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THE NATIONAL GEOGRAPHIC MAGAZINE

The American Virgins

After Dark Days, These Adopted Daughters of the United States Are Finding a New Place in the Caribbean Sun

BY DUBOSE HEYWARD* AND DAISY RECK

FOUR and a half days out of New York by steamer, less than nine hours' flying time out of Miami, lie three of the most beautiful tropic islands on the face of the globe, and they belong to the United States of America.

More Danish colonial in atmosphere than suggestive of the States, these three "American Virgins," St. Thomas, St. John, and St. Croix, present unusual aspects of life against a background of exotic landscape not to be found anywhere else under the Stars and Stripes.

This is easily understood when we realize that they existed under Danish rule for more than 250 years before the United States bought them in 1917, and that down in the islands of the Caribbean life turns into new channels slowly and only after much pondering.

Such a Sight Columbus Never Saw

Though there are few experiences that can match lounging on the deck of a steamer while her screws drive her southward down the deep cobalt of the Gulf Stream, there is one dramatic moment, in the approach to the Virgins, that can be had only from the air.

That moment comes when the Pan American Clipper soars upward from the port of San Juan, Puerto Rico, and levels out for the final jump to the harbor of Charlotte Amalie, island of St. Thomas, less than an hour away as the plane flies.

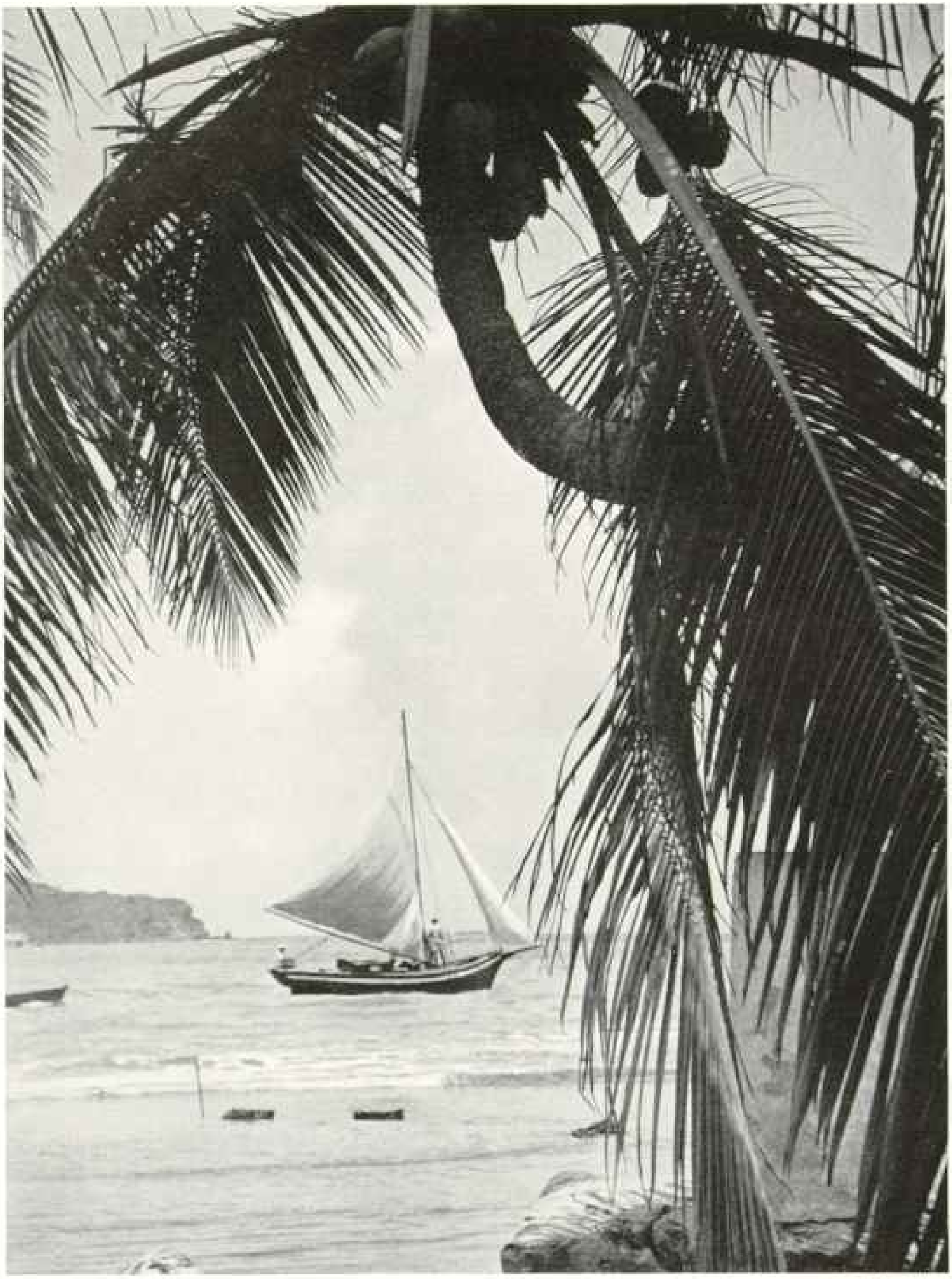
Then the air voyager gets his first glimpse of the Virgin Islands, American and British, and beyond sees the vast bow of the Lesser Antilles swinging away, island after island, fading through lighter and lighter shades of blue until they vanish into the southeastern horizon.

Directly below, the Virgins seem to rush forward to meet the plane, and one remembers that it was Columbus who discovered these isles, though from quite a different angle. On his second voyage, in 1493, he stumbled upon them at the threshold of his new world. Astonished by their numbers and delighted at their fresh beauty, he christened them the Virgin Islands after St. Ursula and her eleven thousand virgins.

Today, looking down from an altitude of several thousand feet, one can applaud his resourcefulness in selecting a name which would include the whole archipelago, for there seem to be hundreds of them, ranging in size from small rocky cones thrusting upward from the brilliantly tinted sea to islands of considerable extent. The larger ones show cultivated areas against the intense green of their forest-clad hillsides, and small sheltered harbors busy with commerce or drowsing indolently in the bright sunshine.

With the whole panorama spread below like a great relief map, it is easy to trace

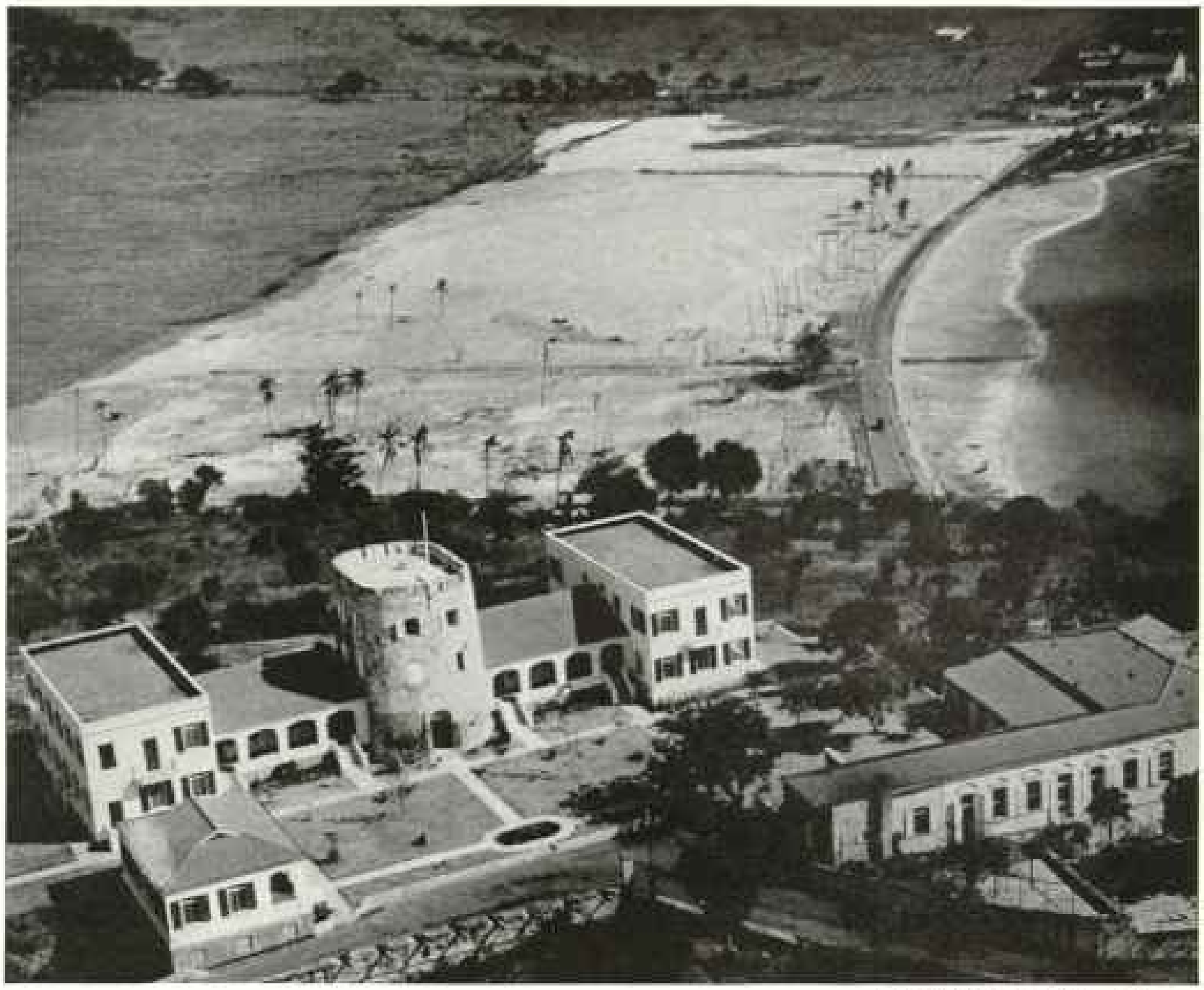
* This article, in which DuBose Heyward collaborated, is one of the last contributions of the noted South Carolina author whose untimely death occurred on June 16, 1940. Mr. Heyward's notable works included the novels *Porgy* and *Mamba's Daughters* (both later dramatized for the New York stage) and the opera *Porgy and Bess*. He also will be remembered for his distinguished article on his native Charleston, "Where Past and Present Meet," in the NATIONAL GEOGRAPHIC MAGAZINE, March, 1939.



© Frank C. Dorrow

Guided by the Color of the Water, a Fishing Boat Sails Safely among Coral Reefs

The captain often coms his vessel from the masthead, where he can expertly judge the depth by the different tints of the shimmering sea above safe sands or dangerous coral heads. In good weather he needs no soundings to direct the helmsman through narrow channels near St. Thomas, Virgin Islands.



Photograph courtesy Governor Crabbe

Romantic Bluebeard's Castle Invites Guests in Charlotte Amalie

In the American Virgins' capital on St. Thomas, visitors may rest in excellent hotels, of which this one, owned by the Government, is among the most popular. When the United States bought the islands from Denmark, there seemed little chance that the purchase would be worth anything save as a naval base for Panama Canal defense, but modern improvements and development of both agricultural and scenic resources have wrought an amazing change (pages 280, 289). Because import duties are low, foreign goods sell at bargain prices in Charlotte Amalie.

an imaginary line dividing those islands which belong to England and are known as the British Virgins from the three, among the largest, with their attendant cays and islets, which now fly the Stars and Stripes (map, page 277).

An Expensive Real Estate Purchase

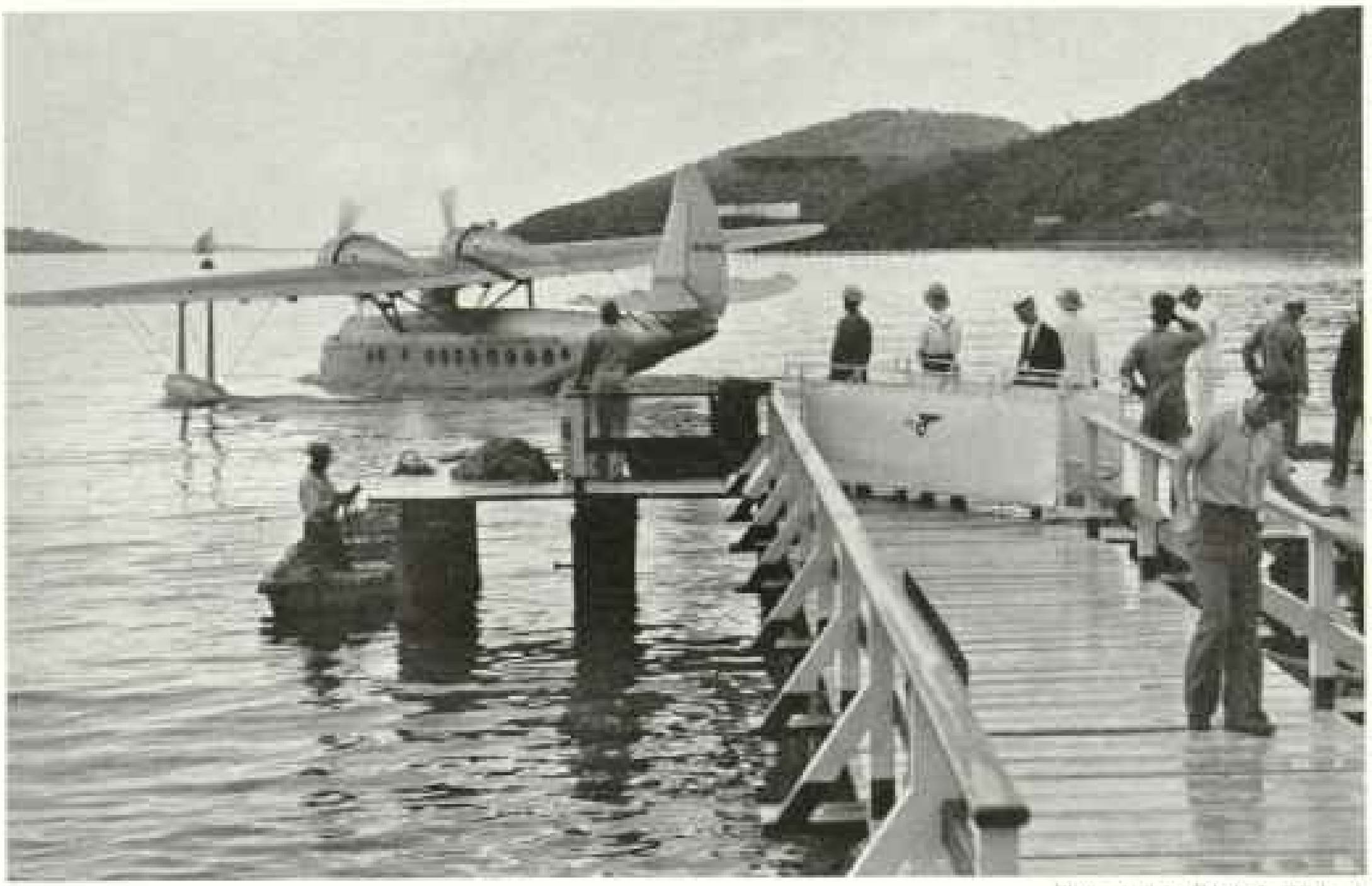
Before landing and becoming too deeply engrossed in the immediate life of the islands, it is well to consider briefly the steps leading to their purchase by the United States.

In 1917 Uncle Sam took $25,000,000 from his striped trousers pockets and handed the money to Denmark for the three main islands, St. Thomas, St. John, St. Croix, and the surrounding fifty-odd uninhabited pin-dot isles.

They were not prosperous, even at that time, nor were they blessed with undeveloped natural resources which might conceivably gush forth great wealth. Yet the sum paid represented a higher price than was paid for any other United States acquisition. The actual land cost averaged $293.70 per acre as compared to 2 cents an acre for Alaska and 27 cents an acre for the Philippines.

Uncle Sam paid it cheerfully and with a smile. The transaction closed a real-estate dicker that had started fifty years before.

There are interesting footnotes to our history in this protracted negotiating. We wanted the islands first in the 1860's, during Lincoln's administration, when they served as a base for Confederate blockade runners which raced to southern ports with European war supplies. But the war ended before the deal went through. Five additional periods of negotiation followed. At one time Denmark offered to sell the islands for $11,500,000,



Photograph by Edwin L. Wisherd

"Baby Clippers" Link St. Thomas Weekly with the Outside World

Charlotte Amalie is a regular stop on the run connecting Puerto Rico with the Lesser Antilles and Trinidad. This two-motor ship is smaller than the giant four-engined Clippers and the new high-speed Strato-Clippers that ply between the continents.

less than half of what eventually was paid. But at that time the United States was not sufficiently interested.

Decades passed and it was not until the time of the World War that the islands again loomed importantly in the minds of mainland strategists. It was felt that St. Thomas might be useful as a naval base; that these isolated bits of land, lying directly in the transatlantic water route to the Panama Canal, might be necessary for defense.

This immediate consideration gave impetus to the long-winded bargaining and brought the islands finally into our hands. But before plans for a base had been developed the war ended, and it looked as if we had been overenthusiastic about increasing our offshore domain, and very poor bargainers besides.

Canal Defender and Playground, Too

In the last few years, however, the picture again has changed. As a covering air base for the Canal Zone, the islands are potentially worth a great deal more to the United States than the purchase price would indicate. And in addition we have acquired a tropic playground which is attracting each year an increasing number of visitors from the mainland.

Denmark finally signed the treaty in Washington, January 17, 1917. She had mothered her Virgins since 1666, through the lean, trying years of early colonization, during the turbulent years of buccaneering when a grab-as-you-can spirit was popular along the Spanish Main, through periods of prosperity when St. Thomas Harbor became known to commercial craft over the entire world, and when sugar-cane products from St. Croix's fields brought fancy prices in European markets.

She had stood over them during the uncertain days of infancy, through the hardy days of youth, and in the feeble and halting days of older age when changing world markets and successive hurricanes had sapped their vitality.

But the islanders, though pensive over the prospect of losing a venerable parent, looked forward with hope and enthusiasm to the possibility of an economic revival under American business methods and with American protective tariffs. They already were on close and friendly terms with the United States, sold sugar and rum to the American market, and spoke English rather than Danish as the common language.

Public opinion in the islands stood about 99 per cent in favor of transfer, and that fact, in addition to the $25,000,000 check which

The American Virgins Guard a Main Route from Europe to the Panama Canal

A glance at the map shows why the United States was willing to pay Denmark $25,000,000 for them for use as a naval base. Besides controlling the important Anegada Passage, they form the country's easternmost outpost and would flank any fleet approaching U. S. shores. Of the entire fifty, only a half dozen are inhabited, and only St. Thomas, St. John, and St. Croix are of considerable size. Total area of the archipelago is less than 140 square miles.

Uncle Sam dangled in the air, convinced Denmark of the advisability of giving up her colonies.

Presently, down to the little islands in the Caribbean sailed the United States Navy. Its health brigade swung into action: injections were given to ward off disease, mouths were opened for dental inspection, arms were scraped for vaccination, sewers and rain-water cisterns were built. The death rate dropped from an average of 35 per thousand in the ten years before American occupation to 23 per thousand in the ten succeeding years.

Economically, though, the islands suffered from age-old maladies. Chief among them were the decline in the shipping business in the harbor of St. Thomas and stagnation of agricultural activity in St. Croix.

When naval government was replaced by a civil administration in 1931, these troubles had been deepened by the world-wide depression. Determined efforts were launched to attract visitors, organize a native handicrafts cooperative movement, and enable natives to buy small farms on which they could eke out a living when the sugar business was bad (p. 289).

A visitor to the Virgins today will find it interesting to watch the islanders—landowners

Photograph by Exploration F. S.

The Fish Peddler's Donkey Totes a Cargo of Rainbow Brilliance

Besides the familiar bonito, red snapper, kingfish, and Spanish mackerel, denizens of Virgin waters include names with a local flavor—blue doctor fish, mulatto cavalley, flat blare-eyed, shoemaker old wife.

and workers alike—busily engaged in trying to push the islands back to their former place under the tropic sun.

"Happy Landing" at St. Thomas

But now our brief flight from San Juan has ended. The Clipper circles into the wind, tilts its nose sharply downward, and the island of St. Thomas springs into sharp definition, extending itself in verdant peaks toward the approaching visitor and revealing the many-hued little town of Charlotte Amalie lying at the harbor edge (Plates II and IV).

A soft thud sounds through the cabin as the big plane is let down onto the water, and all view of land is obliterated for a few moments as she roars forward, spreading sharp sunlit sprays over the windows. Abruptly the panes wash clear, the engines cut off, and directly ahead appears the miniature airport.

St. Thomas, with its efforts bent once again toward the harbor, still retains its charming and picturesque side—not consciously because it is good business, but because it is pleasanter and easier to do so.

A visitor to the island remains a stranger only until he reaches his hotel; thereafter, wandering through the quiet, hilly streets, he will be greeted with a shy "Good mornin'," or "Good afternoon."

"Good Night" with a Difference

At some definite period in the late afternoon, the timing of which is impossible to calculate exactly, the salutation changes to "Good night." This does not imply leave-taking, as it does in the mainland United States, but simply a greeting in passing. Within a few hours it is possible that most of the citizenry will have learned the new arrival's name.

Should the visitor lose his way (which is not unlikely, for the town, though it houses fewer than 9,000 persons, sprawls with an easy grace over four hillsides), eager help will be at hand. Someone will take pleasant pride in directing, and, if he has no produce which

Photograph by Robert L. Wichard

Solid Reminder of the Danes Is Government House, St. Thomas

Here in a splendid ballroom magnificent functions were once held by representatives of the Danish Crown. Today the building is the residence of the Governor appointed by the President of the United States.

he must get to market immediately; or if he is not already late for a funeral which might parade without him, he probably will walk the full distance just to see that you do not go astray.

Fragrant Bay Rum for Sale

There will be no official welcoming party to greet your boat or plane with pomp and ceremony. There may be an aged woman crouching over a basket of cigarettes, which cost seven to ten cents a package, depending on whether she likes your looks, and she may also be offering pint-size bottles of bay rum, a native product and one of the finest in the world. And in the background there will surely be a group to watch the boat dock and see you step off in your city finery.

But St. Thomians, by nature, are not ones to put on a big show for the traveler. They are convinced that God has made for them the finest island in the world, with hills properly balanced to extend airy sweeps of grandeur down to the blue bays folded between them, and a visitor to the island will come to believe, almost certainly, that it is true.

If he does, and decides to linger to discover the island for himself, he will be charmed by the variety of entertainment which it has to offer. Starting out from one of the three small, excellent hotels, he may go for a swim at one of several palm-fringed beaches, explore the hills on horseback, or at a reasonable cost put in a day of deep-sea fishing.

Legend hunting is a favorite pastime. Tales of buccaneers, blockade runners, and even local "Bluebeards" are as deeply rooted and as omnipresent as the lichens that cover the ancient walls.

If the visitor doesn't come to believe in the superiority of the island, he might better pack up and go elsewhere, for there will be discreet whisperings behind his back and an aloofness which he must notice if he is at all discerning.

This intense satisfaction with the island is noticeable not only in the attitudes and

conversation of the people, but also in the fact that, of those who leave for education or work in other islands or the States, a large percentage come back. Some may postpone the day of homecoming until money has been accumulated, and a few may even hang on into older age, but their return will be no less joyful and enthusiastic.

In an island that is conceded to be one of the most beautiful in the West Indian group, and among natives who are generally attuned to its beauty, it is small wonder that continentals who go there are remaining to become landowners.

Because of the harbor, which is laid out in horseshoe shape and amply protected, attracting more ships than any near-by place, and because of the visitors which these ships bring, the town of Charlotte Amalie is a miniature cosmopolitan center and of great importance among neighboring islands.

It is the capital of the American Virgin group, and the social activities which radiate from Government House bring together the native islanders, travelers from the States, and foreign notables. Private craft cruising in those waters make it a point to lie over in the safe harbor, and the list of internationally prominent visitors is long.

Marines Patrol the Isles by Air

Adding to the cosmopolitan air of the small town, weaving in khaki uniforms through the gaily clothed groups, are the United States Marines. At Lindbergh Bay, about two miles west of Charlotte Amalie, is the only offshore Marine aviation base of the United States.

After the arcaded softness of Charlotte Amalie's architecture, the angular precision of the airfield, Marine barracks, and regulation gray hangar strikes an unusually military appearance (Plate III).

A low drone over the harbor town indicates that the Marines are off on one of their routine flights to St. Croix, Puerto Rico, or Vieques, all American islands. The populace never fails to stop its work and watch the regular formation clear the summit of Flag Hill, then disappear into the cloudless sky over the Caribbean.

Charlotte Amalie is fond of its Marines, partly because they are good fellows and partly because they are good business. Food, clothing, and general supplies must be purchased, and in addition the aviation gas for the squadron's planes.

Like that of many other places in the Caribbean, St. Thomas's early history was one of development by absentee landowners, and later, when her harbor sprang into commercial demand, by absentee merchants. The fortunes then collected—and there were many in the golden era of the West Indies—were taken back to Europe. Consequently, there are few monuments, imposing school buildings, expensively laid out parks, or other man-made landmarks of the early days.

Virtually every business place in the downtown district, however, speaks more eloquently than could any formal monument of the island's past. For each is housed in a thickly walled building, narrow and fully four hundred feet long, running from Dronningensgade, which is the main street, back to the sea (Plates V, X, and XI).

Of the millions of dollars of fancy merchandise which passed through those ancient warehouses—brocades from China, cashmeres from India, laces from England—there are many tales. In those lush days when several thousand vessels arrived each year, native workers were kept busy refueling the ships' bunkers, and native merchants were kept busy adding columns in the ledgers.

Then came changes in shipbuilding, with oil-powered vessels replacing many of the coal-driven. World shipping diminished; other ports were developed in the West Indies. Gradually came the decline of the port of Charlotte Amalie. By 1916 only 241 ships, representing eleven nations, arrived at the little port. The old, well-stocked warehouses became obsolete and many were converted into general stores to supply the needs of local housewives.

Present-day business still is housed in these old buildings. In some sit shopkeepers who will tell you of the days when there were so many barks, brigantines, schooners, and full-rigged ships in St. Thomas Harbor that special hours had to be assigned each for entrance and departure. Merchandise in these shops includes charcoal burners, laces, hats, paints, oils, corsets, and cigars.

One aged woman shopkeeper will not sell any of her jugs, because her husband, when he was alive, was fond of them. Another cannot part with certain pots because she may some day find use for them herself.

Cargoes of Travelers Now

But once again the tempo of business on Dronningensgade is changing, and once more islanders are scanning their harbor, this time for cargoes of visitors instead of brocades and cashmeres. During the 1939 fiscal year, 850 ships nosed around the ancient Sail Rock sentinel, almost double the number of ten years ago. The island has buttoned a new tucker over its colonial business cloak and,

 Kodachrome by Edwin L. Wisherd

Sun-kissed Bathers Hold Aloft "Stars" Plucked from Balmy Seas

The spiny, five-rayed creatures abound on sandy shallows in Durloe (Cancel) Bay, island of St. John, smallest of the three principal islands in the United States Virgins group. Among the verdant hills and beside the numerous bays of this island live 750 people. Apart from simple agriculture, the only industries are charcoal making, basketweaving, and bay-leaf brewing. In 1917 the United States bought the Virgins from Denmark for 25 million dollars—three and a half times the amount paid for Alaska.

 Kodachrome by Zoleta L. Wiebert

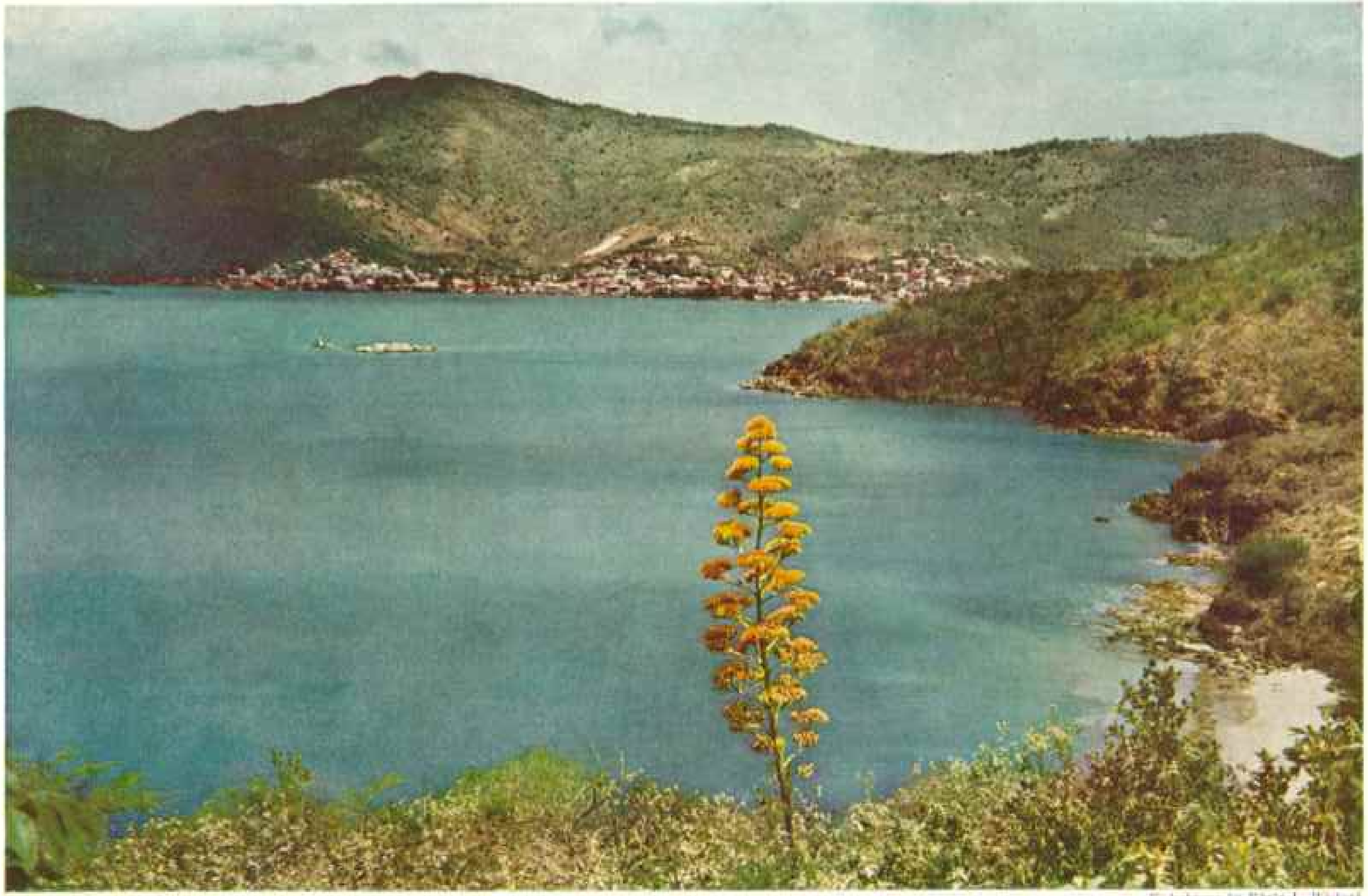
Liners Unload "Cargoes" of Visitors Where Square-Riggers Traded Brocades and Laces for Sugar and Rum

Tile- and tin-roofed Charlotte Amalie, capital of the United States Virgin Islands, is blessed with one of the West Indies' finest harbors.

Kodachrome by Robert L. Wisherd

United States Marines Groom Their Silvery Sky Steeds for Flight

At Bourne Field, Lindbergh Bay, St. Thomas, is the only Marine aviation base outside of the continental United States.



Kodachrome by Edwin L. Wisherd

Foil to Charlotte Amalie's Blue Bay and Green Hills Is the Golden Glory of a Century Plant

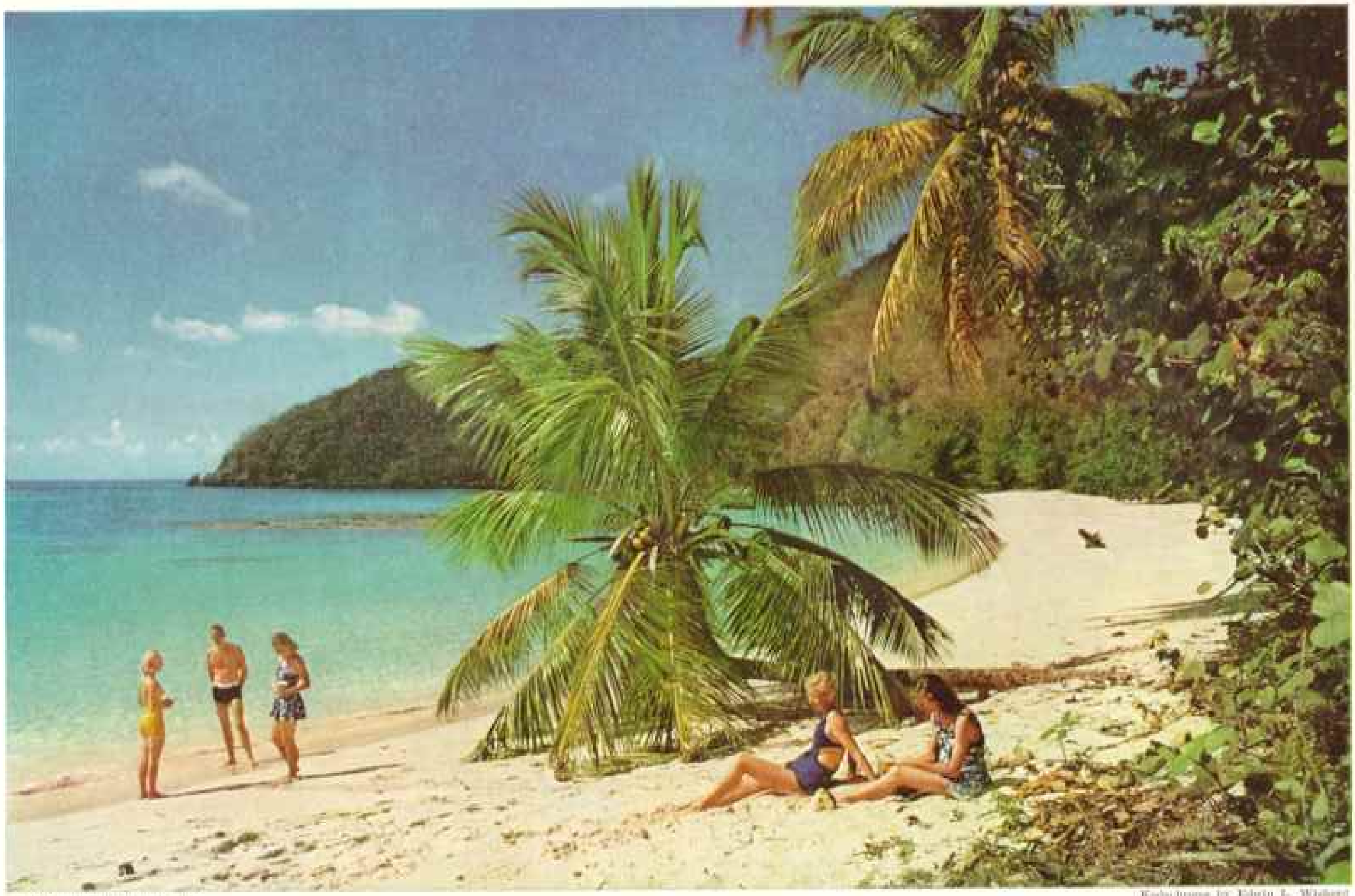
"I Ain't Lookin' at Yo' Camera—I'se Jus' Peekin'"

Big storm doors on open shops along Charlotte Amalie's main street are closed at night and during hurricanes (Plate X). There are only two or three plate-glass windows in the town.

Kodachromes by Edwin L. Wisherd

"No! You Can't Get My Goat"

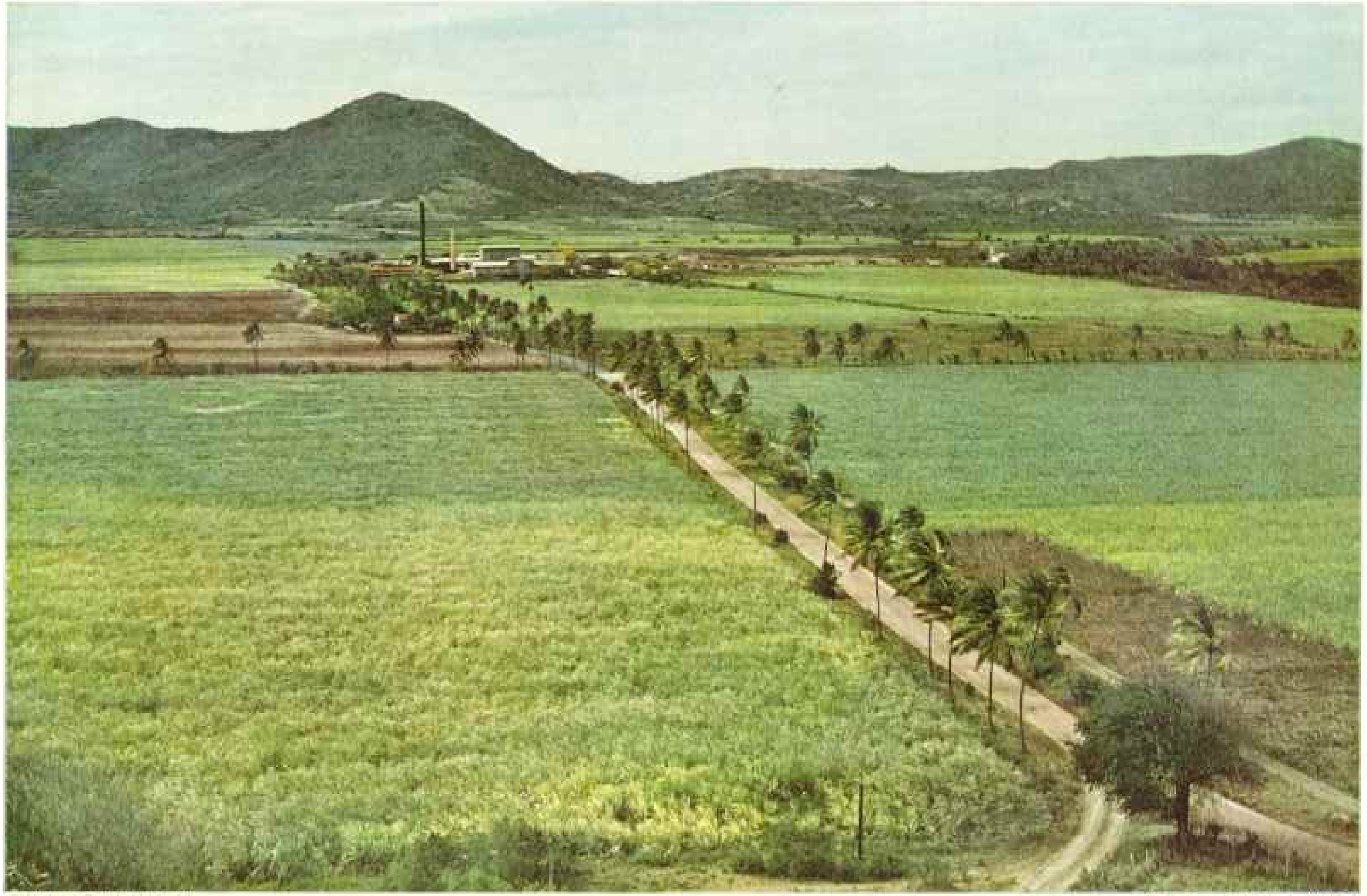
Bougainvillea makes a bright background. A few of the islanders raise goats for their milk. On St. Croix graze herds of long-horned cattle. Chief native dish is *okra-fungi*, made of okra and corn meal.



Kodachrome by Edwin L. Wisherd

A Diadem of Glistening Beaches Rings the Tropic Paradise of St. John

Wheels are almost unknown on this idyllic isle, where there are no automobiles and only two or three carts. Travel is by foot or donkey. A storm-beaten coconut palm grows in the sands of Hognest Beach, a retreat popular with the residents of near-by St. Thomas.



Kodachrome by Edwin L. Wisherd

Rows of Waving Coconut Palms Border a Road Leading through Broad Fields of Cane to a Raw-Sugar Factory

On densely cultivated St. Croix, once called "the garden of the Danish West Indies," ruined windmills and estate houses recall sugar-boom days.

Brother Scowls at Basketweaving—His Mind on Ships and the Sea

In French Village, a suburb of Charlotte Amalie, every home is a factory; even in school youngsters are taught to weave hats and baskets. But boys prefer fishing with their fathers.

Kodachromes by Charles W. Herbert

"Watch Closely and See How It's Done"

Hats also are woven by French Village folk whose ancestors migrated to the West Indies from Brittany and Normandy in the seventeenth century (Plates IX and XV).

following modern trends, is out to capture the travelers' fancy.

But, it was reasoned, if the island is to become a travel center, there must be evolved some means of employing island labor in addition to that needed for hotel services and salesmanship. For this purpose the Virgin Islands Co-operative was developed, and that organization, which purchases and resells native embroideries, basketry, furniture, and other articles, has become the hub of all island activity (Plate XVI). Organized in 1931, the Co-operative now gives whole or partial support to approximately 800 islanders. Expertly designed native handicrafts from St. Thomas are sold by 25 stores in cities scattered over the United States. Encouraged by this success, St. Thomians have developed other co-operative lines.

Improved conditions in the island are indicated in the Federal income tax returns, which in 1938 increased 130 per cent over 1937, and 461 per cent over three years previously.

Back to Nature on St. John

Across Pillsbury Sound, 30 minutes' boat run from St. Thomas, lies the island of St. John, another of the three big Virgins. Large-scale agriculture was abandoned there some 200 years ago, and today, primitive and uncultivated, the island has an uncomplicated economic setup. In its bush-covered hills live 750 natives, who demand little beyond subsistence from the soil.

Nature is generous in St. John and throws out a wealth of wild growth: plantains, mangoes, custard apples, limes. The waters about the island yield fish and lobsters to complete the diet. The only commercial activities are the simple businesses of charcoal production and bay-leaf brewing.

Coming ashore on St. John, one might suppose that it had never been involved in the making of history; that here life in its simplest form had stood still since ancient volcanic rumblings left this bit of land basking on the surface of the Caribbean.

There are no towns in the usual sense of the word. The only concentration occurs at Cruz Bay where a handful of cabins, hidden in the palm grove, houses perhaps eighty natives, and at Coral Bay, where an equally simple scene is dominated by the red-roofed buildings of an old Moravian mission. Between these settlements, circling the island with their white-sand indentations, are more than 25 bays, each with its own historical glory and present-day significance (Plate VI).

A foretaste of the quiet charm of the island comes when one engages boat passage. No regular steamship lines serve St. John, but the *Flamingo*, modern 50-foot motorboat, makes the trip from St. Thomas several times a week, carrying mail and passengers. Or a traveler, if he is sufficiently enterprising and persistent, may secure passage on one of the St. John sloops which has carried to St. Thomas an assorted cargo, perhaps of several goats, a couple of pigs, hand-woven baskets, and charcoal.

An Isle without an Automobile

Transportation facilities on and about the island itself are unpretentious. The fish will bite as well tomorrow as today. Therefore time is not of vital importance to the islander, and a horse, or donkey, or his own feet will carry him wherever he needs to go with as much dispatch as is necessary.

Fifty miles of bridle trails thread their way over St. John's mountains, and their quietness is broken only by the incessant slap of the Caribbean on the long white shores, somewhere down below. The local vehicular tax is for horses and boats, for there is not an automobile on the island.

Visitors have taken readily to the simple modes of conveyance, some of them covering the entire network of trails on donkeyback, and in the end have tried to buy land in St. John. Their attempt to become landowners seldom meets with success, for it is extremely difficult to purchase anything but large plots. The small owners are mostly native islanders and they attach more importance to their land than can be measured in dollars.

A land situation which is not to be found in either of the other islands prevails in St. John, and its history dates back to the emancipation of the slaves in the "Danish West Indies" in 1848. A surprising number of the islanders own plots of ground ranging from one-half to forty or fifty acres, and these plots are handed down from father to son. On them the islanders have gained a form of independence, cultivating their cassava and plantains, weaving their fish pots, and rearing their broods of children.

Terror Stalked When Slaves Revolted

Willingness of the planters to part with the land, and the precarious condition of the cane business even before emancipation, were precipitated in part by the "great insurrection" of 1733 in St. John. Hundreds of slaves rose against their masters in a cleverly planned revolt, destroyed the great stone buildings on almost half of the 92 estates, murdered the owners, and for six months had complete possession of the island.

Photograph by Exploration F. S.

Smartly Military Are the St. Thomas Police

At Fort Christian officers of the law, lined up for pistol inspection, are a sign of the progress in the Virgin Islands since 1733, when revolting slave forebears of present-day natives fought to the death against the military force sent to St. John from Martinique to subdue them (page 289).

Finally, on request of the planters, the governor of Martinique dispatched four hundred men and officers to St. John. Detachments were sent in all directions over the island and the slaves driven gradually to the northern shore where they were surrounded.

There is a legend in the island (supported by some historians) that some 300 of these slaves, finding all chance of escape cut off, held a feast and then, with resolute bravery, threw themselves over a cliff.

Life Is Simple on This Idyllic Isle

After emancipation the remaining estate houses sank gradually into an indolent slumber, disturbed only when a hurricane ripped off a roof or tore down a shutter, and slowly lost their identity under the voracious advance of tropic bush.

With only a small population and that mostly on a self-sufficient basis, the island has been little affected by world conditions or by change from Danish to American regime. Most of the islanders are satisfied with their lot and believe that from their sea and earth come greatest contentment.

When the island government received as a gift the Calabash Boom and the Julia de Konig estates in the mountains of the Eastend, a Civilian Conservation Corps camp, Virgin Islands branch of the mainland organization, was installed to clear the land of bush and to plant mahogany trees.

There were appropriations to enlist 75 men in the camp, but such was the islanders' preoccupation with their own land that after several months only 30 had enlisted. Many explained that while they might make one

Photograph by Edwin L. Wisherd

A Fancy Stilt Walker Gets Rapt Attention from St. Thomians

To the din of beating drums, a clanging iron triangle, and a shrilling fife, the performer does a difficult clown dance. Holidays are numerous in the Virgins. This was during the Easter celebrations.

dollar a day in the camp, which they admitted was a profitable sum, their plots in the meantime would be uncared for and probably grown over with bush. Finally the camp had to be dissolved for lack of recruits.

On the "*Katy*" to St. Croix

By water the small self-contained world of the two larger Virgins is served by the staunch little steamer *Catherine*, which covers the circuit twice a week (Plate XIII). Starting at San Juan, Puerto Rico,* she proceeds overnight to Charlotte Amalie. Thence she steams across forty miles of Caribbean water to Christiansted, the principal port of St. Croix, to return the following day via Charlotte Amalie to the Puerto Rican metropolis.

But to the Virgin Islander the "*Katy*" is more than a mere convenience. She is a personality and he is enormously proud of her. Her arrivals and departures are social occasions of some magnitude, and the visitor is duly conducted aboard to be formally presented.

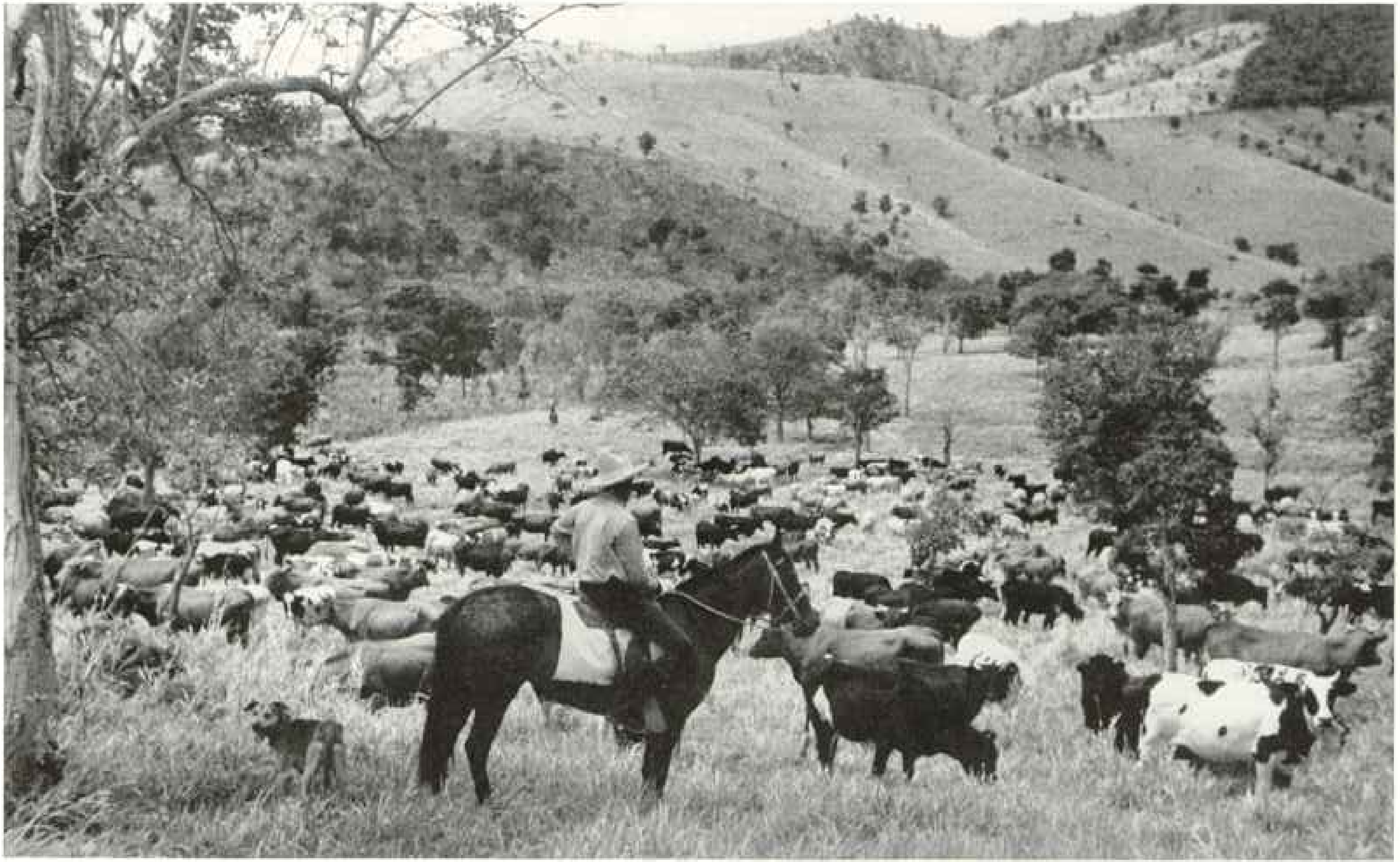
For a number of years she was a drab Cinderella, performing her round of duties uncomplaining and unremarked. Then came an absence of some months, followed by a reappearance that caused a sensation. With her face lifted beyond recognition, fresh and glittering from the hand of decorators, loud with the sound of running waters in her many new baths and lavatories, she steamed majestically back into port and into the hearts of her people.

* See "Puerto Rico: Watchdog of the Caribbean," by E. John Long, NATIONAL GEOGRAPHIC MAGAZINE, December, 1939.

Photograph Courtesy P. W. A.

Natives of St. Croix, Now United States Citizens, Harvest Sugar Cane

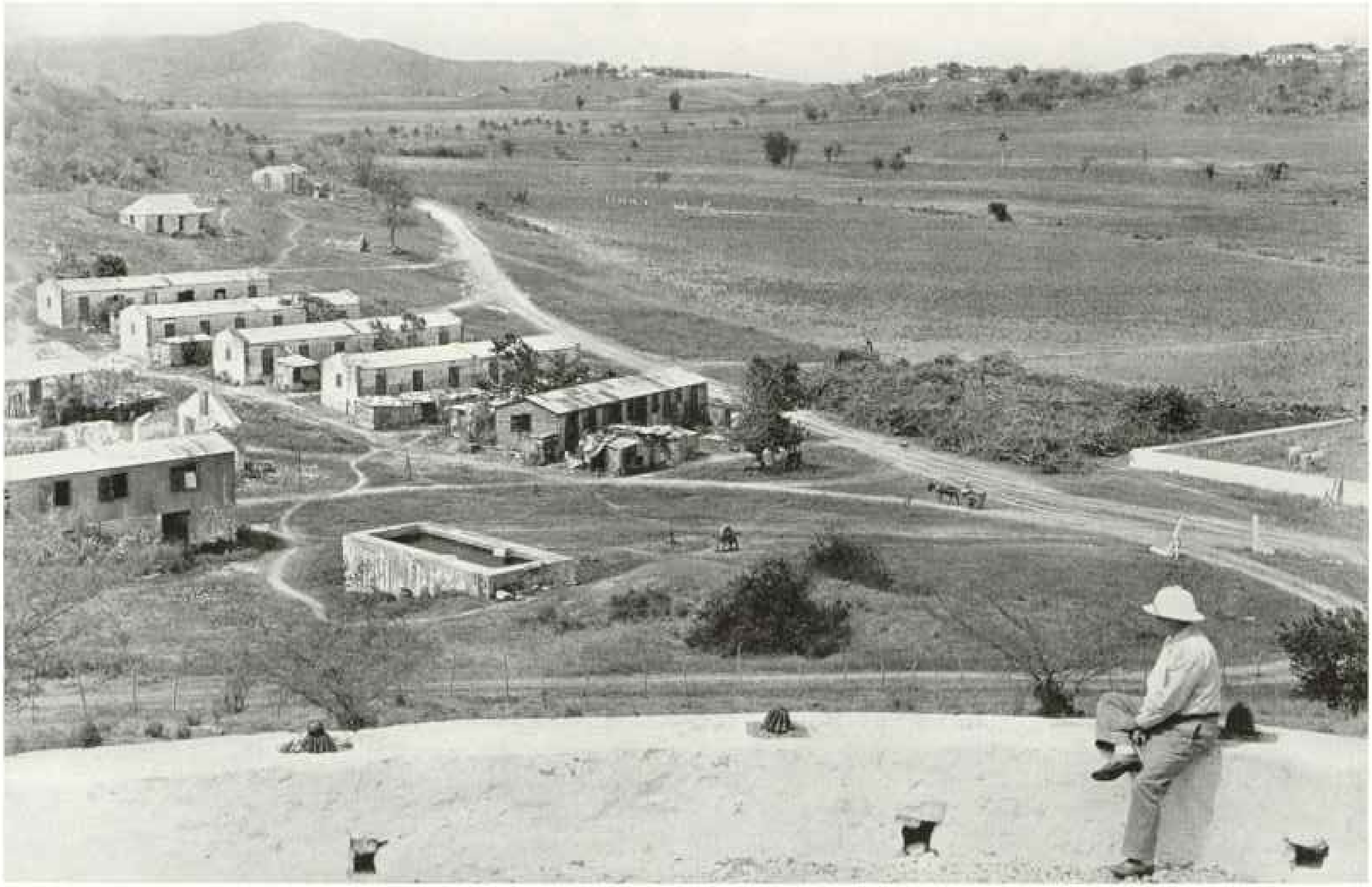
After a day of preliminary celebration, these Virgin Islanders buckle down to four or five months of labor in the fields, cutting the crop by hand. Sugar and rum are their most valuable exports. Though long under Danish rule, most of them speak English and are proud to be United States citizens (Plate VII and pages 294, 308).



Photograph by Charles W. Bedford

Fine Cattle Fatten in St. Thomas Fields Not Suitable for Sugar Growing

Early settlers cleared away the bush from the less steep hillsides and the flat areas on the eastern end and planted cane. The industry flourished until competition made it unprofitable and cultivation was abandoned. In the last 30 years much of this land has been cleared and seeded to grass, which grows in abundance. Herds are built up with the best breeds of Guernseys, Holsteins, and Jerseys, for milch cows find ready sale in the neighboring islands.



Photograph by Edwin L. Wisherd

Sugar, Leading Crop of the Virgins, Is Coming into Its Own Again

By reclaiming large cane fields such as this on St. Croix, the United States Government has restored much of the prosperity the islands lost a few years ago. At the left are the homes of the plantation workers (Plate VII and pages 292 and 308).

Photograph by Alexander Alland from Explorations

Deep in the St. John Bush, Prehistoric Indians Left These Inscriptions, as Yet Uninterpreted

Her departure for San Juan, which takes place at night, is attended by all the circumstance of a transatlantic sailing. The wharf bustles with activity. Black boys struggle through the crowd with luggage. The white linens of the men and gay dresses of the women strike a holiday note. And, forming a background, blending into the dark of the hillside, a circle of black St. Thomians watches, laughs warmly, and enjoys the show.

Aboard, parties from town have pre-empted the hurricane-deck bar and lounge, a radio orchestra blares, and parting healths are drunk.

The whistle blows, the crowd troops ashore, the screws bite into the black water of the bay, and the little town, the starlit hills, and the two red eyes of the range lights go sliding down the phosphorescent wave toward the horizon.

The departure for St. Croix is less of an event, for it takes place at noon while the town is engrossed with the business of the day. Also, the celebration would be at risk of an anticlimax, since, once clear of the harbor, you can see your destination—a low, faintly blue sugarloaf—against the southern horizon.

Ruined Windmills Cap the Hills

The island of St. Croix has two ports—Christiansted, the seat of local government, on the northern coast, with 4,495 inhabitants, and Frederiksted at the western tip, with a population about one half as large (Plate X). The remaining six thousand inhabitants live on the land, for St. Croix is and always has been an agrarian community.

The Caribbean skippers will tell you that the harbor of Christiansted, though one of the safest once you are inside, is most difficult of entry, the channel forming a vast capital S and lying between jagged reefs. But the slow maneuvering of the ship has its advantages, for it gives the visitor ample time to appraise the prospect.

St. Croix is not so mountainous as her two Virgin sisters. From a low coastal plain, rounded hills sweep inland to form a rolling countryside ideal for agriculture.

Upon the summits of many of these hills stand the ruins of great stone windmills, striking the most characteristic note in the landscape. Through centuries these lofty truncated cones of masonry have withstood the attrition of time and the assaults of hurricanes and remain enduring monuments to the island's golden age, when St. Croix was a name known in the sugar and rum markets of the world (page 308).

Viewed from the harbor, Christiansted has changed little with the passage of years. Lying within a circle of hills, the old red Danish fort, the shady public square, the buildings of many-colored plaster, and the arcaded stores and warehouses blend into a brilliant mosaic that girdles the little bay and separates the startlingly blue water from the eternal green of the hills.

But away at the western tip of the town the tall stacks of the new "central," or sugar mill, begin to belch smoke, and one realizes that the age of steam has arrived in St. Croix to erect its new civilization upon the wreckage of the old (Plate VII).

St. Croix is as different from its sisters in its individual flavor as it is possible to imagine. It is off the beaten track of the cruise ships: few tourists find their way there, and so far little effort has been made to attract them.

The "Crusians," as they are called, go about the more serious business of bringing their land into bearing, feeding cane to their sugar centrals, rebuilding their ruined rum distilleries, and breeding and marketing blooded cattle. With the new opportunities for marketing in the States and the fostering assistance extended by the Government, the people are returning with renewed hope to their abandoned fields.

For the visitor, St. Croix lacks the immediate appeal of St. Thomas with its cosmopolitan comings and goings and the social life of the island capital. The two hotels are small. It is not even easy to hire a car for sight-seeing. The general resort scramble for the visitor's dollar is strangely lacking.

The society is homogeneous and is not, as one might imagine, exclusively Danish. When Denmark acquired the island from France in 1733, she extended an invitation to neighbor islanders to come and take up land. And so from Nevis, St. Kitts, Antigua, came English, Irish, and Scots to found estates along with French and with Danes from the mother country.

English Spoken by Whites and Blacks

Many of the Danish estates belonged to absentee landlords who employed Irish overseers. This partly explains the surprising fact that though Britain actually controlled the island for only a few years, the usual language of both whites and blacks has always been English.

Yet you have only to stroll through the streets of Christiansted today to see the indelible impress of Denmark on the place. She was a wise and tolerant mother, and when she sold out to Uncle Sam she used a part of the money to pay every mortgage on the islands

Hoping for Big Sales, They Watch Their Ship Come In

Every steamer that docks in Charlotte Amalie brings new customers for my native-made hats and baskets. St. Thomas is included on many Caribbean cruise itineraries. The *Oslofjord* was safely in the United States when Norway was invaded.

Kodachromes by Charles W. Herbert

St. Thomians Squat for a Friendly Chat

These men live in French Village (Plates VIII and XV). The older man wears his best patent-leather shoes; a black band on his hat shows he is in mourning.

Photochrome by Edwin L. Wisherd

Charlotte Amalie's "Main Street" Is Dronningensgade

Americanization has brought the "New York Grill" and the "St. Thomas Bargain House." Yet many shops, customs, and Old World names still preserve the Danish colonial spirit.

Photochrome by Edwin L. Wisherd

Old Glory Flies Above the Aged Danish Fort at Frederiksted

Now used as police headquarters, the stronghold on St. Croix sheltered white townspeople during the "Fire Burn" of 1878, when rioting colored laborers set fire to the town.

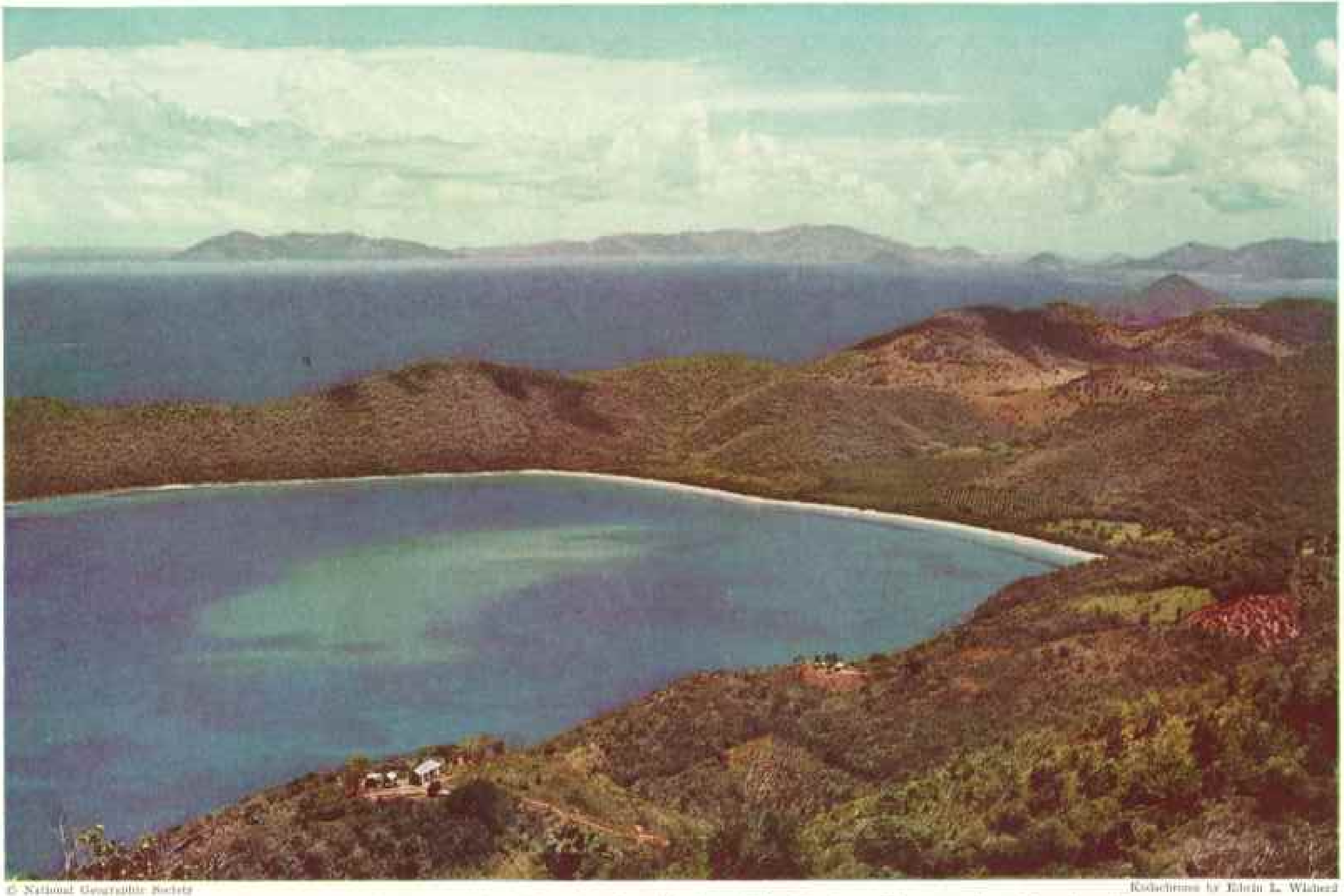
This Modest Home Seems on Fire, So Brilliant Is the Bougainvillea

At night the natives close their shutters tight to keep out the "jumbies"—local ghosts. Some 475 new homestead cottages of stone and concrete have recently been built for the people on St. Thomas.

 Kodachrome by Robert L. Wilhelm

New Products Are Piled in St. Thomas's Old Warehouses

Storerooms which, in the Island's commercial heyday, were stuffed with silks and cashmeres, now may shelter electric toasters, alarm clocks, and radios.



Kodachrome by Edwin L. Wisherd

On His Second Voyage, in 1493, Columbus Stumbled on This Glorious Tapestry in a Cerulean Sea

From the summit of St. Thomas the outlook takes in many-hued Magens Bay and various islands of the British and United States Virgins.

Kodachrome by Edwin L. Wisherd

Bus and Automobiles Gather at the Palm-studded Quay to Meet Passengers Disembarking from the *Catherine*

Each arrival of the "Katy" is an event. At Christiansted, St. Croix, this steamer of the Bull Insular Line has reached the southern limit of its route from Puerto Rico and St. Thomas. Alexander Hamilton, who lived in the town as a boy, showed his ability even as a youngster, becoming manager of a store at the age of 14.

"The Fleet's In!"—And Jack Is Looking for Bargains

Street vendors in Charlotte Amalie offer conch shells and belts made of seeds.

 Photograph by Charles W. Herbert

Painted Ships on Painted Oceans Snare the Sailor's Eye

Native negroes skillfully apply this decoration to the big conch shells. The swelling throngs of souvenir-hunting travelers to St. Thomas and its neighbor islands have made the handicraft business boom.

 Kodachrome by Edwin L. Wisherd

Every French Village Cottage Is a Hatters' Castle

Wives and daughters braid splits of palm leaf into the woven strips from which are made the cone-crowned headgear. Their glowing handiwork is marketed through a co-operative shop (Plate XVI). Behind the woman at the right is a cistern, which catches rain water draining from the roof. Husbands and fathers are mostly fishermen. These shy, thrifty, intelligent people, who came from the near-by island of St. Barthelemy, speak a patois which is largely 17th-century Norman-French. A few know enough English to chat with visitors (Plates VIII and IX).

All Merchandise at the "Co-op" Store is Locally Made

The Virgin Islands Handicraft Co-operative shop in Charlotte Amalie offers hand-embroidered bridge sets, palm-leaf baskets, grass skirts, preserves and jellies, and other native products.

 Kodachromes by Edwin L. Wisherd

A Fanciful Resemblance to the Crucifixion Named This Lovely Flower

The likeness of the blossom's heart to the scene on Calvary inspired early Spanish priests in Central and South America to call it "passionflower." The Spaniards regarded the blooms as tokens that the Indians should be converted to Christianity. These grew in the Botanical Gardens on St. Thomas.

and gave her children clear titles to carry with them into their new citizenship.

St. Croix's Government House, a massive, beautifully proportioned building, still wears the royal crown of Denmark over the entrance. Many of the merchants are Danes. A Danish family operates Apothecary Hall, where one may purchase not only a prescription, but everything from delicate ivories from India to hand-fashioned Danish silverware.

Alexander Hamilton Clerked Here

To the visitor from the States, this street of shops has a peculiar significance. For here, from his birthplace on the island of Nevis, over a century and a half ago, came a bright lad named Alexander Hamilton to clerk in one of these arcaded warehouses (Plate XIII).

Here, during the years that followed, the precocious boy developed that genius which, before he had reached the age of fifteen, had lifted him to the management of his patron's stores and plantations. And it was from this little town that, after his mother's death, he sailed for the American Colonies to play his part in the founding of the Republic.

In the early days the island was a slave center. Barracoons, or slave barracks, similar to those on the Gold and Ivory Coasts of Africa, were erected, and a black tide of humanity streamed through the ports. Many of the Africans were reshipped to the States, but doubtless the finest specimens were purchased by the island estates.

Within an incredibly short time this volcanic upthrust, nineteen miles long by four wide, was cleared and fields of sugar cane and cotton were bending under the steady pressure of the trade wind. Great estate houses, solidly built of native rock, reared themselves upon hilltops, and ships of all the world crowded the harbors of Christiansted on the north and Frederiksted on the western end of the island.

The tide of this prosperity reached its peak during the latter years of the eighteenth century. The year 1797 marked the highest point in cotton production. Sugar cane still flourished until the abolition of slavery in 1848 created a difficult labor situation, but even before that the whole West Indian archipelago was growing it, and prices started to fall. St. Croix was found to suffer from a handicap. It was, and still is, deficient in rainfall.

Slowly the island sagged toward a decline. The great houses went down at heel. Uniformed flunkies gave place to faithful black retainers who padded about in bare feet. Hurricanes came and there was no money to repair damages. Roofs fell in on empty halls. Cane production slipped steadily.

Many landholders gave up the struggle, let their fields go into grass, and put in herds of cattle, until eighty per cent of the acreage was given over to this low-yield industry, which employed but three per cent of the labor.

Disaster followed disaster. Having purchased the islands in 1917, the United States proceeded within a few months to deliver a body blow in the form of national prohibition. The few remaining rum distilleries were closed and the workers thrown out of employment. Then in 1930 the foreign-owned corporation which had controlled seventy-five per cent of the sugar production failed, leaving 8,000 acres to go back into bush and depriving 2,000 laborers of their livelihood.

When President Hoover paid a visit of inspection to his country's latest real estate acquisition, he surveyed it sadly and characterized it as an "effective poorhouse."

Ruins and Poetic Names Survive

But if old St. Croix had failed as an experiment in civilization, it had at least failed in the grand manner. In the very names of the estates there is poetry: All-for-the-Better, Contentment, Wheel of Fortune, Catherine's Rest, Work and Rest, Betsy's Jewel, Lower Love, Upper Love, Jealousy, Prosperity Garden.

And there is poetry today and a nameless pathos in the noble ruins of the past. Situated always on hilltops fanned by the unflagging trade winds and commanding magnificent views of descending slopes and illimitable blue water, these ruins amaze the visitor by their size and permanence. Vast central halls, flanked by wings and surrounded by flagged terraces, still rear lofty walls and stubbornly resist the invasion of the jungle.

In adjacent clearings long slave quarters still stand and in some of them descendants of former slaves still scratch a meager living from cleared patches. Between the massive walls of abandoned sugar mills growths of mahogany and tamarind pry iron evaporating pans from their rock foundations, and everywhere the beautifully proportioned cones of the windmill towers rise against the tropic sky (page 308).

Some day these St. Croix estate houses will be "discovered," as have been the southern plantations in the States, by people of taste and means who are seeking an ideal winter home. And when they are, they can be made into human habitations not easily matched elsewhere under the Stars and Stripes.

Photograph by Lionel Green

Under Old Glory St. Thomas Prospers

A native vendor proudly displays the flag of her country atop her headload of produce. Thanks to United States supervision, she and her compatriots have become self-supporting and many of them own and till small farms (page 308).

With the negroes composing about 95 per cent of the population, and with most of the whites concentrated in the towns, once the visitor enters the hinterland he realizes that he is indeed in a black man's country. But what he will see in his rural explorations is no longer a primitive survival scarcely one step removed from the jungles of Africa.

Here is a race in transition; a people who have existed in a tropic calm for centuries and then within an incredibly short time have found themselves citizens of the world's leading democracy, with the responsibilities and opportunities appertaining thereto.

Sturdy, deep-breasted women, with skirts tucked high and their whole bodies swinging in rhythm, stride down the palm-bordered roads. Large baskets or trays balanced unconcernedly on their heads, they foot it mile after mile between neighboring estates or on their way to town.

The cane fields are dotted with men and women swinging their machetes against the thick, juicy stalks, driving the big bullock carts out with the harvest, or setting out young canes (p. 292).

At night, passing an estate village, the visitor will hear the raucous rhythms of a native "scratchy band" and the shuffle of dancing feet. Each recurrence of the Easter holidays, and dozens of lesser occasions, bring the traditional celebrations when the country folk invade the towns with their pageants and merrymakings (page 291).

Dark Doings of the Voodoo Doctor

That a form of voodoo practice still exists there can be no doubt; it is known locally as "obeah." Within the period of United States sovereignty, a murder trial took place that reads more like a horror story of the Congo than a page from American jurisprudence.

It had to do with a horse race in which a native had staked everything upon the winning of his favorite. He had consulted his obeah doctor and had been told that success would attend the animal which carried within its body the heart of a strong young man. A man disappeared mysteriously and the resulting search linked up the killing, and the removal of the heart, with the luck charm administered to the horse.

A jury convicted the offender and he was sentenced to prison. He became a model prisoner, reliable and capable, and was entrusted with various public construction duties from which he returned dutifully every evening to prison. Finally he was pardoned by the Governor.

Photograph by Edwin L. Wilfred

Federal Housing in the Virgins Began with This Homestead on St. Croix (Page 308)

Photograph by Education W. P. A.

"They All Got Rhythm"

In the W.P.A. nursery school at Charlotte Amalie little natives sing and play in a percussion band.

Photograph by Edwin L. Wisherd

Silent the Mill That Once Brought Plenty

With the depression caused by competition in the world's sugar markets and later the shutting down of rum manufacture, estates such as this on St. Croix suffered greatly, and the sugar towers, stripped of their windmills, fell into disuse. Resumption of business has brought modern machinery to crush the cane (page 305).

With this extreme of barbarism on the one hand, and on the other the modern homesteader with his new conception of morality, his educational opportunities, his recently bestowed suffrage, we are witness to an experiment in social evolution which is also absorbing human drama.

Homesteads for Onetime Slaves

In 1932, with half the population on relief, it became evident that unless the United States was prepared to maintain its "effective poorhouse" indefinitely, drastic steps were necessary. A homesteading program was inaugurated, to meet with a success that was little less than astounding. These people who had passed from slavery to a tenant-farming system which had been almost as servile were quick to seize the opportunity to become landowners.

Today over 475 families are settled upon their own land, and their small white concrete cottages, bowered under waving coconut palms or looking out over the blowing green of young cane, are becoming a familiar note in the landscape (page 307).

Under the tenant system the rental per acre of cane land was from five to twelve and in some cases even fifteen dollars a year. Under the homesteading plan the cost, including interest and principal payments, amounts to about $3.50 an acre. In twenty years the purchaser will be handed a clear title, and the conversion of a shiftless tenant into a responsible landowner and taxpayer will have been accomplished.

In 1934 the Virgin Islands Company came into being. This is a nondividend, government-controlled corporation.

Abandoned lands were acquired at a fraction of their former value. One thousand laborers were taken from relief and put back into the fields. Sugar mills and rum distilleries were rebuilt and modernized, and private estate owners as well as the new homesteaders now are being given facilities for marketing their products.

Governor Lawrence W. Cramer will tell you (perhaps, if you are lucky, from the gallery of Government House, with his miniature domain spread out below) that the American Virgins are well upon their way. And he will add that the natural beauty of the islands, which, with the leisurely tempo of their tropic days, offer such a perfect asylum for tired mainlanders, will always be preserved.

Great Stone Faces of the Mexican Jungle

Five Colossal Heads and Numerous Other Monuments of Vanished Americans Are Excavated by the Latest National Geographic-Smithsonian Expedition

By Matthew W. Stirling

Leader of the National Geographic-Smithsonian Institution Expeditions

With Illustrations from Photographs by Richard H. Stewart

THE night was calm and clear; the moon was full. As we lay stretched on our cots, the warm south breeze brought to our ears the sound of a steady, rhythmic stamping like the distant beating of drums.

Rising and falling in volume with the vagaries of the breeze came the lively strains of stringed music, interspersed with the high-pitched wail of falsetto voices. It was the first night of our return to camp at Tres Zapotes in southeastern Mexico and the *huapango* was in full swing at the village a mile away.

It was good to be back again at the familiar scene. The brilliant moonlight filtering between the vertical palm-ribbed walls of our thatched house cut slices through our mosquito nets as though they were loaves of bread. Unseen, from a tree beside the house, a goatsucker, made amorous by the moonlight, sent out at regular intervals his mournful query, "Who *are* you?" and from a distance came the faint reply, "Who are *you!*"

By Boat and Trail to Tres Zapotes

It had been a long day. Early in the morning we had awakened in our favorite little hotel in Tlacotalpan (map, page 313). Our baggage had been stowed on Ricardo's big dugout launch and we had wound our tortuous way through a network of narrow channels. In the afternoon we had transferred our equipment to a train of mules and ridden over the muddy trail to Tres Zapotes (page 318).

Here our hearts were warmed by the greetings from our friends of last year. The huapango, characteristic folk dance of Veracruz State, had been arranged as a welcome in our honor, and the evening had been spent in renewing old acquaintances and listening to the news. Ramón had a new baby, a son. Rafaela had been married. Aurelio had built a new house for himself and his bride.

Pleading weariness at last, the guests of honor left the dance and returned to the peace and quiet of our camp by the Colossal Head which we had unearthed the year before. The dance, we knew, the night being so favorable, would continue until dawn. Thus we fell asleep with the feeling that both Nature and man had given us an auspicious beginning for our second season of work.*

In the morning we arose early to view our surroundings by daylight and were pleased to find the camp in as good condition as we had left it a year ago. Dr. Philip Drucker had been sent in advance to put the camp into shape and to make the necessary arrangements. We expected Mr. M. A. Carriker and Richard Stewart, the National Geographic photographer, to arrive in a few days. Mr. Carriker was coming to continue the ornithological collecting begun last season by Dr. Alexander Wetmore.†

Solving Mysteries with a Shovel

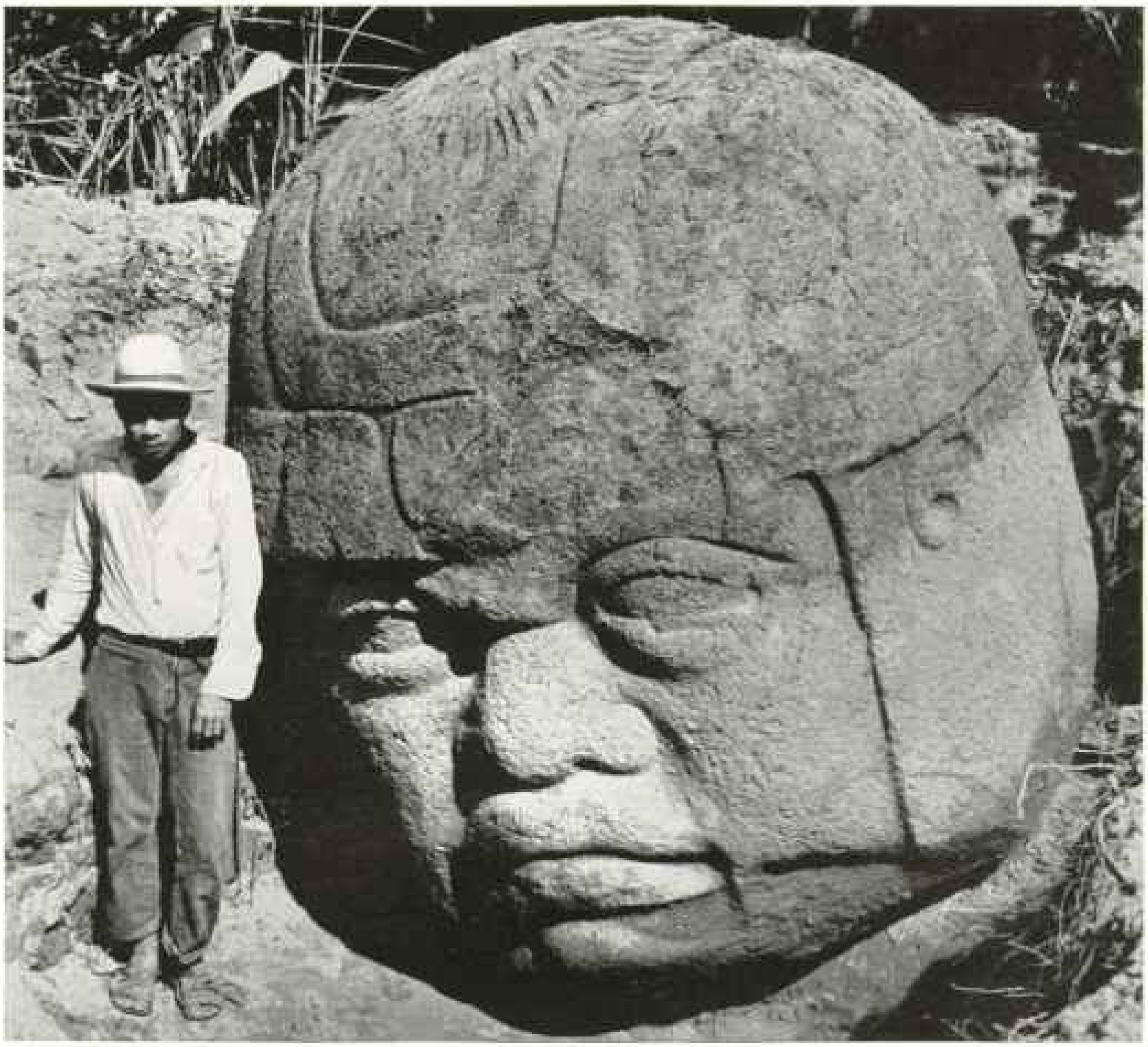
We were filled with the enthusiasm that is always present during the early days of a new dig. Would we find anything this year to compare in interest with the stela we had discovered the previous January, a slab which bears a date equivalent to November 4, 291 B. C., and which is 200 years older than any work of man previously dated in America? Would we discover anything as striking as our Colossal Head?

Our program provided that we were to continue at Tres Zapotes until the end of April, working out the chronology of the stratified deposits of pottery in the kitchen middens, or refuse heaps.

In addition, we expected to make a few exploratory trips. The southern part of the State of Veracruz and the neighboring terri-

* Excavations by the National Geographic Society-Smithsonian Institution Expeditions in this rich archeological region have been conducted with the gracious permission of the Mexican Government's National Institute of Anthropology and History. Special thanks are extended for the co-operation of Dr. Alfonso Caso, Director of the Institute, and Ing. Ignacio Marquina, Director of its Department of Prehistoric Monuments.

† See "Discovering the New World's Oldest Dated Work of Man," by Matthew W. Stirling, National Geographic Magazine, August, 1939.



This Head, Half Exposed, Led the Expedition to the Rich La Venta Site

In 1925 Frans Blom, of Tulane University, photographed the weather-stained top of the head. Somewhat similar to the colossal one found at Tres Zapotes, this Tabascan head is higher and heavier. Carved headgear, resembling a football helmet, is an ornamental headband (pages 311 and 328).

tory constitute an archeological area of unusual importance and one which has a definite bearing on the proper interpretation of such classical high culture areas as the Maya of Central America, the Zapotecan of Oaxaca, and the Toltec and Aztec of the Valley of Mexico.

Inhabited before the Time of Christ

Tres Zapotes itself gives evidence of being one of the longest-inhabited sites in Veracruz. After our second season, we feel that we now have a complete record of the human occupation of this site from a time several centuries before Christ until shortly before the Spanish occupation.

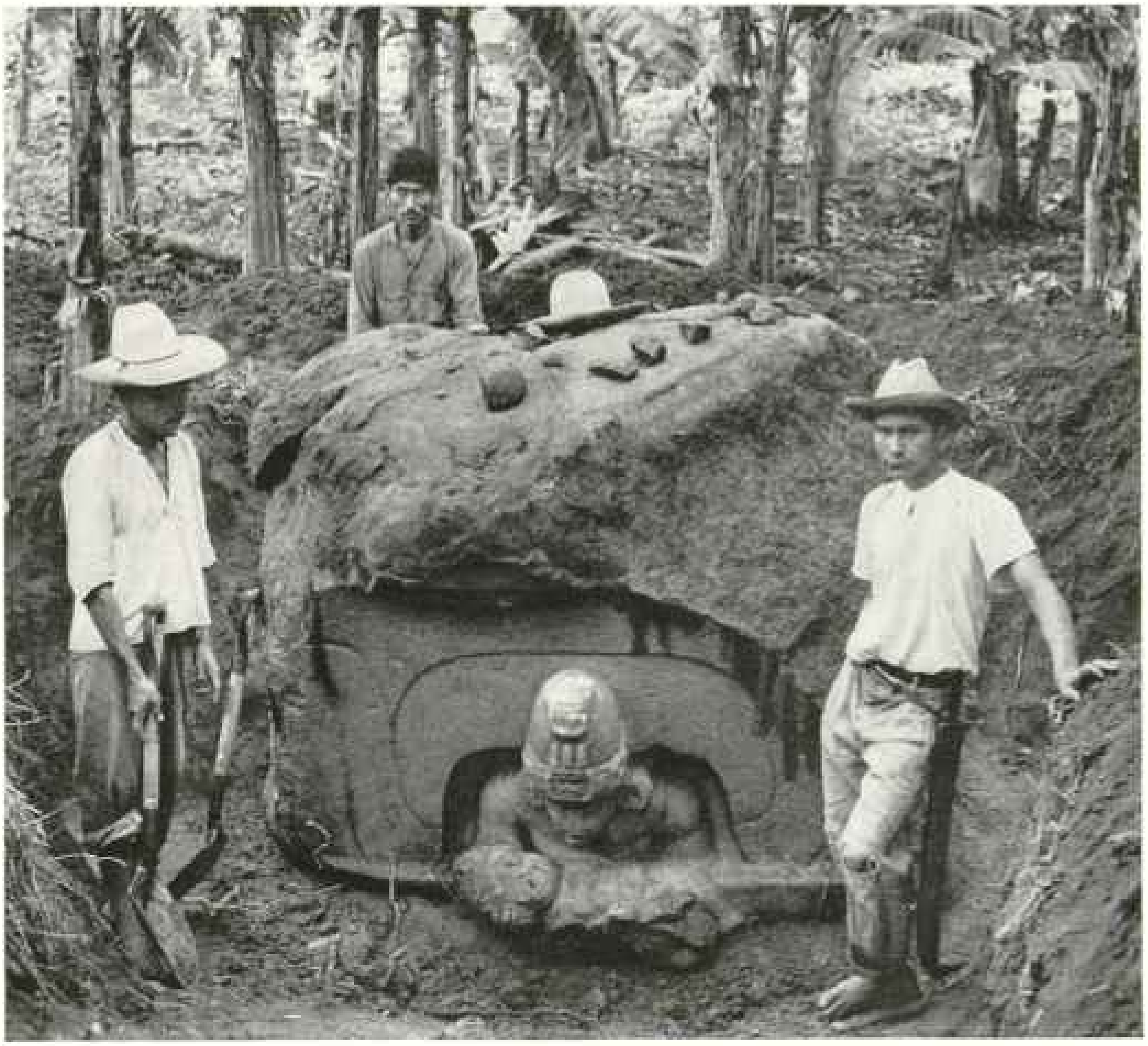
Some of the relics had been buried not only by earth but by deposition of sedimentary rock. Twenty feet below the surface we found an unbroken layer of sandstone two feet thick. Below this sandstone, to our surprise, was a deposit of dark-colored earth about four feet thick filled with pottery fragments and figurines.

At other points we found still other levels containing artifacts of entirely different types, so that we were able to segregate the cultural material belonging to each of these periods.

The length of time during which this ancient city flourished would make the oldest cities of the United States seem youthful.

Human Skull and Pottery Found

In one of the smaller mounds we made our most exciting discovery of the season at Tres Zapotes. We found, at a depth of six feet,



In a Banana Patch One of the New World's Finest Sculptures Was Found

This altar at La Venta, Tabasco, was an interesting discovery of the 1940 expedition. From an ovenlike niche emerges a male figure in full relief holding an infant in his arms. Along the sides are two more carvings in low relief, showing four other infants in arms (pages 312 and 325). The expedition's staff promptly nicknamed the monument the "Quintuplet Altar."

a group of pottery vessels beside which was a human skull without the lower jaw.

After carefully cleaning the earth from around this deposit, we found that it consisted of a cache containing 35 elaborate figurines and 12 painted pottery disks, over which were inverted 15 pottery vessels of fine ware (page 314).

Although the skull apparently formed a part of the cache, it did not seem to have been placed there in connection with a burial.

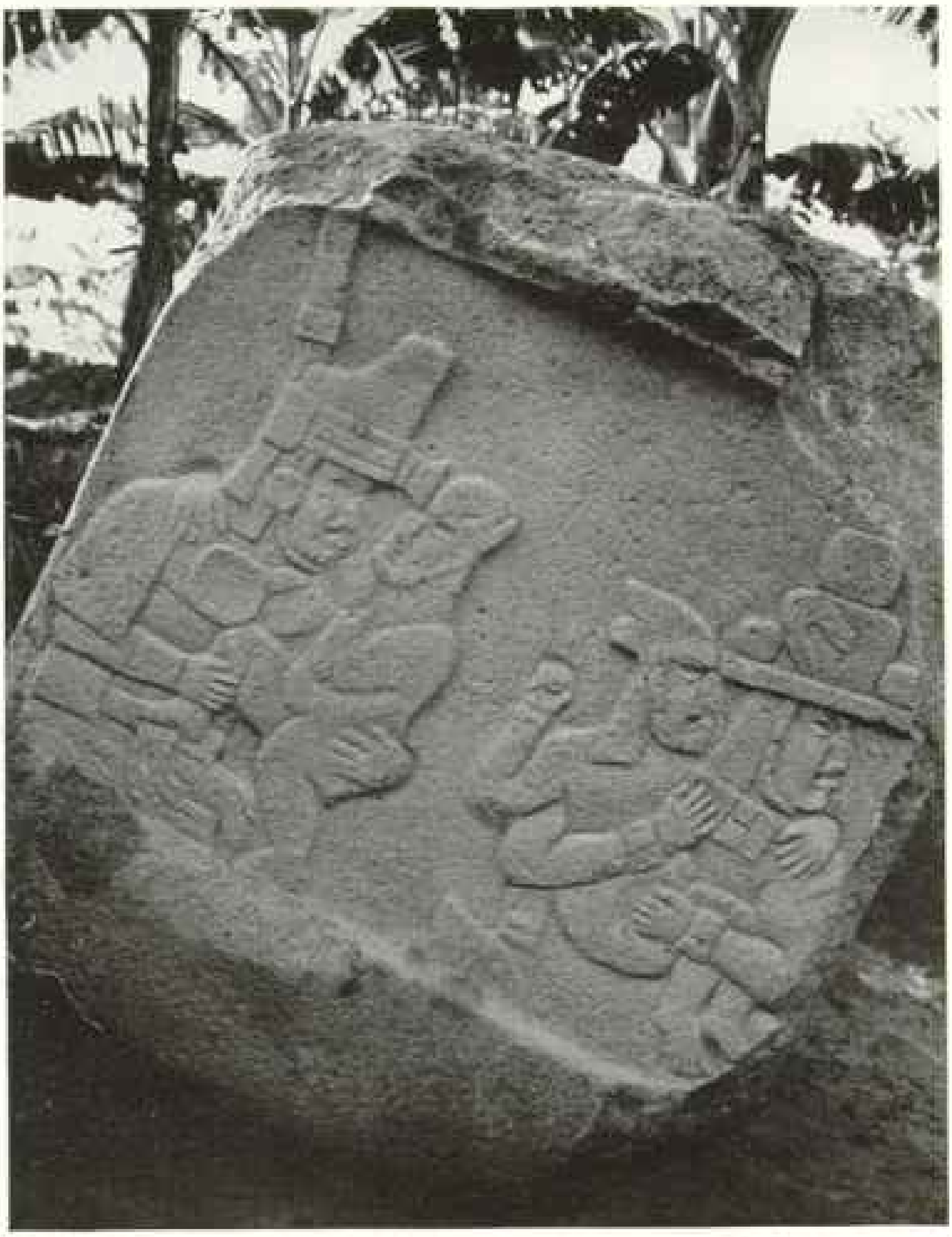
In addition to the esthetic interest in the unusually fine materials in this collection, the find was of special scientific importance because the discovery of such a large variety of pottery vessels and figurines associated in a definite archeological horizon makes it possible to tie in similar ware found in other places.

As a result of our intensive efforts, Tres Zapotes forms an important key site to which the work in the entire region may be related.

Great Stone Face Buried to Its Eyes

In planning reconnaissance trips in this area we recalled that in 1925 an exploring expedition from Tulane University, headed by Frans Blom and Oliver La Farge, visited La Venta, just east of the Tonalá River, in northwestern Tabasco. Here they discovered several interesting stone monuments, for the most part deeply buried.

Since their time was limited to a single day at this site, they did not have opportunity to excavate, but their photographs of one of these stones revealed the upper part of a huge head, with one eye exposed, which showed a remark-



The North End of the "Quintuplet Altar"

Like that of the south end, the carving in bas-relief shows two figures holding infants with adult faces, the latter probably representing infantile gods (pages 311 and 325). Both back and bottom of this stone are plain and the top has been mutilated.

able similarity to the Colossal Head of Tres Zapotes. The carving of the Tres Zapotes head is very realistic and is done in the early style which archeologists have generally referred to as "Olmec."

Because of the obvious importance of the Blom-La Farge discovery in relation to our work in Veracruz, La Venta was included as an important feature of our 1940 field work.

First, however, we planned to visit another site, on the Rio Blanco, which had been called to our attention by Mr. Francis Richardson and had been visited in 1925 by Dr. Herbert Spinden.

Going by train from Veracruz, we got off at the town of Piedras Negras.

Around the station there was considerable activity. A number of trucks filled with chili peppers were being unloaded.

Our inquiries as to the location of the stone monuments were in vain. Hopefully we exhibited photographs of two of the stones, taken many years ago, but no one recognized them, and we began to wonder if our quest was to be fruitless.

Finally, abandoning hope of obtaining information at Piedras Negras, we decided to continue to Ignacio Llave and make further inquiries there. Hiring a truck that chanced to be unloading at the time, we climbed in with the fat, cheerful driver and started over an unbelievably rough road designed to test the very souls of motorcars.

Huge Mounds—and Millions of Ticks

As we crept slowly along, we passed groups of mounds that gave eloquent evidence of how the prehistoric inhabitants had been attracted by this fertile region. Finally I took out my two well-thumbed photos and exhibited them to the driver.

"Have I seen these? Why, of course. We will drive within three hundred meters of them. There are many more carved stones also at the same place, which is called Cerro de Mesa."

That was how simple it turned out to be. Less than a half hour later the driver pointed out a group of huge mounds south of the road.

"There," said he. "The largest is Cerro de Mesa. At the foot of that one the stones lie."

"The ticks are not bad, are they?" I asked hopefully, viewing the tall grass and under-

brush between the road and the mounds.

"No," said the driver, beaming. "When full, like grapes they fall off and no harm is done. There are millions of them here, however."

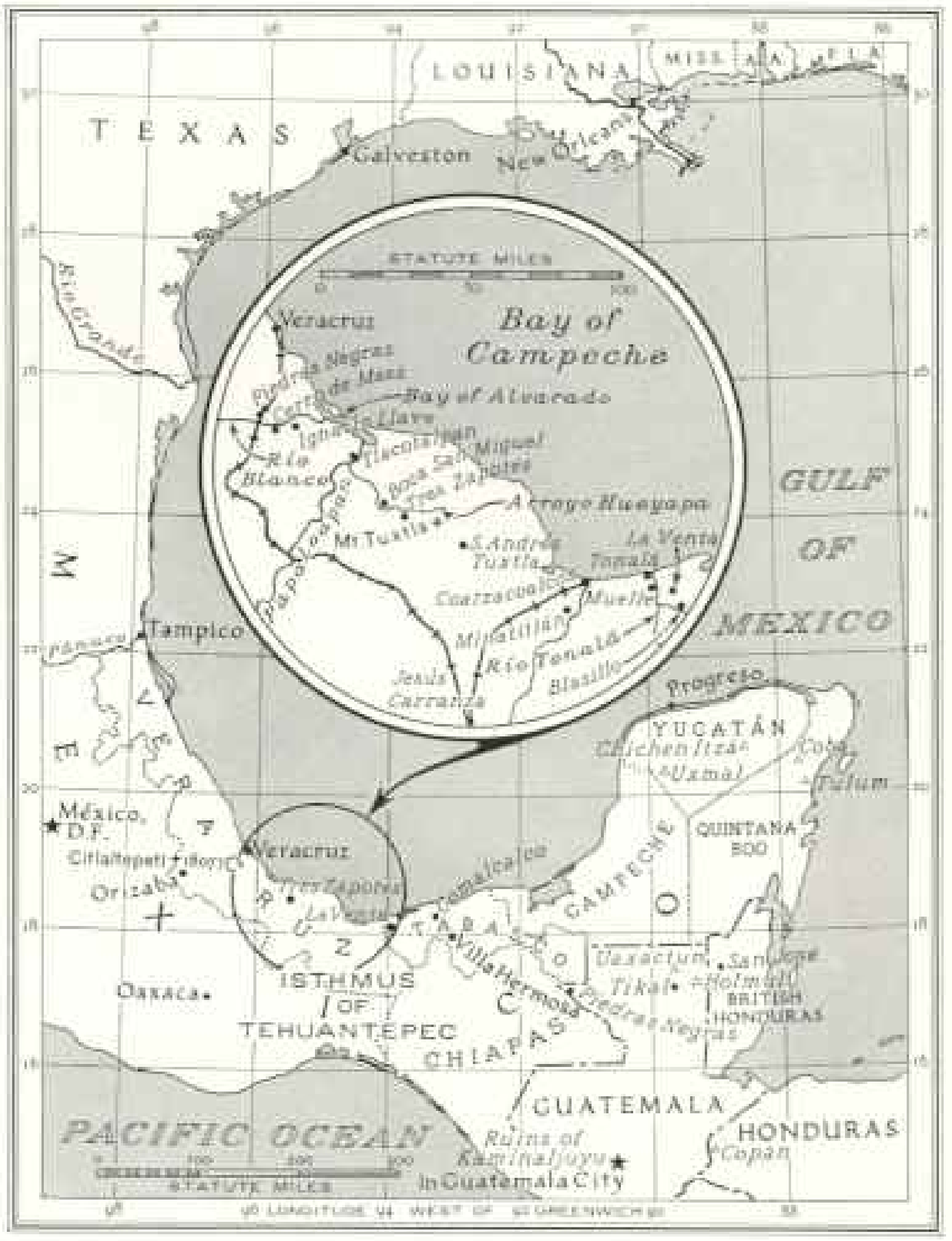
The next two days were the hottest of the season, and by the time we had finished excavating, cleaning, and photographing the twenty carved stones which we located, we had about decided that our next expedition would be to the Arctic regions.

Cerro de Mesa is an important and interesting site. The mounds are very large and in the principal group the high mounds are placed close together. Most of the conical or pyramidal mounds are erected on immense rectangular earth platforms. These alternate with long loaf-shaped mounds, some very large and high, others smaller.

During our brief stay at Cerro de Mesa we located twelve stelae and eight other carved monuments. Of these, by far the most interesting is Stela 6, which contains an early Initial Series date in the Maya calendar interpreted as either 206 or 466 A. D., depending upon whether the Spinden or the Thompson correlation is used (page 322). This is the northernmost point at which an Initial Series has ever been discovered, and raises to three the number of Initial Series which now have been found in the State of Veracruz.*

Well satisfied with our preliminary survey,

* An Initial Series date is one which is reckoned from the starting point of the Maya calendar, as ours are reckoned from the birth of Christ. It is thus more comprehensive and important than the supplementary and secondary dates sometimes found.



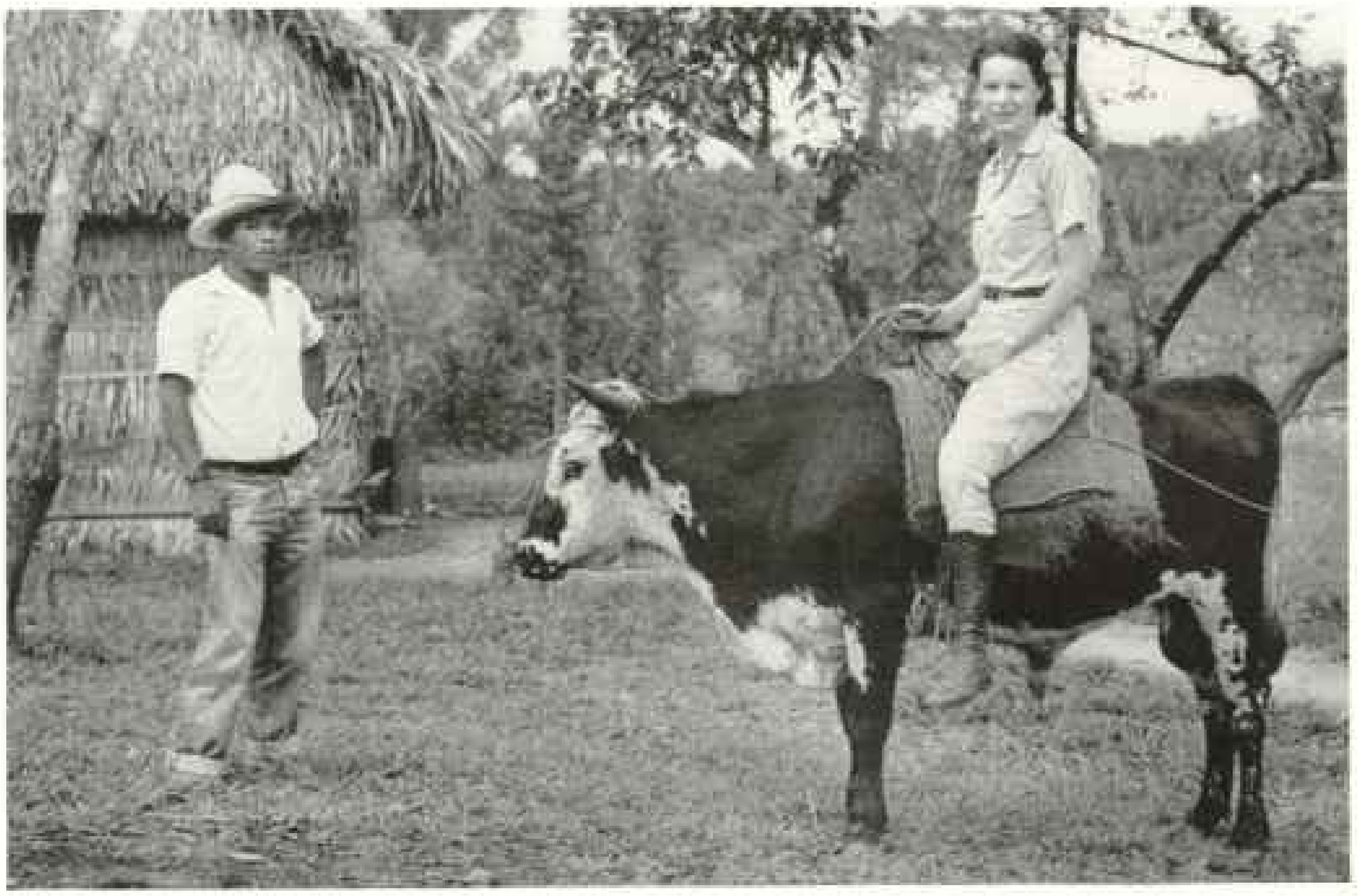
Three Rich Archeological Sites in Mexico Were Explored by the National Geographic-Smithsonian Expedition of 1940

The circle locates Tres Zapotes, the base camp, and Cerro de Mesa, both in the State of Veracruz, and the La Venta area in Tabasco. Most important discovery this year was an Initial Series date at Cerro de Mesa, extending the area of Maya culture west and north about 50 miles beyond the farthest-west finds of the 1939 expedition. The 1940 group, led again by Matthew W. Stirling, was in Mexico four months, excavating, photographing, mapping, and studying colossal stone heads, carved altars, dated stelae, and early pottery.

we returned to Veracruz to prepare for our trip to La Venta by way of Coatzacoalcos.

During its centuries of existence Coatzacoalcos has had many ups and downs. Once an important point for the shipping of mahogany, it later became a banana port. Finally oil wells were discovered in the vicinity and its principal industries now revolve about the shipping of petroleum.

Judging from the early Spanish accounts, this entire region supported a large aboriginal population, but the archeology of the area

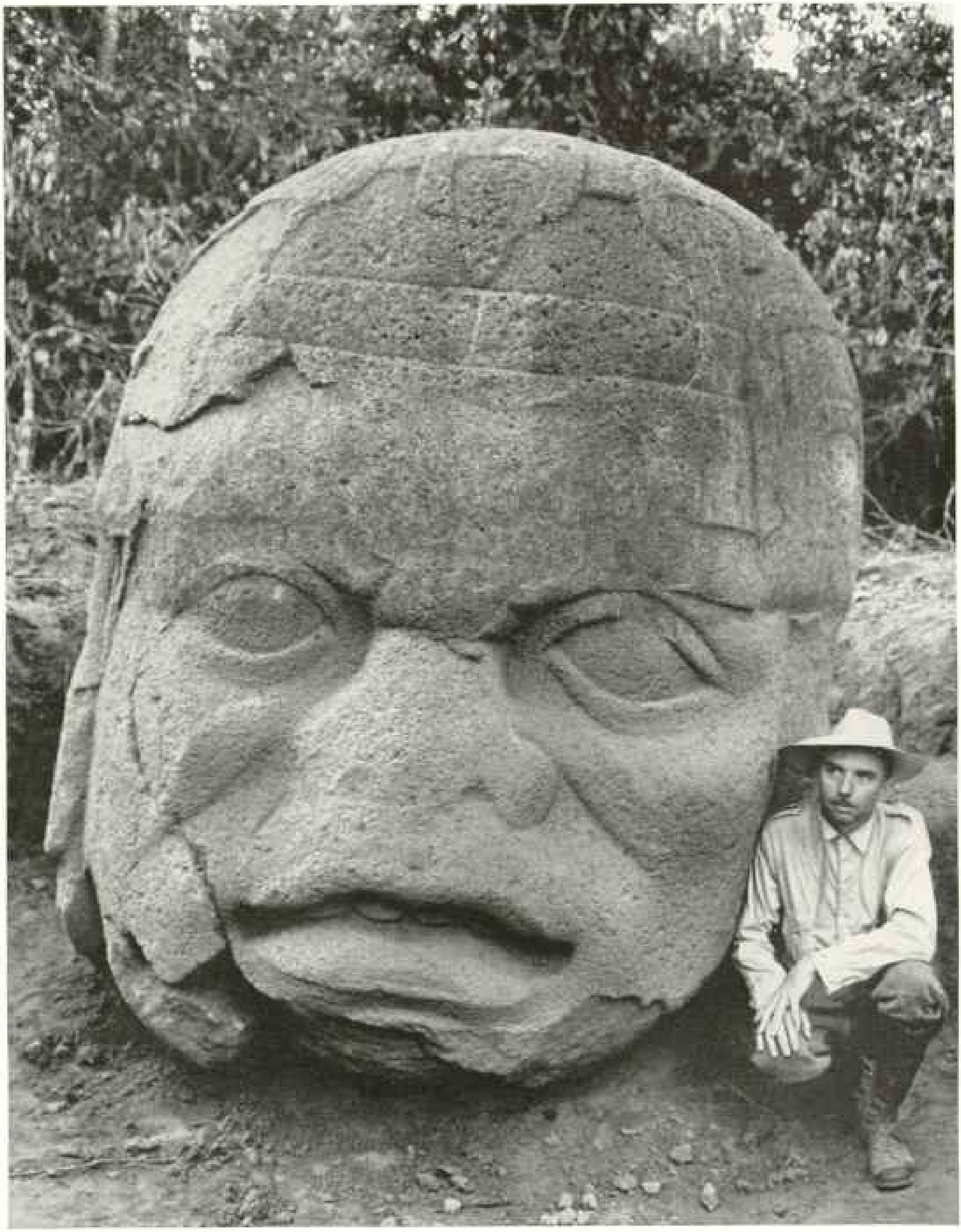


Leisurely "Lightning" Takes Mrs. Stirling for a Ride

The wife of the expedition's leader, herself an accomplished mathematician, borrows one of the bulls used by workmen to ride from Tres Zapotes to excavation sites near by. It was dubbed the camp "motorcycle."

These Figurines May Reveal a New Chapter in Early American Engineering Skill

With this smiling clay dog (left), conventionalized turkey, and laughing jaguar were found eight small clay disks. Tubes pierce the feet of the dog and jaguar. Perhaps the ancient people inserted wooden axles in these tubes and used the round disks as wheels. If so, the early inhabitants of Tres Zapotes had discovered the use of the wheel, generally believed to have been unknown to American Indians.



When and Why These Inscrutable Stone Faces Were Carved Are Still Intriguing Mysteries

Matthew W. Stirling, leader of the expedition, kneels beside the largest of the colossal basalt heads found at La Venta. Like some battle-scarred veteran, this one has lost most of his jaw and his nose has been flattened—probably the work of enemies who deliberately tried to destroy all evidences of this ancient culture long before the white man came to America. Eight and a half feet high and 22 feet in circumference, the head is also remarkable for its circular ear plugs, each decorated with a cross. The mysterious producers of this art have been called the "Olmecs," whose origin and fate are unknown.

is virtually unknown. It is of exceptional interest, because it lies along the western fringe of the classical Maya area, and it is in this region, if any, that the closest connections should be found linking the Maya with the ancient cultures of the Veracruz coast.

From here we traveled eastward by truck over a road which can be traversed only during the dry season. During the remainder of the year one cannot go from Coatzacoalcos to Tonalá except by sea.

After crossing three hair-raising bridges, we reached Tonalá still intact (page 323). The town is scattered along the west bank of the Tonalá River just above its mouth. We arrived in the morning and, after a meal of rice soup and fish, we hired a launch and started up the river at noon.

A Trade That Cheated Both Sides

Four hundred and twenty-two years ago the ships of Grijalva, skirting southward along this coast, put into the mouth of the Tonalá River. One of the ships, in passing the shallow entrance, stuck on the bar, sprang a leak, and was careened for repairs. Two accounts of this visit have been preserved, one written by the chaplain of the expedition and the other by the redoubtable Bernal Díaz del Castillo, who left the most satisfactory account of the conquest of Mexico.

While at Tonalá, the Spaniards were visited in a friendly manner by Indians from a town four or five miles distant, who brought gifts of corn bread, fish, and fruit. In return the Spaniards gave them glass beads and indicated by signs that they wished to trade for gold. The Indians spread this information, and the Spaniards gathered a small amount of native gold jewelry.

Soon Indians came from as far away as Coatzacoalcos to trade. Most of them carried, for ornament and defense, hatchets made of brightly polished copper fitted to elaborately painted wooden handles. These hatchets the Spaniards thought to be low-grade gold.

In the eyes of the Mexican Indians the most precious substance known was jade. Therefore, when the Spaniards produced green glass beads, the Indians were as eager for the beads as were the Spaniards for the hatchets. As a result, more than six hundred hatchets changed hands in three days of feverish trading and the Spaniards were sure they had all become rich.

As Bernal Díaz humorously remarked, "In the end it turned out to be an even deal. Both sides were equally cheated and wound up with nothing of value."

While the ships lay in the mouth of the Tonalá River, Díaz and other soldiers visited the native town. To escape the swarms of mosquitoes, he related, they slept in a temple atop a high mound. Díaz had a few orange seeds, brought from Cuba, and these he planted beside the temple. The seeds sprouted and the young trees were watered and cared for by the priests of the temple, who saw that they were a new kind of plant.

Years afterward, following the conquest of Mexico by Cortés, Bernal Díaz had occasion to return to Tonalá. He looked for his orange trees, the first ever planted here, and found them thriving. He transplanted some and from these came all the oranges of that region.

The coast for many miles on both sides of the mouth of the Tonalá River is fringed with a narrow line of sand dunes. Behind these for twenty miles stretches a vast mangrove swamp, for the most part uninhabited by man. Deep in this swamp Nature has formed a sandy island four or five miles in diameter, isolated from all lanes of travel and covered with a dense jungle growth.

Troubles of a Modern Aztec

Fifty years ago, to this lonely spot came Sebastián Torres, an Aztec Indian, with his wife and two young sons. Here they hewed out a clearing in the virgin forest and learned that the sandy soil would grow abundant crops. The forest teemed with game and the family prospered in its jungle home.

Sebastián became ambitious and began to grow sugar cane. With a homemade wooden press he manufactured brown sugar, which he brought each year to Tonalá for sale. Gradually he accumulated a fair sum of money, which he hid in his house, and was beginning to visualize a luxurious existence for his little family, when tragedy came. One night when the moon was full, armed bandits broke into his house, killed his two sons, and took all his accumulated wealth.

Badly wounded, Sebastián escaped with the help of his wife and returned to Tonalá. There he slowly recovered and several years later he returned to his island in the swamp. Five years of peaceful existence followed. Then he was again raided by bandits and lost all his possessions.

After this experience Sebastián decided to give up his attempt to accumulate wealth. Now, he says, he and his little clan grow only what they need to eat.

Sebastián's island home was our destination.

Throughout its lower reaches the Tonalá River is wide and relatively shallow, bordered by immense mangrove trees. We saw many

Like a Character from *Faust* Is This Fine Clay Head

With its pointed beard and crafty grin the small baked figure from a mound near Tres Zapotes, Veracruz, is one of the best examples of ceramic art yet found in the New World. Because of its lifelike appearance, it is probably a study of a prominent person. Only the hair or headdress and the ears with ear plugs are conventionalized.

tarpon breaking water on both sides of the launch.

After making a few final purchases at Muelle, the last source of supplies, we chugged upstream to the mouth of the Blasillo River.

Aerobatic Monkeys Entertain

This section of the journey is of unusual beauty. The Blasillo is a typical small tropical stream of coffee-colored water, deep and sluggish, flanked by high jungle growth. The current is so slight that the river reflects like a mirror the growth along its sides. In this undisturbed section of jungle, wild life is abundant and we were entertained by troops of monkeys playing in the treetops by the river's side.

After an hour's ride, we reached the point known as Blasillo. Here there were formerly a few native thatched houses, but the site subsequently was abandoned. To our surprise, we found instead a group of newly erected green tents. Upon landing, we were greeted by Engineer Antonio Pliego, of a Mexican oil company, who had pitched camp only two days before and was preparing to prospect for oil.

This was a piece of good fortune for us.

Broad and Muddy Was the Steamy Jungle Trail from Boca San Miguel to Tres Zapotes

Over this tree-shaded route all supplies were brought by mules and horses from the nearest point reached by launch in the Papaloapan basin to the base camp of the 1939 and 1940 expeditions, in the State of Veracruz. In places the animals sank up to their bellies in the sticky gumbo.

Airy and Clean Is This Al Fresco Kitchen Nook

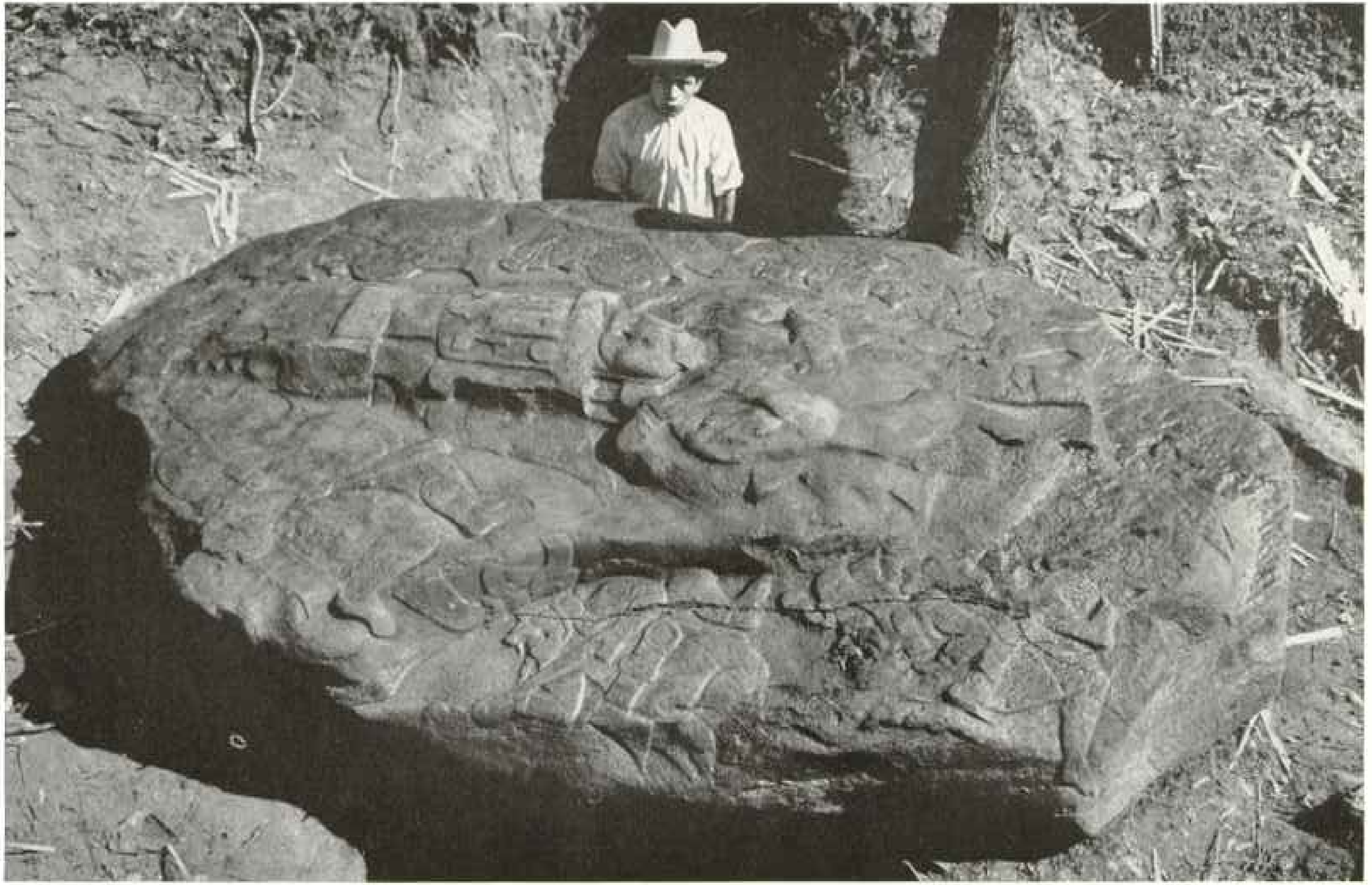
A village housewife washes dishes on a little platform easily reached through a window in the palm-trunk wall at Boca San Miguel. On the right is the clay pot of flowers which brightens even the humblest Mexican home.

"Who'll Buy My Homemade Dolls?"

When expedition members showed an interest in the rag dolls which the natives of Tres Zapotes make as toys for their children, a new local "industry" was born. No odds and ends of bright-colored cloth, ribbon, or paper were henceforth safe.

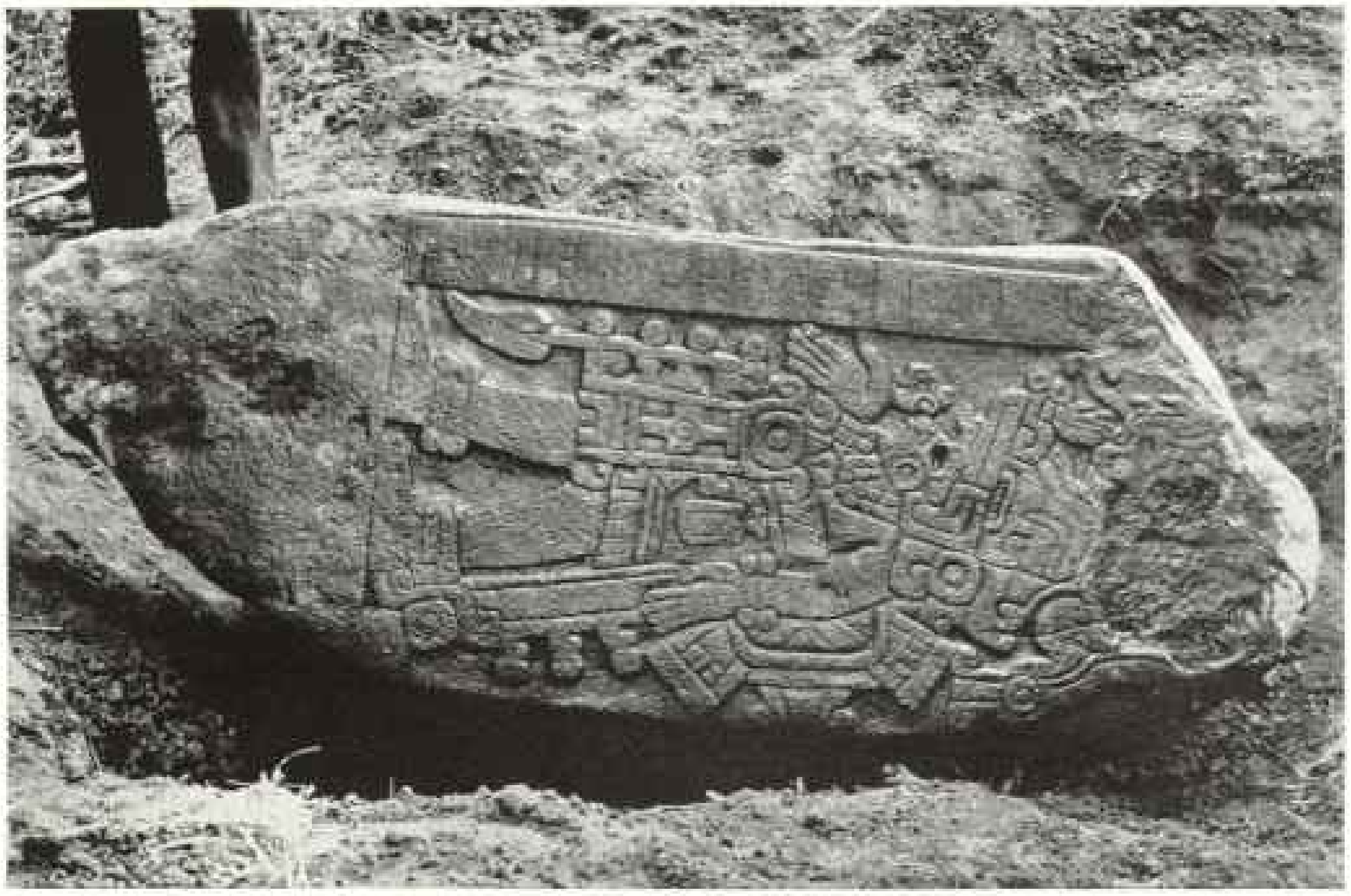
From Its Lowly Bed in the Palm Brakes a Long-forgotten Pagan Idol Comes to Light

Natives of Cerro de Mesa gaze in awe at the fearsome image of a large stone head, probably intended to represent a rain god. Cerro de Mesa, which means "Hill of the Table," is about 50 miles northwest of Tres Zapotes. The mound receives its name from the flat stone stelae found there.



A Stone Priest in High Headdress Holds Court in the Tabasco Jungle

To study this striking design, uncovered at La Venta, turn the picture so that the right side is at the bottom. Dominating the center stands a bearded dignitary, whose headgear is almost as tall as himself. Around him, in bas-relief, whirl six grotesque figures probably representing gods. The back of the stone was plain.



Dots and Bars along Its Border Make This Stone the Most Important Discovery of the 1940 Expedition

Stela 6 at Cerro de Mesa fortunately fell on its face, so the glyph column along the top, with its Initial Series date in Maya characters, was not badly eroded. Translated into the Christian calendar (Spinden correlation), the date is equivalent to 206 A. D. This find extends the period of known use of the Maya calendar in the Veracruz region nearly 500 years, from 291 B. C., earliest date found at Tres Zapotes last year, up to 206 A. D. (page 313).

The hospitable Mexican cleared out space in his storage tent for our cots, and, instead of sleeping out alone in the jungle, as we had expected, we sat down to a first-class dinner prepared by his Chinese cook.

After an evening of chatting under a big mosquito tent, we were up early the next morning and were furnished with guides and carriers to take us over the trail to La Venta. This trail passes through deep jungle, and it is necessary to wade through wide stretches of swamp. In some of these spots poles have been laid across the trail to provide a somewhat precarious foundation in the seemingly bottomless mud.

In about an hour the ground began to get higher and we found ourselves on dry, sandy soil. Small clearings planted with corn and bananas appeared. In another half hour of fast walking we reached a large clearing on the highest part of the sand island, in which stood the houses of Sebastián Torres and his two sons-in-law with their families.

Sebastián was away on a trip, but his son-in-law, Ubaldo Gonzales, generously offered to vacate one of his houses, and we moved in with our cots and equipment. The natives of La Venta speak Aztec among themselves, but they are able to speak Spanish as well, so we had no difficulty in communicating with them.

Ghosts Dance in the Ruins, Natives Say

Naturally we lost little time in asking questions about the archeological remains. Ubaldo knew the location of several stones, but he said the present inhabitants had never paid much attention to them and many monuments were overgrown with jungle.

We learned also that on fine nights the ghosts of Montezuma and his court come out to dance and sing and conduct ceremonies in the abandoned plazas of the ruins. Though we did not have the good fortune to witness any of these doings, we were soon sufficiently impressed by the ruins themselves.

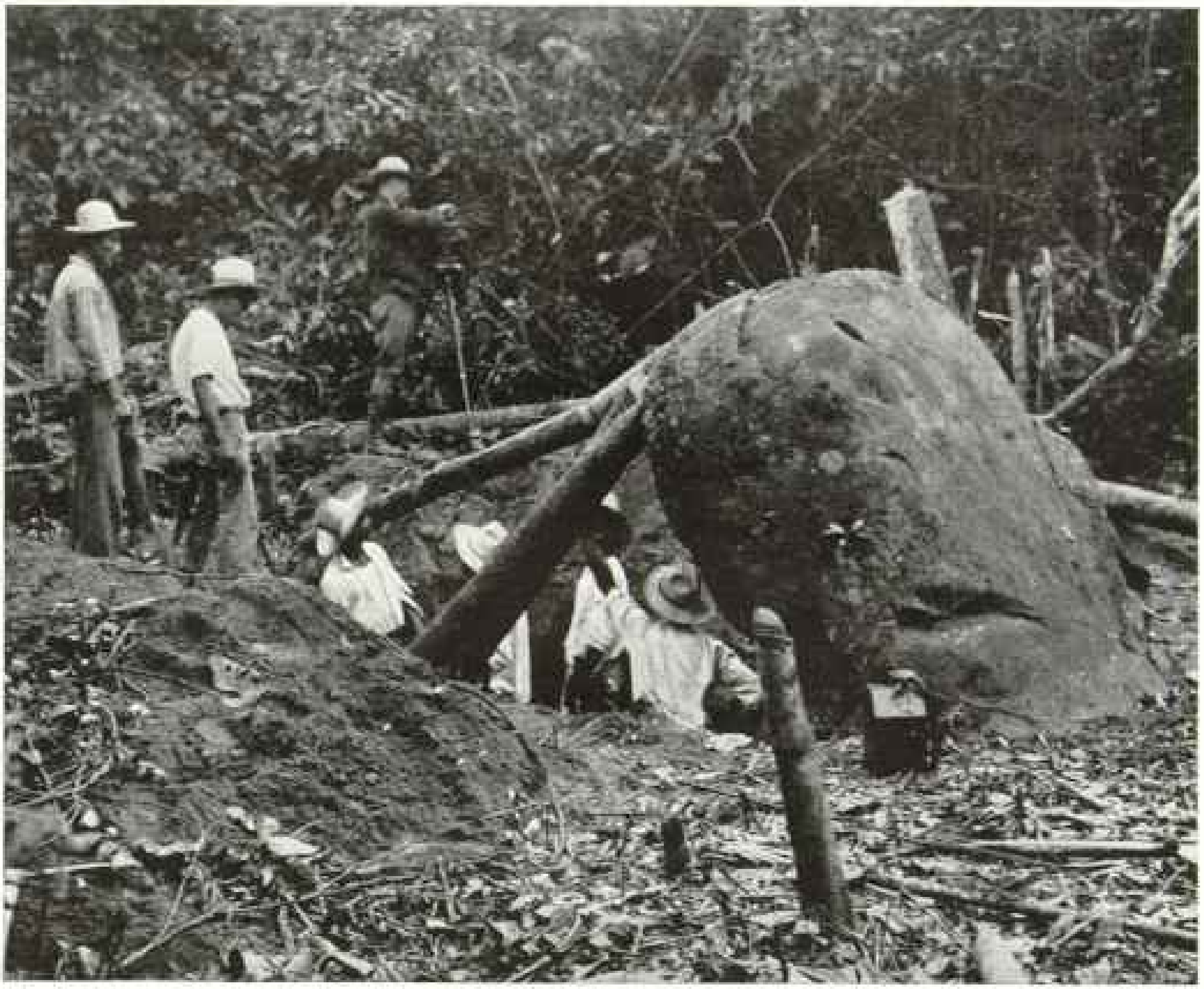
The first of the stones to which Ubaldo conducted us was an immense altar, carved from basalt, which was one of the objects discovered by Blom's party in 1925. It was an impressive sight, even in its buried condition, and an obvious artistic masterpiece.

"We Held Our Breath on the Old Plank Bridges"

Drivers need keen eyes and steady hands on the wheel—otherwise it is a thirty-foot drop into the river. On the way to La Venta the expedition crossed several such rickety spans (page 316).

Bit by Bit, Earth Is Removed from a Burial Cache

Dr. Philip Drucker wields a cautious trowel at Tres Zapotes among fragile pottery that may reveal clues to the everyday life of America's aboriginal inhabitants before the coming of the white man (pages 310 and 311).



Photograph by Matthew W. Stirling

Mahogany Logs Supported the Giant Stela During Excavation

Because of the stone's steep leaning angle and vast weight, expedition members found it difficult and dangerous to uncover the beautifully carved face. This monument, at La Venta, Tabasco, is 14 feet high and 7 feet wide. Less than a third of its 30-ton bulk shows here (pages 326 and 327).

Close by, on the opposite side of a long mound, Ubaldo showed us the upper portion of a carved stone which appeared likewise to be one corner of a buried altar. Before long we had seen four of the monuments described by Blom, and several others in addition. We were disappointed, however, that Ubaldo seemed to know nothing of the colossal head, which we were most eager to see.

The central feature of the archeological site at La Venta is a huge pyramidal earth mound, erected on an enormous rectangular base about one hundred yards square, the combined height of the mound and base being approximately one hundred feet.

Just north of this large mound is one of the most interesting features of the site. It consists of a rectangular enclosure, 75 yards long by 50 yards wide, with an additional extension ten yards wide in the direction of the mound. The stones which form this enclosure consist of cylindrical columns, about a foot in diameter and ten feet long, set vertically, with no space between them, so that they constitute a solid stone wall. South of the main mound are three smaller structures, two of which are circular and the third an elongated loaf-shaped mound.

Life-size Figure on an Ancient Altar

The following day we began excavating the first two altars Ubaldo had shown us. Altar 1 is an immense rectangular monolith with a thick tablelike top which projects on all four sides. The overlap on the south end was broken off in ancient times, but otherwise the altar is intact (page 329).

In the front of the altar is carved an arched niche, in which a life-size figure is seated cross-legged. He wears a headdress which appears to be in the form of a jaguar's head; he has a wide bead collar hanging over his shoulders and a rectangular gorget on the chest.

Poultry Sellers Gave "Curb Service" at Tres Zapotes

From the "quarter-deck" of his mule a vender languidly haggles with one of the camp cooks for a white chicken. Other squawking birds hang by their legs from the straw mats.

In each hand he holds the end of a large rope which passes around the bottom of the altar. The rope in his right hand rounds the corner and is attached to the wrist of a seated figure carved in relief on that end.

Over the head of the principal figure in the front is carved in relief a large animal head, probably a jaguar, with fangs and oval eyes.

The sculpturing on this stone is of a very high order. The postures of the figures are easy and realistic, lacking the stiffness and conventionalization that characterize most Middle American art.

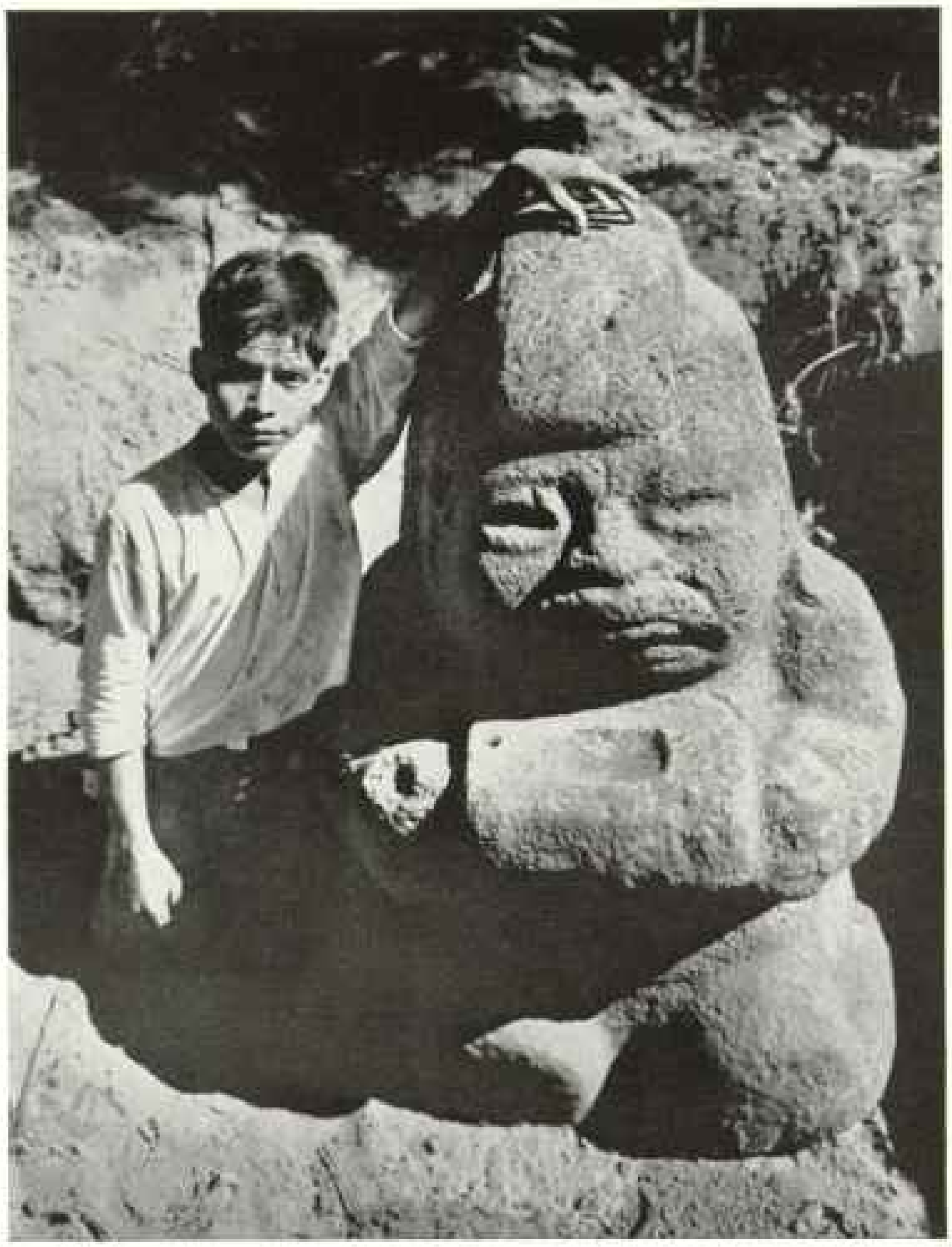
Excavating in front of the altar, which has fallen forward at a considerable angle, we encountered a clay floor of mixed burned material. The altar rests on this floor, on top of a foundation of white limestone nodules. At this floor level, about five feet in front of the niche, we encountered 99 large jade beads, 18 of which were cylindrical and 81 round. There was also one bead of amethyst. These were all found in position in the form of necklaces and armlets.

"Quintuplets" Suggest Infant Sacrifice

Altar 2 was almost completely buried. Upon excavation it proved to be similar in form to Altar 1. On the south end are carved in low relief two costumed figures, each carrying an infant. On the north end are two similar figures, also each with an infant in arms.

In front, a seated figure is carved in full relief, as if emerging from the niche. This figure is life-size and holds out in front of him a baby, lying face up in his arms. The principal figure wears a high, decorated, caplike headdress. All the figures on this monument are in excellent condition because the stone has been buried (pages 311 and 312).

A curious feature of the four infants shown on the two ends of the altar is that they are intentionally represented with adult faces. Their positions are almost amusingly realistic, and each is given a different posture. The



"Baby Face" Holds a Rectangular Box

This kneeling idol, found at La Venta, Tabasco, suggests a modern work of Jacob Epstein. Age and identity unknown, it was uncovered north of the large mound. The receptacle was probably for offerings. "Baby-faced" or "jaguar-faced" carvings are characteristic of "Olmec" art (page 333).

baby in front is realistically carved and, unlike the others, has an infantile face, an almost unique feature for any major American stone carving.

This particular altar was artistically the finest object discovered by us, and must rank as one of the best examples of sculpture from aboriginal America. We dubbed the subjects of this stone the "Quintuplets," but it is probable that the real meaning of the composition has a rather grim portent, suggesting infant sacrifice.

One Stela 14 Feet High

From this promising beginning, as the days went by we uncovered stone after stone, but in spite of all our inquiries no one seemed to know of the location of the colossal head. When a week had gone by, we began to fear that in some mysterious manner the object had become lost completely.

There was no opportunity for illeness, however, as our crew was kept busy ten hours a day uncovering the other monuments found. In the middle of the large stone enclosure in front of the big mound, there projected about three feet of a massive circular stone, which leaned forward at a steep angle and had some carving on the under side.

Cutting logs for bracing, we undertook the excavation of this stone, a task which we thought would take only two or three hours. By evening we had gone down to a depth of five feet and still had not reached the bottom of the carved design.

The next day, since we were dealing with such an immense stone, we spent a good part of the morning in setting up more braces, consisting of mahogany logs, and were not able to expose the front of the monument completely until evening. To our surprise, this immense stela turned out to be 14 feet in height, almost 7 feet in width, and 34 inches in thickness (page 324).

When the job was finally completed, however, and no one had been flattened by the stela, we felt that our labors had not been in vain. The low-relief carving on the face of this big monument represents another high point in Middle American art. The figures are executed with a sure and delicate touch, and in many ways have a different flavor from the others on the site.

The composition consists of two human

figures, seven feet tall, facing each other and apparently engaged in conversation. Both wear tall and elaborate headdresses. Like all the other headdresses shown at La Venta, these are particularly interesting because they do not make use of the plumes of birds.

The face of one of the standing figures has unfortunately been broken off, but that of the other shows a remarkably handsome individual with an aristocratic aquiline nose and a curious long, flowing beard (illustrated on this page).

Both figures wear shoes with odd pointed, upturned toes.

Over these two figures, apparently floating through the air, are a number of others in human form, which may represent deities.

Worth Digging for Was the Face of the Largest Stela

The lower figure with flowing beard was nicknamed "Uncle Sam" by the staff. His aquiline nose and aristocratic features were different from all other faces depicted at the site. The monument was found in the center of a large stone enclosure at La Venta.

Giant Head Emerges from the Earth

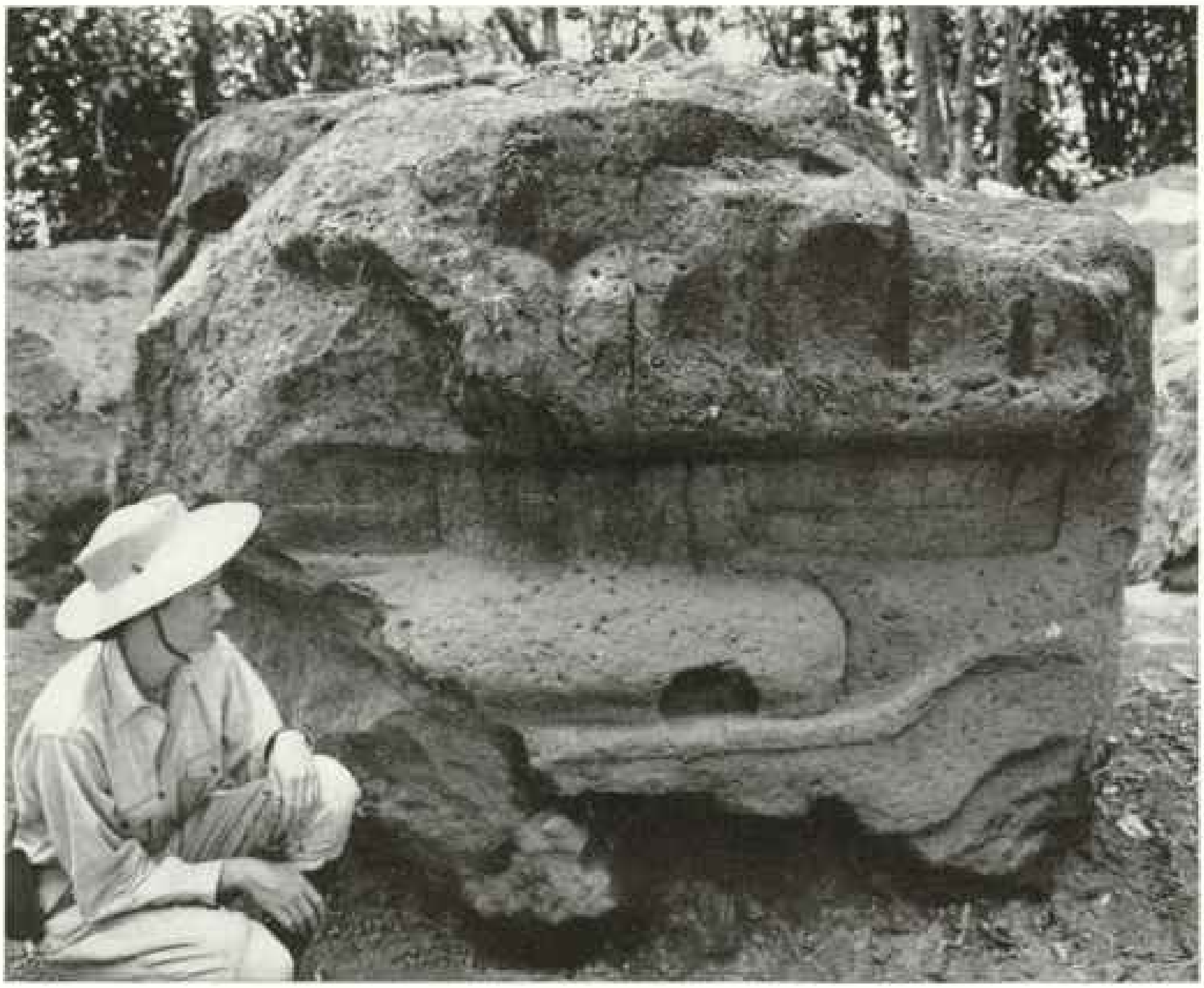
While one portion of our crew was excavating this monument, another group had set to work on a large buried stone lying in the dense jungle just west of the main mound. As this appeared to have been originally flat on top, it had undoubtedly been used as an altar. Many trees had to be felled close to the stone, and the stumps removed. The work progressed slowly because of the mat of roots; but once beneath these it went along rapidly, since the soil here was sandy.

As the earth was cleared away, we saw that the altar was a rectangular and conventionalized colossal head looking eastward. The art style of this face is very similar to that on the reverse of the old dated monument from Tres Zapotes. The nose is broad and treated in the same manner. Both sides and the rear of the stone are carved also, the carving on the rear representing the hair.

The lower right-hand corner of the face had been broken off, so that part of the right eye and the right side of the mouth were missing. The top of the altar likewise had been much mutilated.

A hole runs through this colossal head altar, beginning at the left ear and emerging through the center of the mouth. This naturally suggests the possibility that some ancient priest may have spoken into the ear of the great head and his voice been made to appear as if emerging from the mouth of the deity represented (page 328).

This monument is archaic in style and bears the physical appearance of considerable age. If any extensive gap of time exists between



Is This an Early American Version of the "Delphic Oracle"?

Badly mutilated ages ago, this altar at La Venta still reveals an ugly conventionalized face, with broad nose and "Olmec" mouth. A hole passing through the hard basalt from the left ear and emerging at the mouth may have been used by priests to give weight to their awesome decrees or divine revelations (p. 327).

the various monuments at this site, it appears to me that this stone must have been one of the oldest at La Venta.

Finding a Long-lost Great Stone Face

While we were working on this altar, one of the workmen mentioned that he thought he remembered two other stones in the forest near by. I suggested that we go to see them. He had cut his way through the dense growth for not more than fifty yards when we came to a large hemispherical stone almost completely concealed by vines and undergrowth.

I looked at it closely. Lo and behold, here was Blom's colossal head that we had almost given up hope of locating! The eyes were completely covered and it was unrecognizable as part of a head, a fact which may have accounted for the failure of the natives to pay any attention to it.

Less than twenty yards away a large stela lay on its back. This I immediately recognized as Blom's Stela 2 (page 321), and I realized that we had now located all six of the carved stones he described.

The next day we set to work excavating these two interesting monuments, and on the following day we had them completely exposed.

The colossal head exceeded our best expectations. It proved to be a good two feet higher than the Colossal Head of Tres Zapotes, which is about six feet in height. Very similar in its general appearance, it had the same helmetlike headdress, broad nose, and thick lips. It was carved in the same realistic manner, and one is almost tempted to believe that the same sculptor might have executed both monuments (page 310).

Three Other Colossal Heads Discovered

While this work was going on, a small boy who happened to be standing by remarked that he had seen some stones near the new

Altar 1 Escaped the Vandals Who Marred Other La Venta Relics

How the ancient Indians transported this 30-ton block of basalt across swampy land from the nearest quarries, 50 miles or more away, is a mystery. Carved on the top is an animal skin stretched tightly. It was common in Central America to throw a jaguar skin over an altar as a cover or decoration (page 324).

milpa (maize field) his father was working. I went with him to a point in the forest about a half mile away, and one after another he showed me three round projecting stones in a line about thirty yards apart. I felt confident from their appearance that we had here three more colossal heads.

While Stewart and I were kept busy locating, excavating, and photographing the monuments, Mrs. Stirling was having her housekeeping problems.

Of the three houses in the group occupied by Ubaldo and his family, half of one was taken up by a shrine containing an image of the Virgin of Carmen. This had been made and set in place by Ubaldo himself, a devoutly religious Indian. Every evening he and his family spent an hour in meditation before the shrine. They especially requested Stewart to save the red paper and tin foil in which the film packs were wrapped and used them as decorations for the shrine, there being but little other material available for this purpose.

Besides plates and kitchen utensils, we had brought to La Venta a small portable gasoline stove. This served very well for two days, but then it melted its burner as a result of a small leak and not only ruined itself but came very close to burning up the house and the occupants, too. Because of this mishap, Mrs. Stirling was compelled to do the cooking in native fashion over three logs placed end to end on the floor.

Tortillas on a Mass-production Basis

Corn was the staple food of La Venta and tortillas made by Ubaldo's wife were always available. When our seven workmen, recruited from the sparsely occupied country round about, descended upon Ubaldo, his wife received the added chore of feeding them. She had to get up each morning at about 3 o'clock to prepare enough tortillas for this hungry group.

In Her Lean-to Maria Prepares Culinary Wonders

The range at Tres Zapotes is an earth-filled box, with an iron ring on a tripod. On it Maria cooked tortillas (corncakes), and such highly seasoned Mexican dishes as *arroz con pollo* (chicken with rice), *enchiladas* (meat, cheese, or vegetables folded in corncakes), and *frijoles* (Mexican beans).

All the foodstuffs utilized by the community are raised on the spot. Cocoa and coffee are both grown and prepared for use. Bananas and coconuts are raised, besides purple sweet potatoes, manioc, and *jicamas*, a turniplike root with a refreshing body somewhat like an apple.

This vegetable fare is augmented by game shot in the neighboring jungle. The principal food animals are monkeys, deer, and tapir, which are plentiful.

A Jaguar Comes—and Kills

One night we were awakened by a terrific uproar in the clearing—loud squealings mingled with other sounds. We heard Ubaldo and his wife stir in the house next door and the word "tigre" was uttered. Next morning we saw the carcasses of three hogs—one large full-grown boar and two smaller pigs—which had been killed by the jaguar not more than 200 yards from the house. After being mauled somewhat, the victims had been left lying just inside the jungle cover.

This was a serious blow to Ubaldo, since pigs represented a fair proportion of his wealth, but it was a type of disaster to which he had grown accustomed and he took a philosophical attitude toward his loss. I asked the men if they intended following the jaguar to kill it. They said no, that it would not be practicable, since a jaguar after such a killing usually left the vicinity completely.

The women appear to have considerable fear of these animals, and Ubaldo's wife frequently chided Mrs. Stirling for walking alone through the jungle. This fear, however, is principally due to superstition.

A problem arose concerning the method of housing our seven visiting workers overnight, since they were all too far from their own homes to make the trip back and forth daily. They had decided to sleep on a floor of poles laid under the roof covering Ubaldo's pigpen when we bethought ourselves of our small mosquito-proof pup tent. This was only 4½ feet wide, 3½ feet high, and 8 feet long, counting the pointed ends, but we thought it might accommodate two or three of them. We offered it to our workmen for use and they gratefully accepted.

That night we heard a great deal of laughter and stirring about, and early the next morning

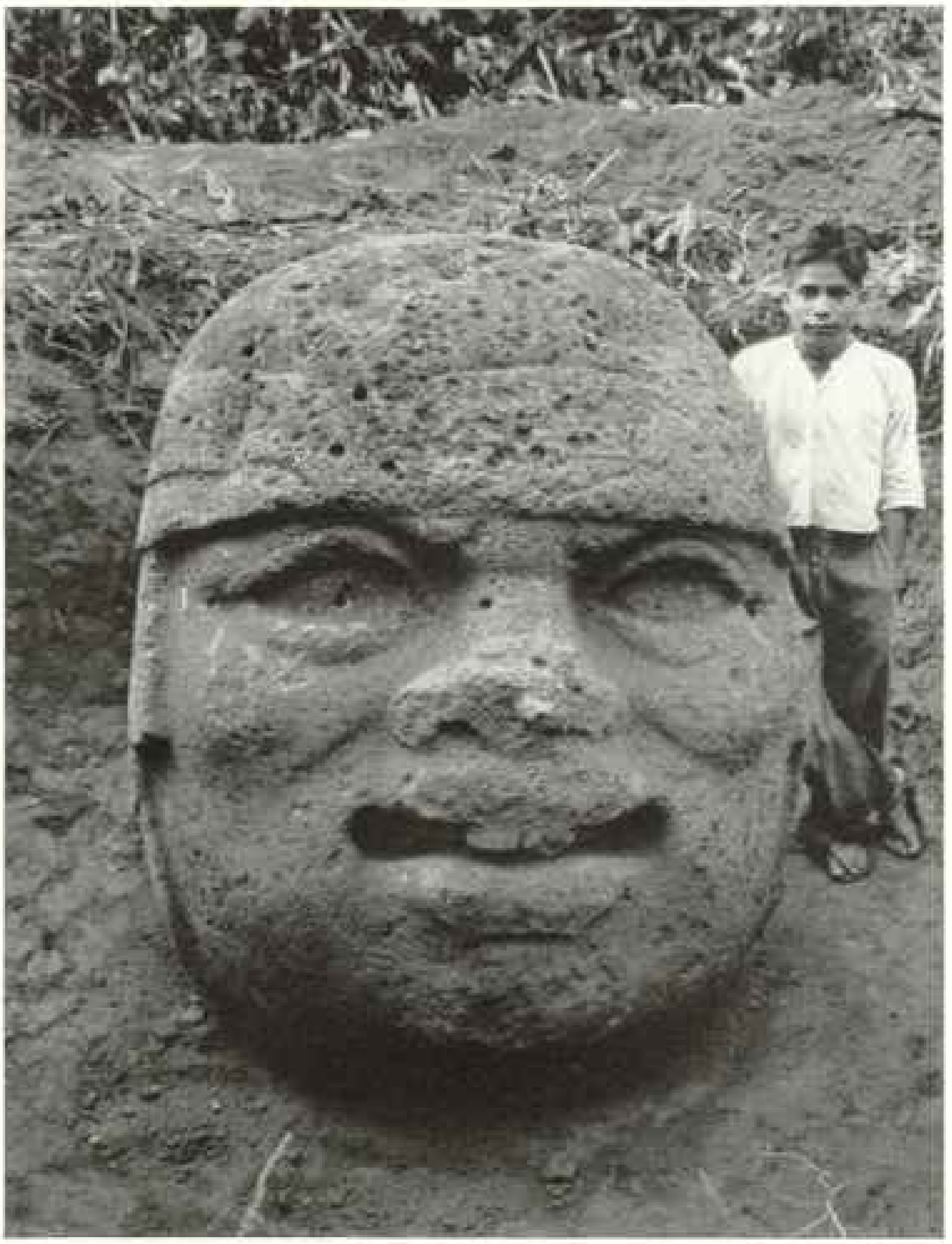
were amazed to see all seven of them emerging. They admitted that it had been a little crowded and was also a trifle warm, but that, they said, was nothing compared to the discomfort they would have had to suffer if exposed to the mosquitoes. All the rest of the time we stayed at La Venta they continued to sleep like sardines in our little tent.

On the day of our departure when we took up the tent, we discovered that an enterprising hen had attempted to establish a nest under the canvas floor. She had apparently laid an egg each day and, not discouraged by the fact that every morning she found it thoroughly flattened out, persisted until on the final day we found a single good egg in the midst of a somewhat odorous omelet.

After we had been in camp for about a week, Don Sebastián, the head of the La Venta clan, returned from his trip, and during several evenings we were regaled with entertaining and even thrilling stories of his heroic efforts to keep his little community in existence.

Although more than 80 years old, Don Sebastián is still keen, energetic, and active. His wife is a huge woman.

As a special treat, I had brought Don Sebastián a half-dozen cigars. He replied, however, that he had never smoked in his life and suggested that I present them to his wife, who was very fond of cigars. For the rest of the evening his wife sat comfortably propped against the wall of the house, the picture of contentment, puffing away at one cigar after another and allowing the ashes to fall between her enormous breasts, for the women at La Venta wear no clothing above the waist.

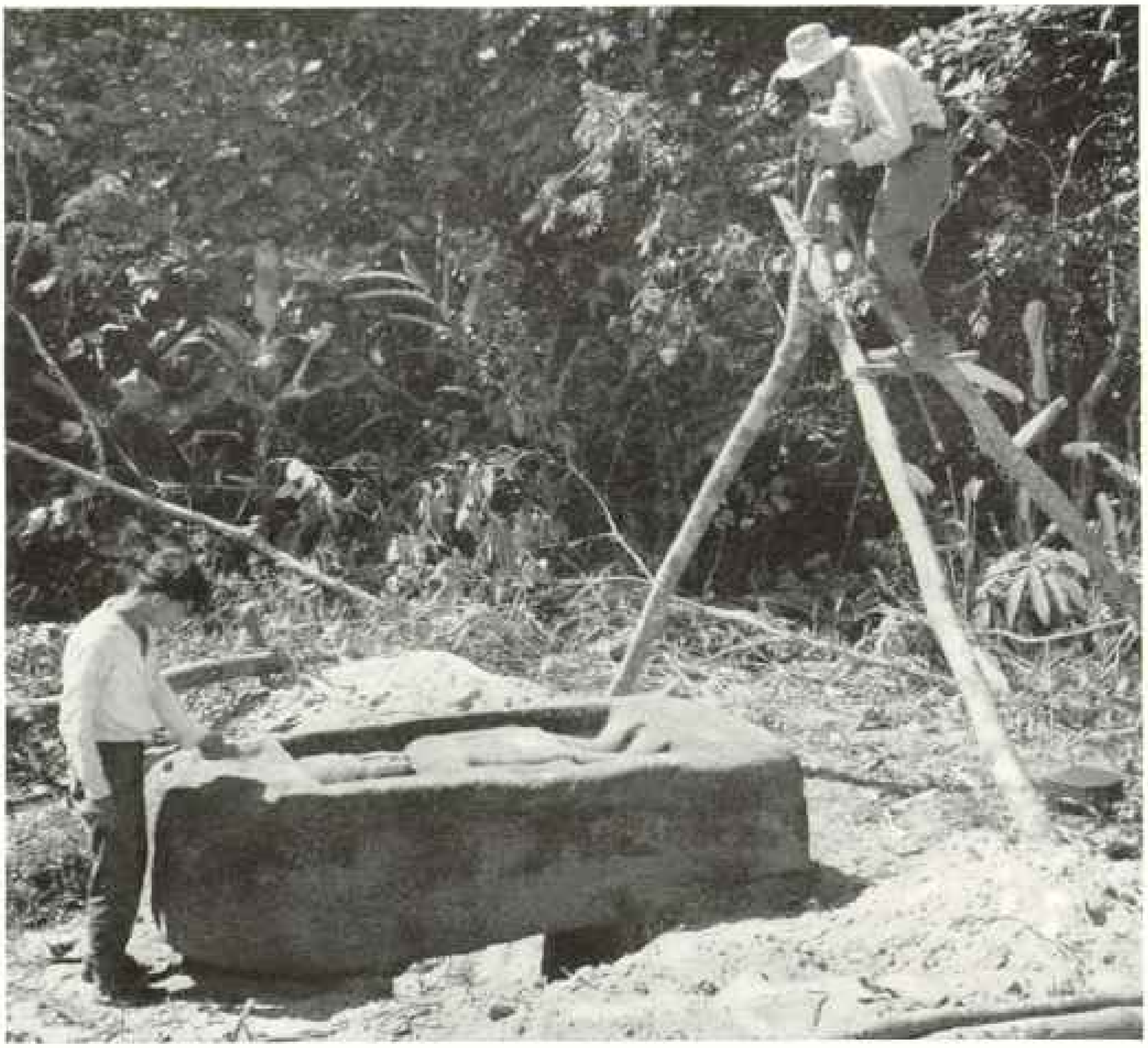


Rare Indeed Is a Pleasant Visage in Indian Art

This happy, buck-toothed warrior was dug up at La Venta. It represents a physical type found in southern Mexico during ancient times, and even today. Like the other colossal heads uncovered by the expedition, the carving is a single piece of hard basalt resting on stone foundations (page 332).

After we had been entertained with stories of life and adventure in La Venta, we received many queries concerning our own country. Don Sebastián was particularly eager to know if we had pigs and chickens in our country and if so whether they were not much larger than the ones his people possessed. We assured him that they were very similar, a fact which seemed difficult for him to believe. As we seemed large compared with the people of this region, who are rather small in stature, they probably reasoned by analogy that all things in our country were correspondingly big.

Our workmen were a cheerful crew and industrious laborers. We worked long hours,



When Heavy Stones Can't Be Moved, the Photographer Turns Acrobat

At La Venta, in order to get a picture of this figure of a woman in full relief lying in a stone box, National Geographic Photographer Stewart erected a wooden tripod and shot it from above. It is not known whether this monument is a fallen stela or a representation of a coffin. A trench dug beneath the box failed to disclose any carving.

but in the middle of each morning and in the middle of the afternoon they took a half hour out to drink *posole*, a mixture of cornmeal, sugar, and water, which appeared to have a refreshing pick-up effect.

One Head Wears a Beaming Smile

Our last two days at La Venta were busier, if possible, than any of the preceding. We had arranged to meet our launch at Blasillo, and it was necessary to finish our work within the specified time. We still had to complete the excavation of the three newly discovered colossal heads which were to cap the climax of our most interesting period of Mexican excavation.

One by one these heads were brought to light, each different from any of the others. Two of them produced something new in the way of colossal heads by being equipped with teeth.

Four of the five heads that we discovered this season at La Venta, as well as the one previously excavated at Tres Zapotes, wore grim and rather forbidding expressions. The fifth and last head uncovered at La Venta showed its appreciation of being exposed by revealing a beaming smile (page 331).

Huge Stones Transported 50 Miles

Finally, at the last possible moment, our work was done. All the stones we had been able to locate had been excavated and photographed. In all, 20 sculptured stone monuments had rewarded our efforts, among them several of the finest examples of stone carv-

Earth Deposits and Jungle Nearly "Captured" La Venta

Clearing of dense growth and much digging preceded the taking of this photograph showing the relative positions of the smiling head (foreground) and the largest head (center background). Both face east, as does a third head not shown.

ing ever brought to light in ancient America.

Most of these stones are large and heavy. We were assured by petroleum geologists in the region that no igneous rock of the type from which these monuments were carved exists at any point closer to the site than 50 miles. How were these immense blocks of stone moved this long distance down rivers and across great stretches of swamp to the location where they now rest? Certain it is that the people who accomplished this feat were engineers as well as artists.

From time to time, over a wide area in southern Mexico, there have been discovered carvings in jade and stone exhibiting a curious and easily recognizable art style. The most characteristic of these carvings represent faces of beings which have variously been termed "baby-faced" or "jaguar-faced." Where more realistic treatments are given, they show a round-faced, broad-nosed people with mouths curiously depressed at the corners and exhibiting what appear to be certain infantile characteristics.

The mysterious producers of this class of art have been called the "Olmecs," a people whose origin is as yet very little known. Present archeological evidence indicates that their culture, which in many respects reached a high level, is very early and may well be the basic civilization out of which developed such high art centers as those of the Maya, Zapotecs, Toltecs, and Totonacs.

The site of La Venta is of especial interest in that it appears to present in almost pure form a number of major examples of this art,

Welcome Were His Smile and Iguana Gift

A Mexican "Huck Finn" arrives at the base camp with one of the common reptiles of the Tres Zapotes region slung over his shoulder. Despite its repulsive appearance, the iguana is an inoffensive, herbivorous creature, and it proved a tasty addition to the expedition's menu. Its delicate white meat somewhat resembles that of frog.

and it may well be that the builders of this city represented one of the principal centers of the Olmec civilization.

What happened to bring about the abandonment of this ancient city? Almost all of the great stone altars and monuments have been broken and mutilated at the cost of considerable effort. This could not have happened by accident; neither is it reasonable that it would have been done by the original makers. It seems plausible to suppose that some conquering group descended upon them and this mutilation represents their efforts to destroy the pagan gods which they found established here.

When it was time to leave, we presented all our kitchen ware and surplus equipment to Ubaldo and his wife as a reward for their hospitality and donated to our workers the picks and shovels with which they had labored. As we loaded our much-diminished supplies, we felt well satisfied with our results, for our labors in a short time had revealed an important new chapter in American prehistory.

At both Cerro de Mesa and La Venta our brief surveys had brought to light many previously unknown monuments. At La Venta, for instance, where only six had been known, we were able to locate twenty.

From Tres Zapotes, scene of our most intensive archeological work, we brought back to Washington 100 cases of stone and pottery objects, many of which are of exquisite workmanship (pages 314 and 317). Together with the 60 cases of material collected by our first expedition, these artifacts are being given careful study. Already it is apparent that they offer clues which will enable us to reconstruct many phases of the life of the mysterious peoples who cultivated the rich lands of southern Mexico, from a time long before the birth of Christ almost to the coming of Columbus.

On the Cortés Trail

By Luis Marden

With Illustrations from Photographs by the Author

FROM sixty miles at sea the snow-clad Peak of Orizaba, Mexico's highest mountain, was already visible, hanging pallid and wraithlike in the moist air of early morning. Detached from the horizon, it floated high over the Gulf of Mexico, like one of those white and silver pinnacles that rise mistily in the background of old Japanese scrolls.

So it may have appeared to hardy Hernán Cortés and his 508 fellow-adventurers when, on that Holy Thursday four centuries ago, they cast anchor off the parched sand dunes of what is now Veracruz.

There they landed, to prepare for the audacious inland march whose nearly forgotten route I had come to follow. That devious trail was to lead me through three climates: from tropical Veracruz upward through rising temperate country to the snows and icy gales of Popocatepetl's summit, nearly 18,000 feet above the sea.

Bernal Díaz del Castillo, soldier-chronicler of the expedition, wrote an eyewitness account of the conquest of Mexico. I had read his original manuscript, still preserved in the municipal archives in Guatemala. It made me want to see for myself the country through which the Spaniards passed.

Poring over old documents and histories, I puzzled out the route followed more than 400 years ago in that incredible cavalcade of conquest (map, pages 338-9).

Solemn Samuel Gives Warning

Ashore in Veracruz, I found Samuel, who had driven down from the capital and was seeking a return passenger.

Later, when under the cloisterlike arcade of a sidewalk cafe I told him I needed a chauffeur and general guide, he produced letters of recommendation from other "North Americans." Over lukewarm lime juice and water we discussed my itinerary.

"Clearly," Samuel observed in unhurried upland Spanish, "one does not go to all these places in the automobile."

"To some places I'll go on a horse," I replied.

With the city Mexican's acquired horror of such primitive means of travel, he became volubly concerned.

"There remain many bandits in the retired places," he warned me. "Moreover, it is now the time of rains. One does not travel in the rains."

But at times, as Cortés found, one must "travel in the rains," and Samuel at last conceded grudgingly that it might be done; we would start as soon as he could prepare car and equipment.

That night Veracruz sank slowly into the sultry depths of a midsummer night on the Gulf. A water-front lounger pointed out to me the shadowy hulk of the island fortress of San Juan de Ulúa, whose lights snaked yellowly across the oily swell (Color Plate I and page 341).

Landing there on St. John's Day in 1518, Juan de Grijalva, predecessor of Cortés, asked his interpreter the name of the mainland's ruling tribe. "Colhúa," answered the guide, pointing landward. Grijalva's sailors added their corruption of this word to the name of the saint, calling the reef St. John of Ulúa.

Grim Isle of Sacrifice Guides Ships

Somewhere off in the darkness lay the slipper-shaped Island of Sacrifices, where shocked Spaniards first saw dismembered bodies of human sacrificial victims. Now I caught the fugitive gleam of its lighthouse, beckoning intermittently to passing ships in white, red, and green.

The pulsating beat of drums from beyond the southern breakwater said in irregular accents that Veracruz was dancing the *danzón;* dancing it, as the local saying goes, "on a handkerchief." For the couple performing this slow version of the better known rumba rotate monotonously in a fixed spot.

Early next morning Samuel and I went in a clattering gasoline launch to San Juan de Ulúa. The massive pile is no longer a garrisoned fort, nor a political prison. Machine shop and foundry for shipbuilding and repairing have replaced the cannons and muskets that once greeted such visitors as Sir Francis Drake and his contemporaries.

Apparition of a Horse

We drove by night along the north beach at Veracruz. On this natural drill ground Cortés, to impress emissaries of Montezuma, the Aztec emperor, held a review of his 16-horse cavalry. Two by two, the Spanish horsemen charged past the marveling messengers of the despotic ruler (Plate I).

"Jot Queques, Jot Queques!" Cried This Vender, and Indeed They Were Hot Cakes

Thinking she was concocting some Mexican dish on her charcoal-heated iron plate, the author approached and sampled her wares. They proved to be pancakes worthy to grace the breakfast table of the most exacting northerner. The term "jot queques" is the phonetic Spanish equivalent of our United States "hot cakes," just as in Cuba Irish stew becomes "aristú" and run-sheep-run is "ronchiflón."

Never before this expedition had the western mainland seen a horse, and extravagant indeed were the reports sent to the capital. Artist-reporters, making pictorial records on the spot, represented man and beast as one terrifying four-legged creature.

The present port of Veracruz (True Cross) is on the spot where the Spaniards landed on Good Friday in 1519. But since then it has been moved three times: first up the coast to a place called Quiahuitztlán, then southward again to what is now Antigua Veracruz. Today it stands opposite the reef of San Juan de Ulúa once more.

Antigua Veracruz, third location of the first Spanish town on the mainland, lies one hour by narrow-gauge train from the modern port. The village itself is on the other side of the Antigua River, which had been enormously swollen by recent heavy rains. While we waited for a dugout canoe to ferry us over the coffee-colored flood, the older of my two guides asked, deferentially, "Would the señor engineer mind saying what purpose he had in visiting Antigua?"

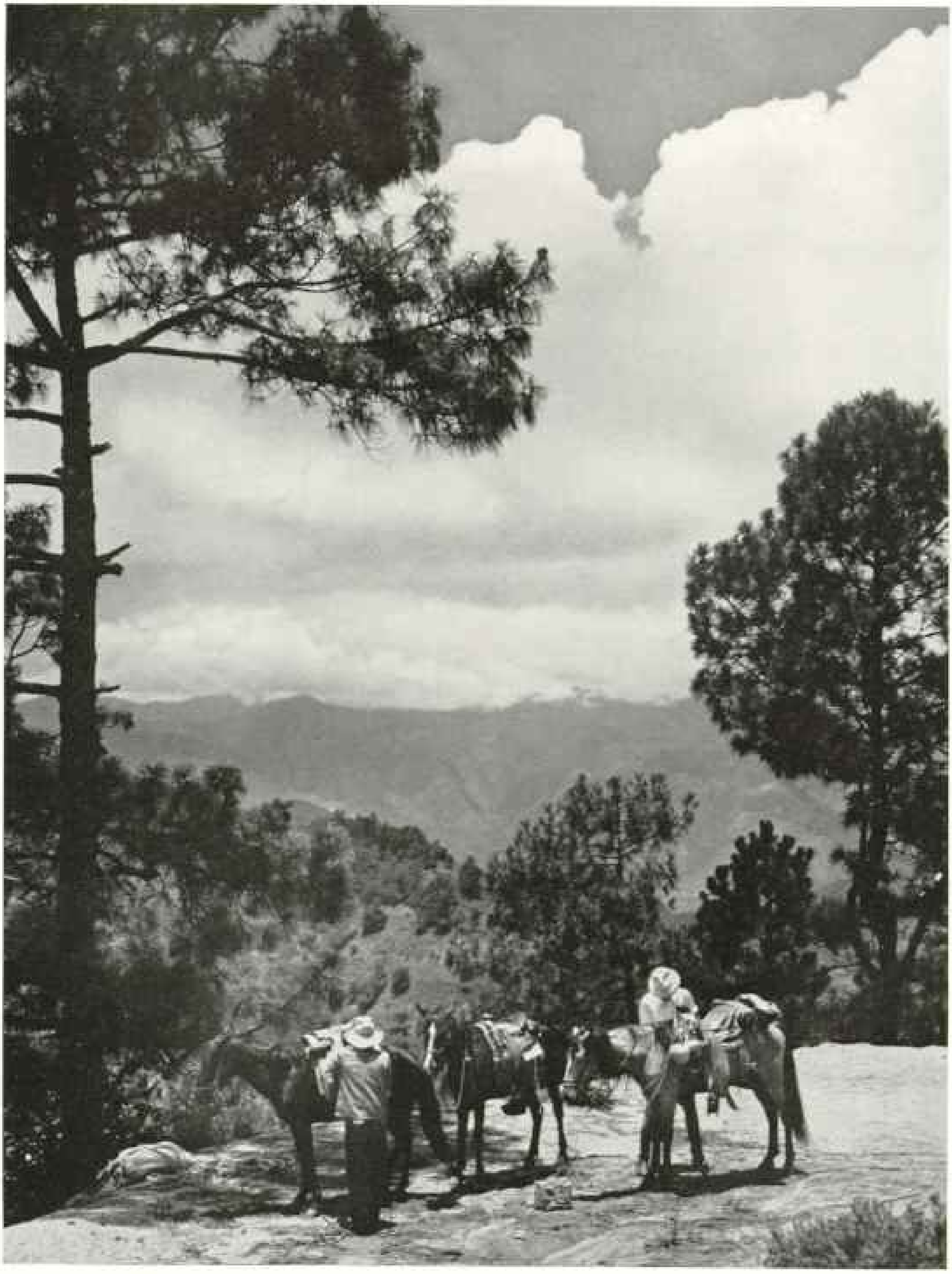
To him, my appearance and paraphernalia connoted the only person people of the interior regularly see from the "outside"—the civil engineer. My camera tripod natives invariably thought to be a surveyor's transit. So, throughout my travels in Mexico, I remained "Mr. Engineer."

In the shady main street the village carpenter was busy. He used planes made of zapote blocks, cut from the widespreading tree at his door. This wood is so hard it turns the ax; so heavy it will not float. In ruined Maya temples in Yucatán I had seen door lintels, made of zapote, which after more than a thousand years were still supporting their tremendous burdens of stone.

On the Cortés Trail by Motor

Next morning Samuel and I left Veracruz by automobile on the trail of Cortés. For 40 miles the road ran, twisting, straightening, and looping again, to Puente Nacional. We had hoped to drive to Cempoalla, where Cortés made his first allies in Mexico, those allies that proved so helpful and faithful. But heavy rains had made country roads impassable, and to reach the town I had to travel by rail, dugout canoe, and on foot.

They spell the name of the modern village Zempoala now, but the largest of the pyramid-temples remain almost as they were in pre-



From Coco Palms to Pines Winds the Trail of the Spanish Conquerors

Using official chronicles, eyewitness accounts, and the works of later historians, the author plotted the route followed by Cortés more than four hundred years ago. Here Mr. Marden's companion and the muleteer pause to adjust saddle girths on the trail near Zautla, in the State of Puebla. In her cage on the ground perches Marina, the parakeet, named for the Indian girl who accompanied Cortés as interpreter (page 343).

Conquest times. Two of the pyramids still show their stepped, setback construction distinctly, and one retains most of its smooth outer coating of plaster (page 340).

Here Cortés found friends; the Cempoallans fed and housed him and his men, furnished him with many warriors, and guided him through difficult country to the fabled Valley of Mexico.

A man was tending cattle in the brush-covered plaza enclosed by the masonry mounds. His was a dual role: he introduced himself as the municipal secretary of Zempoala.

"I, too, have interest in the old history of Zempoala," he affirmed. "Over there," pointing, "on the topmost tier of that pyramid, Cortés captured Pánfilo de Narváez, who had been sent with a large force by the governor of Cuba to take command of Cortés's little army. Don Hernando marched down from the highlands with a picked squad and surprised Narváez in his sleep one rainy night."

The herder-secretary was one of many humbly situated men who throughout the trip astonished me with detailed and accurate knowledge of local history.

Returning to the village, we stopped at the low-lying thatched house of the secretary. "Your house," he said as we entered, with the courtly Castilian phrase of the Spanish-speaking countries.

Wily Cortés Scuttled His Ships

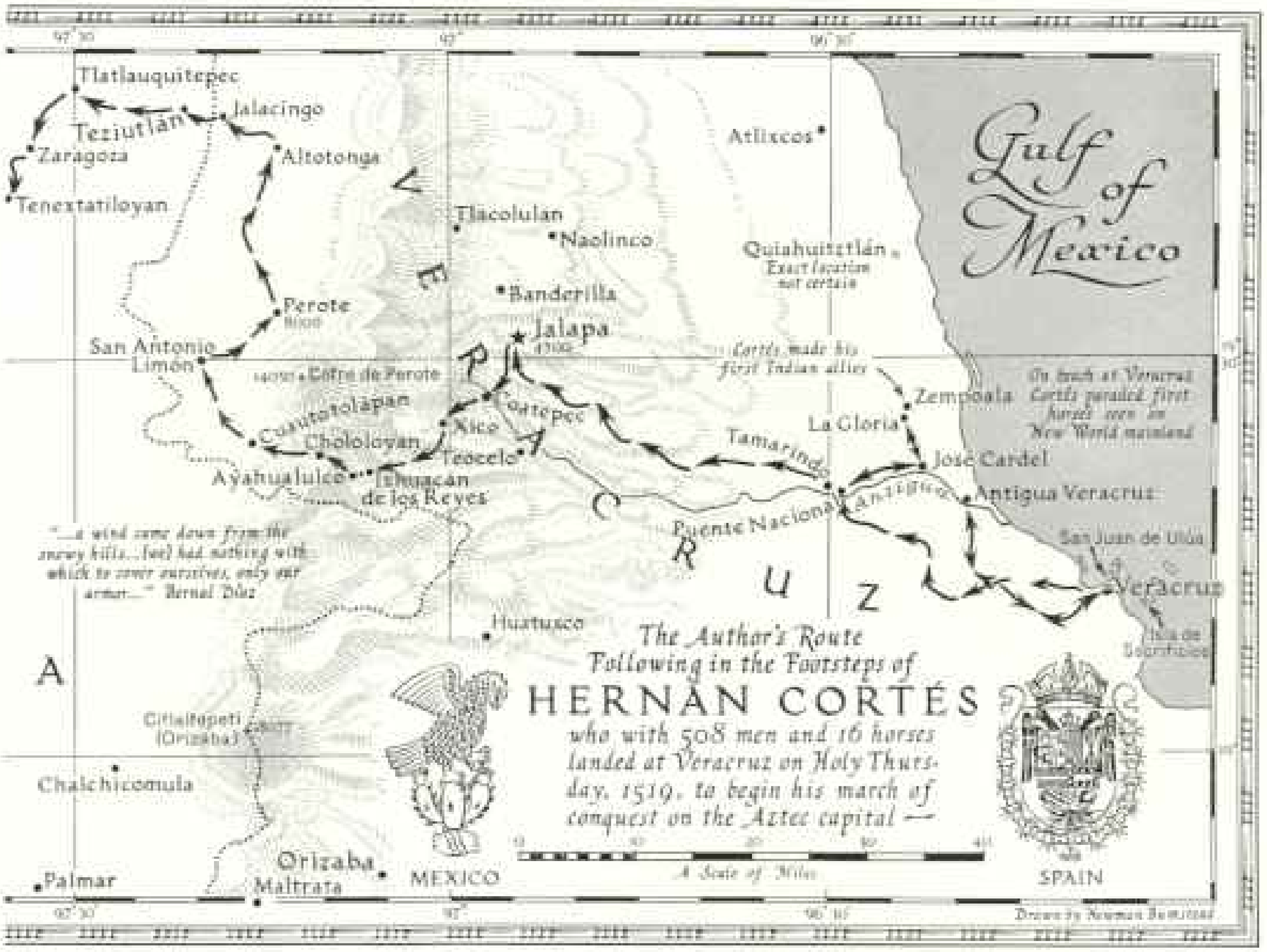
"Old books say that while in Cempoalla," my host related, "Cortés decided to destroy his ships. He sent some trusted captains to Veracruz to scuttle the vessels—they were not burned, as popular tradition says. By this maneuver crafty Don Hernando strengthened his little force with the hundred sailors and pilots of the fleet, and cut off all retreat of the grumbling element in his army."

While we talked, the sky had been steadily darkening and now, in the sudden swift way of the hot countries, the rain began.

"You must leave now," my host said. "This water will make the river rise and leave the road deeper in mud."

Rails were preferable to muddy roads. By gasoline rail car and then by train, I journeyed toward Jalapa where Samuel was waiting with the automobile.

Jalapa, capital of the State of Veracruz, hangs on a mountainous shelf between the coastal lowlands and the heights of the Sierra. The narrow-gauge railroad labored upward in wandering, far-flung loops.



It was dark when we entered the coffee-growing area. Through the open windows of the last coach, of which I was the sole passenger, came the delicate scent of short-lived coffee blossoms.

When we stopped for five minutes at a way station close to Jalapa, I got off to stretch my legs. The station platform was a feebly lighted island in a sea of darkness, on whose fringe appeared dimly the first ranks of a cultivated jungle of coffee bushes and their umbrellalike shade trees.

Paddle-shaped leaves of banana plants clicked softly in the night breeze, and in the deeper darkness of the valleys and hollows below us, myriads of fireflies wove intricate patterns of gleaming points.

A Lanky Texan Joins the Trek

Staying at my hotel in Jalapa were two Americans, students at the summer school of the University of Mexico. One of them, Homer Rogers, fencing master at Baylor University in Texas, offered to accompany me on my journey. I accepted gladly, for now the route was lonely where it led into the mountains from Jalapa, and could be negotiated only on horse- or mule-back beyond Xico.

In the market place in Jalapa, Rogers and I bought short rubber-coated ponchos for use on the rainy mountain trails ahead, long-bladed machetes—made in Connecticut—for cutting brush, and pinch-waisted brown gourds to be made into water bottles.

Hotels "Disappear" at Night

On my return from a late walk I had difficulty getting into my hotel, as I had forgotten the general custom in Latin-American countries of locking the doors of hotels as well as private residences at night. After the movies or a late ramble, it is necessary to knock or ring for the porter, who may, like one I had seen in Guatemala, sleep just inside the door and release the bolt without rising by pulling on a string tied to his great toe.

Samuel left us at the railroad station next morning; he was to drive on to Perote.

"I'd like to hear a summary of Cortés's expedition," remarked Homer as our train puffed along. "You know, I came in halfway through the show, so to speak."

"Briefly, this is what happened. In 1519 Cortés was commissioned by Diego Velásquez, governor of Cuba, to lead an expedition to the recently discovered mainland of Yucatán. He and his men sailed from Habana in eleven ships with 16 horses and 508 soldiers.

Atop One of the Cempoalla Pyramids Cortés Surprised His Rival Asleep and Captured Him

When the Spanish governor of Cuba sent Pánfilo de Narváez with a large force to take command of Cortés's little army, Don Hernando marched down from the highlands with a picked squad one rainy night and took Narváez' prisoner. At once-flourishing Cempoalla (now Zempoala), the conqueror made his first Indian allies (pages 336 and 338).

Photograph by Fairchild Aerial Surveys

Here at Veracruz Spaniards Gained Their First Foothold and the Last Spanish Flag to Float over Mexico Was Hauled Down

At this now busy port, entry gate for many visitors to Mexico, Cortés landed with his army. For 300 years it served as a Spanish stronghold, whence the famous "silver fleet" sailed with precious bullion taken from the treasure vaults and mines of the Aztec empire. The city and its island fortress, San Juan de Ulúa (right center), were sacked by pirates on numerous occasions (page 353 and Color Plate I).

A Three-lane Path in the Sierra Seemed a Boulevard

Not often was the trail so wide along the conqueror's route. Short Mexican stirrup leathers were rarely long enough for gringo legs; so stirrups were removed altogether and a loop of rope substituted. This stop, between Xico and Ixhuacán, was made to readjust packs loosened by the jolting.

"Touching at the island of Cozumel and at several points along the coast, they finally anchored off the reef of San Juan de Ulúa. Here Cortés met messengers of Motecuhzoma (called by the Spaniards Montezuma), emperor of the Aztec tribes, who then ruled much of the mainland.

"Montezuma was undecided as to how to receive the white strangers. While he vacillated, sending messengers and gifts to the coast, Cortés made friends with Totonac tribes of the alluvial plain, tribes different from the Aztecs racially but all subject to Montezuma's warrior state. With allies made at Cempoalla, he began to march inland. He found his greatest allies in Tlaxcala and with these and other discontented legions he marched to the capital."

Our languid train paused briefly at Coatepec, fragrant center of a coffee-, fruit-, and flower-growing district, before ambling on through orange and banana groves to Xico.

Coatepec does a busy trade in all kinds of captive birds. The Mexican loves to have a singing or bright-plumaged bird about his place.

Profane Parakeets and Gaudy Buntings

Under the thatched eaves of a humble house one may often see as many as a dozen cages of split cane hanging in the morning sun, each containing a different species of bird—some, perhaps, that in other climates never know the meaning of captivity. There are big fire-crested native cardinals, the gaudy migratory painted bunting of the southeastern United States, and noisy, profane parakeets from Tapachula on the Guatemalan border, all chirping, whistling, and singing in bright matutinal harmony.

The Xico visited by Cortés is not the Xico of today; ruins of the original site, now called Xico Viejo, lie on a rocky escarpment above the modern town. Xico Viejo is thought to be

Life Flows Placidly in Sleepy Ixhuacán de los Reyes

In this ancient village, hemmed in by steep mountains, the people wear white *sarapes* made in a neighboring village. The Spanish conquerors had no trouble passing through Ixhuacán. Bernal Díaz records: "We were . . . well received, for, like the others, they paid no tribute to [Montezuma's] Mexico."

"the strong town with a difficult approach" mentioned by Bernal Díaz.

Because of preparations for a four-day festival that was to culminate in a bullfight, it was difficult to obtain horses and guides to continue our journey; but, with the help of the obliging mayor, we at last collected two men, two horses, and a pack mule.

Marina Was a Close-mouthed Bird

We waited with them in a corner of the plaza while the mayor went to his house to get a "small present." He returned soon with a silent green parakeet in a little cage of yellow cane. We called the parakeet Marina, after the mistress-interpreter of Cortés.

As we left Xico at one o'clock, overcast skies forecast the inevitable rain of the region and season.

"Excuse the question," said Cardenio, one of our mule drivers, "but why are the engineers going to Ixhuacán?"

"We are following a man named Hernán Cortés," Homer told him; and, noting the blank look, "Have you never heard of him?"

"No, sir, I have not," said Cardenio. "Is he waiting there for you?"

The well-marked trail, which had dipped into a deep ravine on leaving Xico, now began to work steadily upward. Worn deep by constant use, the slippery rut along which we went, single file, served in this season as a natural drain for sudden showers.

The vellum-covered Mexican saddle, with its flat-topped pommel and high cantle, never had stirrup leathers long enough for gringo legs, and we rode in angular discomfort until we learned to replace the broad leathers with loops of maguey rope of suitable length.

We found Ixhuacán an aimless assembly of foursquare stone buildings ranged about a grassy plaza. The stable and inn combined was at the far end of the short main street. At its wide courtyard door we dismounted

and said goodbye to our mule drivers, who were starting back to Nico at once.

While our supper was being prepared, Homer and I went to look for horses for the next day's journey. It was necessary, it seemed, to deal with the municipal president himself in Ixhuacán. We found him in the weed-grown plaza, talking with a group of the leading citizens.

We invited the president and his aide to have supper with us. At our lodging place we had *tacos*—spicy minced meat rolled in a tortilla fried hard; *frijoles refritos*—twice-fried beans made into a dark-colored paste; and well-beaten cinnamon-flavored chocolate.

"Gentlemen," said the president after the meal, "I am glad to hear that it is in the history books that the Spaniards passed through Ixhuacán, for I have heard it said that it was so. There is a story that before entering this village Hernán Cortés, uncertain of his reception, fired two shots from one of his bronze cannon. While the echoes still crashed in the hills, our leaders hastened out to assure the Spaniards they would be well treated and supplied with provisions and an armed escort."

He used the "our" as if these things had happened the week before, and as if his long-dead ancestors were living relatives.

Village of the Weavers

Next morning we rode on to Ayahualulco, village of the weavers of white *sarapes* (shawl-like blankets).

We asked at the first general store for the sarape weaver whose name had been given us by the municipal president of Ixhuacán. He was in his shop close by. Yes, he said, he had one sarape woven of the white undyed wool. It was a large one, and when I had put my head through the central slit it hung down over rider and horse like a shroud. Given a pumpkin and a fleeter steed, I might thus arrayed have put to flight a Mexican Ichabod Crane.

At five o'clock we topped the height of the pass, 9,500 feet above sea level by our pocket altimeter. For a while the grassy downward slope was dotted with variegated star-shaped flowers, delicate points of pink, yellow, and blue.

When we had left the pine trees behind and the mountainside fell more sharply away, we saw below us the walled Hacienda La Gloria, sometimes called Cuautotolápan. We had planned to spend the night here, but an empty provisions truck was returning to Perote that night, and we rode there via San Antonio Limón.

It was late when we knocked on the door of the Hotel Juárez in Perote, but the proprietor himself let us in. He wore a bat-wing collar, a walrus mustache, and a .38 Colt. Yes, Samuel was there and already asleep.

After breakfast next day Samuel took us to a street down which we could see the Cofre de Perote in the clear morning air. This mountain, called Nauhchampatepetl (Square Mountain) by the Aztecs, was so named because of the flat-sided prominence that forms its summit.

Music was issuing from a place where *pulque*, the fermented agave juice drink, is sold. We went in.

A stolid sharp-featured Indian with a face the color of rust plucked a multi-stringed harp with the precise touch of an automaton. His taller fellow artist scraped a metal rod mechanically along the side of a ringing iron spiral. The latter instrument was new to me. With the fine Mexican feeling for epithet, they called it the *chicharra*, the cicada or locust.

"Ad Lib" Singing Contest

The orchestra's chief auditors and co-performers were two: a soldier from the near-by barracks and a small Indian in from the outlying hills for the week-end marketing. When we entered they were engaged in a bout of words and music.

The little Indian, singing stridently to the accompaniment of the plangent harp and coil, seemed to have the edge on his befuddled soldier friend. The latter sang vaguely of military prowess, while the Indian retorted somewhat in this manner:

> A deer of the Sierra am I,
> Unafraid of soldiers' boasts;
> Of town girls' smiles I am shy,
> And of hunters' baying hosts.

There was music that night in the plaza, too; music by the town orchestra, and public dancing. The melancholy player of the bass tuba had apparently at one time damaged the bell of his instrument. He had replaced it with a neatly soldered old-fashioned "morning glory" phonograph horn, whence now issued the lugubrious rhythm of a waltz popular in Maximilian's time.

Earthquake Interrupts Lily Pons

Perote had motion pictures once a week, and this was the night. In the small auditorium, equipped with the latest-type sound and projection apparatus, they were showing "The Girl from Paris," with our glorious Lily Pons.

Halfway through the picture, just as Mlle. Pons began "The Blue Danube," a terrific

Gray Walls of San Juan de Ulúa Could Tell a Story of Plunder, Hurricanes, and Siege

Begun shortly after Cortés landed here for his conquest of Mexico, this was one of several New World fortresses so expensive that the Spanish king wondered why the walls were not visible from Spain. Raiders bent on "singeing the king of Spain's beard" often tried to sack Veracruz.

Kodachromes by Luis Marden

On This Beach Cortés Paraded His Cavalry—First Horses Seen in the New World

By twos the conqueror's 16 horsemen galloped along the beach at Veracruz to impress the emissaries of Montezuma, the Aztec emperor. The envoys carried back sketches of strange men with four legs.

Red-clothed Celebrants Do Homage to a Village Saint

Several times while on the trail the writer encountered such religious processions. This fiesta was in honor of St. James, patron of the village of Ayahualulco.

Aztec Lilies Blossom Near Jalapa, "Flower Garden of Mexico"

In the town of Banderilla is the Lecuona Garden, famous for its camellia bushes 18 feet high. More than 90 years old, this semitropical garden also produces several varieties of orchids.

Mounted Milkmen Make Daylight Deliveries in Jalapa

No rattling bottles at 4 a. m. disturb the residents of the capital of Veracruz State. Jalapa was a thriving Indian town when Cortés and his men marched through it.

Photos by Luis Marden

In Spanish Days, Jalapa Was the "City of the Fair"

Here merchandise brought back by the "Silver Fleet" from Cádiz was sold at an annual fair. Today Indian descendants trot along the steep cobbled streets peddling fruit, flowers, and locally grown coffee.

 Photo by Lois Marden

Like African Anthills Are the Corn Granaries of Tlaxcala

Near the capital of Mexico's smallest State, carved and painted canes are made for the Mexico City curio trade. At the time of the Spanish Conquest, the Tlaxcalans had waged a long and heroic struggle against the Aztecs. When asked by Cortés for free passage across their country, the warlike nation answered by attacking the Spaniards. The Tlaxcalans were defeated in a series of fierce battles.

Kodachrome by Luis Marden

Enough Chile Peppers to Sear a Thousand Throats at Tlaxcala

The red variety is the more fiery. "Liquid fire" extracted from the glossy peppers is used in making such spicy dishes as *enchiladas*, *tamales*, *tacos*, and other specialties of Mexican cuisine.

Flight by Luis Marden

Hyacinths Still Grow in Anahuac's Remaining Waterways

The ancient name for Aztec-ruled Mexico means "Near the Waters" and probably referred to the lakes that once surrounded Mexico City. Near Xochimilco, natives tend island gardens as in times before Cortés.

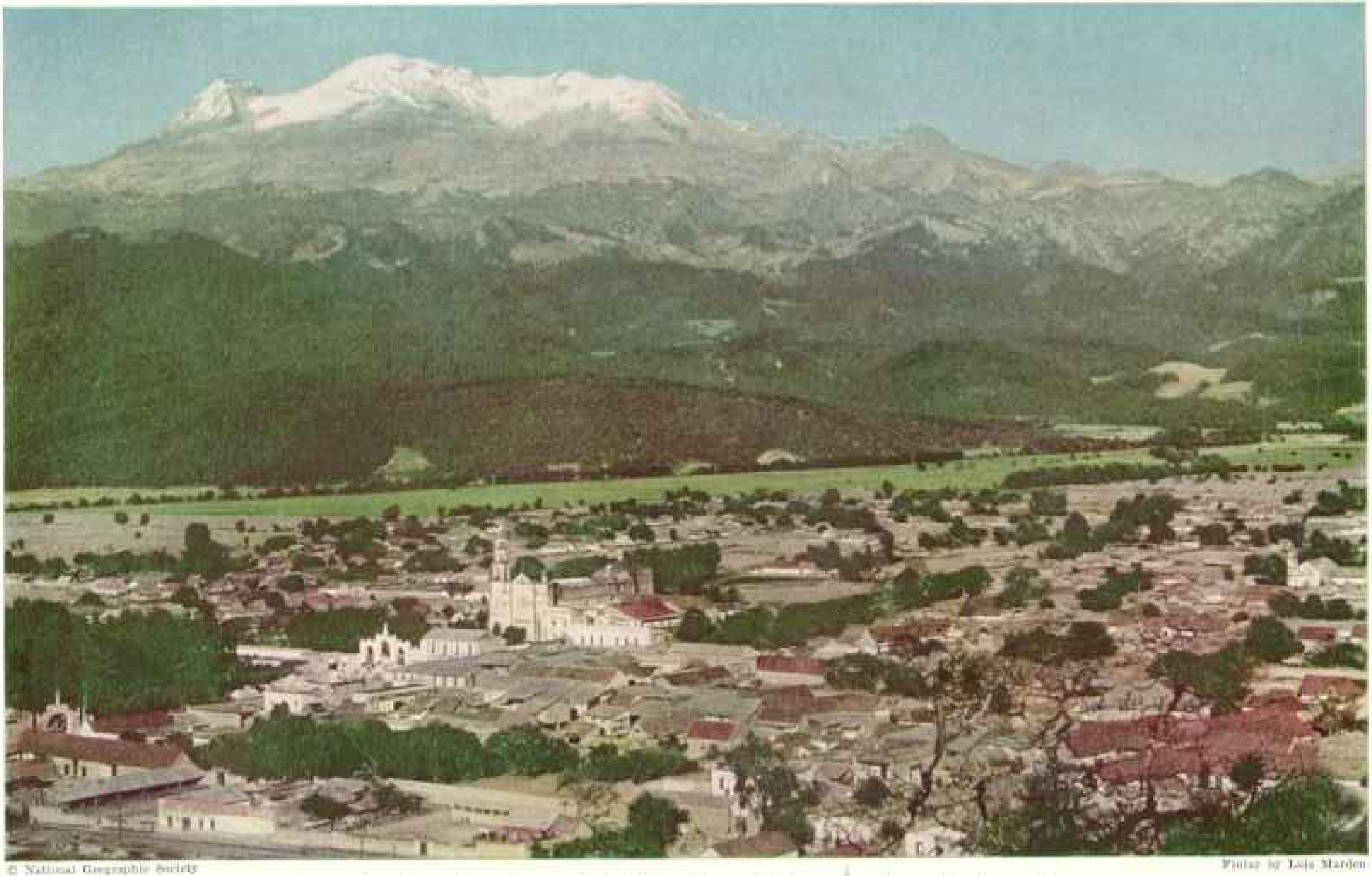


Photo by Lois Marden

Across the Pass from Popo, the "White Woman" Sleeps under a Blanket of Snow

Both mountains overlook the town of Amecameca. Scant snows of the dry season cover Iztaccihuatl (shown here) only to her "knees"; later she will be encased in white down to her "toes." According to Aztec legend, the frigid lady is the wife of fire-breathing Popocatepetl (Plates X and XIII).

Kodachrome by Lois Mattox

Multicolored Pottery of Oaxaca Reflects a Blazing Tropic Sun

Earthenware from this southern Mexican State glows with fused color. Though simple designs are usual, occasionally pictorial scenes are traced on large pieces. The writer found one such drawing copied from a National Geographic Magazine color plate.

 Painting Courtesy of Carnegie Institution of Washington

For Centuries the Jade-studded Jaguar Throne Lay Buried

Mexican archeologists exploring Chichen Itzá in 1936 discovered a concealed temple in the majestic pyramid of Kukulcan. Within its secret chamber was found a huge limestone box, covered with two slabs. Beneath the slabs lay this ancient throne, carved from a single block of stone in the figure of a jaguar and painted red. Spots on the body and eyes are inlaid disks of jade; fangs and teeth are of white stone. The blue disk on the back is a turquoise mosaic. The figure is 33 inches long, 27 inches high.

concussion rocked the theater. It was as if the mighty foot of a displeased deity had squarely kicked the building. The projector stopped and the lights went out. Repeated shocks shook the theater. Women screamed and men shouted in the darkness. Over the uproar a magnified voice thundered redundantly, "Calm is needed. Calm, calm!" It was the manager speaking through the sound amplifier. After a minute and forty seconds, the earth tremors suddenly ceased, leaving an anticlimactic silence.

"Keep your seats," the metallic voice resumed. "There is no need for panic; all the doors are unlocked. Besides," it added philosophically, "no one escapes his fate."

That same earthquake laid the town of Maltrata, fifty miles to the south, in ruins; a score were killed and three times that many injured when walls and roofs collapsed as if made of toy building blocks.

Terrified survivors reported that at the height of the seismic disturbance the Peak of Orizaba spat fire (page 356).

Throughout the Republic damages amounted to hundreds of thousands of dollars. Yet that night in Perote the show went on and Lily Pons finished her song.

At Teziutlán, where we drove the next day, the left-hand tower of the church had toppled over during the earthquake.

Here we took leave of Samuel.

"Be careful, sirs," he admonished us. "Now you go into the interior in earnest. Go with care; pick your guides well. We shall meet in Tlaxcala."

"*¿Quién sabe?*" (Who knows?) gloomily screeched Marina, swinging head downward in her cage. These were her first words; in the course of time they proved to be her entire vocabulary.

Driving back through Perote, Samuel would be there the next afternoon; it would take us four days, making our westward swing chiefly on horseback.

Sacrificial Scoreboard of Skulls

In the Hotel Central that night, Homer and I were still wondering how we would get to Tlatlauqui (Tlatlauquitepec), still farther to the northwest. William Prescott, historian of the Conquest, says Tlatlauqui is the Çocotlan of Bernal Díaz. It was in Çocotlan that observant Bernal first saw the rack of rails on which skulls of human sacrificial victims were strung. He counted more than a hundred thousand skulls on one grisly testimonial to Aztec piety!

"I repeat," he says, "there were more than one hundred thousand."

It developed that there was a rudimentary road to Tlatlauqui from Teziutlán, and early the next morning the hotel porter came to say that he had found someone with a car who would drive us over it.

Tlatlauqui had an almost deserted air; it seemed large for its meager population. Its pleasant Hotel Soledad had a patio garden delightfully filled with flowers. Just outside our door was a large flowering *floripondio* bush, hung with heavy-scented white trumpet-shaped blooms.

The proprietor of the hotel had an orchard in which he grew apples nearly the size of coconuts. We stowed some of these in our knapsack; while they lasted they added variety to the no-fruit-or-greens diet of the Mexican highlands.

River Mixes Gunpowder

We wanted to visit Zautla because Alfred P. Maudslay, English translator of Bernal Díaz's history, says Zautla was probably the Çocotlan of the 16th-century reporter, and not Tlatlauqui, as Prescott thought.

On the way, by horseback, we saw in a brook a creaking device like a water wheel slowly turning a blackened keg.

"It is used to mix gunpowder for making fireworks," said Gilberto. "About a year ago two men were killed in this village by an explosion of gunpowder they were mixing by hand. Now they let the current do the work, out here away from all habitations."

Mexicans are skilled in the manufacture of fireworks, and no place is without its respected maker of festive rockets.

At Zautla, Gilberto, our muleteer and guide, took us to the house of a relative. The latter furnished us food, but no information of the skull rack that existed here if Zautla was indeed the Çocotlan mentioned by "our Bernal." Our host said the only *calaveras* (skulls) of which he knew in Zautla were walking ones. This was a pun; in Mexico a masculine *calavera* is in colloquial speech a Don Juan—one who is much in favor with women.

It was nearly ten when we rode into Ixtacamaxtitlán. No sound heralded our entry save the grating of our horses' metal-shod feet on random cobbles. Heavy double-leaved doors were shut and no light showed in all the murky length of the street down which we rode.

"Hobson's Choice" of Beds

Gilberto intuitively located the inn in the obscurity and pounded on its tightly fastened great door. An old woman parleyed briefly

In a Perote Movie House the Author Sat Through an Earthquake

Shortly after this peaceful street scene was photographed, the town was rocked by a violent earth tremor. Lights went out at the motion picture theater and repeated shocks shook the building. But after a few minutes the show was resumed. While Perote escaped with a few cracked walls, Maltrata, 50 miles away, was laid in ruins, with scores killed and injured (page 353).

through a crack, then swung open the doors to admit us and our "beasts" to lodging for the night.

In the wavering circles of light from three candles we ate the omnipresent eggs and beans and watched our beds being made up. One was atop a high table of rough pine; the other was made of three long benches pulled together and covered with a blanket. Homer and I tossed a coin; I won—that is, I won the privilege of sleeping on what we thought to be the more sumptuous bench-bed. Gilberto retired to the interior of the house with his animals.

For Marina we fixed a hook high up on the wall, out of reach of possible marauding rats.

Even the thick sarape and all the clothes of daytime wear could not entirely keep out the mountain chill. Then I discovered that of the three benches on which I lay, the center one was highest; no matter which way I turned I rolled off that wooden backbone.

At gray six o'clock we arose. The old woman gave us a big breakfast and we asked her about the town's past.

"The old Ixtacamaxtitlán was up there, Engineer," said the old woman, pointing to a high mesa of brown rock that thrust its flat head hundreds of feet above the valley floor.

"There are up there many ruined houses and a cave in which there is an idol. My son has climbed the hill and seen these things."

What the old woman said is confirmed by the histories. When Cortés came he found the chief living in a palace atop the high plateau with his principal men and retinue. Chroniclers say that five or six thousand people lived up there, and that many more made their home in the valley below.

Cortés stayed here three days, then set out for the famous city of Tlaxcala, to which he had already sent messengers bearing a letter and "a fluffy red Flemish hat, such as was then worn." We set out, too.

A Modern Quixote and His Squire

This time I drew a white mule, an animal so small that I had to lift my feet whenever we came to a rock outcropping in the trail. I am about six feet tall, yet Homer topped me by three inches, and his was by right always the larger animal.

Hung by the Neck in the Main Street of Chalco, Judas Goes Up in Smoke As Watchers Flee

It is an old Mexican custom to burn such effigies on Good Friday. In this case the scarecrow figure was stuffed with sweets, tinned food, beer, and fireworks. After much popping and smoking, the dummy finally burst with a loud bang, scattering his stuffing. All rushed back to scramble for choice bits.

With a 14-year-old nephew of the old woman as our guide, we started over the high ridge that lay between us and Tlaxcala.

Astride the small white mule and shrouded in my Ayahualulco sarape, Homer said I looked like an enveloped Sancho Panza to his lank Don Quixote. And indeed it might have been a scene from the Sierra Morena adventures of the gangling madman, although I lacked many inches of girth and rotundity and Homer a lance, goatee, and a barber's basin to complete the picture.

Somewhere along our trail were said to be the remains of Tlaxcala's famous wall, built in pre-Cortés times as a defense against attacking Aztecs from the Valley of Mexico. Tlaxcala was an independent republic at the time the Spaniards came, and waged unceasing war against Montezuma.

The ruins of the wall of Tlaxcala, an encircling feat of engineering which has been compared, in its function of keeping out invaders, to the Great Wall of China, are not marked on government archeological maps, yet Maudslay and others say they still exist. Though we looked for the ruins we found nothing, and the occasional natives we met disclaimed all knowledge of them.

At 10,000 feet by our altimeter we entered a clinging blanket of dank rain cloud. Before long it began to rain, a cold, persistent downpour that congealed all sensation. I wondered when we would get to Terrenate.

"*¿Quién sabe?*" screamed Marina.

I took her under my sarape where she contentedly cheeped the rest of the journey.

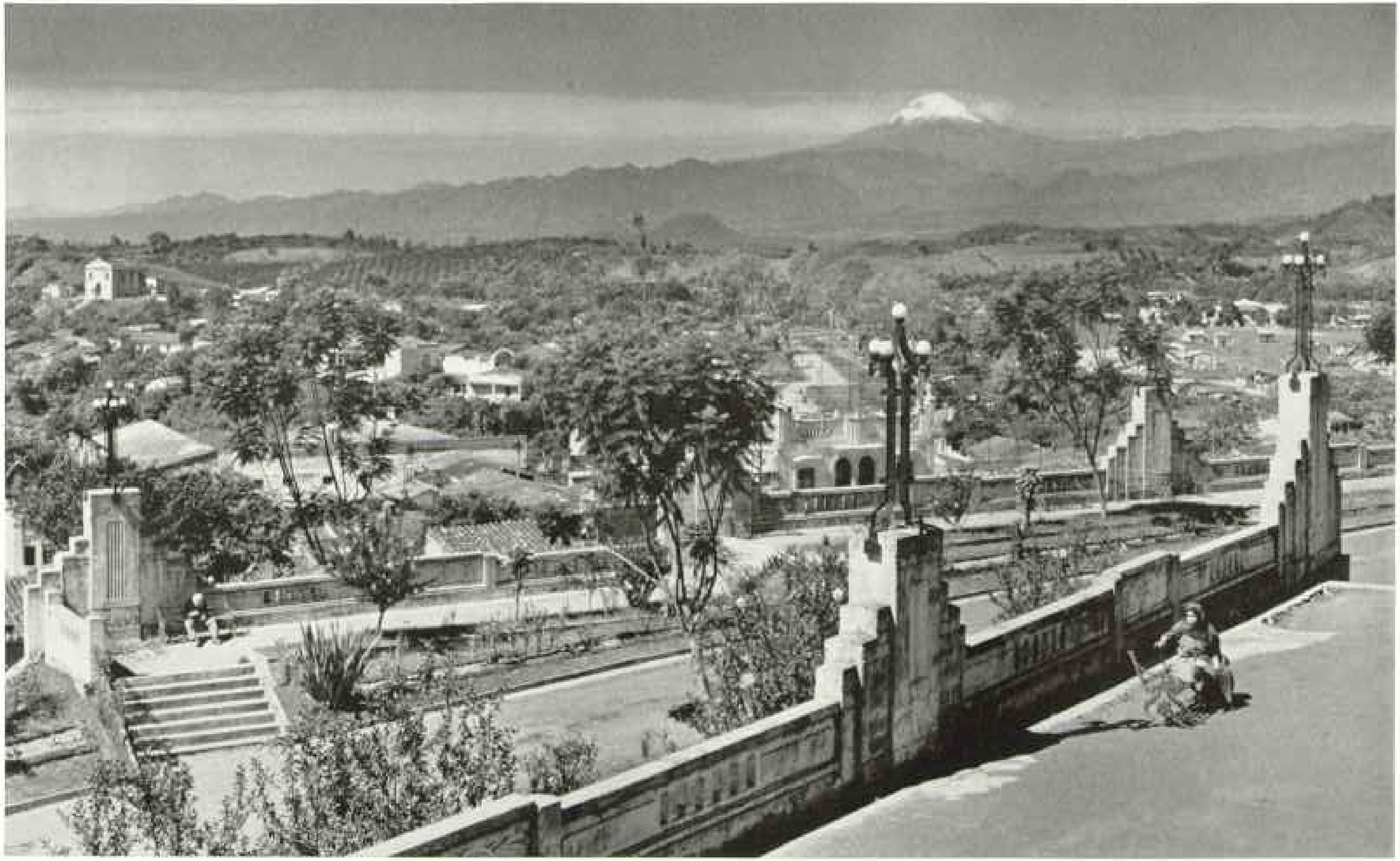
Beyond Terrenate we found a truck loading squat hogsheads of *pulque*, for this region specializes in the cultivation of the maguey, the sharp-leaved plant from which the national drink is made (Plate X).

The driver said he would gladly take us to Huamantla, but that we would have to ride on the open platform with the round-bellied pulque barrels.

So we entered Tlaxcala, the Land of Tortillas, joggling and bumping through the rain with a load of *octli*, as Aztecs called fermented juice of the American agave.

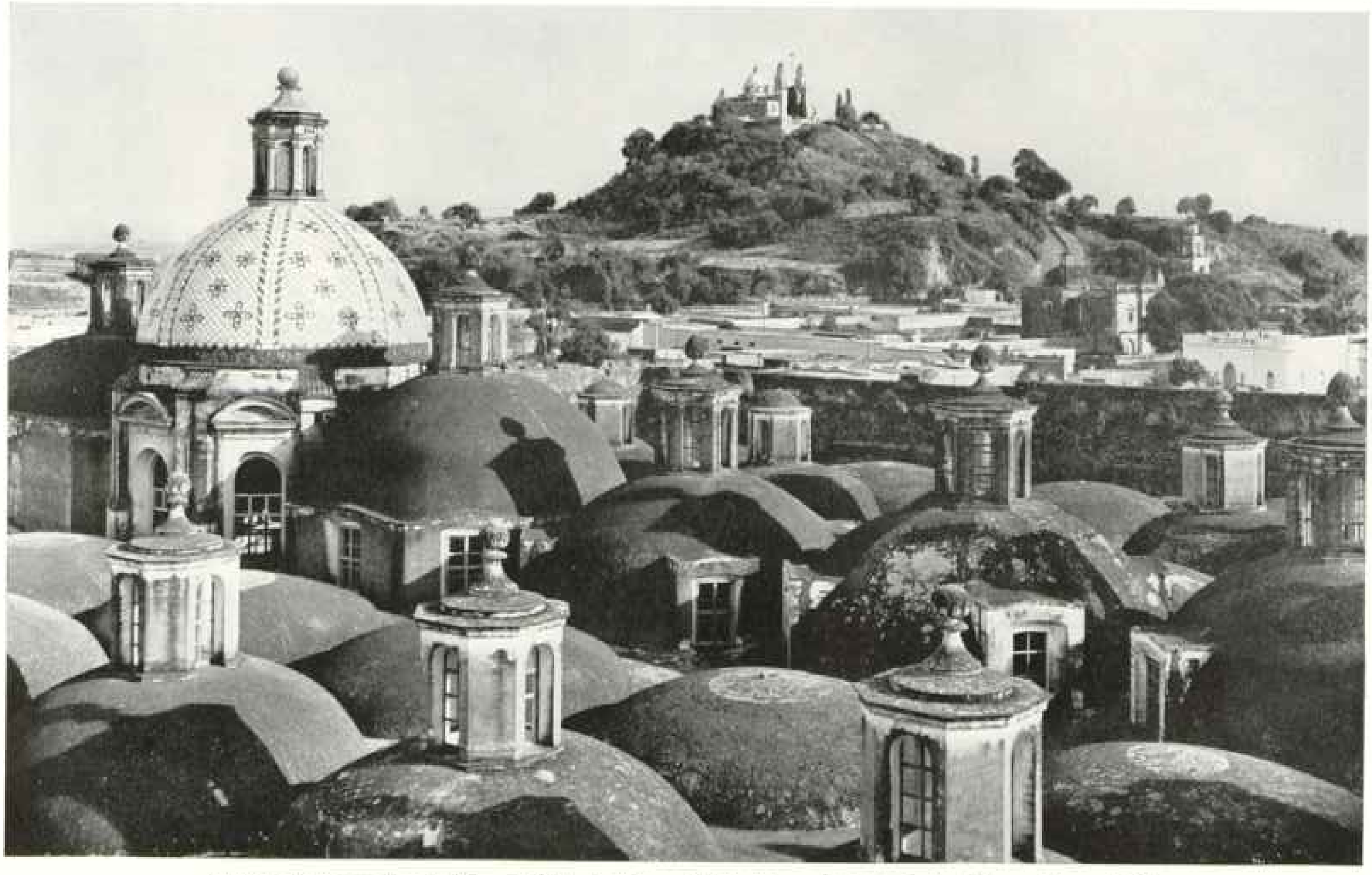
Tlaxcalans Battled Cortés

Cortés did not easily win the friendship of the Tlaxcalans. They fought him in several battles before acknowledging his leadership and joining his march on Mexico. One of the Tlaxcalan council, Xicohtencatl, aged and



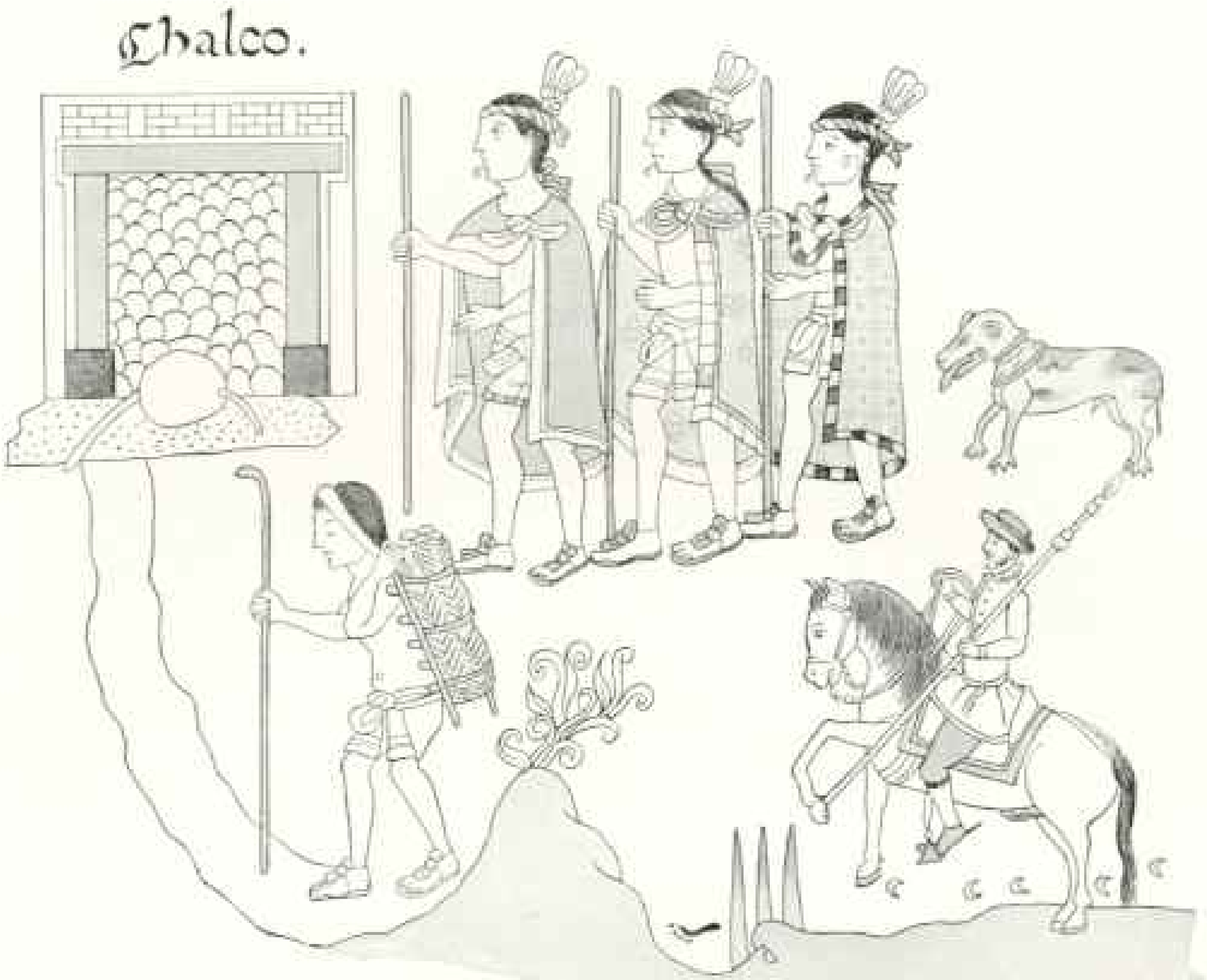
Like Japan's Sacred Fuji, Orizaba Thrusts a Perfect Snow-white Cone toward the Heavens

To many a traveler approaching Veracruz by steamer, this symmetrical mountain silhouetted on the horizon is his first view of Mexico. Here it is seen from Juárez Park in Jalapa. Orizaba (18,077 feet) is exceeded in height in North America only by Mount McKinley in Alaska. Officers of General Scott's U. S. Army first scaled the cone in 1848. Experienced climbers have little difficulty in the ascent, and find glissading down the steep snow slopes thrilling sport.



Above the Many-domed City of Cholula Rises a Huge Pyramid That Looks Like a Natural Hill

So old is this vast monument that its original outlines have been lost. Today trees and grass grow and a tile-roofed church rises where the plumed serpent Quetzalcoatl was worshiped by the early Mexicans. Suspecting a plot, Cortés here slaughtered more than 3,000 Cholulans while his Indian allies, the Tlaxcalans, looted the city of their hereditary enemies (page 360).



Past Smoking Mountain the Spanish Conquerors Marched to Chalco

In this early Mexican drawing footprints and horseshoe crescents denote the passage of the army. The horseman represents the Spaniards, the three chiefs their Indian allies, and the porter their native baggage carriers. The original Lienzo de Tlaxcala disappeared from the Tlaxcala city hall during Maximilian's reign. From a duplicate, printed copies were made by the Mexican Government in 1892, and the one from which these reproductions were taken is now in the Library of Congress at Washington, D. C. (See "In the Empire of the Aztecs," by Frank H. H. Roberts, NATIONAL GEOGRAPHIC MAGAZINE, June, 1937.)

nearly blind, voted for peace. His son, Xicohtencatl the younger, wanted to exterminate the Spaniards, and even after the peace treaty was constantly rebellious.

In Huamantla that night we had a late supper in the kitchen of a small inn, where rows of red earthenware cooking vessels hung in dwindling recession along the smoky walls. Famous restaurants in America loudly proclaim the distinction of charcoal cooking; in rural Mexico it is hard to find food prepared in any other manner. The average Mexican country cuisine has little variety, but much flavor.

Montezuma for Congress

Painted blatantly on a wall at the edge of the modern town of Tlaxcala was a streamer sign advocating "A. Montezuma" for deputy to the Federal Legislature! Later we learned that there were two brothers Montezuma in town; one achieved the office and even now sat in session in the city over which his two ancient namesakes had ruled.

Private enterprise has built the elaborate hotel in Tlaxcala, a modernistic building that cascades splendidly down a terraced hillside and flaunts an Olympic swimming pool, jai-alai courts, and tennis grounds in a semitropical garden setting. Here Samuel, Homer, and I held a reunion.

Samuel had learned some of the town's sights. He took us to the Church of San Francisco, built in 1521. In it is a monolithic stone font in which, an inscription says, four chiefs of Tlaxcala were baptized when they made peace with the Spaniards and—outwardly at least—accepted their religion (page 359).

Every Mexican town has its market place,

Cortés Looks On as a Priest Baptizes Warlike Tlaxcalan Chiefs

This scene from the Lienzo de Tlaxcala, a Mexican codex made shortly after the Conquest, shows the conversion of four *caciques* (chiefs). The conqueror is seated (right) holding aloft a crucifix; behind him is his Indian mistress-interpreter, Marina, and a soldier. Acting as godfathers with Cortés were three trusted captains: Pedro de Alvarado, Gonzalo de Sandoval, and Cristóbal de Olid. On the wall hangs the picture of the Virgin carried during the campaign. The legend says: "Thus the chiefs were baptized." After the Spaniards had made an ally of the little republic, the bloody idols of Tlaxcala were removed and replaced by the cross. A *lienzo* is a document written on cloth.

but that of Tlaxcala is unusually unspoiled by urban influence. Here in scattered display are the multitudinous products of a fertile region (Plates IV and V). Though Tlaxcala means the "Land of Tortillas," maguey culture is most in evidence throughout the tiny State, and here were many products of this versatile plant: new yellow rope, loosely woven saddlebags and pouches, pulque, and the fat "worms of the maguey." These are a sort of caterpillar, which I found delicious when fried, tasting like crisp potato chips.

"Lost!"

As we sat down the next morning to an exotic United States breakfast of ham and eggs, we listened to the news announcer broadcasting from the capital.

"Attention!" he said. "The headquarters of police advises us that two American photographers are lost in the wilds of the Sierra de Puebla. The wife of Samuel Revilla, assistant and chauffeur traveling with them, 'denounced' to the police a short while ago that she fears they may have been captured by bandits, or are wandering lost, without food and water, through the impenetrable thickets of our remotest highlands."

At first the import of this announcement did not penetrate. Then the announcer mentioned my name and I turned to Samuel in surprise.

"Oh, señor," he said, "my wife must have worried at not hearing from me for so long."

"Why haven't you written her?" I asked.

"I did write," he countered, and added, "from Veracruz."

"But that was weeks ago," I said. "What have you been doing while waiting for me all along the road?"

He spread his hands characteristically. "There always seemed to be something to do. I saw the sights during the day, and at night—there were always *gallos*."

At night there were always "roosters." Such is the Mexican colloquialism for the custom of gathering a group of friends and going from house to house, serenading the belles of the town. While Samuel sang and plucked a languid guitar, fears for our safety had mounted in the capital.

It was ironical that we should be thought lost or held for ransom as we breakfasted in the luxury of fresh, white napery, unbendable silver, and tiled floors. I told Samuel to call his home by long distance.

As we approached Cholula, the sacred town of Quetzalcoatl, the Green-feathered Serpent, we could see the towers of the church atop the famed Pyramid of Cholula (page 357).

The Cholula pyramid is now covered with earth and grown over with herbage and trees. Nevertheless, this irregular mound was once the most famous *teocalli* (house of god) in Mexico, as excavations revealing its former magnificence have proved.

For here was the center and Mecca of the cult of the plumed serpent, that legendary god of the air who brought culture and the arts to Mexico and Central America. In the Valley of Mexico he was Quetzalcoatl; in Yucatán the Maya knew him as Kukulcan; and in Guatemala the Quiché-Maya worshiped his prototype, Gucumatz.

All mean "green-feathered" or "quetzal-feathered serpent," and all represent a bearded white god with whom Cortés and his men were associated by the Mexicans.

"City of Churches" Scene of Massacre

We climbed a curving flight of broad stone steps to the flat top of the pyramid of Quetzalcoatl, where the temple of another Deity now lifts its twin towers. From the summit are visible many of the 365 churches popular tradition ascribes to the Cholula district. By keeping close watch of the religious calendar, one may go to the festival of some saint every day in the year at one of these churches, which are supposedly built on the site of pre-Hispanic pyramid-temples. I was unable to learn what the pious Cholulan does on the twenty-ninth of February.

In a courtyard near the great pyramid occurred one of the blackest incidents of the Conquest. Having made allies of the Tlaxcalans by force of arms, Cortés marched with an army of them to neighboring Cholula, a then powerful city friendly to Montezuma.

While quartered there he learned of a plan instigated by the Aztec emperor to attack and destroy the Spaniards. Cortés assembled the principal men of Cholula in the great walled courtyard and formally accused them of the plot. Before the Cholulans could gather their wits, a harquebus was fired. This was a prearranged signal: the Spaniards opened fire, pouring volley after volley into the bewildered ranks of chieftains.

Attempting to escape through the narrow entrances to the courtyard, they were impaled on the weapons of the pikemen guarding the gateways. Cannons were mounted on the high courtyard walls; these thundered into the hordes who came in answer to the cries of their imprisoned countrymen within.

The Tlaxcalan legions, who had been encamped outside the city, now swarmed into the stronghold of their hereditary enemies and began a thorough looting, sacking, and murder.

In the cool words of Hernán Cortés in a letter to his king, "In two hours more than three thousand men died."

Popo Threw Forth "Much Fire"

Stretched panoramically across the backdrop of transparent highland sky are the peaks of Iztaccihuatl, the White Woman, and Popocatepetl, the Smoking Mountain (Plates VI, X, XII, XIII, and page 374).

While the Spaniards were in Cholula, Popocatepetl was in eruption, "throwing forth much fire," as Bernal Diaz says.

Diego de Ordáz, one of the captains, asked and received permission of Cortés to attempt to climb the burning mountain. The ascent was probably made while the army was at Cholula, though Bernal Diaz says the party started from Tlaxcala. We proposed to follow in Ordáz's footsteps and climb "Popo" too.

We entered Xalitzintla at sundown, after traversing a sandy level plain. Samuel left us at the first house on the fringe of the little village, to drive back to the Puebla road and around the north flank of Iztaccihuatl to Amecameca on the other side of the pass.

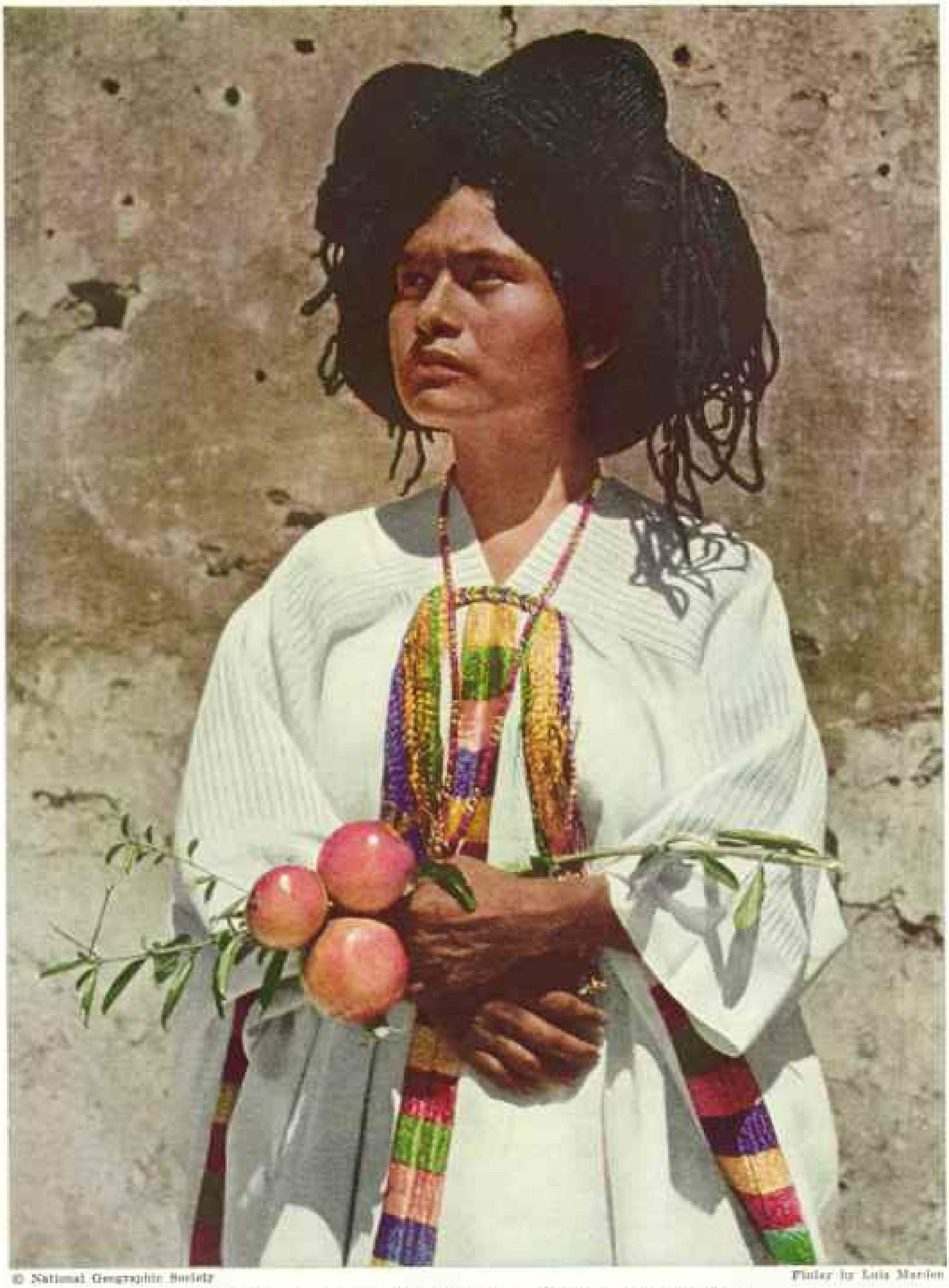
I asked the man who had been recommended to us if he could take us over the pass by way of Tlamácaz.

"Why not, señor?" he said. "I have a beast; I can borrow another."

Crossing the Pass of Cortés

After a long and bitterly cold horseback ride across the "Pass of Cortés," we reached Amecameca, where guides for the ascent of Popocatepetl were available.

In the morning Homer found that the cold of the previous night had so stiffened an ankle strained in dismounting that he could not



 Fuller for Lois Marden

Yalalag Finery Is Topped by a Crown of Black Wool

The twisted and braided headdress of this Oaxaca maid may have been one of the originals of our modern topless turban. Pomegranates grow in and about Oaxaca City. Near here, in 1932, Dr. Alfonso Caso discovered the famed Monte Albán jewels. (See "Monte Albán, Richest Archeological Find in America," by Alfonso Caso, National Geographic Magazine, October, 1932.) Modern goldsmiths of Oaxaca fashion reproductions of these famous pieces.

Painting by Luis Marden

Rainy-Season Clouds Rarely Reveal Both "Smoking Mountain" and "White Woman"

From the Mexico City-Puebla highway the eastern side of Popocatepetl (pronounced Po-po-ca-tay'-pet'l) and Iztaccihuatl (Ees-tahk-see'-waht'l) are seldom seen simultaneously during the summer months (Plate VI). The polysyllabic names of Mexico's best-known mountains have long been tongue-twisters of grade-school geography classes. In the foreground are maguey plants, from which the national drink *pulque* is obtained.

 Photo by Lois Madden

Country Club Members Play Golf on an Ancient Lake Bottom

Nearly all of the lake waters that once encircled the Mexican capital have been drained. The water hazard of the ninth hole of the country club at Churubusco, in the suburbs of Mexico City, receives many offerings of topped balls. Golfers of the club receive coaching from the "pro," Al Espinosa.

Kodachrome by Luis Marden

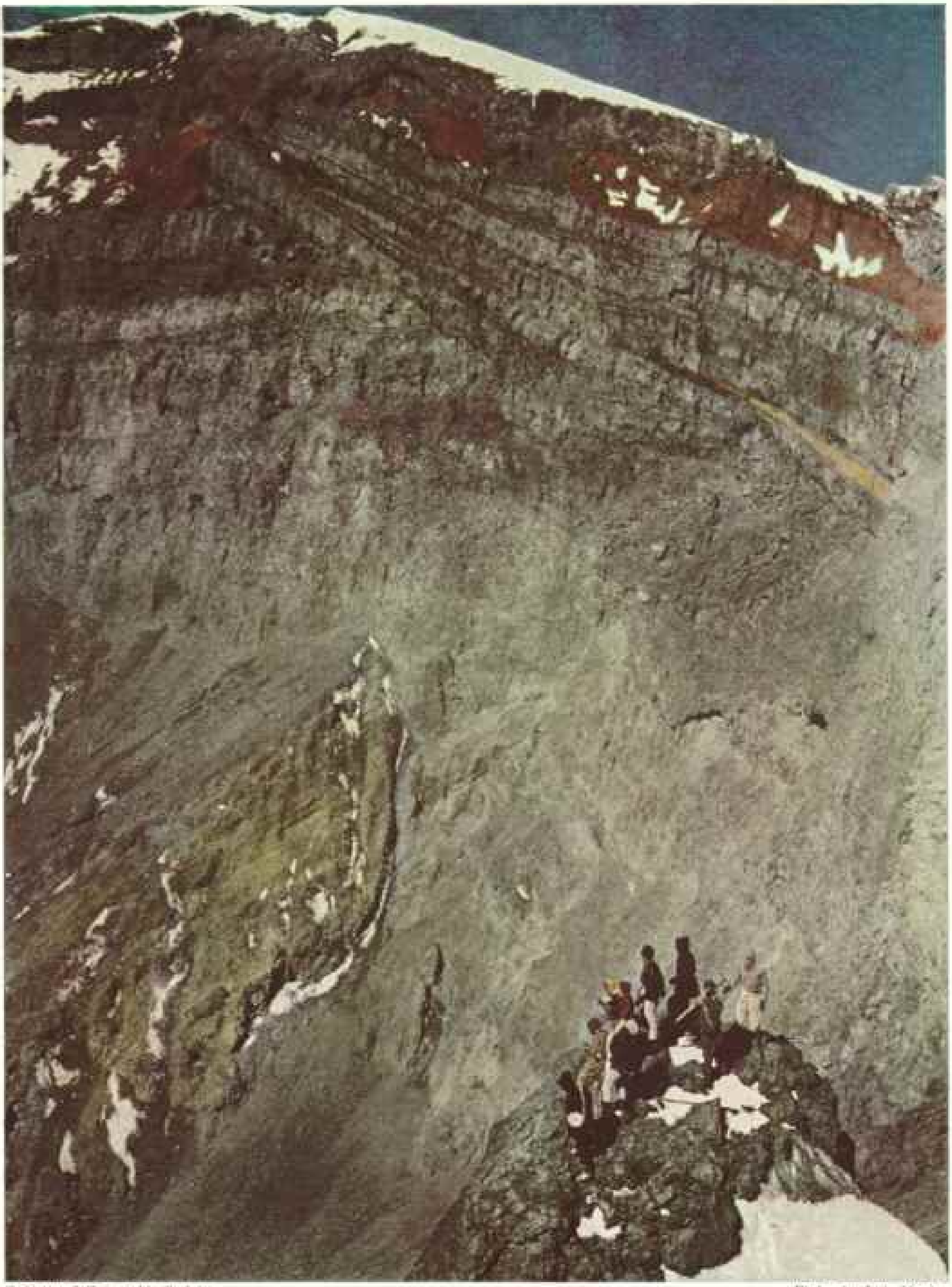
Popocatepetl's Lower Slopes Look Deceptively Flat

The porters carried a hundred pounds of photographic equipment to the top. As the writer approached the summit, the mountain seemed to stand on end, with an upward tilt of about 45 degrees.

© National Geographic Society Finlay by Luis Marden

Even Glib Macaws Find it Hard to Say "Teotihuacán"

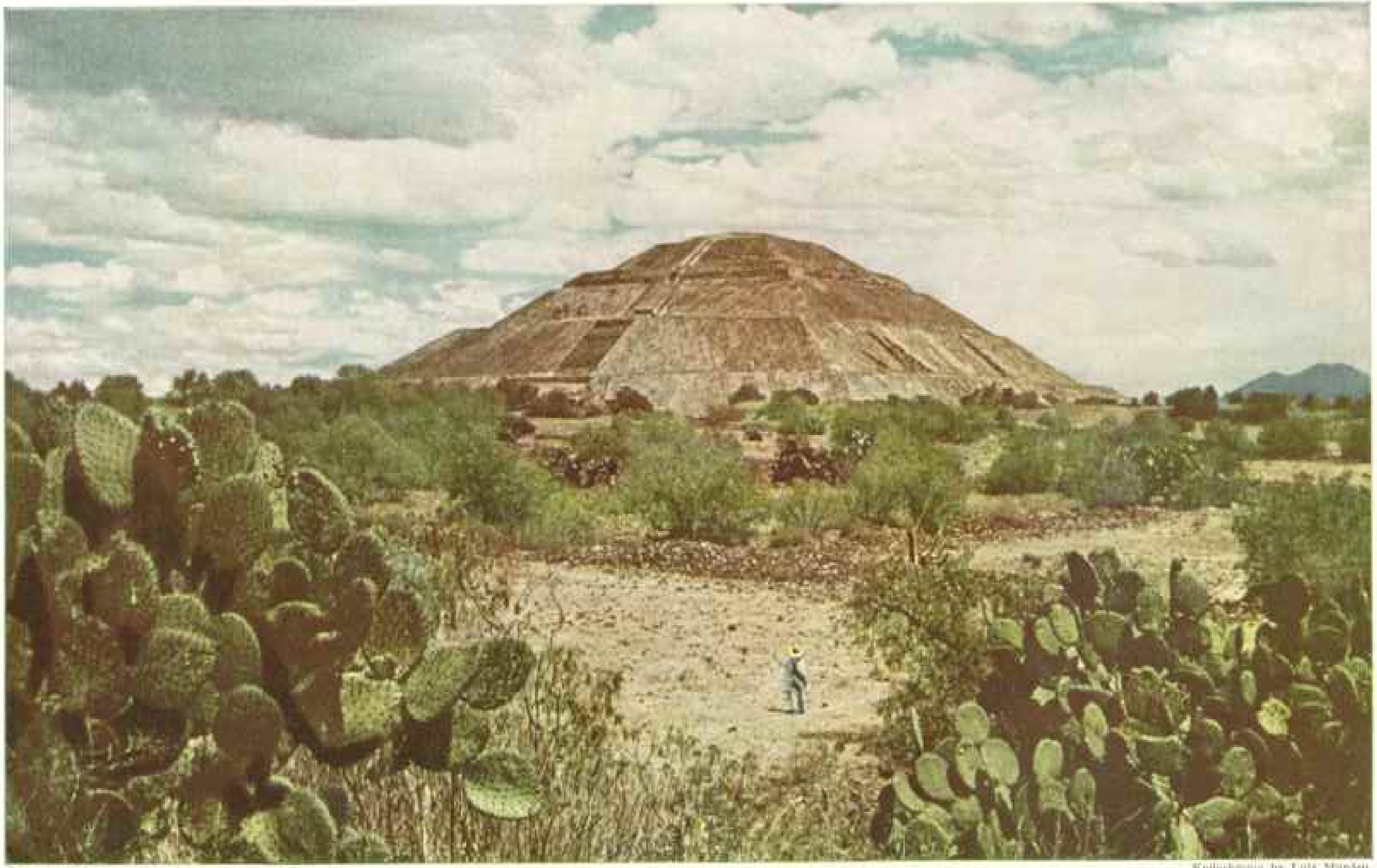
Four noisy birds from southern Mexico serve as gaily clad doormen at a grotto restaurant near the pyramids.



 Pintar by Luis Marden

Sulphur-streaked Walls of Popo's Crater Drop Sheer for a Thousand Feet

Only about half the total depth of the enormous cavity is shown in the photograph. Though Popocatepetl is listed as a quiescent volcano, it still exhibits sporadic activity. Recent eruptions have not had the fury and devastating effects of those recorded in Aztec times. Formerly sulphur was quarried by men who lowered themselves in baskets to the crater floor.



Kodachrome by Luis Marden

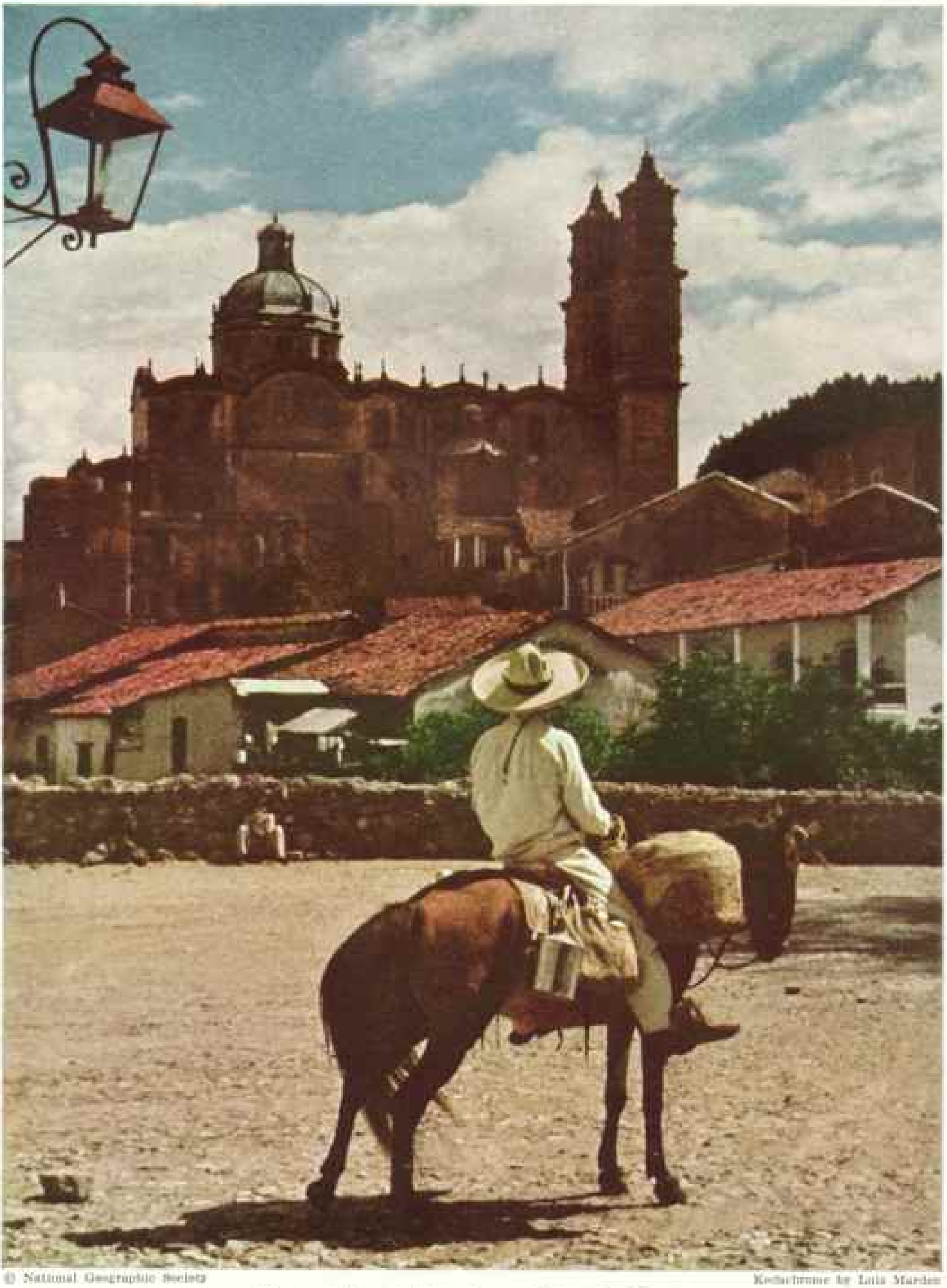
Pyramids of the Sun and Moon Were Ancient when Cortés Came to Mexico

The larger of the two pyramids at Teotihuacán, shown here, has been reconstructed and is called the Pyramid of the Sun. The two pyramids and fragments of other buildings are remnants of an unknown civilization that antedated the Aztec occupation of Mexico. Obsidian splinters, clay figurines, and other objects are strewn over the site of a vanished city that once surrounded the great mounds.

Kodachrome by Luis Marden

Cardboard Pots and Miniature Vegetables Make Light Loads for Children on Corpus Christi Day

On this annual feast day, costumed children attend special services at the Cathedral, in the main square of the capital. Children are dressed as country folk; little cowboys, priests, and nuns are also seen. The boy on the left carries papier-mâché pots to ease his load, while the girl holds small vegetables on her wooden tray.



 Reichenbach by Luis Marden

Borda Church Dominates Colonial Tasco

Built with revenue taken from the earth in the form of silver and other metals by José de la Borda, the Tasco church is often miscalled "cathedral" because of its ornate façade and imposing appearance. De la Borda, whose original name was Le Borde, emigrated from France to Mexico in 1716. Street lamps are typical of the colonial flavor of the town. Steep cobbled streets, wide-eaved houses, and a quaint atmosphere of a vanished period attract many travelers and art students to Tasco.

accompany us. We left him, smelling medicinal and looking disconsolate, with several blankets and a bottle of liniment, in the hotel. Marina stayed with him, drowsily repeating to herself, "Who knows?"

14 Cents for the Sun!

While we assembled our things, a dried-up herb seller with a cast in one eye approached.

"Go along, old fellow; we have no need for medicinal grasses," we told him.

"But, gentlemen, my herbs cure all illnesses. For things not of the body"—he leaned closer and the good eye gleamed—"I have the witch doctor's charms."

"Have you something to bring out the sun?" I asked him with a smile.

"Why not?" he retorted, and proceeded to tie together with red yarn a "buckeye" seed, a root carved in the shape of a hand warding off the evil eye with fore- and little finger, and three silvered beads.

"There you have it, señor. Do not have care: the sun will shine."

Amid the friendly gibes of my companions I paid the dealer in weather and health and pocketed the climate controller.

Our party consisted of Porfirio Salomón, veteran guide of the Smoking Mountain, his stout son, and a mule driver who would stay with the animal when she could go no farther.

Soon the road gave way to a narrow, deeply eroded path that must have been there in Aztec times.

Sulphur Formerly Mined in Volcano

In the last lava-sand hollow on the edge of the timber line were the ruins of an old sulphur smelter; a roofless stone hut and a tall masonry chimney fast sinking into the loose sand were all that remained.

"We shall see how much farther the *mula* can go; sometimes she will reach Las Cruces, up there," said Porfirio, pointing upward across the slope of sand and ragged snow patches to where an outcropping of reddish rock showed far above us.

From here we could see the hunched shoulders of the volcano, now curiously flattened and near.

Above Las Cruces—called so because of wooden crosses that stood here in sulphur-gathering times—the snow slopes stretched unbroken and unrelieved to the top, deceivingly close, yet hanging, it seemed, almost vertically above us.

We strapped on ice spikes, unlashed the alpenstocks, and muffled our heads in a sort of woolen aviator's helmet.

The sun was still warm upon us. I felt jubilantly certain that we should reach the top and make some pictures that same day. Porfirio was not so sure.

But the cloudless sky and encouraging sun beckoned us on, and for two hours we made good progress. The snow had a crust of just the right consistency; our spikes, not yet dulled by harder ice, took us upward in a series of short, incisive steps.

The angle of the slope just above this point seemed suddenly to shift; whether it was some optical trick or whether hours of climbing with head down had made us insensible to a gradual change, I do not know. But now the mountain seemed to stand on end; in places the slope must have inclined in excess of 45 degrees.

Breathing had for some time become noticeably difficult, though none of us was otherwise troubled by the altitude, which at this point was more than sixteen thousand feet.

Snow and Ice Storm Hinders Climb

We were, we calculated, within two hours of the top, when a rising wind began to whip particles of ice and snow off the hardening slopes.

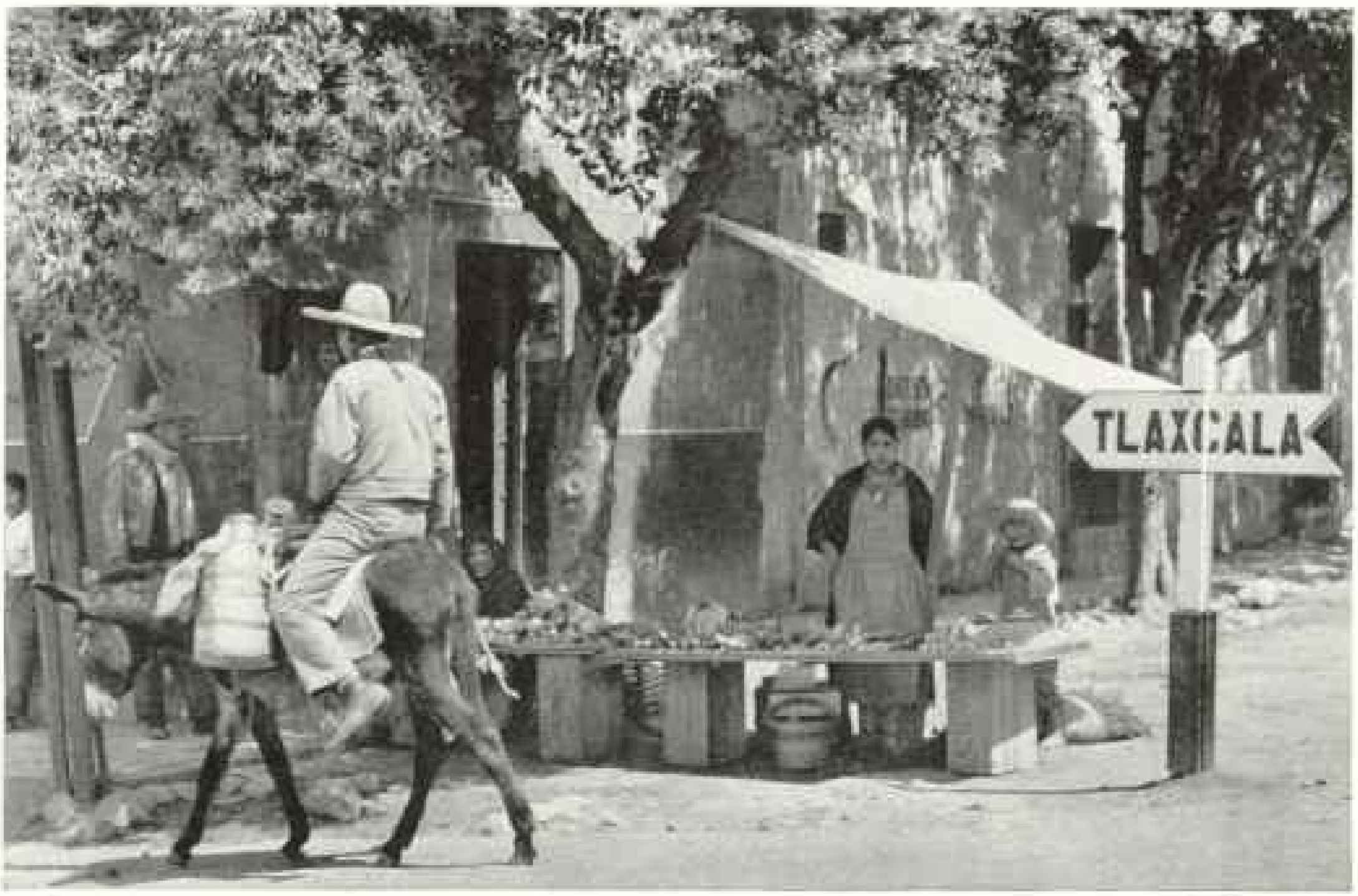
In an unbelievably short time the sky had completely darkened, and snow began to fall in earnest. The wind grew in violence until it became almost impossible to stand against it. We could scarcely see each other through our dark snow glasses because of the whirling ice crystals and snow.

Porfirio and the boy, weighed down by the heavy camera cases they were carrying supported by a tumpline around the forehead, could go no farther.

With the ice axes we cut a shallow shelf in the snow and ice and sat with our backs to the gale, hoping for an abatement. But it seemed to grow worse; Porfirio shouted that it was useless to wait any longer. Certainly it was impossible to make photographs.

But we had come so far and at such effort that I was determined at least to see the crater of the Smoking Mountain. There was only one way to go—up—and on the way down I could follow my trail in the snow which, if cut deeply enough with the ax, I was sure would not be obliterated for several hours.

Leaving Porfirio and the boy enveloped in whitened sarapes and looking like two snow men huddling with their backs to the wind, I went on. I left behind all but a small knapsack containing some limes, water, and a Leica—the last because the most cynical photographer is often an optimist where the weather is concerned.



A Road Sign Recalls the Capital of Cortés's Indian Friends

Without the aid of the fierce, Aztec-hating Tlaxcalans the small body of Spaniards might not have succeeded in their amazing conquest of a city of a hundred thousand people. This marker stands beside the Puebla-Mexico City highway at Texmelucan, known for its bright *sarapes*, or blankets.

Breathing was now a painfully audible procedure. At each breath it felt as if a hacksaw blade were being rasped along my breastbone, and I could take no more than three or four short steps before pausing to rest.

"False summits" encouraged me cruelly on; topping that "last" rise, I would find that the mountain lip seemed to curl over another long pull. In this fashion I stamped intermittently upward for nearly an hour and a half; then, as I dragged myself to the edge of another—as I thought—false summit, the ground suddenly fell away before me and I stood on the crater's edge.

The Crater of Popocatepetl

It was three o'clock. The wind had not abated in all this time; the clouds pressed closer around me. A roaring sound, several notes lower than the howling of the wind, I knew to be the voice of the mountain, but except for the space immediately before me and the curving sharp line of the rim on either side, I could see nothing of the cavity itself.

Clouds swirled below me in a vortex caused by the hollow depths of the crater; from under these rose a reek of sulphur and the subdued growling and muttering of the fire at Popo's heart.

I had come out on the lowest part of the crater's edge; to my left the lip sloped upward to where a tall wooden cross leaned over the whirling mist. On the right the rim tilted up more sharply still, the crater walls rising sheer to their greatest height, 17,887 feet above the sea.

Suddenly the gyrating clouds in the depths parted. Before me lay exposed the vitals of the terror-god of Montezuma's people (page 374).

Popocatepetl rumbled and groaned in noisy unrest. Now I could discern the nearly perfect outlines of the smaller crater—the "second funnel," as the Mexicans call it—round and remote nearly a thousand feet below me. At its bottom, fleetingly revealed by gaps in the clouds of steam that hung over it, is the fabled green lagoon, a small bubbling disk of malachite green against the yellow sulphur-scarred walls of the secondary crater.

On a ledge but a few yards below the narrow edge on which I stood were the skeletal remains of the sulphur gatherers' winch, a framework of dried timbers that leaned over the turbulent depths. From here the miners of brimstone would lower themselves to the crater floor in a basket that also served to haul up the quarried yellow chunks.

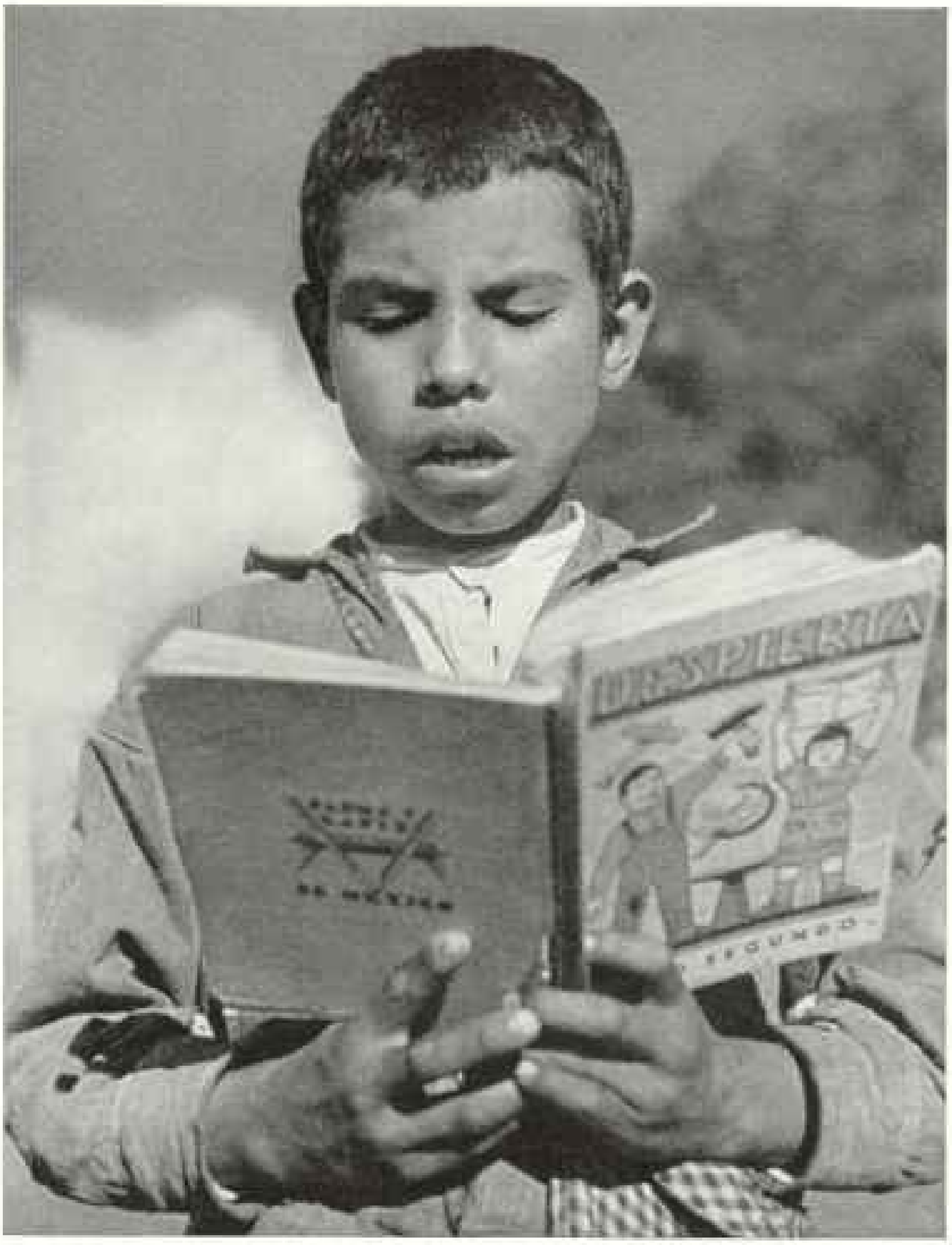
Several basketloads would be dumped into a steer-hide bag. The mouth was tied up: a push and the taut hide would go careering wildly down the steep-angled snow slope, gathering speed and scouring out a shallow track until it tumbled into the trying camp at Tlamácaz.

The Ascent of Ordáz

It is not definitely known if Diego de Ordáz, captain under Cortés, ever reached the top of the Smoking Mountain. Bernal Diaz says he made the complete ascent; Cortés in the second letter to his king relates that Ordáz got nearly to the top, but was prevented from achieving his goal by a violent eruption.

Other authorities were about equally divided; but it seems certain that the venturesome captain climbed well above the snow line at least, for it is told he brought back icicles as proof of his deed.

On his return, Indians stood in awe of Ordáz, kissed his clothes, and brought him offerings as if he had been a deity, for having successfully dared to approach the abode of their devil-god.



José Reads from a Textbook, "Awake," in an Open-air School at Ayotzingo

Modern Capital on Aztec City's Site

Cortés first saw the Valley of Mexico from the heights of the pass which bears his name; Ordáz and his companions looked down from the flaming mountain's heaving sides to where, on the site of modern Mexico City, the lime-white Aztec capital Tenochtitlán lay, bright and distant, in its bed of encircling lakes.

My thoughts were interrupted by the sound of voices. Porfirio and his son came panting over the edge of the crater wall. The wind had died down and the weather was clearing up.

"The weather charm is working," Porfirio said, smiling. And indeed it was; the sun came out in full force and the whole of the great hollow was revealed to us, obscured only intermittently by clouds of steam.

We made nearly half the circuit of the crater and took many pictures. That charm now has its place in my camera case, and, even if it never works again, I shall remember it fondly for that one miracle.

Descending, we spent the night at a forestry camp on the lower slopes.

Next day, resuming our journey by motor, we came to Mixquic, recorded by Bernal Diaz as a stopping place on that first easy entry into Mexico.

In Mixquic I found the last surviving bit of pre-Cortés valley scenery and life. For here

Photograph by James Baldwin

Chapultepec Castle, Scene of Many Tragedies, Looks Down on Mexico's Famous Park

Here, on the site of a summer retreat of Montezuma II, are preserved mementos of Emperor Maximilian and Empress Carlotta. Monuments record the fierce fighting which occurred here during the war with the United States. Begun in 1785, the castle served for many years as the "White House" of Mexico.

Compañía Mexicana Aerofoto

Visitors from the United States Know Well the Hotel, Restaurant, and Amusement Center of the Mexican Capital

The gleaming Palace of Fine Arts (center), a combined theater and art gallery, stands in a slight depression caused by its sinking during construction. Thousands of tons of liquid concrete were pumped into the spongy subsoil. The setback skyscraper (right) is La Nacional, tallest office building in the capital.

Popocatepetl's Crater Was the Mouth of an Aztec Hell

Mexicans believed the souls of dead tyrants were tortured in the fiery volcano, and that roars and tremors of eruptions were the cries and writhings of the condemned. Jutting out over the abyss is the framework of the winch once used to lower sulphur gatherers into the crater and hoist up the filled baskets (page 370).

begins the first of the intricate network of canals that still lace the muddy meadows and spongy island-gardens of Xochimilco and its environs.

Unlike near-by Xochimilco, however, Mixquic had no marimbas, billboards, or beer gardens. Conversely, too, the waters of its canals are clear and swift-flowing.

Homer and I, accompanied by Samuel, took a flat-bottomed *chalupa*—a craft that resembles nothing so much as an English punt—out into the maze of waterways that begin at the entrance of the highroad into the town. Once away from the landing place and well into the interior of this land-and-water kingdom, it was easy to imagine oneself back in the days before the white conquerors came out of the east.

The limpid canals ran between orderly rows of slender, wonderfully tall willows that fringed the burgeoning *chinampas* (island-gardens) on which flowers and vegetables grew. Our boatman poled us slowly along past men at work in the gardens and women at washing places; they called out to each other in the soft birdlike twitter of the Nahuatl tongue of their ancestors.

"Floating Gardens" That Really Float

I was astonished to find in Mixquic real "floating gardens." It is the habit of guidebooks and travel brochures to apply this phrase to the island-gardens of Xochimilco, but there the gardens have not truly floated for centuries; and so I thought it to be the case in the few other places still watered by the old canals.

Yet in Mixquic that afternoon, Pablo Cuauhtianquiz (Paul Eagle-in-Market-Place), our boatman, showed me a chinampa that, while not floating free in the current, was of such recent construction that it was held to the bottom only by a handful or so of roots.

"Disembark and jump on it, señor," Pablo bade me.

I did, and found that the springy earth gave beneath my tread. The whole mass quivered and undulated on the current like a coconut-husk doormat afloat in a bathtub.

Old chronicles recount that chinampas were made by weaving a raft of saplings and roots. This was covered with a layer of earth and sown with flower and vegetable seed.

Fed by the water below and the sun above, green things grew amazingly in their humid suspension between the two life-giving elements.

The chinampas were poled from place to place in the lake, to suit the convenience of gardener and customer. Some grew so large that it is said the gardener dwelt upon them, building a little hut on the floating island itself. Eventually the groping roots of the growing plants found the bottom and anchored the chinampa so securely that it floated no more. Such is the case with the "floating" gardens of Xochimilco, and with most of them in Mixquic. However, I saw many islands but recently planted, so new that they had not yet "jelled."

Ancient Magnificence Is Gone

From Mixquic we followed the Spanish shades through Tulyehualco and Tlahuac to Ixtapalapa, where the army came to the broad causeway that stretched across the waters to Tenochtitlán.

But nothing remains of the old splendor. Even at the time Bernal Díaz wrote his history in the 1560's, he laments that "of all these wonders that I then beheld, today all is overthrown and lost, nothing left standing."

Ixtapalapa was the Spaniards' introduction to the ceremonies of the Aztec city and court; here a group of nobles headed by the governor, who was Montezuma's brother, greeted the pale gods and welcomed them to the city.

Near Ixtapalapa is the Hill of the Star on which the Aztecs periodically renewed their 52-year cycle, kindling anew the sacred fires on the breast of a sacrificial victim.

And so we drove into the "great Tenochtitlán," rolling modernly on air and rubber into the ancient city of the Montezumas.

Here I later said goodbye to Homer, who remained in the capital to resume studies at the University of Mexico.

Marina I left with my laundress. The little parakeet is probably there still, performing acrobatically in her cage on some sunny Mexican roof, and repeating cheerfully the two words that form her entire vocabulary.

Thus was the retracing of the Conqueror's trail completed; we left Cortés with his first entry into Mexico, at the apogee of his career. His subsequent eviction from the city with heavy losses, the "Sad Night" that followed, the long months of planning and bitter campaigning—all these are another story.

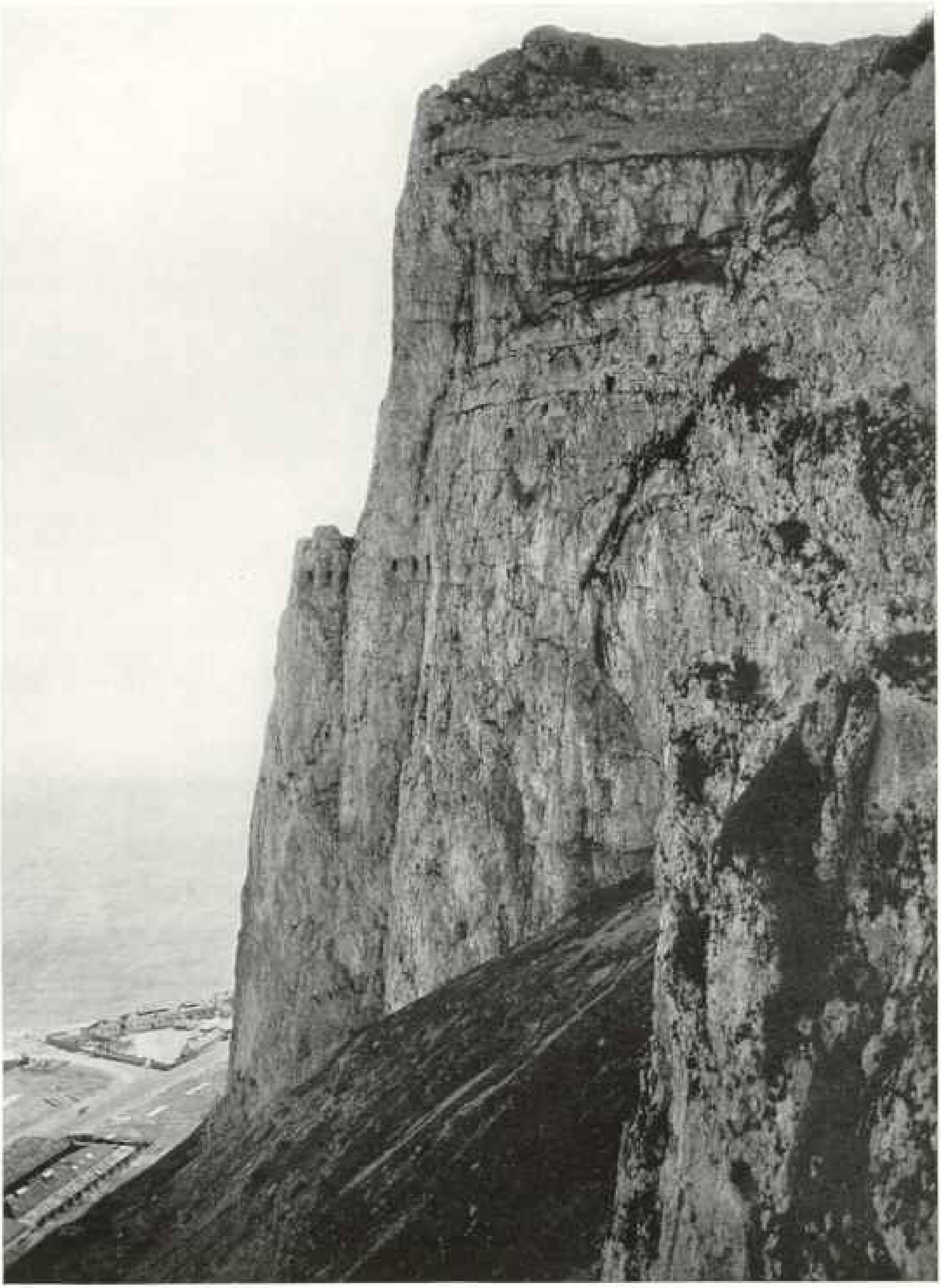
Mexico eventually fell, conquered by the strength of the sword and internal strife.

It has been said that the Spanish Conquest cut off a promising civilization in a stage of incipient glory; others hold that the Aztec empire was already in a cultural and military decline, and that its waning was but little hastened by the advent of the white gods.

In the words of Marina, the parakeet, "*¿Quién sabe?*"

Who knows, indeed?

The Rock of Gibraltar



Photograph by Publishers' P. & .

Gibraltar Has Become a Synonym for Strength

Familiarly known as "the Rock," this tiny but powerful colony commands the entrance to the Mediterranean and forms a vital British steppingstone to the Orient. Gibraltar's limestone cliffs tower to a height of 1,395 feet and afford ideal embrasures for its heavy guns. The Rock's rugged face is pockmarked with gun ports.

Photograph by David A. Martin

Holy Trinity Cathedral Perches on a Shelf between Rock and Harbor

The colony has two main settlements, the Town (above) and Calera, a fishing hamlet (page 387). Most residents of Gibraltar are of Mediterranean origin, yet English is the principal language. British Tommies in khaki and jack-tars are the only visitors in these war times.

All Photographs from Pictures

British Air, Land, and Sea Power Stand Guard at the Mediterranean's Western Portal

All three forces show in this remarkable photograph of a naval flying boat on patrol above the southern tip of Gibraltar. Just below the plane lie several British warships, protected by the moles which form the harbor. Graving docks, machine shops, and barracks help make this one of Britain's strongest naval bases.

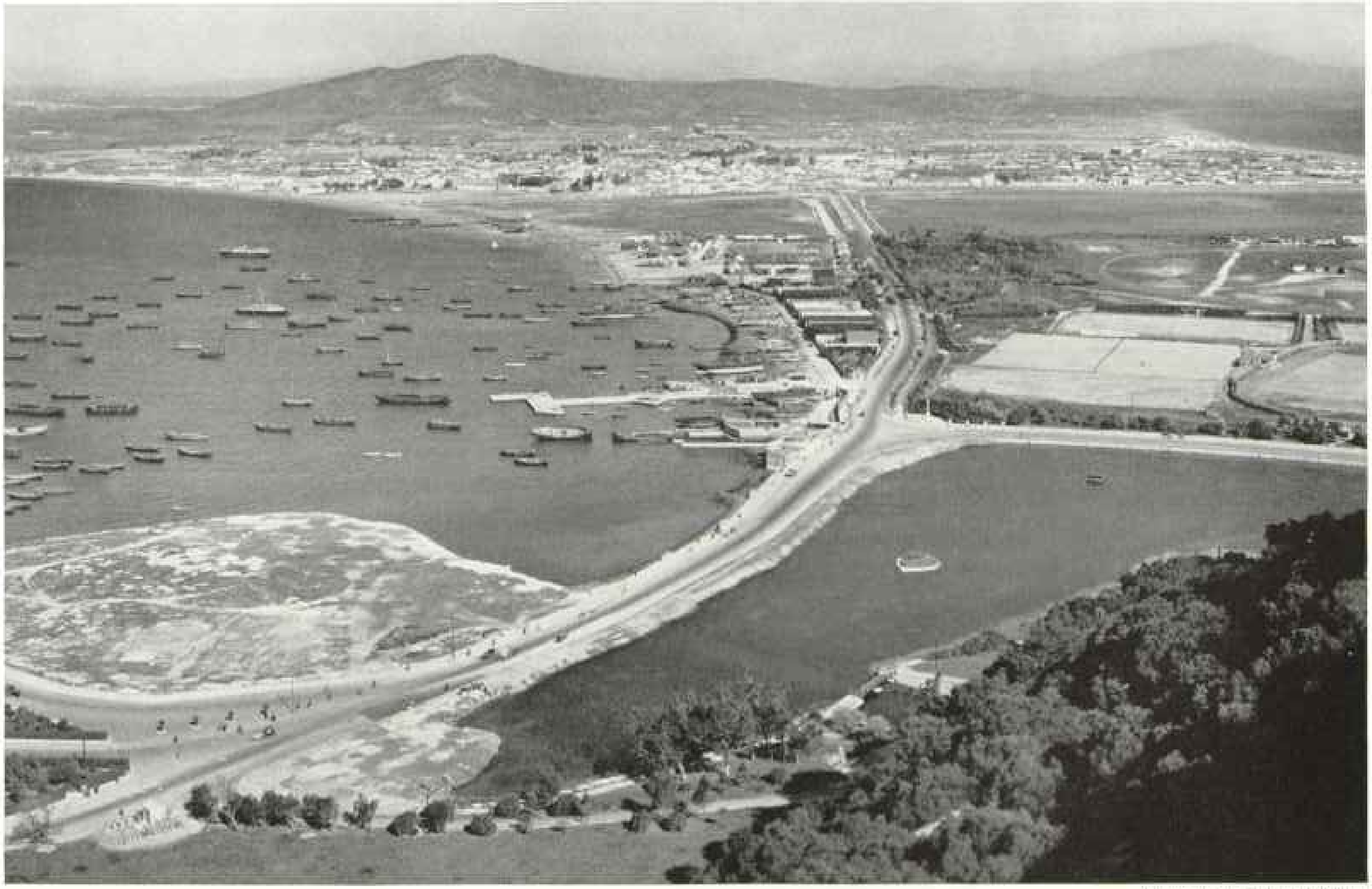
Photograph by Topical Press

Keeping the Peace and Watching for Spies Is Their Job at Gibraltar

Policemen uniformed like the "bobbies" of London march smartly along a palmetto-lined avenue to their beats in Gibraltar Town.

A Masonry Arch Commemorates U. S. Navy Activities in Gibraltar Waters during the World War—1917-18

Like Chips off the Rock Itself Are the Tile-roofed Houses That Rise in Terraces from the Harbor



Photograph from Underwood-Stratton

Were It Not for This Narrow, Heavily Guarded Strip of Sand, Gibraltar Would Be an Island

Like an umbilical cord, the north road links the Rock with the Spanish mainland town of La Linea, which lies white in the subtropic sun beyond the open Neutral Ground (page 386). At the right are the racecourse and vegetable gardens.

Photograph by Irving Galloway

Bread Comes Afoot in Tiny Gibraltar Town

Houses built on the English plan are unsuited to the intense heat that prevails during the long summers, when the Rock is like a red-hot stove. This home, with its closed shutters and heavy brass-trimmed door, might be on a London side street.

Photograph from Publishers' P. S.

Even Cats Look the Other Way When Offered a Shark

Most interesting of Gibraltar's animal life are its Barbary apes, the only wild monkeys in Europe. There is a tradition that the English will retain the Rock as long as the apes remain upon it. Here also are found Barbary partridges, game birds introduced from north Africa.

Photograph by Acme

The Light Ships Are from the Mediterranean Fleet; the Dark Ones, the Home Fleet

Two jack-tars view an impressive array of British naval power, assembled at Gibraltar for maneuvers, from a terrace in the Alameda Gardens overlooking the dockyard and harbor. In peacetime, British men-of-war on duty in tropical waters are painted light gray.

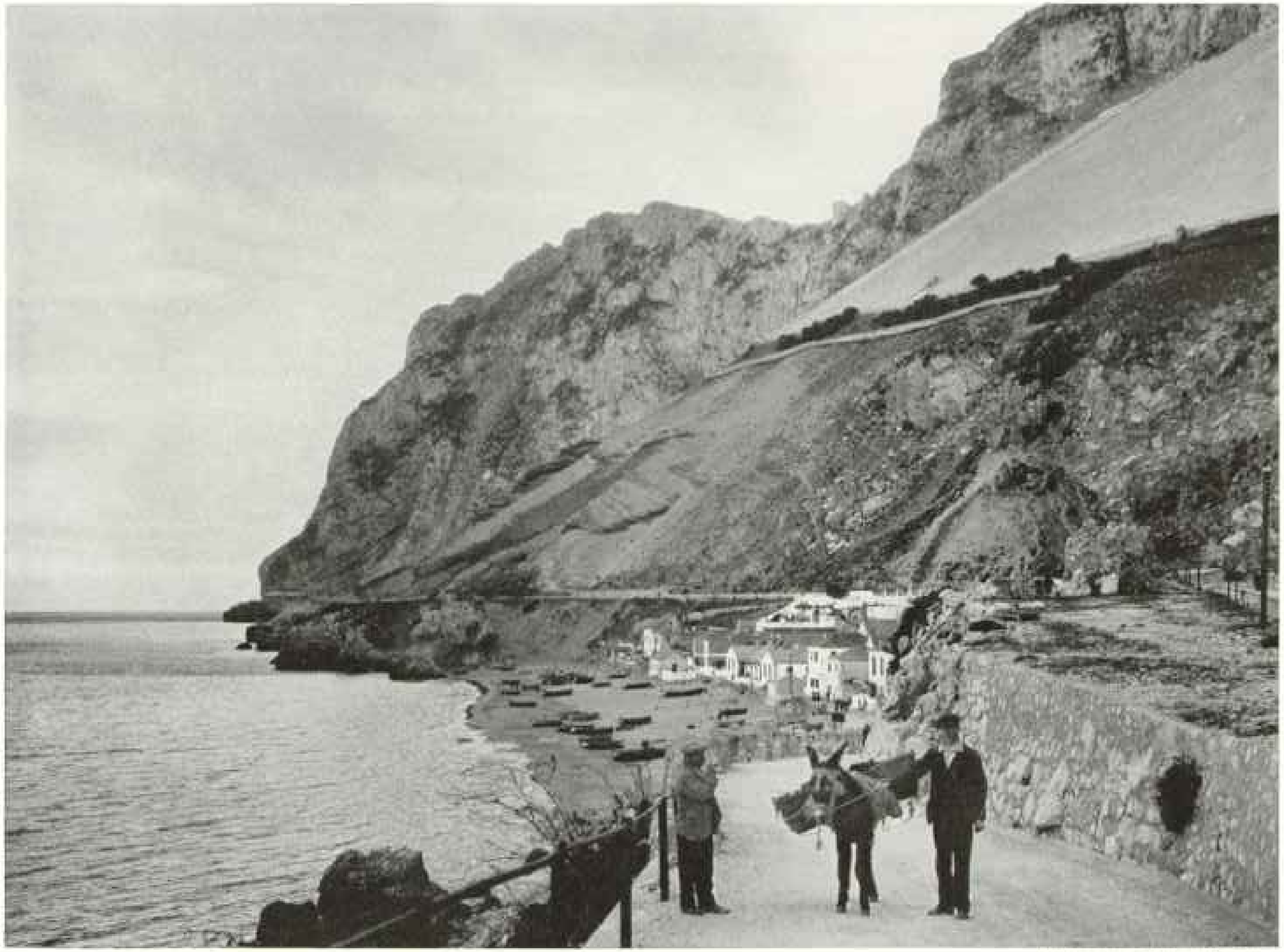
Photograph by Topical Press

During Peacetime, the Shop Afloat Did a Lively Business with "Railbirds" on Liners

As in other Mediterranean ports, merchants in small bumboats once brought rugs, shawls, leather goods, and wickerwork from Spain and Morocco out to ships whose halt at Gibraltar was too brief to allow the passengers shore leave. Goods were hoisted up in baskets for inspection and sale.

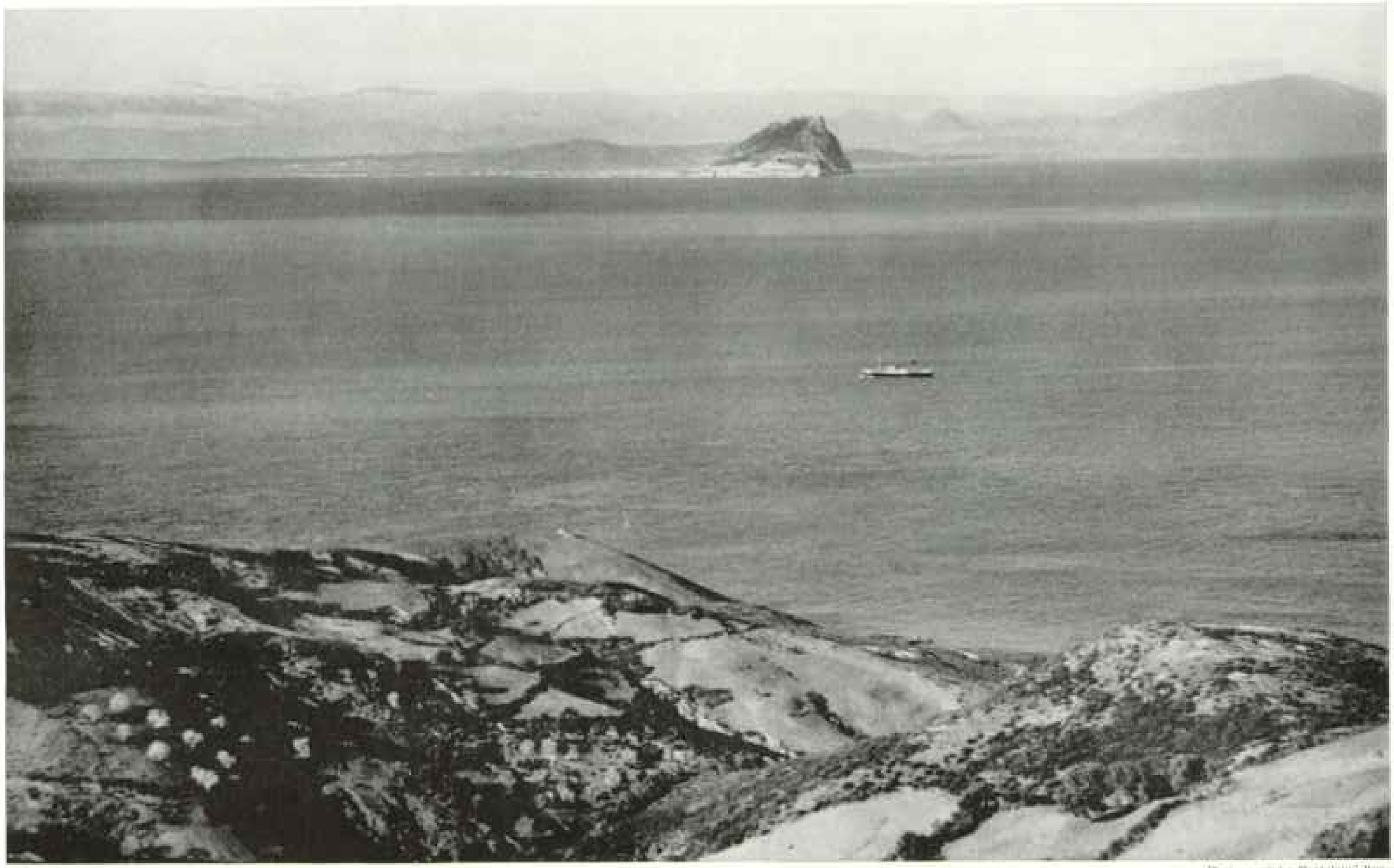
Fox from Globe

"No Man's Land," a Neutral Zone, Was Used as a Drill Ground by Franco's Recruits during the Spanish Civil War



Photograph from Underwood-Stratton

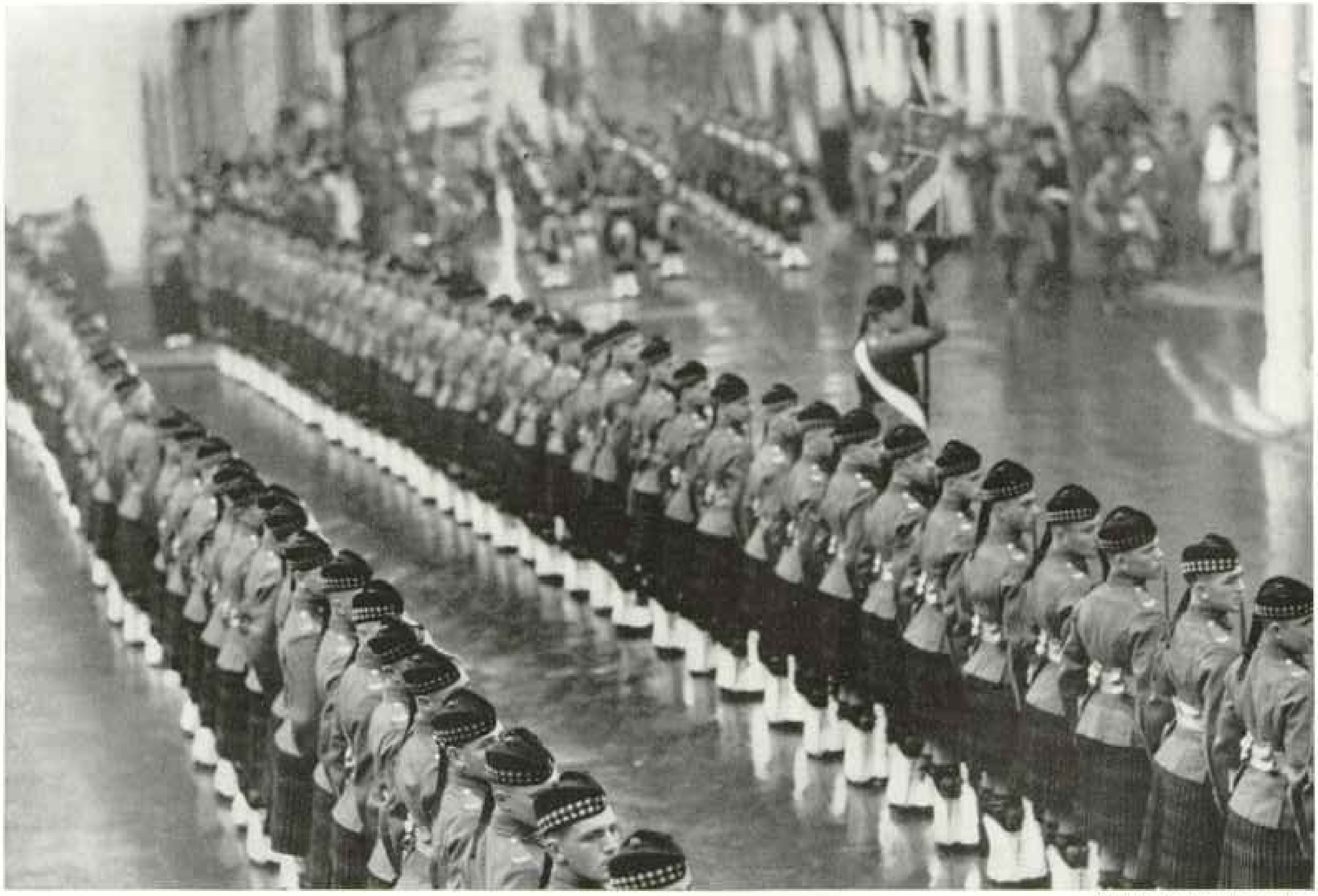
Like a Picture Village Is Caleta, Nestling beneath the Big Catchments That Collect Rainwater for Drinking



Photograph by Bartolomé Ros

"The Very Image of an Enormous Lion, Crouched between the Atlantic and the Mediterranean"

Thus Thackeray described Gibraltar and so it appears from the African shore near Ceuta. Here the Strait of Gibraltar is 14½ miles wide, but at the narrowest part, several miles to the west, less than nine miles separate Europe from Spanish Morocco. The steamer (right center) furrows the strong surface current, which flows like a river from the Atlantic into the Mediterranean. Dimly in the distance rise the blue hills of Andalusia.



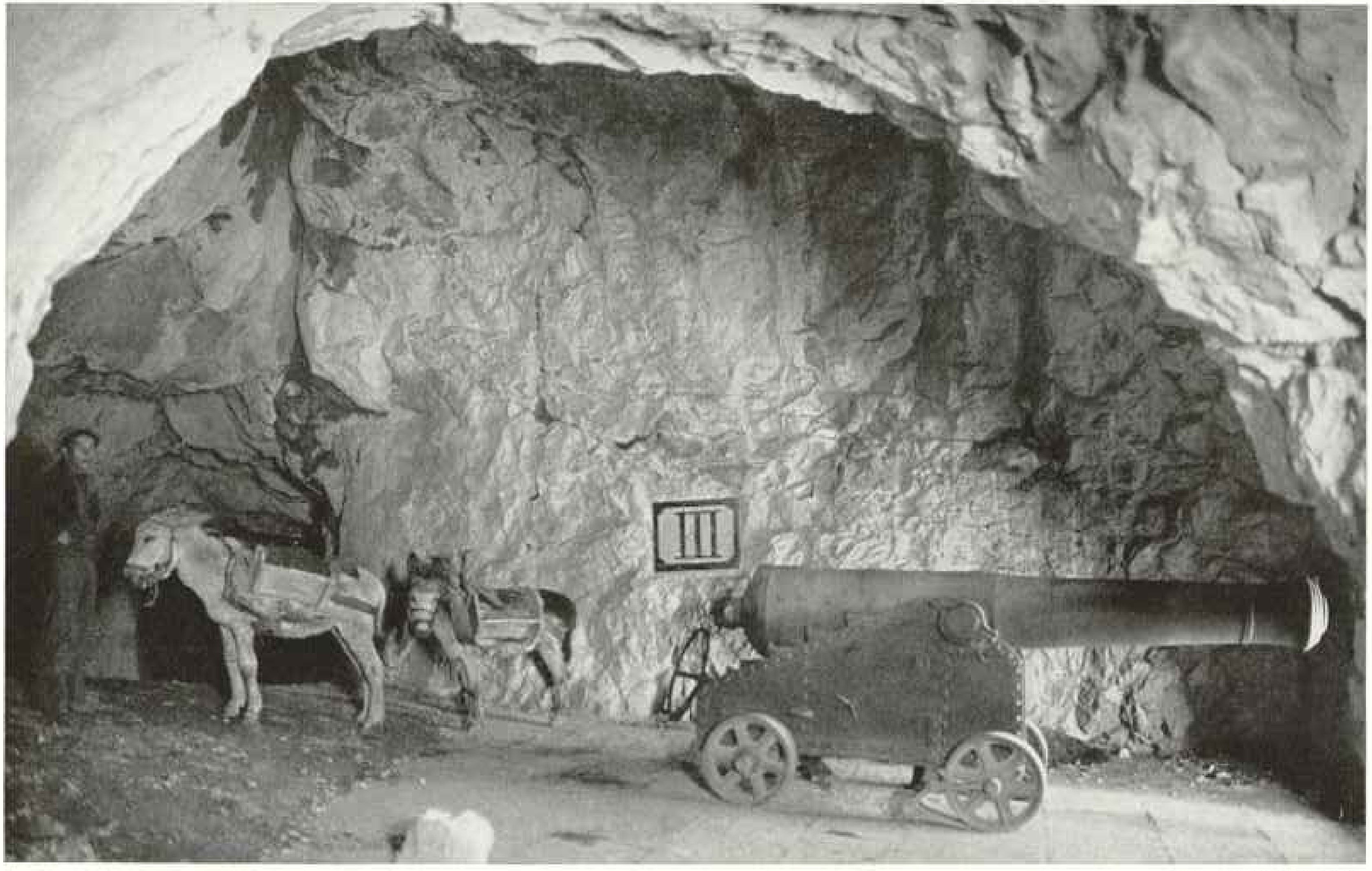
Photograph by Acy Williams from Pix

Gordon Highlanders, "Ladies from Hell," Line Up before Gibraltar's Government House

Photograph from White World

Sentries Stand at Attention While the Key Sergeant Locks Landport Gate, Closing the Link to Spain

Later Gibraltar's three main keys will be drummed into the presence of the Governor while he is at dinner, a quaint ceremony in which he accepts their custody for the night. Watch is maintained night and day at Gibraltar as on a man-of-war. The colony's coat of arms bears a castle and a key.



Photograph by Publishers' P. S.

Even in Peacetime, British Subjects Only May Visit the Gun Galleries

Honeycombed with passages hewn from the rock, Gibraltar bristles with long-range rifles and mortars. Huge caves and shafts store food and shells. Guns of many types command not only the Strait but adjacent Africa and Spain. This relic is an old muzzle-loader no longer in service. The donkeys carry supplies to gunners at their posts more than a thousand feet above the sea.

Photograph by Cy La Tour and Sue

Not "There She Blows," but "Fins Ahoy"

Like a statue the lookout man of a tuna clipper stands at his post, scanning the sea for the telltale signs of fish. His experienced eye is quick to detect the slight disturbance made by the prey as they swim close to the surface. As soon as a school is located, the ship moves toward it; the chummer showers the live bait overboard; and the fishermen throw out their lines.

The Tuna Harvest of the Sea

A Little-known Epic of the Ocean Is the Story of Southern California's Far-ranging Tuna Fleet

By John Degelman

With Illustrations from Photographs by the Author

AS A REPORTER covering the San Diego water front, I watched the tuna boats coming and going on the sparkling blue waters of the bay.

Then I decided that I too should have to go over the horizon that lies beyond Point Loma. A few years before, I had passed an examination for a commercial radio operator's license. The tuna fishing boats needed radio operators. I would carry my license down to the water front some morning and find a ship for myself.

At the table in the galley of the *San Salvador* I signed my name on the thirteenth line of the ship's articles, and Captain Manuel Machado Medina filled out the terms of my payment. It was to be my first voyage in a tuna fishing boat, one of those far-wandering little vessels that sail forth from southern California shores to reap with hook and line their harvest of the sea. That elemental way of fishing, with bamboo poles, stout lines, and barbless hooks, still supplies the world's markets with a large percentage of its tuna.

Tuna boats roam the ocean all year round. From San Diego they range to Peru, down a coast that changes from an arid country of sage and cactus to tropic shores green as emerald and fringed with palm, shores which give to the winds the strange, wild, intoxicating fragrance of the jungle.

On an average, two boats a week come home to San Diego or San Pedro, and after only a few days in port they are headed out for the fishing banks again. The men of the fleet, mostly Portuguese from the Azores and Madeiras, live a life as vagrant and gypsy as were the ways of the pirates whose long-deserted haunts they now frequent.

Down to the Sea by Night

It was night when we were ready to shove off. On a voyage that might last months—for the fastest of the tuna boats can cruise at only ten knots—there was a nervous haste of activity, almost as if we were in dread of something and hurrying to escape.

The lines splashed in the water; someone in the darkness on the wharf had let them go for us. The skipper in the pilothouse twisted the control wheel, and the rush of starting air through the engine sounded below. The engine gave its first deep-throated roar of power, labored and uneven at first like a giant awakening, and then settled its beating into a rhythm that would go on, sure and steady, all through the long weeks and months. At the stern the screw churned the quiet dark water of the bay.

We were backing away from Fishermen's Wharf, but it seemed instead that the string of lights along it were retreating from us. Rapidly we were being isolated from the world I knew and were becoming a little sphere of our own.

I thought that this feeling of isolation, of a retreating world leaving us behind and giving us over to the vastness and the loneliness of the sea and the chance and uncertainty that lie upon it, was a new feeling, one that would gradually wear off as I made more voyages; but always I sensed it, on every departure that I ever made, to the last.

Warm Southern Seas Teem with Life

Our spirits rose with the next morning's sun, and gone was the discontent, the foreboding, the undefined longing of the night of departure. The day was born, free and majestic from out of the darkness of the east; the sun mounted to high noon and sank at last. The stars came out, and as we cruised steadily south, day after day, new ones appeared at evening.

The constellations of the north seemed more distant as the days and nights followed each other; and beyond the storms of the Gulf of Tehuantepec the seas became warmer, of a deeper blue, and more populated.

Huge turtles swam by, with birds resting on their backs. Giant spotted sharks, half a boat length long, as terrible in appearance as the creatures that live in nightmares, glided along in the gentle warmth of these seas. Spouting whales showed in the distance, and we pointed them out to each other as we sat about on the deck, barefooted and without shirts, working lazily on the big bait net.

The work went on, the mending of the net, until all the tears made by sharks and rocky

With Hand Dip Nets Bait Fish Are Brailed Out of the Cork-floated Seine

They will lose their scales and die if they struggle too long in the meshes. For this reason they are transferred quickly to the chummer's tank (page 399).

A Dip in the Wake is Exhilarating but Risky

To throw a line off the stern and be towed along at the end of it is common fair-weather sport in the tuna fleet, and the author tried it. Fishermen say the thrashing of the propeller keeps sharks and barracudas away.

"There's Often a String Attached to a Tempting Gift"

Lunging greedily for what seemed a live squid, a big tuna has seized a camouflaged hook and will soon find itself on the deck of the *Santa Margarita*. The snapshot was taken from the top of the bait tank, where the chummer stands (page 390).

bottoms had been mended. Then the men began rigging the fishing poles. Choosing the rough bamboo poles of the best weight, with the best balance and spring, they trimmed each one down to a proper length.

Hooks Are Feathered, Not Baited

Clusters of feathers were bound about the barbless hooks. The feathers, with a sheaf of tough skin to protect them from the saw teeth of the fish, are usually the only disguise given to the hooks.

The fishermen call the feathered hooks "squids." When a "squid" trails through the water at the end of a fishing line, it remotely resembles one of the ugly live white squids on which the tuna feed.

The poles are rigged with stout cord leaders half a fathom long; the squids are made fast to another half a fathom of steel wire and secured to the leaders. No reels are used.

Although hooks are not ordinarily baited but merely feathered, large numbers of small fish are needed as chum for attracting the tuna. When Mexican Government permits are readily obtainable, the vessels of the tuna fleet hunt bait in the bays along the western coast of Mexico. A favorite spot is Magdalena Bay, Baja California. At other times the boats enter the Gulf of Fonseca in El Salvador and Honduras, or they may go on down the coast a little farther to Puntarenas and the Gulf of Nicoya in Costa Rica.

As a boat glides past the headlands of one of these shelters, and the steady roll of the open sea gives way to smoother water, the crew lines up in bucket-brigade fashion the length of her deck. The men pass the net, hand over hand, from its locker to the stern, where they stack it carefully so that it will pay out without tangling.

Thousands of cormorants and pelicans,

Secret of the Deep Is the Fate of the *Belle Isle*

She went out with her sister ships of the tuna fleet and never returned. Months have passed since her mysterious disappearance in the Gulf of Panama; yet no trace of her men has been found. She was equipped with short-wave radiotelegraph, and the last word from her was mere casual talk with the other vessels of the monotony of a long fishing voyage. This sunset photograph was taken from the *Santa Margarita*, perhaps within a few miles of the scene of the tragedy (p. 408).

Where Sea Birds Alight, There Is Usually Bait

Thousands of cormorants and an intermingling of pelicans, like these at Magdalena Bay, Mexico, often guide a vessel to a supply of little fishes which can be caught in nets (page 394). The birds swarm over and prey upon swimming sardines and anchovies, easily detecting from the air the shadowing of the water that betrays the presence of a school. Though not in common use, airplanes can be employed for scouting likely fishing grounds.

Photograph by Lee Paxmore

Three Tuna Vessels Under Construction at Once in San Diego

Owned by the Portuguese fishermen who live and work in them now, these ships were financed by the canneries and boatbuilders, and the three represent an investment of more than $300,000. This type is peculiar to southern California ports, where the tuna boats have evolved with the canning industry.

swarming and diving, may show the tuna fishermen an area of bait (page 397). But if the schools of the little fish are swimming deep, or if they are wild and scattered, it is useless to make a long, tedious haul on the net; there will be nothing in it but a few stray sardines and a quantity of mud and weed, and perhaps a shark, which will tear holes in the net.

Sometimes one tuna fishing boat after another will file into a bay, and they will all lie there quietly at anchor. Days will go by without a trace of bait, and then all at once the surface will be rippling with it.

Most skippers believe that phases of the moon regulate the appearance of both bait and tuna. They believe that a change in the moon will either bring the fish, or make them disappear if they have been abundant. In almost every tuna boat there is a copy of the *World Almanac*, and the skipper refers to it to calculate the effect the moon may have upon his fortunes.

It may be at high noon, or at sundown, in the early morning, or on some dark night at the setting of the moon, that the bait will be moving in closely packed schools, near the surface and in shoal water. At night such schools are revealed to the fishermen by the strange phosphorescent glow which their massed stirring makes in the warm black water.

But, for these glowing patches to be visible on a bay, there must be no reflected light. The moon must have set; all the lights aboard the ship must be dark, even the running lights and the mast lights and the range light.

The engine labors slowly, and the boat

The Chummer Showers Out Live Bait While the Pole Wielders Land the Prey

Sardines can be seen rippling the water inside the opening of the tank from which he dips them before tossing them past the fishermen into the sea. A tuna is breaking the surface at the extreme right; another is being hoisted in (page 401).

glides through the deep darkness, cautiously exploring. A man at the bow heaves the lead line blindly and tells the depth, when he hauls it up, by the feel of the wet line in his hands. Another man in the crow's nest watches for the faint, shimmering light on the water.

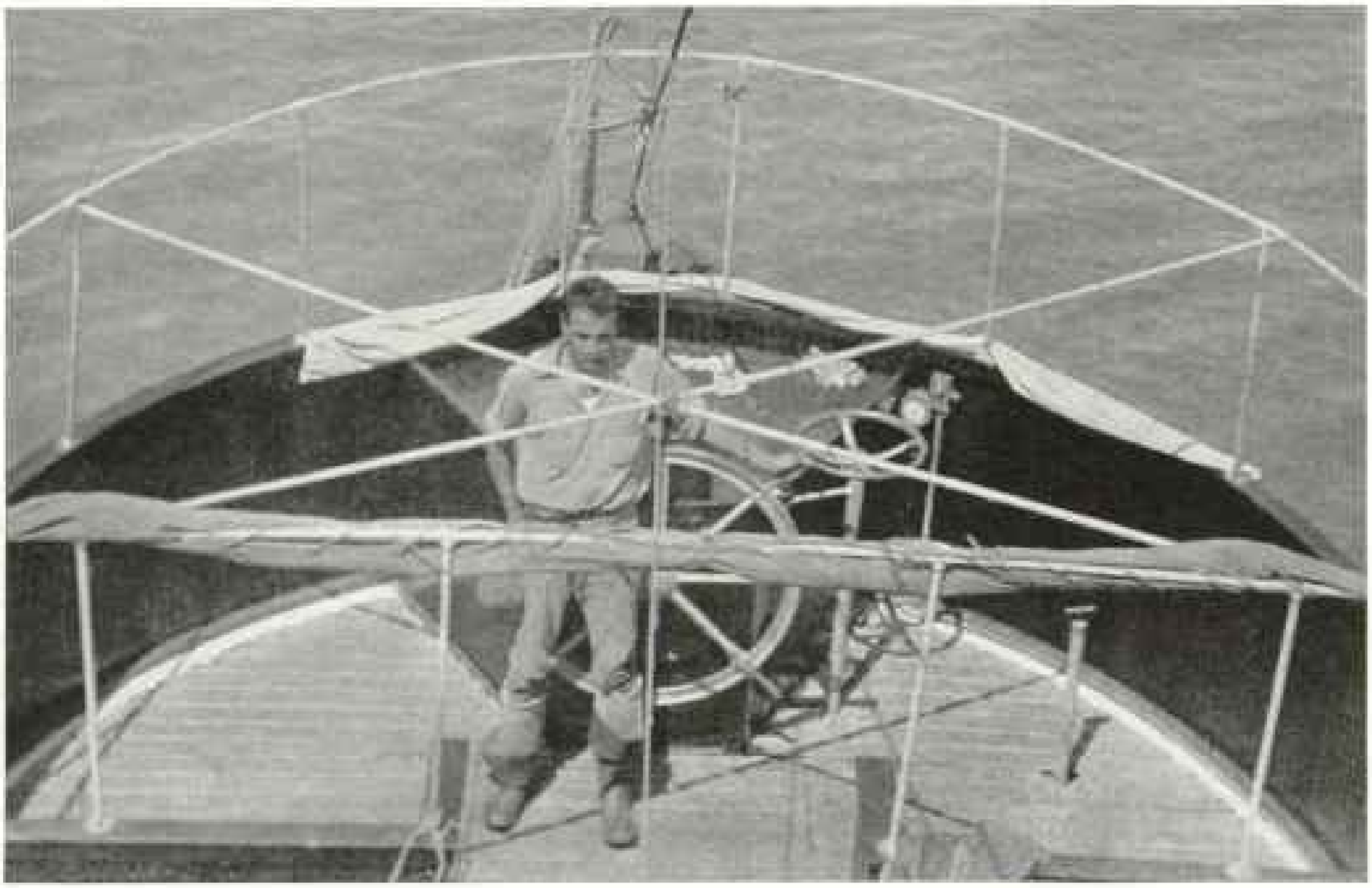
When there is a shout from the masthead that a school of bait is sighted, the boat approaches slowly and circles. Two men holding the free end of the net are set adrift in a skiff, and with them is a tiny winking light. It is the only light visible, except for the stars over the dark and uncertain form of the surrounding land.

The helmsman guides the ship in a wide circle, watching always the little beacon in the lonely skiff, steering so that the light will mark the closing of the circuit. While the circle is being made, men in the stern pay out the net, watching so that it does not tangle. There is a scramble to get both wings of the net on the stern, and much shouting in the darkness; the men who were in the skiff must get aboard again to help in the haul.

The long haul begins, from both quarters of the stern. In the darkness the net sagging up from the water seems to be woven of gold; every strand is bright and luminous with a glowing, fiery light that comes out of the sea.

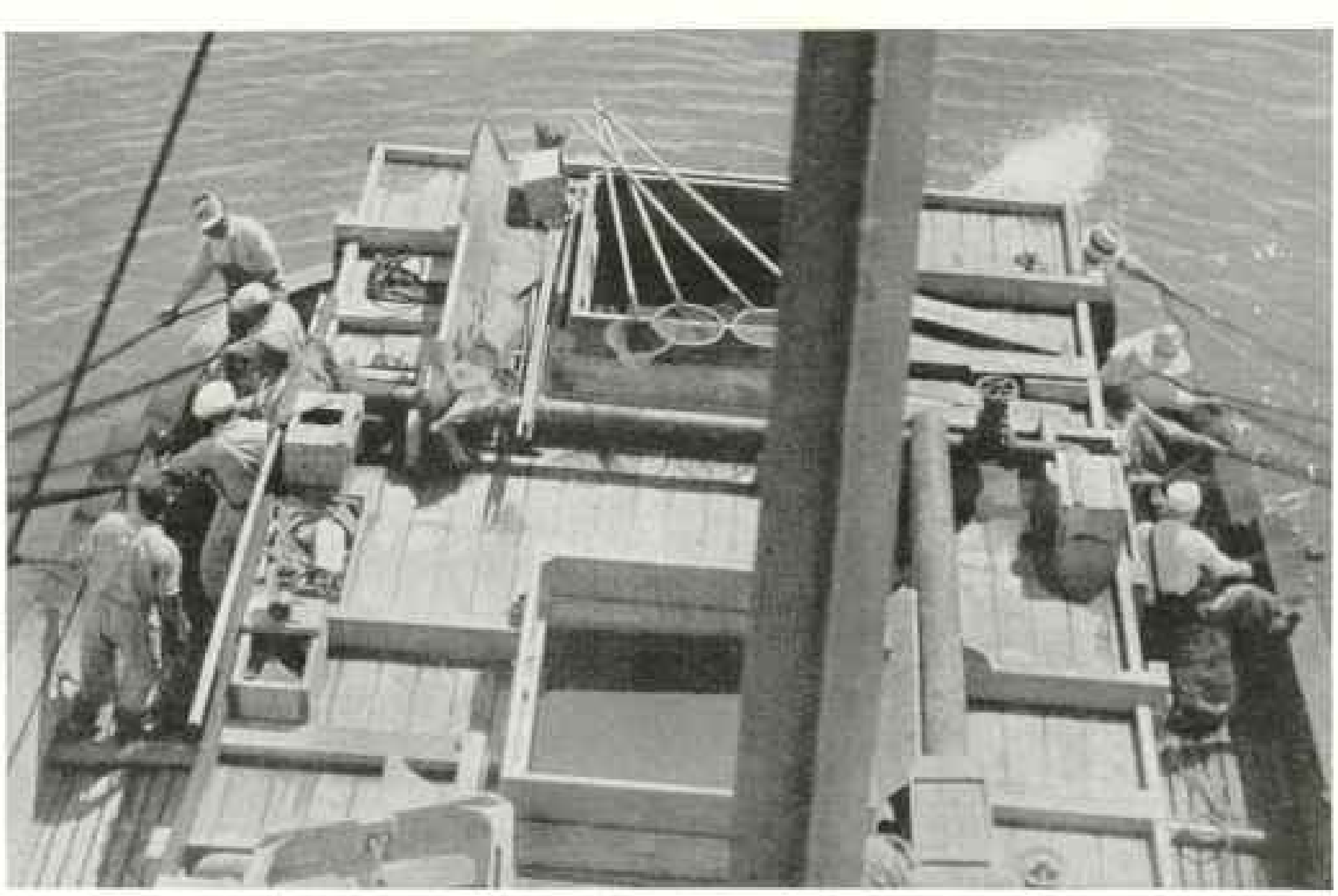
When the sack of the net is at last gotten in, it will be heavy with thousands of sardines and anchovies, if the haul has been good. The men scoop up the fish alive with long-handled dippers and empty them into the bait tank. No time can be lost, because the little fish fluttering in the net will soon lose their scales and die (pages 394 and 400).

The chummer has the important task of



The Captain of the *Santa Margarita* Was the Youngest Skipper in the Fleet

Though only 24 years old, he was a veteran in the tuna fishing industry. He stands at the auxiliary wheel of his vessel above the pilothouse.



These Tuna Fishers Use Seines Only to Catch Bait

With the tank pumped full and the long-handled dippers ready for bruiling in the haul, the men pull in the wings of the net (page 394). The white spray visible over the stern is from the lead on a heaving line which has been thrown overboard to frighten the school of small fry into the purse.

The Instant a Hook Strikes the Water, a Fish Is on It

Churning the surface into boiling white patches, the tuna gorge on the small fry showered out to them by the chummer (page 399). Hooks, disguised by bits of chicken feather wrapped in dry fishskin for protection from the teeth of the prey, are mistaken for live squids and seized just as eagerly. This picture was taken from the top of the mast of the *Santa Margarita* while the ship was close to Jicaron Island outside the Gulf of Panama. After the school of giants has been lured to the ship's side, the men with the poles must work fast to land as many as possible before the greedy appetites are sated (page 404).

showering this bait over the side to the schools of tuna, in the most effective and tantalizing way; but he must also feed and tend and keep watch over the bait and see that as little as possible dies in the tank.

When Sardines Go Mad

He must be sure that all during the hours of darkness the electric lights are burning over the tank openings; otherwise, a strange mob hysteria takes the sardines. Left in the darkness for but a few seconds, they will burst clear out of the water and flutter about on the deck until they die. Half a tankful of bait can so destroy itself. But under the light they seem content to mass close together and keep up a restless whirl against the current in the tank, their eyes reflecting the rays like thousands of little sparkling jewels.

Sometimes a crew will make a dozen hauls before the tank is crowded with as much bait as will stay alive. The cook's head, with a white cap set at an angle on it, will have been showing through the whole of the night in the crowd of straining backs at the stern. But by the time the net has been hauled aloft to dry, there is a medley of aromatic vapors coming out of the galley, of coffee boiling, and bacon sizzling in a hot skillet, of eggs frying, and bread turning to crisp brown toast.

At the galley table there will be excited but weary talk of the fishing banks, and on which of them the tuna may be running. Much work has been done, but nothing yet has been earned; all this is mere preparation, and not one tuna has been packed away in the ice holds.

A Mighty Traveler Is the Tuna

In the radio shack I tried to communicate with the tuna boats on distant fishing banks, to hear how they said the luck went with them; but unless the skippers of two fishing boats arrange before going to sea to exchange messages in some sort of code or cipher, reliable information is hard to get. A skipper of a tuna boat in a big school of fish does not like to see more fishing vessels coming over the horizon, for too many working on the same school will make it scatter.

The tuna is swift moving, and a clean fish. He will not inhabit water that is dirty, and he seems to travel constantly (whether or not in obedience to the dictates of the moon), in a ravenous quest for food.

His most common foods are the same that the porpoise and the birds and the other fish live on. Often a congregation of these creatures will guide a fishing boat to a school of tuna. Birds swarming over the sea and the gray porpoise sporting in the water may all be feeding on the red crabs and the squids that breed in thick masses over the shoal grounds, and it is likely that the tuna are feeding with them.

But often the sea will appear barren of all life, under its surface or above it; yet, if the other signs are favorable, if the sea is clear and blue and moderately warm and calm, then the skipper looks for dark patches and ripples on its surface, the disturbances raised by a moving school of tuna.

On such days I have pointed off toward the horizon, to what I thought was a school.

"There," I would say to the skipper, "that must be the fish."

He would smile in a pitying sort of way and answer, "No, that is the wind," or "That is a current."

"But how do you tell the difference?" I would want to know.

"There ain't no way," he always said. "You just have to know."

At the masthead the lookouts, so wonderfully sharp is their vision, can tell which way a school is traveling; and sometimes they shout down whether the tuna are yellowfin or skipjack (known also as striped tuna or oceanic bonito) and even the size of the fish (page 392). At a cry from aloft the skipper pushes forward the throttle, and the pulse of the ship seems to quicken with excitement.

Sowing Seed in the Sea

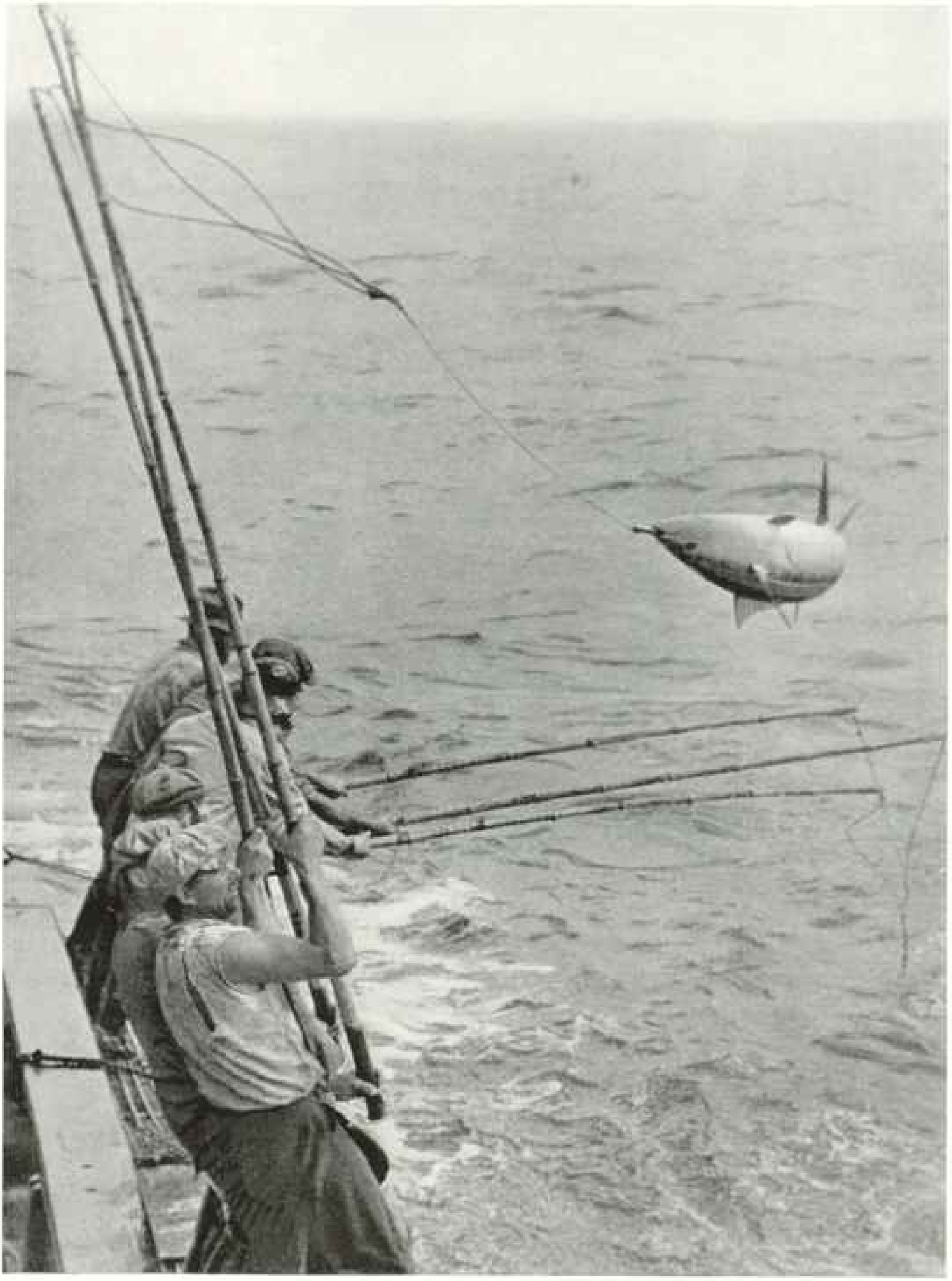
The chummer, on the bait tank, takes heed of the livening of the pace and comes to his feet. He has a long-handled net dipper; and, bracing himself against the rolling of the ship, he holds it poised over the opening of the bait tank.

As the skipper pulls back again on the throttle, as the ship slows and circles over the area which was sighted, the men lower the racks along the port quarter.

The chummer plunges his dipper into the tank opening and brings it out filled with live, wriggling sardines. He flings a fistful of them out into the sea.

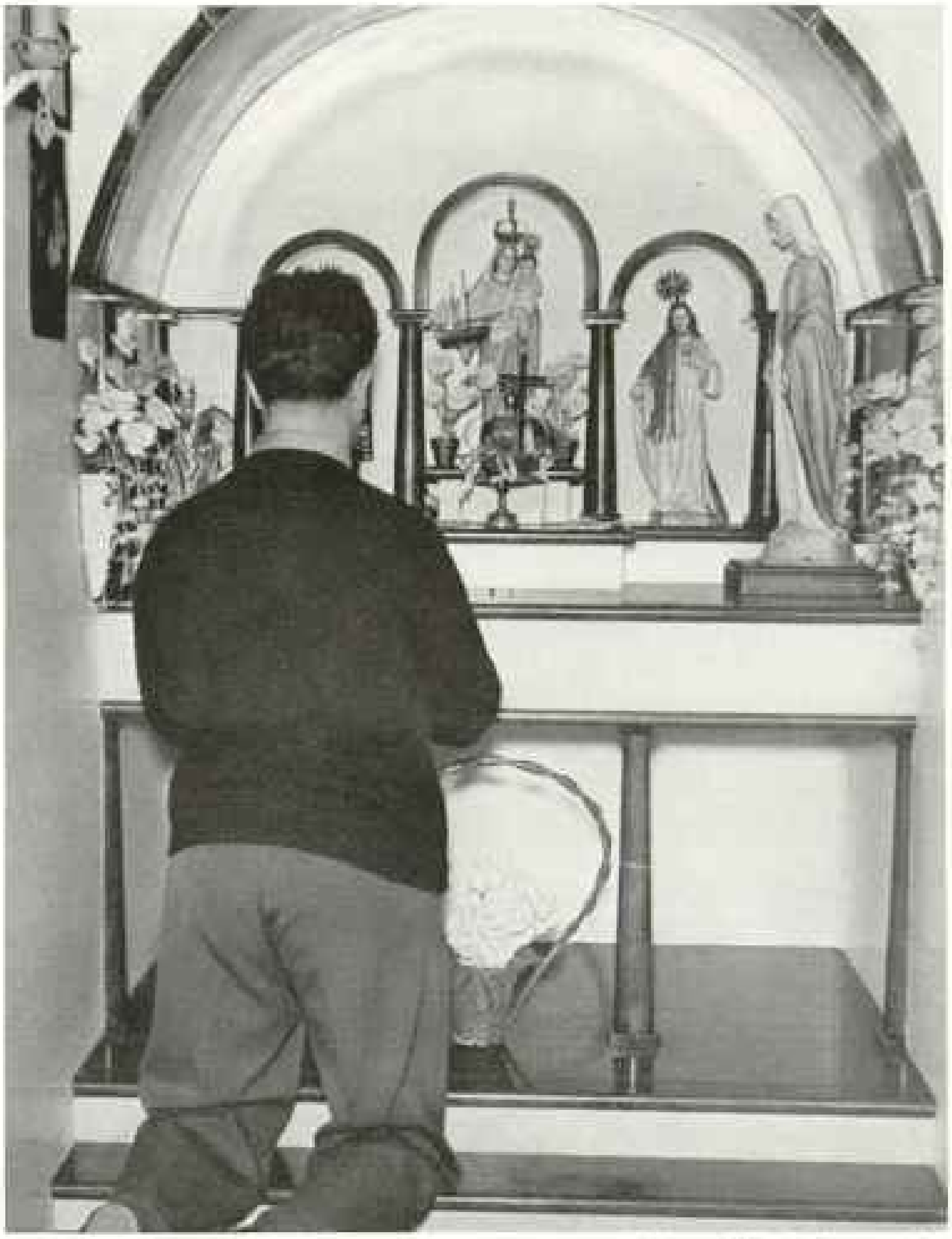
They splash into the water and disappear, like seed dropped into the earth. With a sweep of his arm he throws out another handful. He looks down into the sea where they have fallen, and it seems as if he is expecting a crop to sprout and grow and be ready for the harvesting as soon as the seed is in the field.

Then a shout from him, and a dozen voices join his in a yelling chorus. Where the sardines fall, big bubbles of foam break on



Surprise! A 150-pound Jerk Is Wasted on a Lightweight

To land the larger tuna, a trio of fishermen often work in concert, with leaders from the three poles attached to a single steel line and one hook. Their mighty heave, exactly timed and intended to land a monster, brings this unexpectedly puny catch hurtling above their heads. Exceptionally big fish are not wanted by the canneries.



Photograph by Cy La Tour and Son

The Tuna Clipper Carries Its Own Chapel

No expense is spared to make it a complete church in its most minute detail. About four feet wide and eight feet long, it is located on the upper deck back of the pilothouse. The central figure on the altar is the Virgin Mary, "Queen of the Sea." In her right hand is a ship model made by a member of the Portuguese crew. Fresh flowers from a supply in the refrigerating plant are kept on the shrine throughout every voyage.

the surface of the sea. The chummer scoops deep into the tank; he whirls about and throws more sardines. As far as he can throw, these bursting bubbles spot the ocean until the long, smooth swells are spattered with white.

A Hungry Host Charges the Boat

Like the sudden appearance of an ambushed army, the whole school of tuna will have suddenly broken to the surface. They come charging toward the boat in a great milling circle from a mile away.

Masses of them darken and ripple the sea. The men catch sight of the purple flashings of their backs close to the boat. Where they drive upward and snap at the sardines, they stare from out of their ocean world with great round eyes. They retreat from the shadow of the ship in the sea; and the whirls of current sent up by the sudden twisting thrusts of their powerful bodies break on the surface in flashes of foam.

The first man to vault over the low guardrail crouches in the rack alongside. He frees the squid, untwists the line from his pole, and whips down at the water.

The instant the hook strikes into the sea, the line jerks tight and the pole bows; the man lunges back with his pole and the fish, black and gold and silver, comes flying aboard.

It thumps against the bait tank back of him, falls free of the barbless hook, and the man whips down at the sea again.

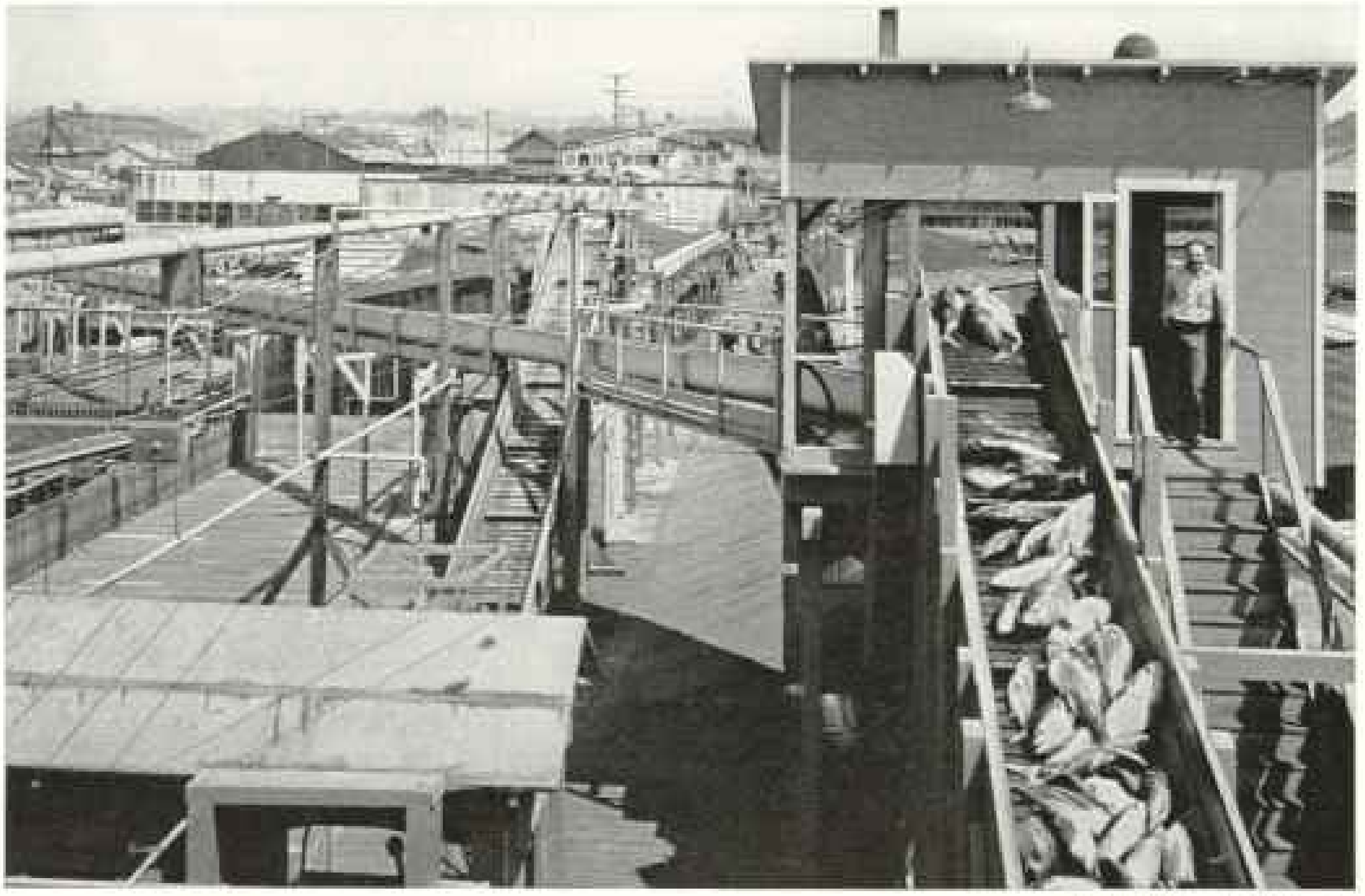
Another fish shoots up from the darker depths toward the surface, lured by the sight of the disguised hook. The fisherman can see it half circle the hook an instant before it snaps and plunges; and, prepared in that brief instant for a heavy jerk, the man throws the fish up out of the sea (pages 399, 401, and 403).

The skipper leaves the helm deserted, and with his own pole he is down in the racks fishing with the crew. The ship, lurching ahead broadside in the swells, is unguided. The porpoises follow her alongside, snorting noisily. The birds swoop down in the sea around the stern and fly upward with sardines in their beaks.

Over the heads of the men below him, above the flashing yellow poles and the tangle of

An Endless Chain Conveyor Carries Tuna from Dock to Cannery

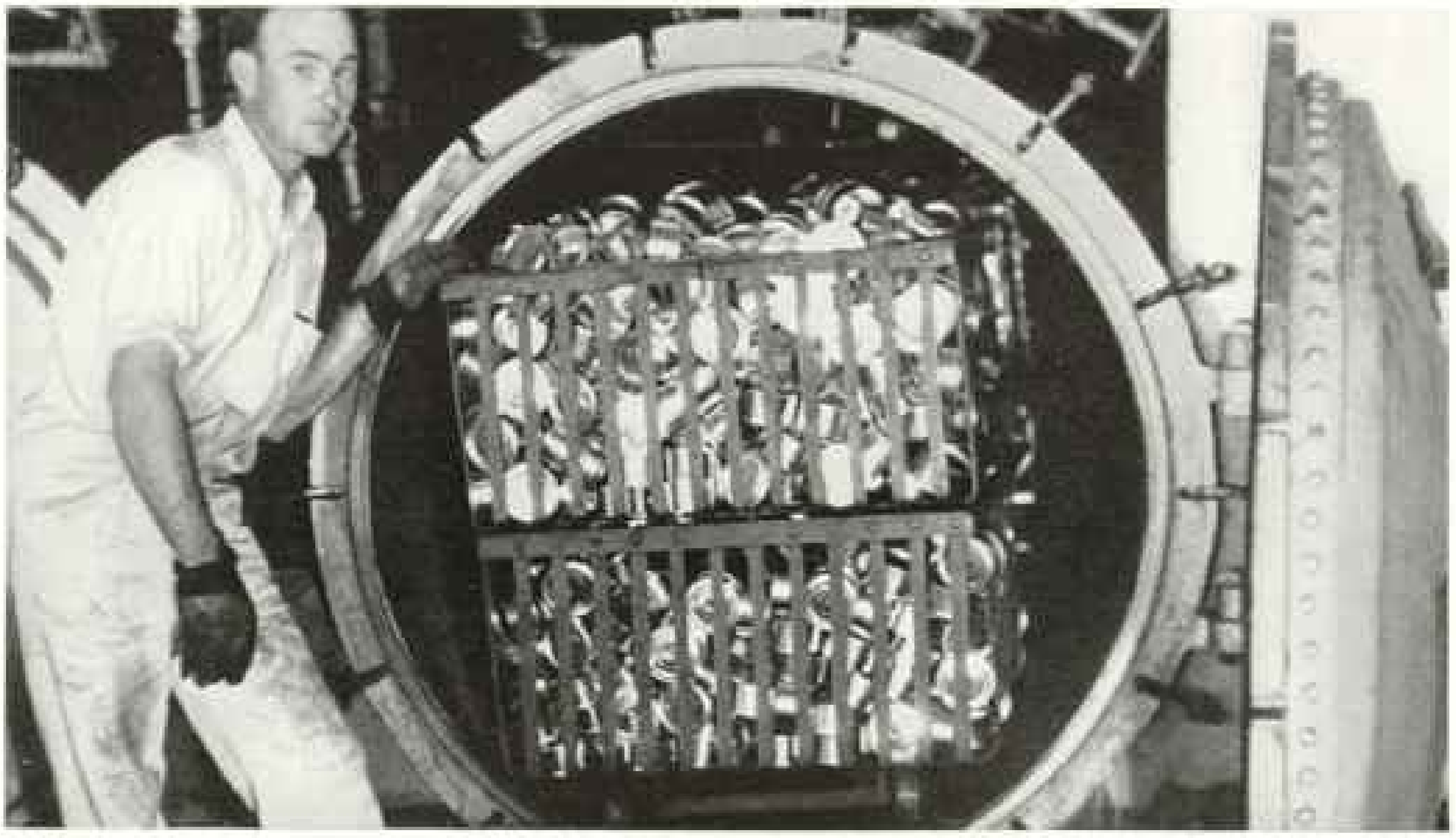
The moment it is unloaded from the refrigerated hold of the *Sacramento* of San Diego, the catch is on its way to the weighing tower (see below) before exposure to warm air can cause it to deteriorate.



Photographs by Lee Paxton

Only Stop on the Way from Dock to Cannery Is the Weighing Tower

Still ice-cold from the refrigerated hold of the fishing vessel, the tuna are put on the scales here and sent quickly on by the conveyor to the cutting room (page 407).



Final Sterilizing Is Done in Retorts Resembling Big Guns

The cans, packed with precooked tuna and sealed by machinery, are loaded on trucks which are run into these ovens steam-heated to 240 degrees Fahrenheit or more. In 1907 a sardine shortage caused one canner to experiment with a tuna pack to keep his plant running. Precooking made the tuna flaky and eliminated the oily taste. This started the California industry which has now grown to a multimillion-dollar business.

lines, the chummer showers out the sardines. Coming for them in a savage frenzy, the tuna dare approach the menace of the black shadow of the ship.

They keep coming, in a great circle from far out. They break in disorder where the sardines fall among them. Twisting and flashing close to the surface, some leap clear of the water. They whirl away again, those that have avoided the hooks, and more come.

Sharks Prowl Close Alongside

On deck tails beat a roaring tattoo. Blood slowly clouds the water about the stern, and the boat trails a bloody wake. The fish pile up on each other, a shaking, jostling mass of black and silver bodies. The whole ship lists to port with the weight, and the fishermen are plunged waist-deep in the sea.

Then come the gray fins of the sharks. Dimly, the men can see the long bodies of these monsters, moving and turning through the stained sea. When they are too close, the men jab the butts of their fishing poles down at them.

Sometimes tuna that are heavier than the men who are fishing for them will appear in a school of small-sized fish. Poles will begin to bend nearly double; they will crack and splinter to slivers in the men's hands. A pole will flex straight suddenly; the man holding it goes tumbling back against the rail. The fish plops back into the sea in a flash of spray. A flying hook whizzes back and knocks against the top of the bait tank, close to the chummer; he must get out of the way, or be killed or badly hurt.

The biggest fisherman on the boat will suddenly bend double at the waist and hang onto the butt of his pole with both hands, yelling for help. He pulls the pole in, hand over hand. The fish struggles so that there is a booming and a rumble like the pounding of a drum.

Then something like the disorder of soldiers in battle, struck by outnumbering forces, takes the crew of a boat. A pole shoots from a man's hands, trailing a stream of bubbles downward. Another man is jerked into the sea by a fish; the rest see his distorted figure beneath the surface.

They throw back their poles, kneel in the racks, and hold out clutching hands to him. His face shows first, looking up at them, white and terribly afraid. The sharks close by move only slowly toward him, but his boots and sodden clothing are a deadly weight. Hands grab him under his shoulders and drag him aboard.

The fishing ends for a while, but the chummer will throw out the bait as long as the tuna are churning the water alongside; and

Photograph Courtesy San Diego Harbor Department

Women in a San Diego Cannery Cut Up the "Chicken of the Sea"

After they have finished their task, the tuna flesh is precooked, sorted into white and darker grades, packed firmly in tins, and finally cooked by steam. All processes are under strict State Board of Health inspection. To handle the catches of the hundred-ship fleet based in the city's harbor, several establishments such as this employ more than two thousand workers.

very quickly the men get back in the racks again, in huddled groups of two or three.

Shoulder to shoulder, each team of three stands close together, and each man holds a pole. From each of the three poles there is a stout leader secured to a single strand of steel wire with a big squid dangling from the end. Such teams are a match for fish of from 70 to 150 pounds. The legal limits on yellowfin tuna are 7½ pounds, minimum, and 150 pounds maximum. Very large fish the canners do not want (page 403).

Teams of Three Land the Big Ones

Three men strike their poles down together. The hook sinks. Where it trails in the water, three pairs of eyes stare down into the clear depths at the streaking shots of purple and black. They see the fish before it strikes.

Then, thrown hard against each other, three men heave back together. Muscles bulge under wet clothing and stand out like heavy, straining ropes in their bare arms and across their backs. The steel line and the leaders are jerked tight; the poles are bowed. A hoarse shout presses from three throats.

The struggle of the fish rumbles the water and beats it to a white froth. The men fall back, kneeling but straining at the poles. As large, as heavy as a man, the tuna swings up from out of a white tumult of spray. The thrashing of its body as it swings toward them threatens the men with blows that would break their arms and ribs. It brushes close to them and thumps the guardrail. It rolls inboard and strikes the deck. Still struggling, it spatters their backs with a shower of blood and slime.

They swing their poles out again; they work with a strange, jerky rhythm. The tuna strike at the hooks with a savage greed, and with a sudden fury and terror at the sharp feel of tearing steel in their mouths they lunge back. In that test of brainless strength the men meet them, and at that level the men outmatch them.

When the sun sets, the fishing ends, but not the work. The evening meal passes leisurely, with the silence of weariness about the table. Outside on the deck, if the day has been good, there may be 30 tons of fish.

All of it must be stowed away, layer by layer, in the bins in the refrigerated fish hold, and each layer must be packed over with crushed ice. Undersized or damaged fish are pitched over the side, and the sharks, their big bodies outlined sulphurously in the water, devour them.

The work goes on, often until long after midnight. The fish are packed away, one by one, as whole as they came from the sea, for cutting and cleaning are done at the cannery.

The few hours of darkness that are left, after the hatches are at last covered over and the decks have been scrubbed, the men sleep, all but the man on watch; and filled with a weariness that is sometimes like pain, he stays on his feet to keep from nodding off to sleep.

The men all hope that the next day will bring a big load of fish aboard, but seldom are there more than two days of prosperity in succession.

The long weeks at sea on a voyage for the tuna are spent mostly in profitless wandering from one fishing bank to another, and in hunting for bait. But when a good day of fishing comes to them, the men will spend it at work, though it may be Sunday, or even Christmas or Easter.

In almost every Portuguese-manned vessel in the tuna fleet, there is a little chapel containing an altar with images of the saints who have been good to fishermen and seafarers (page 404).

The fishermen believe that these saints forgive them when they have to work on holy days, for, if it were meant by the saints that the tuna should not be fished for during these seasons, the ocean would be empty of them.

Some Tuna Boats Have Never Returned

Two weeks sometimes pass on a homeward voyage from the fishing banks. On the night before our arrival, I almost always used to radio to San Diego the approximate hour at which we would come up to the Broadway Pier. Then a gay little company of friends and relatives was sure to be waiting there for their men; they were always proud of them and made heroes of them, and were grateful for their safe return from the sea.

But many ships of the fleet have never come back. The wreck of the *St. Veronica* is marked at Albemarle Point, in the Galápagos Islands, on the United States Hydrographic Office charts; the *Lois S* went down one spring when the ship struck a reef; the *Continental* burned and sank at Cocos Island, and the *Olympia* exploded off Cape San Lucas.

The *Belle Isle* (page 396) went out on a voyage from which she has never returned. What happened to her no one knows; that will probably remain forever a secret, jealously guarded by the sea. Whatever it was that overtook and destroyed her came swiftly. She had no chance to make an outcry against it, nor her men the chance to escape it.

Occasionally there will be a man missing when a boat comes up to the pier, and always there are stories of strange accidents and near accidents. A fish once jumped from the sea and closed its jaws around a fisherman's throat; a surgeon aboard the yacht *Zaca* saved the man's life.

High Adventure in a Can of Fish

There are stories of times of great peril, and of courage and sacrifice in the face of them. A man in the crew of the *Flying Cloud* made a line fast about his waist and leaped overboard during a hurricane; he clutched the body of a shipmate who had been washed overboard and held onto him while the crew dragged them both to safety.

Only a day, or a day and a half, is needed to unload the fish and can it. The men chop out and flood away the ice in which the fish are packed and load them into hoppers. Cranes at the cannery wharves draw the hoppers to the top of the weighing tower; the fish are weighed there whole, before being cut and cleaned.

The masses of them travel from the tower into the cannery on an endless conveyor, with salt water flooding over them (p. 405). On the cutting tables in the canneries, workers clean the fish. Scarcely more than a third is lost in the cleaning, and these unwanted parts are converted into fish meal and fertilizer.

Food inspectors watch every step of the handling of the tuna. One stands over the hatch and takes notice of the condition of the fish as it is being unloaded. Another watches it being cleaned and loaded into the steam cooking ovens.

Women and girls, including wives and sisters of fishermen, stand at long tables and pack the salted and flavored meat into the cans, which are sealed by machinery. A second cooking follows (p. 406). Some 3,000,000 cases of tuna are canned yearly in San Diego and San Pedro.

"Home Is the Sailor"—For Only a Week

The men of the fleet spend less than a week ashore after unloading their vessels, working over them on the ways in the shipyards. Each day they go from their homes down to them, and in the shadow of the hulls, scraping them, painting them, they tend their ships with infinite patience and devotion and care.

They are in their homes and with their families but a few hours in the evenings, and then for the rest of their lives the great toil of their calling and the isolation of the deep waters separate them from their kin. While they look with a sort of awe upon anyone who can make his living without having to go to sea for it, still they believe that the qualities required to make a good tuna fisherman are rare, and only a few of the mortals of the earth are favored with them. And I think they are right.

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To carry out the purposes for which it was founded fifty-two years ago, the National Geographic Society publishes this Magazine monthly. All receipts are invested in The Magazine itself or expended directly to promote geographic knowledge.

Articles and photographs are desired. For material which The Magazine can use, generous remuneration is made.

In addition to the editorial and photographic surveys constantly being made, The Society has sponsored more than 100 scientific expeditions, some of which required years of field work to achieve their objectives.

The Society's notable expeditions have pushed back the historic horizons of the southwestern United States to a period nearly eight centuries before Columbus crossed the Atlantic. By dating the ruins of the vast communal dwellings in that region, The Society's researches have solved secrets that have puzzled historians for three hundred years.

In Mexico, The Society and the Smithsonian Institution, January 10, 1939, discovered the oldest work of man in the Americas for which we have a date. This slab of stone is engraved in Mayan characters with a date which means November 4, 291 B. C. It antedates by 300 years anything heretofore dated in America, and reveals a great center of early American culture, previously unknown.

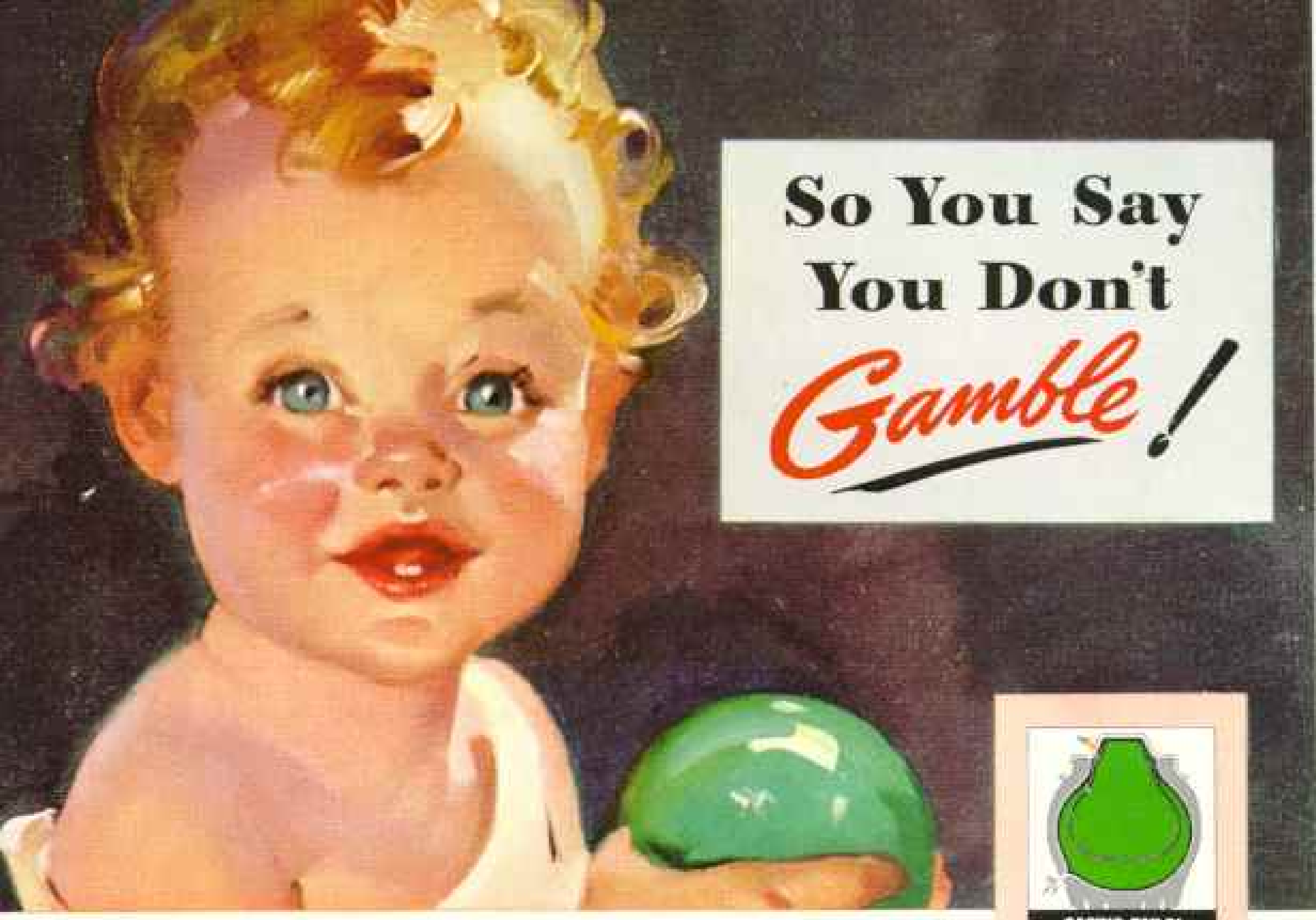
On November 11, 1935, in a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, *Explorer II*, ascended to the world altitude record of 72,395 feet. Capt. Albert W. Stevens and Capt. Orvil A. Anderson took aloft in the gondola nearly a ton of scientific instruments, and obtained results of extraordinary value.

The National Geographic Society-U. S. Navy Expedition camped on desert Canton Island in mid-Pacific and successfully photographed and observed the solar eclipse of 1937. The Society has taken part in many projects to increase knowledge of the sun.

The Society cooperated with Dr. William Beebe in deep-sea explorations off Bermuda, during which a world record depth of 3,028 feet was attained.

The Society granted $35,000, and in addition $75,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees in the Giant Forest of Sequoia National Park of California were thereby saved for the American people.

The world's largest ice field and glacial system outside the Polar regions was discovered in Alaska by Bradford Washburn while making explorations for The Society and the Harvard Institute of Exploration, 1937-8.



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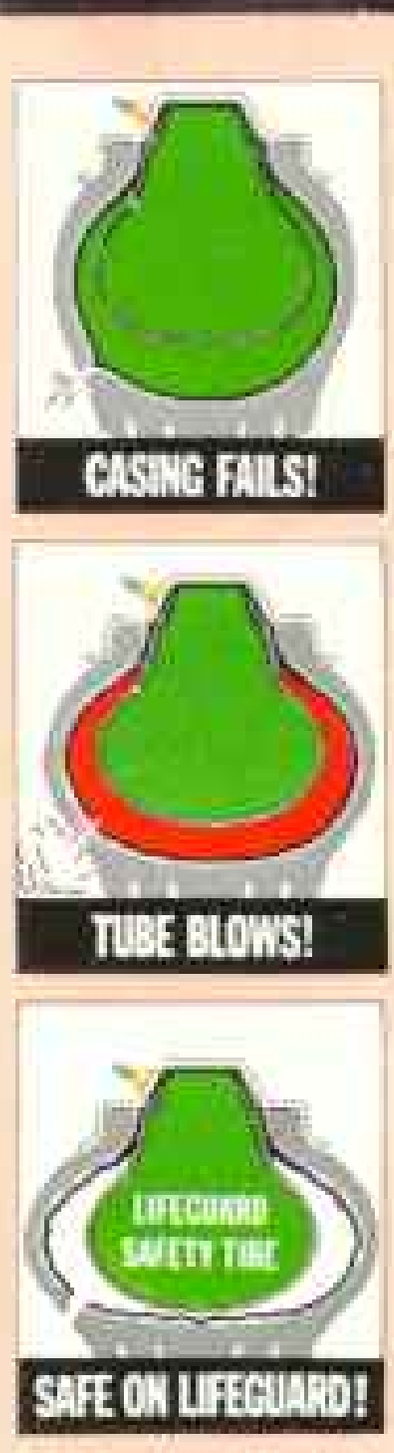

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• *For instance,* we recall the hurricane that swept the Atlantic seaboard in 1938. A record tide played havoc with the generating equipment of one of New York City's great power plants. At midnight our Service Department received the emergency call. By morning, the entire New York field force, reinforced by service men from Newark, Pittsburgh, Buffalo, Utica and Philadelphia Service Shops were on the job.

• *They found machinery* flooded with salt water and drenched in a sludge of oil. 35 large pumps and auxiliary motors and their electrical controls were affected. Yet by the middle of the fourth day, one of the generating units was back in service. A crew of 135 men working in three eight hour shifts soon had the entire station back in normal operation.

• *Only a year before* our service men braved even fire to help a Cincinnati customer continue operations. Because our men stayed on the job in a building choked with smoke and intense heat from an adjoining fire, the company was able to maintain its regular production schedule.

• *Ingenuity is also* a prime requisite of these service men. For instance, our New England men were given the problem of drying and smoothing out water soaked currency, bonds and other valuable papers soaked by flood. They did it promptly and efficiently simply by using Westinghouse household ironers to press the paper straight and dry.

• *These are only* a few examples of the score of unusual tasks a Service Department must perform. Actually, this department, in our case, is an industry within itself. We must manufacture millions of dollars worth of service equipment each year. This includes special equipment as well as renewal parts for apparatus which is no longer in regular production.

• *To meet* the unending demands for electrical service we maintain thirty-six service plants strategically located throughout the country. More than 3,000 men are normally employed. No piece of electrical apparatus in America is more than a few hours by rail, boat or plane from these plants, equipment and men.

• *Naturally,* we are proud of the record of this department. And we, as many others, consider it one of the most important arms of our business. Good Service is always Good Business.

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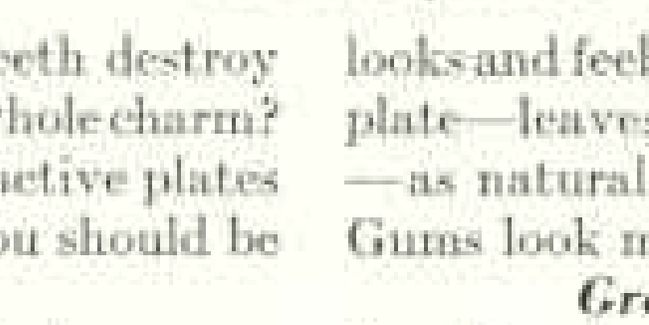
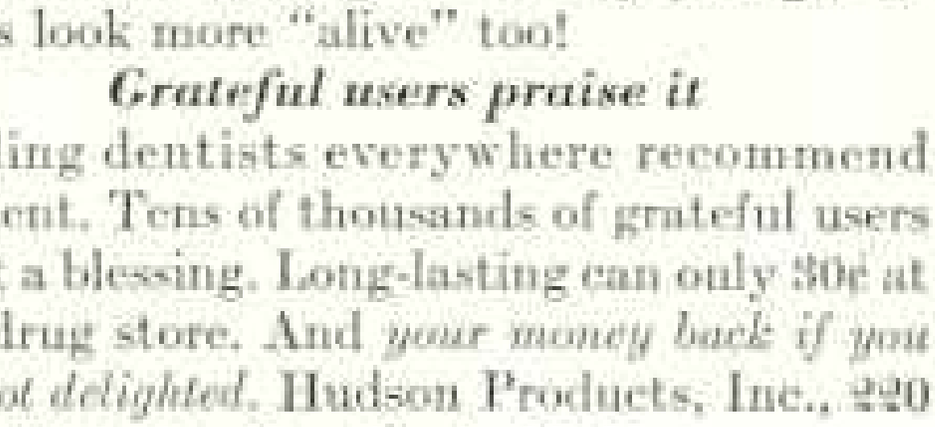


Cleans, Purifies WITHOUT BRUSHING!

Do this daily: Add a little Polident powder to half a glass of water. Stir. Put in plate, bridge 10 to 15 minutes. Rinse—and it's ready to use.

POLIDENT



Should you be on the lookout for Diabetes?

SOME FOLKS should be especially on their guard against diabetes, as a tendency to this disease seems to run in certain families.

► Furthermore, the people it strikes are usually overweight and between the ages of 40 and 60. Diabetes occurs most frequently among people who lead inactive lives, and is more common among women than among men.

So, if you have reason to be on the alert for diabetes, it is particularly important for you to have complete physical examinations at regular intervals.

► Such examinations may reassure you that you do not have the disease. If the possibility of diabetes is indicated, then a study of sugar in the blood can help the doctor detect the condition early—frequently before other symptoms appear. Thus, you can be guided to prompt control of the disease with diet and insulin before it has made much progress.

The most common signs of diabetes, frequently not recognized by those who have the disease in early stages, are: Excessive thirst; excessive appetite; loss of weight; constant weariness and unaccountable irritability; and, in older people, boils and carbuncles.

► Naturally, definite symptoms should call for immediate medical attention.

It is encouraging to realize that a healthy, active life is not only possible but probable for most diabetics who promptly discover their ailment and follow competent medical guidance. They easily become adjusted to the four vital conditions necessary for diabetes control: 1. Proper diet, 2. Insulin as prescribed, 3. Exercise, 4. Cleanliness.

For further helpful information concerning this disease and its control, send for the Metropolitan's free booklet, "Diabetes." Write today to Dept. 940-N.

The five unlucky days of the Aztec Indians

THE AZTEC INDIANS divided their solar year into eighteen months of twenty days each.

The five days left over belonged to no month, and they were regarded as peculiarly unlucky. Particularly that series of five days which fell every fifty-second year.

At this time the Aztecs abandoned themselves to despair. They smashed the small images of their household gods. They destroyed their furniture and their household utensils. They let the holy fires die out in the temples.

On the evening of the final day sacrifices were made to the gods. And as huge fires flicked their tongues into the dark sky, couriers ran throughout the nation, proclaiming that the gods of evil had been placated and that joy should reign again.

Today, few men believe that the year can be divided into days that are lucky and days that are not. Misfortune strikes at unpredictable moments, and no man knows beforehand when.

But modern man *has* found a way to alleviate such misfortune, no matter when or where it falls. That way is insurance.

If, on some unlucky day, you suddenly get yourself hurt, accident insurance will take care of your doctor and hospital expenses; and it will provide you with an income while you are laid up.

If you injure someone with your car, automobile liability insurance will protect you from the dangers of lawsuits and heavy damage payments.

And if something should happen to you, life insurance, as you know, can provide an income for your family that will allow them to live pleasantly in the home they hold so dear.

Why don't you discuss your individual insurance problems with your local Travelers agent or insurance broker?

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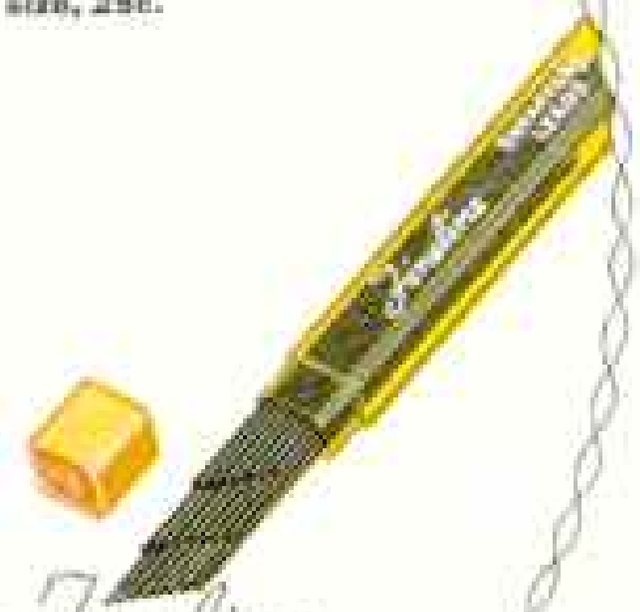

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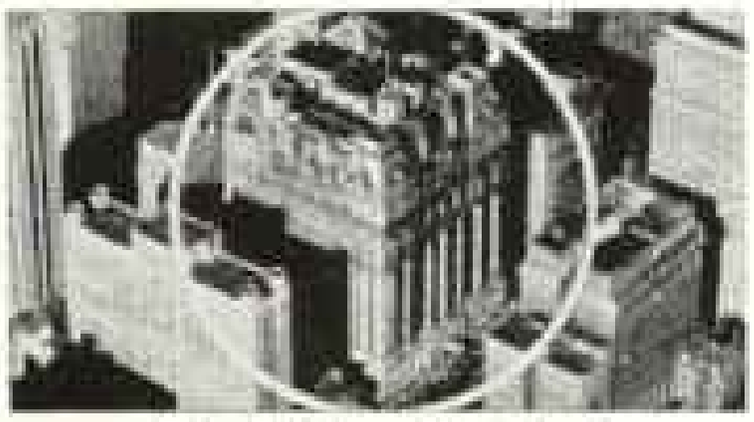

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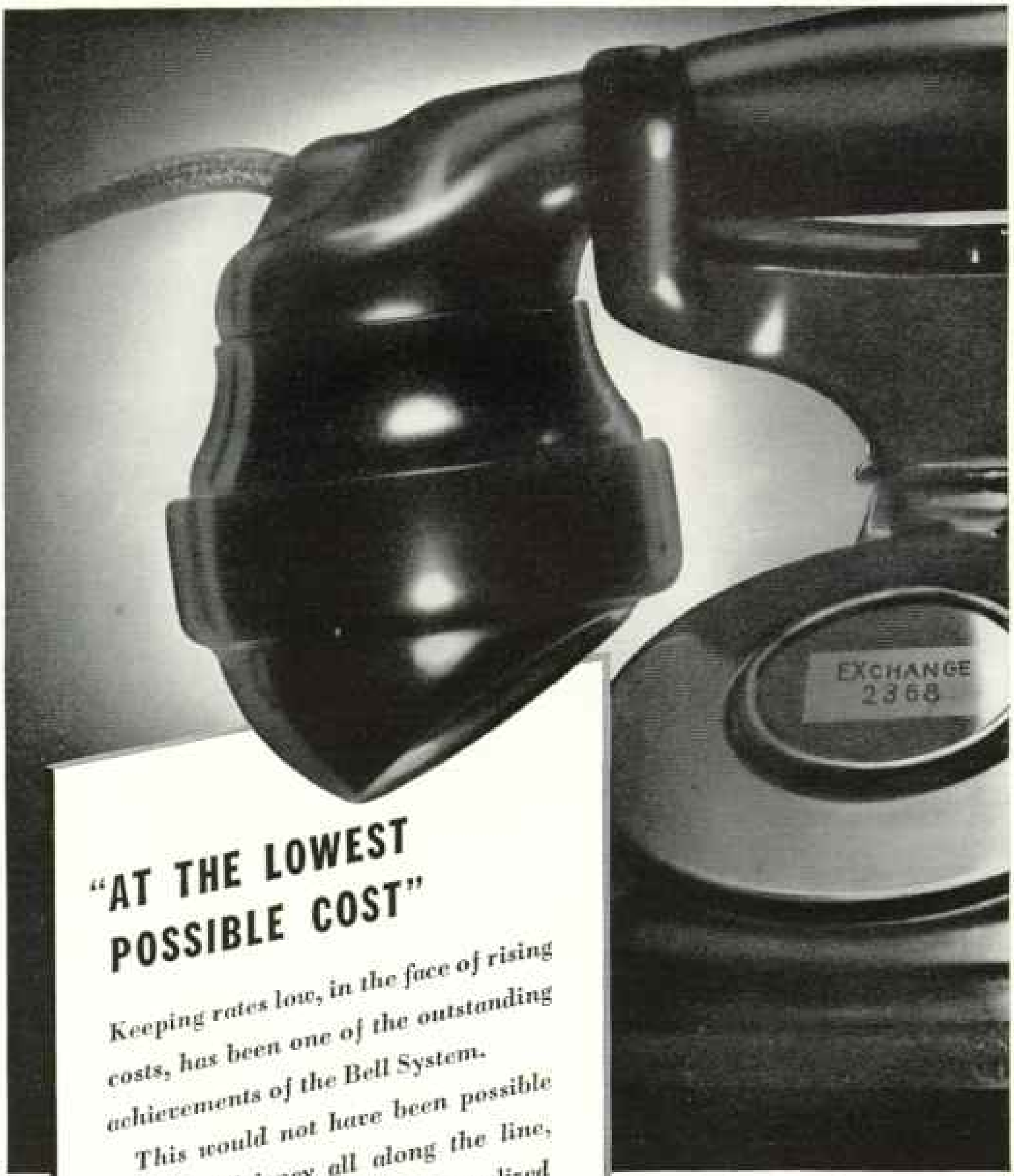

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