Cement steps led to cliff-dwelling abodes cut into the rocky hillsides.

"All refugees, these settlers," my guide said. "They've got ambition, their own two hands, and not much more. Everything you see, they've built—road, steps, houses, even a reservoir at the head of the valley."

"In the whole colony we've resettled 42,500 so far. Long, hard job with plenty of headaches. Not the least is finding space in this mountain-filled land."

Land Hard-won from the Sea

Space is a Hong Kong problem as old as the colony. Usable land is hard-won by blasting rocky hills and filling bays. Over the years British engineers and Dutch reclamation experts have changed the harbor's face, adding miles of new land. On it stand the homes of nearly two-fifths of the colony's people and most of its important buildings and maritime installations.

As I write, six major reclamation projects are in progress, adding precious acres. In the planning stage is a huge scheme to extend the mountain-ringed airport into the harbor to accommodate Stratocruisers and Britain's new jet airliners.

Shanghai industrialists fleeing to Hong Kong and wanting to build new plants there ran head on into the space problem. "We spent millions on our site before we could even start building," Mr. Elmer Tsu, manager of the



U.S.S. *Frank E. Evans* in the Crown Colony's Harbor Wears Full Dress to Honor Queen Elizabeth's Birthday

Hong Kong is a favorite liberty port for Uncle Sam's sailors; the harbor usually holds at least one United States warship. Sampans and junks here close in on the destroyer to offer curios. The bow of a U. S. Navy transport shows at right.

Porters Tote Rice Straw and Baskets of Ducks Across Lo Wu Bridge, Railroad Gate Between Red China and the West

Diplomats, expelled missionaries, and refugees from Red persecution in China funnel through this passage. Through here also comes much of the food on which Hong Kong depends. A suspicious Communist guard in the sentry box (right) trains binoculars on the photographer.

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© Kodakrome by National Geographic Photographer J. Barber Roberts



colony's largest spinning mill, told me. "Most of it is made land."

The mill itself, one of a dozen new textile plants built with Shanghai money and scattered along the mainland shore, is a model of modern industrial design. Air-conditioned and streamlined, it is planned to the smallest detail for maximum efficiency.

Inside I watched machines wash, dry, card, and spin mountains of cotton into miles of thread. Whirring spindles by the thousands hummed a ceaseless high-pitched monotone.

"Ninety-nine percent of our machinery is American," Tsu said. "So was our cotton before the embargo. Now it comes from Pakistan, Turkey, Brazil, east Africa, and Mexico. We had to make a fast change to stay in business."

"We operate nonstop, with three shifts. Every 24 hours we use 15 tons of cotton and spin enough thread to circle the Equator more than 11 times."

Watching this production marvel, I thought of women I'd seen in Iran, the Balkans, Indochina, and other countries spinning in ways unchanged since man first wore cloth.

"We ship most of our thread in skeins instead of on cones," Tsu was saying. "In Pakistan and Indonesia, our best customers, hand looms are still the vogue."

Plastic Rice Bowls, Chopsticks

In Victoria one afternoon I saw a hawker selling rice bowls made of crimson plastic. Near by stood a competitor with chinaware. The former, looking smugly at his rival, kept dropping one of his bowls. Clattering, it bounced unbroken on the pavement. Soon the china vendor took his basket and slunk away.

Later I watched a complicated machine mold these new-style dinner bowls in an up-to-the-minute factory also built with refugee money. Other steel minions spat out colorful plastic chopsticks, salt and pepper shakers, poker chips, combs, and toothbrush handles (page 256). Both machines and raw material were American-made. Behind the factory, workers were blasting a hillside to make room for expansion.

New textile mills and modern plastic works dramatize the industrial revolution that has taken place recently in Hong Kong. Negligible only six or seven years ago, local industry today accounts for one-fourth of all exports. Fifteen hundred factories and workshops, old and new, produce a bewildering variety of

items. "Made in Hong Kong" labels carry the colony's name over half the world.

Whatever the rest of the world may think about the future, Hong Kong appears to believe it will bring peace and plenty. Visitors are impressed by the colony's quiet confidence and its boundless energy.

Witnesses to both are the ceaseless building that goes on everywhere, the new industry, and the reoriented trade. Millions of government dollars pour into long-term projects like the reclamation works and new dam. And many others, like the enlarged airport, are on the drawing boards.

Private Investors Confident

Private investors, too, have been spending vast sums building flats, office buildings, and shops.

Hong Kong people say the first warning of real international trouble would be when local Chinese investors stopped building. So far there has been no slackening.

Businessmen talk confidently of the return of peace to all the troubled Orient, and of the resumption of normal trade with China. British Hong Kong, they remind you, plays a vital role as the great middleman of the Far East. As such, they say, it's here to stay.

A far cry from the bustle of factory and port is peaceful, sparsely settled Lantau, largest of Hong Kong's many islands.

Time has all but forgotten the island. No wheeled vehicle of any sort disturbs the quiet, for there are no roads. Its people fish, farm wedge-shaped valleys, and make salt from sea water, as they have for generations. Buddhist monasteries and nunneries perch high on stark mountains or nestle in Shangri-La valleys.

I visited Lantau with Mr. C. P. G. Morrison, its District Officer. A steady rain was falling as we landed at Taio, the chief village. Clouds veiled the mountaintops, and storm-bound junks filled the harbor.

We crossed Taio's main street, a tidal creek, in a skiff poled by a toothless old man and met smiling village elders beside a small pagoda. Morrison introduced one as a reformed pirate and two others as the "ears" of the fishing fleet.

"They locate schools of fish by putting long bamboo poles in the water and listening," he explained.

Buying oiled-paper parasols, we set out across the island. The worn cobblestone path we followed, built as a military road about



Floral Display Hanging Across a Restaurant Proclaims a Festive Occasion

Importance of a wedding party or banquet is gauged by the size of its floral announcement. These blue fish call attention to a fishermen's dinner. Left: the double-deck Happy Valley streetcar nears the end of its run.



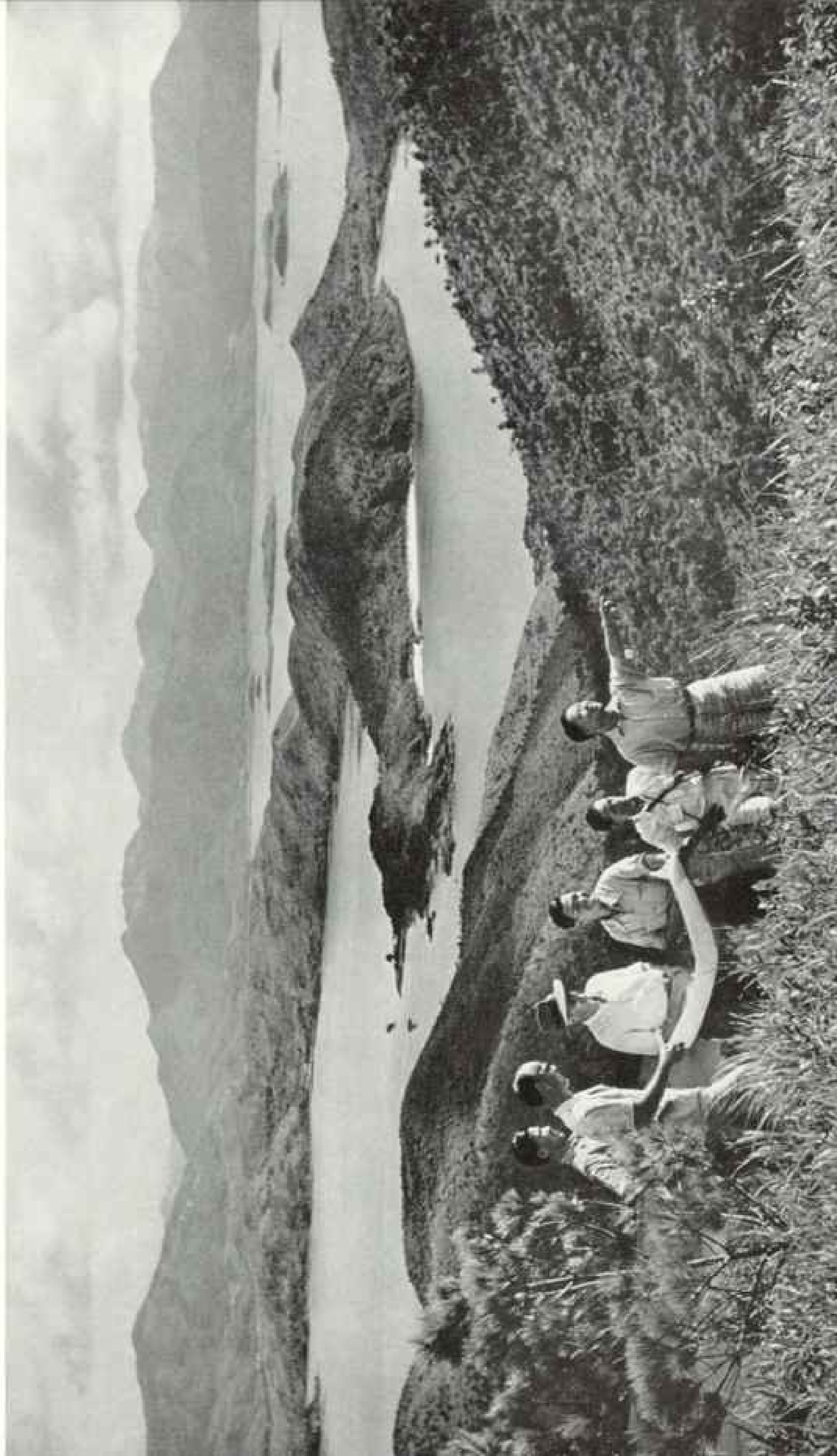
Arms Thrash and Water Churns at the Start of Hong Kong's Annual Cross-harbor Race

The author watched from a near-by police launch while more than 200 contestants attempted to cover the distance—just 17 yards short of a mile—between Kowloon's railway pier (right) and Victoria's sea wall. Choppy waters slowed the winner to more than 30 minutes; the record is 22.

Agricultural Experts Demonstrate Their Plans for Reforesting Slopes Above Clear Water Bay

Grass and scrub cover most of the colony's hills; ruthless cutting by the Japanese during World War II. Now the government plants seedlings to stop erosion and prohibits cutting of the few trees remaining. Villagers cut grass for fuel; imported firewood is too costly.

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Moon Gate Frames the Swimming Pool and Gardens of War-ruined Ho Tung Estate

Sir Robert Ho Tung, venerable Hong Kong leader, grew wealthy as an agent for Western business. His abandoned villa on the island's heights was looted and wrecked during World War II. Nothing like it is built today.

the time of Marco Polo, snaked through lush paddies, then took to the hills.

Mist shrouded us as we climbed, and cloud-emptying showers turned the path into a swiftly flowing brook. Through rifts in the misty veil we glimpsed brooding mountains, deep valleys, and wild moors, but no human dwelling. The wind, bending willowy bamboos, sighed, and from far off came the tolling of a temple bell.

High on a hidden plateau we found Precious Lotus Monastery. Yellow-robed monks with shaven heads welcomed us and prepared a steaming vegetarian lunch of rice, greens, mushrooms, and bean curd. They brewed fragrant tea of leaves from their own bushes, a variety called "far green," for which the island was famous many years ago.

While we ate, a deep-throated gong spoke, and the sounds of chanting and the tapping of sticks on wooden drums reached us. In another room novices sat cross-legged, lost in trancelike contemplation before a large Buddha.

As the crow flies, teeming Victoria was only a few miles away. But in the brief hours since midmorning we had traveled to another world—a faraway, timeless world of Oriental mysticism and lost horizons.

I broke my Hong Kong visit with a trip to Portuguese Macau, the West's only other window on the long China coast. Despite tales of piracy and the threat of Communist gunboats, trim ferries run night and day across the island-dotted Pearl River estuary to Macau, 40 miles away.*

Waters around Hong Kong, including the wide estuary, teem with fish. Some 5,300 junks make up the colony's fishing armada. They haul in more than 30,000 tons a year, a vital part of the colony's food supply. Some craft sail 150 miles to sea, but most seine and trawl near shore.

Perils of the Fishing Fleet

For generations these boats have braved typhoons and pirates along the China coast. Now they run the added risk of being picked up by Red Chinese. Every year some fail to return.

The fleet was in, the tide out, when I went to Aberdeen, Hong Kong's fishing capital on the opposite side of the island from Victoria. Masts filled its snug harbor, and propped-up junks covered the muddy bottom of an empty inlet. Their crews were calking seams, singe-

ing hulls with flaming rice straw, and applying coats of tung oil (page 254). Carpenters made repairs, men twisted fiber into rope, and youngsters splashed in salt-water puddles. Families who had had good luck at sea were burning incense to the god of fishermen.

Aberdeen boasts a huge modern fish market built by the government. There catches are auctioned fresh to dealers or quick-dried in a giant dehumidifier, the first in Southeast Asia. The Reverend J. P. McCarthy, in charge of the project, showed me around.

"At first the fishermen wouldn't use the drier," he said. "Preferred to dry the fish on hills and rooftops in the time-honored way. So we challenged them to a race—the machine against the sun. The drier did the job in 36 hours, with no spoilage; the sun took six days, and a fourth of the catch was spoiled. Now we dry 3,000 pounds a day."

Hollywood of Southeast Asia

For lunch I met a Chinese film executive, Mr. Sam Waung, and ate on one of Aberdeen's floating restaurants. Shouting, arm-waving sampan taxi women mobbed us on the water front (pages 248 and 272). Risking life and limb, we chose one and were rowed to a triple-deck eating place called Great Fisherman's Profit. The menu was alive, swimming in water-level pens. We picked out several many-hued parrot fish, which soon appeared golden brown on the table.

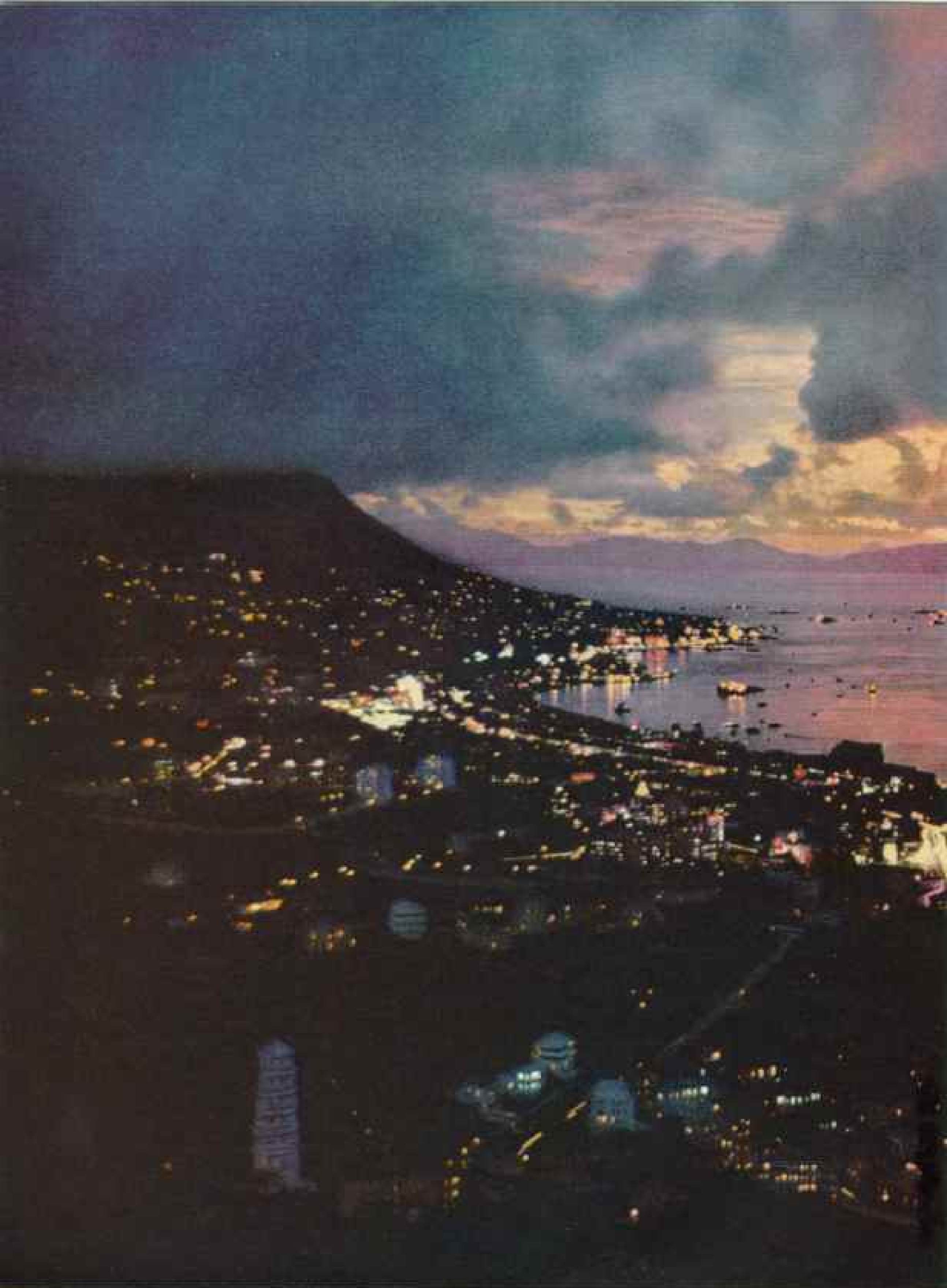
"Hong Kong is Southeast Asia's Hollywood," Waung told me. "Many Chinese film companies, fleeing first Japanese and then Communists, have moved here. Now they make pictures for the 20 million free Chinese scattered over this part of the world. My company has a crew shooting in Aberdeen today."

In a secluded cove we found technicians in loud sport shirts and baseball caps setting up cameras and recording equipment. Make-up artists were painting cheeks and penciling eyebrows. A record player blared Oriental music. Near by, unconcerned fishermen were spreading nets to dry.

Center of attention was a slim girl of rare beauty sitting motionless in a sampan at the water's edge. She wore little make-up and the pajama garb of Chinese boatwomen.

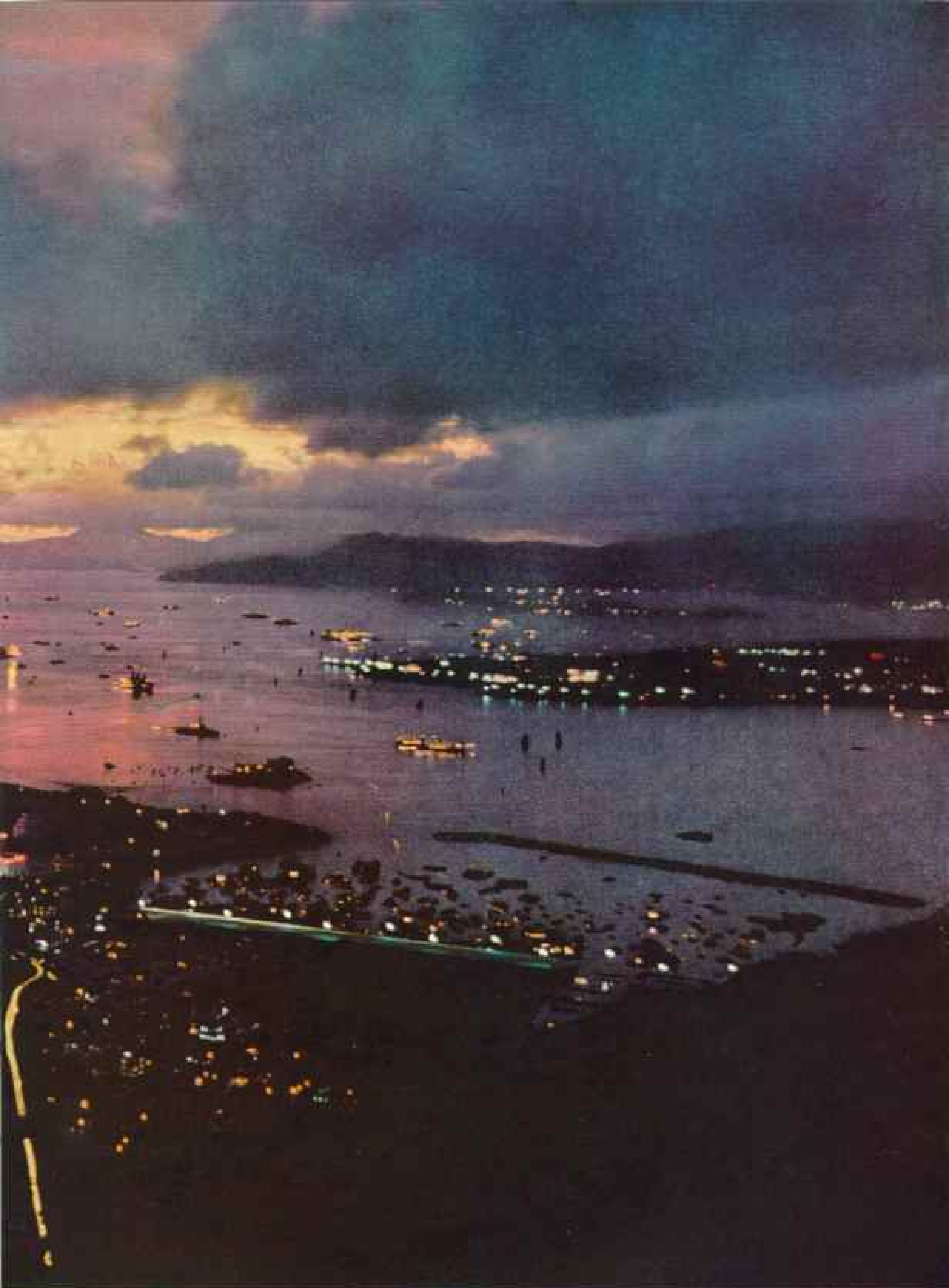
Nodding toward her, my guide said, "Lin

* See "Macau, a Hole in the Bamboo Curtain," by George W. Long, NATIONAL GEOGRAPHIC MAGAZINE, May, 1953.



Dusk Turns Victoria into a Carnival of Lights. Clouds Hide the Tip of the Peak

An incandescent blaze in the center marks the main business area with its tall bank buildings. A pagoda in the lower left rises from the Tiger Balm Gardens near Happy Valley.



Sunset's Purple Spotlight on Victoria Harbor Silhouettes Ships at Anchor

Beyond the breakwater loom the tip of Kowloon Peninsula and the hills of the New Territories. Lighted junks close to shore serve as homes to thousands of water dwellers.

Dah, our latest discovery. A short time ago she was an unknown schoolgirl from Nanking, a refugee like most of us. You're seeing a new star in the making."

Cameras whirred, the phonograph played a haunting melody, and Lin Dah sang (page 255). Between shots Waung explained the complicated plot, ending with, "It's a classic, many centuries old. We find that old-time plays are still better box office than modern stories."

American films, with Mandarin and Cantonese subtitles, play big theaters in Victoria and Kowloon. Chief attractions are Tarzan pictures and westerns, but by far the biggest hit while I was there was neither. It was Paramount's Technicolor thriller *Hong Kong*, which I saw to celebrate the Fourth of July. The audience oohed and aahed at background scenes filmed in the colony, booed the villain, fell in love with a Chinese moppet who stole the show, and cheered when harbor police saved the day, in the nick of time.

Leaving a Queen's Road restaurant later that evening, I ran into a huge fireworks display which, however, had nothing to do with Independence Day. The Sikh doorman was on his knees lighting a rope of giant crackers that dangled seven stories from the roof. Ear-splitting explosions filled the air for 30 minutes. Crowds jammed sidewalks for blocks, fascinated; traffic groped through clouds of smoke. In a dazzling climax the rope erupted into whirling pinwheels and fluttering paper good-luck phrases.

"Old Chinese custom," volunteered a grinning stranger. "Wedding feast inside."

Beyond the Nine Dragons

Few visitors ever get beyond sight of Hong Kong's harbor, for Victoria and Kowloon can keep a sight-seer busy for weeks. Some take the high scenic road that girdles Hong Kong Island, visit staid resorts like Repulse Bay, lunch in Aberdeen, or swim in Big Wave Bay. Only a handful cross the mainland hills the Chinese call the Nine Dragons and explore the New Territories. It covers nine-tenths of the colony's area, but contains only about a ninth of its people.

There lofty hills, terraced on their lower slopes, crowd lush green valleys. Farmers in pointed cartwheel hats plow with the sluggish water buffalo or, waving slender bamboo poles, herd ducks by the thousands.

Women, bent double, plant tender rice

shoots in rich, black muck and later thresh the golden harvest by hand.

Farms are pocket-size, cultivated with the care suburban Westerners lavish on flower gardens. Well fertilized, the earth yields three crops a year. Sway-back sows grow so fat their bellies scrape the ground. Carp fatten in man-made ponds, on rice bran and peanut mash.

Almost treeless is this rugged land; only grass and brush clothe the hillsides. Firewood, brought from Borneo, is dear, so farm women cut wild grass for fuel. Jogging home with it draped from shoulder poles, they look like animated haymows.

Fishing hamlets stand by tidal inlets; junks bob on water or lie stranded in the mud. Old Chinese villages huddle beside groves of banyan and eucalyptus; some, walled and moated, have gone unchanged for centuries. Newer towns, bustling and booming, are building big markets, schools, and hospitals.

No Room for Tigers

Elaborate Chinese tombs mark hillsides in many places, as do countless burial urns filled with human bones. Hike off the road almost anywhere and you will see them. Also you may startle a deer, wild pig, or quail. Tigers have been seen there—at least one in the last half dozen years. People say he left, though, because he couldn't find a place to live in overcrowded Hong Kong!

A fine road, in places cut from sheer, rocky slopes, loops about the New Territories. Recent additions to it, probing peninsulas and hidden valleys, have opened up remote areas hitherto reached only by footpaths.

Mr. Jock Murray, Information Officer, showed me Hong Kong's mountain-filled backyard. Circling clockwise, we headed west past Gin Drinkers Bay, once a notorious pirate hangout, and brooding Castle Peak.

Farmers in Kamtin Valley, largest in the colony, were getting in the rice crop. For centuries lush valleys here grew tribute rice for China's emperor. The Hong Kong grain is still something special; almost all of it once went to Europe and America, and local farmers imported a cheaper variety. Now it is all consumed in the colony.

In Yuenlong, chief valley center, we met Mr. Paul Tsui, the District Officer, and saw the town's colorful country market. Specializing in seafood, it looks like a marineland museum. Stalls show exotic fish still gasping,



Narrow Shops Topped with Tenements Flank Victoria's Wellington Street

Countless small stores offer a world-wide selection of goods. Visitors find prices low because Hong Kong levies few tariffs. Laundry dries on racks; the boy below carries firewood, an expensive commodity in the colony.



Business Students Learn Arithmetic on the Abacus

Before they do a paper-and-pencil problem with strange Arabic numerals, these Hong Kong girls get the answer with the familiar abacus, China's time-worn calculating machine. The Orient's method costs them seconds; the Occident's requires lengthy head scratching and brow furrowing.

sharks, wriggling eels, giant rays and crabs, cuttlefish, prawns, shrimp, and king-size oysters from near-by Deep Bay.

Shoppers are black-garbed farm women; many wear wide fringed hats that look like old-fashioned lampshades, style of a Chinese people called Hakkas.

Yuenlong is having its face lifted. Tsui showed us a plan of the future model town and blocks where new flats and shops are already standing.

"It took a long time getting started," he said. "All land titles have to be searched, and they go back many, many years."

Near lordly Tai Mo Shan, Hong Kong's highest mountain, we had tea and Sunkist oranges in a Buddhist convent and visited

a just completed housing settlement for British Army officers and their families.

Even in the countryside Hong Kong's garrison is not much in evidence, but it's there—larger than ever. The military keep in the background; for instance, police, not soldiers, man the touchy China border. Here and there one sees a camp, and occasional convoys rumble on the highway. All bridges are reinforced to hold tanks. Kamtin Valley has a big new military airfield, and RAF jets streak the sky.

This peaceful countryside, with its green valleys and bold, sweeping hills, has a haunting beauty strangers long remember. Often, from high places, we looked in silence on wide vistas of surpassing loveliness; many had the qualities of a Chinese scroll painting.

"'Tis a bonnie land," was the way my Scottish friend Murray put it.

Skirting low mountains that a homesick Briton named South Downs, we drove to Taipo on the eastern shore. There we talked with another Scot,

Police Superintendent Norman Fraser, about Hong Kong's border with Red China.

"Look here," he said, pointing to a wall map. "The line runs 17 miles, from Mirs Bay to Deep Bay; about 12 are fenced. The narrow Shamchun River and a swift mountain stream, flowing in opposite directions, form most of the boundary. There are two main crossings: the railway and one road. Eastern end of the line is Shataukok, a fishing village. I'll have an escort meet you there."

Border Cuts Town in Two

Our arrival in Shataukok attracted attention on both sides of the Bamboo Curtain, for the border wanders down the town's narrow main street (opposite). On its far side Red



An Invisible Bamboo Curtain Divides New Territories (Left) and Red China

So touchy is the situation in Shataukok that British officials refused to let the author walk the international line, which follows this twisting path. The photographer, wary of stern-faced Communist guards, snapped the picture from concealment in a window. A concrete marker straddles the boundary.

Chinese sentries dispersed onlookers and stared sullenly at us.

It had begun to pour; in the rain this poor collection of shops and houses looked forlorn. Storm-stranded fishermen lounged under store arcades, and at outdoor booths women food-shopped under dripping parasols. Wet hens foraged in muddy streets, while ducks paddled and pigs wallowed in the puddles.

Street of Two Worlds

I wanted to walk the street that divides Shataukok into two worlds.

"Sorry," said our police guide. "There the line isn't marked, and it's easy to stray out of bounds. The Red guards don't like visitors—and we have to get along with those chaps. Can't risk an incident.

"We get on very well with the townspeople over there," he went on. "When the mobile clinic comes to town, many of them slip over here, and even more come when we have outdoor cinema shows. War pictures, Tarzan, and newsreels draw best; even the commie guards watch. During the Korean War they could see our lads fighting their comrades."

Convoyed by police armed with rifles, we drove in small open cars along the border. The road, closed to civilian traffic, climbed into wild, barren hills. A rock-cut ledge, it followed a narrow valley worn by the swift stream Fraser had described, which babbled far below us.

A neat flagstone path on the stream's nearer bank divided British and Chinese territory. On the other side sentries stood beside rude



Sampan Taxi Women, Clamoring for a Fare, Besiege the Author at Aberdeen

"Women in pajamalike garb surround you before you even get out of the car," says Mr. Long. "It's like a bargain-basement crush. You just shut your eyes and pick one; then the others fade away."

lean-tos every few hundred yards. Each in turn blew a whistle as we passed.

Gradually the valley widened. A chain-link fence topped with barbed wire now paralleled the road. Farmers in straw raincoats were busy in rice fields and gardens on both sides of the border.

I watched a farm boy plowing up against the fence. He was having trouble; his stolid water buffalo kept stopping to scratch its flanks on the international barrier.

Farmers Cross Border to Work

Every mile or so I noticed a gate. "Farmers on both sides own land across the border," I was told. "They have permanent passes, get to know the sentries, and move back and forth freely with their beasts."

We stopped to take pictures of women working in the fields. A Communist sentry strolled over and watched through the fence. When I turned my camera, he raised his rifle and shot its bolt home.

In Takuling we stopped at border police headquarters, warmed up with cups of hot

tea, and chatted with the officer in charge.

"It's usually quiet on the frontier," he said. "Just an incident now and then to keep us on the alert. Only police, special visitors, and people who own land here are allowed within 500 yards of the line. For several miles back there's a curfew at night. After dark, powerful searchlights from our hilltop observation posts sweep the border, and our men patrol it with dogs and two-way wireless."

We stopped at the two frontier crossings, then headed back for Victoria. Cresting the last hill after dark, we beheld a glorious sight. Far below, like jewels spilled on black velvet, glittered the myriad lights of Kowloon and the ships at anchor. Like some colossal ship itself loomed the mighty rock of Hong Kong Island, lighted from water line to rigging as if in celebration (page 266).

Free port, outpost of the Western World, and refuge for hundreds of thousands, Hong Kong sets the sky aglow on the dark, forbidden China coast. Surely no gem in the crown of Britain's young queen shines more brightly.

Climbing Perilous Cliffs to Lofty Eyries, a Naturalist Photographs
Intimate Family Life of These Monarchs of the Air

BY C. ERIC PALMAR

Curator, Department of Natural History, Glasgow Museum

With Illustrations from Photographs by the Author

SWOOSH! At the sudden rush of a huge bird's wings my heart gave a big thump and every nerve tingled.

I glued my eyes to the peephole of the blind in which I was crouching, and there, on her cliff-ledge eyrie only a few feet before me, landed the most magnificent bird I have ever set my eyes on—a golden eagle (page 275).

The eagle eyed the blind with a fierce glint that all but pierced the burlap tent. I held my breath and froze. During those moments of tension the inch-size peephole seemed to gape a foot wide, and the three thicknesses of burlap with their leafy camouflage seemed thinner than cigarette paper.

Suddenly I realized her eyes were fixed on the lenses of the movie and still cameras which, though deeply hooded, were set up just below.

After a while she jerked a quick look back over her shoulder, glaring down the wild ravine, then up it to where her mate was perching some distance away on a gnarled rowan tree stump. Then she looked back at the blind again, eyeing it up and down for a minute or two.

At last, after what seemed an eternity, the fierceness vanished from her eye and she looked down to the cup of the nest, made of large sticks, coarse heather, and rushes. There, oblivious of the big world around, nestled her solitary, fluffy white, week-old youngster, sound asleep.

Suspicious Overcome

The old bird cocked her head to one side a little, regarding the chick tenderly. A glint was still there in her eye, but it was no longer that fierce initial flash of suspicion. Her pose was now irresistible, so I clicked the shutter of the still camera (page 276). To my great relief, she took no notice of the sound nor of the slight fumbling which followed when I changed the plate. She just kept staring at that youngster.

At last I felt I could relax and take a

detailed look at her. She was tawny brown all over, with golden-brown neck feathers. Her eye shone ruby-colored in the sun, contrasting with the yellow at the base of her bill.

As she moved about, I could see that her toes, each with a huge curved black claw at its tip, were the same bright yellow as her beak. Her legs had "spats" of chestnut-brown feathers right down to the toes, and there were a few of the same color on the flanks—by no means a brightly colored bird, but far from dull, either.

Clearly she had accepted the presence of the blind well enough. It had been in place several days already and was thickly camouflaged with leafy branches, bundles of heather, and other green stuff so that it merged naturally with the herbage-grown cliff face.

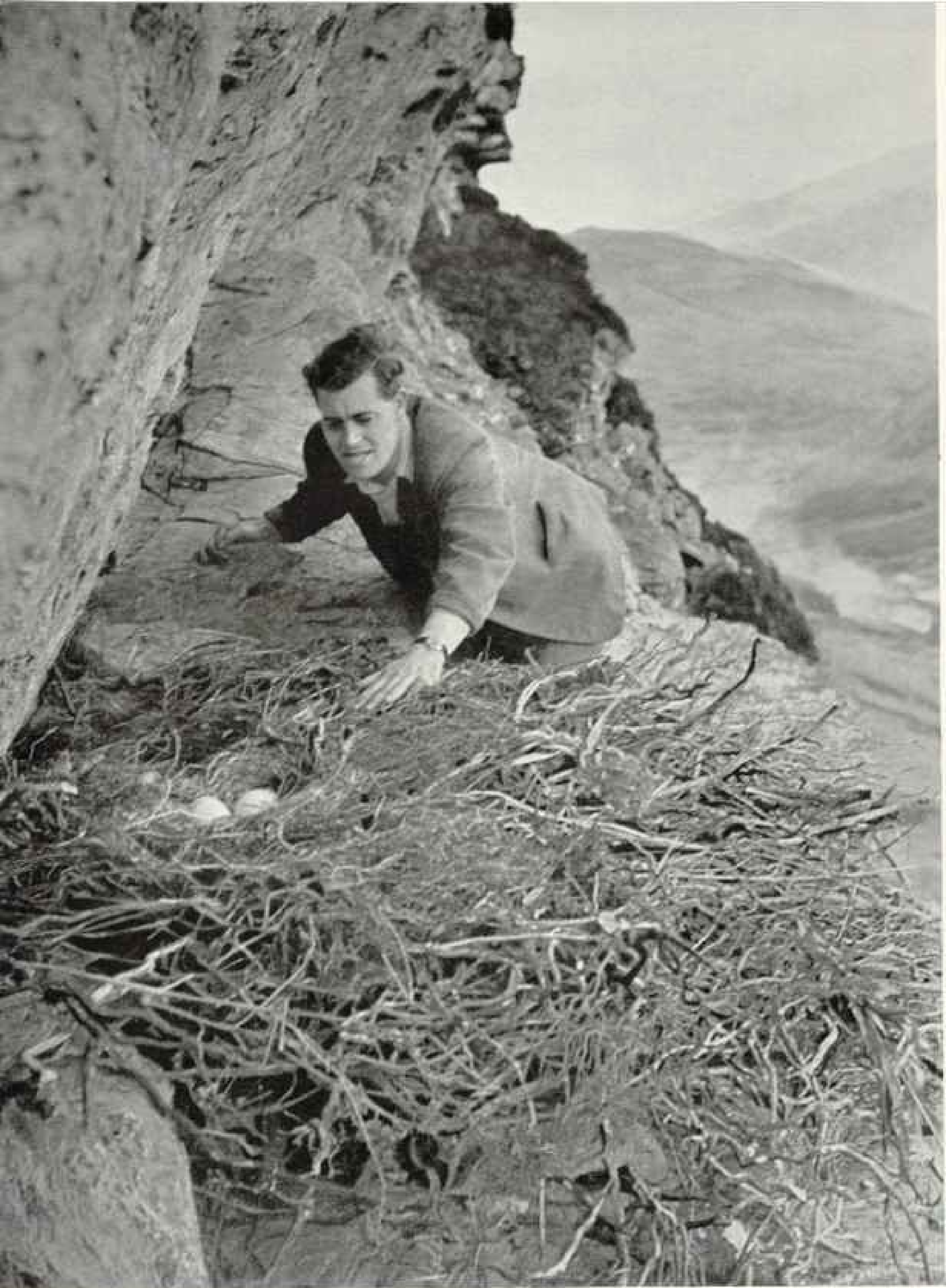
Feeding Time Arrives

After a while the eaglet started to move about and cheep. At this the mother bird became active herself.

The eyrie was several feet across, and lying on it was the body of a grouse partly plucked of its feathers. The old bird reached out for this carcass, planted one great foot over it to anchor it down, gripped a morsel of meat in her beak, then tugged upwards, ripping it off. Ever so gently she gave it to the eaglet, who cheeped peevishly, rather like a domestic chick (page 276).

Time and time again for the next 30 minutes she picked off little tidbits and fed them to the baby. It was all done so carefully and gently that it looked rehearsed—almost, in fact, a ritual.

The youngster cheeped, now shrilly as it awaited a morsel, now softly as it gurgled with satisfaction, its maw full of juicy red meat. This often consisted of more tender parts such as liver. And how carefully the old one planted those clumsy-looking, wide-spreading, terribly armed feet whenever she made a move about the nest!



The Author Discovers a Cliffside Nursery of the Golden Eagle, King of Birds.

Mated for life, eagles build permanent homes. This eyrie in the Scottish Highlands serves as cradle, exercise yard, and dining hall. Eggs failed to hatch, for heather fires set by shepherds in the glen below disturbed the brooding hen.



A Homecomer Cuts Her Power and Sets Her Flaps for a Slow Landing

Daily the eagle checks her flying gear. Combing with her bill, she roots out faulty feathers and dresses others with oil from a tail gland. Each primary feather weighs about as much as Britain's smallest bird, the goldcrest. This hen adds a twig to her nest. From a blind the author watched her landing (page 273).

After the first 10 minutes I decided to risk starting up the movie camera, as the mother seemed so perfectly at ease. In any case, she was so fully preoccupied in feeding the chick that I hoped the whirring of the clockwork would not alarm her unduly. When it did start, she just looked up for a few seconds, then continued the feeding.

The raging gale that normally blew up that funnellike mountaintop gully was still; the rain clouds and mist had rolled away, and the sun shone brightly upon the family scene before me. The movie camera purred continuously, the still camera clicked every now and again, and the eagle carried on with the meal.

After the many partial failures of years before, I felt that at long last I had found a real chance, here in the heart of the Scottish Highlands, to photograph and film the home life of a golden eagle from a blind built near its eyrie.

But I had no time for reminiscences. Between watching what was going on through the peephole, jotting notes in my notebook, and working the two cameras, my wits and hands were fully occupied. The time came all too quickly when the eaglet, satiated, sank down to rest in the cup of the nest.

Mother Eats the Leftovers

All that remained of the grouse were the gory entrails, feet, and legs. These the adult bunched together in her beak and with an upward flick of her head bolted the whole lot with obvious relish. It was too much to go down all at once. Several vigorous doglike gulps were necessary before the last of the torn carcass disappeared and the bird looked composed once more. After a short spell of cleaning mouth and bill, she jumped off the nest and flew away (page 277).

Fifteen minutes later there came a whis-



Fierce and Lethal Eagle Is One of the Tenderest Mothers

February finds the golden eagle family building or refurbishing an eyrie. Hen and cock work together bringing in heavy sticks for nest foundation and heather and rushes for lining. Over the years a nest grows to enormous size. One Scottish eyrie in a pine tree attained 20 feet in height and 6 feet in diameter.

Eggs arrive about the end of March. Mother normally does the brooding. Father supplies food and stands guard during the 5-to-6-week incubation. He is an occasional baby sitter.

← Baby Gets a Snack of Grouse Liver

Growing, the youngster will accept tougher meat containing fur and feathers. At seven weeks he will pick almost any carcass to pieces, although mother still feeds him at times. By 11 weeks he will be fully feathered and ready to fly from the eyrie.



"The Way of an Eagle in the Air": One of the Bible's Marvels (Proverbs 30: 18-19)

Leaving her nest, the eagle does not spring up in flight as many other birds do. She glides into space, falling rapidly until the wind catches her wings. This hen's lofty eyrie provides an obstruction-free drop.

ting of pinions, and the cock bird arrived home with a grouse between his feet. He dumped it on the nest and left at once, but not before I had time to see how much smaller and neater he was than his mate.

The expression in his eye—which appeared lighter in color than hers—was even fiercer. Knowing that the cock bird does nearly all the hunting and that the hen tends the young at this very early stage, I waited hopefully for her return.

Chick Covered with Rushes

Every now and then I could see her cruising round in the currents of air which swept up from certain points above the cliffs of the gully. Sure enough, within 10 minutes she was back, carrying a bunch of newly pulled rushes. These she dumped on the nest and eyed the youngster. Suddenly she picked up a large beakful of rushes and placed them right on top of the baby, completely burying him.

I stared in incredulity. I had never seen, read of, or heard of such an action.

The eaglet did not seem to enjoy the idea of being buried alive at all. The little pile of rushes shuddered, and suddenly out popped the beak, then the head, then the eaglet.

Meantime, his mother just looked on. When her chick had struggled free, she picked up a twig of heather about a quarter of an inch thick and a foot long and placed it on him. When he shook it off, she put it on again.

At the time, I was puzzled about the whole affair, but just before writing this article I glanced over some old NATIONAL GEOGRAPHIC MAGAZINES. In the May, 1929, number I found an article on the closely related American bald eagle.* In it Prof. Francis H. Her-

* See, in the NATIONAL GEOGRAPHIC MAGAZINE: "The Eagle in Action," by Francis H. Herrick, May, 1929; also, "In Quest of the Golden Eagle," by John and Frank Craighead, May, 1940; and "Eagle, King of Birds, and His Kin," by Alexander Wetmore, July, 1933.

A Golden Eagle Soars in a Majestic Domain of Snow-clad Peaks

"The Eagle, he was lord above," wrote Wordsworth, expressing a sentiment held by man since primitive times. Through the ages the bird has symbolized power, conquest, truth, freedom, courage, and immortality. It has been thought of as a soul, a soul bearer, even a god.

Some 5,000 years ago the eagle was worshiped in the Mesopotamian city of Lagash. Hittites built a temple to it.

Sheathed in gold, the eagle's image led Roman legions to victory on a hundred battlefields. Rome released living birds of metals to carry its emperors' souls to the stars.

Napoleon adopted the eagle as the emblem of Imperial France, and it later became the device of the German Empire. Russian and Austrian emperors used the two-headed eagle.

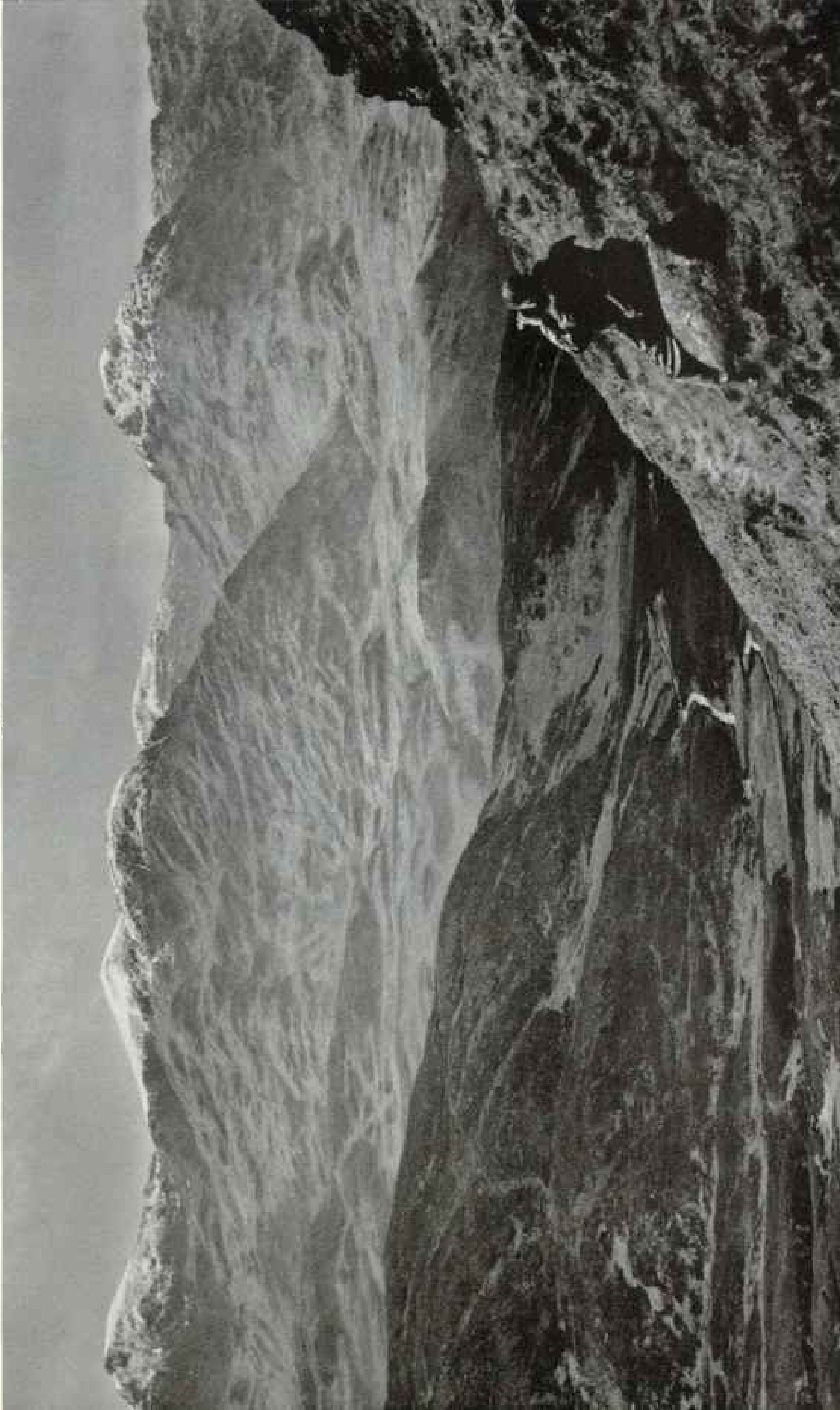
Struggling for independence, the original Thirteen Colonies selected the bald eagle as their symbol despite the wishes of Benjamin Franklin, who championed the turkey as uniquely American.

This bird wheels within sight of her eye 2,000 feet up the side of a Scottish mountain, one of several known as Eagle's Rock. Moments later she adroitly outmaneuvered two dive-bombing ravens (page 266).



Argyll's Lonely Crags and Glens Reveal Only the Naturalist Searching the Air for Eagles

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Alert-eyed Father Is Smaller but No Less Fierce than His Mate

Handicapped by size, many male eagles are killed in infancy by greedier, stronger sisters (page 284). Thus females may considerably outnumber males. This suspicious cock clutches a rabbit in his talons.

rick said that at only one of four nests he had under observation was it possible to see the eggs or newly hatched young from his blinds in neighboring trees, because of the care the old birds took to cover them upon leaving the nest.

This was done to keep them warm. But our eagles in Scotland certainly do not have this habit, at least not with any regularity; and if the chick-burying incident I witnessed was at all related, I am sure it was as unusual as it was interesting.

The eagle now started delving with her beak into the nesting material, picking up

minute creatures and swallowing them with relish. I could scarcely suppress a chuckle as I watched this mighty hunter among birds pounce upon—flies!

Mother Does Her Housework

From this she went on to tidy up sticks about the nest. Then, satisfied with her spring cleaning, she picked up the foot of a grouse in her bill and flew off down the gully with it.

After this, the eaglet slept peacefully after his meal till about 6 o'clock in the evening, when I heard the scraping of feet on the rocks below. Peering down from the blind, I saw

the cheery face of my gamekeeper friend Duncan at the foot of the cliff. The eagle's nest, which he had found some weeks before, was on his Forestry Commission beat, and he had arrived now to relieve me from my vigil in the blind.

"Well, what luck?" Duncan asked, with a chuckle in his voice and a Highland twinkle in his eye. Before I could say anything, he had answered his own question. "She's been back, and you've got plenty of photos," he said.

Gamekeepers Have Long-range Eyes

"How on earth do *you* know, when you went right off down the mountain?" I asked. Another chuckle, a bigger one this time, and Duncan tapped the telescope which was slung over his shoulder. (The Highland folk always use telescopes, not binoculars.)

"I put the glass on the gully from a distance. The pair of them were cruising round overhead when I left you. They were so high I could only just see them with my naked eye.

"After an hour and a half I saw the hen bird close her wings to her side and swoop headlong into the gully. She perched on the old tree near the top for a few minutes, then, seeing the coast was clear, flew in to the nesting cliff. Man, it must have been grand to see her coming in from so close."

"Yes," I said, "it was simply terrific."

Duncan's help was essential to successful observations at such close



Golden Eaglet Wears Feathers to the Toes

When mature, the golden eagle is a tawny brown. In North America he might be mistaken for the young bald eagle, native to this continent, which wears a russet crown before adopting the adult's "bald" pate of white feathers. At any age, however, the golden eagle's leggings distinguish him from the bald eagle, which has scaly limbs.

A large patch of white at base of the tail proclaims this golden eagle a juvenile. At rest he assumes the stiff-leg stance of a bird of prey digesting a meal. In flight his wings may span six feet or more.

This bird has just left the eyrie. He will remain near his parents several weeks to take hunting lessons. Until he is four years old, he will show immature plumage and remain unmated.



Unable to Rip the Rabbit, a Month-old Chick Waits for Parents to Feed Her

Golden eagles prey on the small game most plentiful in their neighborhoods. They take no salads with their meals. This lone survivor of a pair spreads wings in the instinctive gesture used to fend her smaller brother away from food. Developing quills sprout darkly from her down.

quarters, for it is futile to put up a blind by an eagle's nest and simply get inside. The watcher must be accompanied to the blind by a friend, who, once all is ready, will walk away. The birds, seeing him go, feel it is safe to return to their nest.

Likewise, the watcher must not leave the blind until the eagles have first seen his friend return to it. Again the birds will fly off, but will come back when they see the original observer walking away.

The next day I climbed up to the eyrie and had my second session in the blind. This was a red-letter occasion, for I was able to picture cock and hen at the nest together with both still and movie cameras. Later the hen left, but she returned after an hour and three quarters and fed the youngster on grouse.

She then departed again, but soon reappeared with a spray of dark-green leaves and placed them on the nest. Many birds of-prey have this habit of adding fresh greenery to their nests right through the breeding season. It may assist in keeping the eyrie fresh and clean, though all eagles' nests acquire a pretty strong odor before the youngsters are many weeks old. The birds themselves have no sense of smell.

Later on, through the rear peephole, I watched the eagle land on a rowan tree and start tugging at a branch with her beak. She twisted it this way and that until finally it came free. Immediately she launched herself into space. Seeing her coming, I got ready with the movie camera and shot her in slow motion as she arrived.

She left the nest yet again and flew down the gully. Hardly had I watched her out of view when I heard the now-familiar thrashing of wings and, hurriedly looking out, spotted her back home once more. This time she was all keyed up, craning her neck upwards and peering intently down the gully as if in anticipation of something.

Was there danger approaching? No, I thought, it could scarcely be that; otherwise she would have flown away posthaste. Then I guessed it. She had seen her mate, who was about to bring in prey, and here he was, coming rocketlike towards the eyrie.

Eagle Family Poses for Picture

Galvanized into action, I glued my eye to the peephole and gripped the shutter releases firmly. Squeeze No. 1 set the movie camera purring. Squeeze No. 2 clicked the still camera. I had caught them both side by side, the bulky hen on the left and her dapper mate, a baby rabbit crushed below his left foot, on the right. He fixed the lens and blind with a cold glare (page 280).

What a magnificent creature! A king of birds if ever there was one. There simply isn't anything else on wings to equal *you*, sir! Not even your wife has quite that regal demeanor. But he must have heard my thoughts, as it were, for he turned abruptly, plunged into space, and was gone.

I breathed again, turning my attention to the hen, who was now dealing with the rabbit in a businesslike way. The chick, who had been asleep, was now awake and cheeping and was fed again, a scene I shall never tire of watching. When it was surfeited, the mother bird bolted the entrails and other more bizarre portions of the rabbit's anatomy, and that was one rabbit less to ruin the trees.

Afterward, the eagle stood motionless above her chick for fully half an hour. As the minutes went by, this statuelike attitude began to get on my nerves.

Time and time again I looked out of the peephole, and there was the bird in exactly the same place and pose. I had to pinch myself to be reassured that it was she and not I who was in a trance. Eventually I realized that all that was happening was that she was digesting that last meal of rabbit entrails.

Such periods of quiescence are normal with all birds of prey; in fact, I once photographed a juvenile eagle in such a state (page 281).

I spent several more days hiding beside the eyrie, but for some of them the weather returned to normal—thick Scotch mist and rain, making photography impossible. On other occasions the birds stayed away from the nest, and I had to content myself with watching the youngster, who was growing larger and more active every day.

As I sat watching him, I longed for some close-up pictures showing his white-down stage, which lasts five or six weeks. Although a fortunate configuration of the cliff had made it possible to climb up and build the blind behind an outjutting tree, this position was separated from the nest by 30 feet of very fresh, very thin air.

That evening, by good fortune, I heard of another nest into which one could scramble from the top of a cliff. Not even a short rope was needed. I had visited the site many years before when it was empty. Now it contained a plump eaglet in white down.

Rare Nests Are Protected

In a previous year, the eggs had been stolen. Fortunately the culprit had been caught and fined. Orders had now been issued that the nest was to be strictly protected. (The same applied to Duncan's and other nests on Forestry Commission ground.)

The news that the nest was in use was not to be divulged to anybody; all hikers and mountaineers were to be kept away from that part of the forest. Even photography, without the special permission I had obtained, was forbidden.

I was delighted to see how well rare birds were being protected from interference by the Forestry authorities, who were cooperating nobly in the nest-protection scheme run by the powerful Royal Society for the Protection of Birds. Under this, gamekeepers are paid a bounty for every eagle's nest from which the young fly safely.

This nest, however, was of special interest. The gamekeeper, whose name was Neil, accompanied me up the mountain. As we neared the bottom of the eagle's nesting rock, which at this point must have been 200 feet high, he pointed out the mangled corpses of two ewes below the cliff.

"One day, about a month ago," said Neil, "I was sitting on that hillside opposite the nest, when I noticed something unusual going on. I put my telescope up and saw a remarkable scene at the eyrie.

"A grazing ewe had slithered down that steep V-shaped gully you can see running down from the top of the rock. It had landed unharmed on the nest, and there it was right beside the hen eagle!

"She was astride the eggs, beating the sheep with her wings. The ewe backed out of the way, but I could see how panicky she was becoming, right on the edge of the nest. Behind her and to her right was sudden death over the cliff; to her left was solid rock; in front of her, barring her only escape route up the cliff, was the old eagle.

Double Tragedy at the Eyrie

"When I realized what was happening, I dashed across that hillside as fast as I could, but by the time I reached the spot, the sheep had panicked, backed away too far, and fallen. Well, you can see where—200 feet if it's an inch—but not before one of her hoofs had smashed an egg.

"And so," concluded Neil, "that's why there's only one young one in my nest this year for you. Believe it or not, a few days later I saw this second corpse here, too; so the same thing must have happened again."

When we reached the eyrie, panting from the climb and saturated with perspiration, we found the eaglet plump and doing well. It was easy to scramble down into the nest, but, once there, the obvious dawned upon me.

The only possible place to erect the tripod was that selfsame fatal spot on the edge of the nest from which the two luckless sheep had overbalanced backwards. More than once as I manipulated the cameras I had visions of those unfortunate creatures. Thanks to Neil's strong and guiding hands, no such fate befell me, and I photographed the youngster successfully.

Even though the normal number of eggs is two, it is, of course, quite usual for only one eaglet to be reared. I learned the reasons for this at the very first eagle's nest I watched from a blind.

It was Farquhar, another of the many kind friends who have helped me with my eagle work, who found this nest on a great black precipice 1,600 feet above sea level on his Argyll sheep farm.

We started a blind on the brink of the cliff. While we were working on it, one of the eaglets delivered a series of attacks on the other. We had noticed that the latter was in poor shape and did not resist these attacks in

the least. Clearly the one was dominant over the other, as in the "peck order" of hens.

Returning a week or two later, we were not really surprised to find the weaker eaglet lying dead on the edge of the nest. We finished the hiding place, which was virtually a little hut made of boulders, turf, heather, and large sheets of moss, and Farquhar agreed to leave me inside for an 8-hour spell.

The eaglet was now dark in color, as feathers had nearly supplanted the white down of youth. I sat watching it for seven hours and had well-nigh abandoned hope of a parental return when I was startled by a series of yapping noises rather like the barking of small dogs. My thoughts flew to the local gamekeeper, who was antagonistic towards eagles. Was he arriving with dogs and gun to shoot the eaglet?

Anxiously I peered out of the blind. There was no man with gun and dogs, but sailing majestically to and fro were two huge brown birds with upturned wings and quills which stuck out like giants' fingers. The eagles were returning, and it was their calls that I heard. The eaglet started squelching peevishly for food, at which one of the birds broke away from its planing, turned towards the eyrie, and with a mighty swishing of wings came swinging in to its rocky citadel.

The youngster now went mad with excitement, bowing in front of its parent in a suppliant manner and spreading its now good-sized wings to each side. Suddenly it dawned on me that there might be a direct connection between those spread wings, which were obviously instinctive, and the dead youngster hard by. For the weaker chick might often have been "fenced off" from the prey by those outstretched, tentlike wings (page 282).

Female May Kill Little Brother

Thus a slow process of starving and weakening may have commenced, which, coupled with the direct assaults, had ended in the death of the weakling. The adults would do little or nothing about it, as the chick that gets most attention is the one that makes most noise, and this, of course, is the stronger one.

Now, for instance, the adult eagle totally ignored her offspring's mute, still body, and indeed, as is customary at this stage of the breeding cycle, soon left the nest.

Subsequent observations have strengthened my view as to what causes the death of a youngster. It has been my invariable obser-



The Author Cradles an Eaglet

Warmly dressed in thick white down, the baby eagle spends his first month eating, sleeping, and cheeping disconsolately when he feels neglected. In the seventh week the eaglet begins wing and talon exercises. Feathers clothe the body in the third month.

Adult eagles have the power to fly away with lambs, but such thefts are rare.

"Stories of eagles' carrying away babies are nonsense," says the author. "The bird does not attack man, but it has been known to swoop on a full-grown stag. Eagles frequently take cubs of the fox, the sheep farmer's worst enemy."

Two cliff-exploring sheep fell to their death from this nest when the mother eagle beat them with her powerful wings (opposite page).

→A 2-week-old chick shows well-developed beak, claws, and curiosity.



vation, and that of others in Scotland, that of two eaglets in an eyrie one is larger than the other. The larger is a female, the smaller a male. For about the first six weeks the female attacks the male unmercifully, and he makes little or no effort to resist. If the male is the first to hatch, he will have a probable 3-day lead over the female, and this may help him survive her attacks. But if the female hatches first, she has the double advantage of lead and size, and the male is almost surely doomed.

About the sixth week, if the female has failed to kill the male, her attacks diminish and she tends to become lazy and sluggish. The male, on the contrary, becomes extremely active and sprightly and eventually leaves the nest before she does.

In view of the frequent death of the male chick, more females fly successfully each year than males, and so it seems reasonable to suppose that there are more adult hen eagles than cock birds. It may even be that the limiting factor in the number of breeding pairs is the number of mature males available. Many gamekeepers have told me that if a hen eagle is shot from her nest, her mate quickly gets a new wife, who takes on the rearing of the young.

Sometimes the dead chick's body stays ignored, on or near the eyrie. At other times it disappears, probably removed by the hen. But does she, or the survivor, ever eat it?

An incident at a Banff nest two years ago is suggestive. The keeper told me that one day there were two eaglets in the nest, but upon his next visit there was only one, plus the head of the other. This means that one of its parents or its sister was almost certainly the responsible party.

Evidence of a Deadly Duel

Serious fights between adult eagles are not common; in 12 years of eagle watching I have never seen one. But Bob MacKechnie, a botanist friend of mine, was plant hunting in Wester Ross one day when he came across two male eagles dead on the ground. They were rigidly locked together by each other's talons. What a spectacle the fight to the death must have been! Their nests were apparently too close for comfort—only a mile apart. I have found the average distance between occupied sites to be about four miles.

Fights, or at any rate aerial sparring, between other birds and eagles are frequent. I shall never forget an aerial combat between

two ravens and an eagle. The scene was a wild corrie, or deep hollow, 2,000 feet up one of Perth's highest mountains. Pinnacles of rock and towering crags topped by snow-corniced ridges bounded this huge natural amphitheater, domain of the eagle. Range upon range of distant snow-capped peaks and a sky of deepest blue formed a grandiose backdrop for the drama to come (page 278).

Ravens Attack the Queen of Birds

I had photographed the queen of birds as she had flown out from her big black nesting cliff. She was sailing round and round above the corrie when suddenly, from out of the blue, arrived a raven, croaking gruffly. From a seat on a rock I watched him maneuver to gain height. Then suddenly his croaking rose to a crescendo, he closed his wings and dived full tilt at the eagle below!

I gasped in amazement. Surely he would not dare to strike home; but he kept straight on. A head-on collision in mid-air seemed inevitable. Then one of the neatest pieces of avian airmanship I've ever seen took place. In the nick of time the eagle closed her right wing, did a quick little aerial side step, and the furious raven, traveling like a black streak, whizzed harmlessly past. The eagle spread her wings once more and soared again as if nothing had happened.

Although accustomed to the eagle's mastery of the air, I nevertheless was astounded at the nimbleness of this maneuver and eagerly awaited the next round. It soon came. Once again the raven climbed above the eagle; once again he dived headlong, only to be defeated by the last-minute side step. Every few minutes the same thing happened, while the raven's furious croaking echoed and re-echoed among the gaunt crags.

Suddenly from a distance there came a new sound; looking in that direction, I spotted a second large black angry bird approaching. The hen raven had left her nest on an adjacent mountain and was coming to join the fray.

For nearly an hour I sat on that rock, entranced by the aerial combat overhead. Round and round the three birds cruised, the eagle as calm and unconcerned as the ravens were frantic. In the end, the hen bird detached herself and returned to her young on the distant crag. Not long after, her mate, too, gave it up and followed, leaving the eagle at long last in undisputed possession of the air above its nesting corrie.

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The Society's notable expeditions have pushed back the historic horizons of the southwestern United States to a period nearly eight centuries before Columbus. By dating the ruins of vast communal dwellings in that region, The Society's researches solved secrets that had puzzled historians for 300 years.

In Mexico, The Society and the Smithsonian Institution, January 16, 1939, discovered the oldest dated work of man in the Americas. This stone is engraved, in Mayan characters, November 4, 291 B. C. (Spinden Correlation). It antedates by 200 years anything else dated in America, and reveals a great center of early American culture, previously unknown.

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The National Geographic Society and the Royal Ontario Museum in 1951 explored and measured newly found Chubb meteor crater, 11,000 feet in diameter, in northern Quebec.

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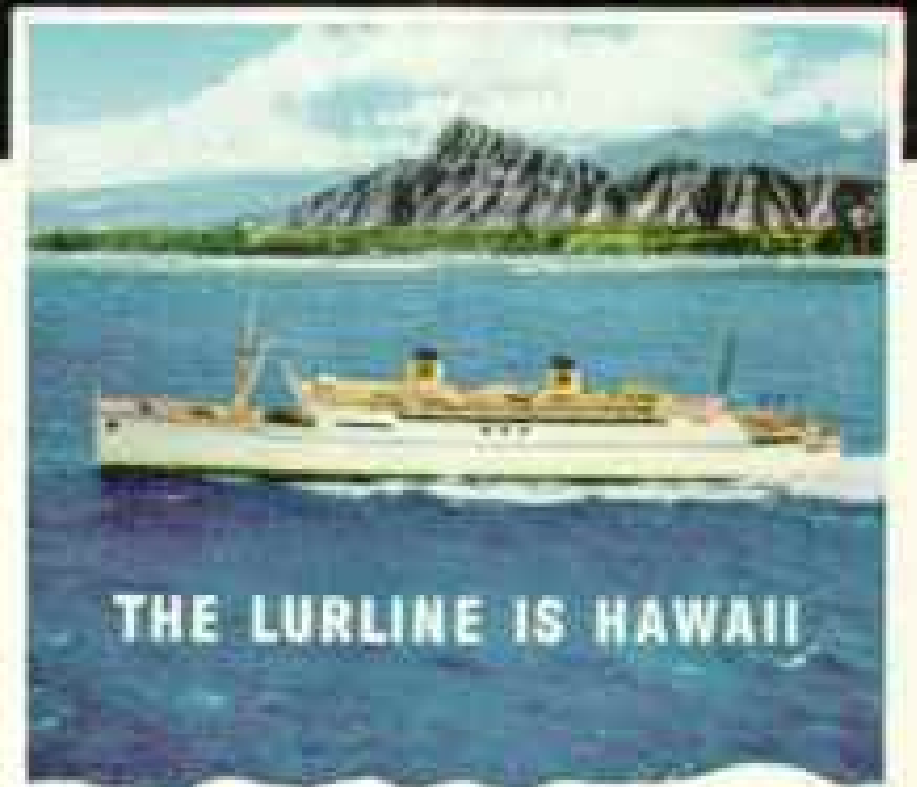
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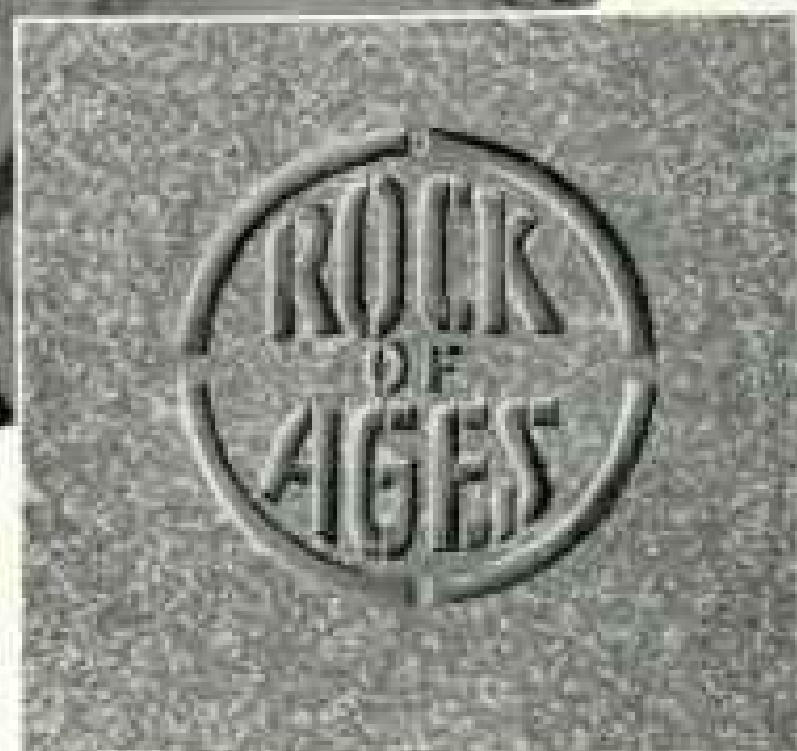
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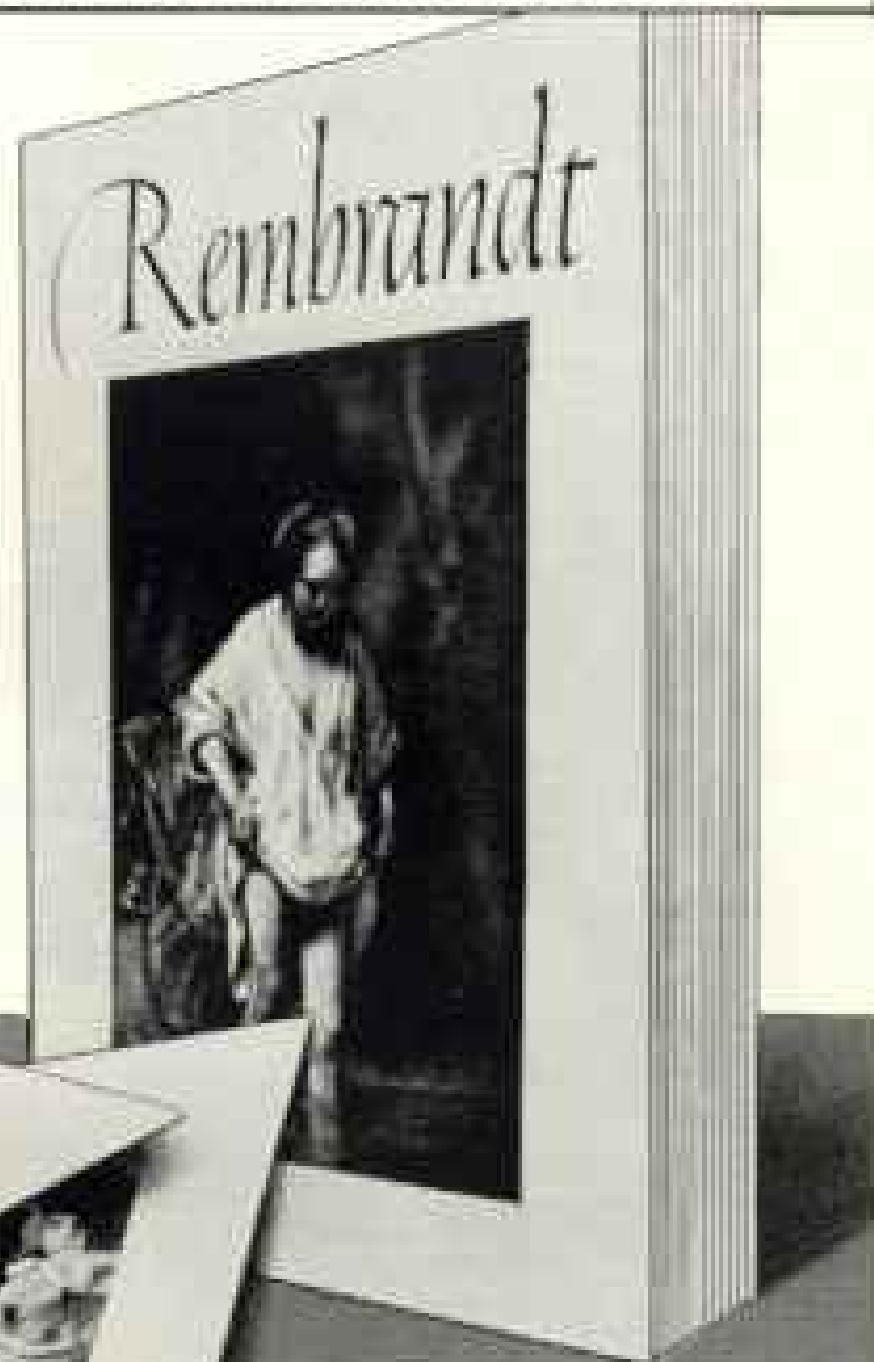
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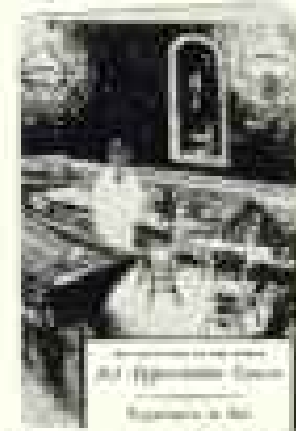
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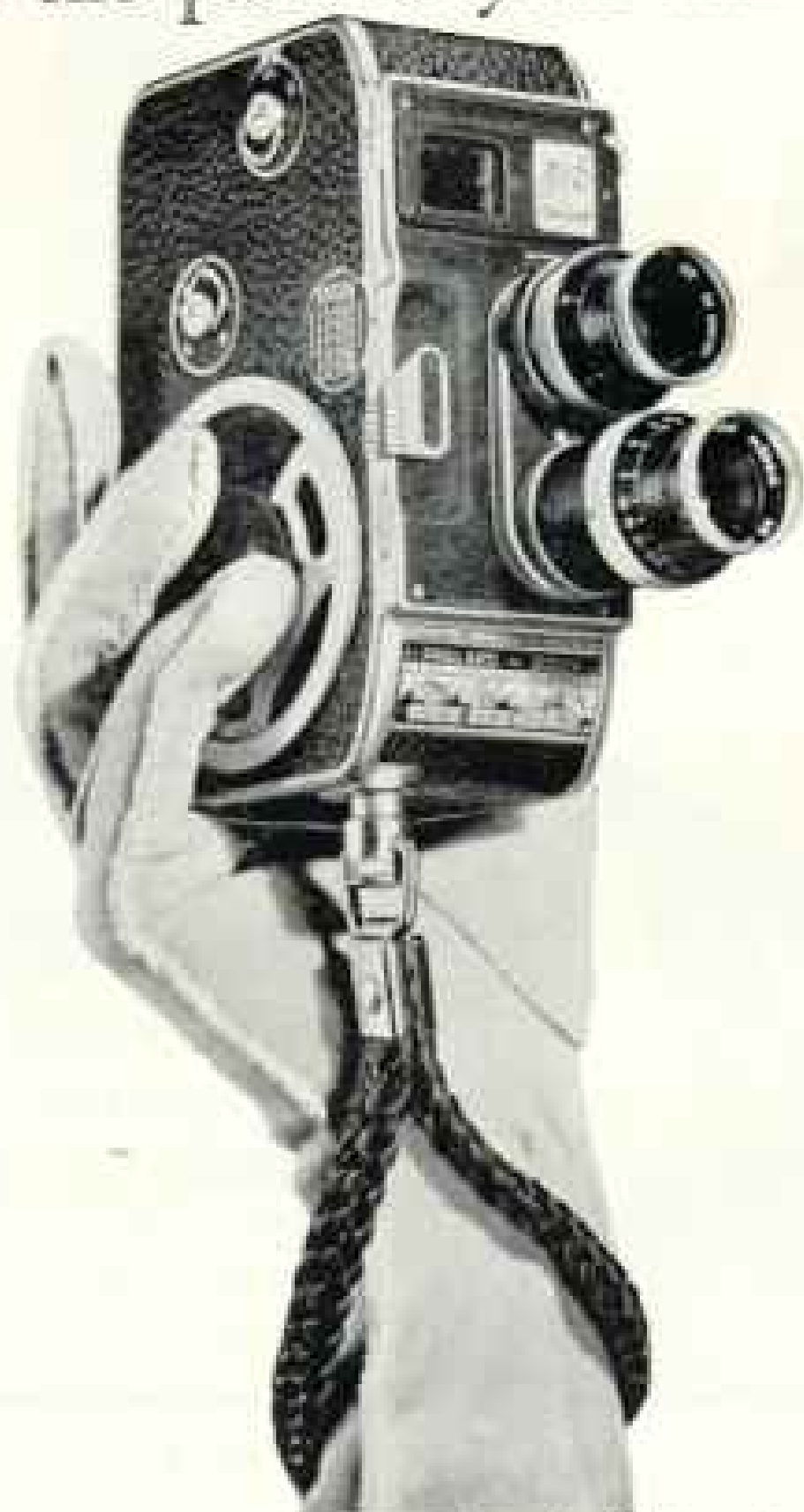
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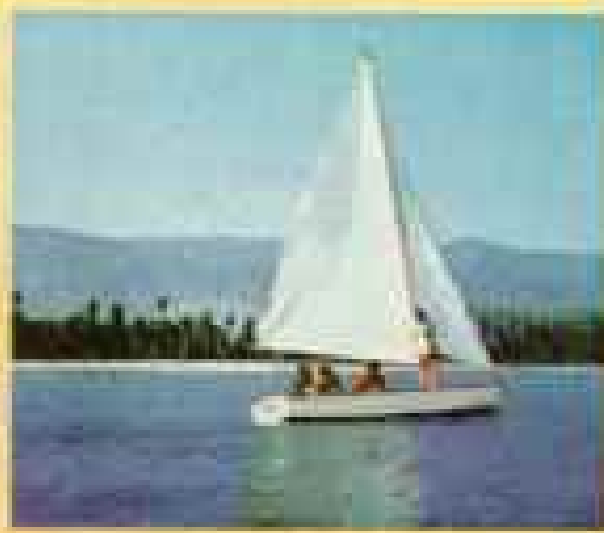
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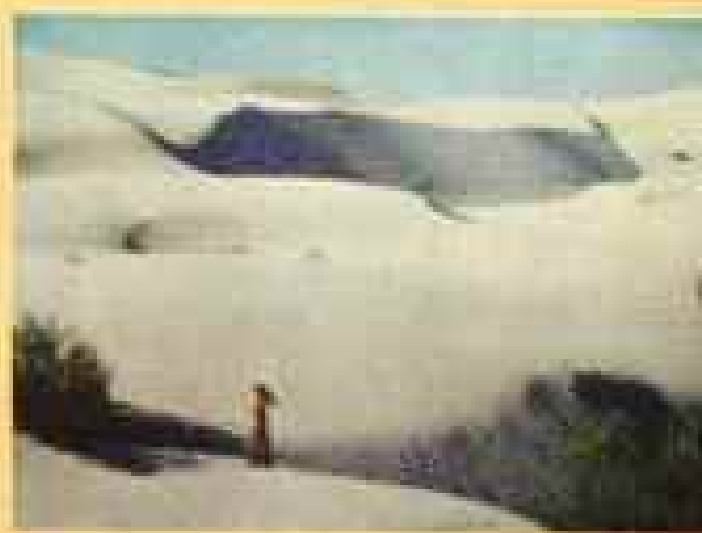
Pacific shores are fascinating: pelicans, cormorants, abalones.



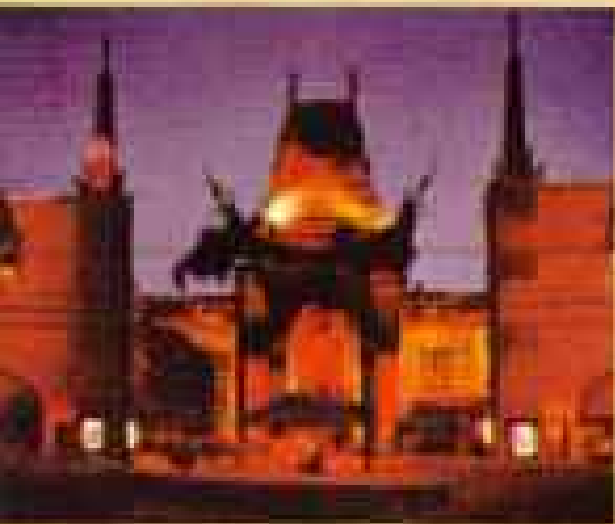
Interlude in a desert trip. Many resorts have swimming pools.



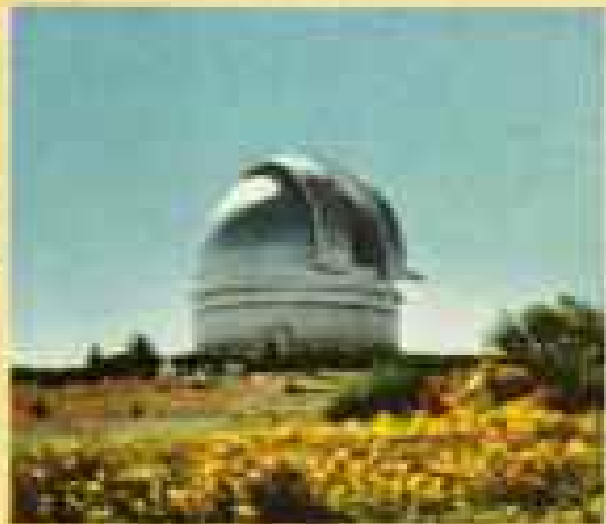
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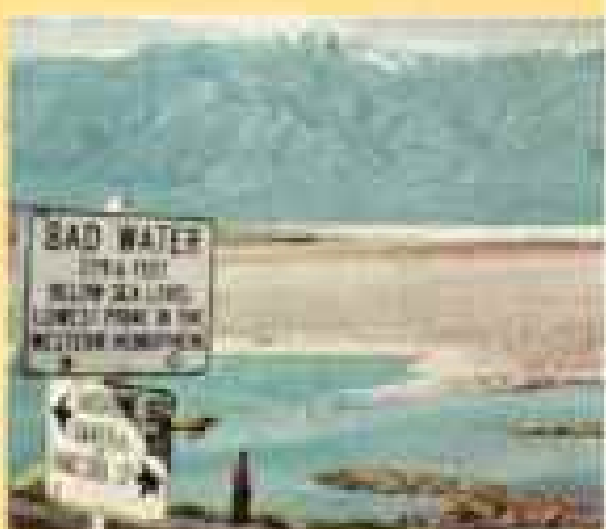
Antelope Valley in Spring: miles of wild flowers to the horizon.



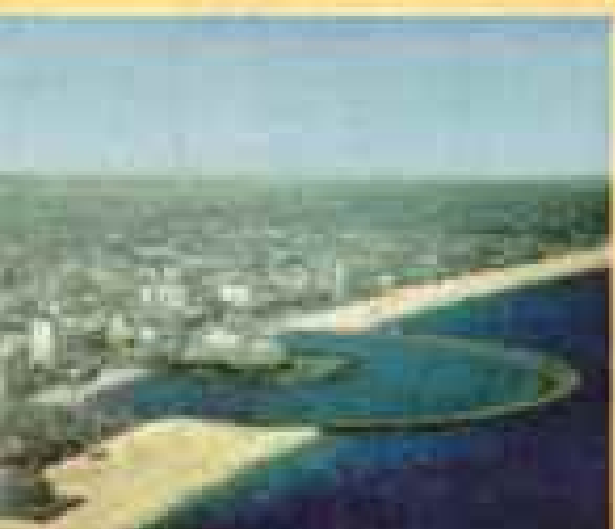
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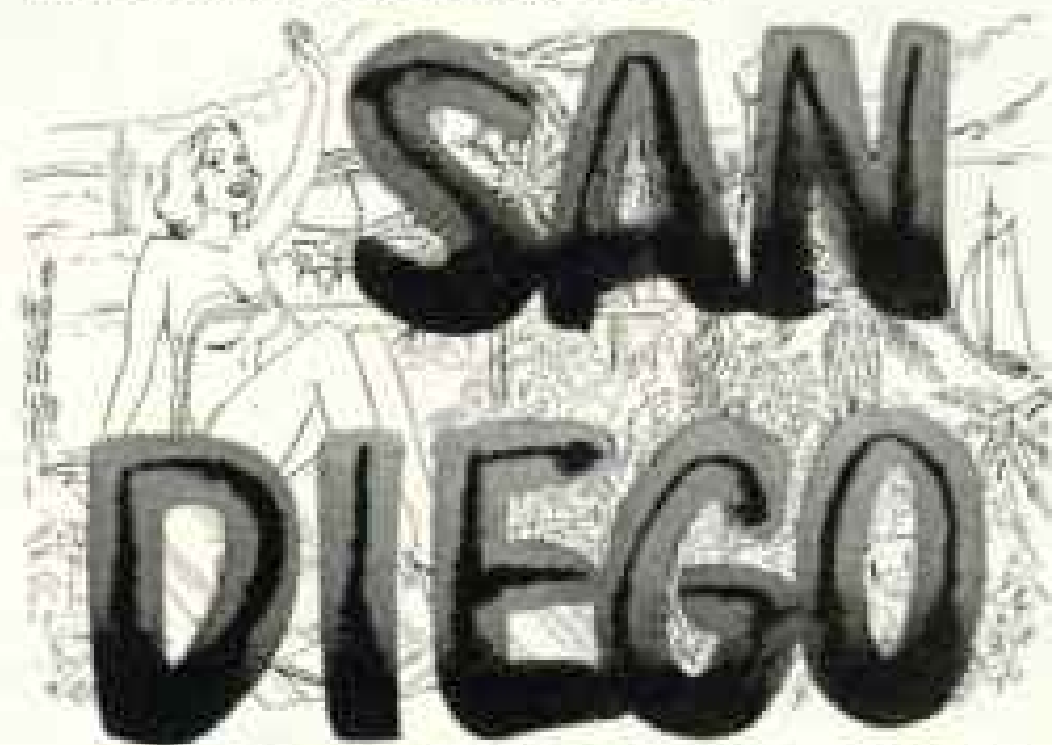
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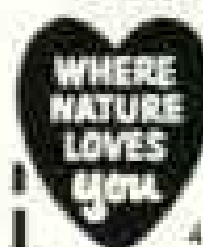
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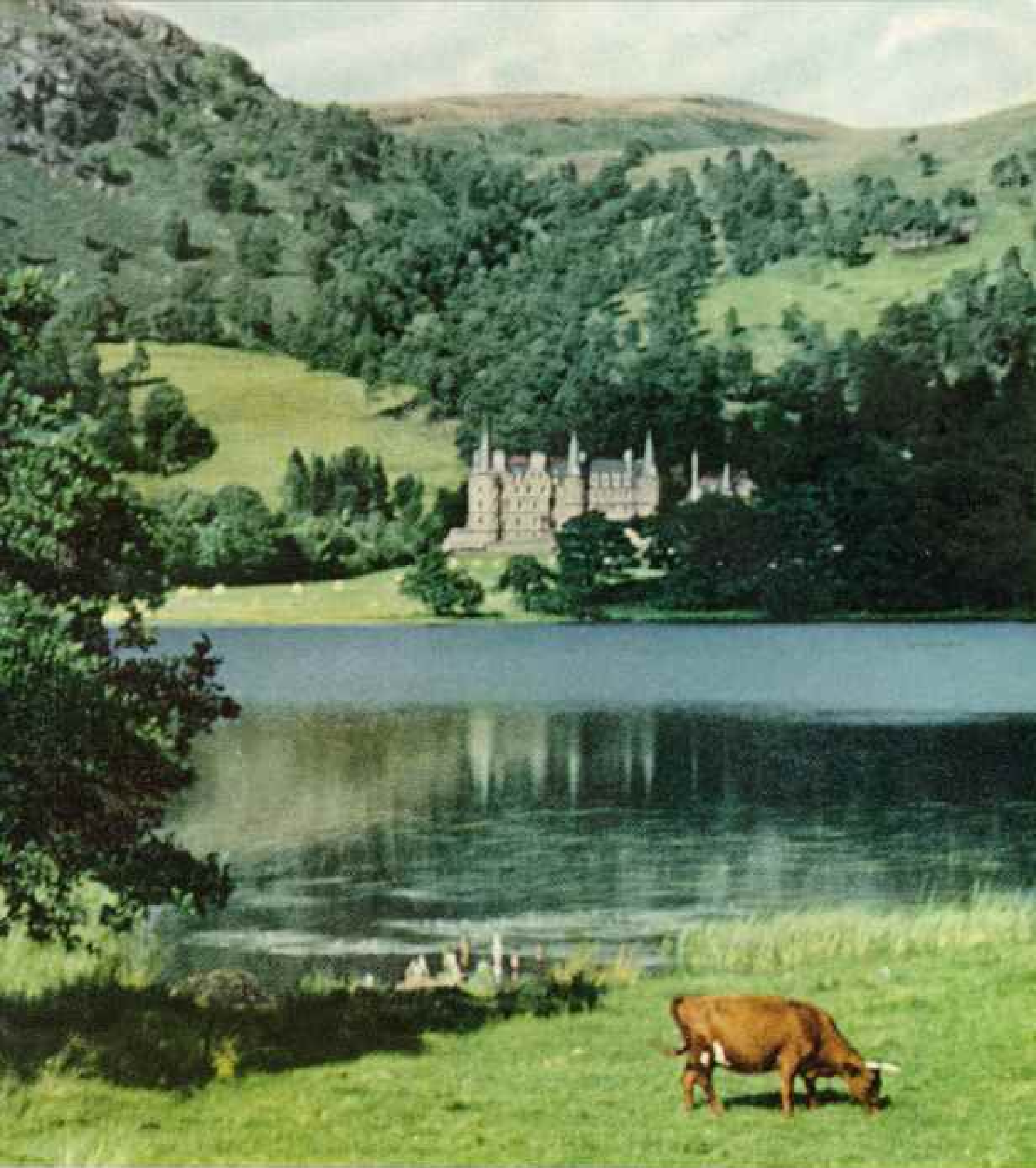
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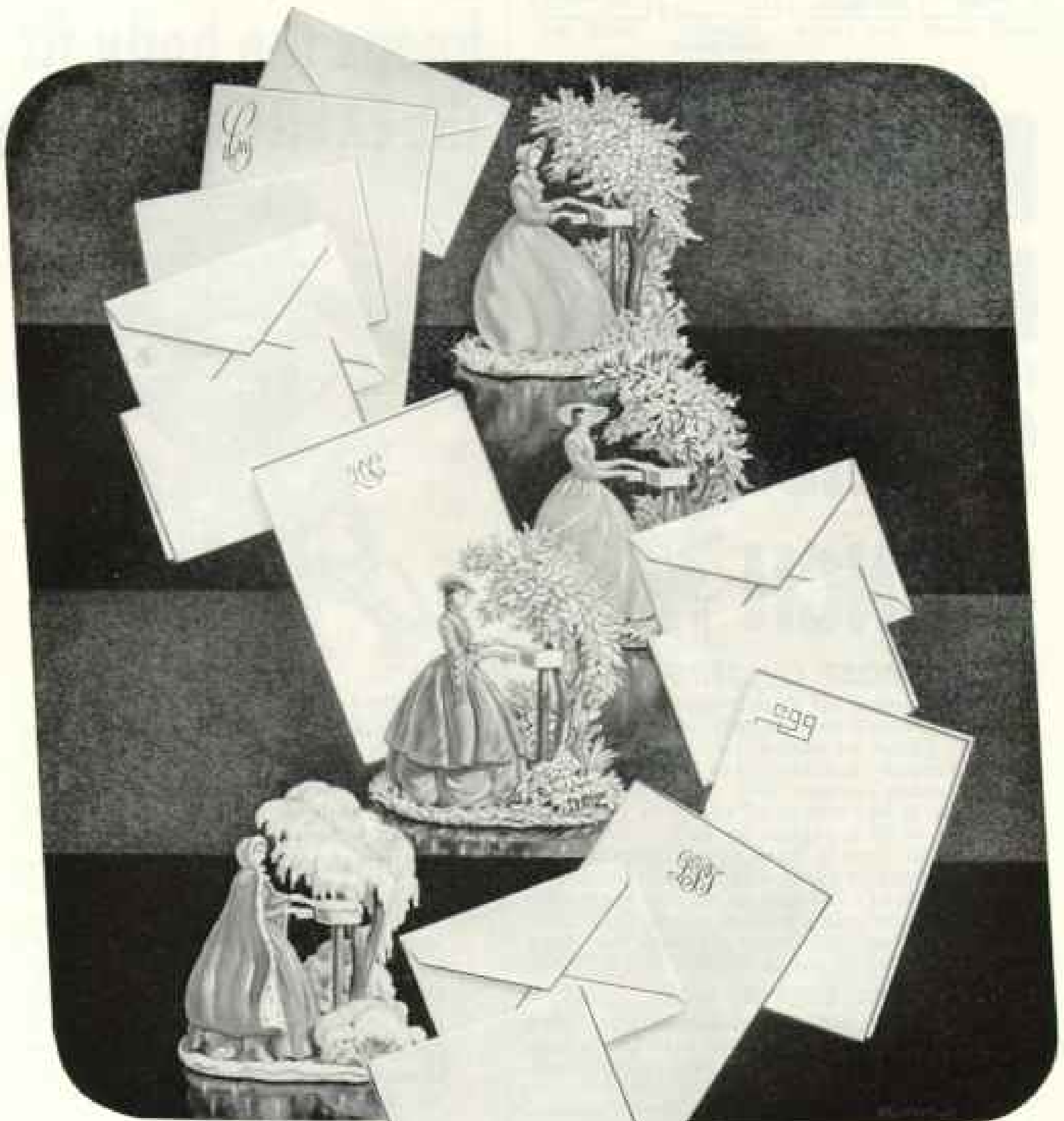


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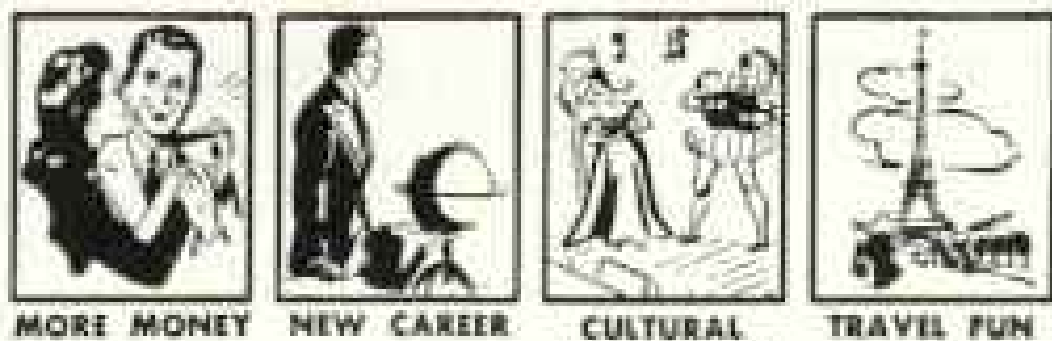


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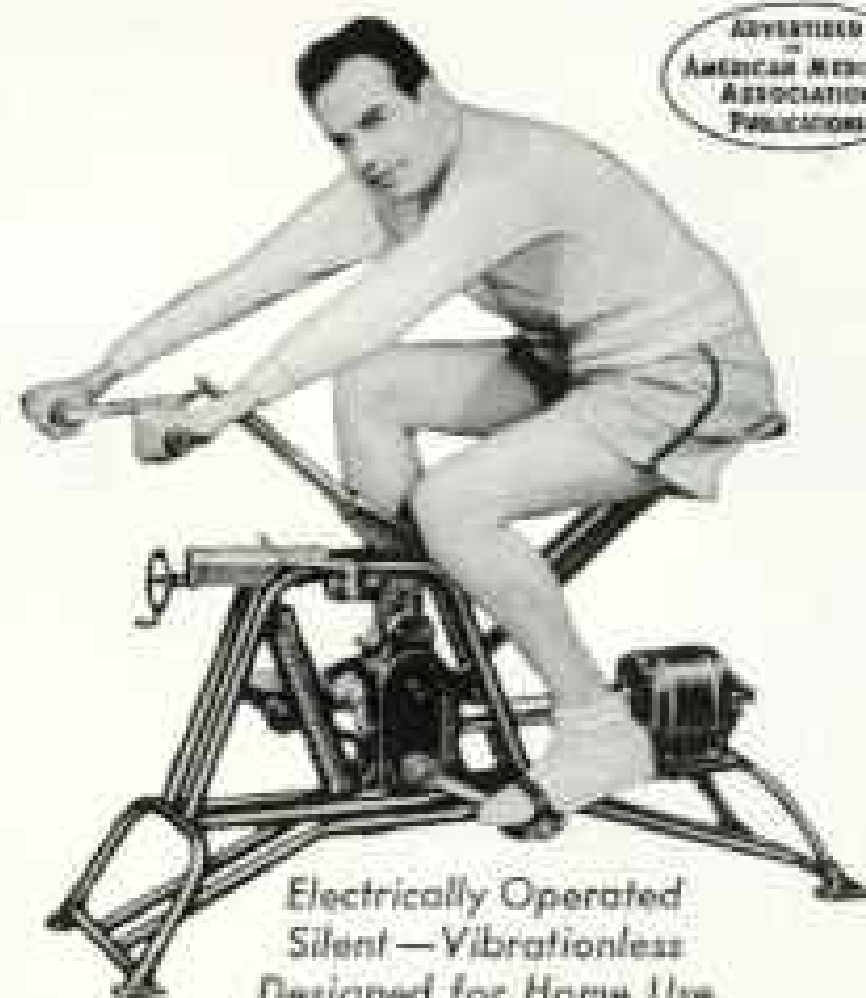
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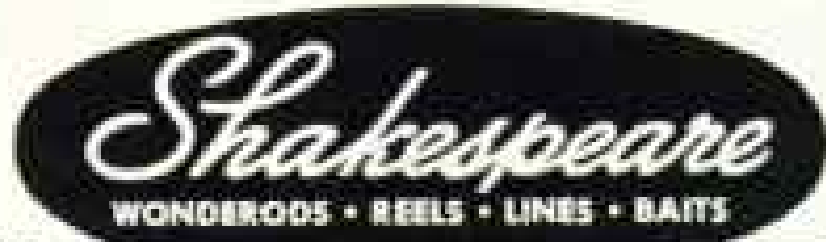
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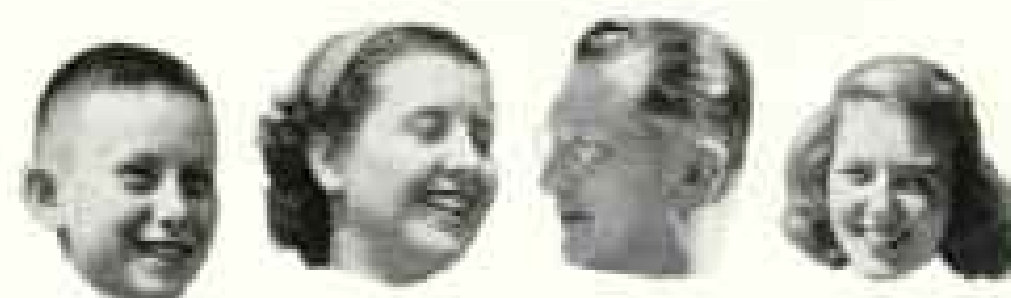
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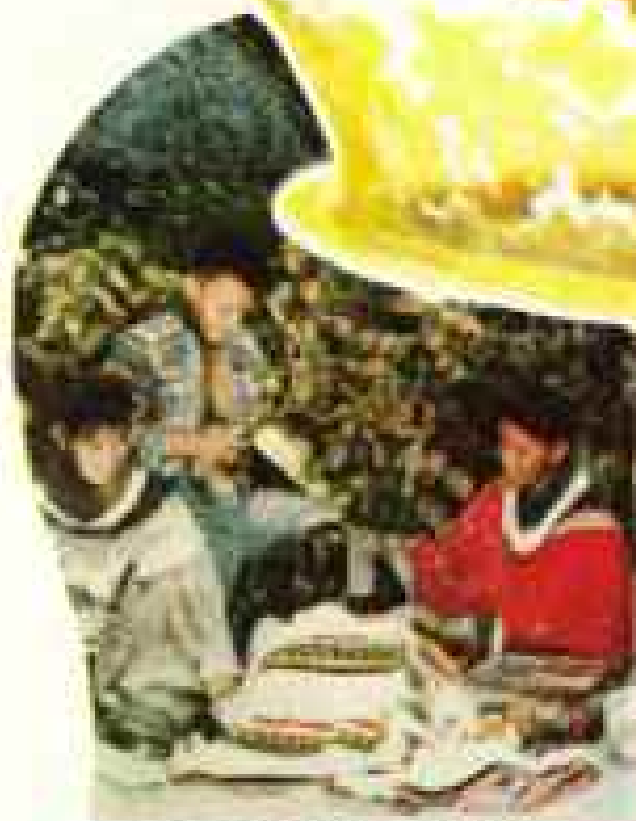
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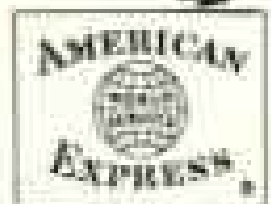


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When should a child first go to the dentist?

WHEN a child is about three years old, he should visit the dentist. This may seem quite young, but authorities say it is generally the best age to introduce a child to dental care.

In most cases, little if any treatment is needed during the first visit. This appointment, however, is important because it gives the child an opportunity to become acquainted with the dentist and his office. It also helps to build the child's confidence so that future visits may be less likely to cause fear and anxiety.

Authorities recommend dental examinations for a child at least twice a year after he is three years old. This enables the dentist to detect any small cavities in the so-called "baby teeth" and fill them promptly. If this is not done, decay will progress with possible early loss of these "baby teeth." This in turn may result in irregularities or crookedness in the permanent teeth.

When the first permanent molars appear, around age six, dental check-ups are particularly necessary. Though these molars may be mistaken for "baby teeth," they are a part of the permanent set, and if they are lost, nature will not replace them. Prompt repair of weak spots or surface cracks in the six-year molars is essential for their preservation.

Good dental health requires more than regular visits to the dentist. Diet, for example, plays an

important part in keeping children's teeth and gums healthy. Daily care of the teeth and gums is also essential to good dental health. Dentists say that all children should be taught to brush their teeth within ten minutes after every meal, for at least three minutes at a time.

Tooth decay is largely a disease of the young. The American Dental Association estimates that about one out of every three children, entering the first grade, has a permanent tooth so badly decayed that extraction is required.

Fortunately, the prospect of reducing tooth decay has been improved by sodium fluoride treatments. These require four visits to the dentist at weekly intervals, and involve nothing more than applying the chemical directly to the children's teeth. Dentists recommend that these treatments be given when children are three, seven, ten, and thirteen years of age. Studies show that after four treatments with sodium fluoride, decay in children's teeth may decrease as much as 40 percent.

Adults, too, should visit the dentist regularly, have defects promptly repaired, keep the teeth clean, and eat well-balanced meals. These safeguards are important because it has been established that there is a relationship between the health of tooth and gums, and general health.

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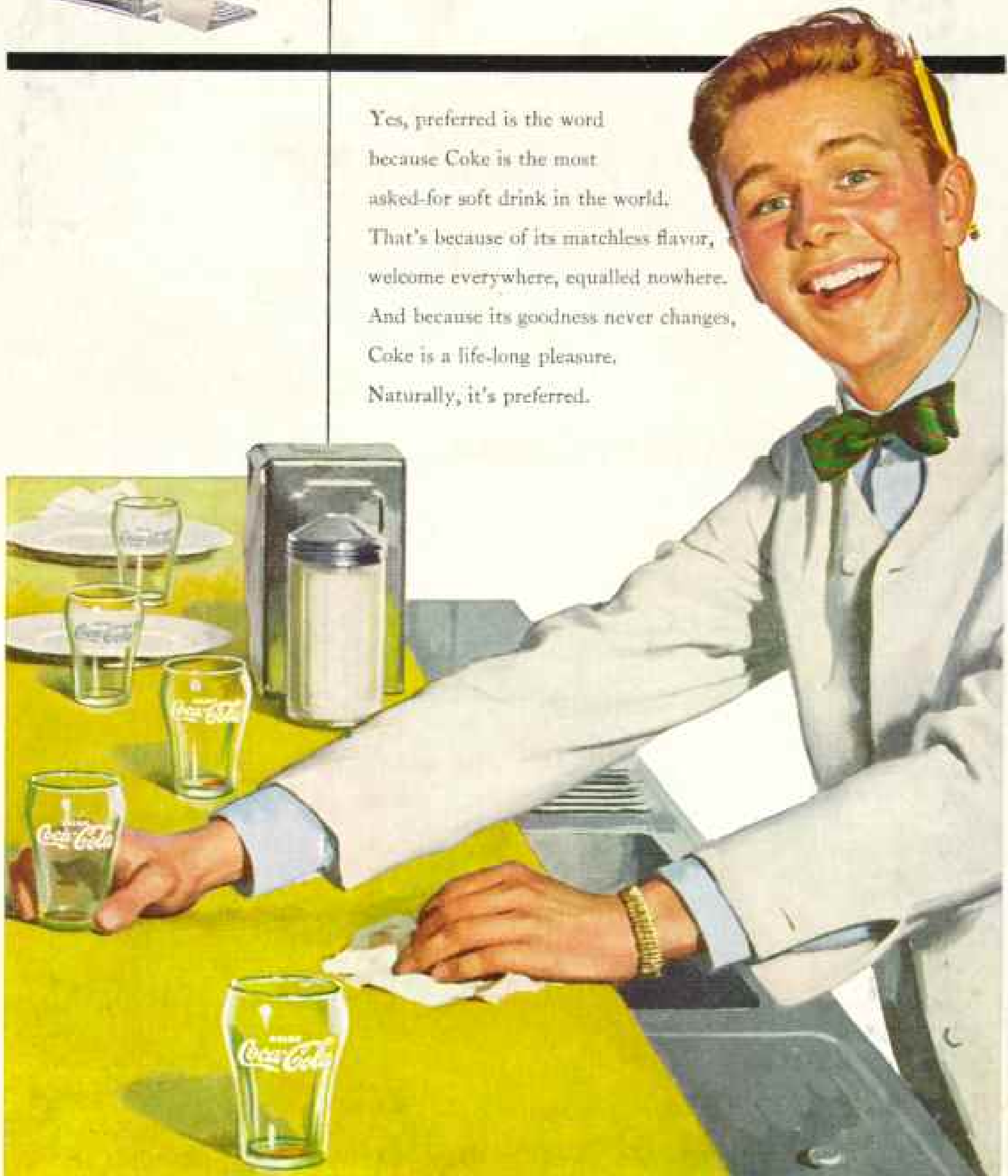
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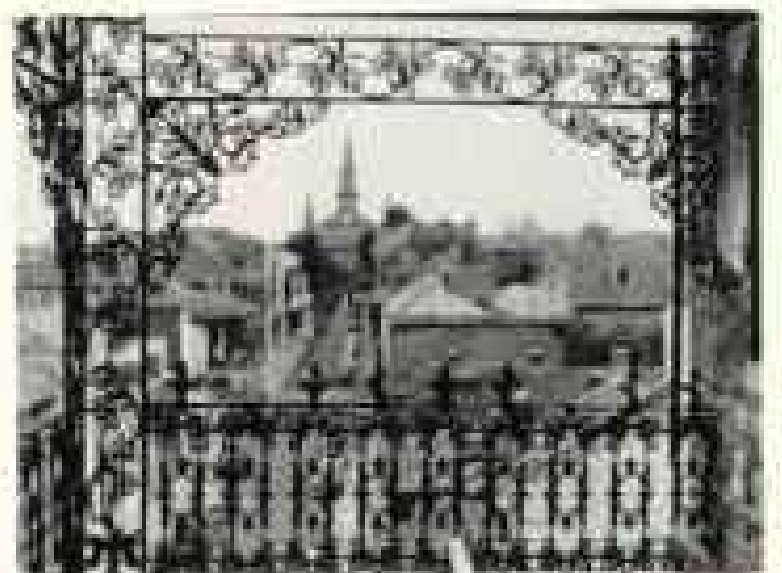
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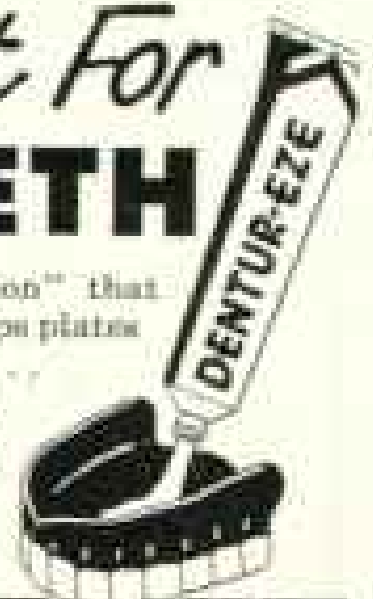
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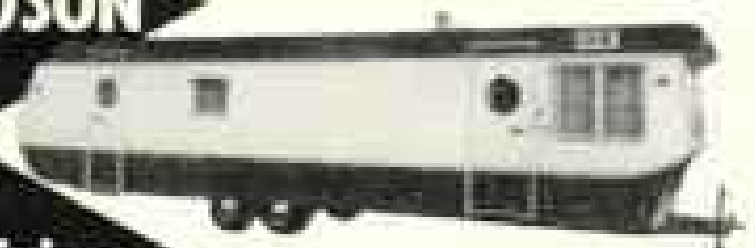
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