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Map Supplement of Mexico, Central America,  
and the West Indies

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With 25 Illustrations

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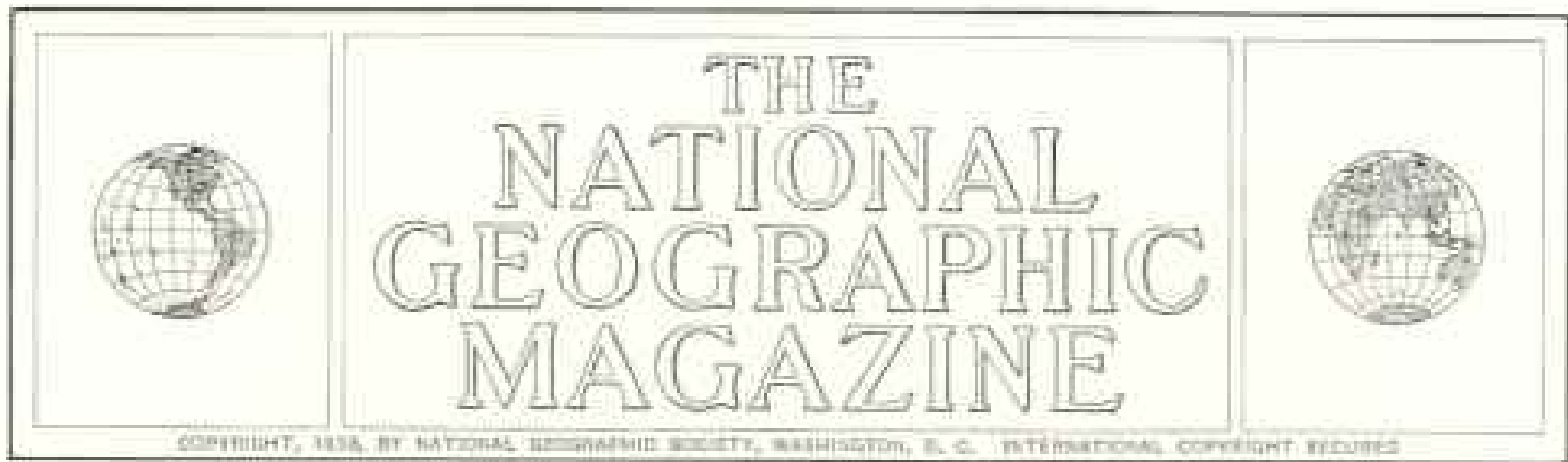
IRINA UNGERN-STERBERG

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## PUERTO RICO: WATCHDOG OF THE CARIBBEAN

### Venerable Domain Under American Flag Has New Role as West Indian Stronghold and Sentinel of the Panama Canal

BY E. JOHN LONG

**F**AR below the Clipper plane, swiftly winging me from Miami to San Juan, the broad expanse of Mona Passage was streaked with the white wakes of lumbering freighters. I was crossing one of the world's busiest trade tracks—the ocean highway from northern Europe to the Panama Canal.

It was difficult to believe that in these luminous blue waters Spaniard and Englishman, Dutchman and Frenchman, buccaneer and merchantman, galleon and caravel, frigate and brigantine for centuries struggled and maneuvered for mastery. It seemed even more incredible that the peaceful parade of commerce was threatened again.

Co-pilot George King came back to my seat and pointed out the window.

"Look ahead," he said. "Do you see that high rocky cliff, rimmed with white breakers?"

"We're approaching Point Borinquen, northwest corner of Puerto Rico. As we fly over it, notice the wide, nearly level tableland back from the cliffs. That's the site of the new Army Air Base, the 'big gun' in the scheme of national defense along the Atlantic seaboard."

I could see nothing but palms, a few patches of sugar cane and a winding country road. It did not look like a promising place for an airport and I said so.

Co-pilot King went forward and returned

in a minute with a large map of the West Indies and Central America, which he spread in my lap. He drew lines from Point Borinquen to Miami, the Panama Canal, Trinidad, Caracas, and ran one off the map in the direction of Bermuda.

#### THE ISLAND'S STRATEGIC LOCATION

"Now do you see? About 1,000 miles to the Panama Canal, 1,000 miles to Miami, 700 to Bermuda, 550 to Caracas on the mainland of South America, 650 to Trinidad. This is the hub of a wheel.\* Put enough planes here, and enough land forces to guard your bases, and Puerto Rico becomes the 'Gibraltar of the West Indies,' or the 'Hawaii of the Atlantic.'"

Less than a month later, I saw the first U. S. Army plane land on an improvised field swiftly cleared from the cane fields atop that mesa, and the harbor of San Juan fill with Navy planes, tenders, and gray ships of war taking up their duties as part of the President's neutrality patrol.

After four centuries the land whence Ponce de León sailed to discover Florida is again an outpost—this time facing east! Ancient sentry boxes on its huge Spanish fortifications (Color Plate II) are symbols of the new watch on the Caribbean. Symbols but not models. Today man digs

\* See map supplement "Mexico, Central America, and the West Indies," with this issue.



Photograph by E. John Long

PUERTO RICO'S 16TH AMERICAN GOVERNOR TAKES THE SALUTE IN FRONT OF THE CAPITOL

At the left of Admiral William D. Leahy, watching the Inaugural Parade, September 11, 1939, stands Acting Governor José E. Colom. Señor Colom's father was one of the first to receive American troops arriving in Ponce in 1898. When he and other Spanish officials were told they must evacuate Ponce within 48 hours, his father replied that 48 minutes would be sufficient! Overhead hangs the seal of Puerto Rico, granted by King Ferdinand of Spain in 1511.

underground, or levels hills and fills swamps to make airports that can send "flying fortresses" far over the horizon.

We flew eastward that clear August morning above the fertile plain which rims Puerto Rico's rocky north coast. Green and brown fields stretched up to cone-shaped foothills. Beyond reared dark mountains, their heads swathed in clouds.

Warm sunshine poured down on sugar and pineapple fields, orchards and palm

groves, silver rivers, and little towns whose houses crowd together as if they fear to steal space from precious crops. From the air Puerto Rico obviously is one of the earth's most densely populated places.

It had been nearly 15 years since my last visit to San Juan, and I was prepared for changes. Even the name of the island was different, the Spanish *Puerto Rico* having been restored in place of the American adaptation, *Porto Rico*.

A NEW NAVAL AIR BASE

Expecting change, I was nevertheless surprised to see a New Yorkish skyline of tall buildings behind the grim battlements of El Morro and the Fortaleza, which were old when the Pilgrims landed. And everywhere

were scaffolds, girders, and derricks for more buildings under construction.

Our plane docked at the trim Pan American air base on Isla Grande. No longer an island, this point of land is part of an enormous area built up from silt dredged from San Juan Harbor. Extending back to the suburbs of Miramar and Santurce, it will soon be covered with long runways, hangars, and barracks. This is the site of a \$9,000,000 U. S. Naval Air Base (p. 700).



Photograph from Wide World

ALL SAN JUAN LOOKS UP AS MARINE PLANES ROAR OVERHEAD

A squadron based at Culebra, east of Puerto Rico, circled over the old Spanish fortifications of the Capital during fleet maneuvers last winter. The wide expanse is El Morro's extensive parade.

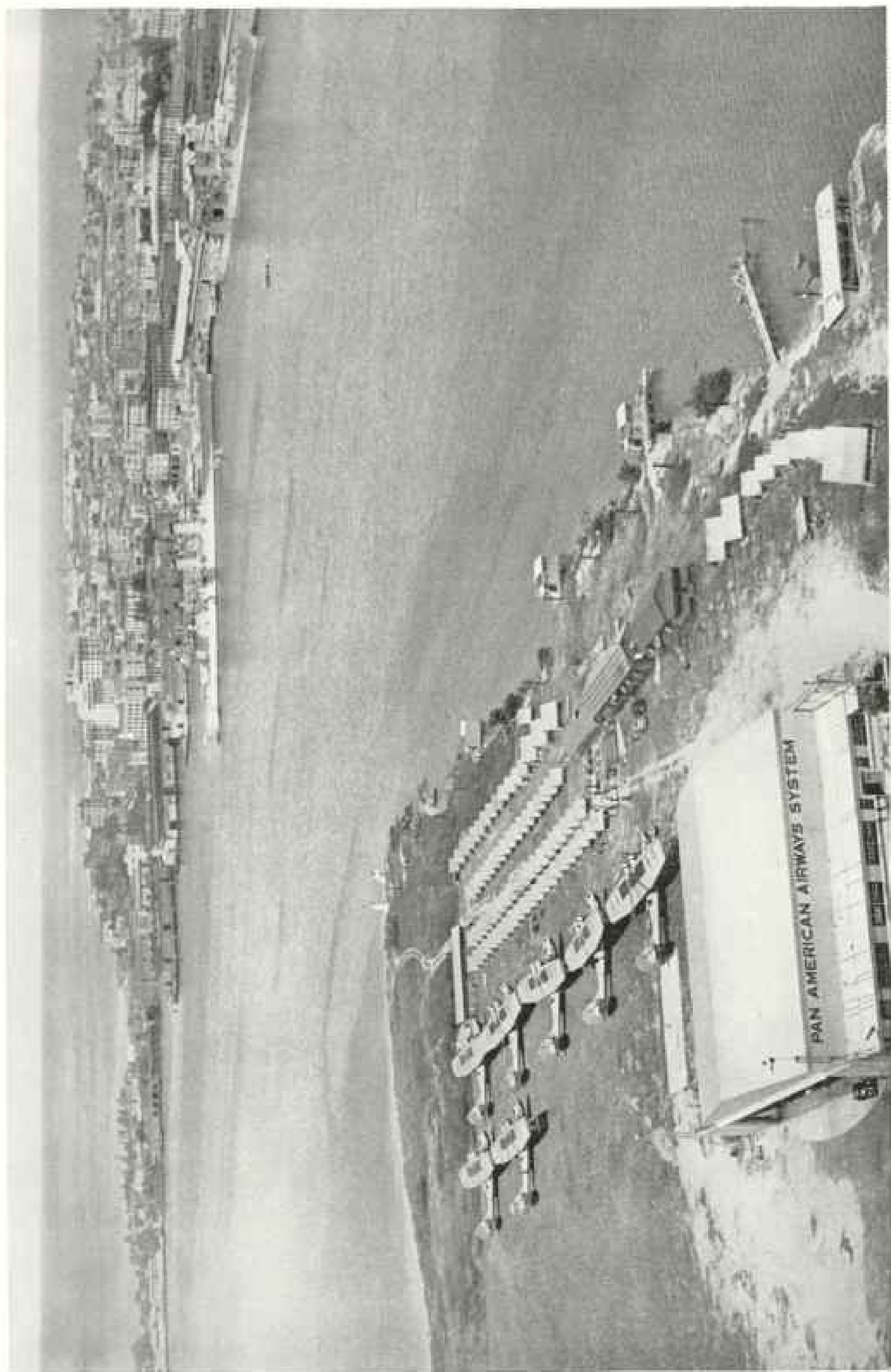


Photograph by Edwin L. Wisbeck

MISSION AND MODERN STYLES BLEND IN SANTURCE

The building boom in San Juan's suburbs has brought many contrasts between Spanish Mission type homes (left) and modernistic apartment houses (right). Areas near the capital that only a few years ago were covered with grass and weeds are now residential districts (page 709).

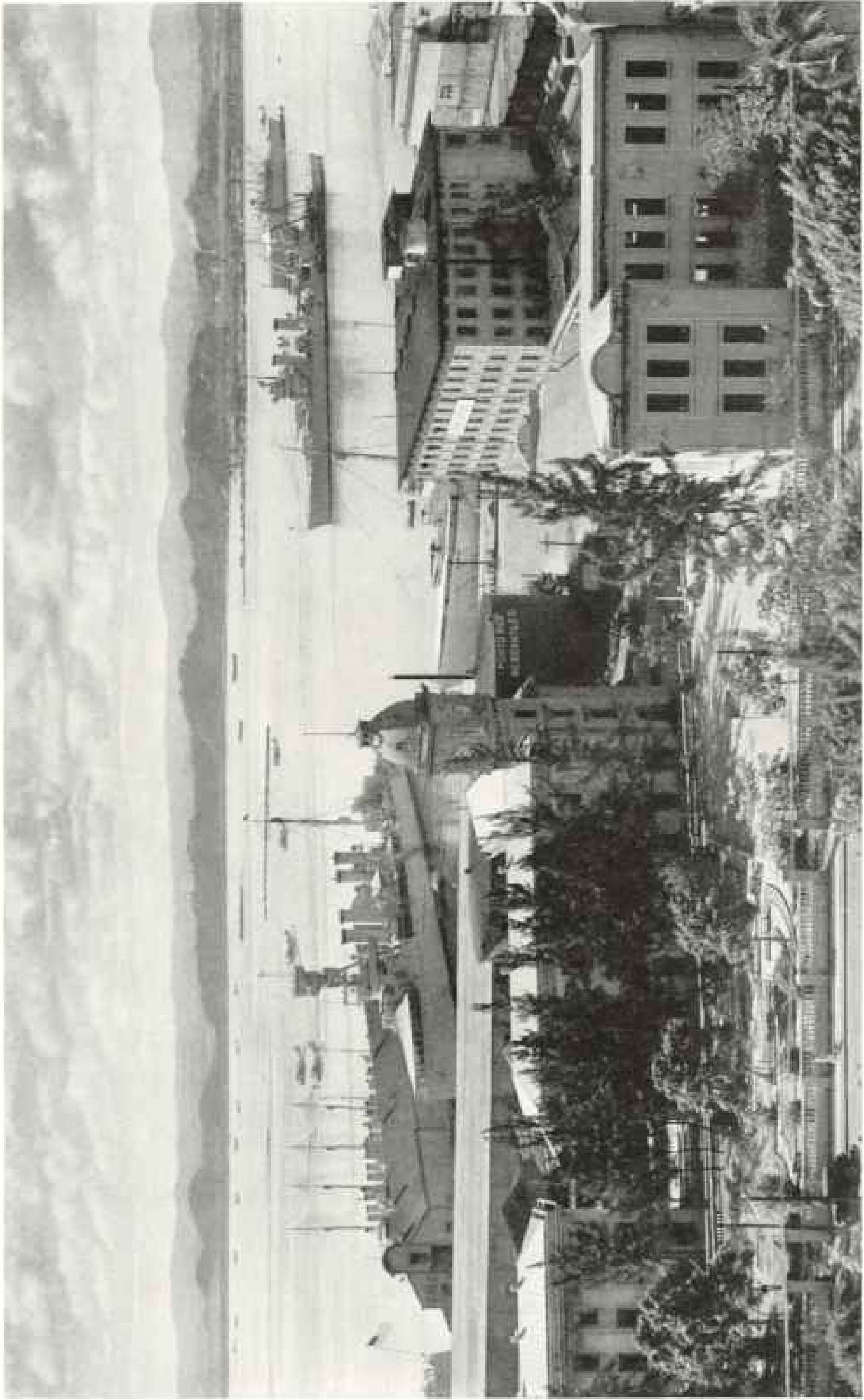




Photograph by Ralph Kostly

TENTS FOR THE "WATCHDOGS" OF THE CARIBBEAN MARK THE START OF A NEW NAVAL AIR BASE AT SAN JUAN

Old Spanish fortifications and a modern American skyline look down on the Isla Grande headquarters of the Neutrality Patrol. Seven of the twelve flying boats assigned to Puerto Rico are drawn up back of the hangar. Daily they patrol the Caribbean area. Across the harbor the cruisers *Tasoloma* and *San Francisco* are docked.



Photograph by Edwin L. Wehland.

**GRAY MEN-OF-WAR AND NAVY PATROL PLANES STAND GUARD IN SAN JUAN'S SPACIOUS HARBOR**

Puerto Rico, almost as large as Connecticut, has assumed new national importance as guardian of American interests in the Caribbean. In the foreground (with clock-tower) is the terminus of the American Railroad of Puerto Rico, a 288-mile system that nearly encircles the island. The smoking chimney among the hills to the right belongs to the new government cement plant at Cataño.



Photograph by Edwin L. Wisford

"AIR RAID PRECAUTIONS" ARE NOTHING NEW IN PUERTO RICO

But here the enemy from the sky is the hurricane, which uproots trees and levels crops (pages 706-7). This stout shelter, near Caguas, has a corrugated iron roof secured with wire and crossed railroad rails. The word "hurricane" is derived from the Carib Indian *huracán*, meaning "big wind."

Ashore in San Juan there were more surprises. Narrow streets teemed with motor cars and busses. Radios blared, red and blue neon signs flashed, newsboys shouted extras in Spanish, and business men, clerks, and stenographers walked briskly.

Spanish is the almost universal language of the island, which is not surprising when one considers that Puerto Rico for nearly 400 years was the "ever-loyal" colony, and the last Spanish possession in the New World. Of the island's 1,800,000 inhabitants, only about 3,000 or 4,000 are English-speaking "continentals."

"Be careful of the term 'American'." I was cautioned. Puerto Ricans, except a few Spanish subjects, have been American citizens since 1917, and so all are properly "Americans." Visitors or residents from the States are called "continentals," although I have heard "Americanos" used for people from the States when Puerto Ricans were talking in Spanish.

In many ways, however, Puerto Rico is a Spanish island and San Juan a Spanish town. As one goes back into the island the Spanish flavor becomes more pro-

nounced, despite the American flags over schoolhouses; and the U. S. mail and army trucks.

The currency, mails, lighthouse service, customs, and coast guard are the same as those of continental United States, yet Puerto Rico under the Organic Act of 1917 elects its own legislature, makes its own laws, and keeps all revenues collected on the island.

POLITICS IN EXPLOSIVE SPANISH

I strolled along the downtown streets of the old walled city, peering into sunlit patios and busy cafés, like those of Habana, where politics is discussed in explosive Spanish over cups of strong black Puerto Rican coffee. In front of a modern air-conditioned department store, the *chicharrón* peddler still shouts his wares—cracklings, or roast pigskin, golden brown and delicious. Lottery ticket venders block the walk, for here lotteries and cockfighting, as well as betting on horse races, are legal (opposite page).

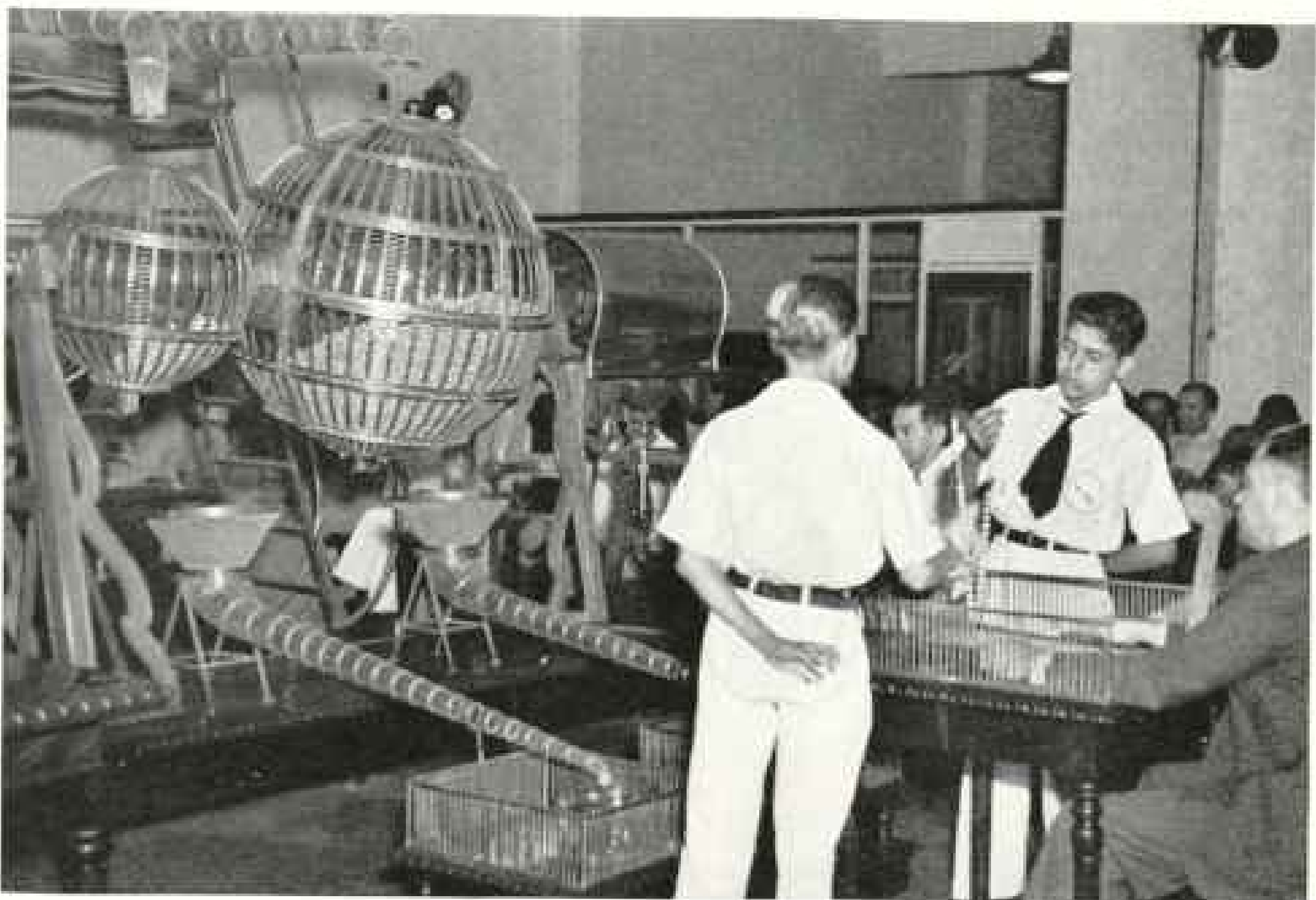
For a few cents a sidewalk vender will peel an orange for you with a knife so



Photograph by E. John Long

LITTLE REMAINS OF CAPARRA, PUERTO RICO'S FIRST TOWN

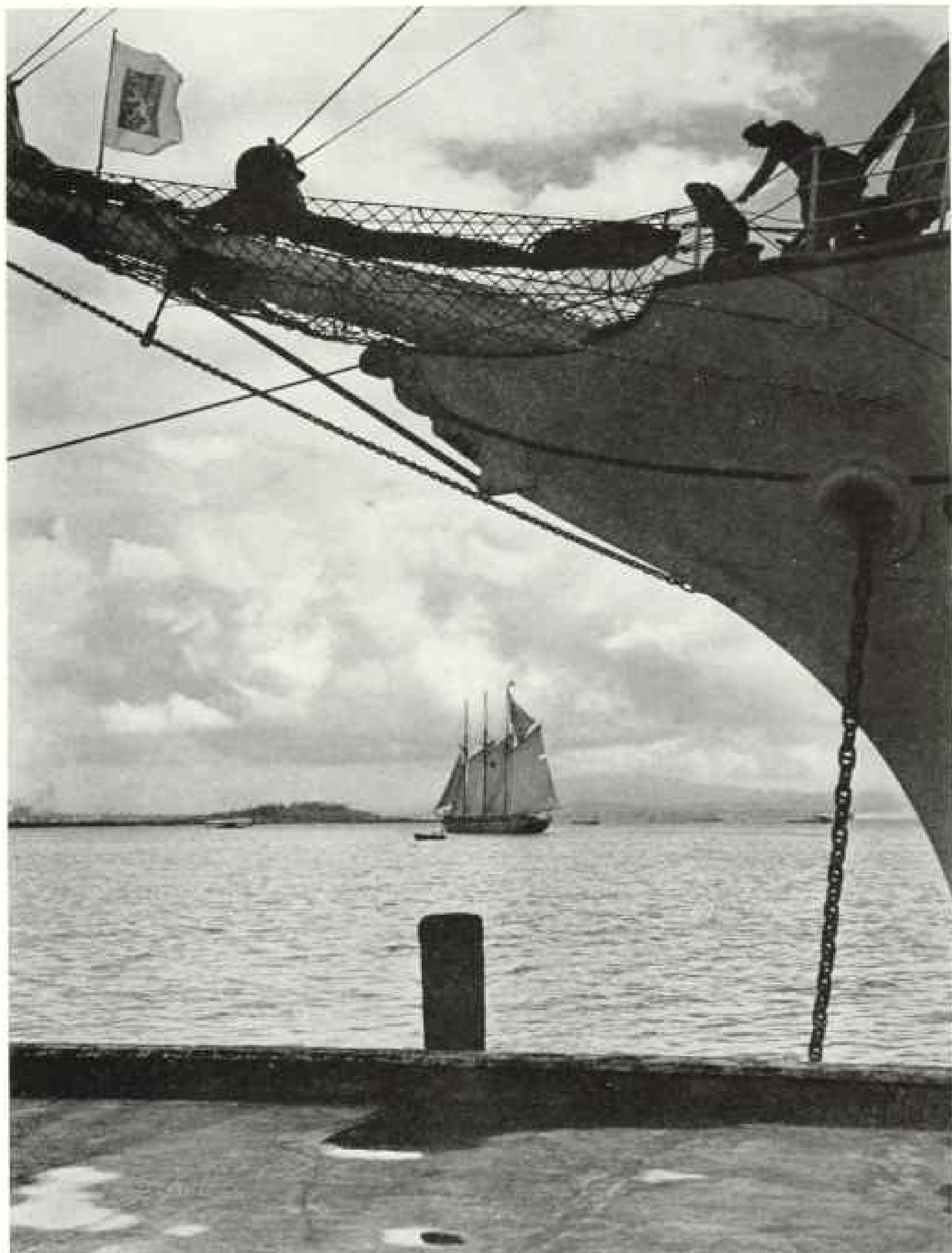
Two fair visitors examine some bits of pottery and glazed Spanish tile from the ruins of the home of Ponce de León, first Governor of the island, discoverer of Florida and seeker of the Fountain of Eternal Youth. Founded in 1509, Caparra was abandoned two years later (page 731).



Photograph by Edwin L. Wisner

SINCE 1934 LOTTERIES HAVE BEEN LEGAL IN PUERTO RICO

Patterned after the old Spanish lottery, outlawed for 36 years, the drawing takes place before three prominent citizens, acting as honorary witnesses, and the public at large. From the smaller circular cage (left) come the "number balls"; from the other the "prize amount balls." About a third of the receipts is distributed to combat tuberculosis, relieve the destitute, and equip hospitals.



Photograph by Edwja L. Wisner

A FINNISH TRAINING SHIP FRAMES A VISTA OF SAN JUAN HARBOR

One of the busiest ports in the West Indies, the Puerto Rican capital welcomes cruise steamers, men-of-war, freighters, and humble fishing craft. Clipper planes, carrying passengers and air mail, link San Juan with Florida, South America, and neighboring islands. The three-masted schooner above has come from the Dominican Republic, on the near-by island of Hispaniola, with a load of charcoal. San Juan has modern electrical and gas services, but much cooking is still done over small charcoal braziers.



sharp that the peeling reaches in one long strip unbroken to the ground. Boys with land crabs strung together and hung about their necks, nuns in black robes, sailors from foreign ships in the harbor, visitors loaded down with string rugs (Plate XII) and needlework, shy mountain folk carrying baskets of fruit on their heads—all these and more make up the pageant of movement and color that streams through the old walled city.

With a population of 140,000 people, most of whom live in the suburbs, San Juan has a commuting problem as perplexing as that of mainland cities. Gone are the rickety busses of a few years back—the *guaguas* with entrances in the rear and such picturesque names as "In God We Trust" and "La Coqueta." They have been replaced by a modern bus system which collects 75,000 fares a day on its six major routes. Many who work downtown go home for a leisurely luncheon, so San Juan has four instead of two "rush hours."

I went down to the docks to see at first hand what Puerto Rico needs and sells. Into the holds of steamers, most of them American, poured sugar, alcohol, molasses, rum, coffee, tobacco, fruit, needlework and lingerie, coconuts, buttons and basketware—the principal exports. From other ships, also American, came rice, meat, beans, codfish, flour, lumber, shoes, cotton and silk goods, fertilizers, gasoline, and scores of manufactured articles—the chief imports.

Puerto Rico ranks eighth among world customers of farmers and business men of continental United States, and second in Latin America.

#### SOME HISTORIC LANDMARKS

San Juan, second in age only to Santo Domingo (Ciudad Trujillo) among New World capitals, has a wealth of historic places. In its venerable cathedral, founded in 1527 and rebuilt in 1802 after an earthquake, rest the ashes of Ponce de León. San José church, built in 1523, is one of the oldest religious edifices in continuous use in America. Casa Blanca, dating from 1523, has been restored as headquarters for the commander of the U. S. Army's new "Puerto Rican Department" (Plate III).

Since 1639, venerable La Fortaleza has been the official residence of the Governors of Puerto Rico. The dungeons and battlements of El Morro and San Cristóbal still excite the admiration of military men.

But these have all been vividly described before.\* My interest on this visit was in the modern.

*Puerta de Tierra*, "land gate," they call the once barren eastern end of San Juan Island, beyond the old city walls. Fifteen years ago more than a third of it was rock, brush, and weeds. But what a transformation today!

From the Plaza de Colón, under the shadow of the towering ramparts of San Cristóbal, two fine boulevards reach out toward the suburbs. One of them skirts a cliff along the sea, with vistas of white surf pounding on the rocks and reefs.

The other, the old Carretera, is lined with splendid public and semi-public buildings. I recognized the Casino, the Y. M. C. A. and the Carnegie Library. But the neat lines of the Ateneo (dedicated to Arts, Science, and Literature) and the blue and white tiled Spanish Club are new.

New also is the imposing Capitol building, seat of the Insular Legislature, its marble dome gleaming in the sun (Plate X). The Capitol, and its handsome neighbor, the School of Tropical Medicine, were under construction during my previous visit.

#### AIR-CONDITIONED OPERATING ROOMS

To the original building of the School of Tropical Medicine, modelled after the Palace of Monterey in Salamanca, a research hospital with air-conditioned operating rooms, a library and auditorium, a service building, physiology and pathology laboratories, a primate house, and an experimental animal house are being added.

As a layman I thought that, with the conquest of typhus fever and Colonel Bailey K. Ashford's discovery that hookworm was the cause of anemia in Puerto Rico, the major health problems of the island had been solved.

"On the contrary, our work is just beginning," Dr. G. W. Bachman, distinguished director of the School told me. "The tropics present many challenging medical frontiers. For instance, there is the dread blood fluke. Never swim in a river in Puerto Rico. Almost all of them are infested with a tiny parasite which enters the skin, reaches the blood stream and finally the intestines, with dire and sometimes fatal results."

\*See "Puerto Rico, Gate of Riches," by John Oliver La Gorce, NATIONAL GEOGRAPHIC MAGAZINE, December, 1924, and "Skypaths Through Latin America," by Frederick Simpich, January, 1931.



Photograph by E. John Long

ON THE LEPER COLONY GROUNDS GROWS A CHAULMOOGRA TREE

One of the most dramatic expeditions in the history of plant exploration was Dr. Joseph F. Rock's search for the tree whose fruit yields an oil which alleviates dread leprosy. He found it in Burma, in 1921, and in 1926 this specimen was planted near Trujillo Alto by the Forestry Service. It survived the hurricanes of 1928 and 1932 but has never borne fruit. Now 50 patients at the leper colony receive injections of chaulmoogra compounds.

The broad general program of the school is directed toward making the once disease-ridden tropics as safe and healthful as northern climes.

"SOUND MONKEY BUSINESS"

The school can point to many such accomplishments, as well as less dramatic studies of nutrition, parasites, and anemias. This year it undertook 95 projects, in addition to supervision of the work being done at Santiago, the much publicized

"monkey island" off the eastern coast of Puerto Rico.

"The Santiago project is what we call 'sound monkey business,'" Dr. Bachman explained. "Its purpose is to raise and to sell rhesus monkeys of known ancestry and free from disease. Each year thousands of rhesus monkeys from India are bought by zoos and other scientific institutions, but many die from tuberculosis or from changes in diet. Ours are healthy and acclimated; their diet has been established" (p. 738).

"THE SPIRIT OF  
76 DEGREES"

Not far away is the Weather Bureau, in a small building seldom thought of until a hurricane comes roaring up from the south Atlantic. Then reports flash in from ships at sea, neighboring is-

lands, and the mainland. Expert calculations soon chart the storm's course and speed. The insular police and the island's four radio stations warn those in its path.

It is a tribute to the accuracy of the Bureau's forecasts that few lives were lost in the last two great hurricanes of 1928 and 1932. In 1928 the Bureau registered 160 miles per hour, and then the anemometer blew away!

Hurricanes, fortunately, have been few. Usually only steady trade winds blow

from the east, and the temperature range is small. It is seldom warmer than 85 in summer and seldom colder than 65 in winter, giving currency to the slogan: "Puerto Rico, The Spirit of 76 Degrees!"

A *Puerta de Tierra* landmark is the convent of *Notre Dame*. Here I saw drawn-work, filet embroidery, and other needlework, until recently the second most important source of income in Puerto Rico, being made by girl apprentices under the watchful eyes of patient nuns.

Continuing along the *Carretera*, past the red towers of the Navy Wireless Station, where formerly only brush and weeds grew, is a beautiful park, stocked with rare native plants and flowers. Opposite it, in a new baseball stadium, the pennant-winning Cincinnati Reds trained a few seasons ago. Puerto Ricans are ardent baseball fans.

#### REHABILITATION HEADQUARTERS

The barracks-like buildings nearby belong to the Puerto Rico Reconstruction Administration, familiarly known as PRRA (pronounced "Praw"). PRRA is carrying out the economic rehabilitation program of the Federal Government in Puerto Rico. Its island-wide activities range from reforestation and slum clearance to resettlement of farmers, soil conservation (page 725),



Photograph by Edwin L. Wisner

#### "CURB SERVICE" FOR A FIVE-DECKER LUNCH

If cook has a day off, or if work at the office prevents going out for lunch, you can have a well-balanced meal delivered in such cans. Rice, beans, fish or meat, fresh vegetables, and a dessert make up a typical menu. Shutters and grille balconies are characteristic of houses in the old walled city of San Juan.

cattle tick eradication, malaria control, fruit canning, needlework training, and the construction of new schools, post offices, hospitals, police stations, highways, sewers, waterworks, athletic fields and swimming pools.

Diligently, PRRA seeks new sources of income for sugar workers thrown out of employment by the quota (since lifted) and low sugar prices; for fruit growers whose trees and finances have not recovered from hurricanes and competition in the States; for coffee growers out of work because of the world surplus of coffee; for tobacco



"FIVE-AND-TEN" ON FOUR LEGS VISITS THE BACK COUNTRY

The store comes to the customer in the sparsely settled sections of southwestern Puerto Rico near Boquerón. The dry goods department is on the "port side" of the horse; the notion counter is "one aisle to the right!" Catalogue and order blanks are ready for other needs.



Photographs by Edwin L. Wisard

THE ENTIRE PIG IS BARBECUED IN PUERTO RICO

A popular native food is roast pork seasoned with a sauce made from pepper, salt, garlic, and *achiote*, a red seed from a Puerto Rican tree. Along the highway between Caguas and Rio Piedras one sees stands with whole pigs being turned on bamboo spits over beds of live charcoal.



Photograph by Ralph Kestly

LO! THE POOR FRESHMAN, EVEN IN PUERTO RICO

Opening day at the University, Rio Piedras, finds the new class taking its initiation gamely. The University, supported by the insular government, has more than 4,000 students. Beyond rises the Franklin D. Roosevelt Tower, which contains a carillon of 25 bells.

planters who find cigarettes capturing the market for mild cigars; and persons living on poor or marginal land.

Because sugar is so easy to grow and normally brings good cash returns, less than half the food needed on the island is raised there. A shipping strike recently caused the island's reserve food supply to dwindle. Think what might happen were the 1,800,000 inhabitants of this island cut off from the mainland for more than six months!

Hence PRRA's emphasis upon raising food and more food. Much land now considered worthless can be made to produce crops by soil conservation. Fruit that rots on the ground could be canned. Surplus or poor sugar land might raise forage crops for animals that would augment the meat supply.

Within gunshot of tiny Fort Geronimo are four leading hotels, and the Union, Country, and Yacht Clubs. In near-by Miramar, a huge graving dock, the largest in the West Indies, is being built. Five

bridges link San Juan Island with the growing suburbs of Santurce, Miramar, and Condado. This section of the capital, with its quiet lagoons, overhanging coconut palms, wide boulevards, and pastel-colored apartments and hotels, recalls parts of Miami Beach, Florida.

BUILDING DOOM IN SUBURBS

Today San Juan's suburbs are sharing a building boom which, on a small scale, matches that of the suburbs of Washington. Most of this activity has been financed with private capital. Old Spanish residents and a few wealthy Puerto Ricans once sent their money to Spain and to other European countries for investment. When the Spanish civil war broke out, they began to put their money into Puerto Rican land and dwellings. The first houses and apartments were quickly rented, and the boom was on.

The boom is being accelerated by the coming of Army and Navy officers and





Photograph by Edwin L. Wisford

#### HERE WATER DOES DOUBLE DUTY

Near Guayama rushing mountain streams have been curbed by dams and the flow shot through pipes to hydroelectric plants. The water is then used for irrigating sugar cane fields, with hardly a drop reaching the sea.

their families. Also, it is obvious that the narrow streets of old San Juan and the modern automobile shopper do not mix. No one wants to sacrifice the charm of the walled city by widening streets or destroying architectural landmarks, so merchants and residents are moving out to the wide boulevards of Santurce.

#### "LITTLE PARIS"—AT STOP 22

Around Stop 22 (the halts of the antiquated streetcar line are still used as addresses) in Santurce, a "Little Paris" has sprung up. In the evenings people gather at gay cafés with sidewalk tables. Sometimes the talk is of politics, a subject that can always find a responsive audience in Puerto Rico, which has three major political parties unrelated to those of the States.

But it is more fun when wandering troubadours with guitars and *maracas* (gourd rattles) stop at your table and offer to play and sing such typical Puerto Rican songs as *Lamento Borincano*, *Madre Mia*, *Perfidia*, *Purísima*, or *Naufragio*.

Most Puerto Rican tunes are plaintive inheritances from Spanish colonial days when music was the only relief from the tragedy of being poor or being heartsick. Livelier and more typical of Puerto Rico are the native *plenas* of the hills. The theme of the *plena* may touch any phase of life—romance, politics, a hurricane, the arrival of a distinguished personage, or even a bank moratorium!

In Santurce I sat in with a typical English class at Central High School. I listened amazed as youngsters, whose forefathers have spoken Spanish for uncounted generations, expertly took involved English sentences apart and put them together again. The teacher was an alert young woman from the States, one of more than 220 continentals who, with some 6,300 Puerto Rican teachers, wage the uphill battle against illiteracy.

Although education represents more than a third of the island budget, and is by far the largest single expenditure, only about half the 600,000 children of school age are receiving any education at all.

This represents no lack of interest or enthusiasm on the part of Puerto Ricans; facilities simply cannot be built fast enough. When Uncle Sam took over Puerto Rico in 1898 there were very few public schools, and 85 per cent of the population was illiterate. Today there are more



Photograph by E. John Long

SACKING SALT TO "BAG" MORE VISITORS FOR PUERTO RICO

A cent a pound tax on all salt used is devoted to the development of island travel. In 1938-39 more than 19,000 persons spent their holidays in Puerto Rico. In the arid southwest, near Boquerón, sea water is pumped into shallow lagoons and evaporated, leaving almost pure salt.



Photograph by Edwin L. Wisford

AT FIRST GLANCE WATERMELONS SEEM TO GROW ON TREES

So abundant and healthy are the giant papayas at the University of Puerto Rico's Agricultural Substation in Isabela that supports had to be rigged to keep the trees from falling over. The papaya is a favorite breakfast fruit. The juice, fresh or canned, is becoming a popular drink.

than 1,800 schools and illiteracy has been reduced to about 30 per cent.

A short bus ride, along a wide new boulevard, brought me to Río Piedras and the beautiful campus of the University of Puerto Rico. Modelled after our State universities, this growing institution has 4,500 students, of which 750 are enrolled in the College of Agriculture and Mechanic Arts at Mayagüez. Dominating the campus is the new Franklin D. Roosevelt Tower with a carillon of 25 bells (page 709).

"The University of Puerto Rico is 'a door and a bridge between the Americas,'" one of the faculty told me. "We have a steadily increasing enrollment from Latin American countries, and many summer session students from the States."

On the campus, too, is forestry headquarters for the island. Here the work of the Insular Forest Service, the Federal Forest Service, and the Forestry Division of the PRRA, is co-ordinated. More than 90,000 acres have already been set aside as forest and recreational areas, chiefly in the mountains. The Caribbean National Forest, both the Luquillo and Toro Negro units, and the Maricao Insular Forest, are outstanding. Puerto Rico is soon to have a Tropical Forestry Research Station.

In addition to the introduction of new species of trees—such as Venezuelan mahogany and teak from Trinidad—forestry headquarters has established many homesteads on government forest areas. Free permits for from 5 to 10 acres of land are given to those who will reforest two acres of non-agricultural forest land for each acre used solely for farming. The system is expected to make each forest unit self-supporting and provide a living for many now on the relief rolls.

Down a palm-shaded lane, outside of Río Piedras, the well-equipped insular Agricultural Experiment Station tests soils and new crops for Puerto Rico.

#### ALONG A ROAD OF FLOWERING FLAME

Perhaps in the West Indies there are roads as beautiful as those of Puerto Rico in July and August, when the flamboyant or royal poinciana is in bloom. But I have seen nothing to compare with the highway that leads to El Yunque (the Anvil) in the Luquillo unit of Caribbean National Forest. For miles one travels under a canopy of living flame, bordered by even more vivid hibiscus bushes.

At Mameyes the road turns upward. You twist and climb along a highway so crooked that you can see your own car's tail light! But the road is good, and constantly there unfold sweeping views of sea, plain, and foothills. Finally comes the rain forest, with ferns as big as trees (Plate XV), delicate orchids like butterflies hung on the palms, graceful lianas, and all the tangled underbrush of the tropical jungle.

In this southern wonderland, our only National Forest in the tropics, parking lots, swimming pools, marked trails, overnight cabins, and uniformed rangers of the Department of Agriculture recall similar reservations in the States.

Puerto Ricans love the refreshing coolness of these former Crown lands of the King of Spain, and flock here for holidays. Horse and foot paths wind still higher through dense dwarf-type forests, with century-old trees no higher than a man, to the summit of El Yunque, 3,496 feet above the sea.

#### "DEVIL WITH HAT OF STRAW"

On my first long trip out of San Juan I was accompanied by Señor Robert, my friend and interpreter, and a chauffeur whose name neither of us learned, but whom we promptly christened "the devil with hat of straw." *El Diablo* was a skilled, if somewhat reckless driver, who delighted in whirling around the curves with horn blaring and tires screaming.

To visitors, the Puerto Rican habit of sounding the horn loudly and continually seems an unnecessary bit of exuberance, but it is required on all curves or when the way is not clear. A man who rented a car found the brakes, lights, and horn all defective. He went back to the agency and complained.

"What!" exclaimed the owner of the car. "No horn, señor! I shall get you another car pronto."

With more than 1,200 miles of paved and wonderfully scenic roads, Puerto Rico might be a motorist's paradise. Until recently the island had no road signs, and the present ones give the distances (in kilometers) only to the next town.

Later, when I obtained a driver's license and did my own driving, I was often lost. To my questions passers-by invariably said, "*Si, señor,*" in the pleasantest manner possible, but sometimes I had to retrace many miles.

PUERTO RICO POLYCHROMES



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Kodachrome by Edwin L. Wisnerd

PAGEANTRY OF OLD SPAIN SPRINGS TO LIFE AGAIN AT CARNIVAL TIME

This señorita was one of the candidates for Carnival Queen during the island's 1939 merrymaking that precedes Lent. Clad in regal splendor, she pauses on the veranda of the Spanish Club, in San Juan (Plate X). Puerto Rico, known to the Spaniards as the "ever faithful colony," was the last bit of Spain in the New World. Its conquest by American troops in 1898 was halted by the armistice that ended the Spanish-American War. A key to the Panama Canal, the island is now an outpost of American defense.



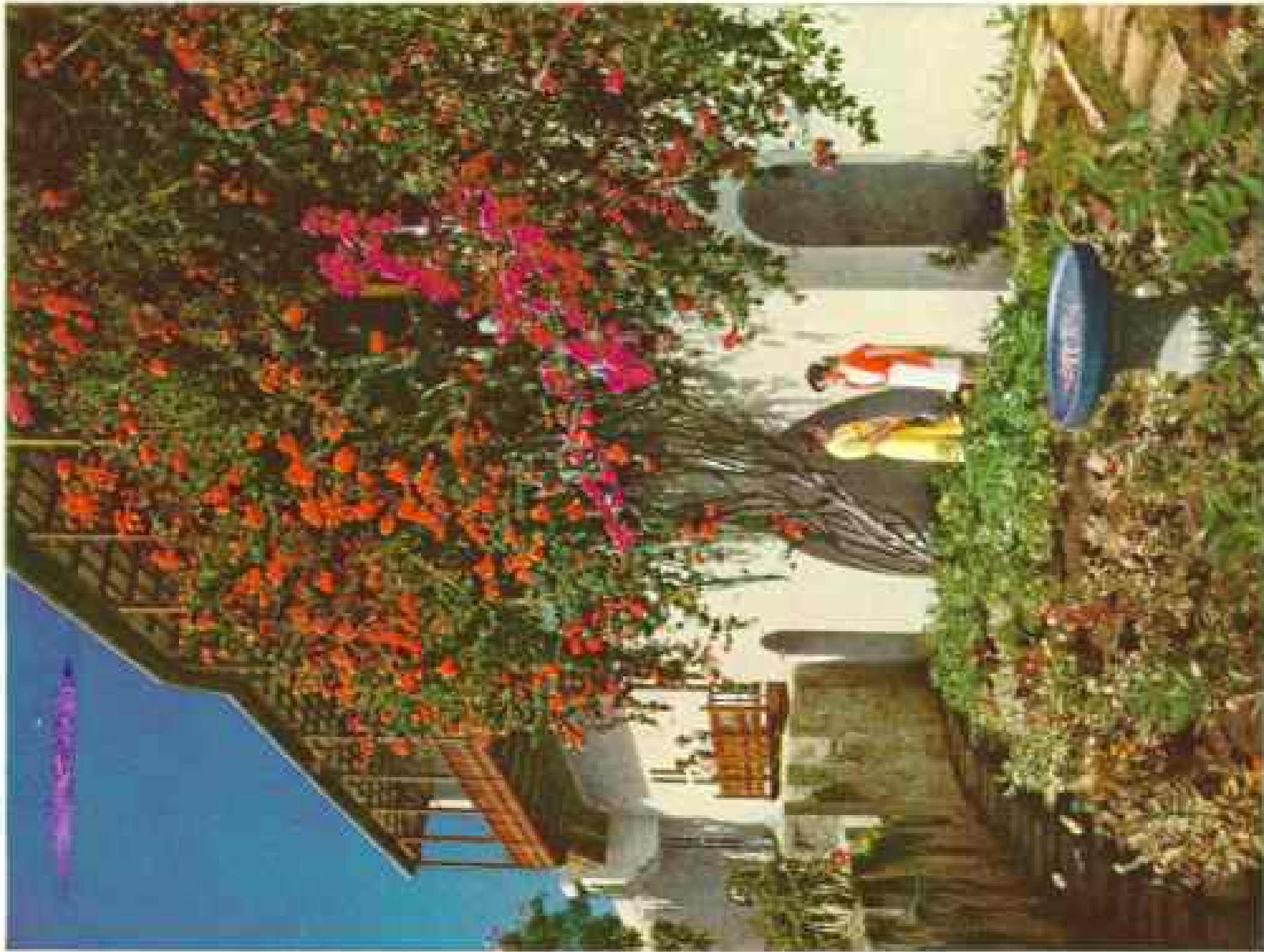
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Kodachrome by Edwin L. Wheeler

U. S. S. "WYOMING" STEAMS OUT OF SAN JUAN HARBOR, SKIRTING A SENTRY BOX ATOP THE OLD CITY WALL.

The battleship was one of numerous Navy units which visited the port during the fleet maneuvers last winter. In the left distance is Isla Grande, site of the Naval Air Station, which is being built on land dredged from the bay to widen the channel and provide a turning basin for big ships.





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**HISTORIC CASA BLANCA WAS BUILT FOR PONCE DE LEON**

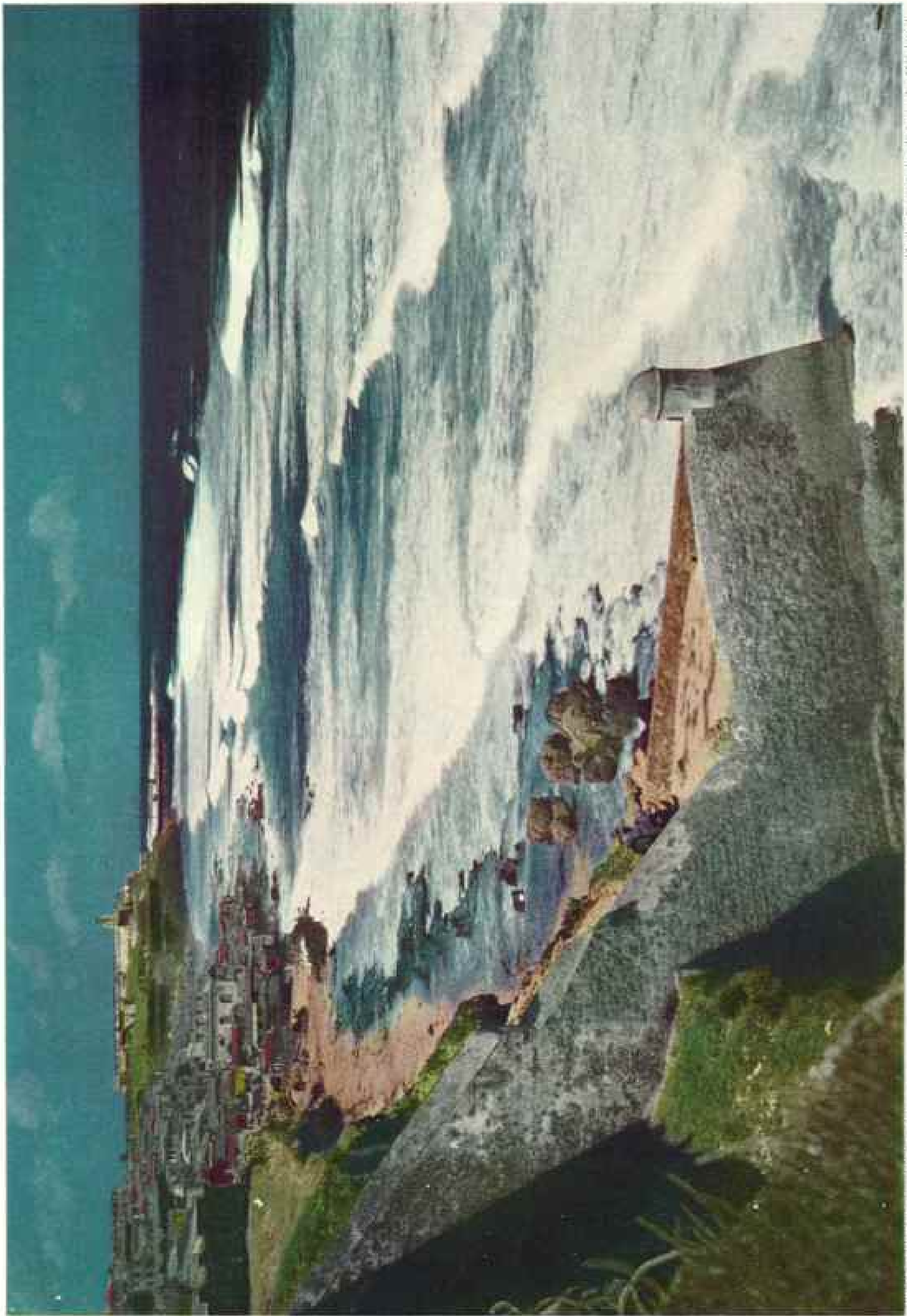
The famous seeker of the "Fountain of Youth," who was Puerto Rico's first governor, never dwelt here, for he died before the bougainvillea- festooned building in San Juan was completed in 1523. Today it is the home of the commander of the U. S. troops on the island (Plate XI).



Kodachromes by Edwin L. Wheeler

**LUMBERING OXEN HOLD THEIR OWN AGAINST TRUCKS AND HORSELS**

Tons of sugar cane, Puerto Rico's chief crop, are milled by modern machinery, but the island still depends largely on these patient beasts to transport the raw material from the fields. Here, near Mayaguez, flaming bougainvillea flanks a lane at the Agricultural Experiment Station.



Kodachrome by Edwin L. Wisland

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STREET FOUNDRY THE SAN JUAN COAST FROM FORT SAN CRISTÓBAL "HAUNTED" SENTRY BOX TO EL MORRO'S OLD FORTRESS



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FROM VAREY P.A.C.M., GIRLS DEXTERLY WEAVE MATS AND BASKETS. Both giant sombreros and more conventional straw hats are made in this Aguadilla workshop on the west side of Puerto Rico (Plate VII).



Kodachromes by Edwin L. Weiland

INTRICATE DESIGNS FALL TO DAUNTLESS NIMBLE FINGERS. Puerto Rican women, in shops and at home, skillfully fashion fine embroidery and drawn work, which is sent to shops on the mainland.





© National Geographic Society

Photograph by Edwin J. Winbarr

MACHETES IN HAND, PUERTO RICAN HARVESTERS ATTACK A FIELD OF TALL SUGAR CANE

They cut stems, about 12 feet tall, at ground level. Lanky tops are hucked off and the stalks are carted to the mills by oxen (Plate 111).



Kodachromes by Edwin L. Wheeler

**GOLDEN GRAPEFRUIT GLEAM FOR MILES WEST OF SAN JUAN**

In Puerto Rico's citrus belt, pineapples also carpet thousands of acres. Oranges, limes, papayas, and mangoes are other island fruits.

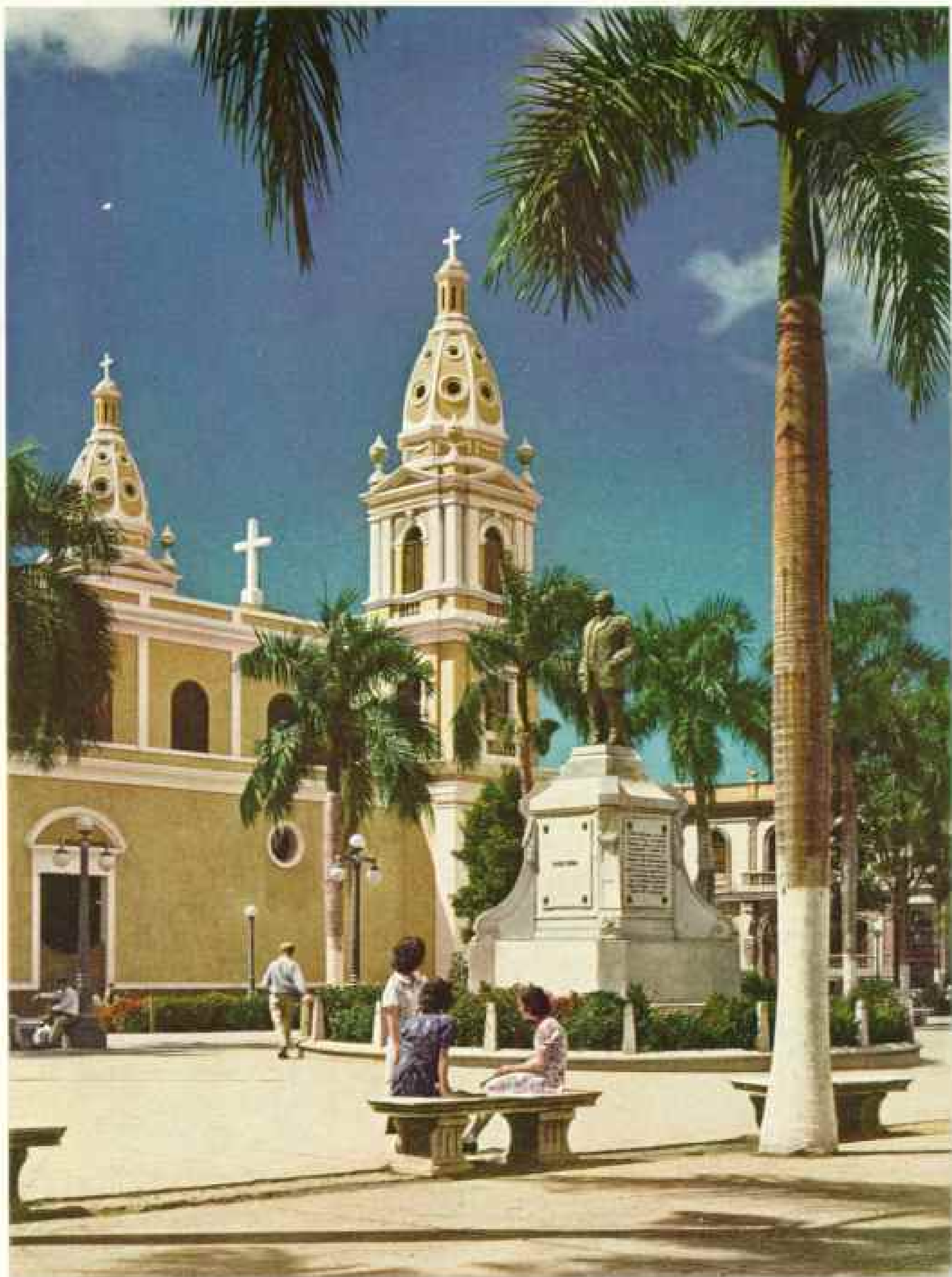


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**"HAT" PALMS—BEFORE AND AFTER**

Dried leaves of these stocky, yarey palms are woven into huge headpieces. Most of the weaving goes on in west coast towns, close to the groves (PL V).





© National Geographic Society

Kodachrome by Edwin L. Wisbeck

FROM HIS LOFTY PEDESTAL, MUÑOZ RIVERA GAZES OVER THE PLAZA IN PONCE

Political and social leader, he gained semi-autonomy from Spain for Puerto Rico just before the Spanish-American War. Later he served as resident commissioner in Washington, D. C. Fronting on the Plaza of this south coast city stands the old Church of Our Lady of Guadalupe.

From Santurce a long causeway crosses the mangrove swamps at the head of the harbor. We paused at the site of Caparra, grandfather of all Puerto Rican towns (page 703). Founded in 1509 by Ponce de León, it was abandoned two years later in favor of the rocky island of San Juan.

#### HERE LIVED THE SEEKER OF ETERNAL YOUTH

One of Puerto Rico's eminent historians showed us the remains of the packed-earth walls and tiled floors of the great house of the seeker of eternal youth. In a small museum are beautiful blue 16th-century tiles from Seville, old coins, perfume bottles, water jugs, and extra-wide horseshoes (to prevent the horses from sinking in the swampy ground near by).

Bayamón, a cigar-making and grapefruit-canning center, is flanked by many attractive country estates. Puerto Rican grapefruit (Plate VII) is delicious, but most of the groves are now neglected and the fruit rots on the ground. Debts following hurricanes and competition from Texas and Florida have virtually destroyed an industry that once shipped thousands of boxes to New York.

A few canneries are still in operation. Cans from the States are received smashed flat (to save shipping space) and an ingenious machine restotes them to shape.

In a spreading grove of coconut trees near Dorado I was treated to a drink from "nature's first refrigerator"—a green coconut. No matter how hot the day, the milky water inside is refreshingly cool. Scores of workmen were husking dried coconuts and passing the brown-shelled kernels through different-sized iron rings for grading. Packed in burlap bags, they are shipped off to northern markets. The charred shell is now used in gas masks.

The rug-weaving plant near Vega Baja, a busy place, turns out broadloom rugs, which find ready sale in the island.

Green fields of waving sugar cane flanked the road on each side and spread inland to the mountains as we drove through the pleasant countryside to Arecibo, thriving city of rum, cotton, needlework, and fruits, as well as the inevitable sugar cane.

Near Isabela the highway wriggles through the foothills and comes out for a breathless view of the rocks and sea at the mouth of the Guajataca River, one of Puerto Rico's dramatic spots. Isabela

is preparing for its share of the trade from the great new Army Air Base being built near by. A new movie theater (Spanish subtitles are added to our regular "talkies") and cafés already are there.

Before we reached Point Borinquen, however, we halted at the Isabela Agricultural Substation of the University of Puerto Rico. On several acres of well-irrigated ground we were shown papayas as big as watermelons (page 711), sea isle or long-fiber cotton, knee-high alfalfa, and tall stands of corn and sugar cane.

On my first visit to Point Borinquen, only a few surveyor's flags gave any hint that this was soon to become one of the United States Army's most important outlying air bases. Three weeks later I returned and found a tent city of the 65th Infantry and a cleared area more than 1,000 feet long.

Plans call for a huge military establishment here, occupying an area of 1,600 acres. There will be hangars, shops, barracks, hospital, schools, warehouses and paved runways long enough for the Army's largest bombers—the famed "flying fortresses." A village, several small farms, hundreds of palms, and a number of roadways will disappear in the "face lifting."

#### WHERE COLUMBUS "REFUELED"

The hills come down to Aguadilla, so the town is built close to the sea. Here I saw youngsters bathing in a basin fed by the same spring at which Columbus may have filled his water casks. South of town a monument, recently repaired and embellished with a little park, marks the spot where the discoverer came ashore during his second voyage to the New World in 1493. This is the only region now under the American flag which was visited by the great admiral.

Mayagüez looks new, despite its grilled balconies, pastel-colored houses, and central patios gay with potted flowers. It should. The town was nearly destroyed in 1918 by an earthquake and tidal wave that took hundreds of lives. But its citizens soon rebuilt their homes and offices and today the city is one of the healthiest and most prosperous on the island.

Mayagüez until recently was center of the needlework and clothing trade. Cigars are still made by hand here, to the accompaniment of a staccato Spanish lecturer who entertains while he prevents casual



Photograph by E. John Long.

#### BACK WITH THEIR CATCH OF LAND CRABS

Gathered along the roads at night, crabs are strung together and sold by boys in all the principal markets. After being boiled, the meat is scraped from the shells, mixed with ham, green peppers, olive oil, and seasoning. The mixture is then returned to the shells, covered with an egg, and baked. Tropical fruits are displayed here in Ponce, Puerto Rico's second largest city.

conversation. Other factories make furniture, beer, rum, chocolate, and tiles.

But Mayagüez's chief claims to fame are two institutions on the outskirts of the city: the College of Agriculture and Mechanic Arts of the University of Puerto Rico, and the noted Experiment Station of the U. S. Department of Agriculture.

#### SPICES THAT COLUMBUS SOUGHT

The latter must be paradise indeed for the botanist and horticulturist. On its extensive grounds or near by grow spices and

herbs, fruits and flowers, vines and grasses gathered from all over the tropics. Here truly are recreated the "Spice Isles of the Orient," in quest of which the New World was found!

What would the great Columbus say if he could see, twenty miles south of the spot where he set foot on Puerto Rican soil, cloves, pepper, cinnamon, allspice, ginger, nutmeg, camphor, and scores of other rare and exotic things!

Here I photographed vanilla vines climbing chocolate trees (opposite page). I saw plants which yield poisons deadly to insects but harmless to man. I tasted the mangosteen, which Queen Victoria once called "the most delicious fruit in the world." I smelled the green blossoms of the ylang

ylang tree, whose fragrance "makes strong men tremble and women swoon!" I nibbled bitter cinchona bark, source of quinine for malaria. I sat in furniture made from a solid bamboo impervious to the powder-post beetle. I looked at, but, recalling my Homer, refrained from eating the lotus!

In a "living drugstore" aloe (for X-ray burns), coca (source of cocaine), strychnine, citronella, quinine, and camphor flourish under the tropic sun.

Many are the activities of this botanical wonderland, but its greatest accomplish-

ment was a few years ago when a mysterious blight laid whole fields of sugar cane low.

#### A TOAD RESCUES AN INDUSTRY

The islanders were in despair until it was discovered that the white grub of a beetle was responsible. The Experiment Station set out to find an enemy. After patient research the "Bufo frog," really an amphibian toad (*Bufo marinus*, Linné), was introduced from Barbados and Jamaica. It thrived on the grubs and beetles and delivered an industry from ruin.

Once each year, on September 8, the lame, the halt, and the blind of Puerto Rico make pilgrimage to the village of Hormigueros. In a little white church dedicated to the Virgin of Montserrat many of the faithful come to pray for restored health—and many more to beg for alms.

Driving south from Mayagüez in the early morning we soon came in sight of Hormigueros and its gleaming white church high on the green hillside.

It was nearly nine o'clock and time for the procession. From the belfry the church bells, pounded by men with hammers and stones, set up a furious clangor like a dozen skyrocket engines. Back of the church three skyrockets were set off. Then from the portal came a slow procession, led by church dignitaries, pilgrims carrying banners, girls



Photograph by E. John Long

#### CHOCOLATE OR VANILLA ON THE "SODA FOUNTAIN" TREE

In his right hand the scientist holds a cacao pod; in his left the leaf of a vanilla vine, which zigzags up the trunk of the tree whose seeds are the source of chocolate. Vanilla is a terrestrial orchid, and the popular flavoring is derived from long podlike capsules which, when dried, resemble flattened stogies. This photograph was taken in a grove at the U. S. Department of Agriculture Experiment Station, Mayagüez.

dressed in white, and finally a slow-marching, perspiring group of men bearing on their shoulders a rose-covered catafalque containing the image of the Virgin.

Once around the church they staggered to the cadence of the bells. They kept a strange pace, like a bolero, and the catafalque swayed as if in a heavy sea.

There is a legend back of this Puerto Rican equivalent of Mexico's Guadalupe. "Some three hundred years ago," the padre of the church told us, "a peon was plowing his field near by when he saw a bull





Photograph by Edwin L. Wisland

"LIKE A CRUMPLED PIECE OF GREEN PAPER"—PUERTO RICO'S MOUNTAINS

Most of the interior of the island is covered with irregular, tumbling ranges from which the original trees have been stripped by charcoal burners. Here, near the Maricao Insular Forest, attempts are being made to grow mahogany, and to establish new coffee plantations.





Courtesy U. S. Dept. of Agriculture

**HOW FAST DOES A PUERTO RICAN HILLSIDE SHED WATER?**

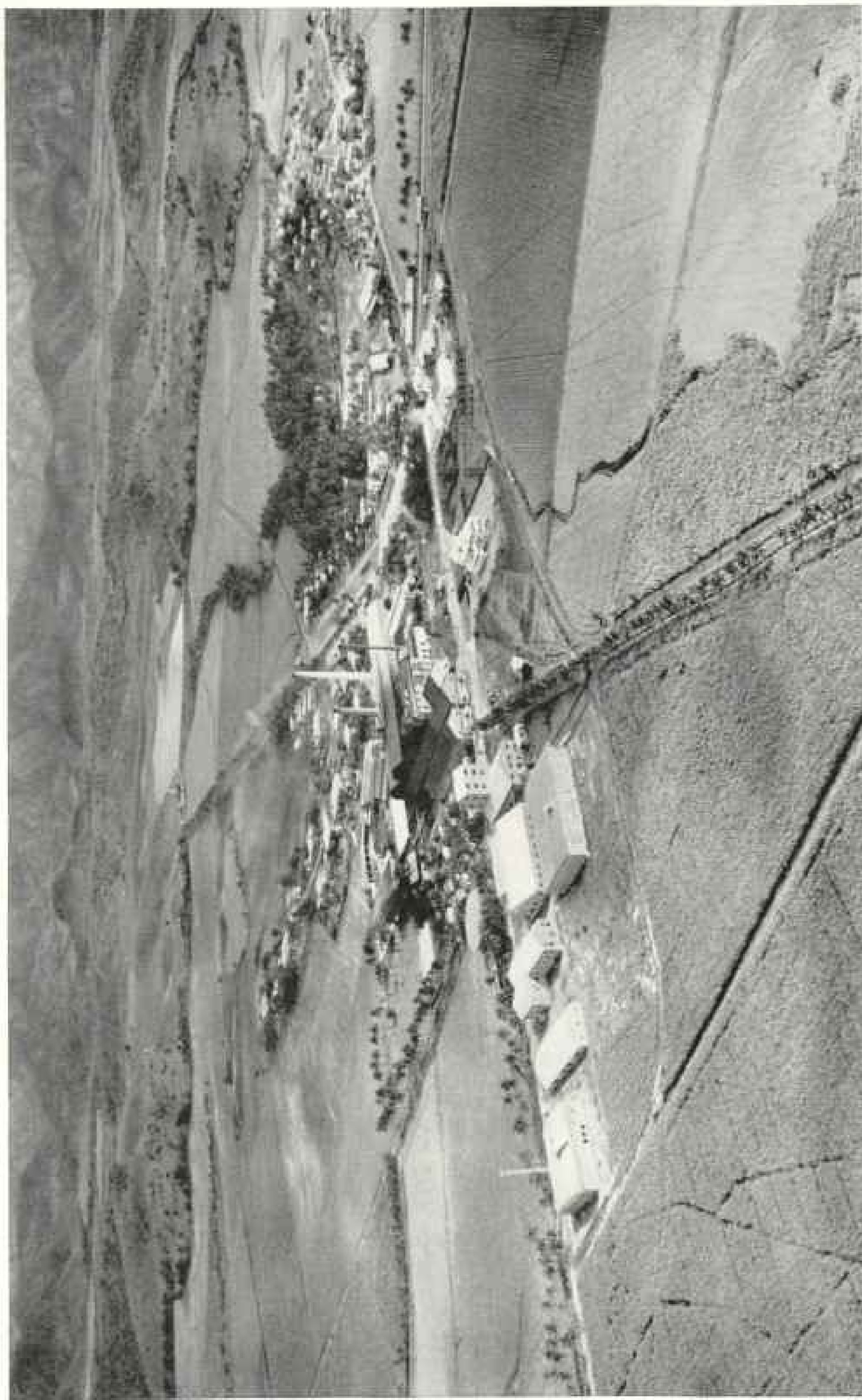
On plots of similar size and slope the Soil Conservation Service of the U. S. Department of Agriculture at Mayaguez experiments with different types of grasses to determine moisture and soil loss. Concrete aprons and pipes at the foot of each plot collect the run-off after a rain, and pour it in the stubby ailes with conical roofs. There scientists measure and compare the deposits.



Photograph by Ralph Keady.

CHEMICAL WARFARE AND CHATTERING MACHINE GUNS DISTURB THE PEACE OF COCONUT PALM GROVES

Donning gas masks, a unit of "Puerto Rico's Own" shows that it is ready for any emergency as the island assumes new importance as a watchlog of the Panama Canal. The "gas" is a harmless mixture of chemicals used for practice. The 65th Infantry is composed of native Puerto Rican troops trained in maneuvering over mountains and through tropical jungles.



© Abnans Aerial Survey Corp.

LIKE A SMALL CITY IS THIS SUGAR REFINERY AND DISTILLERY NEAR PONCE.

Surrounded by the green fields of cane from which comes its lifeblood of sugar juice, the *Central Mercodita* combines in one unit industrial plants making raw and refined sugar, rum, and molasses. It has its own railroad system, homes for workers and officials, stores, offices, swimming pool, and water system. Out of the picture to the left is the factory's airport, with a fleet of planes that carry its executives about the island and to Miami, Florida.

charging down upon him. The peon fell to his knees and invoked the aid of the Virgin of Montserrat. The bull was frozen in his tracks. When the peon told the story the peasantry decided that a church, dedicated to the Virgin, should be built on the hill overlooking the spot."

South of Hormigueros the scenery changes. As we rode along, palms, bamboo, flamboyant, breadfruit, and all the green things of the jungle disappeared. Cactus and aloe sprang from the dusty roadsides (Plate XV). Dry grass covered the hillsides where long-horned cattle grazed. The country looked like Texas. Several times we stopped to let cowboys and herds of longhorns pass.

We were bound for the salt pans near Boquerón. In this desolate region, where the sun beats down with pitiless ferocity throughout the year, sea water is admitted to shallow lagoons and evaporated. The residue is almost pure salt (page 711).

San German has a polytechnic institute and the oldest church (1511) under the American flag. Guánica claims three superlatives—first landing place of Ponce de León and his colonizers in 1508; first landing place of American troops in 1898; and the largest sugar mill on the island.

Leaving the shore road, we struck north through the mountains to Lares; scene of the abortive revolution against Spain in 1868. High in the hills and cool, Lares seems least changed of Puerto Rican towns.

This is coffee country. On the winding road to Adjuntas the hillsides were covered with shiny-leaved coffee bushes growing under the protecting shade of guava trees.

#### PONCE, AN INLAND SEAPORT

Crossing the backbone of the Cordillera Central, within the shadow of Cerro de Punta (4,399 feet), we twisted down a spectacular highway into Ponce, second city of Puerto Rico.

Ponce is listed as a seaport, yet, like Los Angeles, the town lies several miles inland on a little plain backed by towering mountains. Railroad and paved highway link it with the busy docks of Playa Ponce.

I visited a modern coffee roasting and packing plant where thousands of sacks of Puerto Rico's finest green coffee are roasted a chocolate brown, after which some of it is packed in paper sacks for domestic use, and the rest is ground and canned by vacuum process for export.

Ponce has Puerto Rico's largest and most colorful market. At sidewalk booths, fruits, vegetables, wearing apparel, and furniture are spread in picturesque disarray.

I spent the night at El Semil, a typical old coffee *finca*, high in the hills above Villalba. We arrived after dark in a heavy rain, one of those tropical downpours when the water is unleashed in bucketfuls.

But it was dry at the old plantation house, cupped in towering mountains. Comfortably seated in the booklined living room, before a blazing log fire, I sipped coffee grown and roasted on the *finca* as I talked with the owner of the plantation.

#### A SPOONFUL FOR THE INDUSTRY

When I declined sugar with my coffee, my host calmly told me to throw a spoonful over my shoulder.

"Why?" I asked.

"For the industry!" he replied with a laugh, adding that he had a Puerto Rican friend who, wherever he went, always took one lump of sugar for his coffee and another for his pocket—the latter to help use up some of Puerto Rico's sugar surplus!

That night I slept under blankets and without a mosquito net for the first time since coming to Puerto Rico. Lulled by a rushing mountain stream, the dripping of water from banana leaves, the insistent "co-kee" of the tree frog (dubbed the principal "songbird" of Puerto Rico), and other sounds of the jungle night, I was about to fall off to sleep when I saw a greenish light moving ghostlike down the wall of my room! Quickly turning on the light, I discovered it was a glowworm, the *cucubano*.

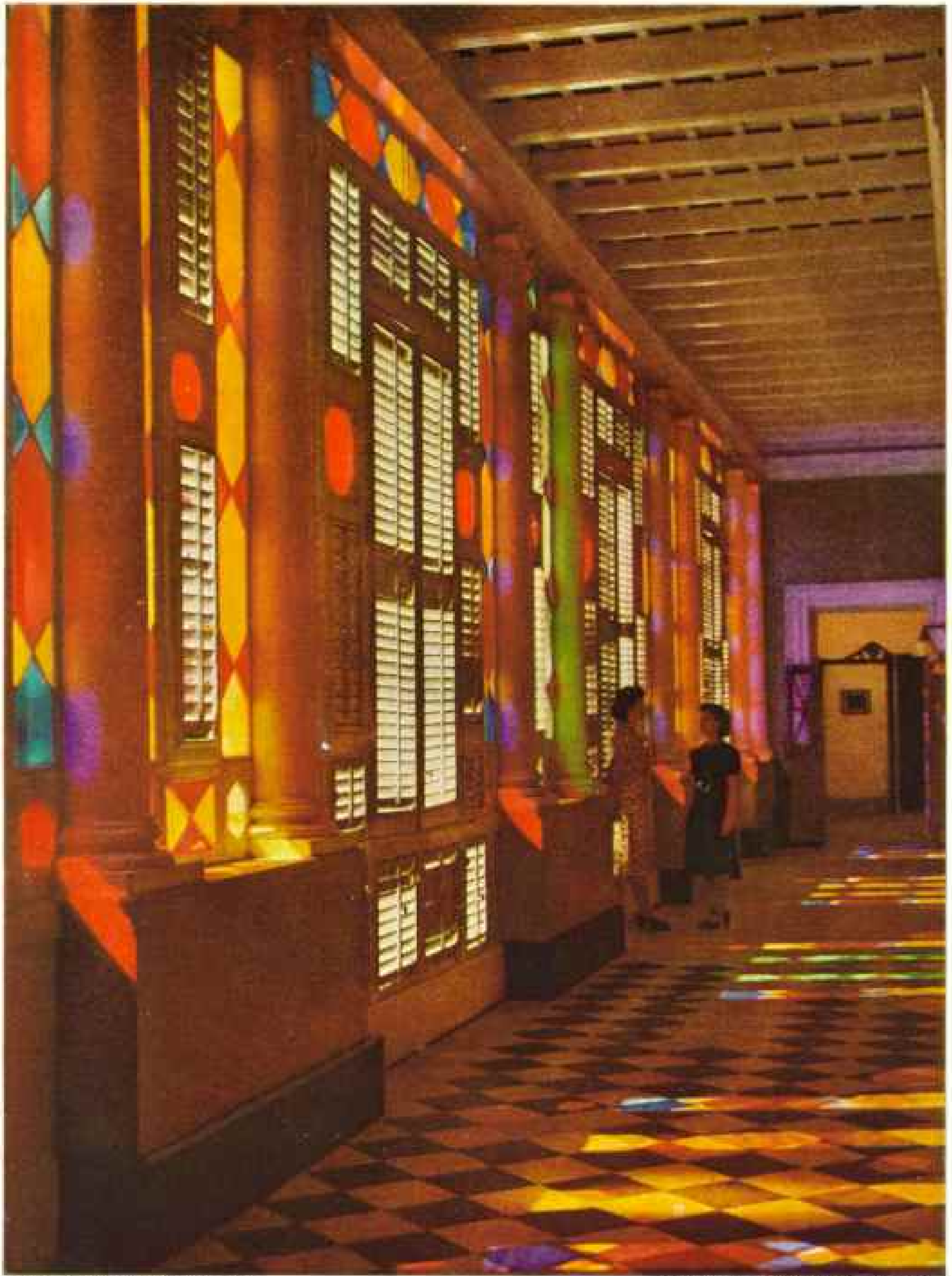
Early next morning, after a dip in the fern-shaded swimming pool, my host showed me coffee berries, like green cherries, in shaded groves that ran up the steep mountain slopes encircling the *finca* on three sides. The fourth side commanded a magnificent view of foothills that seemed to roll and tumble over each other down to the blue Caribbean. We were 1,700 feet above the sea and the air was as cool and crisp as Maine in summertime.

Returning to the Carretera, or old Spanish military road, we drove through rich farming country toward Coamo. A side road led to a manganese mine. Operations were suspended, but if demand and price return for this essential ingredient of high-speed steel, Puerto Rico is ready.

Later, at the Insular Bureau of Mines, I



PUERTO RICO POLYCHROMES



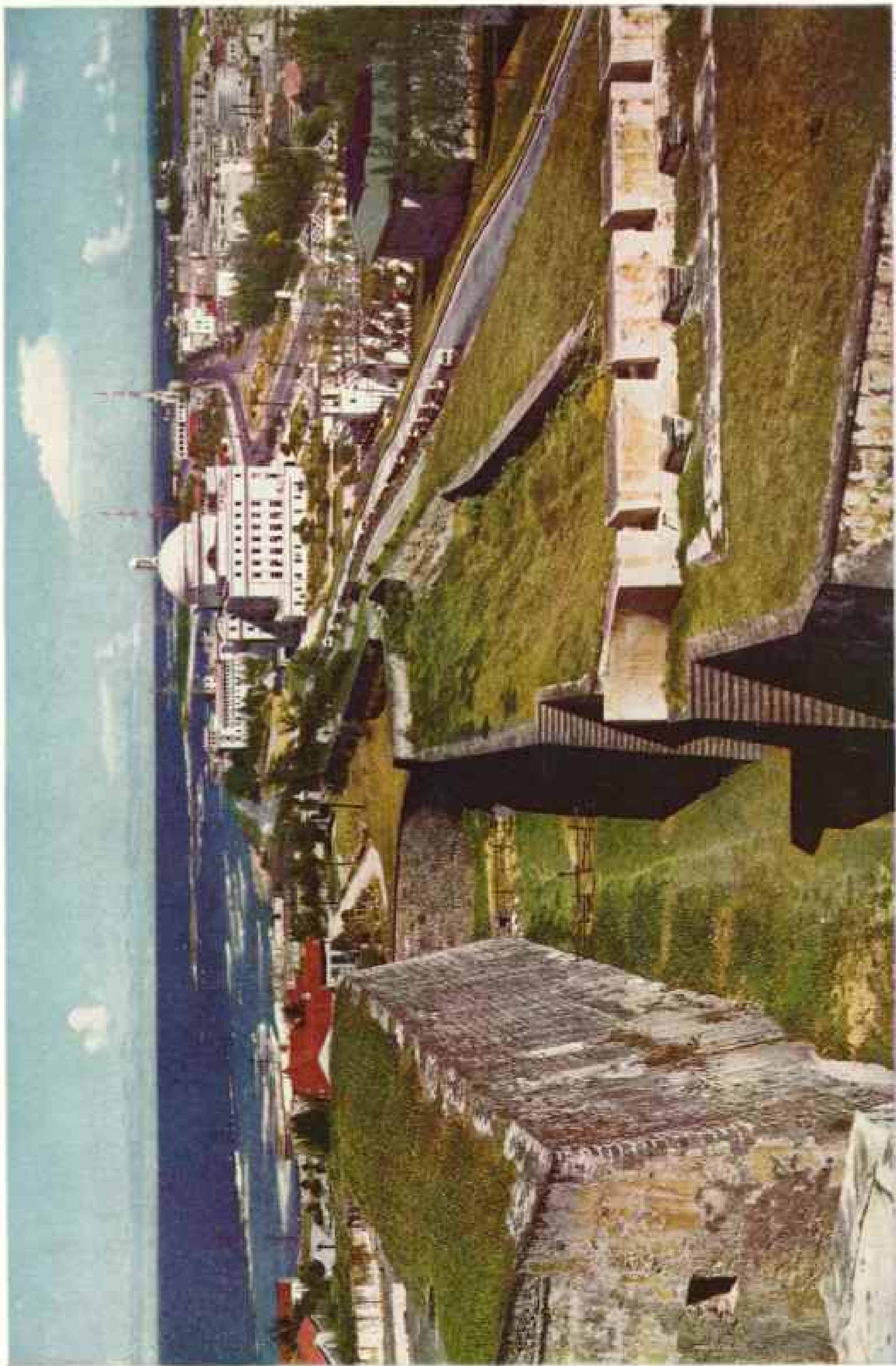
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Kodachrome by Edwin L. Wisner

SPANISH GRANDEES ONCE PAGED THE BALCONY OF LA FORTALEZA

Governors have maintained their homes and offices here for four centuries. When Puerto Rico became a part of the United States after the Spanish-American War, the custom was continued. The old palace, originally intended as a fortress, now is the headquarters of Governor William D. Leahy.

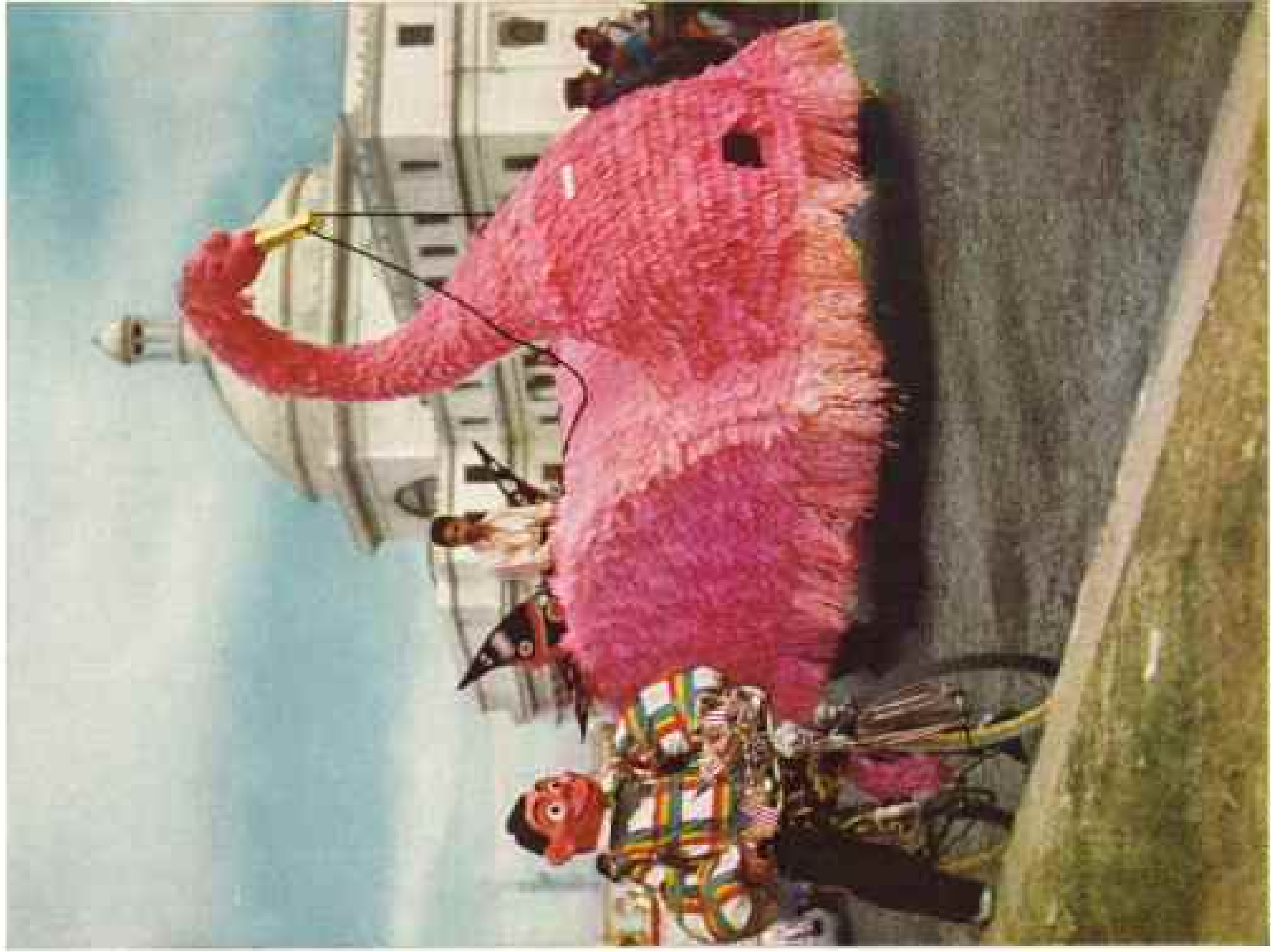




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Kodachrome by Edwin L. Wisner

GRASS COVERS MOAT AND TIME-WORN WALLS OF SPANISH FORT SAN CRISTÓBAL, WHICH WAS SHELLED BY A U. S. FLEET IN 1898. In contrast, the marble dome of Puerto Rico's modern Capitol beyond grams in the sun. Buses parked on the street await the evening rush of homebound workers. Flanking the Capitol are (left) the School of Tropical Medicine and (right) the Spanish Club with its blue-and-white-tiled roofs (Plate IV).



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GROTESQUE FLOATS AND FIGURES TAKE OVER SAN JUAN  
STREETS AT CARNIVAL TIME



Kodachromes by Edwin L. Wisberg

WATER LILIES BLOOM IN A SEQUESTERED POND ON THE  
GROUNDS OF CASA BLANCA (PLATE III)



PUERTO RICO BREADFRUIT TRACES ITS ANCESTRY TO THE SOUTH SEA

Mutiny on the *Bounty* thwarted Captain Bligh in his first effort to bring the trees to Caribbean lands from Tahiti. On a second cruise, in 1792-3, he was successful, arriving with about 700 plants.



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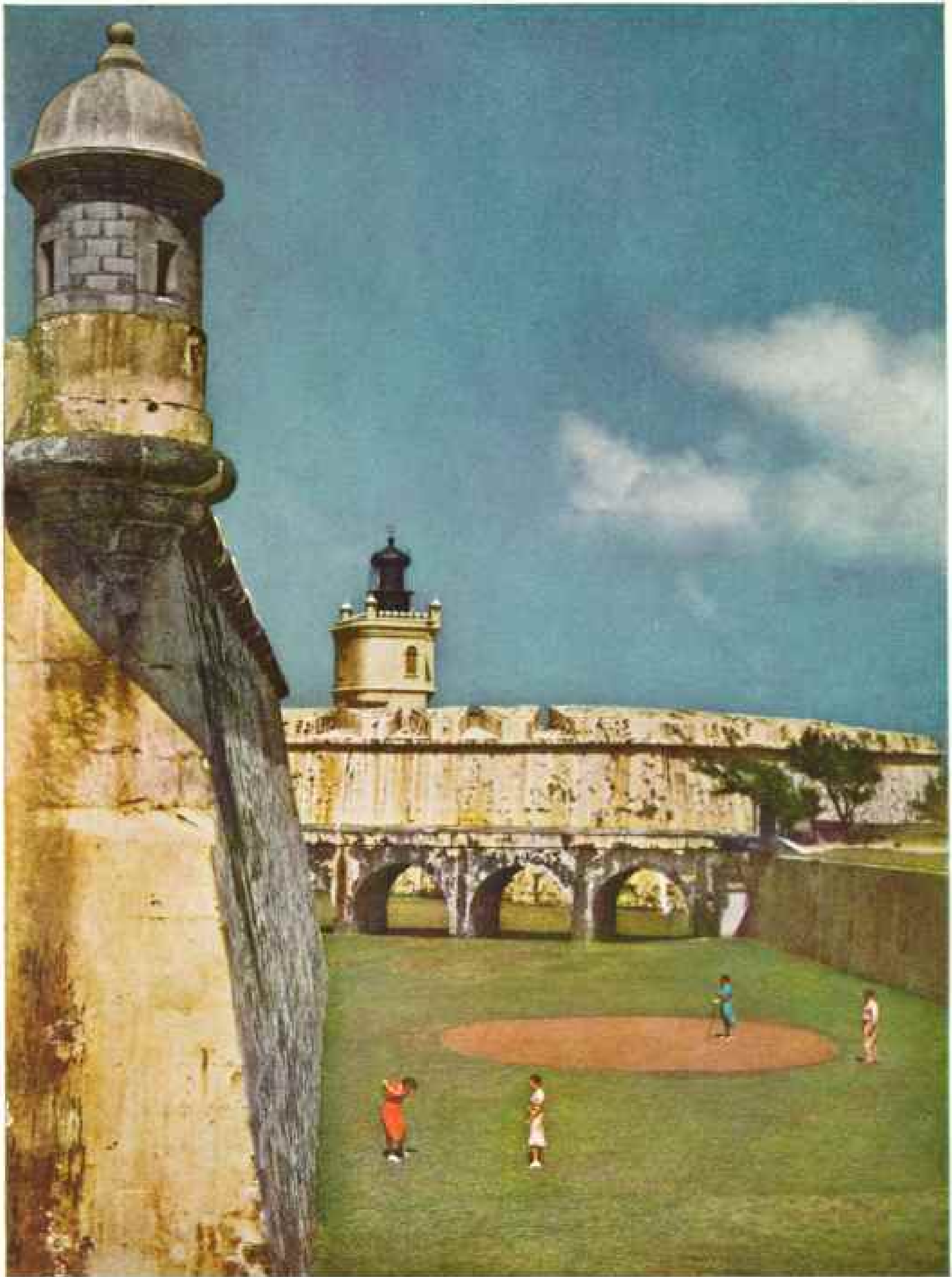
Kodachromes by Edwin L. Wheeler

FLAMING COLORS FLASH FROM PUERTO RICAN RUGS OF COTTON CORD

Used on tile floors or for automobile seat covers, they are eagerly bought by visitors from the mainland.



PUERTO RICO POLYCHROMES



© National Geographic Society

Polychrome by Edwin L. Wisner

THIS HOLE IS EASY, BUT ON THE NEXT THEY MUST DRIVE OVER THE WALL (RIGHT)

Part of the U. S. officers' golf course at El Morro, in San Juan, is laid out through this old moat. The sentry box at left is a part of the original fortress, but the lighthouse tower (background), which overlooks San Juan Harbor, has been built since the Spanish-American War.





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COMET CLASS YACHTS IN SAN JUAN HARBOR HEAD FOR THE STARTING LINE AT PUERTO RICO'S MIDWINTER REGATTA

Kodachrome by Edwin L. Winford



Kodachromes by Edwin L. Wehrli

**GIANT FERNS FORM ARCADES ON LUSH EL YUNQUE SLOPES**

At the eastern end of the island, plentiful rains bring luxurious growth in the Caribbean National Forest.



© National Geographic Society

**TURK'S-CAP CACTI DOT THE DESERT LANDS OF CABO ROJO**

The arid southwest corner of Puerto Rico is cut off from rain-bearing trade winds by highlands.



PONCE FIRE FIGHTERS GO MODERN, BUT KEEP OLD EQUIPMENT IN USE, TOO



© National Geographic Society

Kodachromes by Edwin L. Wisberg

ALL THE COLORS OF THE SPECTRUM COMBINED IN ONE SMALL CATCH

Fishermen near Parguera pull in these gaily colored tropical fish every day. Blue and black angel fish, blue-striped grunts, queen trigger-fish, pork fish, and squirrel fish are among the varieties here.

was told that there was also iron ore near by. When hydroelectric plants, now in construction, are completed, Puerto Rico may some day be a producer of ferro-manganese by electricity.

Coamo Springs, in the foothills, is Puerto Rico's oldest resort. Baths, with a constant flow of warm mineral water, have attracted health seekers to this quiet inland retreat since Spanish colonial days.

#### 8,000 IN A THIMBLE!

In Guayama sugar again was a byword, but I was more interested in a factory where jewels, used as bearings in precision instruments, are cut with uncanny skill and accuracy by Puerto Rican girls. I looked in amazement at these women as they turned tiny sapphires on lathes, and, with diamond chips, trimmed them to size.

The manager explained that so keen are their eyes that they are able to cut a V-shaped groove to within 2/1000ths of an inch accuracy for depth and diameter! The dimensions are tested before the settings are shipped to New Jersey to become bearings in light meters, ammeters, voltmeters, milliammeters, and other precision instruments. Eight thousand of these bearings can be put in a thimble!

At near-by Arroyo is *Central Lafayette*, a co-operative sugar refinery with a modern distillery for the manufacture of solvents. In the laboratory of the plant, nearing completion, I was shown how butyl alcohol, acetone (essential for explosives in war time), and ethyl alcohol can be obtained by fermentation from the molasses by-product of the sugar refinery.

Returning to San Juan by way of the spectacular Guayama-Cayey Road, I passed a mountainside colony of beautiful homes at Jácome. Here the Governor has a summer residence, an aerie far from the heat, noise, and confusion of city life.

Cayey, high in the hills, is headquarters of the 65th Infantry, "Puerto Rico's Own" (p. 726). Like Baguio, in the Philippines, Cayey is cool and pleasant the year around.

Higher and even pleasanter, at least to those of northern blood, is Aibonito. Here, some 2,000 feet above the sea, and on the old Spanish road linking San Juan and Ponce, I saw daisies growing in green meadows like those of Pennsylvania.

A detour off the main road led to Cidra, and the "Treasure Island" resort. Despite its name the latter is not an island and its

only "treasure" is golden pineapple, growing in long rows. "Treasure Island" is best known for its palm-thatched restaurant and quaint overnight cabins scattered about the mountainside.

At Caguas, with its busy Plaza, Dominican mahogany is carved and polished into beautiful serving trays, bookends, and other souvenirs. Caguas is the focus of a rich agricultural region, shipping tobacco, coffee, sugar cane, cucumbers, potatoes, cheese, and pineapples by truck to San Juan.

In the mountains lives the *jibaro*, which literally means "escape from civilization," Puerto Rico's most distinctive type.

They are shy folk, these thin, good-natured mountaineers with pallid complexions and high cheekbones. Hardworking and peaceable, they lead a precarious existence on land which barely supports their large families.

Ragged he may be, but, as a gentleman justified in demonstrating his right of self-defense, each carries a long *machete*. Like a Spanish grandee he enters the humble homes of his friends without his *machete*, which he places on the steps in the custody of his host.

In a rented roadster I went on *safari* to Santiago, the monkey island (pages 706 and 738). I say "safari" because I had with me, on the 60-mile drive from San Juan to Playa Humacao, Mr. and Mrs. Tomilin, the curators of the monkey colony, their baggage, food supplies, and "Mit." "Mit" was an orphaned baby monkey who had to be taken everywhere by the Tomilins because he was being bottle-fed each hour.

#### "HAREMS" ON "MONKEY ISLAND"

Santiago, a palm-fringed islet a half-mile offshore, we reached in a white-winged sailboat. A monkey "reception committee" at the pier scurried into the palms as we climbed a hill to the Tomilins' cottage.

No ordinary house is this home which the Tomilins call their "chicken coop." Doors and windows are heavily screened, with latches inside and out to guard against mischievous and predatory monkey visitors. Although rhesus monkeys were the amusing "jungle folk" of Kipling's *Jungle Book*, they are not exactly pets. A full-grown male weighs 35 pounds and will inflict painful scratches and bites if cornered.

Life is comparatively quiet on Santiago now, I was told. During the first few weeks after arrival last year, much of the curators'





Photograph by E. John Leong

#### MONKEYS COME TOP SPEED WHEN THE DINNER PAILS RATTLE

On Santiago Island, off the eastern coast of Puerto Rico, an attempt is being made to raise rhesus monkeys of known ancestry for sale to zoos and scientific institutions (pages 706 and 757). In less than a year more than 70 have been born. Puerto Rico has no native monkeys.

time was taken up in refereeing fights between the big males. First there was strife over the division of females and then over the amount of territory each male could boss. But "harems" have now been established and 17 feeding stations have been placed in the 17 areas selected as "domains" by the more aggressive males.

Puerto Rico has several large outlying islands, one of which, Mona, recently has been developed by the Forest Service as a game-fishing and hunting preserve.

On September 11, I stood on the steps of the Capitol at San Juan as Admiral William D. Leahy, former Chief of Naval Operations, was sworn in as Governor (page 698). His inaugural address, one of the shortest on record, touched directly and frankly upon some of the pressing needs of the island.

"We are today faced with a multitude of problems, many of which demand solution without delay," he declared.

"Some of these problems are capable of solution by local action, and some require corrective action by the Federal Congress. Among the latter are changes in the sugar

quota, modification of the local application of the Wages and Hours Act, correction of the shipping situation as applied to Puerto Rico, unfavorable trade agreements with foreign nations, and the Hurricane Relief Commission debts."

As I left the island I sensed, however, a new spirit of optimism in every walk of life. The President's suspension of the sugar quota in September will allow Puerto Rico to harvest, in 1940, all of its mature cane. That means at least 1,000,000 tons as compared with the government-restricted harvest of 851,000 tons in 1939. Also, Puerto Rico was able to sell immediately 300,000 tons of surplus sugar stored in warehouses.

The addition of 2,000 officers and men to military garrisons releases a payroll equal to several new industries.

Most gratifying of all to the islanders, however, is something quite intangible. They feel, and rightly, that Puerto Rico has again taken its proper place in the national spotlight. They are proud of its new, yet historic, role of "Watchdog of the Caribbean."

## HEART OF A HEMISPHERE

### Of Vital Importance is the Area Portrayed in The Society's New Map of Mexico, Central America, and the West Indies

**F**ROM the day of the explorer's caravel to the modern age of flying clipper and aerial armadas, the romantic region of the Caribbean has played a vitally important part in the destiny of the Americas.

Never has its importance been greater than today when the alarms of a war-troubled world turn thoughts to problems of defense of the Panama Canal and to cooperative efforts among the 21 neighbor Republics of the Western Hemisphere.

This region, then, one of the world's main crossroads, is the subject of the National Geographic Society's latest ten-color map which reaches more than 1,100,000 member-families as a special supplement to the December issue of *THE GEOGRAPHIC*.

In a year of unparalleled cartographic activity, a total of 4,400,000 large colored maps have been issued to members, giving accurate and detailed geographic information on such diverse areas as New York City and vicinity (April), the world that rims the narrowing Atlantic (July), Central Europe and the Mediterranean (October), and now the Caribbean region.

#### HIGHLIGHTS OF HISTORY IN RED

This new map of Mexico, Central America, and the West Indies recalls one published five years ago, which proved to be in such demand that the edition of more than a million copies is now out of print. Aviators, ship captains, military men, students of history and current events, vacationists cruising Caribbean waters, business men with their eyes on Latin-American trade, armchair travelers to whom such a map is a magic carpet—all will find the new supplement even more satisfactory.\*

Among the improvements are the historical notes, printed in red, which give this modern map a sort of fourth dimension.

\* Members wishing additional copies of the map, "Mexico, Central America, and the West Indies," may obtain them by writing the National Geographic Society, Washington, D. C. Prices, in United States and Possessions, 50¢ on paper (unfolded); 75¢ mounted on linen; index, 25¢. Outside of U. S. and Possessions, 75¢ on paper; \$1 on linen; index, 50¢. Postage prepaid.

Through them one can peer into the past of the Caribbean, and may travel vicariously both in space and in time.

#### FOUR POWERS HAVE NAVAL BASES HERE

These sunny waters, tropic isles, and adjoining continental shores form a locality of primary interest whether peace or war prevails. Here is the heart of the Western Hemisphere, and its vital arteries—the Panama Canal and the sea lanes converging toward it. Sixteen flags fly in this area. Eleven naval bases protect the varied interests of four world powers, the United States, Great Britain, France, and the Netherlands.

If the ocean could be drained away, this would be by far the most spectacular spot in the whole Atlantic basin. The Caribbean and Gulf of Mexico are not mere submerged parts of a continental shelf, as are Hudson Bay, the North Sea, or the Baltic. The Caribbean alone, which has an area about equal to those three seas together, has a volume 26 times as great; in area it is a little smaller than the Mediterranean, but the Caribbean is about twice as deep, averaging one and two-thirds miles.

In reality, the West Indies are a huge mountain system, rising from the ocean floor. From the greatest depths to the highest peaks, they rise five and six miles on the Caribbean side, six and seven on the Atlantic. Forces which created them are still active, as earthquakes, volcanoes, and submerged cities so dramatically attest.

#### AMONG THESE ISLES GROPED COLUMBUS

In keeping with its cataclysmic geological history, the record of men in this region is as dramatic as an eruption of Mount Pelée, or an equinoctial hurricane.

Here Columbus came in 1492, and in his wake there followed the Conquistadors: Ojeda, fearless, with an absolute faith in his invulnerability; Balboa, who, to escape his creditors, smuggled himself from his farm on Hispaniola to the mainland in a large cask; Pedrarias, by whom Balboa was beheaded; Pizarro, Cortés, Alvarado, De Soto, Córdoba, to mention only a few.



Photograph by Ralph Kestly

#### MAPPING PLANS FOR DEFENDING AMERICA'S BAMPARTS IN THE CARIBBEAN

At San Juan, Puerto Rico, Brigadier General Edmund L. Daley consults with his staff concerning the defense of this West Indian outpost (page 697). General Daley, commander of the new military department of Puerto Rico, points out the location of Cayey, interior city, where the 65th Infantry, "Puerto Rico's Own," has its headquarters (pages 726 and 737).

Here lurked the buccaneers who took their toll from the rich stream of treasure.

Columbus' route to the East was never found here, but the United States dug one. The Panama Canal, "dividing the continents and uniting the world," also created a lifeline between the Nation's east and west coasts.

A large-scale inset of St. Thomas, seat of government in the American Virgin Island group, has been added to this new map. When the United States paid Denmark \$25,000,000 for St. Thomas, St. John, and St. Croix in 1917, they were considered enormously expensive real estate, but the map, showing the relationship of these islands to the Anegada Passage, one of the main thoroughfares from Europe to the Panama Canal, emphasizes their value.

The American Virgins, lying south of Bermuda and Nova Scotia, are the easternmost outpost of the United States. As a strategist might put it, they flank the Atlantic approach to United States shores, and they extend the chain of canal defense (through Guantánamo and Puerto Rico) 1,100 miles from the mainland.

Outstanding among roads shown on the map is the Inter-American Highway, completion of which will open an interesting region to travel and trade and give the United States a fast land route to the Canal Zone.

All through the Central American Republics, interest in the project has been stirred by the success of the northern section, from Laredo, Texas, to Mexico City. Of the total distance of 3,267 miles from Laredo to Panama, 1,123 miles have been paved, including about 842 miles in Mexico, 163 in Panama, and the rest in El Salvador, Nicaragua, and Costa Rica.

In addition, there are 669 miles of improved all-weather road, including the whole Guatemala section.

That makes 1,792 miles now open to automobile traffic. Of the remaining 1,475 miles, 653 are classed as dry-weather roads and 822 miles as trails.

This ultra-modern road will thread a region of ancient civilizations. Among them is the vanished empire of the Maya, whose artisans were chiseling dates on stones long before the time of Christ.

# CATHEDRALS OF ENGLAND

## An Artist's Pilgrimage to These Majestic Monuments of Man's Genius and Faith

BY NORMAN WILKINSON

*With 16 Pages of Dry-point Engravings by the Author*

**T**HE cathedrals of England. What a picture of color and romance such a phrase conjures up! It seems to embrace the glowing history of this country.

For hundreds of years these sentinels of man's genius have stood, the pageant of centuries eddying round them. Kings and queens have ruled and died, religious fanaticism and civil war have passed them by.

While Drake raided the Indies, or the Spanish Armada swept up the Channel, Canterbury stood as it stands today, serene and beautiful, its bells ringing out over the quiet countryside. Four hundred years ago men saw its exquisite form as we see it now.

Who can look unmoved at the surcoat hanging above the tomb of the Black Prince at Canterbury or see the scabbard of the sword he held in battle in the 14th century? Time seems nonexistent as we reconstruct this immortal figure of history.

### MASTERPIECES OF MANY HANDS

Little is known of the actual designers of these superb monuments. Many hands went to their making, but the genius of their work is an endless source of wonder: poems in stone, glorious stained glass, and carving unsurpassed in any age.

The Civil War shook their serenity a little; the fanaticism of Cromwell's soldiers despoiled them in some measure; but they survived and stand, showing scars which detract little from their beauty.

I do not purpose to give a guidebook description of the cathedrals with this series of dry points. It will not come amiss, however, if I touch briefly on a few of the more interesting facts connected with some of them. Each has its own particular character and atmosphere, resulting from centuries of legend and fact.

In writing of English cathedrals and all the romance surrounding them, one immediately thinks of Canterbury (Plate I). Founded by St. Augustine, who consecrated a Roman church already standing, it has been the scene of fire and pillage down the

centuries. It was damaged by the Danes, burned the year after the Conquest, rebuilt, enlarged, until finally the cathedral as we see it today was completed in 1495.

### GLASS REMOVED AS WAR PRECAUTION

Recently the most precious medieval stained glass has been removed from the windows of Canterbury and other cathedrals as a precaution against its destruction in wartime.

Canterbury will always be associated with the murder and martyrdom of Thomas à Becket. For centuries the pilgrimage to the martyr's tomb was one of the most popular in the Western church. It was at his shrine that Henry II made atonement by public penance.

A pulpit made from historic stones of Canterbury is one of the prized possessions of the Cathedral of St. Peter and St. Paul in Washington, D. C.

Ely, dominating the countryside for miles, embracing every style of architecture from early Norman to late Perpendicular, stands a lasting tribute to man's genius (Plate V). Its wonderful Galilee Porch and Decorated octagonal tower and lantern, to name only a few of its glories, make one realize how little we have advanced today in the creation of the beautiful. To what building can we point in our own age that will so enthrall the beholder for hours with exquisite carving, stained glass, and superb architecture?

Often, as I walked in these cathedrals, I endeavored to reconstruct the scene of the actual building. What were these long-departed men like? From what plans did they work? How were the masses of masonry raised to their final resting places? We talk lightly today of genius; the builders of these cathedrals certainly deserve that title.

### STALKING A CATHEDRAL

One of the chief difficulties I encountered in obtaining my sketches of exteriors was to find a point of view. In almost every





Photograph by Clifford Adams

PETERBOROUGH ROSE FROM ASHES OF A FIRE "KINDLED BY THE DEVIL"

According to the *Saxon Chronicle*, kept by the monks, one August day in 1116 some difficulty was experienced in kindling a fire in the bakehouse of the old monastery. "John, the Abbot, being present seeming in a choleric mood, cried, 'The devil kindle it,' and presently the fire flamed to the top of the house, ran through all the abbot's offices and then to the town. . . . The whole of the monastery was burnt and the greater part of the town was burnt also." The year after, Abbot John began to build the present cathedral, which was completed early in the thirteenth century. The three lofty arches, deeply recessed and rising nearly to the summit of the façade, are unique in England (Plate XII).

case a cathedral is in the center of the city, surrounded by buildings, ecclesiastical and otherwise, which have grown up through the centuries. Streets are almost always narrow, and, while lovely glimpses are caught from various angles, it is a matter of considerable difficulty to get a clear view which will do justice to the subject.

Nearly always there is a good point of view, but so close that the perspective is overpowering and, when sketched, suggests distortion. The discovery, therefore, of the ideal place from which to get a sketch which would be comprehensive and yet good in composition called for a considerable amount of exploration.

Frequently a fine distant view could be found, but too far away to be practical for drawing. Ely Cathedral was a good illustration of this. Although it stands high and dominates the surrounding country, it was rapidly lost to view on nearer approach. Intervening trees and buildings hid it until

I had driven right up to the cathedral itself.

Having investigated the possibilities of a close-up sketch, I drove slowly away down roads radiating from the city, stopping constantly to look back. Time after time conditions seemed to be developing well, only to be spoiled by some obstruction.

At last I found the view in Plate V. This was too near to show the whole cathedral, but the composition seemed good and I was able to get a satisfactory view of the lantern tower.

WESTMINSTER, WHERE KINGS ARE  
CROWNED

Westminster Abbey presented many difficulties. The interior is cluttered with Victorian sculptured groups, vast heroic statues embodying all the flamboyant heraldry of the period, plaques and busts without number. Movements have been set on foot at times to remove many of the larger groups to some more fitting place



© J. Dixon-Scott

MASSIVE-DOMED ST. PAUL'S BROODS OVER LUDGATE CIRCUS IN LONDON

Sir Christopher Wren designed the famed cathedral, his masterpiece (Plate IX), to replace the old church destroyed in the Great Fire of 1666. The first religious building on this site was erected in 604 and succumbed, like all of its successors except the present one, to flames. The photograph was made from Fleet Street, home of many London newspapers. Because streets and buildings on all sides hem in the large structure, it is difficult to visualize its vast proportions.

and so to reveal the simple beauty of this national treasure, but so far they have met with no success.

The exterior is equally difficult. I found only one point of view from which the abbey could be well seen and that a frontal one. This, however, could not be regarded as satisfactory. At last it seemed to me that the fine Rose Window in the south transept was as characteristic as any aspect (Plate XVI).

Each one of these cathedrals has some feature of interest peculiar to itself.

It is at Gloucester (Plate XIV) that the vaulting shows the earliest example of fan tracery, afterward copied in the Henry VII Chapel at Westminster. The wooden effigy of Robert, Duke of Normandy, eldest son of the Conqueror, is of great interest, and also the tomb of Edward II, who was murdered at Berkeley Castle and buried here in 1327.

Winchester is so rich in history that it is difficult to speak of it briefly (Plate II). Here the earliest kings came to worship and were buried: Egbert, first King of all England, lies here; so do Ethelwulf, Canute, Hardicanute, and William Rufus. Here was crowned Edward the Confessor and this cathedral saw the pomp of Mary's marriage to Philip of Spain.

Wells is famed for its wonderful front, fine stained glass, and 350 sculptured figures (Plate VI).

Salisbury's beautiful 14th-century spire dominates the plain, and gleams like a jewel in the sun (Plate VIII). Floodlighted at night as I have seen it, the spire of Salisbury seems unreal.

#### A LEGEND OF LICHFIELD

Lichfield with its three spires presented one of my chief difficulties from a sketching standpoint. Near-by buildings and large trees screened many a promising view, but at last by dint of searching I found the setting shown in Plate VII.

There is a legend connected with Lichfield for the truth of which I cannot vouch, and yet the facts seem to bear it out. In the right center of the picture of this cathedral is a large house obscuring to some extent an otherwise delightful view. The story goes that two sisters lived together in a residence overlooking the cathedral. Some unfortunate family difference having disturbed the tranquillity of the home, one sister departed and expressed her feel-

ings by deliberately building this house with the idea of ruining the view. In this she was largely successful.

Now I have a confession to make which invoked artistic license. I do not think that anyone seeing the cathedral from the standpoint from which my sketch was made would realize the liberty I took. The house was three stories, I made it two. This is my only digression from absolute truth.

#### FINE VIEW—FROM POLICE STATION

Durham, one of the finest of all English cathedrals, presented no difficulties in finding a setting. The problem was rather one of choice. I arrived in Durham on a lovely summer's evening, and, having dined, set out on a tour of the city. At last I came on the view seen in Plate XI.

I was most anxious to work from my car, since in the event of sudden rain, not unknown in these islands, I could close the windows and continue to draw.

Unfortunately my choice of position was immediately outside the gates of the Durham Constabulary Headquarters. I approached the Inspector of Police, and was told that the place I had selected was out of the question, since forty police cars entered and left the gates during the day.

What to do, then? Below me was a steep hill; if I went forward the view was lost. However, the Inspector helpfully suggested that I should go to an inn close by and see what it afforded in the way of a window with a good view.

It was a happy thought and the proprietors were kindness itself. The innkeeper's wife lent me an excellent room with an even better view than the one I had found from the car.

#### HOW A DRY POINT IS MADE

It might be of interest if I digress here to give a brief description of the process by which a dry-point engraving is produced, since the originals from which the plates are made are dry points. Technically, the making of a dry point and an etching are two distinct processes, although the result, except to an expert eye, is very similar.

The first stage is, of course, to obtain the actual pencil drawing. In this case all the drawings are sketches made at the cathedrals. The drawing is then transferred to a copper plate by pressure, the plate having been previously coated with wax or grease. The result is an image of



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- Norman Wilkinson -

CANTERBURY: HEART OF THE CHURCH OF ENGLAND

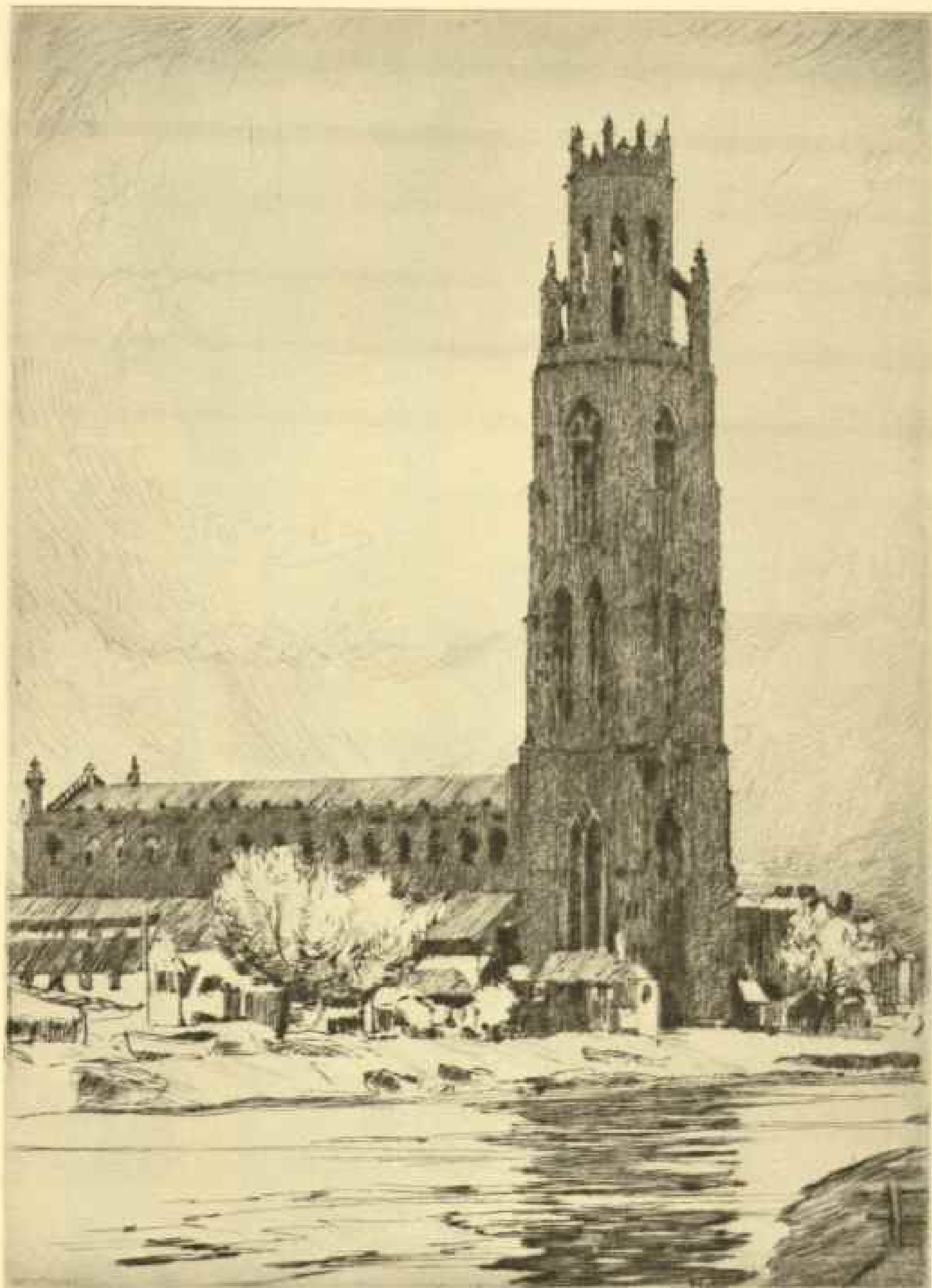




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—Richard W. Harrison—

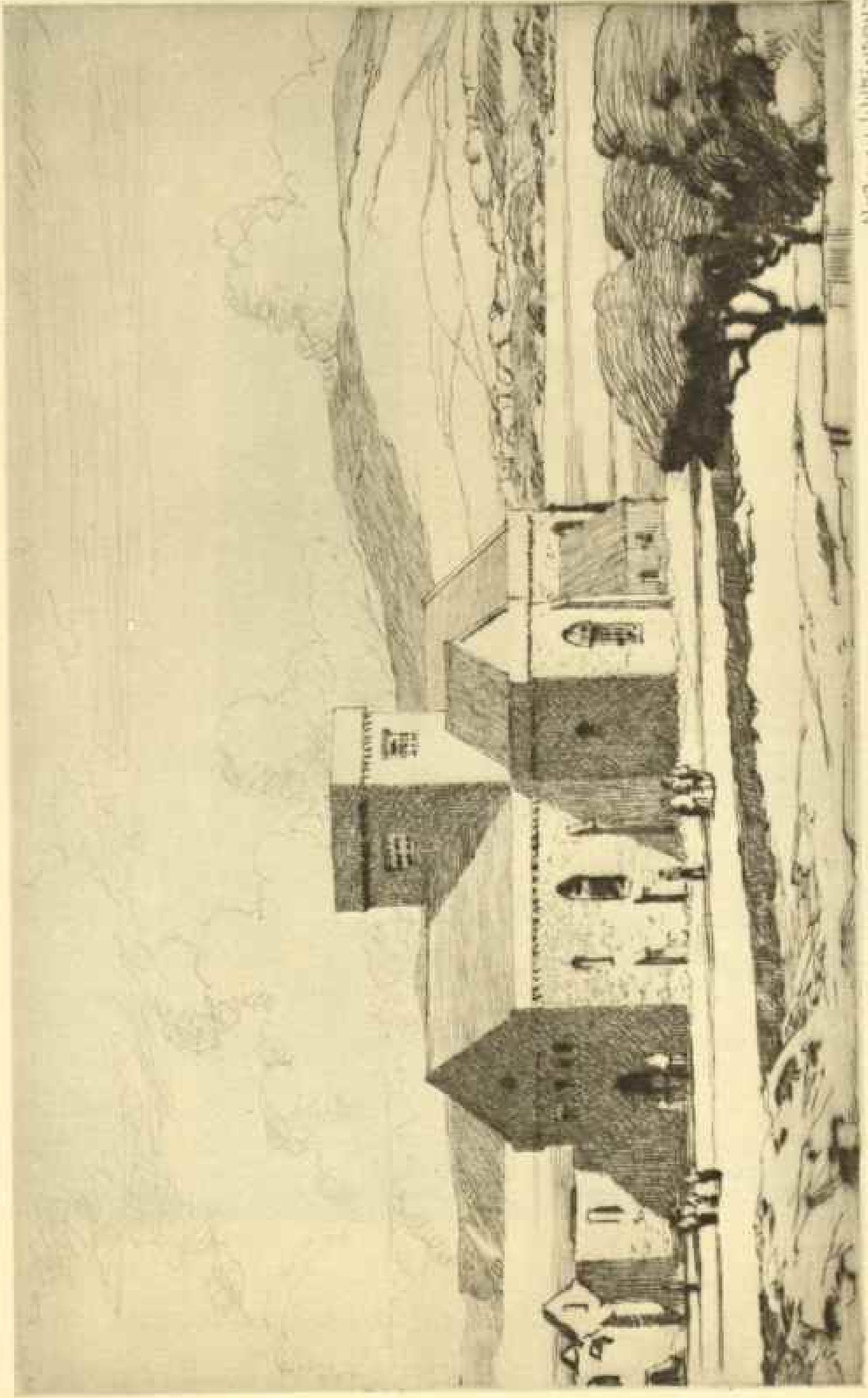
WINCHESTER. SHRINE OF ENGLAND'S EARLY MONARCHS



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—Norman Wilkinson—

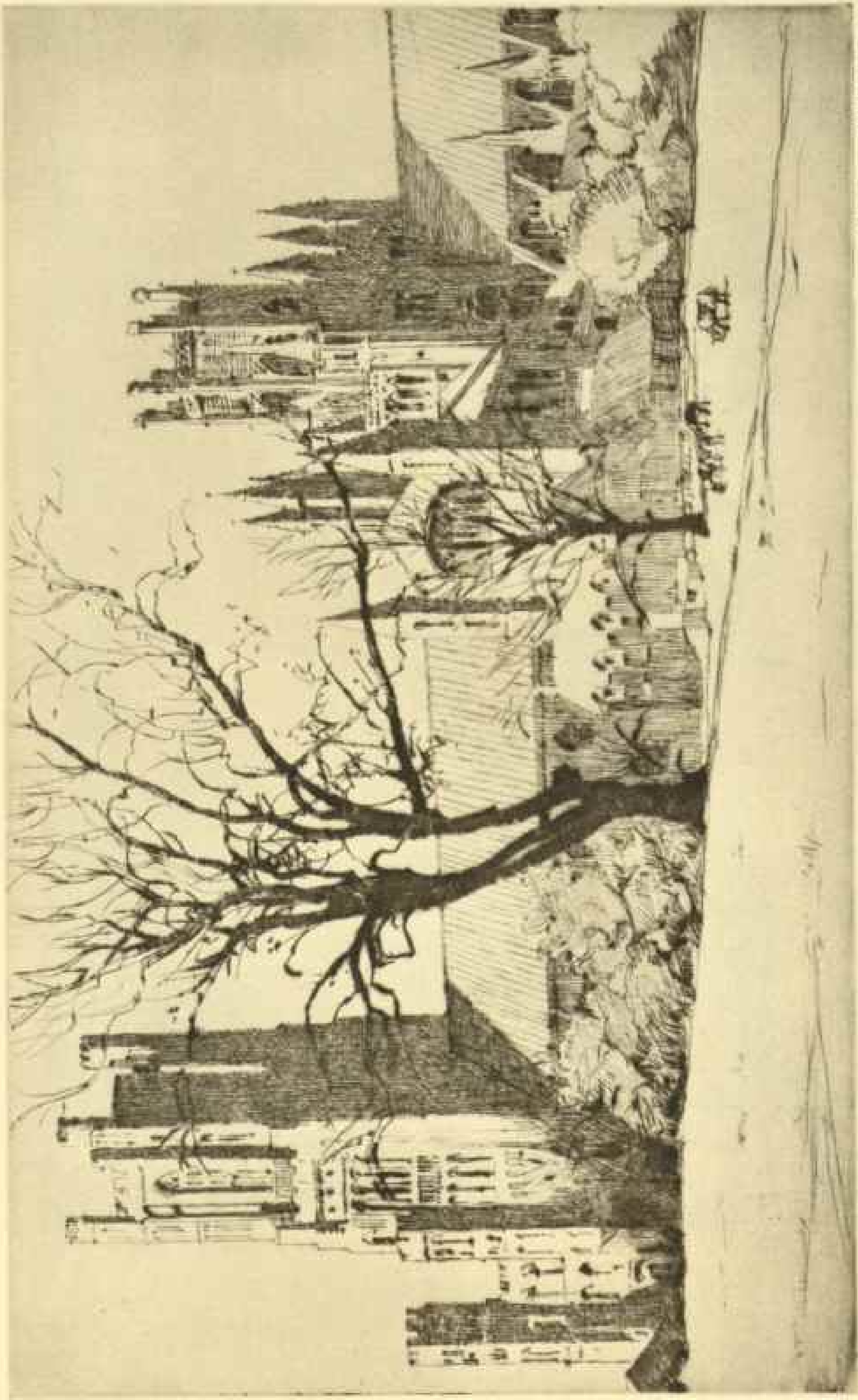
BOSTON STUMP: 36 BELLS IN A CELEBRATED TOWER



© National Geographic Society

IONA: CHAPEL OF THE HEBRIDES

- Nathaniel W. Pritchard -

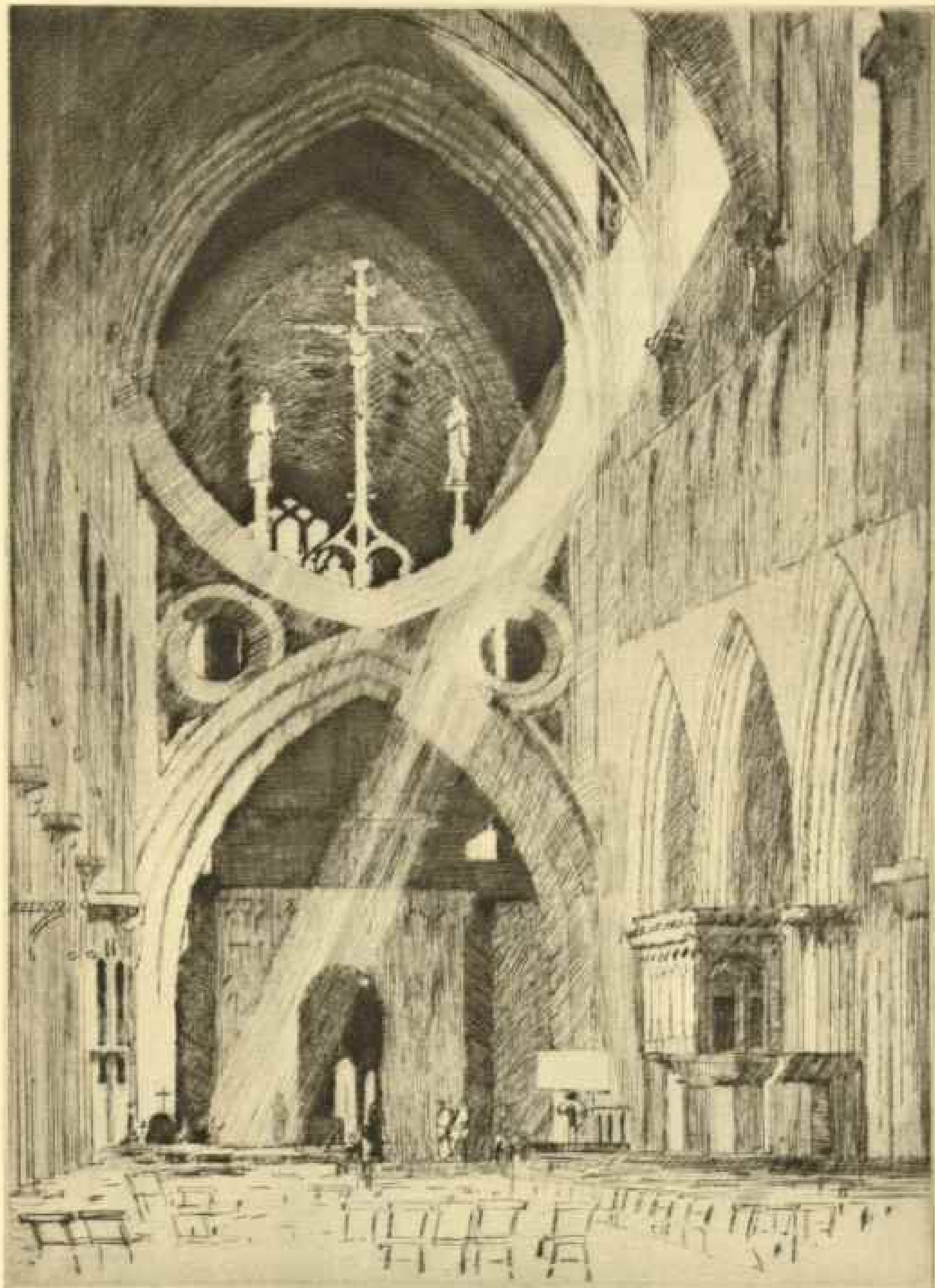


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ELY: LANDMARK OF THE FEN COUNTRY

—NORMAN WILKINSON—

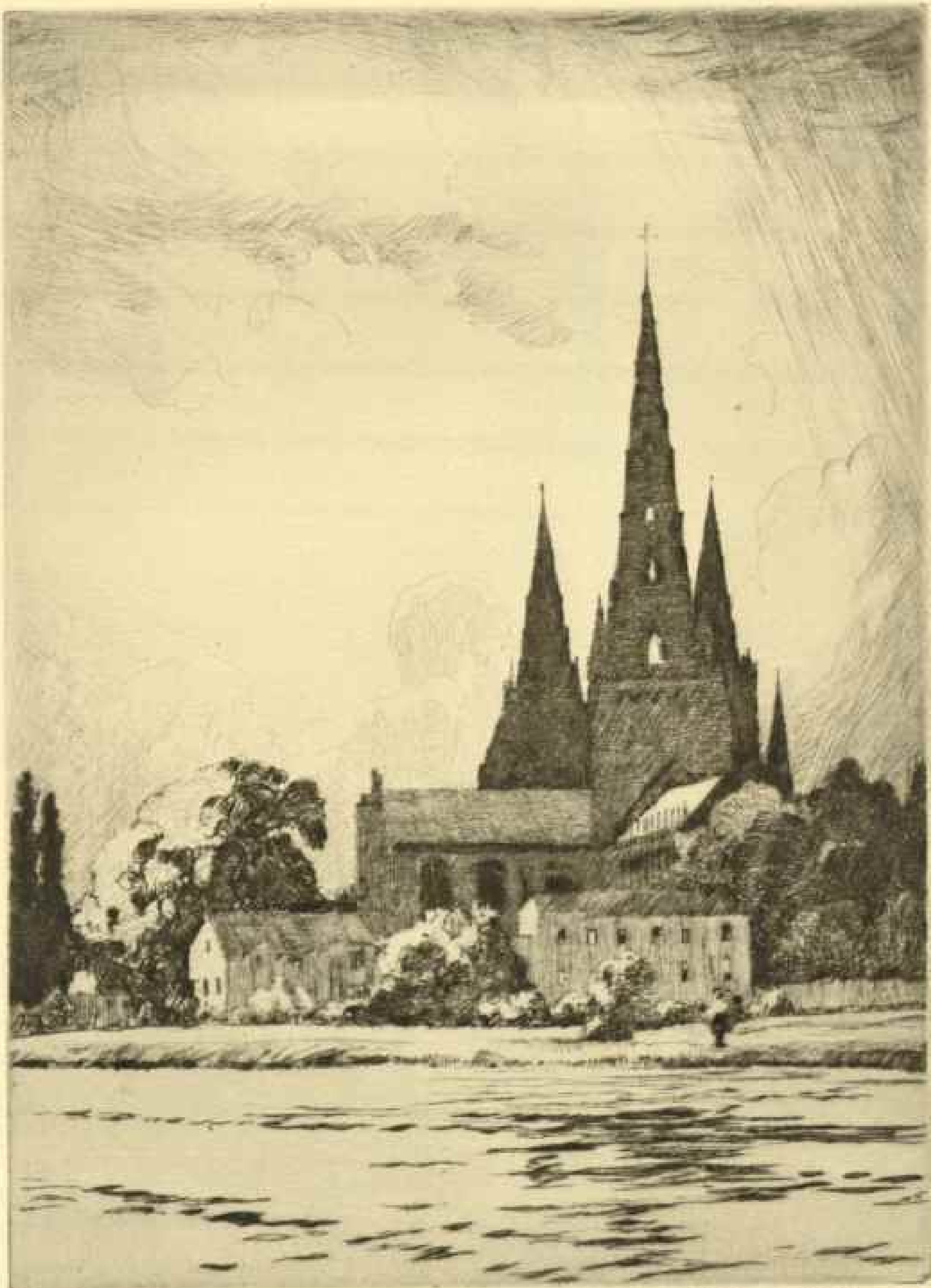




© Norman Williamson, 1907

Norman Williamson

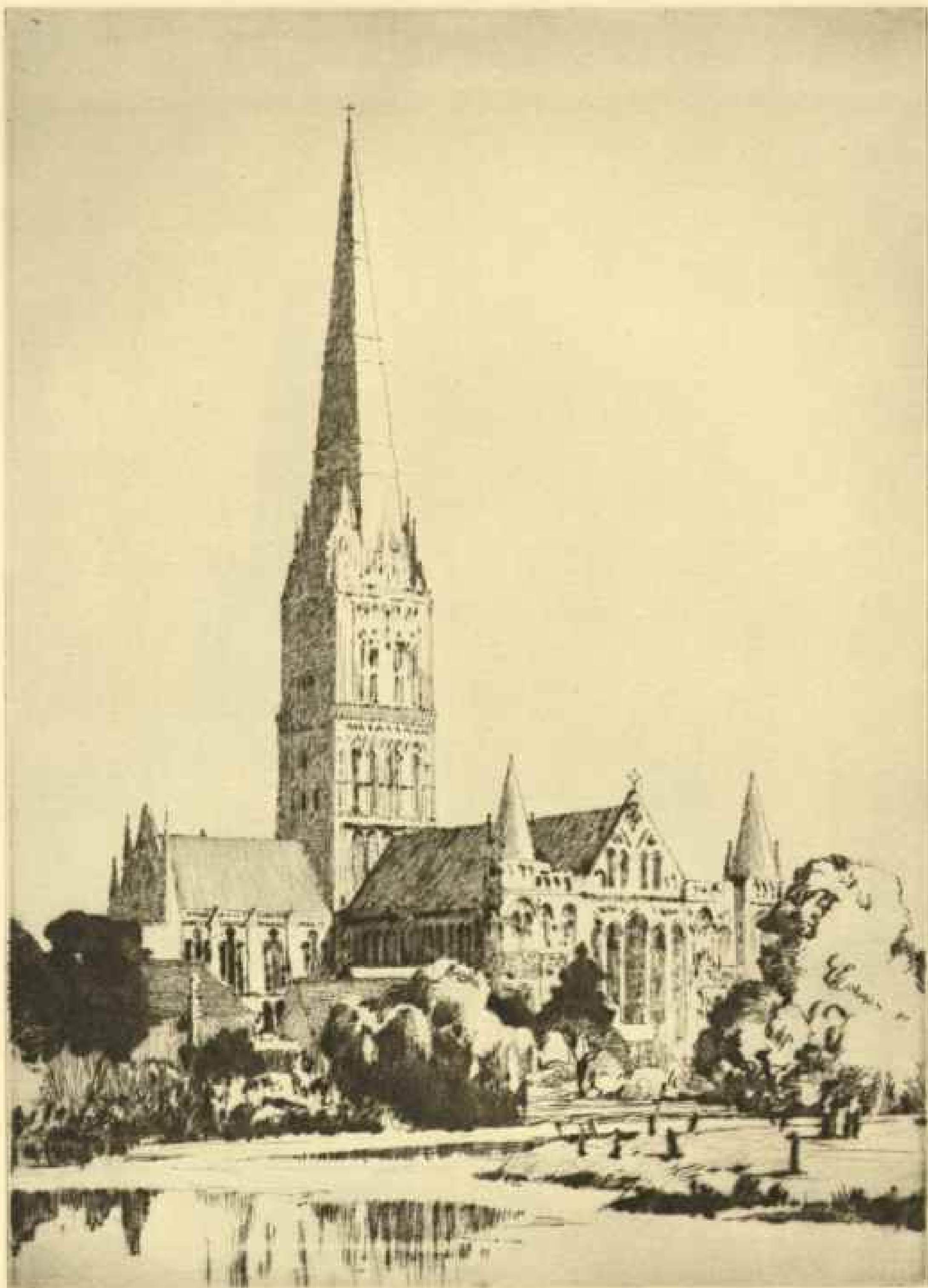
WELLS: VAST INVERTED ARCHES SUPPORT THE TOWER



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-Norman Wilkinson-

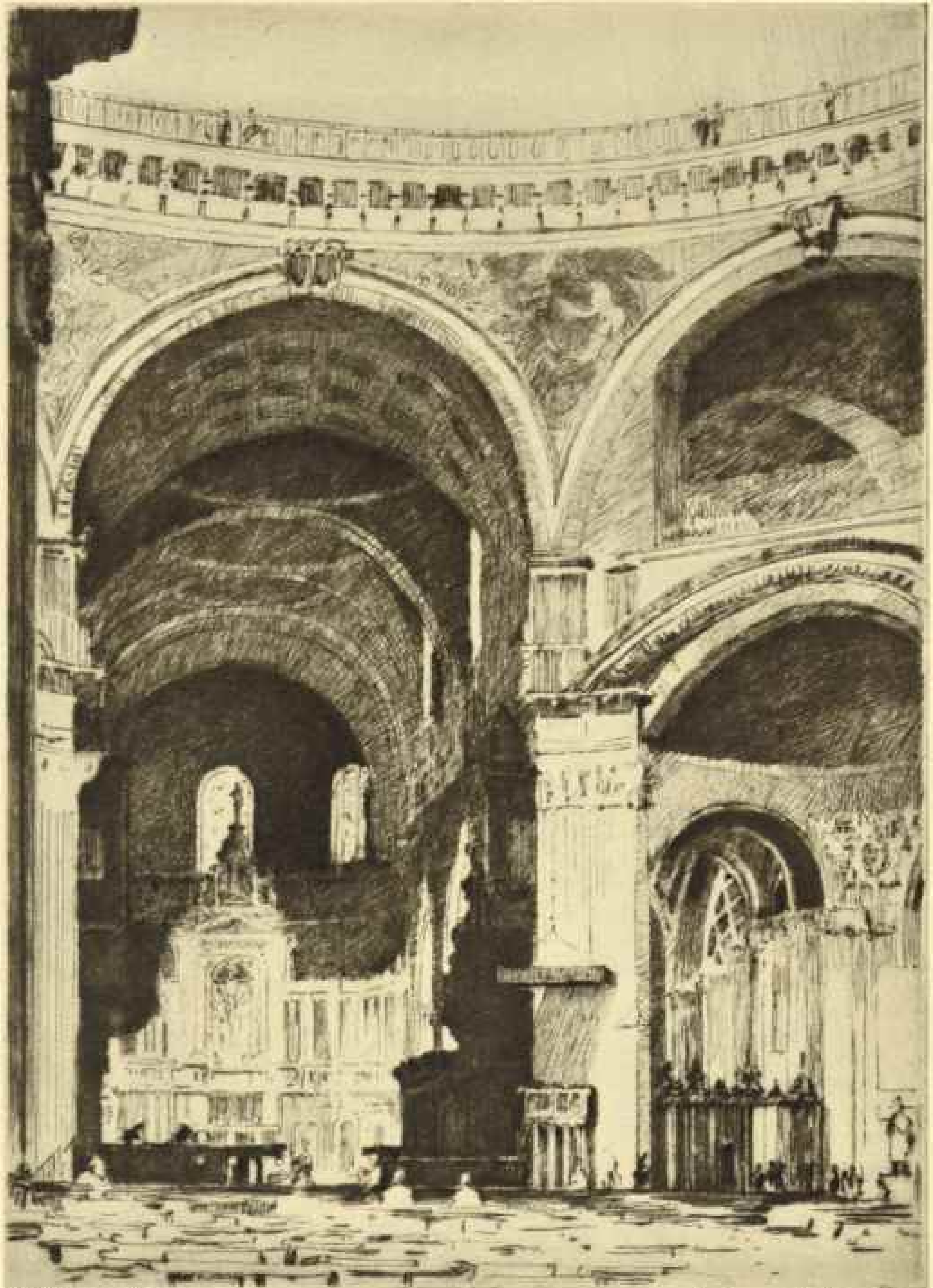
*LICHFIELD: STUDY IN GOTHIC SYMMETRY*



© Norman Wilkinson

Norman Wilkinson

*SALISBURY: 404-FOOT SPIRE, LOFTIEST IN ENGLAND*

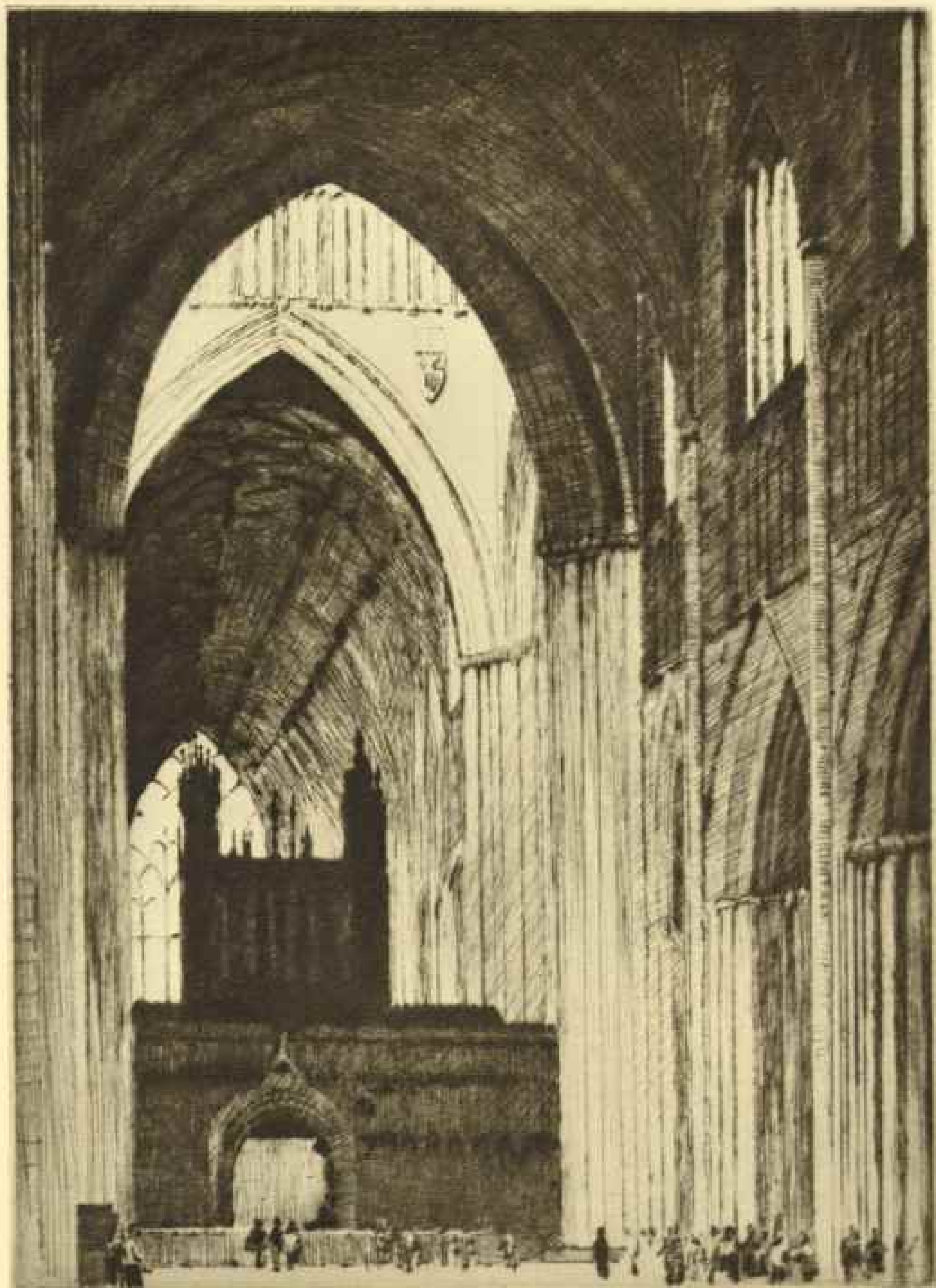


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ST. PAUL'S, FAMED CATHEDRAL IN THE HEART OF LONDON

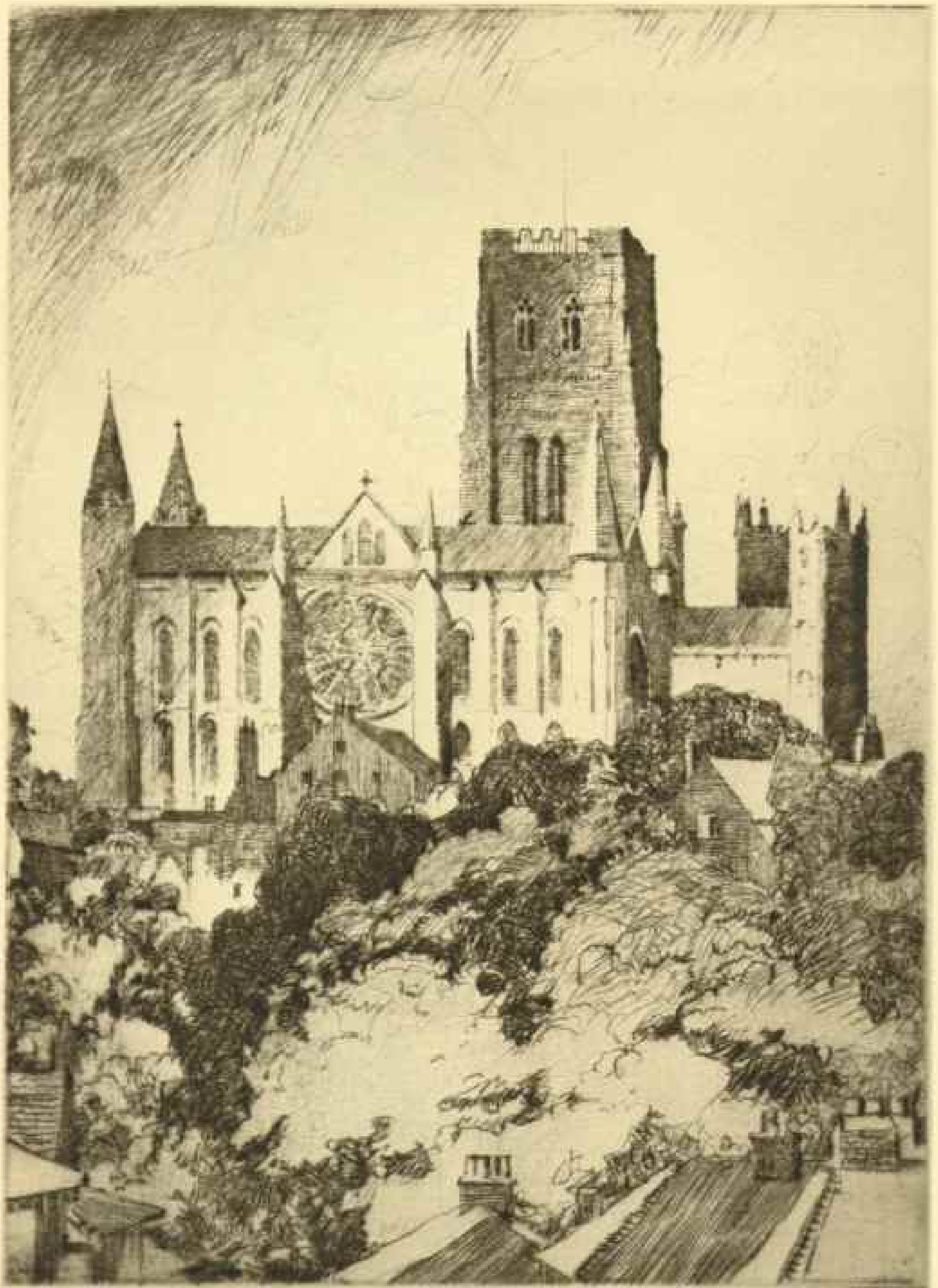




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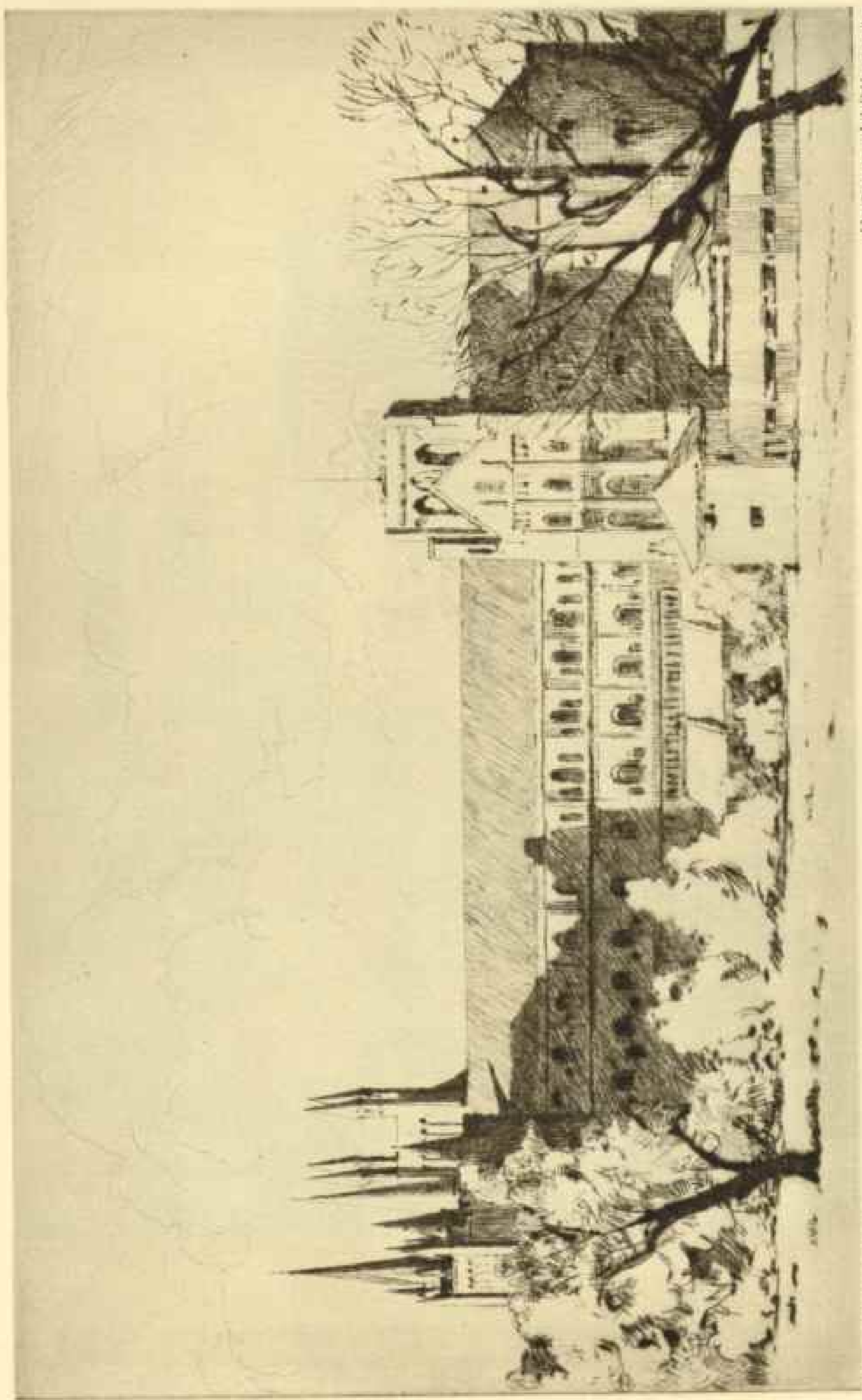
YORK MINSTER; STAINED GLASS AND MELLOW LIGHT.



© Norman Wilkinson 1910

-Norman Wilkinson-

DURHAM. MASSIVE, ROMANTIC, NORMAN



© Harwood, Gossage & Son

PETERBOROUGH: RESTING PLACE OF CATHERINE OF ARAGON

- Norman Wilkinson -

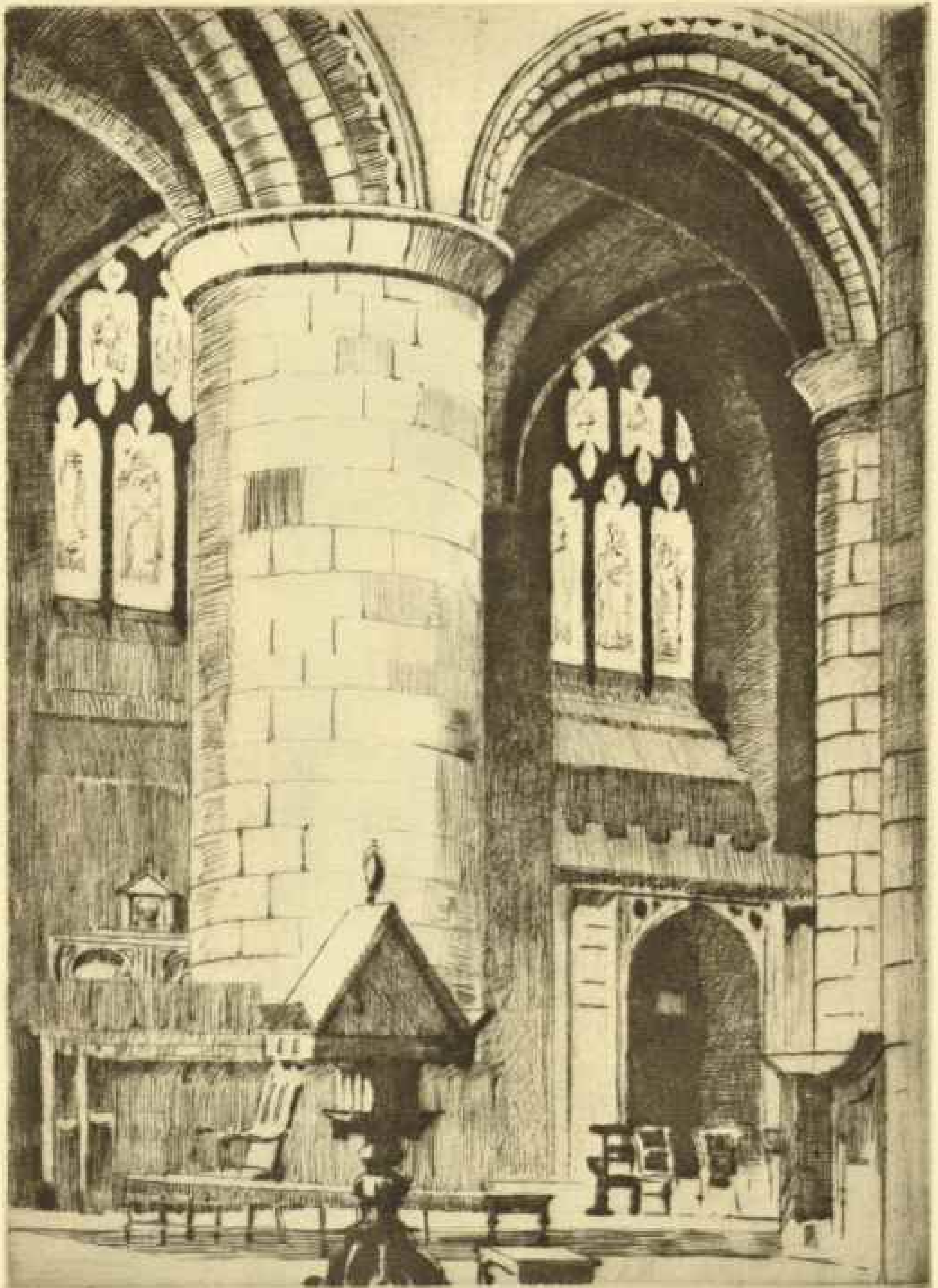


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WHITBY ABBEY: SILENT BENEDICTINE MEMORIAL

—Nathaniel Wilkinson—

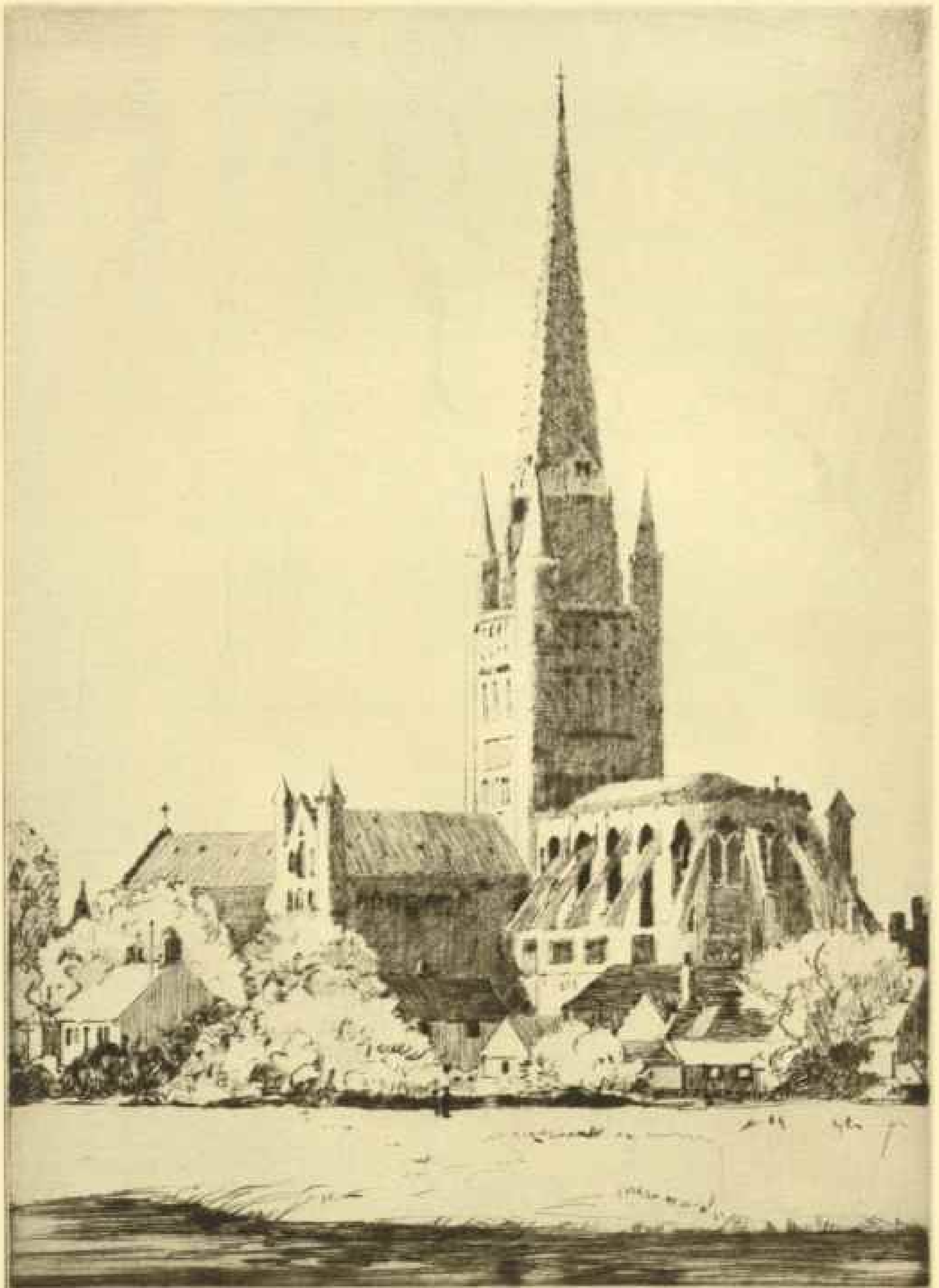




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Norman Williamson

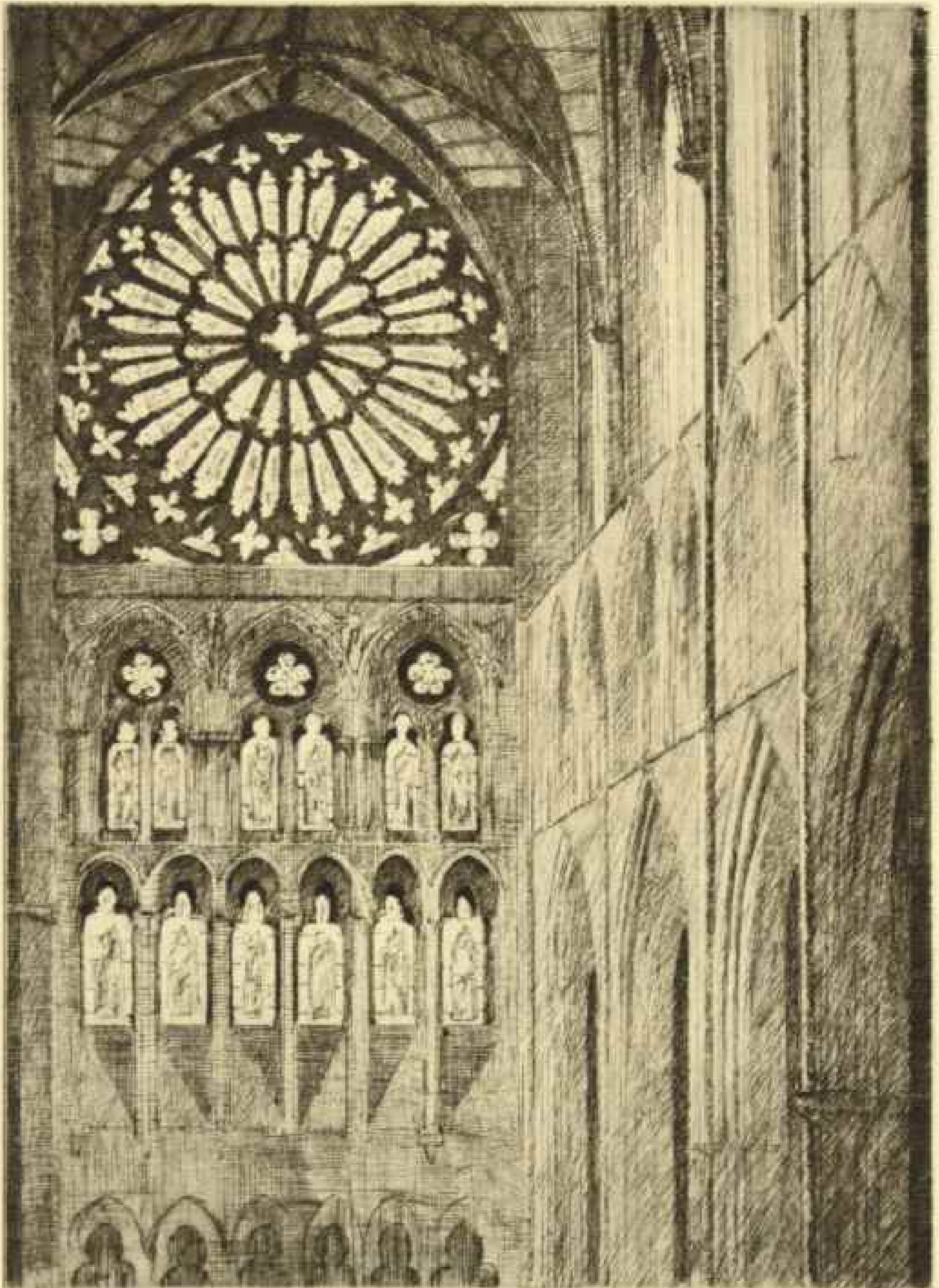
GLOUCESTER: LOFTY, MASSIVE NORMAN PILLARS



© Norman Williamson

- Norman Williamson -

NORWICH: NORMAN TOWER AND DECORATED SPIRE



© National Geographic Society

-Norman Wilkinson-

WESTMINSTER ABBEY: ROSE WINDOW IN SOUTH TRANSEPT

the drawing on the copper plate in reverse.

This image is then cut line by line with a steel or diamond point. When the whole plate has been cut, it is inked all over with a soft pad and the surplus ink is wiped off, leaving only the ink in the cut lines.

On the plate is laid a sheet of paper which has been thoroughly damped. Plate and paper are then passed through a heavy press, with the result that the whole of the inked area is transferred to the paper and appears as seen in the plates.

#### SALISBURY DELIGHTS THE ARTIST'S EYE

One of my easiest problems was Salisbury (Plate VIII). This cathedral stands on the edge of the city in an ideal setting from the standpoint of the artist. In the midst of open water meadows with the Wiltshire Avon flowing close beside, it rises serene and lovely.

One of Constable's finest pictures was painted here. It is true that an inhabitant of the city whom I questioned on arrival as to the best point of view from which to see the cathedral replied that I could not do better than to look at it from the place from which Whistler painted it. He had his artists mixed. Such is fame.

The drawings of interiors presented fewer difficulties. They were simply a matter of choosing one of a number of fine views and trying to give some interesting and characteristic feature, such as the inverted arch in the plate of Wells, or to suggest the interior, as at York Minster (Plates VI and X). I was disappointed at York on finding that the famous Five Sisters Window was completely hidden by scaffolding. Its priceless glass has now been removed as a war precaution.

I think Whitby gave me as much pleasure as any of the series (Plate XIII). My journey there from York was the loveliest drive imaginable—over the Yorkshire moors, mile upon mile of glorious undulating moorland untouched by the hand of man, cloud shadows and sun glints slowly moving across the landscape, and in the distance occasional glimpses of the faraway silver of the North Sea.

The abbey itself is perched high on a headland opposite the red-roofed town of Whitby. Here, as the dry point shows, I had little difficulty in selecting a good point of view. Founded in the seventh century, the abbey shows even in its ruined state the remains of a superb building. Only

the shell now remains, but as you walk through the ruins its magnificence can be imagined. What a picture it must have presented and what a setting, high above the sea—too big a temptation, alas, for the Danish raiders who destroyed the original building in 867.

While sketching the abbey, I had a visit from a gypsy woman. She walked over from a caravan which stood on the far side of the field where I was working. She paid little attention to my drawing, but, evidently feeling lonely, just wished to talk.

When my work was completed, she invited me to come over to the caravan in which she and her husband and small boy lived. The interior was spotlessly clean, with polished brasses and a coal stove. We sat and talked for half an hour and no question of money was even hinted at.

On leaving, I knew that times were hard with them. Their sole means of livelihood was fortunetelling among the visitors to the abbey. The weather was bad and few visitors came. I had difficulty in persuading the gypsy woman to take a small present, and her assurances about my future were ample repayment.

I made a sketch of her and you may see her on the right of the abbey, a small figure with a bucket on her arm crossing to a near-by farm for water (Plate XIII).

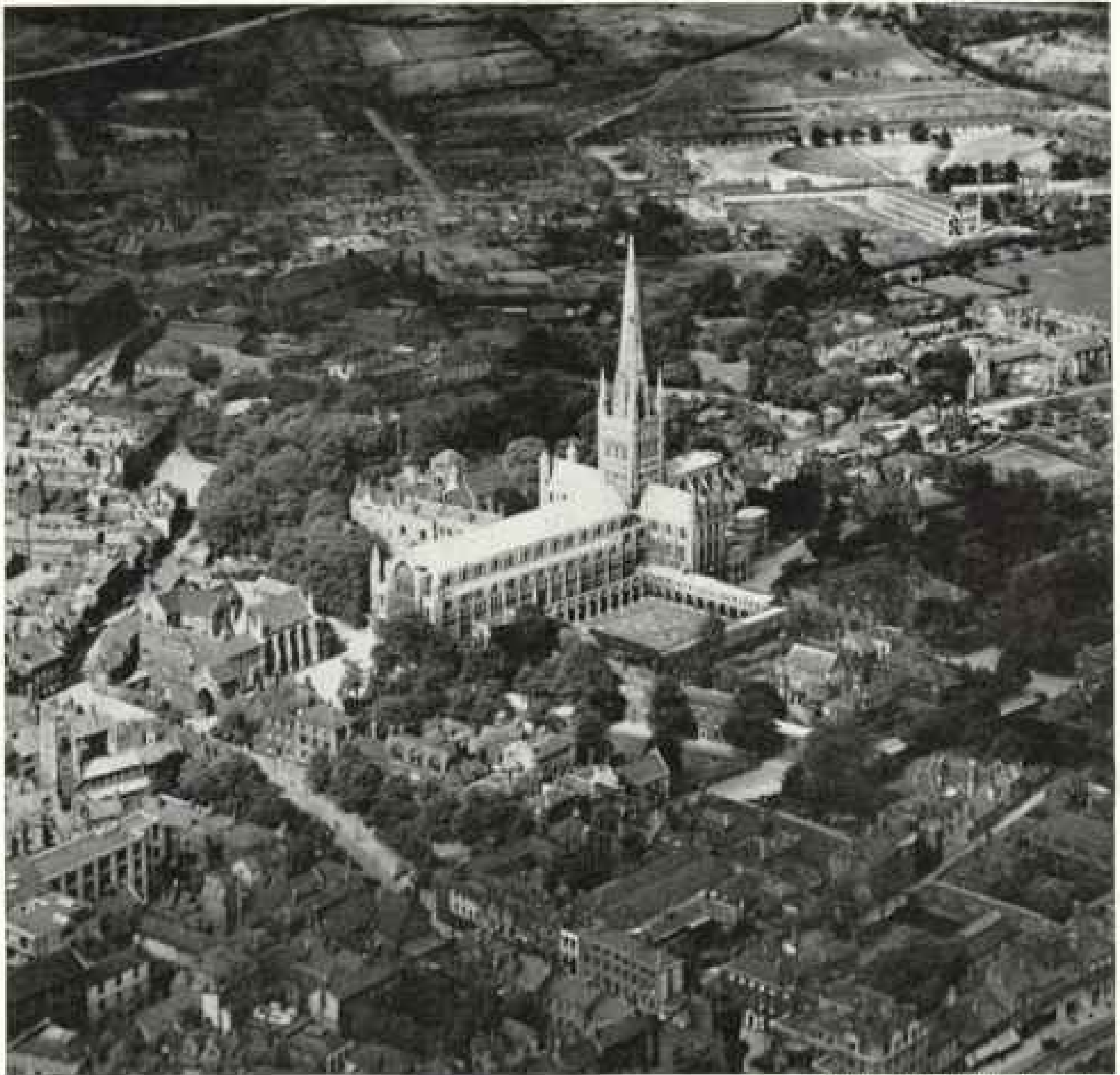
#### THROUGH THE BYWAYS OF ENGLAND

As an artist I have had a most interesting life, possibly more active than many in my profession in that my work has taken me to many parts of the world—Iran, Spain, the West Indies, and up the Amazon, to name only a few. But of all the commissions that I have been called upon to undertake, none has given me more pleasure than the search for material in making this series of drawings for the Cathedrals of England. I drove myself, and my way led through most of this beautiful island.

If one takes to the quiet byways, it is quickly realized that rural England is far from spoiled. There are villages untouched by new housing, farms tucked away in quiet valleys, parklands and mellow country houses, a profusion of hedgerows, wild flowers, and an endless variety of bird life.

As one rounds a bend in the road, a beautiful tapering spire, grayish gold in the morning sun, appears far away, only to be lost behind the trees. Soon it is seen again, nearer, the delicate tracery of its





Photograph from Aeroflms, Ltd.

#### RIOT, FIRE, AND PURITAN ZEAL FAILED TO DIM THE GLORY OF NORWICH

More than 600 years ago, prior and citizens quarreled over tolls on roads. In a general melee part of the edifice was destroyed. Before the time of Cromwell, four damaging fires had occurred. The Puritans demolished windows, defaced monuments and stonework, destroyed the organ, and burned vestments and books. After each misfortune, the cathedral was repaired and restored (Plate XV). In the shadow of the lofty spire rests the body of Edith Cavell, World War nurse charged with espionage and executed by the Germans in Belgium in 1915.

stone showing more clearly, with jackdaws wheeling round its towers.

The jackdaw seems to be part of the atmosphere of a cathedral. For centuries these delightful birds have held almost a monopoly of nesting places. Without them one would feel something lacking; their cheerful chatter adds to the scene.

And now appear the red roofs of houses tucked up close to the cathedral, almost seeming to seek shelter beneath the great building that towers above them.

If one's approach happens to be on a still Sunday morning, the pealing of bells is heard far away, suggesting an atmos-

phere of peace it is difficult to describe.

Whatever may happen to posterity in its unceasing struggle, I believe that these monuments of man's faith will still stand, and the people of the dim future will look at these masterpieces in stone and marvel at the hands that fashioned them.

Members may obtain sets of enlarged reproductions of these 16 engravings of English Cathedrals, by Norman Wilkinson, from the National Geographic Society, Washington, D. C., at \$7.00 the set in the United States and Possessions (elsewhere, \$7.25) postpaid. Printed in gravure on paneled art paper, 11 by 14 inches, the reproductions are ideal for framing. They are available only in complete sets.

# WHERE EARLY CHRISTIANS LIVED IN CONES OF ROCK

## A Journey to Cappadocia in Turkey Where Strange Volcanic Pinnacles Are Honeycombed With Hermit Cells and Monasteries

BY JOHN D. WHITING

*American Colony, Jerusalem*

DEEP in the interior of Turkey, in ancient Cappadocia of the Bible, there stand today some of the strangest structures ever created by the combined hand of Nature and man.

Through the erosive action of wind and water upon volcanic rock, huge spectacular cones were carved and then through the centuries were hollowed out by the devout Christian inhabitants of the region to form hermitages and monasteries.

Twenty years ago the NATIONAL GEOGRAPHIC MAGAZINE first portrayed these remarkable honeycombed rocks with the aid of a notable series of photographs.\* Now, in view of the development of modern color photography and the many changes which have taken place, even in isolated parts of the world, the Editor of THE GEOGRAPHIC requested me to undertake a journey into central Asia Minor to study and record in color photographs the striking characteristics of the Cappadocian cones and the dwellers there.

Cappadocia, I knew, was a land where Christianity had won an early footing. Yet, even to one who has long resided in Bible lands, it was little more than a name, since the area lies 475 air-line miles north of Jerusalem. I remembered it chiefly as belonging to a string of New Testament geographical names long since altered by map makers—"Parthians, and Medes, and Elamites, and the dwellers in Mesopotamia, and in Judæa, and Cappadocia," among whom St. Peter made converts in the later years of his ministry (Acts 2:9-11).

Details of what we were to encounter on the trip to Cappadocia were obscure, since little or no advance information was obtainable. The Turkish consul in Jerusalem, however, proved most co-operative and provided us with a letter of introduction to the Vali (Governor) of the Cappadocian city of Kayseri. In fact, in the course of our

journey we were treated with the utmost kindness and hospitality. From the highest Turkish official to the lowliest Anatolian farmer, all showed a genuine regard for the United States.

The Swedish nationality of Eric Matson, who accompanied the author to take the photographs, also proved an asset. Sweden, having had no part in the World War, had taken no hand in dismembering the old Turkish Empire, nor had it stood in the way of the upbuilding of the present New Turkey.

### "MAN FRIDAY" AS CHAUFFEUR

The third member of our party was pleasant Juma'a el Warri, a native of Jerusalem and an excellent chauffeur-mechanic. His name, literally translated, is "Friday of the Rough Country" (rocky or stony), a fitting companion for a modern Robinson Crusoe, marooned forty days in a country almost all rock.

It was in the early autumn that we finally started—rather late for the north climate and the return trip through the passes of the Taurus (Toros Dağları). In all, our Ford carried us 3,110 miles.

We loaded up with spare axles, springs, and minor parts; and although most of the journey was over cruel tracks, all our spares, except tires, returned to Jerusalem unused. Our only casualty was a door handle.

The first morning was taken up in adjusting the load, and after a hasty lunch we started the run to Beyrouth in Syria (map, page 767).†

On the top of Mount Scopus, where Titus pitched his legionary camps for the destruction of Jerusalem in the year 70, were

\* See "The Cone-Dwellers of Asia Minor," by J. R. Sillington Sterrett, NATIONAL GEOGRAPHIC MAGAZINE, April, 1919.

† See also the National Geographic Society's Map of Bible Lands, a special supplement to The Magazine for December, 1938.



Photograph by Eric Matton

#### A TIGHT SQUEEZE ON A CAPPADOCIAN ROAD

To keep the fenders from scraping the rock walls the car body had to be pushed over as it rounded corners. The author's researches indicate that these roads were built by the Hittites millenniums ago. Fortunately, the roads are just wide enough to accommodate the modern motor car, except on curves.

rows of white-domed tents. Instead of an invading host, however, they sheltered a cosmopolitan but predominantly British gathering, watching the annual Palestine police sports. As we slackened our pace, Arabian camels, ridden by Bedouins, were doing an English "maypole" drill and an American "cakewalk." A diminutive white handkerchief waved from the crowds a farewell from Mrs. Whiting.

We sped by the legendary site of Nob where reposed the sword of Goliath, and where David and his famished outlaws satisfied their appetites with unlawful

sacred bread (I Sam. 21:1-9).

#### THOUSANDS OF YEARS OF HISTORY IN A HALF-DAY RUN

For a stretch the modern road paralleled fragments of the Roman paved highway over which St. Paul as Saul of Tarsus started on his mission of persecution of the Christians (Acts 9:1-3).

From near-by Ramah we followed the steps of Hannah, who made her yearly pilgrimage to the Hebrew shrine, visiting with a gift her infant priest son, Samuel, at Shiloh, now called Seilun (I Sam. 2:19).

In due course we crossed Esdraelon, the battlefield of nations, where Lord Allenby, "Lord of Armageddon," gained his decisive victory.

Skirting Mount Carmel and its thousand valleys

to Haifa, we headed up the coast to Acre. Its Crusader castle is now a British Mandate penitentiary, with an ultramodern death chamber in one of the oldest dungeons.

#### JONAH AND THE WHALE

Tyre (Sour), the mother of maritime commerce, we passed by between us and the sea. Then we drove through its ancient ally, Sidon (Saïda), and on to Beyrouth, the Levantine capital of the new Lebanon Republic.

All the long way to Cappadocia our route

was paved with history. As we rounded the Gulf of Alexandretta several days later, our road at one point was carved into a steep bank atop a precipice with a cosy little bay and narrow beach at its feet.

Here are ancient masonry-like square towers atop a protruding rock separated by a railroad cut. These are called "Jonah's pillars," and are, according to legend, the site where Jonah made the whale seasick (Jonah 2:10).

Soon now we penetrated the towering Taurus through the Cilician Gates, the Turkish mountain pass which in the ancient world formed the link between East and West.

Alexander the Great, fearing an ambushed enemy, led his armies through these Gates in 333 B. C., on his way to world conquest. Here passed Cyrus the Younger, Persian Prince, with his ten thousand Greeks in 401 B. C., hoping to gain for himself his brother's throne of Babylon.

It is not the triumphs of these great armies that have endured, any more than those of later generals who carved their deeds into the living rock, nor the march of the Christian armies on their way to Jerusalem. The only conqueror to pass these silent sentinels, whose influence has not faded, is Paul of Tarsus, going from Jerusalem, of the East, through Cilicia and Cappadocia to Derbe, in the West,



Photograph by Eric Matson

#### ASSES AND OXEN ARE A MENACE TO MOTORISTS

Roads frequented by these solid-wheeled ox carts and little donkeys, so practical to the small farmer, were a source of innumerable tire punctures. The animals are shod with large-headed hand-forged nails. One of the author's tires picked up twelve nails at one time.

and to the world at large (Acts 15:41; 16:1).

As we bumped along, the roads in places were crowded with men and pack horses, heavily loaded. We encountered only one cart and a couple of motorbuses. Between the pines grew smaller junipers, and in the valley beds huge plane trees.

Along the road from Adana we had encountered an occasional khan, or inn, a couple of police posts, from which police signaled us to proceed, and a long string of drinking fountains, both old and new, derelict or still spouting water from a stone





Photograph by John D. Whiting

EVERY DAY THIS MAÇAN GIRL CARRIES SPRING WATER  
TO HER CONE HOME

National costume in modern Turkey has disappeared and Western dress has been adopted. But in isolated sections, girls still tie their hair in sixteen braids, and wear baggy trousers in place of a skirt.

spout for the thirsty, and into a stone trough for the animals. These have all been erected as pious acts, with evidently no provision for keeping them in order (Matt. 10:42). Never have I seen so many.

MOUNT ARGÆUS, FATHER OF CONES

After we left Niğde our road took a steep descent to the wide, flat plateau dominated by the lone Erciyas Dağı, the Mount Argæus of classic history. It is the highest mountain in Asia Minor, and perpetually snow-capped. The setting sun turned the white cap into a vivid pink, and the

base of the mountain was bathed in transparent sapphire.

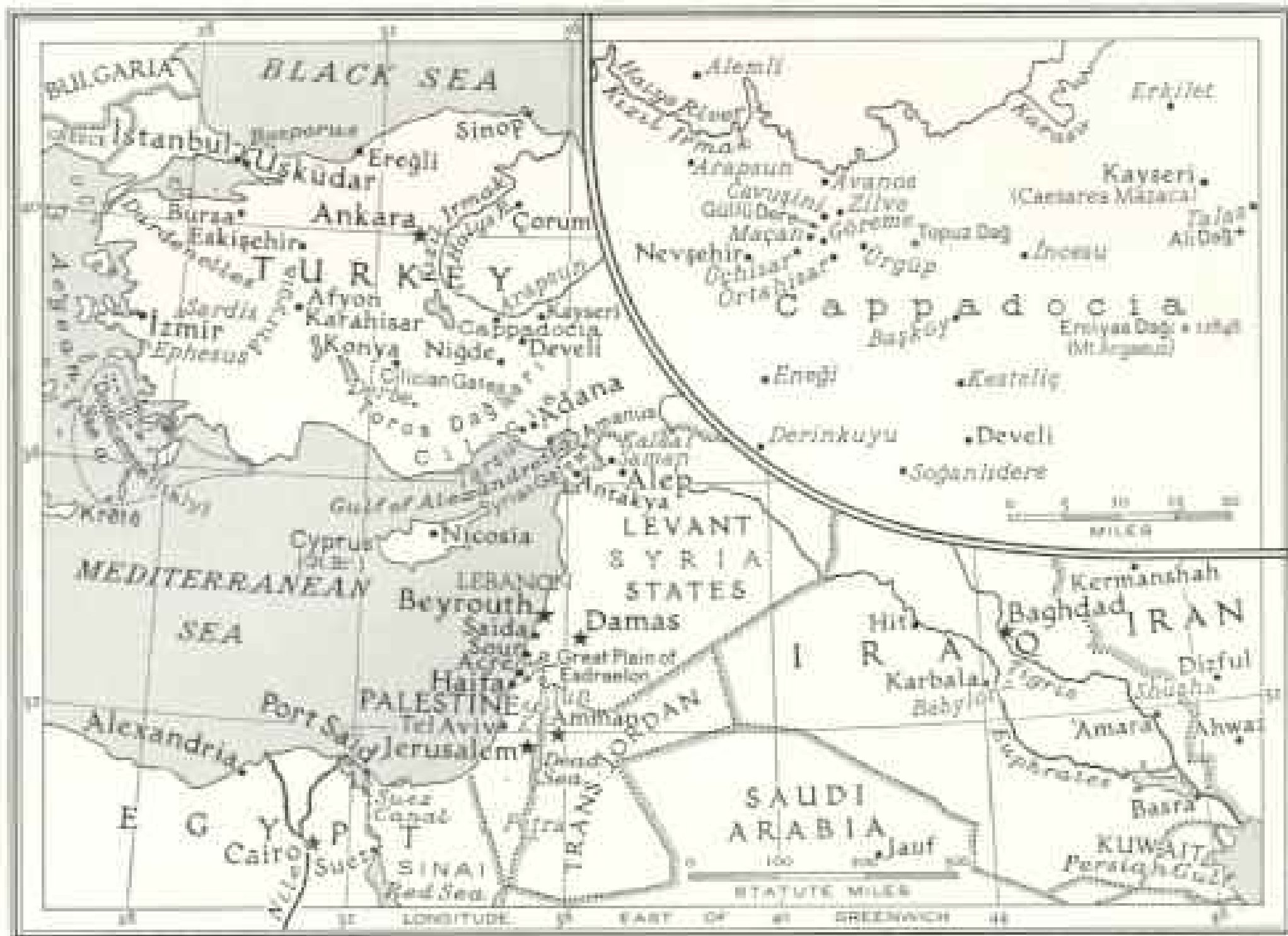
Mount Argæus we were to pass often on our journeys back and forth among the cones of Cappadocia. It dominates the district for many miles, and had it not been for this extinct volcano and its outpouring of ash and lava there would be no Cappadocian cones. It was smoldering in Strabo's time (25 B. C.), but has, so far as we know, been inactive ever since (Plate II).

Shortly after striking this level plateau, we came upon two men with one gray and two black Slugh dogs (Persian gazelle-hounds), which had just caught a large hare. Darkness fell early, and in the twilight we could see many of these large hares dazzled by the lights of the car.

The road was so ill-defined that we lost our way and hit upon an oxcart track in which the solid-oak wheels had furrowed two long deep ruts in the soft volcanic rock. These fitted our Ford wheels exactly, but soon the grooves became so deep, and the ridge so high, that we could proceed no farther. The bark of dogs led us on foot to a village,

where we got our bearings. How Friday ever got the car out of those ruts and turned around and back to the main road will ever be a mystery.

Bumping along in the darkness, we passed through Incesu, a town we were to see often during our wanderings. On our right all the while were the extensive swamps that encircle Mount Argæus, and form an effective barrier between the road and mountain. To pass them the road strikes farther north than necessary, and then makes a sharp bend to the southeast on its run into Kayseri.



Drawn by Ralph E. McAtee

#### INTO THE HEART OF TURKEY THE AUTHOR JOURNEYED TO VISIT THE CONE DWELLERS

Driving along the Syrian coast northward from Jerusalem, he passed many historic spots mentioned in the Bible and places made famous by the Crusaders. Crossing the Taurus Mountains (Toros Dağları), he bumped and climbed over roads first built by the Hittites and, as he says, "not repaired since." Through the valley of the Halys River and in the shadow of Mount Argæus he rambled through the "Coneland" of Cappadocia (inset on large scale).

As we rounded this corner, long rows of bright electric street lights and a large illuminated building gave the impression that we were coming to a modern metropolis, an important railroad junction, where we could find a comfortable, perhaps luxurious, hotel and a superb supper. We were hungry.

Upon our arrival, the great city vanished like a mirage. Kayseri is a modest town, chiefly of one-story buildings, with streets not too well paved. We later learned that the large building was the fine railroad station, and that the street lights connected the station with the town (page 778).

Kayseri, originally called Mazaca, was built upon the lower levels of Mount Argæus, and was the capital of the kings of Cappadocia. Little of the ruins remains. Like a number of towns in the ancient Roman Empire that were named Caesarea in honor of the ruling monarch, this city is supposed to have been rechristened by Claudius, and to distinguish it from others was known as "Caesarea Mazaca."

Kayseri's geographic position has made it commercially important throughout the ages. It lay on the ancient trade route from Sinope (Sinop) to Babylon and the Euphrates; on the Persian "Royal Road" from Sardis to Susa (Shush), and on the Roman road from Ephesus to the East. Today, not only is it a center of the up-to-date railroads of Turkey, but an important link in the through rail journey from Cairo to London.

#### ANCIENT CITY MAKES FIGHTING PLANES

Kayseri is a city of contrasts. There are several splendid examples of Seljuk architecture, both madrasahs and tombs, fine old mosques, and an extensive medieval bazaar of extraordinary interest and preservation (unfortunately—we thought—now being destroyed to make way for modern streets). Here an up-to-date airplane factory turns out Turkish war planes (originally under the supervision of an American), and a huge mill, erected by Russian

engineers with Soviet looms and some American machinery, converts the native cotton into cloth.\*

We found lodgings in the best native hotel. Early the following day we went to the police station to register, for in Turkey every police station is a potential boundary, and, while waiting for the proper authorities to arrive, strolled to a native restaurant for breakfast. Anyone wishing to taste a superb melon may go to Kayseri, and not be disappointed.

In Kayseri Friday found a Damascene barbershop and asked for time for a haircut. He parked the Ford while I went about the bazaars. I returned with four large fat hens, for which I had bargained in my few lame Turkish words. My purchase cost 40 cents, United States money. Friday was shaven and shorn, powdered and fleeced. The "beauty" had cost him, personally, 42 cents. This earned me the nickname of "Kayseri," a term synonymous with "bargainer," and a laugh on Friday.

With a little more ink on our passports, we humped our way out to Talas, where we were most kindly received by a small band of American medical and educational workers, ably assisted by native Turks.

#### "CONELAND" BURSTS INTO VIEW

Daylight, as usual, saw us well on our way. As we slowly rose to the top of Topuz Dağ, a magnificent sight burst into view.

Before us spread out a vast expanse dotted with multihued sugar-loaf cones, some the size of an ordinary tent, others the height of lesser skyscrapers. It is said fifty thousand cones can be counted, and, whether this estimate is correct or not, the figure does not overestimate the impression. The Biblical reference to the Midianite tents being "as grasshoppers for multitude" seemed especially fitting (Judges 6:5).

The view was not only of magic form but also of vivid color. The crags, cliffs and cones varied from snow white to cream, tan, ocher, pink, red, and gray. The very atmosphere seemed steeped in brilliant hues.

I had come to Cappadocia expecting to find the color of these capped cones even more vivid than that of Petra, the rose-red

city of rock in Trans-Jordan.† In reality there is little basis for comparison. Petra's sandstone has actually more varied colors and deeper shades than this solidified volcanic ash.

#### EROSION KEEPS CONES BRIGHT

The Petra rock, however, where exposed to storms, has to a large extent weathered; the vivid colors have been dulled by a sort of gray patina. Here, erosion is unceasing, caused by wind, weather, and the constant blowing about of the coarse grit, so that all rock surfaces have the appearance of being continually sandpapered into eternal freshness.

As we explored this cone country during the ensuing weeks, other points of contrast were patent. Petra's monuments are chiefly large and imposing façades, with lesser and undecorated interiors, mostly the tombs of the dead. In Cappadocia the exteriors are the work of Nature, almost untouched by man, while the interiors are vast and complicated, and some are highly decorated. These consist largely of churches, chapels, monasteries, nunneries, and hermitages—all the abodes of the living, with, however, adequate and honorable provision for the dead.

Even for one who knows little of geology the rough outlines of the life story of this fascinating district unravel as he journeys about among the cones. To realize what this terrain was like in pre-cone days, one has but to look across the Halys River. There the hills are rolling and undulating, and composed of white fresh-water limestone.

#### HOW THIS WONDERLAND WAS FORMED

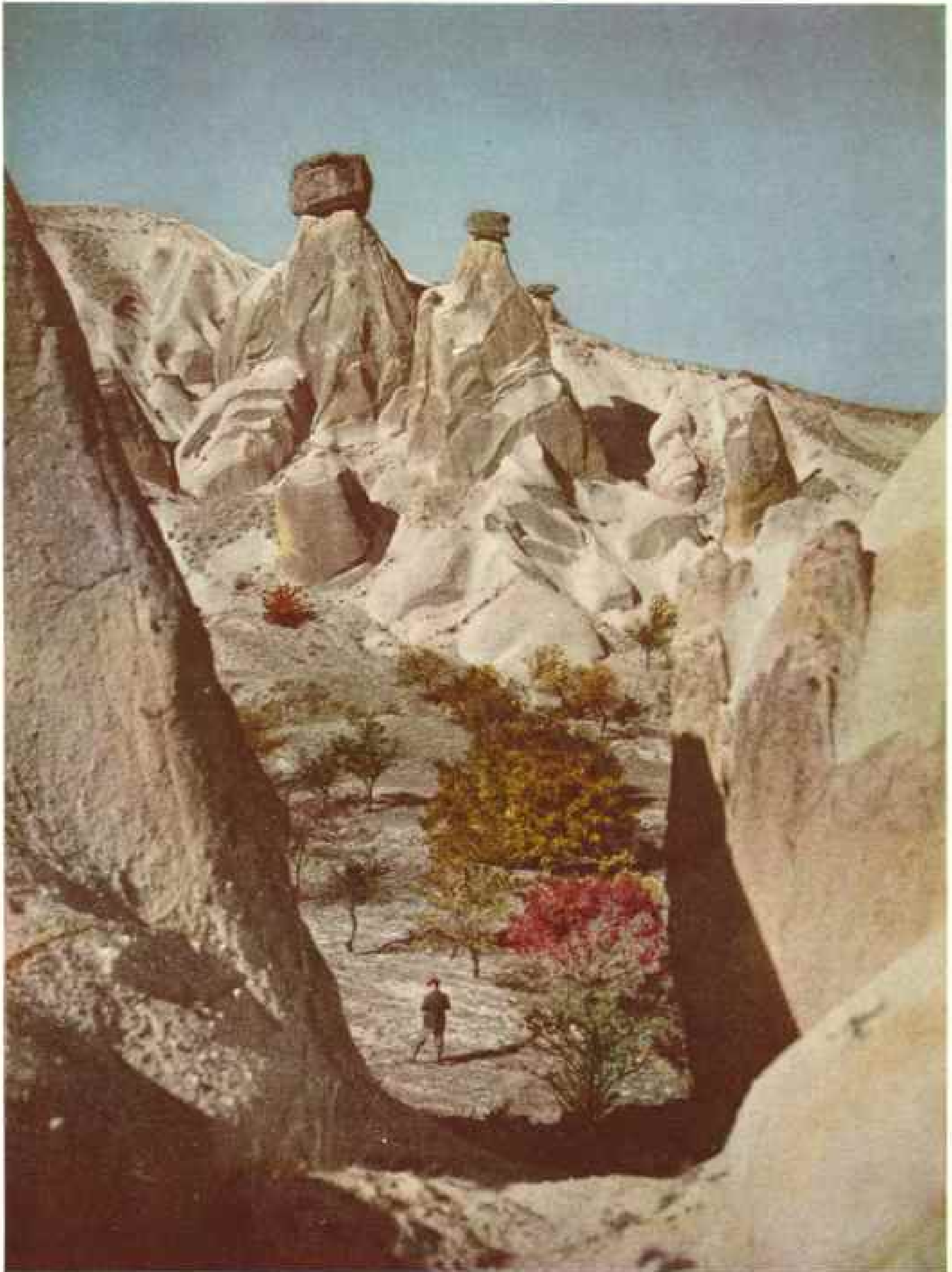
In the dim past the valley of the Halys River, which here cuts straight across the map, making a rather definite north boundary to the cone district, was deep and wide. In a series of Argæus eruptions this valley on the south side of the river was filled up with volcanic ash hundreds of feet deep, sometimes with an upper thin layer of lava or pumice.

From the top of the crater the débris of these volcanic eruptions reached a distance of forty miles or more. In the process of cooling this volcanic mass cracked. Winter rains and melting snows found their way to the mother river by means of these seams through the mass of obstruction, so rudely thrown down by Argæus.

\* See "The Transformation of Turkey," by Douglas Chandler, NATIONAL GEOGRAPHIC MAGAZINE, January, 1939.

† See "Petra, Ancient Caravan Stronghold," by John D. Whiting, NATIONAL GEOGRAPHIC MAGAZINE, February, 1935.

## MULTICOLORED CONES OF CAPPADOCIA



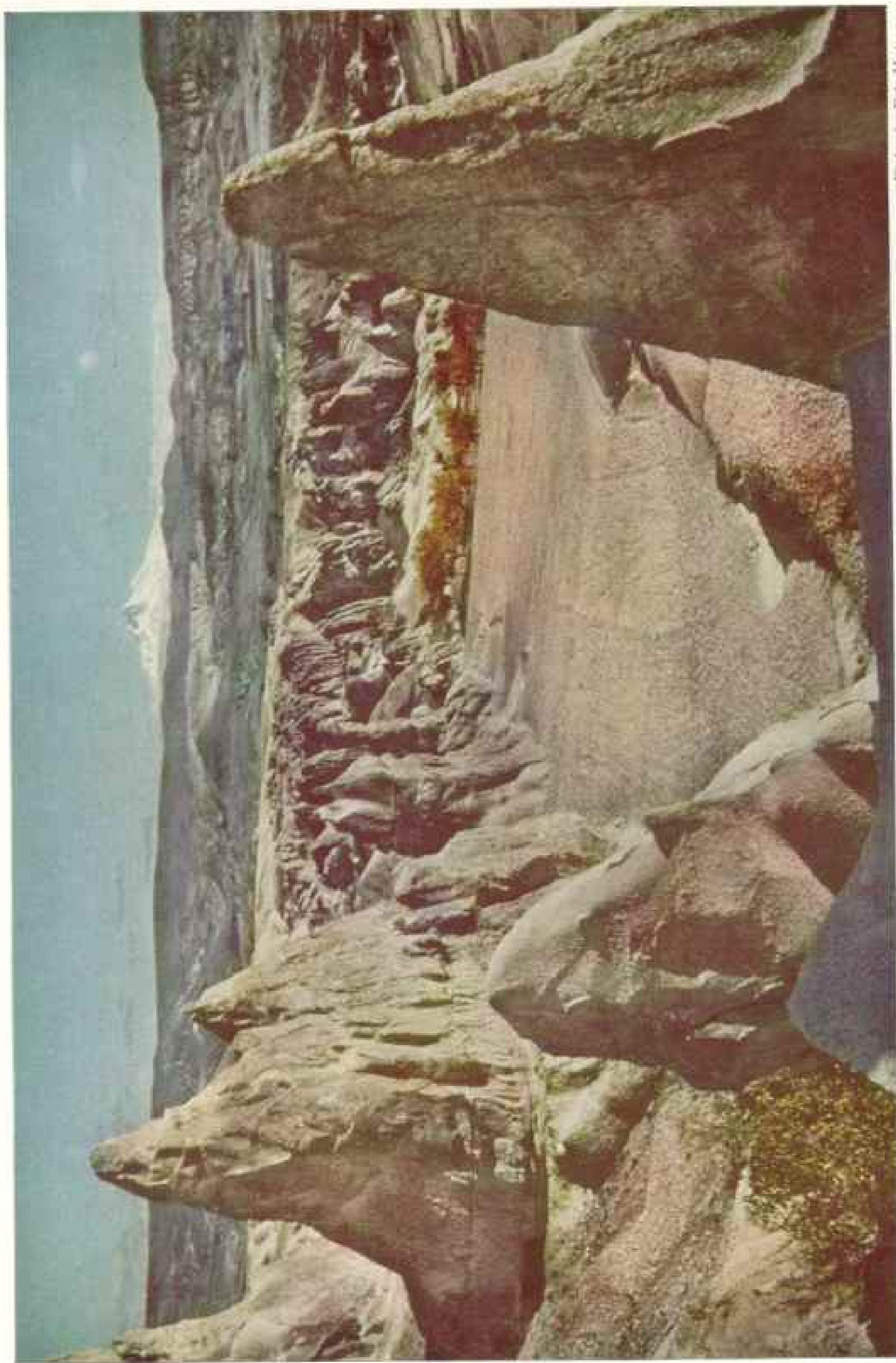
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Autochrome Lumière by Eric Mattson

WHEN CAPS ARE DOFFED, CONES BECOME BALD AND SOON WASTE AWAY

Often set at rakish angles, the dark lava blocks protect the soft mound beneath, preventing it from eroding. Exposed sides are sculptured by rains and streams and polished by wind-blown sand. The masklike mound at right has lost its covering and is rapidly disintegrating. Like human moles, hermits tunneled and gouged living quarters in many of the cones. This fantastic area, roughly triangular, lies about 150 miles north of the Gulf of Alexandretta in the isolated heart of Turkey.



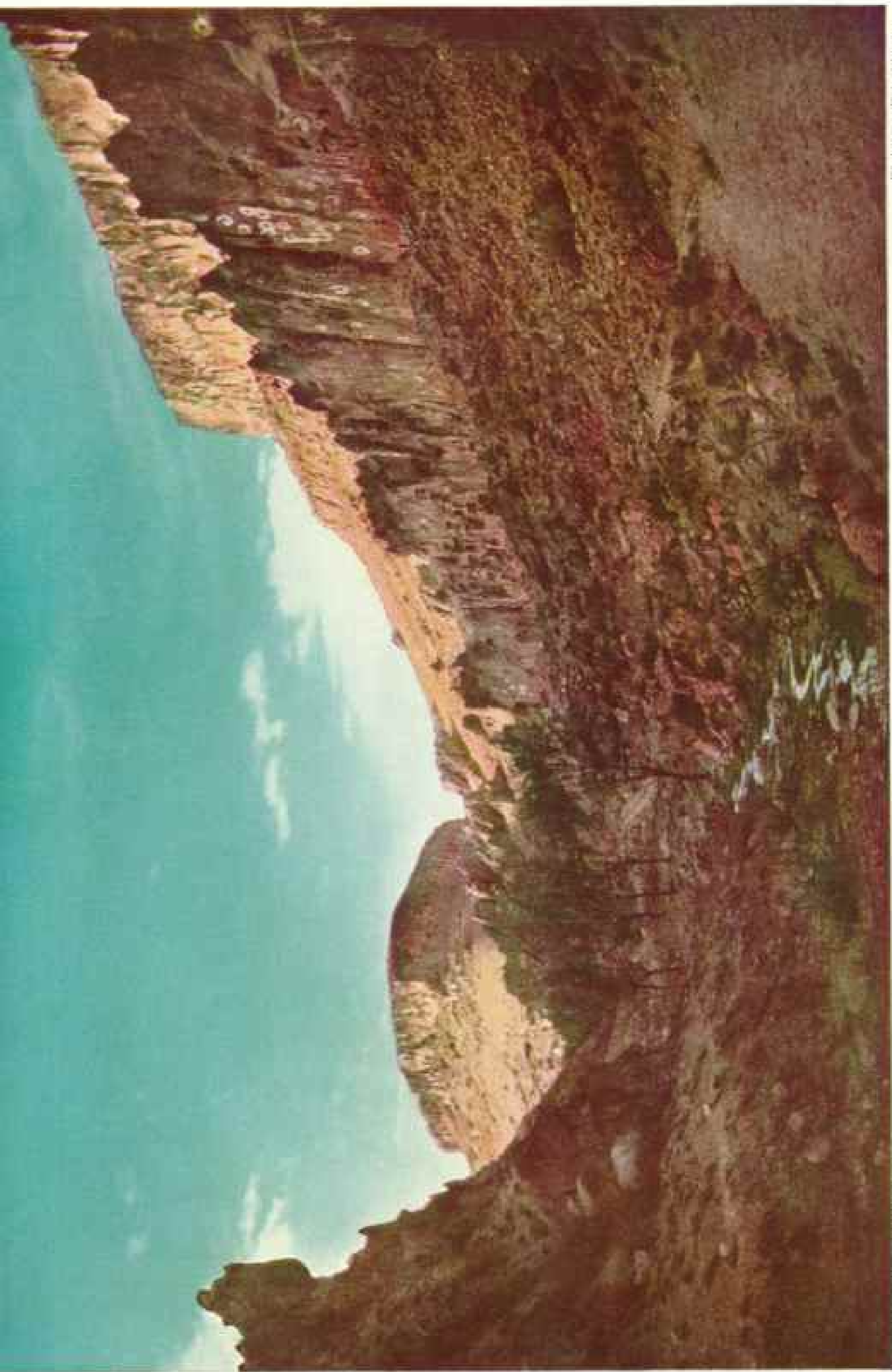


Painting by Eric Mattson

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**HOARY MOUNT ARGAEUS STANDS SENTRY OVER ITS STRANGE BROOD OF CONICAL CHILDREN. BORN OF ANCIENT ERUPTIONS**

In the dim past, when this volcano was active, it covered the valley of the Halys River with alternating layers of ash and lava. As the thick mass cooled, it cracked. Winter rains and snows widened the seams into deep gullies and chasms, and wore down the heights.

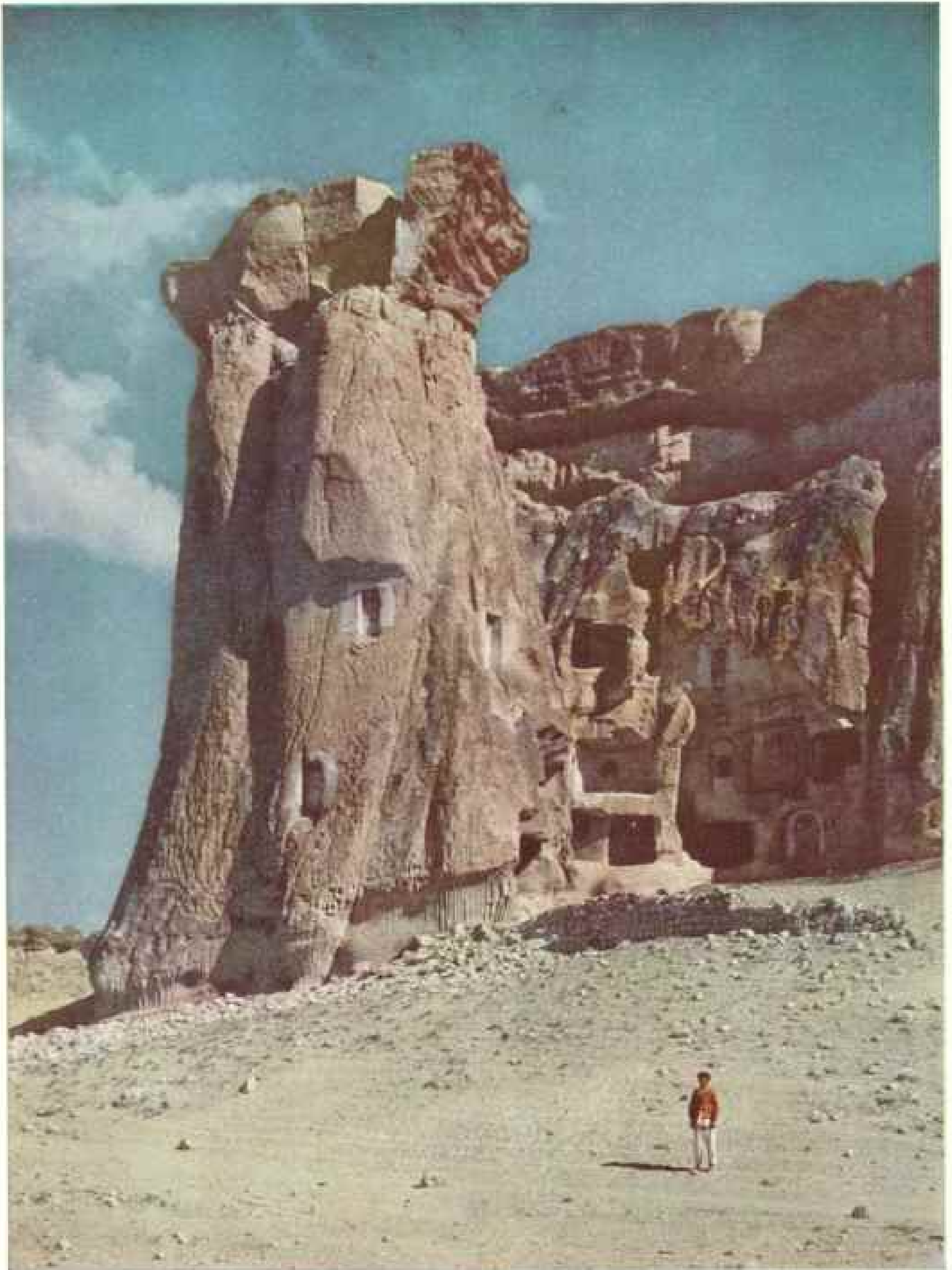


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CELLS AND COTES HOLLOWED BY MAN HONEYCOMB ROCK TERRACES IN SOÑANLI GORGE

Picture by Fritz Martini

Early Christian monks and hermits carved their homes in the rocks of this wild and forbidding region. The smaller openings, at right, are dove-cotes. Near here the author found a huge block of rock that had rolled down into the valley. Lying right side up, it contained a complete and undisturbed anchorite cell, suggesting a small stone cottage.



© National Geographic Society

Autochrome Lumière by Eric Matson

A FORTIFIED SKYSCRAPER IS THIS CAPPADOCIAN CHURCH AND MONASTERY

Heavy wooden doors and locks today bar tunnel-entrances to the castlelike rock with its hollowed-out sanctuary and smaller compartments. Here early Christians sought seclusion from the world in carved retreats and a flourishing monastic community grew up between the fifth and tenth centuries. Rope ladders and toe holes in the cone faces were often the only stairways.

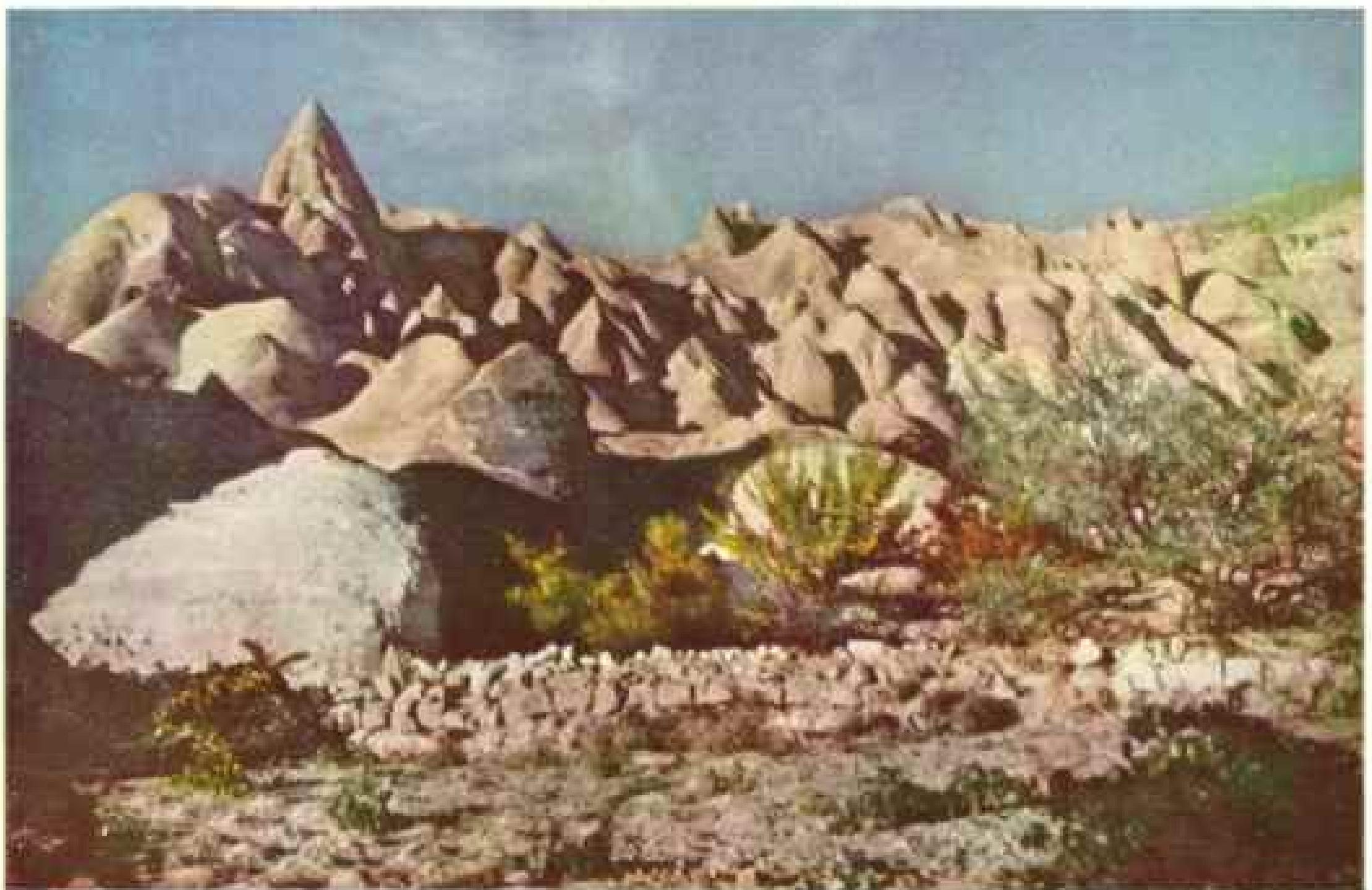
## MULTICOLORED CONES OF CAPPADOCIA



Finlay by Eric Marsan

PERHAPS ST. HIERON ESCAPED HIS PURSUERS IN ONE OF THESE CAVERNS

The Acts of St. Hieron, a sixth to seventh century document, relate how the saint, then a vinedresser, escaped from invading soldiers here at Maçan by taking refuge in an elevated cell in his vineyard.



© National Geographic Society

Antoine-Lumière by Eric Marsan

NEVER A ROSE BLOOMS IN CAPPADOCIA'S ROSE VALLEY

Colorful pink of the tuff gives Güllü Dere its name. Apricot orchards exist among scattered cones.





© National Geographic Society

FLAT-ROOFED HOUSES OF MAÇAN, ONCE AN EARLY CHRISTIAN HISTORIC, NESTLE AMONG WEIRD CONES

Built of compact tuff, many of these modern homes have arched porches or covered courts, for coolness in scorching summer months. Spacious living rooms, hewn out of the cliffs behind, are warm in winter, when the temperature falls below zero. Hollowed cones are used as storage rooms or aviaries. Dark caps cover each one.

Pinlay by Eric Mattson



© National Geographic Society

**DANIEL FORETELLS THE KINGDOM OF GOD**

Ten centuries ago an artistic monk here portrayed the prophet in Persian church brocades. The scroll reads: "And in the days of these kings shall the God of heaven set up a kingdom, which shall never be destroyed" (Daniel 2:44). The angel at right proclaims: "Ye men of Galilee, why stand ye gazing up into heaven?" (Acts 1:11).



Fresco by Eric Matson

**A CAPPADOCIAN CONCEPT OF CHRIST'S BETRAYAL**

Judas has just kissed his Lord in Gethsemane (Luke 22:47-52). One of the "captains of the temple" stands at left, small sword uplifted. St. Peter, next to him, is about to sever an ear from Malchus, servant of the high priest. Nearly a thousand years have elapsed since Christians worshipped in frescoed Anaphasis Church (Plate VIII).



Antochrome lunette by Eric Matson

TIME AND MAN HAVE MARKED THIS CRUCIFIXION SCENE AT GÖREME

Beneath the right arm of the figure of Christ stand Mary and the women bearing ointments. Opposite are John, the "beloved disciple," and a centurion. Two miniature soldiers are on guard at the base of the cross. Above rise the darkened sun and the moon.



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Fresco by Eric Matson

"THEY PRESENTED UNTO HIM GIFTS, GOLD, AND FRANKINCENSE, AND MYRRH"

This old fresco in the Anahipus Church depicts the coming of the "three wise men from the East" (Matthew 2:11) to worship the Babe in the manger. Over the first gift bearer gleams the star of Bethlehem.



The cracks, in the course of untold years, widened out into deep gullies and deeper chasms, running into and at right angles with the river. Into these in turn ran smaller and smaller winter torrent streams, forming a sort of checkerboard; but since Nature loves curves, the upstanding cones were the final result.

#### DRUNKEN SENTINELS, WITH CAPS AT TIPSY ANGLES

Many of these cones have so-called caps atop them, a layer of protruding and protecting rock that has hindered quicker erosion (Plate I). The caps, often drunkenly askew, are mostly dark-colored, and many observers have supposed them to be of the black basalt rock that is so hard and time-resisting.

The fact is that we noticed no basalt beyond Topuz Dağ, which geologists tell me is the main stream of the lava flow, and the caps that we were able to examine were strangely of a light pumice that has a dark weathered surface. Though comparatively soft, it seems to resist erosion better than the harder and more solid-appearing tuff, a stone formed from volcanic ash.

In this strange land—we should more correctly call it "strange rock"—the plateau ends in precipitous cliffs. There are hill-tops with natural rock castles surrounded by thickly clustered cones like a hen and chickens; there are deep narrow cuts with fantastic sides, and semi-detached cones.

There are wide expanses of cones, thickly placed cones of regular form, like the camp of a vast army; and again, in the broadening of the valley toward the river, there may be a lone giant cone, still cap-protected, while thousands upon thousands of its neighbors, uncapped, have decomposed into miles of flat fields.

This cone district makes an almost perfect equilateral triangle, each side measuring practically forty miles, with the points at Develi, Kayseri, and Arapsun (p. 767).

Our perch atop Topuz Dağ, where we first saw all "this geological fantasy," was practically in the center of this triangle.

The road down into Ürgüp was steep, full of short hairpin bends, and rough. Before going into the town we forded a stream and turned to the left up the valley to visit our first cone.

Though not at all symmetrical, this cone was large enough so that a gristmill had been built at its base with six stories of

rooms above. A tunnel had been cut through the base to carry the river water to the mill.

As in so many of the cones, the chambers had been converted into pigeon houses, so that it was impossible for us to explore them; nor was this necessary, for many better preserved ones were later available.

Just across the valley rises a huge rock terrace, semi-detached from the highland behind it, and around it huddles the town of Ürgüp. The houses are built of nature-tinted fine-grain tuff, some with pillared, arched, and carved fronts. Instead of making their cellars under the homes, the people carved them into the solid volcanic rock wall back of the house (Plate XII).

Throughout the cone country there is no such thing as soil as we know it. All the cultivated valleys are deep in decomposed volcanic pumice and tuff. Here the apricot is native, vines are plentiful, and the grapes are renowned in the adjacent markets. Between the vines, melons, tomatoes, and various vegetables are grown.

Thousands upon thousands of the ancient excavated chambers and churches have been turned into pigeon houses (p. 802). The birds are not eaten; they are looked upon with almost religious awe, for without them mankind could not exist in the region. Once a year the guano is collected, and with it fields of almost pure sand are enriched into productiveness.

#### EARLY CONE DWELLERS CHRISTIANS, NOT CAVE MEN

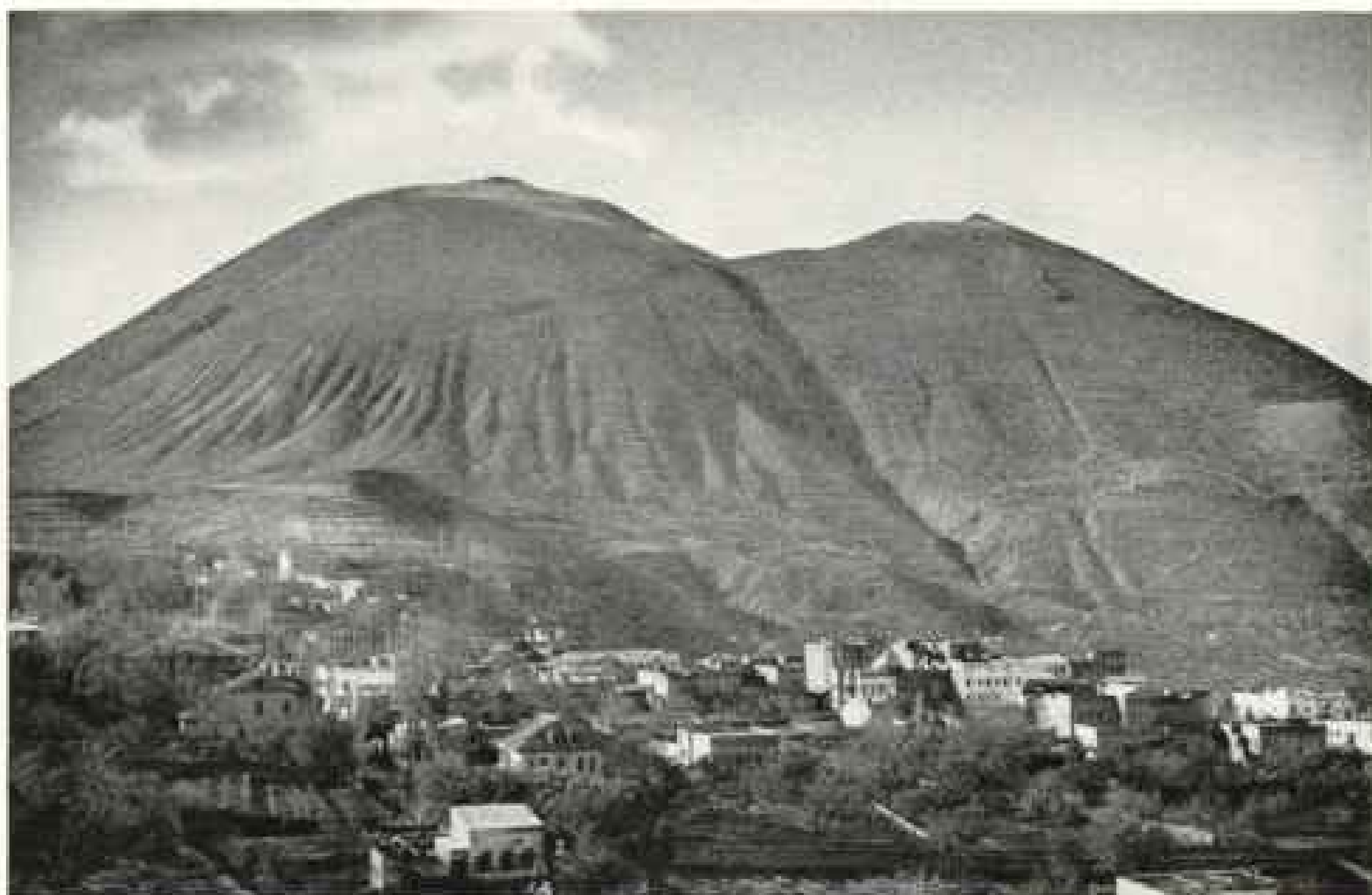
From an article I had read on these parts before starting, I had been led to believe that we were to visit the dwellings and remains of a primitive people—cave men who craved isolation, whose basic ideas of society were quite opposed to ours; in short, that the present inhabitants still lived as in the Stone Age.

This interpretation we found to be contrary to facts as they revealed themselves to us. In all our wanderings we looked in vain for any remains or indications of primitive man. Such people may have existed. If they did, later man has obliterated all traces.

The earliest object we saw was a cone in Maçan with a definitely classical monument cut in its top reaches. We were unable to visit the interior; it seems to have been a tomb.

The majority of the antiquities date





Photograph by Eric Mattson

KAYSERI HAS BEEN A CROSSROADS OF TRADE FROM ROMAN TIMES TO THE PRESENT

This city, nestling against the bosom of the twin mountain Ali Dağ, is an important junction on the London to Cairo railway. In ancient times caravan routes from Babylon to Sinop, on the Black Sea, and from Ephesus, on the Aegean, to the East met here. Today a Turkish airplane factory and a Russian-built cotton mill are located in the city (pages 767-8).



Photograph by John D. Whiting

MANY HANDS MADE LIGHT WORK OF PULLING THE CAR "OFF THE ROCKS"

Here the automobile has straddled a rock which raised its rear wheels clear of the road. A passing caravan of forty men and women, with laden mules and donkeys, kindly lifted it bodily off the pinnacle.

from the earliest Christian period and appear to have reached a peak between the 10th and 12th centuries.

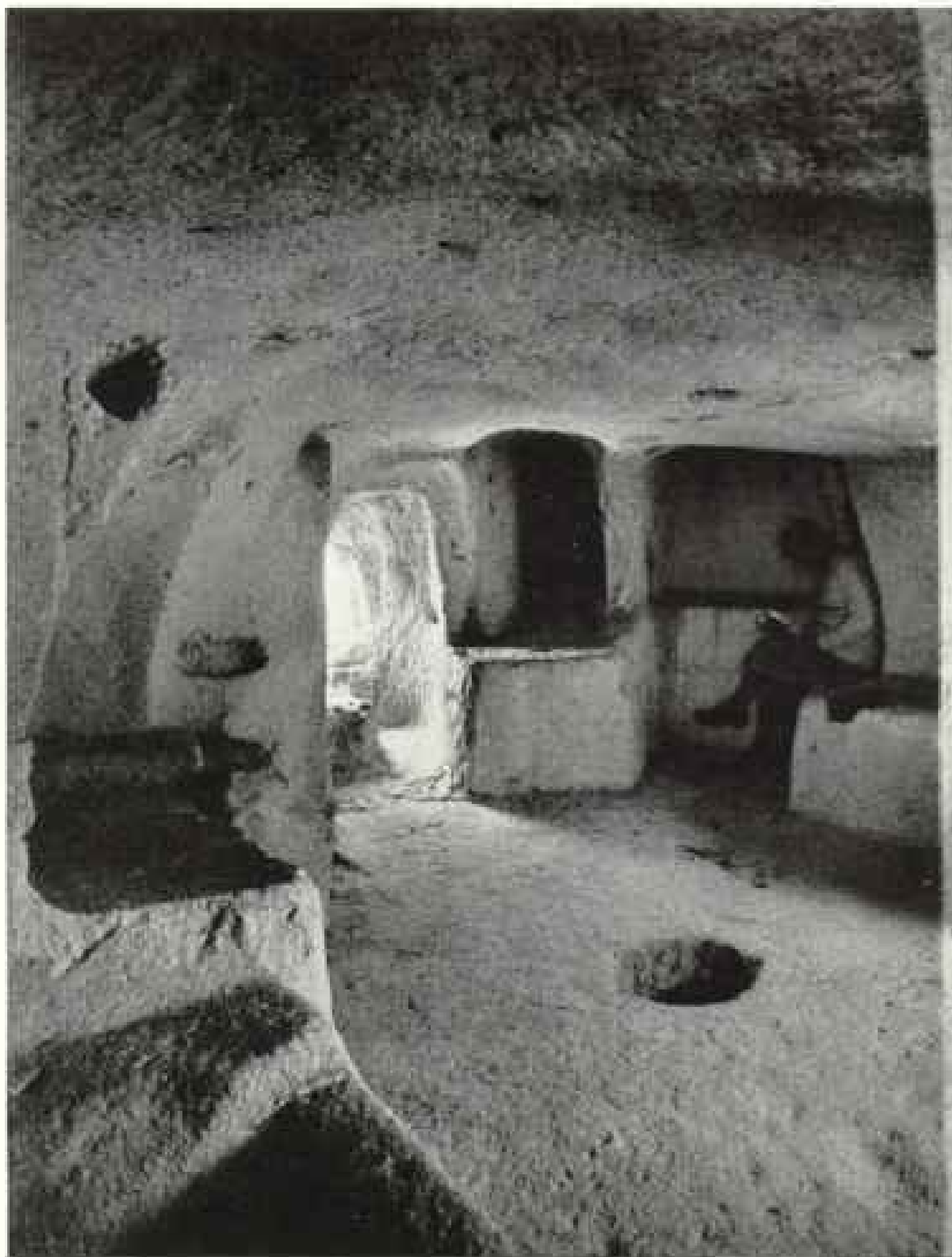
We probably do not err if we picture the early inhabitants living under three very different classifications.

First, there were the villages or towns, much as they are today, of which Ürgüp, Üçhisar, and Ortahisar, or even Talas, would be representative examples. Houses were built mostly against rock cliffs and around huge cones, which were excavated to form storerooms on the same level as the house.

It would be just as erroneous to call these dwellers, both ancient and present-day, "troglydites" as to say that a hurricane-devastated or a burned-down American village had been inhabited by cellar dwellers.

In the second classification are the rock-cut convents where early Christians sought seclusion and safety, not as primitive man, who feared his neighbors and his own kind, but from a sense of desire to get away from the life of the world.

Far from being uncivilized and ignorant, these early desert fathers were often the leaders in the arts and letters, and swayed the destinies considerably. Basil the Great, a native of Caesarea, better known as St. Basil, was an organizer and ex-



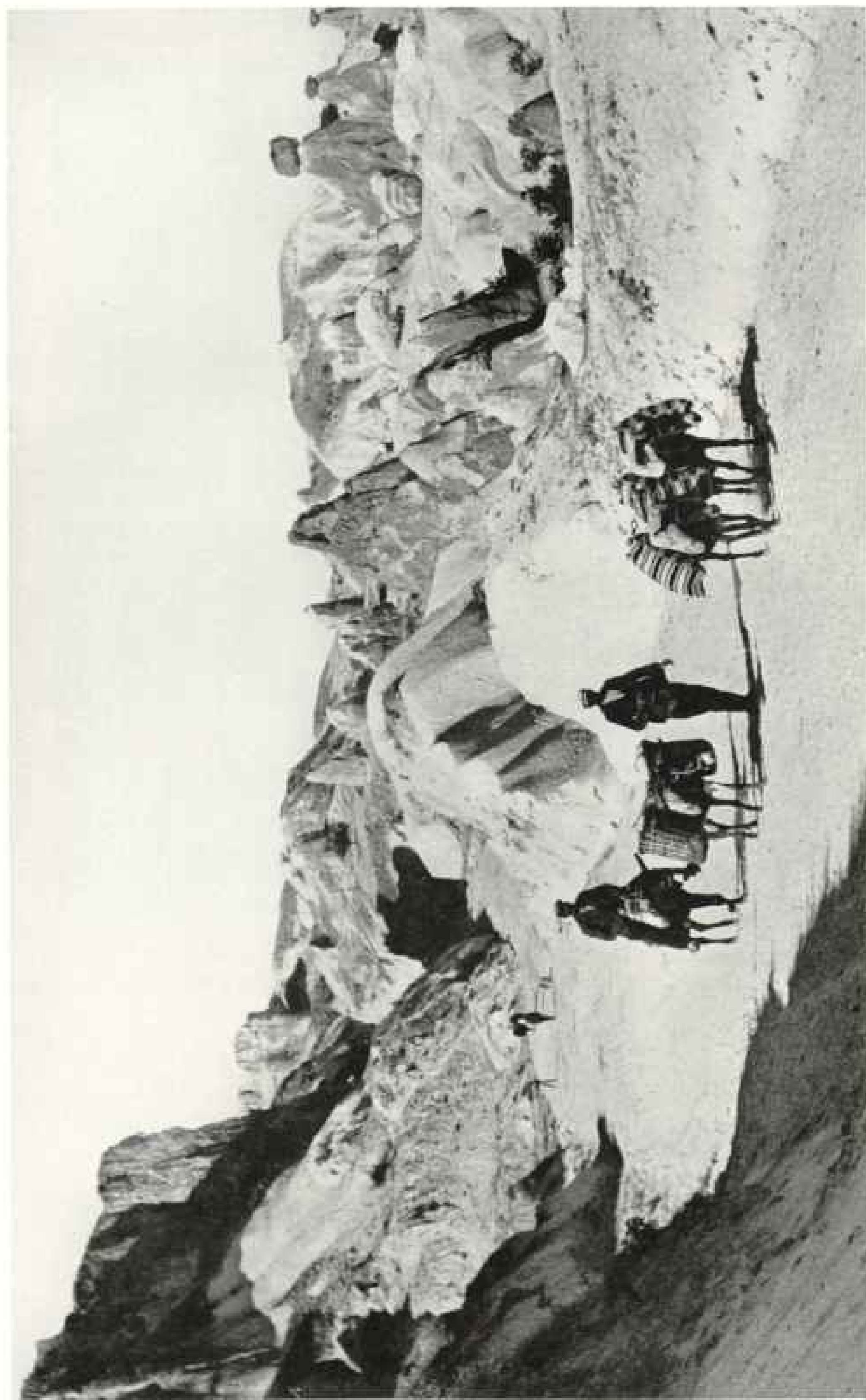
Photograph by Eric Matson.

**THIS ROCK CELL WOULD BE AN IDEAL BOMB-PROOF SHELTER**

Here lived a recluse and his disciple. Their comfortable cell, dug in a cone at Zilve, is completely furnished in stone. Carved from the rock at the left is a couch (head showing in lower left corner) and above it a second bed with a stone bolster, bedside table, and small cupboard in a niche. Next to the window is a closet and to the right of it an altar with three painted red crosses on the wall. The man sits on the cookstove ledge, equipped with a fire pot and a fuel box beneath.

ponent of the monastic life as opposed to that of the anchorite (religious recluse).

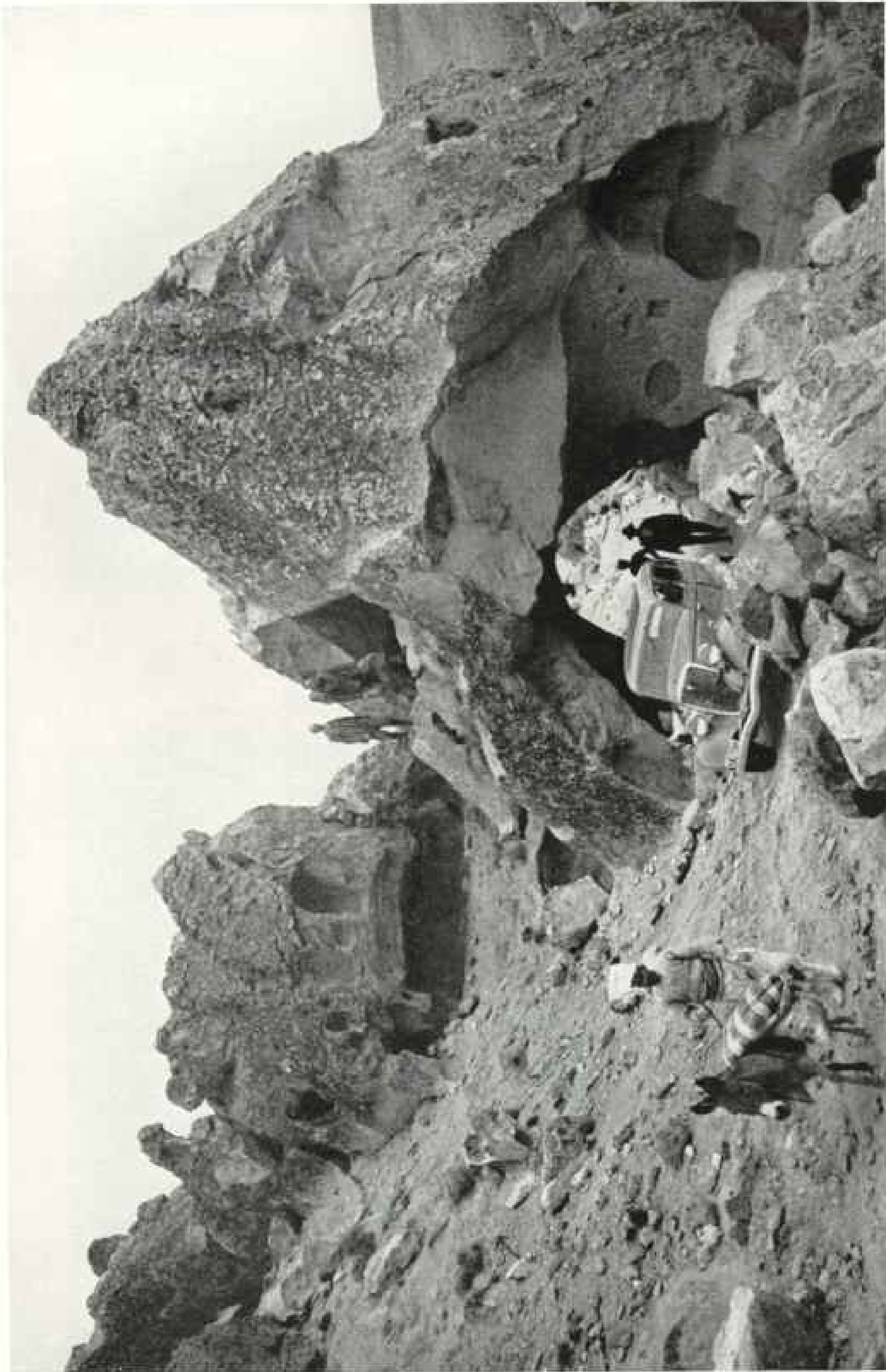
In the third classification are the solitary abodes of the hermits, cut into single cones, with chapel and cell for the exclusive use of a single anchorite, sometimes with a lone disciple (above). These disciples they looked upon as spiritual sons, probably copying St. Paul and Timothy (I Tim. 1:2 and 18; II Tim. 1:2; 2:1). Some of these hermitages were isolated. In other places they were in small groups



Photograph by Eric Sutton

THROUGH A VALLEY GUARDED BY TIPSY CONE SENTINELS WINDS THE ROAD FROM ÜRGÜP TO NEVŞEHİR

Plooding along the highway beneath the rock walls of the plateau, farmers bring their produce to market. One of the donkeys is laden with grapes, the other two with sacks of tree leaves to be used as fodder.



Photograph by Eric Mathan

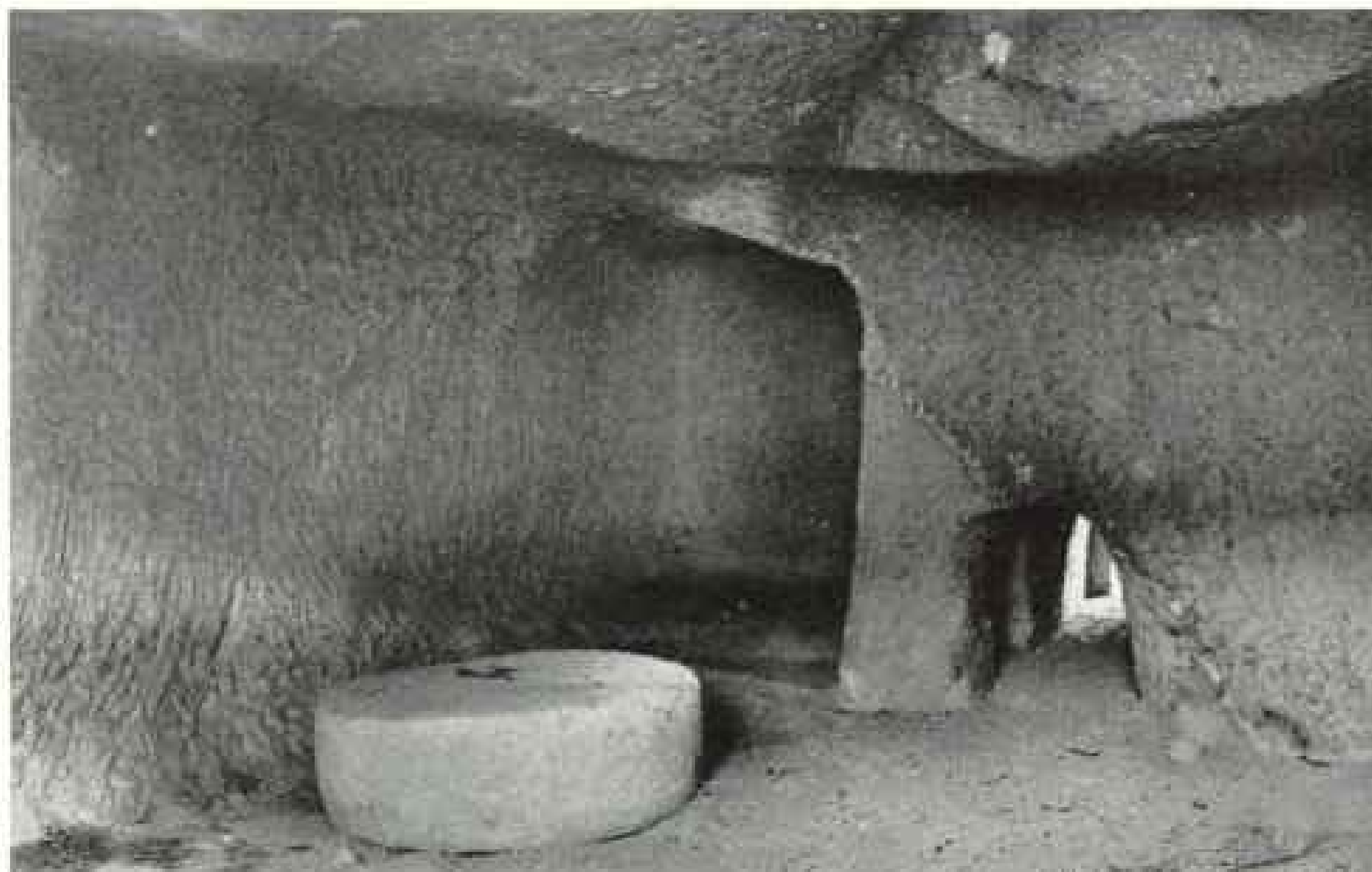
TO THE AUTHOR AND HIS PARTY THIS CONE GATEWAY SEEMED A TRIUMPHAL ARCH—WELL-NIGH IMPASSABLE ROADS WERE CONQUERED  
Crawling through the arch is the first motor car to traverse the ancient oxcart road to Soganhidere, deeply worn in the rock bed. Undoubtedly, the cone  
originally contained a hermit cell which was enlarged to allow the road to pass through (page 801).





USING CAR FOR TRIPOD, MR. MATSON PHOTOGRAPHS A CELL CONVERTED TO A MILL.

In this lone cone, at Cavuşini, once probably an anchorite's abode, a stone disk is turned by a blindfolded horse or mule. Whole wheat is boiled and dried, then dampened and crushed under the millstone. Hulls come off readily and are separated by winnowing. Cooked with a stew of vegetables and meat, the palatable grit takes the place of potatoes or rice.



Photographs by Eric Matson

ENTRANCES TO MANY MONASTERIES WERE CLOSED WITH ROLLING STONES

Light in this cell comes in by two large windows, back of the camera, cut through a precipitous wall of a canyon. To enter, one must crawl through the small tunnel, which is longer than it looks. The disk, now prostrate, was rolled in a slot to close the crawlway.



Photograph from John D. Whiting.

#### A TEA AND COFFEE SHOP IN ÜRGÜP

Weak tea, served with large lumps of native sugar, replaces the age-lamed, strong Turkish coffee. Eric Matsen, in lambskin coat, and the author, right, often stopped here for meals. On the low table set in the street the innkeeper piled dishes of grapes, pickled olives, goat milk cheese, sheep butter, and whole wheat bread. Dr. Fevzi Osman, the town schoolmaster (drinking a tiny cup of coffee), is one of a group of Turks who have forsaken their native cities and comforts to go into isolated villages to educate and enlighten the new generation.

of cones; or, again, clustered about the vicinity of a monastery.

#### ROCK-CUT CELLS LIGHT AND AIRY

The majority of these cells, chapels, and other necessary chambers are elevated, light, and airy, as we learned from experience when we passed the desert nights in them. Although they have now been converted to a large extent into pigeon houses, in the villages such as Maçan they are used for storerooms, stables, and so on. In California, Florida, or Connecticut, they would be at a premium for artist colonies or studios.

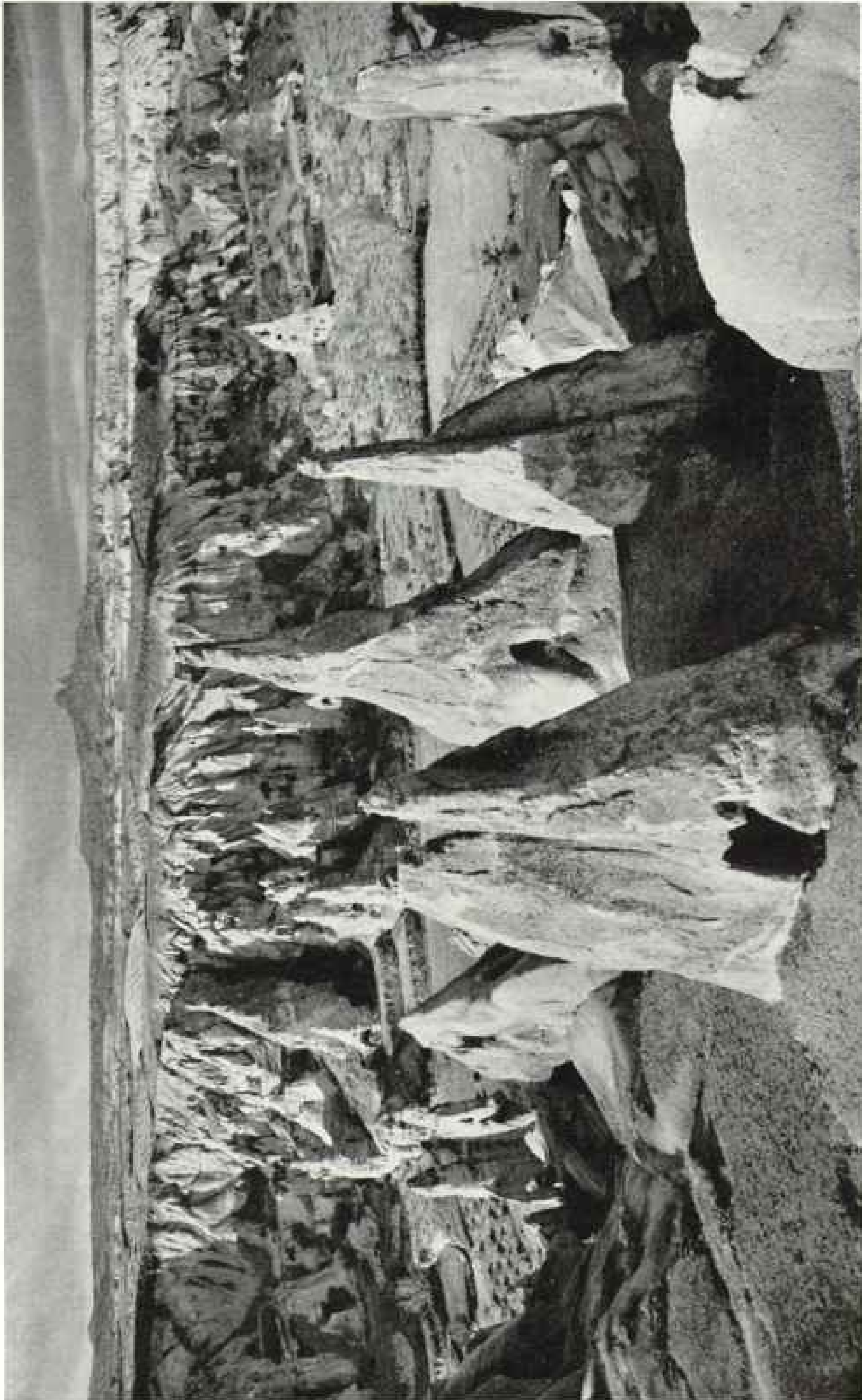
We estimated that 30,000 to 40,000 priests, anchorites, and ecclesiastical personages must have lived here at one pe-

riod, quite apart from the town dwellers, who did not boast a life of celibacy. This figure is a guess, and may be far from the mark; it probably is conservative.

I could imagine vividly the vanished hermits, because in my boyhood I had seen their like, not far from Jericho.

On the face of a cliff, cells, probably of great age, were then still inhabited by anchorites. Here traditionally was the place where Elijah fled the wrath of Jezebel, and was fed by the ravens and drank from the waters of the brook (I Kings 17:4-6).

As we picnicked upon some small ledge, scanning the towering rock walls, our vigil often would be rewarded by seeing some venerable anchorite let down a rope ladder



Photograph by Eric Mayson

LIKE HUMAN MOLES, PRIESTS AND HERMITS BURROWED INTO THESE CONES TO MAKE LIGHT AND AIRY HOMES

How "Coneland" was formed is clearly illustrated. The gently rolling plateau (left), covered with vineyards and orchards, is deeply gouged by river fingers (foreground and right background). In the distance is the castlelike town of Uchisar with houses and caves nestling at its feet like chicks around their mother.

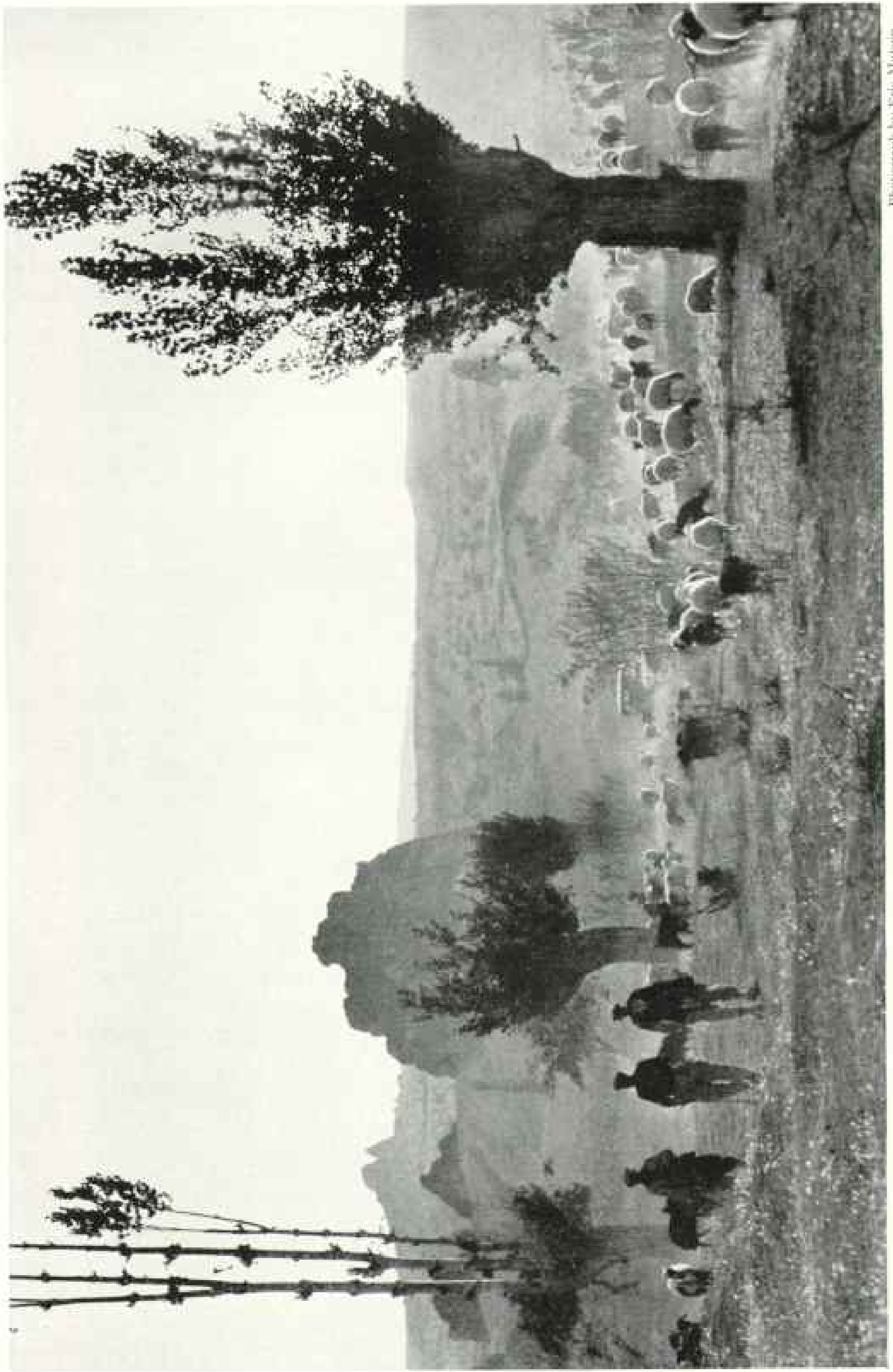


Photograph by Eric Matson

LIKE A VAST OPEN OPERA HOUSE, ÇAVUŞINI CLINGS TO ITS NATURAL AMPHITHEATER OF ROCK

High up in the cliffs, but easily accessible by ascending paths and steep streets, is a large church. The rock pillar, upper center, is its porch or narthex. The church's architecture suggests Syrian basilicas. During the author's visit it was full of winter stores, farm products, and big stacks of straw used as animal feed. Tons of black ruins were piled on the floor and long ropes of fresh grapes hung from the wall or were spread on beds of thorn bushes which serve as fuel.





Photograph by Eric Moberg

AN EVENING PASTORAL IN CONELAND WHERE RAISING OF GOATS AND SHEEP IS A MAJOR INDUSTRY



Photograph by Eric Matam

**ONE-TIME MONASTIC CELL IS FARMER'S CASTLE NOW**

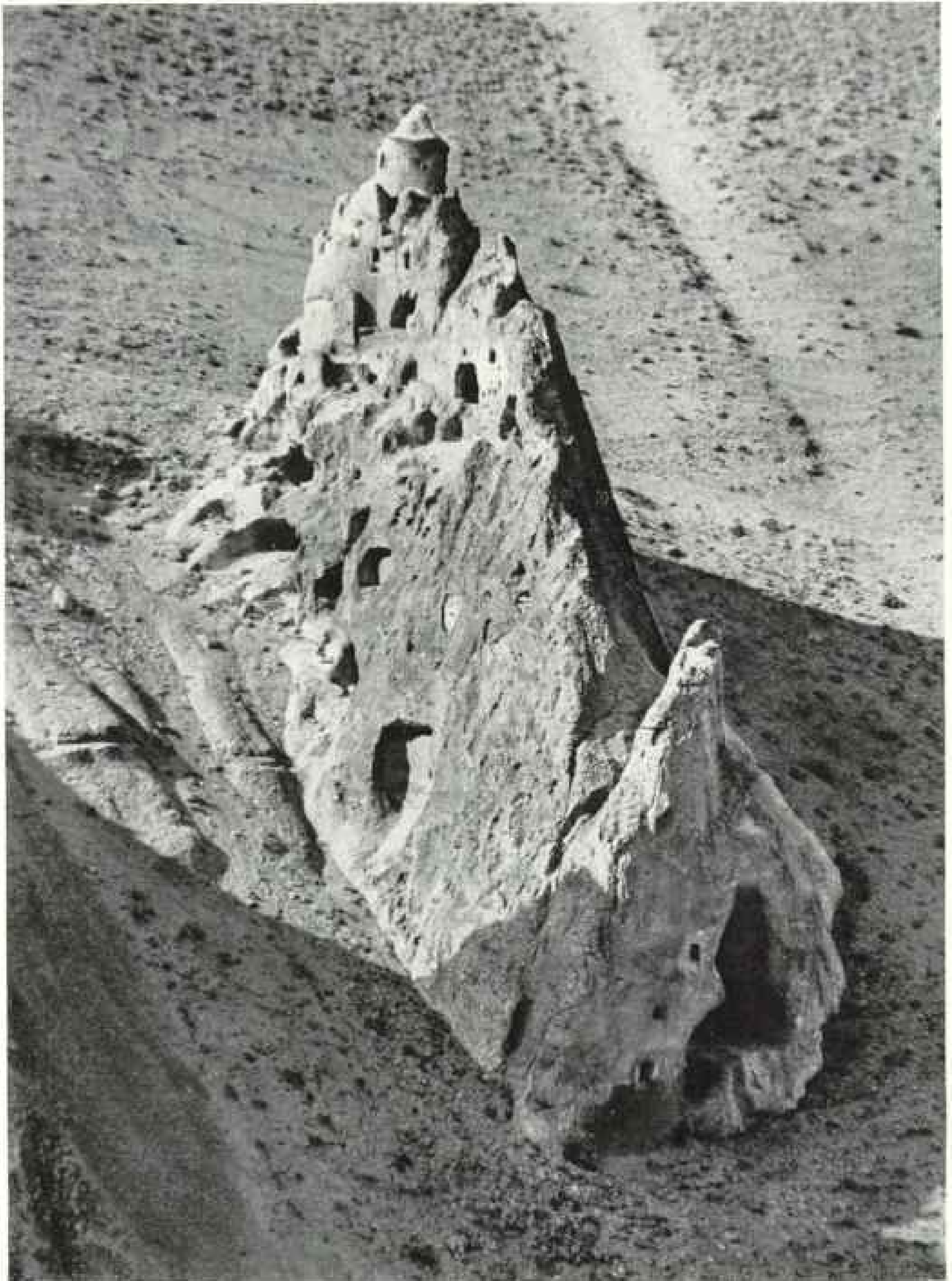
Outside in the cliff stable a sheep and goat are tethered to a rock manger. This is the spotless room where the "lord of the castle" lives. Delicious ripening melons hang from the ceiling. Bedding and bolsters are stowed in the alcove by day and spread on the rug at night.



Photograph by John D. Whittier

**EACH FARMER MUST BE HIS OWN BUTCHER AND GROCER**

Meat hangs on the walls of this home, half cave and half stone construction, in Cavayini. On the roof, thorn brooms and cattle feed are stacked. Grain and grape clusters are put away in the cone storage chambers, which are warm and dry. Clothing is cut from homespun wool.



Photograph by Eric Manson

THE CAP OF THIS BIG CONE, CARVED AND PAINTED, REPRESENTS A CHURCH DOME

One of the largest mounds in the district, Bel Kilise contains an entire monastery with about ten floor levels, all entered from the steep slope. The upper apartments were reserved for the church. Its top is decorated to represent a masonry cupola of colored marble. This cone and two others of the group are the only ones which have such adornments.



Photograph by John D. Whiting

#### NO FEAR OF RACE SUICIDE IN ZILVE

The author had climbed a fig tree to get a comprehensive view of a cone home. To his surprise he looked down into this family gathering. The women had just time to pull the veils over their faces before the shutter clicked, while the children stared in astonishment.

from a tiny aperture, descend to the monastery church for prayers, get a week's ration of black bread and perhaps olives, oil, and raisins or dried figs, and climb back up to his cell for another week of isolation.

One of the many recluses, his cave situated behind a narrow ledge on a skyscraping cliff, was of special interest. Daily he descended on his rope ladder, scraped from the valley a little soil, and with the burden well strapped to his back, climbed the sixty or more ladder rungs.

By dint of such strenuous efforts he finally deposited enough earth to make a tiny hanging garden. Here he planted some onions, radishes, and fennel with which to flavor his scant morsel of black bread. From a small rock-cut cistern, fed by the winter rains through runnels, this strange gardener sparingly watered his bed of herbs.

#### CONES, LIKE HUGE PROJECTILES, POINT SKYWARD

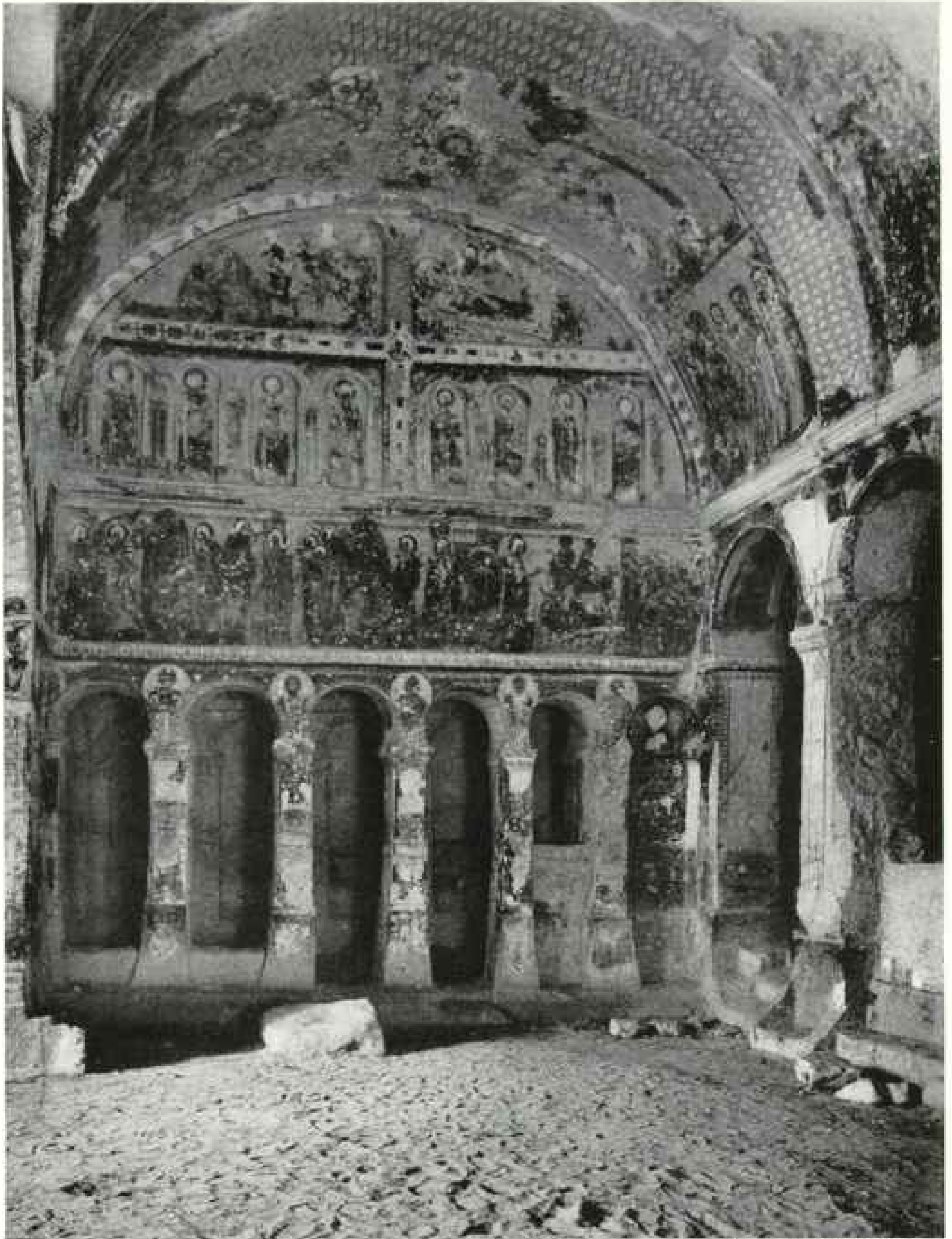
Golkundra is an uninhabited Cappadocian valley lying under the rock walls of the upper plateau to the left of the track

between Göreme and Maçan. A more interesting and picturesque example of Nature's handicraft is hard to imagine. The cones here are large and round, with straight sides and a pointed top; they look like big projectiles stacked ready to be fired from the guns of giants. Between them the small fields and ground patches are planted with vines and vegetables.

All along the plateau terraces is a mass of detached and semidetached cones in the process of being formed by Nature's forces. As the lowest cones melt away and flatten out, the nearer ones are carved apart, the bowels of the plateau potentially holding myriads of unborn cones that will not see the light of day for millenniums to come.

Contemplating the view, one is staggered by the thought of the time that has been required by Nature to form this fantasy. Still, comparatively, all is young. Hundreds of feet deep Argæus deposited its volcanic masses in a valley bed of white fresh-water limestone, which geologists name Pliocene and tell us belongs to a fairly young period. We found traces of this limestone base rock and brought back





Photograph by Eric Matson

FRESCOES IN THIS BARREL DOME ARE MORE THAN A THOUSAND YEARS OLD

Wall paintings in Tokali Kilise, some badly mutilated, were probably done in the 8th and 9th centuries A.D. The priest artist, named Constantine, depicted scenes in the life of Christ. Under the plaster, early geometric designs and crosses, painted directly on the rock, are seen. A large cross, cut in relief, divides the upper wall into four fields. Eight saints are portrayed in a row. Above, to the left, is "The Journey to Bethlehem," with Joseph leading an ass on which Mary is riding. Before them a cone is portrayed. The upper right-hand picture shows an angel appearing to Joseph in a dream (Matt. 1:20). The frescoes over the pillars are of the following, left to right: Angel appears to John the Baptist; Jesus meets John in the desert; baptism of Jesus in the Jordan; temptations of Jesus; Matthew at receipt of custom; disciple fishermen on the Sea of Galilee (two boats); and marriage feast in Cana of Galilee.

bits so that experts could help us reconstruct the picture.

The ridge of Kılıçlar is especially rich in Byzantine ruins. Historically they are also young, being about ten to eighteen hundred years old, while the archeology of Asia Minor goes back some five thousand years. Still, what we call "antiquities" in the United States would here smell fresh. It is all a matter of comparison.

Kılıçlar seemingly belonged to the monastic orders, with a fringe of anchorites. There are so many interesting remains here, from the tiny donkey manger to a superbly frescoed church, that the thought of trying to describe them brings to mind St. John's words—"the world itself could not contain the books that should be written" (John 21:25).

Here, excavated into a bank, is the largest room yet discovered, measuring 32 by 21 feet. Back of it is a stable, and in one side a rock-hewn stove to hold a huge monastic caldron. Of wine presses there are some splendid examples.

On the outskirts of Maçan, toward Üçhisar, the cones are peculiar in their fantastic shapes and tall formations, like fools' caps or petrified cypress trees. In their topmost reaches anchorites lived.

#### WHOLE MONASTERY IN A SINGLE ROCK

Near by are the large, perfectly shaped cones, with complete monasteries contained within a single shaft. The convents visited heretofore, as in Göreme and Kılıçlar, were cut into the faces of cliffs or into large piles of rock. Here we found them in cones of a perfect sugar-loaf form.

One cone has been cited as one of the most finely shaped extant. Into a terrace below its base a sizable church is cut, with pillars, domes, apses, and simple frescoes. Architecturally it reflects the best period of Byzantine art. In the base of the cone proper are the refectories, with wine press, kitchen, and so on, and then, accessible only by a single shaft, are several stories of monks' cells.

The back of the cone is devoted to the monastery cemetery. Here are rooms, not easy of access, with graves cut into the floors.

Near this cone is a kitchen with a well-defined stove and chimney cut in the rock, and a refectory, with twin tables placed at right angles. The natives of these parts still quarry their building stone by cutting

away a huge block and detaching it from the rock by the use of wedges. It is then split and re-split into the sizes desired. It is no wonder that so many of these solid refectory tables, blocks of stone all but detached, have disappeared under the quarryman's sledge.

At Paşa Baca is a small clump of cones which are tall, slim, and irregular in shape, reminding one of a company of gray-robed monks with black cowls on their heads. Some of the cones had more than one cap. Most of these cones and the cliffs behind were hermit haunts. Two characteristic examples let us into the life and psychology of the early Christians "fleeing from the world."

The smaller of the two is a rather thick-set cone with a long slim neck and a large-brimmed cap. It was quite clearly the abode of a lone Stylite.

#### THE FIRST PILLAR HERMIT

The first Stylite, Simeon, the son of a peasant, was born about 390. At an early age he started the life of a hermit and later lived for some time on the top of a shaft of moderate height. Later he moved to others, higher still, the last one being about sixty feet in height. Here he passed the rest of his life, delivering sermons that attracted thousands of pilgrims and pupils.

Simeon founded the order of Stylites, or Pillar Hermits. After his death a magnificent cathedral and monastery were built around his pillar at Kalaat Saman. Today these are among the most noteworthy relics of northern Syria, being reached from Alep (Aleppo) or Antakya (Antioch).

The second cone we visited twice and we passed one night in it. In natural formation it is unusual, being one of two cones having three separate caps rising from three sturdy necks. Its interior, however, is its chief interest, for it seems to embody all orthodox hermit architecture.

Very near this hermit's cone is a low, sprawly one of white, softish volcanic ash. Into this a stable was cut. These ascetics and near-by cenobites (members of convent communities) must have kept an ass or mule to help till the vineyards, bring water to their homes, and, when they were feeble, to bear them to church or to market. Just beyond is another small cone, in which a wine press was cut and the wine stored.

Two typical homes we visited merit description. One, a squat cone of consider-

able girth, had several rooms cut on grand lines. Before these the inhabitants had built a four-arched cloister. Throughout these parts, as in Syria, the people live in shady and cool covered courts during hot summer days.

#### HOME IN A CONE

The living room was spacious. It had a rock divan running around three walls, and a fireplace, of the same type as might be seen in an American home, also was cut in the living rock, flue and all. In the winter months these long seats are overlaid with straw or wool mattresses, covered with Turkish rugs and backed with cushions. A carpet fits the floor space; a roaring fire makes the room cozy.

The adjoining rooms were for the "harem," and delicacy forbade our asking to see them. In the upper story, reached by a worn outside staircase, were a couple of smaller rooms, each with a door and a couple of windows, rooms far too attractive for their present use as stores for food and fodder. This cone, located in a garden, has a huge silver-leaved poplar growing by it, and with its domed roof it has the appearance of an Istanbul mosque.

More romantic is the home we visited in the cliff within the gorge. One first enters a room level with the floor of the valley. It was used for saddlery, etc. From it opened up the stable for the larger farm animals—horses, mules, asses, or oxen, which these farmers needed or could afford. From here a flight of steps led to a terrace in a large hollow in the rock wall, like a domed open-sided court. A huge "rolling stone" could be rolled across the stairway.

Upon this terrace opened all the rooms of the house. Those to the left were store-rooms and a stable, where a goat and a lamb, tied to a rock-hewn manger, were being stall-fattened. The middle rooms were for the harem, and to the right was the male guest chamber.

The room was long and narrow, spread with hand-woven striped rugs; an alcove at the end was piled high with bedding and screened with a blanket in lieu of a curtain. In the night these were laid out on the floor (page 787).

The ceiling was hung full of ripening melons, like baubles on a Christmas tree. Along one wall was a narrow shelf with scalloped edge, all cut from the rock, on

which were placed a row of copper, pewter-plated, and colorful crockery dishes.

Our host, a simple, large-hearted person, insisted that we pass the night with him. He first made us partake of his ripest melons, and, with another villager carrying a large rug and an earthen pitcher of their excellent spring water, accompanied us to the hermitage. He spread the rug for our comfort, gathered fuel, helped cook our supper, kept the teapot boiling, and, in the morning, refused any compensation.

The cones clustering about the mouth of the gorge at Zilve, and in another near-by district, give the effect of being a tangled mass of giant petrified cactus. From each cone-top protrudes one or more round shafts of very hard rust-colored volcanic rock, as if Argæus had spewed forth countless numbers of spikes, clubs, and staves with its ashen bile.

Instead of being harder masses laid down in the eruption that created the cones, these protrusions originated as vent holes. This low spot must have been hot. After the eruption the imprisoned gases or steam shot up, leaving round, chimneylike shafts in the now hardening and cooling tuff.

Year in and year out the winter rains of Argæus trickled in tiny streams across the lava-strewn hillsides, carrying iron in solution. This liquid, mixed with ash, sand, and so on, poured into these now-obsolete natural chimneys. The water percolated away, and a very hard concretion often remained.

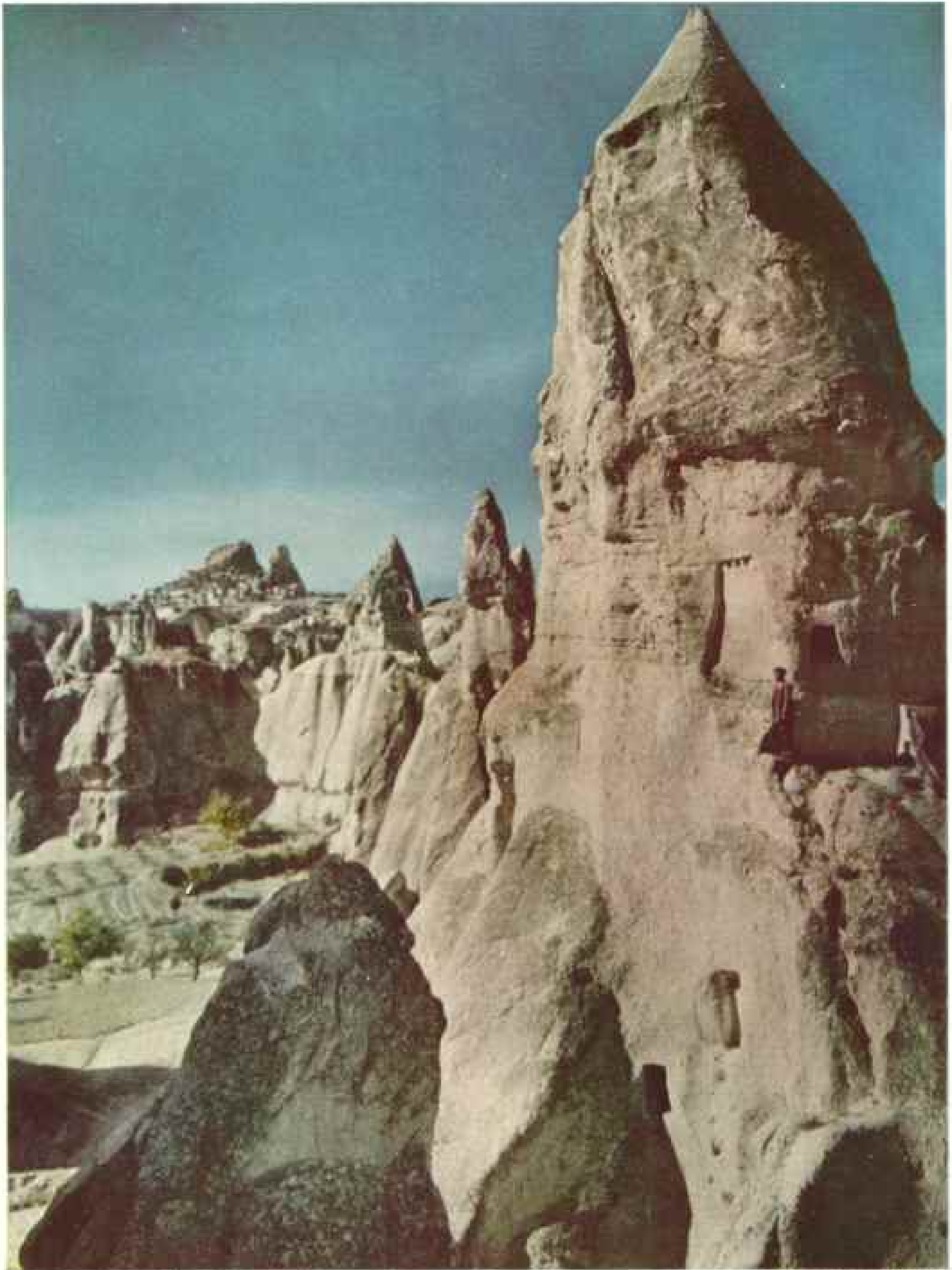
Century after century, these molds filled up and the surface eroded away. Finally there remained no cavity to fill, but erosion kept on its work, allowing these spikes to protrude farther and farther.

#### ROCKY ROAD TO ONION VALLEY

We had now fairly thoroughly covered all the northern part of the cone country. There were many more places worthy of a visit, but because winter was approaching, and snow might block the Taurus passes, we decided to content ourselves with a visit to Soğanlıdere, on the southern limits of the volcanic deposit. We were told by some informants that the way was very rocky, and only with difficulty could one ride a horse into this "Onion Valley," for so the village and gorge are called.

Others said that a good road had been lately made. Both stories had the essence of fact; neither was correct. We decided to

## MULTICOLORED CONES OF CAPPADOCIA



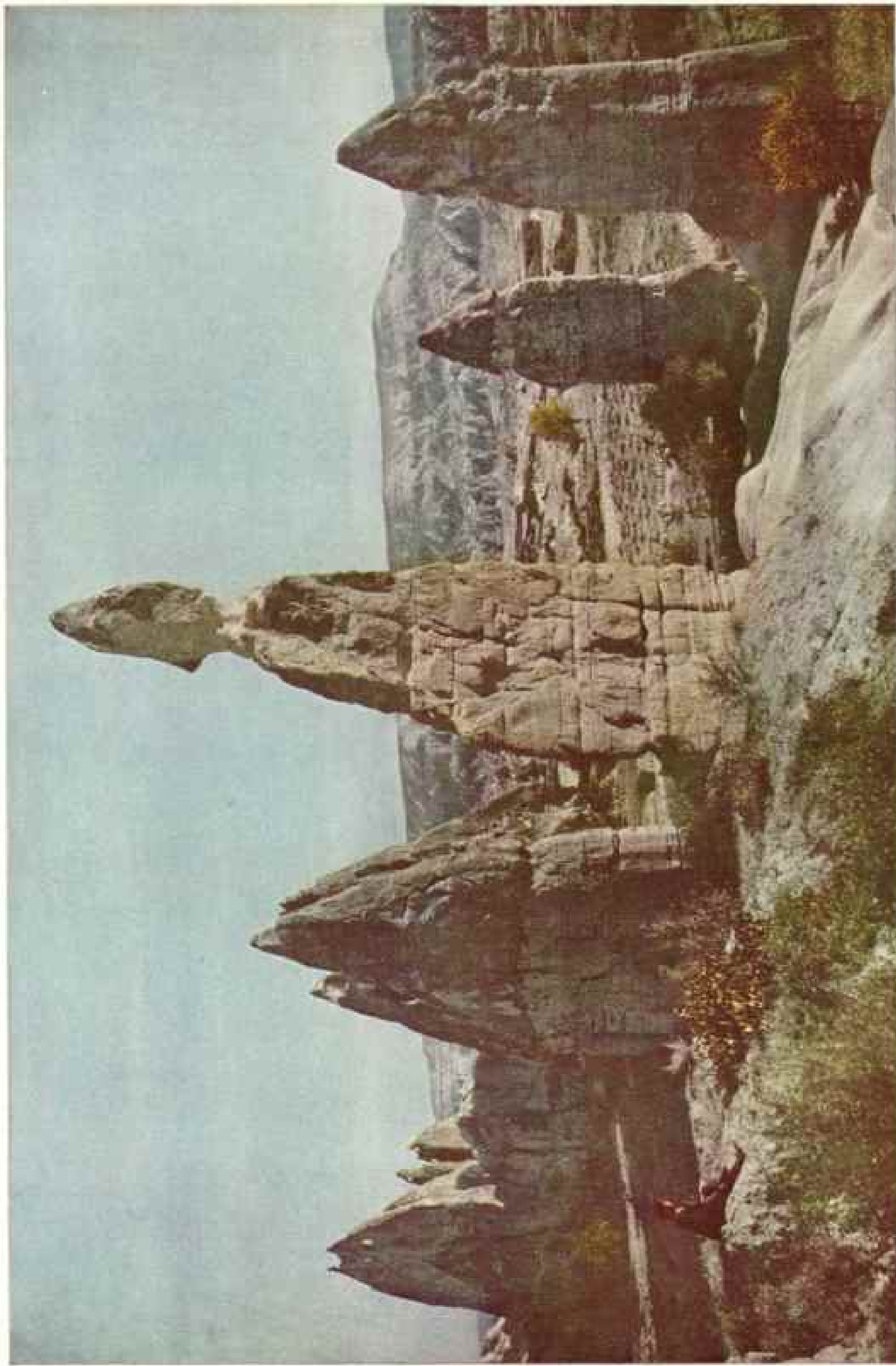
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Finlay by Eric Matson.

### NO PLACE FOR THOSE WHO WALKED IN THEIR SLEEP

The man stands by a well-weathered cone, once used as a dwelling. Part of it has sloughed off, leaving one wall of a chamber exposed just to the left of his head. A path leads to the tunnel entrance, lower right. Around the village of Üçhisar, left background, rise other pinnacles honeycombed with caves and tunnels. The town is on the edge of the plateau and probably represents the ultimate height of the lava deposit.



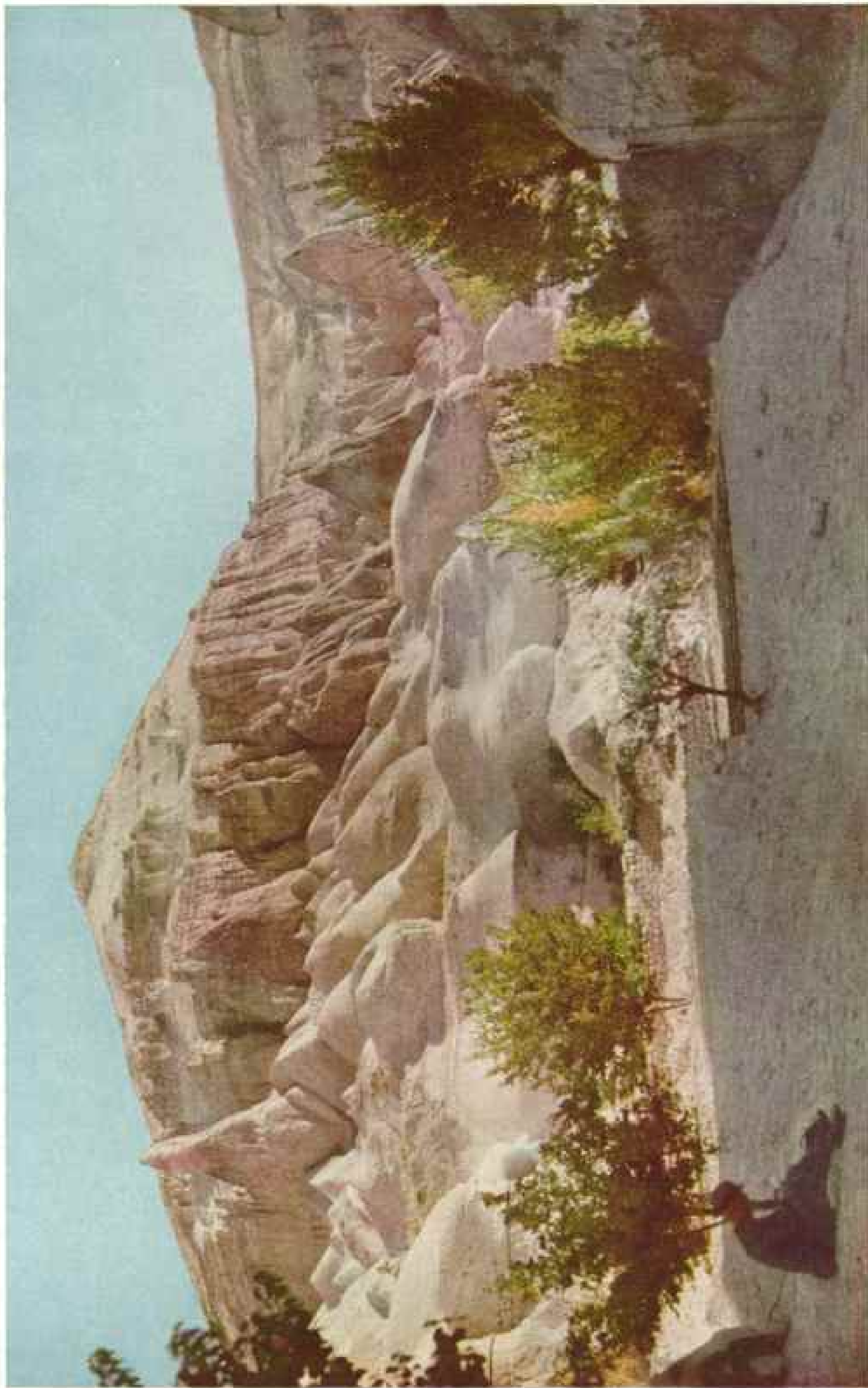


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Autochrome Laminé by Eric Munari

CONSTANT EROSION KEEPS FRESH AND BRIGHT THE "MAKE-UP" OF CAPPADOCIA'S COLOSSAL STATUES

Nature's "sand blast," storm winds bearing coarse grit, gives the cones a polished appearance. Tints vary from snow white to cream, tan, pink, and gray.

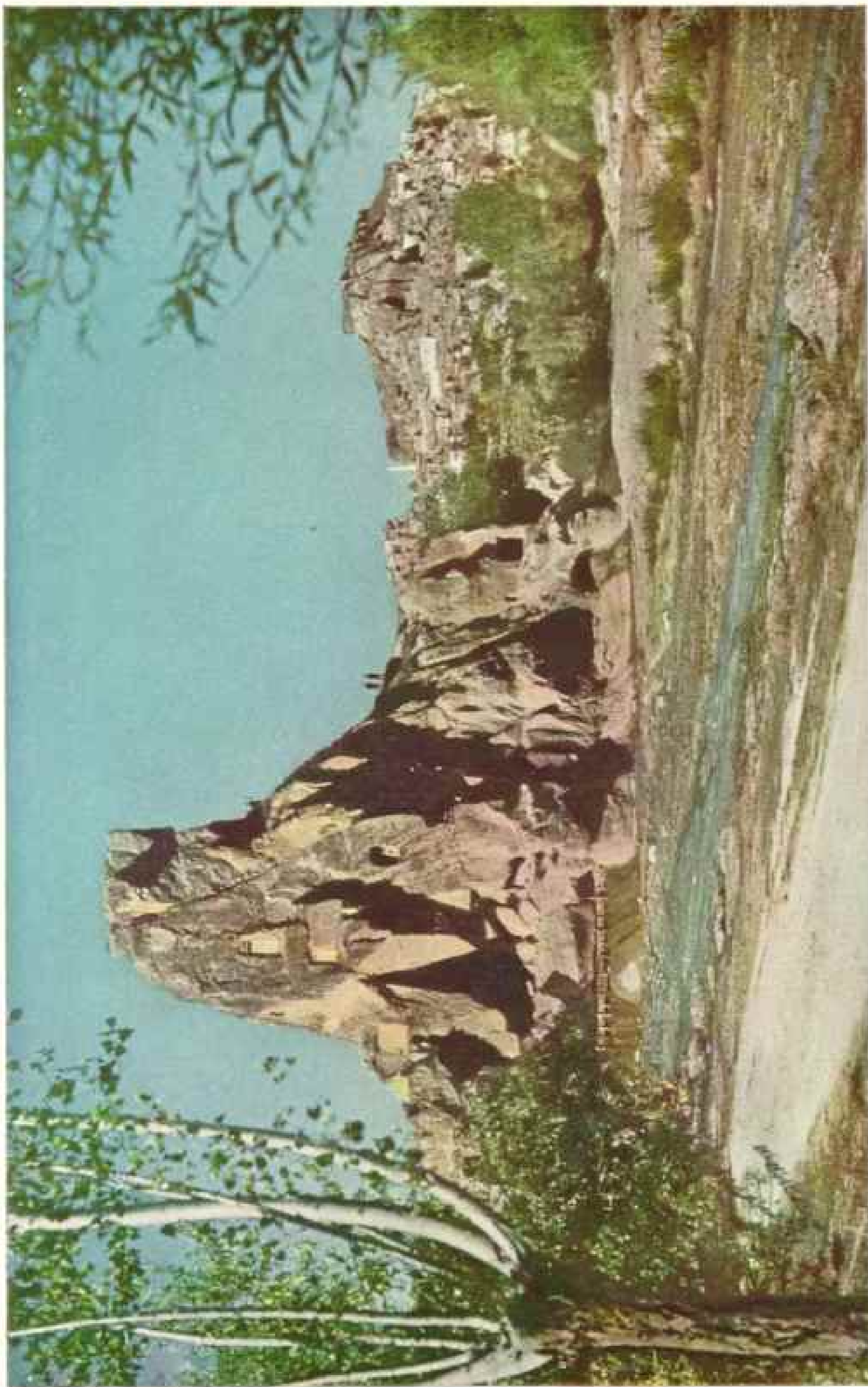


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Autochrome Lumière by Epic Museum

WINDY AND DRIVING RAINS WITH LOFTY CONES INTO A JUMBLED MASS WHEN PROTECTIVE LAYERS OF HARD LAVA ARE MISSING

The author, taking notes in an apricot orchard, reached this "Grand Canyon" of Cappadocia by driving along a track to the Halys River, then pushing the car up a lateral valley, and finally climbing on foot to this pink rock wall of the plateau.



© National Geographic Society

PIGEONS ROOST IN THE DESERTED CHAMBERS OF A ROCK MONASTERY.

Doves monopolize thousands upon thousands of the old excavated chambers. They are not molested by the inhabitants, for were it not for the fertilizer which the pigeons supply, it would be impossible to cultivate gardens in the volcanic pumice and tuff. Once each year the guano is collected and spread over the fields. The modern town of Urgüp clings to the rock terrace (background).

Finley by Eric Matson





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DAVID'S

ADVICE TO HIS SON, SOLOMON, INSCRIBED IN ELMALI KILISE SANCTUARY, LIAVES THROUGH THE CENTURIES

“A wise son maketh a glad father; but a foolish son is the heaviness of his mother.” “Hearken, O daughter, and consider, and incline thine ear; forget also thine own people, is the lad’s response (Psalms 45: 10). Both wear broadened robes and jeweled crowns. Right hands are raised in Byzantine church blessing. The thousand-year-old frescoes are only slightly defaced.



Paintings by Eric Maason



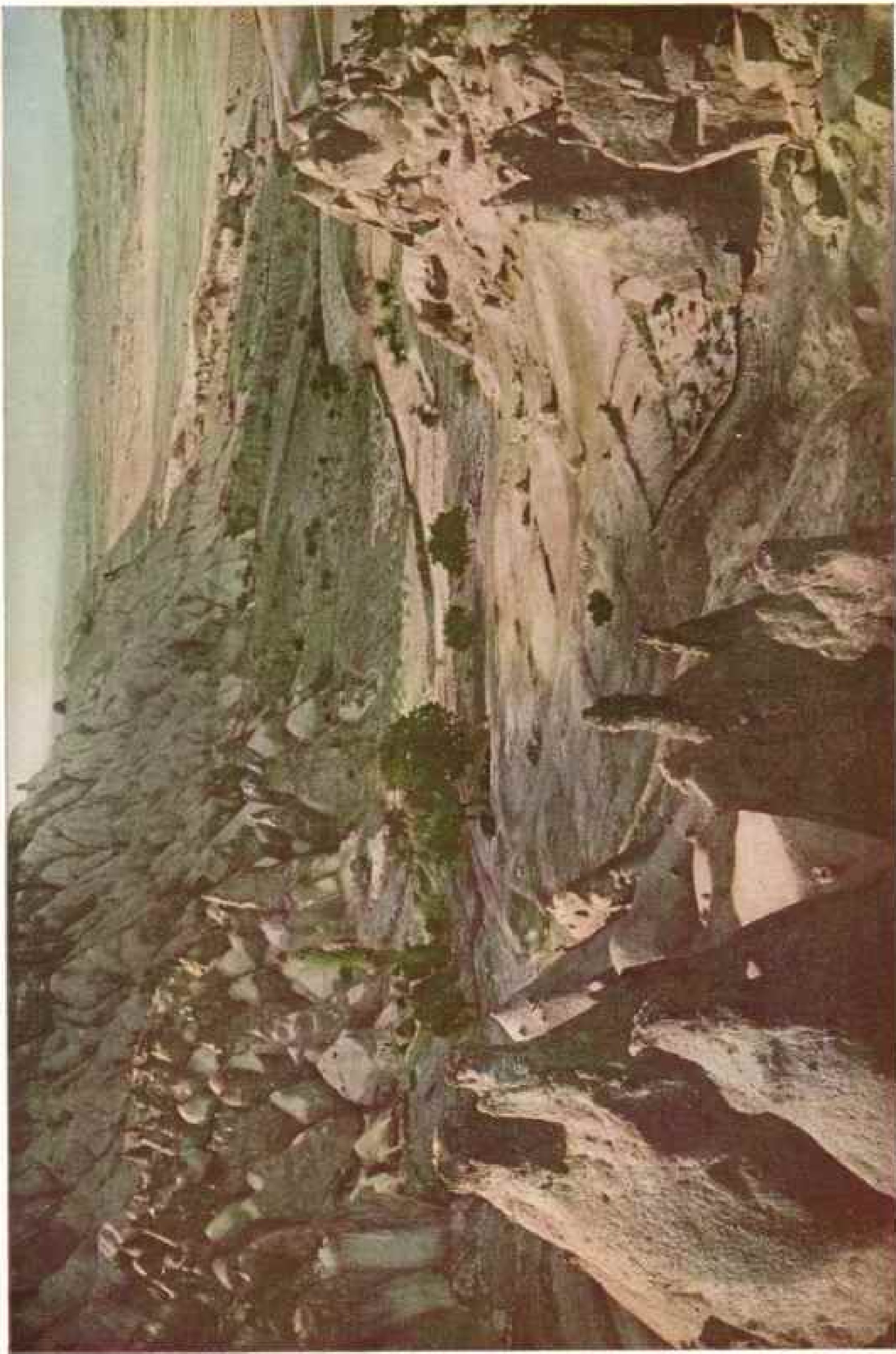


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ROPE LADDERS WERE ELEVATORS FOR THE HERMITS WHO OCCUPIED THESE PENTHOUSE APARTMENTS

Autochrome Luminare by Eric Mapton

In this natural rock garden in Macau, tall poplars rival the slender cones in straightness and height. Apricot trees grow in the foreground.

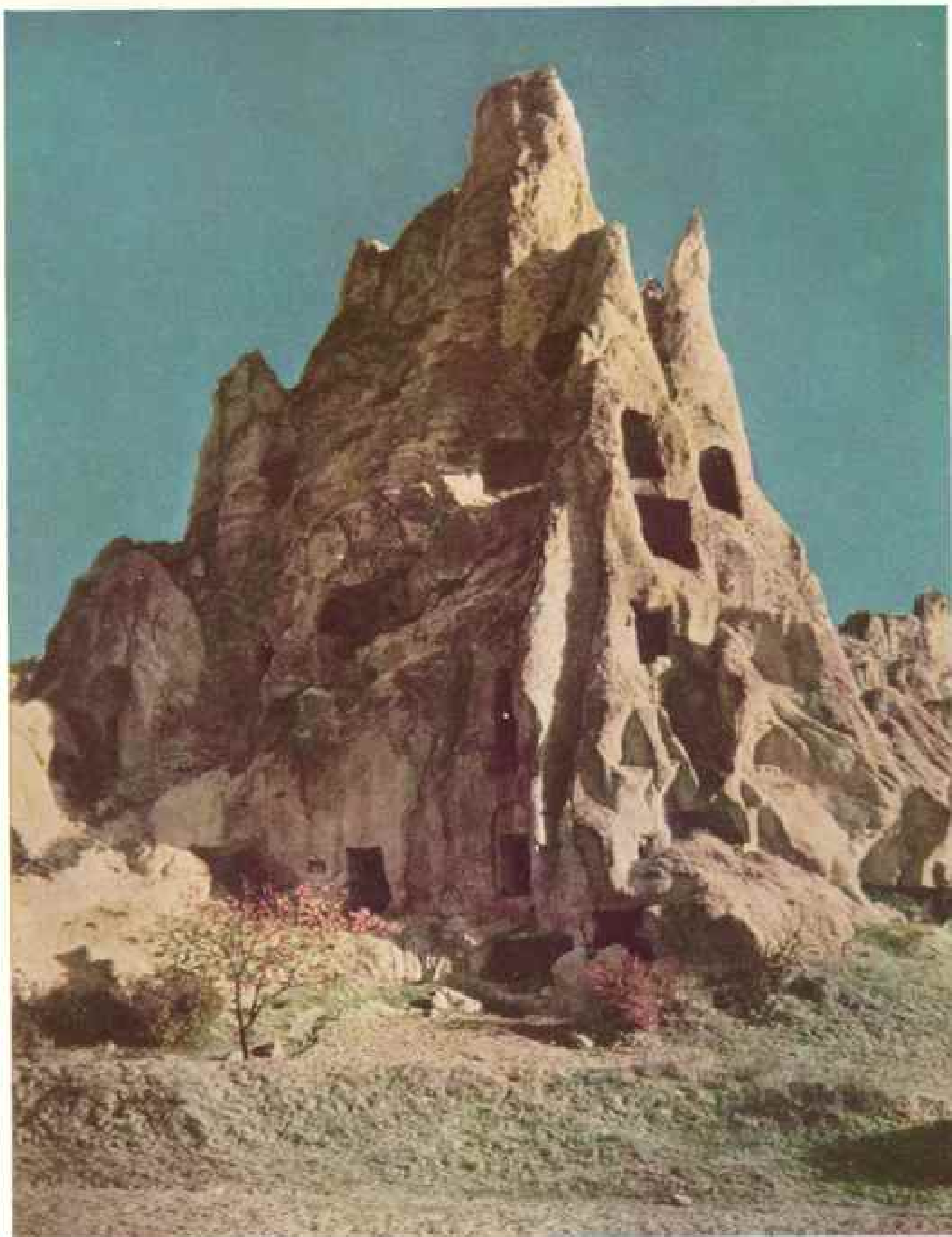


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FROM HIS LOFTY CELL AN EARLY CENOBITE LOOKED OUT UPON THIS PANORAMA OF THE HALYS VALLEY.

Remains of an extensive monastic institution dot the gorge, with many churches, chapels, and cells. Orchards and vineyards surround the town of Avanos (right background). Mountains rising beyond the valley are of limestone formation. They were out of reach of the eruptions of Mount Argemus (Plate II).

Painted by Eric Marston



© National Geographic Society

Finlay by Eric Matson

HONEYCOMBED LIKE A BEEHIVE, THIS HUGE ROCK HOUSED A SEVEN-STORY MONASTERY

The lowest level evidently served as stable and storerooms, the second as a chapel and refectory, and the third as the main church. Stooping through a low doorway, the author found a narrow shaft up which he scrambled with toes and fingers "like Santa Clans up a chimney." Reaching the upper cells, he came across a huge slab of stone which the monks could roll across the shaft's mouth to bar intruders. "As I climbed, I seemed to be like Jonah in the belly of some upstanding monster," he writes. "Now and then I got glimpses, through the openings, of distant and enticing landscapes, as if I were peeping through the buttonholes in the waistcoat of the giant. Finally, through the ceiling of the topmost cell, I emerged on the shoulder beside the headless neck towering above. Far below I saw Mr. Matson making this photograph."

try and would, if necessary, leave the car behind and ride animals or walk.

We left Talas early and took the main road toward the Taurus as far as Develi. A Public Works' road engineer could furnish no information about the road but took us to the gendarmerie post.

The mayor of Soğanlıdere happened to be in town and was most eager to take us to his village. He said we might drive up to his home in the Ford. This we actually did, but what a road! Ours was the first motor vehicle to penetrate a gorge where until lately no wheel had ever turned.

It happened that a few very large and old Circassian walnut trees had been growing here, and so valuable was this lumber in the world markets for veneering fine furniture that a road had been blasted out to make it possible for ox-carts to haul the logs to the nearest railroad station. On the way we met the empty carts with their solid oak wheels and sturdy oxen.

We drove through narrow lanes, along and across the tracks of the Taurus Express. Thorn hedges scratched the paint, and mud holes looked bottomless. Finally we reached the upgrade over a steep mountain-side where the "new road" had been made. True, one could see where a boulder had been blasted away here and there, but hundreds of rocks needed demolishing before motor driving would be practicable.

#### FRIDAY GETS COLD FEET

For the first and last time on the trip Friday got cold feet, and feared to risk a trial. A trifle of miscalculation, and the crankcase or back axle-housing would be smashed. Before we had left Jerusalem, no company would insure the car, not even Lloyd's of London; consequently, we had followed Friday's logic of "insuring with Allah."

It was now a case of making a trial, a wreck, or giving up the trip. There was no place or time to send for pack animals to carry our necessary equipment. We tried. So steep was the first bit that four had to push, and then the Ford only crawled. The oxen had hauled only empty carts up.

After negotiating this mountain barrier without accident, we struck in the next valley an ancient oxcart road, deeply worn into the rock bed. It probably once connected with the north. So narrow was it that in rounding corners we had to get out

and push the car body over to keep the fenders from scraping on the rocks (p. 764).

The modern Soğanlıdere is a twin village. One part has a few homes built upon a terrace, a deep chasm below, and a high wall of rock above. We kept our car on this slope, and had to block the wheels to prevent its possibly dashing headlong into the abyss. It was the first car these people had seen. The other section of the village lives up the gorge in what were once monks' abodes.

To enter the town, we had to pass through an archway in a cone like an imposing triumphal arch (page 781).

#### 16-STORY CLIFF APARTMENTS

Between the lower and upper villages is a deep connecting chasm with high precipitous tuff walls. Into the rock walls the early cenobites excavated apartments up to 16 stories high. These hundreds upon hundreds of cells have mostly been turned into pigeon houses; the villagers, having little land, sell the guano to more fertile districts and practically live upon this income.

As we passed up between these cliffs, the tops bespeckled with blue doves sunning themselves, the valley resounded with the songs of the male birds as they strutted around their complacent mates. To make the doves fly, the Turkish guides clapped and shouted vigorously in unison, bringing a flock of blue wings over the valley, reminding one of a cloud of locusts.

#### A VILLAGE MAYOR HOSPITABLE

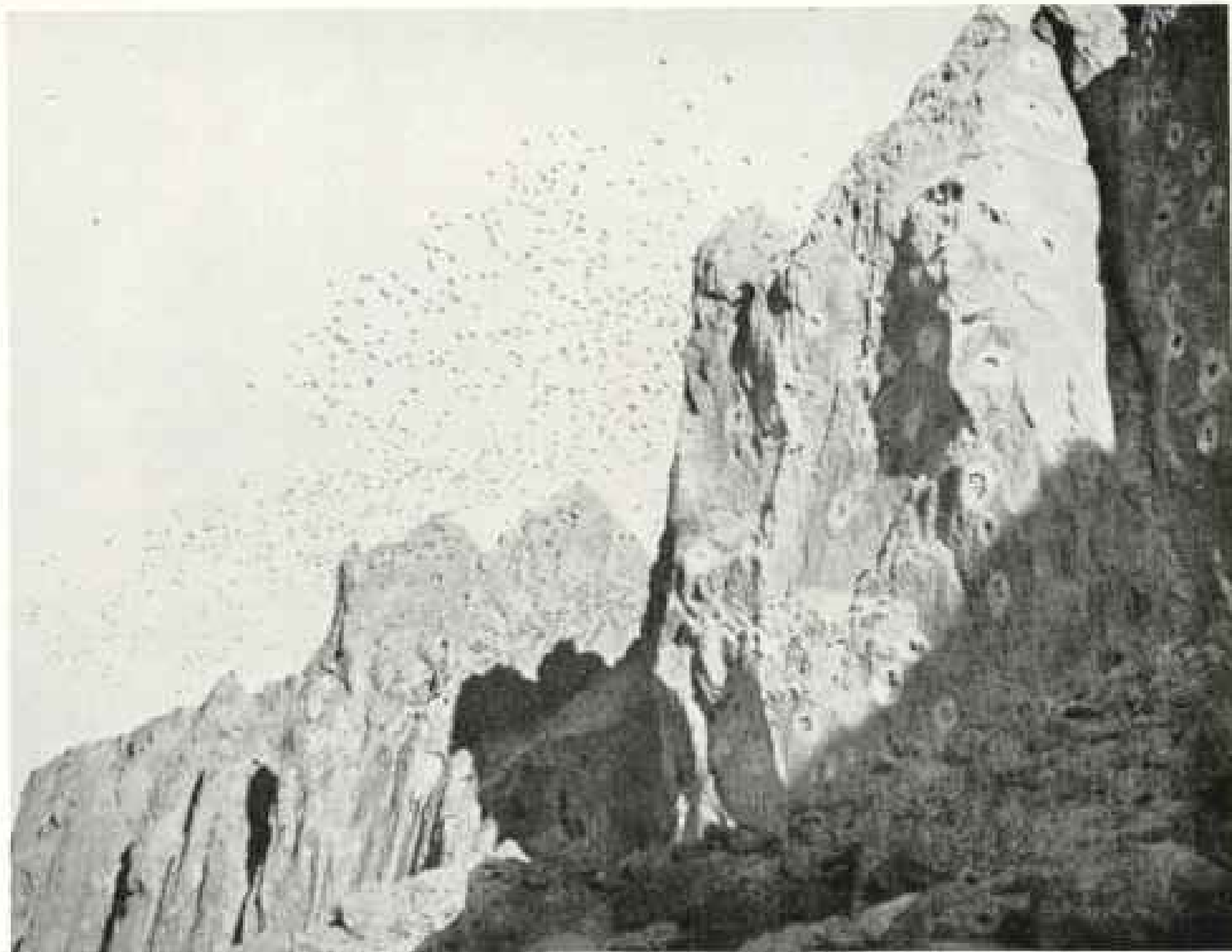
We passed the night in the humble home of the mayor of this tiny village, who was an exceptionally genial host.

The house was built on a steep hillside; the family evidently lived in a row of semi-basement rooms. The foundations were thus laid for a much larger home; only one of the second-story rooms had as yet been erected. The people build here piecemeal, as circumstances dictate.

Tired from long tramping, crawling, and climbing, we were glad to get out of the evening cold. Around three sides of the room ran a continuous divan, covered, as well as the floor, with colorful Turkish rugs. In the center was an American airtight sheet-iron stove. Its warmth was welcome.

As we started to unpack some supper, our host and his son came in carrying a large tray, on it a dinner of beans and chicken, cooked much as we do pork and beans,





Photograph by John D. Whiting

CLOUDS OF DOVES OBSCURE THE SKY IN THE VALLEY OF SOĞANLIDERE

Each cell window has been blocked up, and tiny holes left just big enough for a dove to enter. Although there are countless windows, the birds pick the right entrance. Nesting holes have been dug in the cave walls and perches installed. Each year the cotes are visited and the guano collected to fertilize the orchards and vineyards (page 777).

with salad, bread, and other incidentals. Sitting cross-legged around the tray, we ended with the ceremonial Turkish coffee. The mayor's wife must have been a good cook. Possibly we were very hungry; still, I doubt that beans and chicken could be cooked better.

To indicate their welcome, the elders of the village came in to call. One was a venerable gentleman. Our host related how he had spent nine consecutive years in the army, serving through the World War, and had been raised to the rank of a non-commissioned officer. He had fought on all Turkish fronts, including Palestine and Sinai, and had not been ill a day, or wounded, through it all. Many and varied were the stories he narrated.

We had noticed a general interest in the national lottery for the benefit of the aircraft defense wing. One of these men drolly related a story, just as seriously as if it had been true, of a Turk who wished

to get a divorce. Asked his reasons, he confessed to the judge that he had brought home some lottery tickets, had dreamed that he had won the million-pound prize, and that his wife now tormented him for not banking the check before he awoke.

AIR MATTRESSES AMUSE MAYOR

Our air mattresses so amused our host, who had insisted upon spreading beds for us, that he begged us in the morning not to deflate them before showing them to his women folk.

There was enough material in this area for weeks of research, but the year was getting old, and we had to press on before the roads were snow-blocked. We crossed the Taurus in a raging storm and it took a whole caravan to lift our car bodily over a washed-out place in the road (page 778). Winter was firmly closing the door to one of the earth's most remarkable regions, the cone country of Cappadocia.

## ESTONIA: AT RUSSIA'S BALTIC GATE

War Often Has Ravaged This Little Nation Whose Identity Was Long Submerged in the Vast Sea of Russian Peoples

BY BARONESS IRINA UNGERN-STERBERG

**R**USSIAN resurgence in the Baltic, with establishment of Soviet air and naval bases on Estonian territory, has made Estonia a headline word.

As a native of what is now Latvia and a longtime student of Estonia, I have been asked many questions.

"Where on earth is Estonia?" seems to be the commonest one.

"Well, it is south of the Gulf of Finland," I reply, "with the Gulf of Riga and the Baltic Sea on the west, and in the east along the Soviet frontier are Lake Peipsi, or Peipus, and swamps.

"It is an independent republic exceeding in size Switzerland, the Netherlands, Belgium, or Denmark, and has about the combined area of New Hampshire and Vermont."

"Oh, I see. Tell me, what language do they speak in Estonia?"

"Estonian, but also Russian and German. Until 1918 Estonia was one of the Baltic provinces of Russia."

Having gone this far, some of my questioners ask, "Won't you tell us all about it?"

Quite a large order when you consider that Estonia's history, or prehistory, dates back to 4000 B. C.!

### POTATOES TO EAT AND DRINK

Personally, when I visit Estonia the question, "Do you know that fair land of potatoes and stone?" arises in my mind; it seems to me that nowhere have I seen so many rocks and such numerous fields with that nourishing fruit of the earth.

Estonia grows so many potatoes that there would be enough every year to supply each inhabitant with nearly a ton. But many are exported and others are drunk, in the form of potato schnapps. In one recent year a million gallons of pure alcohol were produced from Estonian potatoes.

Historians are of the opinion that several thousand years before the time of Christ, Estonians, Finns, and other peoples left the Ural Mountains between Europe and Asia

for economic reasons. In those days their chief occupations were tilling the soil, cattle-raising, hunting and fishing.

### STURDY FOLK, AKIN TO THE FINNS

The Estonians, a strong and healthy people, are thus of Finno-Ugric origin, akin to Finns and Hungarians. Their language is closely related to the Aryan family of tongues.

In physical appearance they vary widely. Whether I followed the city folk of Tallinn, studied the farmers of the countryside, or the students of Tartu, I could detect no definite cast of Estonian form or features.

Broad faces and high cheekbones are seen. But there are long, narrow faces, too. If one does form an impression of the Estonian type, the next dozen persons fail to conform.

Estonia's executives do seem to be of one type: square-faced, direct-eyed men of the kind who "could bite a nail in two," or say "No!" and stick to it.

The old Estonian religion comprised ancestor and Nature worship. This has been masterfully illustrated in the epic poem "Kalevipoeg," by F. R. Kreutzwald. Kalevipoeg is the Estonian Hercules and many are the sagas and legends told about this young giant, his father Kalev, his mother Linda, and his brothers. Kalevipoeg picked up rocks as we would pebbles, and oak trees in his way he simply pulled up by the roots.

### GERMAN INVASION 7 CENTURIES AGO

The Estonians usually lived in villages headed by chiefs and elders. It was about the beginning of the 13th century when Estonia was successfully invaded. The German Knights of the Sword had conquered the Livs and the Letts who lived south of Estonia and from there they entered this land. Waldemar the Victorious of Denmark joined the Germans in 1219.

It was Waldemar who erected the castle of Reval, naming it for the local Revele tribe. The general population, however,



Photograph from Consulate General of Estonia

TALLINN'S TEMPLE TO MUSIC AND DRAMA IS THE CREAM-COLORED "ESTONIA"

Erected by popular subscription before independence was achieved, the building combines opera house and theater in one end, and a concert hall and ballroom in the other. Opera goers use their seat tickets for hat checks in the cloakrooms.



Photo from Three Lions

PRESIDENT KONSTANTIN PÄTS LIGHTS ESTONIA'S VICTORY FIRE

National independence is commemorated each year when victory over the Bolsheviks at the close of the World War is celebrated. President Päts, who led the fight for freedom in 1917-19, has been at the head of the small Baltic State many times (page 816). On January 1, 1938, a new constitution, re-establishing the country as a republic, was proclaimed. Päts was elected president.



Drawn by Ralph E. McAleer

#### ONCE MORE ESTONIA BECOMES A FACTOR IN THE DESTINY OF THE BALTIC

The tiny country, about the size of New Hampshire and Vermont, occupies a strategic position on the Gulf of Finland. For seven centuries Estonia was ruled at various times by Denmark, German Knights of the Sword, Sweden, and Russia. After the World War, the small nation regained its long-lost independence. In September, 1939, Russia again obtained a foothold on the Baltic. Estonia permitted the Soviet to establish military and naval bases on the islands of Saare and Hiiumaa, and at Paldiski near Tallinn. Similar concessions were made by Latvia and Lithuania, and the latter was permitted to regain its old capital, Wilno, which lies in conquered Polish territory.

called it "Taani-linn," which means "Danish castle." For this reason, when the Estonian Republic was created in 1918, Reval, the capital, was given the name Tallinn.

Long and hard were the fights, and victory often changed sides. Finally the German knights defeated the Estonians, and in 1346 Waldemar IV of Denmark sold his Estonian possessions to the Germans.

For two centuries comparative peace ensued, after which the country was swept by war with the Russians, Poles, and Swedes; it changed hands constantly. For a short time it was united under the scepter of Sigismund III, King of Sweden and Poland. More war and suffering followed until the 17th century, when King Gustavus Adolphus of Sweden conquered the country again.

Naturally the lot of the Estonian farmers was not an easy one. The German knights, who had become landowners and formed the ruling class, looked upon the natives more or less as their property.

The Swedish kings intervened in favor of the suppressed population, however, and even now, when talking to the Estonians, you hear them frequently refer to this period as "the good old Swedish times."

Good times, however, have a way of coming to an end! The German nobility did not relish an interference with their rights, and, hoping to recover their lost privileges, encouraged the intervention of Poland and Russia. Although Charles XII of Sweden nobly defended Estonia, the country finally fell under Russian rule in 1710, so to remain until 1918.

#### FREEDOM SUNG IN FIERY VERSE

During all these years the Estonians never lost their national consciousness, and the desire for freedom was kept alive in their poems and songs.

Lydia Koidula, for one, so pictured in passionate verse the miserable state of her people that they clung to the idea of freedom when that blessing seemed beyond





Photograph by K. Akel

ESTONIANS VIE IN FINGER-WRESTLING AT PIRITA, A BEACH RESORT

Locking the little fingers of their right hands, competitors try to pull each other off their feet. All are guests at the newly developed watering place near Tallinn. Here restaurants and cabins line a mile-long strand.



Photograph by Herman de Witte

"HORSE-AND-DROSHKY DAYS" SUIT ESTONIAN VILLAGERS

Store signs in Estonian indicate A. Schenk will sell the passing farmer paints and wallpaper; or chlorodont, a German toothpaste; or general merchandise. Over the arched doorway the billboard proclaims "rye-flour." At extreme right is a warehouse for timber, stone, and tar.



Photograph by K. Auel

## TOES TWINKLE, SKIRTS SWISH, IN AN ESTONIAN FOLK DANCE

Gaily the old steps are revived at the giant Singing Festivals (page 834). The young dancers have 5,000 original Estonian tunes and folk plays from which to make up their program.

reach. One of her poems suggests a similar strain in Armenian verse in which a young girl reproaches a bird for singing so gaily when its freedom is a taunt to her miserable people, bowed under a foreign yoke.

The bright dream of liberty was fulfilled after the collapse of the Russian Empire and the overthrow of the Russian Provisional Government by the Bolsheviks. But complete fulfilment had to await the end of German occupation and the successful culmination of the war of independence led by General Laidoner, the Estonian George Washington, against invading Soviet troops.

After thirteen months of terrific fighting, peace was signed in Tartu, Estonia's university town, on February 2, 1920. At last the time had come when this small country could develop, economically and politically.

Since those eventful days, nearly twenty years have gone by; and when I visited Estonia recently I was deeply impressed by what had been accomplished in such a comparatively short time.

I welcomed the opportunity of flying from Riga to Tallinn. This mode of transportation is certainly the most comfortable—at least in this part of Europe; I always

feel at ease in the realm of clouds, both mentally and physically!

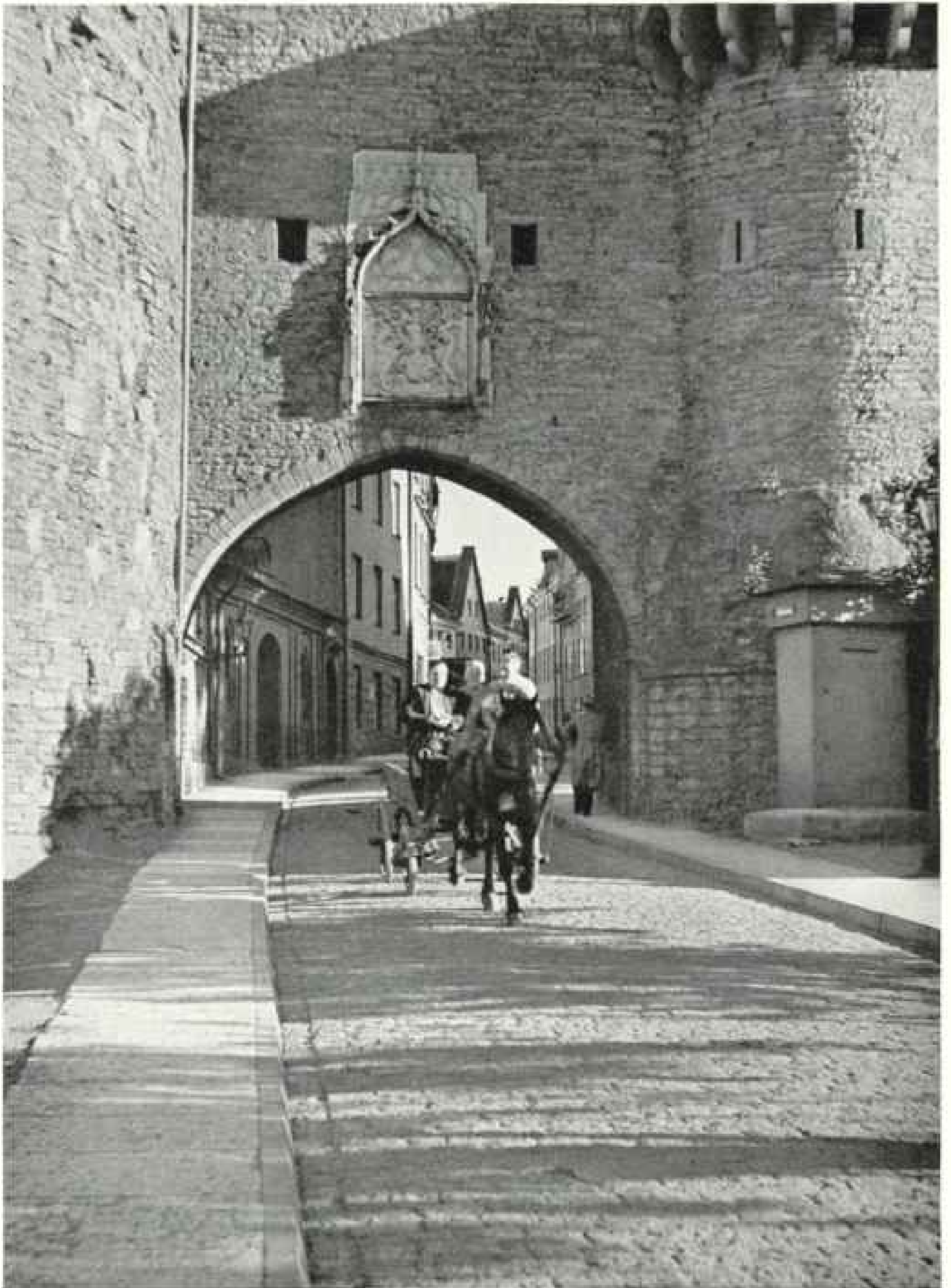
We were seated in soft leather armchairs in a well-ventilated plane and flew so low that it was possible to see toy farmers working in the fields. Our route lay along the shore of the Baltic Sea, and electric signs informed us of our specific whereabouts.

There was no annoying stop at the frontier between Latvia and Estonia, as is necessary when going by rail. At the border city of Valka (now called Valga), I've been told, unsuspecting foreigners used to get into trouble between trains when taking the station name for an injunction.

ONE SIDE OF MAIN STREET IN LATVIA,  
THE OTHER IN ESTONIA

The main street of Valga forms the dividing line between the two countries, and at one time if anybody crossed this thoroughfare unarmed with the necessary documents he risked arrest. I understand that the local inhabitants, however, have been given permits which make it possible for them to cross from one country to another without difficulty.

The inhabitants of Valga can thus do their shopping, visiting, and courting in all



Photograph by Herman de Wetter

DOWN FOUR CENTURIES, SEA GATE HAS ECHOED TO CART-HORSE HOOFBEATS

Tallinn's coat of arms, carved in a Gothic frame, bears the date 1529. The adjoining round tower, jocularly referred to as "Stout Margaret," was built even earlier. Before Estonia gained her freedom, the tower was used as a Russian prison.

sections of the city, irrespective of country. Again love has no frontiers, and a good housewife preferring to buy her lamb chops in Latvia and her vegetables in Estonia, or vice versa, is at liberty to do so.

From the plane I had a good bird's-eye view of Pärnu, one of Estonia's most fashionable summer resorts. When it belonged to the Russian Empire its thirty miles of avenues were virtual botanical gardens. They were badly damaged during the war, but now have been restored to their former glory, and even from above I was struck by the abundance of foliage, among which the houses were almost lost. I also had a good glimpse of Pärnu's principal attraction, its bathing shore.

These waters may seem rather far north for swimming. Yet in summer the sea bathing is fine, and in the same latitude as Alaska's Valley of Ten Thousand Smokes, one can get nicely browned.

Of its mud baths, too, this little city is proud. At several points along the Estonian coast there are quantities of mud, composed of ancient plant remains and mineral matter, which is supposed to have curative properties. The smell of this medicinal mud is rather powerful, yet its popularity has been increasing yearly. Many patients come from foreign countries, particularly Sweden.



Photograph by Starckelberg

FROM "PEEP-INTO-THE-KITCHEN," BURGHERS LEARNED  
HOUSEWIVES' COOKING SECRETS

"Kiek-in-de-Kök," townspeople call the fat, complacent-looking medieval watch tower. People climbed to its top, according to legend, so they could peer down into the kitchens of houses in Lower Town (page 311).

In an incredibly short time the electric sign ordered us in Russian to tie ourselves firmly to our seats, since we were landing in Tallinn. Obediently we carried out this command. For a few minutes before alighting our plane circled around like a bird of prey, since the automobile races were in full swing and to avoid smashing into an eager crowd it was necessary for our pilot to select his landing place most carefully. Not a car of the German, British, and Italian makes looked familiar to me.

Tallinn, the city of reveries and contradicting realities, was hidden in a dreamy





Photograph by K. Akel.

#### MEDIEVAL "NIGHTCAP" TOWERS FLANK THE ENTRANCE TO VIRU STREET

Old houses stand side by side along the narrow avenue, once enclosed by Tallinn's walls. The present Town Hall, suggestive of a minaret, was built from a sketch supplied by Adam Olearius, who visited distant Persia in the seventeenth century, seeking a trade route for silk.

fog. Only here and there could I catch sight of a faint outline of its numerous towers.

A courteous English-speaking customs official inspected my baggage and inquired politely how much foreign money I had in my possession. I then hailed a taxi which swiftly bore me to my hotel.

#### IN ESTONIA A DOLLAR GOES FAR

Estonian money was a puzzle to me: The former Estonian marks had now been changed to krooni (crowns) equal in value to the Scandinavian unit of similar name, but some old Estonian paper marks were still in circulation, and although they bore the imposing figure "100" they represented only one kroon (about 25 American cents).

I found that a dollar went far in Estonia. For a large double room with bath I paid but \$1.50, and for a delicious dinner with vodka included, 30 cents.

Next morning I set out to explore this city, which is like Peiping in that it is so

different from anything else in the world. Walking across a large square to reach the city proper, I passed on my left a picturesque, clean marketplace, where women in gay kerchiefs were selling butter, eggs, vegetables, and pottery.

The narrow, winding cobblestone streets might have belonged to any medieval Danish or German town, yet in some subtle way they bore a Russian mark of the East. Above the old-fashioned horse-drawn cabs within the city walls, the houses look as if they leaned toward each other for support, so closely are they huddled together, and the overhanging balconies add an Italian Romeo and Juliet touch. And yet, strangely enough, automobiles, streetcars, and modern buildings do not seem out of place in this city of contrasts.

#### ONE-WAY SIDEWALKS IN TALLINN

I was impressed by the one-way pedestrian traffic on certain streets. Going toward the center of the city you keep to the right



Photograph by Dr. Cox from Gulloway

FIVE GILDED CUPOLAS TOP TALLINN'S FLAMBOYANT OLD RUSSIAN CATHEDRAL

Although the gilt on the domes has peeled considerably in recent years, the ornate red-brick building still dominates Castle Hill. The Cathedral Plaza is a convenient parking place for visitors wandering among the many historic buildings grouped on the Hill.

sidewalk and you return on the opposite side; otherwise you might find yourself pushed into the middle of the street.

Many of the young girls I observed were beautiful natural blondes, and drugstore complexions were the exception.

In my wanderings I passed the old, fat, complacent-looking watch tower called "Kiek-in-de-Kök" (Peep-into-the-Kitchen). Did people actually climb up this tower to watch dutiful housewives prepare their meals? I, for one, would not enjoy being inspected when I'm in the act of burning my food or fingers, but, then, perhaps Estonian housewives were far too efficient for such misfortunes.

LONG HERMAN AND STOUT MARGARET

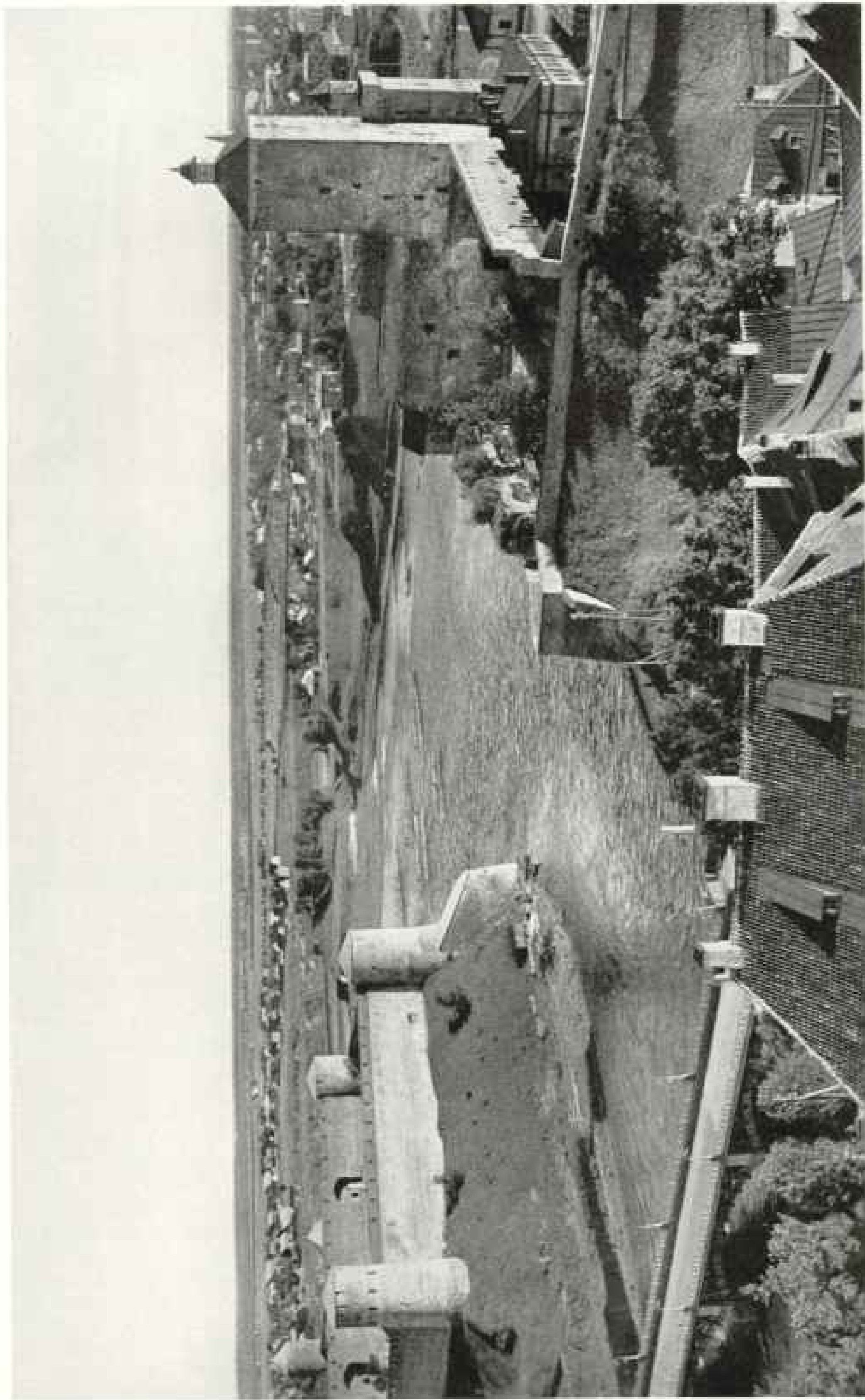
A contrast to Kiek-in-de-Kök is formed by "Pikk Hermann" (Long Herman), also a watch tower. Tall and slender, it rises above the other buildings. Another favorite of mine is the ancient bastion called "Stout Margaret."

Since I felt in need of refreshment before climbing the steep winding street to the Domberg (Castle or Cathedral Hill), I stopped at a café and after a steaming cup of coffee I undertook the strenuous climb.

An old legend has it that Linda, Kalevi-poeg's mother, with great effort, brought the body of her husband, Kaley, to this place, and to protect him buried him under numerous rocks, thus forming the foundation of the Domberg.

The eye is first attracted by the Byzantine cupolas of the Greek Orthodox Church surrounded by weatherbeaten Danish fortifications, the tall spires of Protestant churches, and stately old houses. Various buildings which housed public institutions of the old nobility have been taken over by the Government for offices.

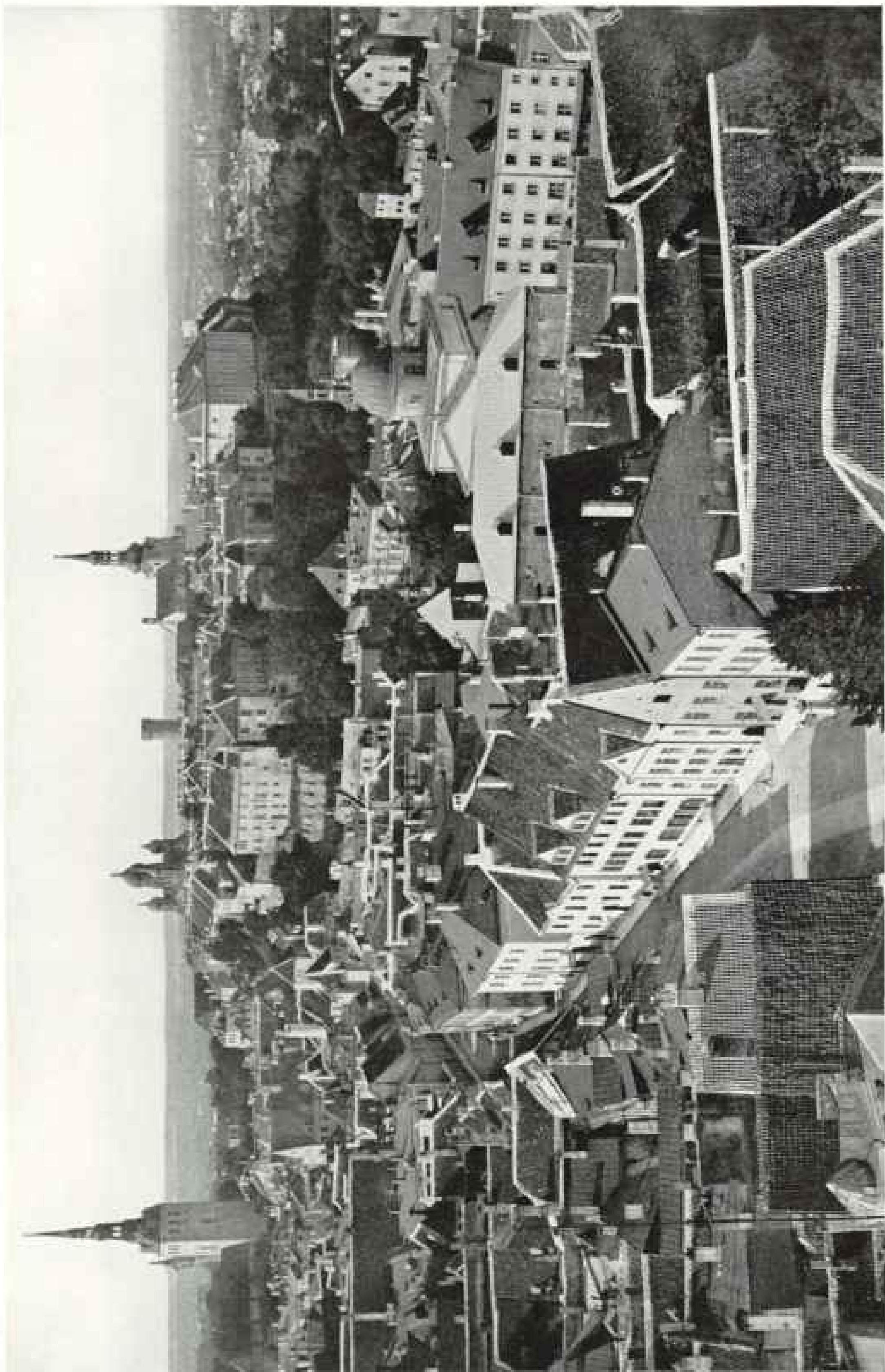
The old cathedral is rich in ancient stone monuments and ornate, artistic tombstones. Most impressive to me was an obelisk in multicolored marble, placed here in memory of Count Ferdinand von Tiesenhausen,



Photograph by Erka

ACROSS THE SWIFT-FLOWING NARVA, SWEDISH AND RUSSIAN BATTLEMENTS STILL FACE EACH OTHER

Today Herman Fortress, right, and Ivangorod are merely relics, a reminder of early war and conquest in the long, troubled history of Estonia.

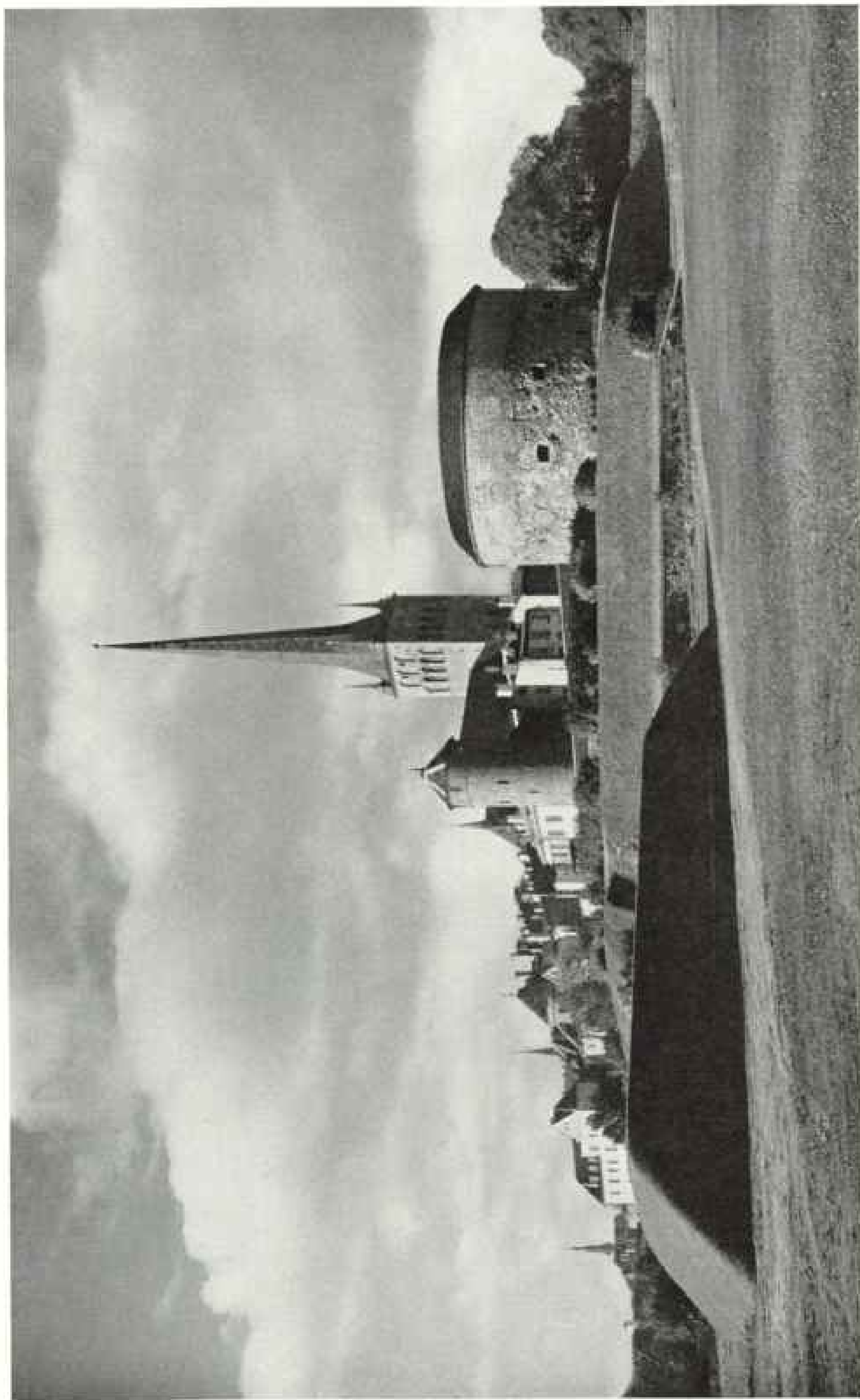


Photograph from Consulate General of Estonia

**SPIRES AND TOWERS PIERCE TALLINN'S SKELETONLIKE SKYLINE OF WHITE-LINED RIDGEPOLES AND CHIMNEY STACKS**

On Castle Hill, landmarks stretch in line—grayish tower and slender spire of the Church of St. Nicholas (left); resplendent Russian cathedral with beet-shaped domes; Long Hermitic Tower, like an up-ended cannon; and the Dome Church, dreaming over its battlements and distinguished men.

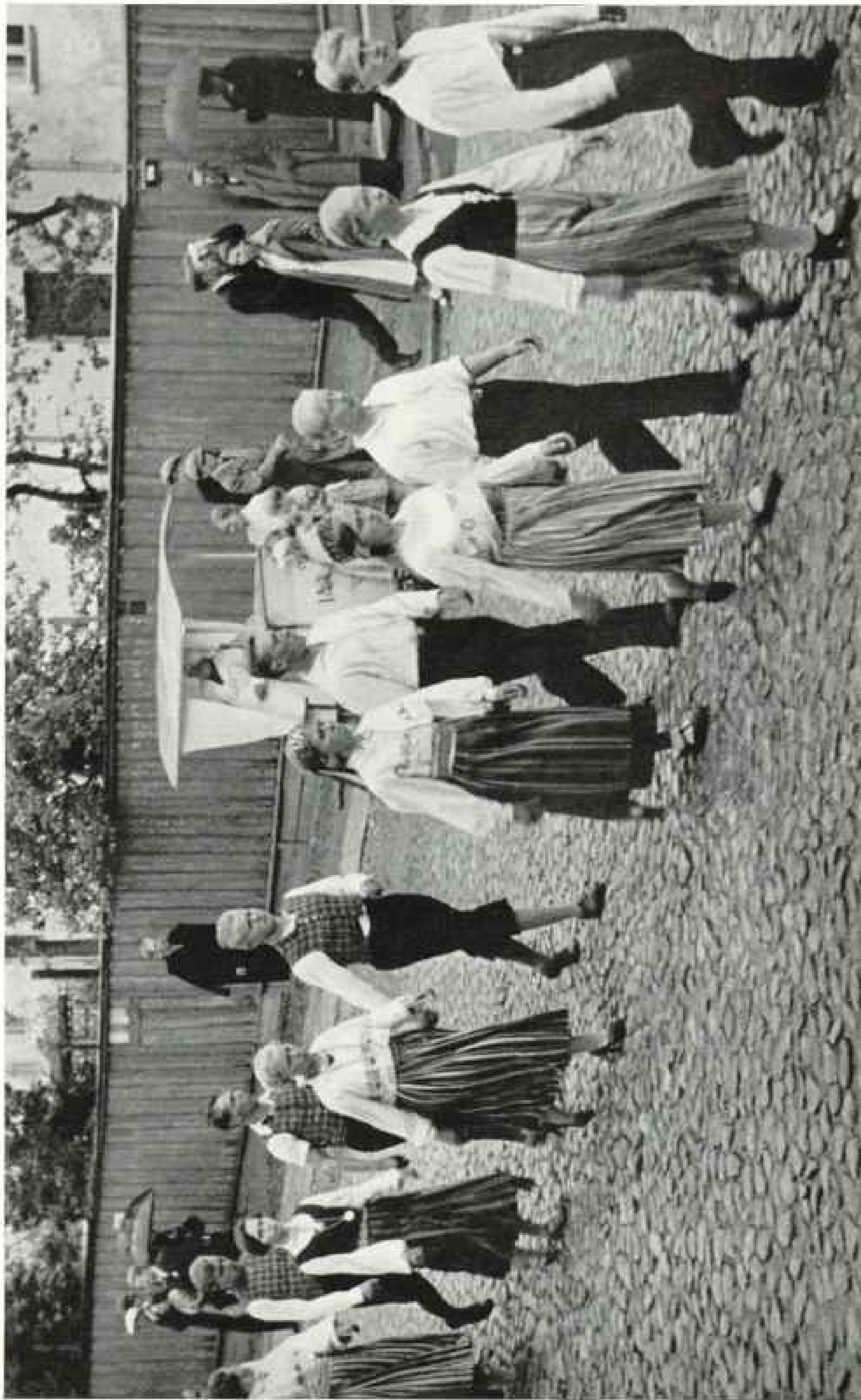




Photograph by N. Nylander

SAILORS FAR OUT IN THE GULF OF FINLAND LOOK FOR ST. OLAF'S POINTED STEEPLE, TALLINN'S LANDMARK.

Early merchants built the steeple to its height of 470 feet to attract attention to their town. In clear weather, the Finnish coast may be seen from the helms. Roses in profusion now bloom on the old bastions, converted into terraced gardens.



Photograph by Paul from Three Ladies

COSTUMES SUCH AS NARVA FOLK PARADE HELPED KEEP ALIVE ESTONIAN NATIONAL SPIRIT DURING CENTURIES OF FOREIGN RULE



Photograph from *Hannes Irina Uinarn-Sternberg*

#### BALTIC BEAUTY

Primitive designs on the hats are closely akin to those of early Sweden. These cheerful choristers at the National Singing Festival are from northern Estonia.

Aide-de-Camp of Alexander I, who gave his life in the battle of Austerlitz. Short but sad, the inscription reads simply: "From father to son."

On the Domberg stands the Capitol of Estonia. Although this is a modern building, its solid simplicity harmonizes with its medieval surroundings.

#### PRESIDENT PÄTS BORN ON A FARM

Equally substantial is Konstantin Päts, the eight-times elected head of the State (p. 804). His career has been a colorful one.

Son of a building contractor, the President was born on a farm near Pärnu. After studying law he entered politics and as

editor of an Estonian newspaper, *Teataja*, he carried on an extensive propaganda in the interest of his people.

In the first Russian revolution, in 1905, Päts played an active part; he was forced to take refuge in Switzerland and later in Finland. After several years of exile he returned to St. Petersburg, but his political activities on behalf of Estonia caused so much trouble that he was threatened with expulsion to Siberia. Through the loyalty of his friends this sentence was commuted, and he finally returned to Tallinn.

Once again he established the Estonian newspaper and used it as a means of propaganda for his country and people. This unflinching deter-

mination and singlemindedness are perhaps the outstanding traits of his character.

The President's pet hobby is his garden and farm, where he spends his leisure hours. Like much of the land in Estonia, his was not particularly fertile, but through persistent efforts he succeeded in growing American corn from seed presented by the United States envoy.

Early in its existence, in 1919, the Estonian Government carried out a far-reaching agrarian reform. The large estates, namely those which comprised more than 530 acres of cultivated land, were cut up and nationalized, the land thus acquired being divided among the landless popula-

tion. This measure naturally caused hard feeling among the proprietors of the manorial estates, who required some time to re-adjust themselves to new conditions.

I must confess, however, that I was greatly impressed by the way such difficult problems as this had been handled. I have never been in a country where minorities (in this case chiefly Germans, Russians, and Swedes) were treated with such fairness as in Estonia. Jews referred to Estonia as a "golden" country. People with initiative and the will to work could make a living, though it might not be a luxurious one.

For instance, I visited the home of a former officer of the Imperial Army. I climbed three flights of stairs until I reached his little attic apartment, consisting of a small ante-room or workshop, a combination drawing and sitting room, and a small kitchen.

This officer is an artist in wood carving and earns his living by making the most delightful wooden toys of unexcelled craftsmanship. His work has been sold in some of the leading shops of Tallinn, and he apologetically told me that often the demand exceeded the supply. His wife helps keep the wolf from the door by sewing. It is true that sometimes their meals were scanty, but on the whole, they told me, they really had nothing about which to complain.



Photograph by Herman de Wettor

"AUTOMOBILES KEEP OUT," THE WHITE MARKER WARNS

The disk is one of numerous international traffic signals, adopted by many European countries to replace lettered signs. Only pedestrians are permitted in this narrow Lower Town shopping lane. Small stores are in basements, the shopkeepers usually living above.

Partly as a result of the ravages of war, a scarcity of food products was felt for a while in the early stages of the agrarian program. It was then that the Estonian co-operative movement, which had already existed for some time, helped immeasurably. There are co-operative dairies, slaughter houses, egg marketing societies, potato societies, peat societies, and so on. Because of the high prices of fuel immediately after the war, peat has been used extensively.

Of importance are the societies for the use of agricultural machinery; many of the small farmers without these co-operative or-





Photograph by Erka

AN ANCIENT CASTLE CROWNS THE DOMBERG, HIGHEST POINT IN TALLINN

German Knights of the Sword kept watch from the battlements of the fortress, and from the top of Long Herman (right) in the thirteenth century. The castle was restored after the World War. Today it houses government offices. Parks and promenades surround the thick walls and swans glide over the waters of the old moat.

ganizations would not be able to use modern agricultural machinery.

Estonia's farms have doubled in number since freedom was won. Not only have former estates been divided, but moors are being drained and government land is being opened to settlement, with heads of large families preferred.

MUCH OF ESTONIA'S WEALTH IS IN TREES

Estonia, 20 per cent forest-covered, is one of the fortunate countries in which the annual forest growth is greater than the domestic requirement, and therefore timber and wood products are exported in large quantities.

Numerous are the sawmills and pulp mills which consume the yield of coniferous forests. Furniture and plywood are made

chiefly from birch. The largest furniture works are in Tallinn.

Aspen wood is used in the match industry, which has been greatly developed within the last few years. Speaking of matches, I must mention the excellent cigarettes manufactured in Estonia.

One of the most important industries is that of oil shale, which yields asphalt, pitch, lubricating and impregnating oils, fuel oil, and even benzine and gasoline for motor cars and planes. The most extensive oil shale works belong to the Government.

In peace time a lively import and export trade is carried on with Great Britain. Timber, butter, eggs, and bacon are exported, while machinery and cars are imported. Estonia's two best customers, normally, are the United Kingdom and Germany.



Photograph by Margaret Owen Williams

#### COALING SHIP IS WOMEN'S WORK, TOO

They fill the hampers, which the men carry from lighter to liner in Tallinn's harbor. More than two centuries ago, Peter the Great made the city (then Reval) a naval base and by 1912 Russia had so enlarged the shipyards that big battleships could be built there. Since the World War the port has bustled with commercial shipping.

It was my privilege to visit a weaving workroom where old Estonian designs are revived in modern articles like mufflers, sweaters, caps, tablecloths, bedspreads, and gloves; a pair of gloves with a border of reindeer fascinated me. The different national costumes are still worn, but usually only on festive occasions (pages 806-7, 815-6, and 820).

Also very attractive are the handmade leather goods, on which are used old, original Estonian designs, showing a pronounced Scandinavian influence.

#### ROUGH-RIDING BY BUS

Estonia now has 5,000 automobiles.

The roads of the country are being vastly improved and the present bus service is being extended. The busses themselves are comfortable and are strongly built to

withstand the rough roads. But oh, what bumps! Once when passing through a deep mud hole, I closed the window just in time to avoid being spattered.

The busses have, or at least take, the right of way on all roads. Whenever a farmer driving his horse and cart sees a bus from afar, he simply drives into the near-by ditch, jumps off, covers the horse's eyes with a cloth, and hopes the noise of the engine will not upset his nervous steed—especially if his load consists of honey and eggs!

Since this is chiefly an agricultural country, it cannot boast of many cities. Besides Tallinn and Pärnu, only Tartu and Narva are of major importance.

Tartu, on both banks of the Emu River, is an old university town founded by Gustavus Adolphus. Here an atmosphere of wisdom and knowledge prevails. The study



Photograph by Gustav Heurlin

SILVER BREAST SHIELDS WORN BY THESE ESTONIAN CHORISTERS WEIGH ABOUT  
A POUND AND A HALF EACH

Dressed in national costume, they have come to Tallinn from the hinterland to take part in the Singing Festival (page 834). Originally, even heavier shields and necklaces were worn. The museum at Tartu lists eighty distinct varieties of garb.

park of the cathedral hill provides the students with a quiet spot where they can discuss personal and world problems with kindred spirits or ponder over them in undisturbed solitude.

Not long ago the number of students was reduced from five thousand to three thousand by making the entrance examinations exceedingly difficult. To meet the demand for persons with technical knowledge a Technical University was recently established in Tallinn.

For centuries the cathedral hill has been looked upon as a holy place. Even now, not far from the old cathedral, ruins of sacrificial stones can be seen. The two banks of the river are connected with an arched stone bridge built there toward the end of the 18th century. Inscriptions glorifying the memory of Catherine the Great of Russia are carved in the gray granite (page 823).

Near the town is the Estonian National Museum, where are found the greatest treasures of Estonian art, while the University Library and the Central State Archives contain historic material of tremen-

dous value. I wish I could have spent days there.

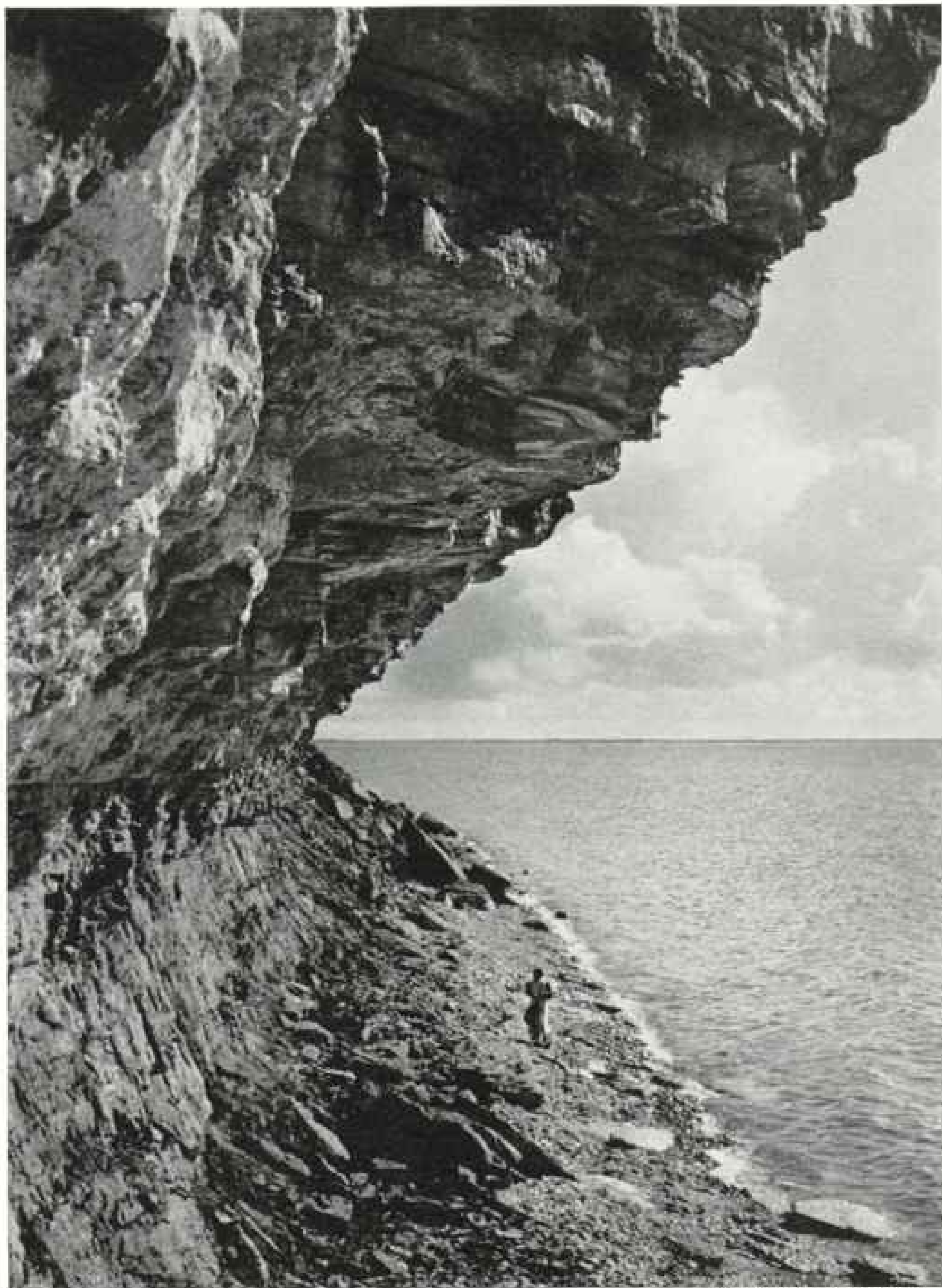
Here one can find data concerning those kinsmen of the Finns and Estonians, the almost extinct tribes of the Kurs and Livs. The latter have been especially interesting to me because an ancestor of mine, a Baron Ungern-Sternberg, married the daughter of one of their chiefs.

THE LIVS, A VANISHING PEOPLE

It was my great pleasure and honor to meet a real Līv, Mr. Stahler. He was well over six feet tall, slender, with intelligent steel-gray eyes—in short, an awe-inspiring person; but an occasional smile and a twinkle soon put me at ease while we carried on a lively conversation in German.

"Why are you so interested in my people?" he asked. "After all, there are only about six thousand of us left today, and we play no part whatsoever in the present activities of the world at large."

"My inborn curiosity, for one thing," I replied, "and also because as a child I spent hours reading about your people. Their heroic deeds when fighting for their freedom



Photograph by Joh. Triefeldt

WIND AND WAVE CARVE AN OVERHANGING CLIFF ON ESTONIA'S COAST

Beside the Gulf of Finland extends the precipitous limestone scarp called the Ghint, nearly 200 feet high. Here and there stretch flat valley mouths or broad sand beaches. Country homes of the old Russian aristocracy once crowned lookout points along this steep north coast.





Photograph by Herman de Wetter

## TIME OUT FOR DOBBIN'S LUNCH

The arch over the shafts is inherited from the bow of the old Russian droschky. A bow was placed also over the center horse of the famous Russian troika, or team of three horses abreast.

against the German knights thrilled me almost as much as my beloved red Indian stories. Ever since that day I have hoped the time might come when I could write about your people." Also, I told him that I, too, had Liv blood in my veins.

"I'll do my best," answered Mr. Stahler. "Without doubt we have received our name of 'Livs' from the Estonian word 'Liiv,' which means 'sand,' since most of my ancestors settled close to the seashore. Fishing was their main occupation. In small wooden home-made sailing boats they traveled from our Baltic shores often as far as Sweden.

"Both men and women were fearless, energetic, and exceedingly proud. Like myself they were tall and slender; a fat and jovial Liv was unknown. They liked to show their superiority by riding whenever they could, since walking did not seem to them very dignified.

"They fought for their freedom against the invading German forces with all their strength, while the Estonians and Letts

finally made the best of a bad situation. It is contended that for this reason the latter continued to exist while we have practically died out.

"In the village where I was born," he concluded, "my grandmother was the last proud owner of beehives. Common belief would have it that people envious of my grandmother's comparative prosperity employed witchcraft and sent evil spirits in the form of birds, who destroyed all the bees. You may believe it or not, but the fact remains that ever since that time all attempts at raising bees in my native village have failed.

"And," he added whimsically, "soon we too will disappear, though perhaps not like my grandmother's bees—through witchcraft!"

## AT NARVA EAST MEETS WEST

A town of importance is Narva, on the eastern frontier facing Ivangorod, the Russian fortress built in the 15th century. In this city East and West face each



Photograph by K. Abel

CATHERINE II OF RUSSIA BUILT TARTU'S GRANITE BRIDGE ACROSS THE EMA

The old University, looming beyond, had five thousand students a few years ago, but now the number has been reduced to three thousand by making entrance requirements more difficult.



Photograph by De Cou from Galloway

FRAGRANT ODORS OF FRESH-BAKED LOAVES TANTALIZE BUYERS

Bakers take over one corner of Tallinn's open-air market, close to the National Theater building (page 804). The tower of St. Nicholas Church (page 815) rises in right background.



Photograph by N. Nylander

SLEIGH BELLS JINGLE IN TALLINN'S BROAD MARKET SQUARE

Outdoor vendors' booths have retreated before the snowstorm, a common occurrence in December and January. The latter month is the coldest, with mean temperature of 20 degrees Fahrenheit.



Photograph by Parikas

"OIL WELLS" IN ESTONIA ARE UNDERGROUND MINES

Several shafts at Kohtla drive deep into the oil shale. Countries with easy access to petroleum and coal fields have not exploited shale because manufacturing costs are too high. Estonia, lacking such resources, and forced to import fuel at high prices, found it cheaper to produce crude oil, gasoline, and other products by distilling shale. Now she has met all domestic needs.



Photograph by Paul from Three Lions

#### OIL SHALE IS ESTONIAN GOLD

Close to the surface lie most of the deposits, which are removed to refineries for distillation. Such a process is not new, for Scotland has distilled shale for many years. Germany, at the outbreak of the present war, was producing about 60 per cent of her required supply of gasoline by distilling brown coal, and had hoped to be self-sufficient in 1942. Estonian shale yields from 18 to 20 per cent of crude oil, a much higher ratio than either Scottish shale or German coal. The United States has immense supplies of undeveloped oil shale in Colorado and Utah.

other, so that Narva has long been an object of dispute and more than once it has been destroyed by fire and wars. In spite of this, it has always been reconstructed in its original baroque style (page 812).

The only reminder of medieval times is the Greek Orthodox Cathedral which was originally built as a Roman Catholic church during the 14th century. Other buildings of interest include the castle of Peter the Great and the Church of St. John.

#### WATER POWER DRIVES SPINDLES

A short distance up the river the waters of Lake Peipsi, 55 miles long and half as wide, take a tumble of from 26 to 33 feet. Some of the available power is used to drive the Kreenholm Cotton Mills, with 450,000 spindles.

During the German occupation in the World War, it worried the Teutons to find that only one-sixth of the total power of

these falls was being used. The Estonians now utilize 25,000 out of a possible 90,000 horsepower, but peat-burning power-plants provide more than a fourth of Estonia's electric energy.

Narva should be visited in the summer when it is possible to ride down the stream to Narva-Jõesuu, a beach resort at the mouth of the river.

Downstream the Narva is quiet, as if resting from its powerful gymnastics at Kreenholm. Here women tie golden grain into sheaves or dig potatoes, and men pull lustily at rude oars or hang brown nets to dry on weathered frames.

Along the sandy seashore at Narva-Jõesuu you may wander for hours, and when you grow tired of the monotony of waves and sand you can turn your steps inland and lose yourself in a tall pine forest.

In a few days I set out for southern Estonia where I wanted to visit the famous





Photograph by K. Akel

#### A LOWLY PRETZEL WEARS A KINGLY CROWN

The sign is hoisted outside a Tallinn bakery by a proprietor who lacks no confidence in the merit of his product. Small cakes, to go with coffee for afternoon or midnight snacks, are also popular.

old Russian monastery called in Estonian "Petseri" and in Russian "Pechory."

On the train I met an English-speaking Estonian. He told me that English was studied a great deal in his country, since the trade with England was annually gaining in importance.

#### ONE ESTONIAN'S IDEA OF AMERICA

"About your country, the United States," he continued, "we don't know a great deal." "Personally," he added, "I have never met an American, but I guess that doesn't matter so much. I don't believe the United States is as important as the British Isles;

and I am sure that in another five hundred years all of you shall revert to red Indians again."

This statement rendered me completely speechless and being afraid of bursting into uncontrollable laughter I excused myself and said that it was time for me to retire for the night. Such a misconception, of course, is hardly typical.

#### PETSERI HAS A RUSSIAN AIR

Early in the morning I arrived in Petseri, a little town that seemed a part of Russia. Here I was met by a friend of my sister's, a delightful Russian lady who was living temporarily in the house of a Russian farmer, since the home she was having built for herself was not completed.

On our short trip to the little

cottage, nearly every passerby lifted his hat to my hostess, greeting her in Russian with a smile. Here few spoke Estonian.

It was a bright sunny day, and from afar I saw the pale green, bright blue, and brick-red cupolas of the monastery, which is one of the very few in the world where Russian monastic life has been kept intact.

After breakfast my hostess, Sophia Michailovna, promised to be my guide. First of all she showed me her almost completed house where she was planning to spend the rest of her life. Since her children were all grown and married and her husband dead, she had decided to dedicate

her remaining years to writing books on the Petseri monastery and to making illustrations of the art treasures kept there.

"This is a great task I have set for myself," she said laughingly, "but I think that I'll be still good for another ten years. I don't think I will ever bring this work to an end, but perhaps I'll be able to publish at least one volume and awaken interest in the soul of another art lover, who will complete that which I have started."

Her house, located on a hill, contained a large, sunny studio on the second floor from where, even through the dense foliage of lovely old trees, she commanded a perfect view of the monastery.

"You see, early in the morning I will be awakened by the chimes from the monastery calling me to mass, since, after all, it's only a short walk; and refreshed by prayer, I shall return inspired for the daily task I have set for myself." Truly rather a lovely way of spending one's remaining years on earth!

#### A TALISMAN FOR TOOTHACHE

Slowly we wandered to the monastery, in which there reigned an atmosphere of extraordinary peace. We entered the gates and suddenly I felt myself cut off from the rest of the world as if walking in a dream. Had there really been a war and revolu-



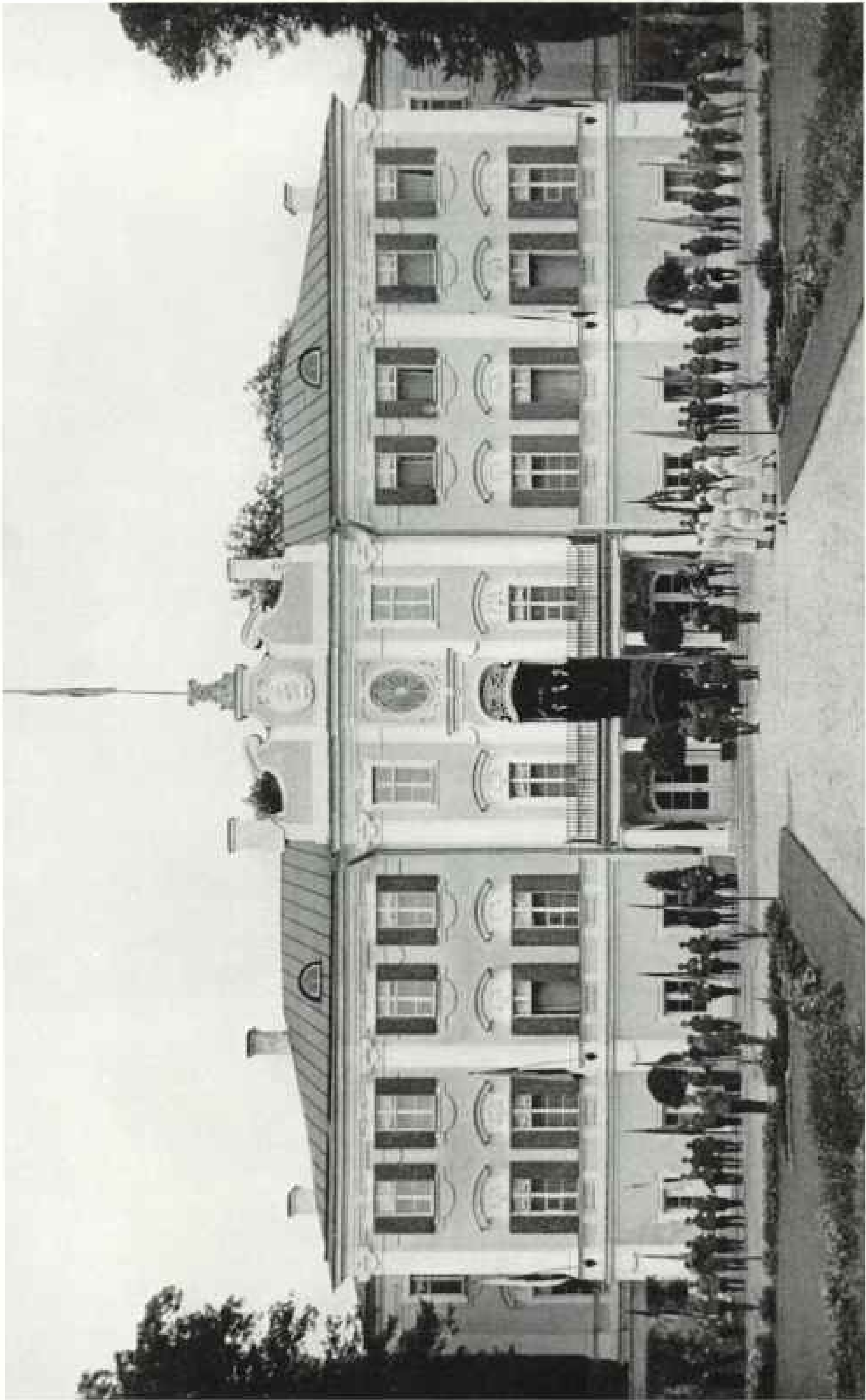
Photograph by Pasi (from *Three Lions*)

#### INTO THE KITCHEN HE RIDES TO INVITE WEDDING GUESTS

A relative of the bride, this man troops through the village, from house to house. Piloting his mount through the back door of each home, he recites from the saddle a rhymed invitation to the ceremony.

tion? If so, they had left no trace here, where about forty monks cheerfully fulfilled their daily tasks. A monk in black garb was painting the fence, while another was watching over the old well in the center of the yard.

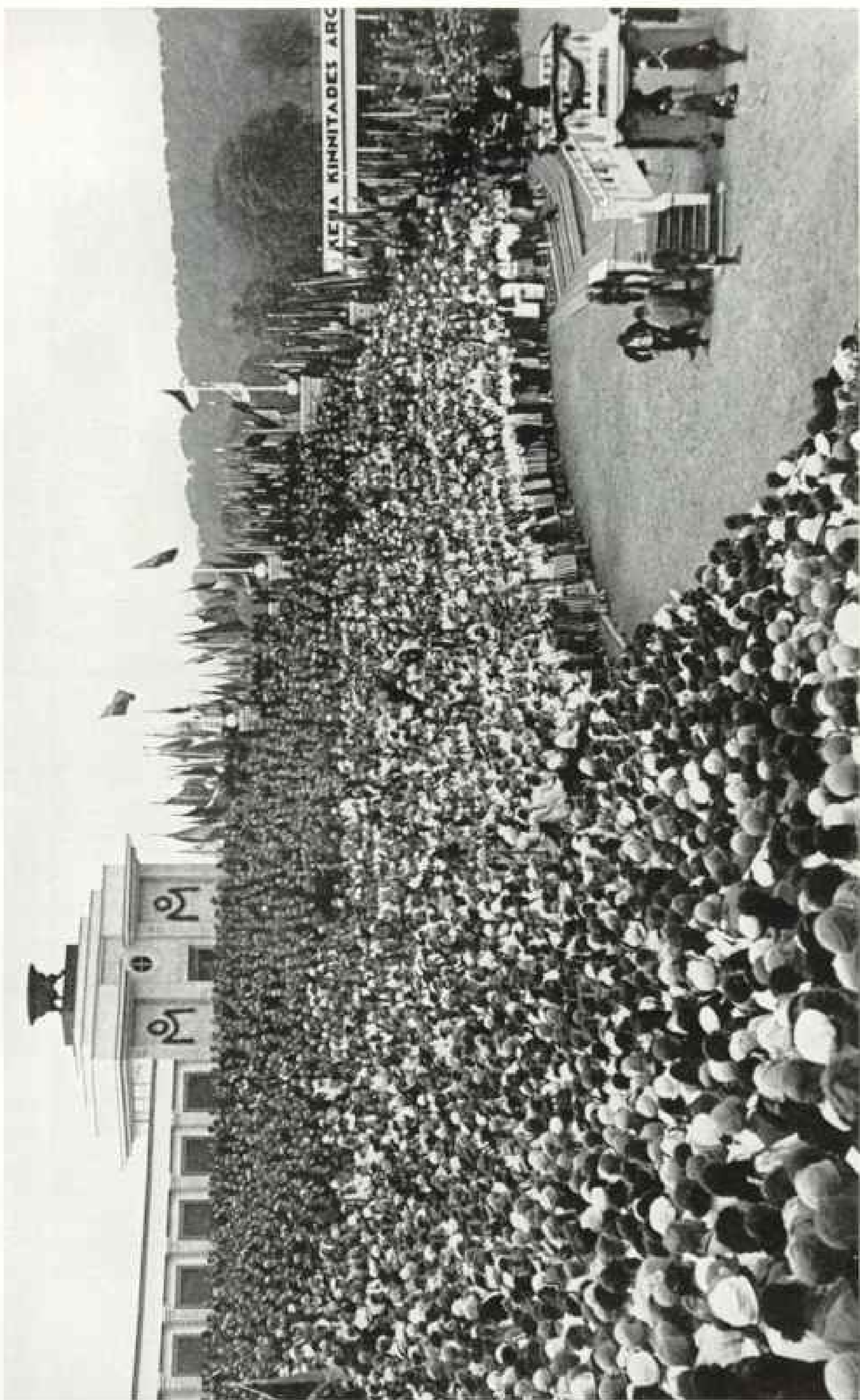
Part of the monastery has been built right into the side of a sandstone cliff. The story goes that the early Christians here made themselves caves in which they lived in comparative safety from attacks by their heathen neighbors. During summer nights they ventured out to chant and say their prayers in the heavy shade of mighty oak trees. For a long time they were thought



Photograph by K. Abel

ESTONIA'S PRESIDENT GREET'S WOMEN'S DEFENSE LEAGUE OFFICERS FROM THE BALCONY OF KADRIORG PALACE

The white-clad leaders announce arrival of several regiments of the feminine military organization for a review. A regular army unit is lined up as a guard of honor. The palace was erected by Peter the Great for his wife, Catherine. It was reconditioned in 1929 as a summer residence for President Pääs (pages 804 and 833).

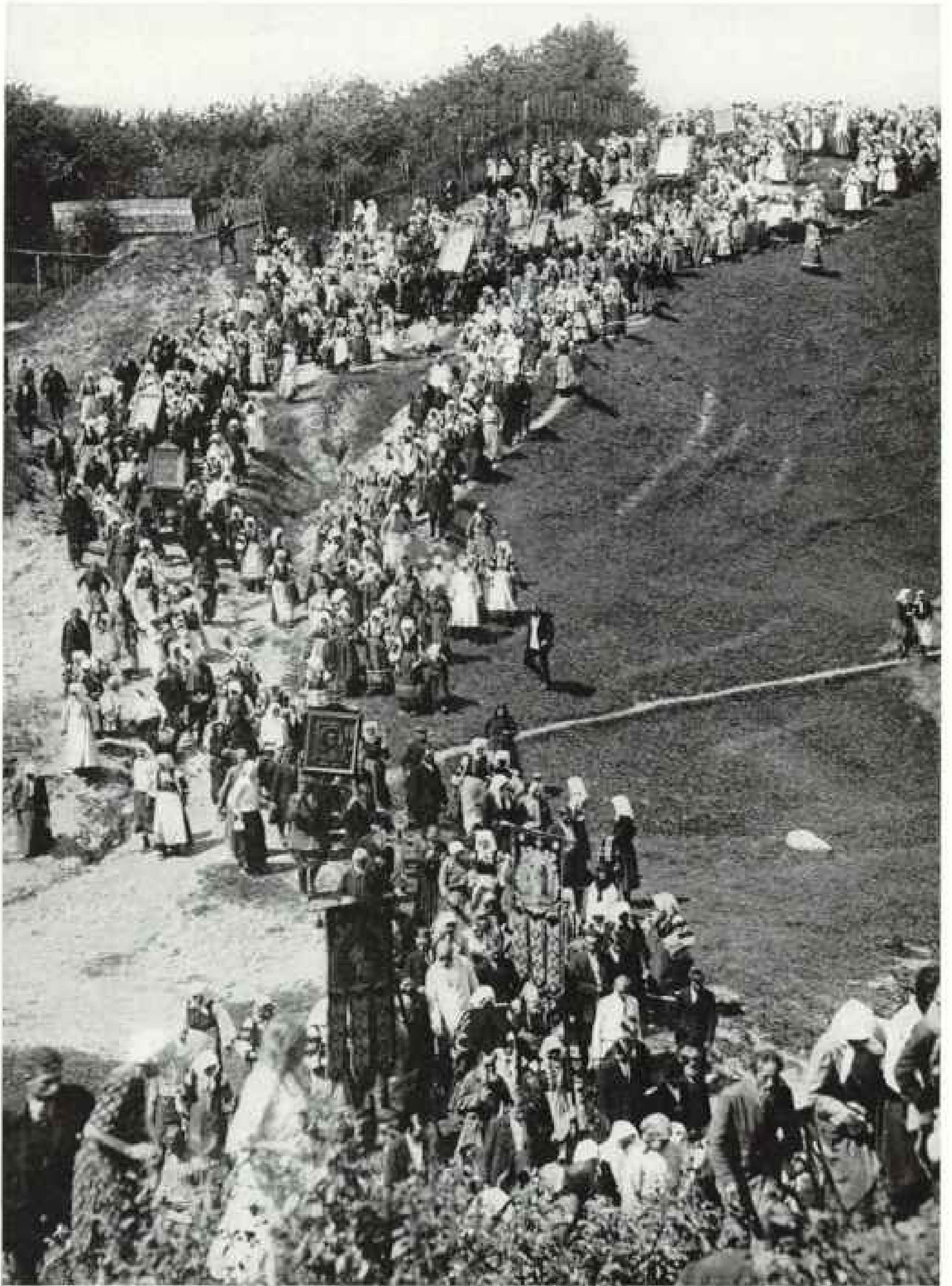


Photograph by Voostmann

**"MY FATHERLAND, MY FORTUNE AND JOY, HOW BEAUTIFUL THOU ART!"**

Estonian choristers, 17,000 strong, join in the national anthem at the first Singing Festival held in Tallinn in June, 1938. Every five years, for more than half a century, such huge gatherings have united in singing folk songs "born of the clouds and cold of the north" (page 834). Dressed in national costume, 560 choirs took part in the festivities which marked the twentieth anniversary of independence, before audiences of 100,000. Estonia's songfests, during the days of Russian rule, expressed in music the national aspirations of the people.





Photograph by K. Akel

## IN PETSERI, WHERE TIME STANDS STILL, A CHURCH PROCESSION PASSES

The author was awakened by the mellow sound of monastery bells in this Russian village in Estonia. From her window she watched processions winding toward the old cathedral. Roofs and domes gleam with copper and gold. Old ikons in the catacombs mark the stations of the cross. The monastery is a place of pilgrimage for the minority group of Russians who form about 8½ per cent of the Estonian population.



Photograph by K. Akel

## SETU PILGRIMS IN LONG WHITE CLOAKS REACH PETSERI

Upon entering the Russian church, the farm women will prostrate themselves on the bare floor. After the service these folk, part-Estonian, part-Russian, gather in small eating places to play harmonicas, sing, and gossip.

to be specters, and the neighboring people stood in awe and fear; the oaks were regarded as holy.

I was offered a piece of bark from one of these mighty trees and was solemnly requested to carry it with me always because it would be an unfailing talisman; it had healing qualities and would cure me in no time, particularly of toothaches or heart ailment!

Gradually these early Christians built themselves a church and were joined by others, and thus the monastery was founded. As time went on, more churches and cells for the monks were added, but some of the original catacombs are still intact. With Sophia Michailovna I wandered through them. At each side rest the remains of monks, and as we carried our little wax tapers through these long, damp corridors it was uncomfortable and gruesome.

We finally reached a corridor in which the ground looked as if it had been freshly hollowed out and Sophia Michailovna turned smiling to me.

"I have done this," she said, and then she led me to a little underground chapel, where a red flame burned before an ikon.

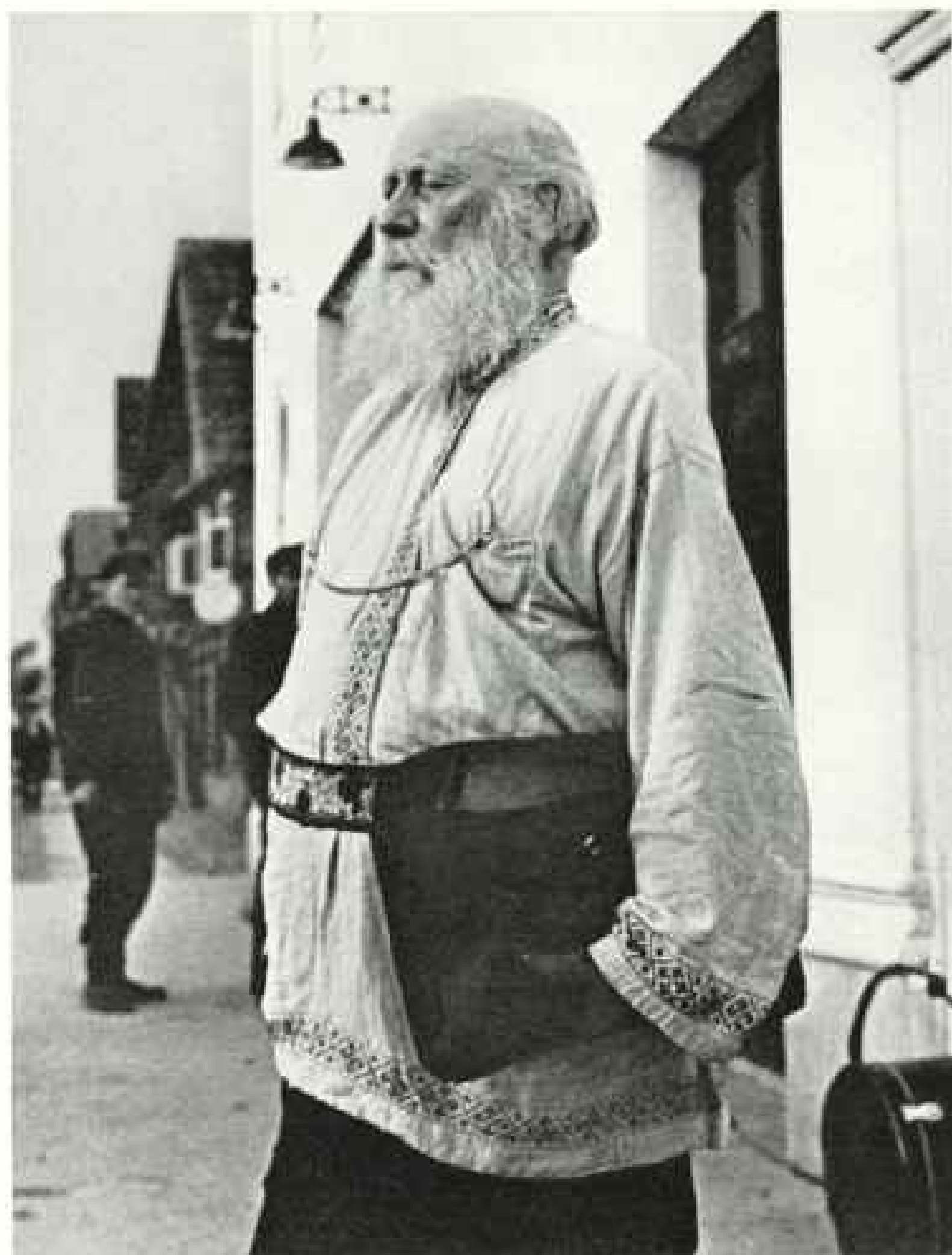
"I have had this little chapel built in memory of my husband and his family, and if you step up to the right you will see an empty niche where some day I, too, hope to rest in my eternal sleep."

## A LEGEND OF IVAN THE TERRIBLE

With Father Basil we visited the treasure room, kept under lock and key. Here we saw an embroidery made by the wife of Ivan the Terrible to seek God's forgiveness for a crime her illustrious and cruel husband had inadvertently (for once) committed.

Legend says that when the monks started building a wall around their monastery to protect themselves from the German knights, who had built a stronghold near by, Ivan the Terrible was informed by an ill advisor that here at Petseri some monks were erecting a fortress against him.

The Tsar set out at once to visit the monastery. When greeted by the monks, he pulled out his sword and with one blow severed the head of the Father Superior, much to the consternation of the assembly. But, believe it or not, the Father Superior, evidently not so much surprised as the others, then picked up his head and non-



© Douglas Chandler

## PATRIARCH OF PETSERI

Strummed balalaikas are heard in this village near the Soviet border where the customs of old Russia have been preserved.

chiantly walked to his eternal resting place in the catacombs.

Ivan the Terrible, when informed of his mistake, repented and presented to the monastery this marvelous embroidery made by his wife.

## BARBED WIRE MARKS THE RUSSIAN BORDER

Later we hired a car to take us to Irboska, where there are famous old ruins of a castle and a Russian church. Here lies buried Truvor, one of the three Variangi who came to Russia in the 9th century and are known as the founders of the State of Russia.

On our way the chauffeur stopped the

car and showed us the outlines of the city of Pskov lying across the frontier in Soviet Russia, which was separated from Estonia by barbed wire. It was a strange sensation to me to be so near Russia and yet so far. In this part of Estonia the schools are all conducted in Russian, and the Estonian government extends a great deal of material help to the Russian poor.

From Irboska we drove on to the estate of Sophia Michailovna, which she had turned over to her daughter and son-in-law. As luck would have it, when the frontier line was drawn, this country estate still came within the boundaries of Estonia, a scant two miles from Soviet Russia.

The old manor house had been destroyed and for some time the fields had not been tilled, but a year ago a new house was built, combining old-fashioned comfort with modern conveniences.

I was deeply impressed by so much courage and optimism, because after all, here as in nearly all of Europe, the future is very uncertain. But life has to go on, and we cannot always be afraid of what *might* be.

When I returned to Tallinn, I was called on the telephone by Mrs. Harold E. Carlson, whose husband was then United States chargé d'affaires. She wished to inform me that Mrs. Laidoner, the wife of the

Commander-in-Chief of the Estonian Army, had invited us to tea that afternoon. General Laidoner, who commanded the army against the Soviet troops during Estonia's war of independence, is responsible for both internal and external peace, and is the President's right-hand man.

On the way to Pirita (the bathing resort of Tallinn), near which the General's manor house is located, one passes Kadriorg, Tallinn's "Hyde Park," which was planted by Peter the Great and continued by his successors. Here, in a beautiful background of old chestnut and lime trees, stands the palace of the same name, at present occupied by the President (page 828).

In the middle of the park is a small Dutch house, in which Tsar Peter lived for a while. If you doubt it, peep under the bed and you will see his bedroom slippers standing there just where he put them! Close behind the cottage is the bath house which the Tsar himself is said to have built.

#### THOROUGHBREDS NOT "COCKTAIL DOGS"

Having arrived at the manor house we rang the bell and the door was opened by an Estonian maid. At her sides stood two fierce-looking bulldogs which barked furiously at the sight of us. With the aid of gestures we tried to explain to the servant that Madame Laidoner was expecting us,



Photograph by Paul from *Three Lions*

#### WOMEN PUNCH TROLLEY TICKETS IN TALLINN

They have invaded many fields once considered for men only. Many work in Tallinn's banks and offices, or in the building trades and at other manual labor,

while she in turn tried to convey to us that the dogs were harmless. We entered a beautiful reception room, followed by the barking dogs, but since they were wagging their tails, both Mrs. Carlson and I thought it safe to sit down.

Presently Madame Laidoner, our charming hostess, appeared. She greeted us with a smile and said, "I hope you do not mind the dogs, but they are pure bred and not cocktail dogs!"

"Cocktail dogs?" I inquired, puzzled.

"Yes," said Madame Laidoner, "they have not been mixed. Don't you use that expression in America?"

Madame Laidoner is a Russian by birth



and, though she has many accomplishments, she is proudest that she has mastered Estonian and speaks it fluently.

She told me much about the work of the Children's Kitchens in which she takes keen personal interest. Here daily two thousand children receive a meal either gratis or for only a small sum. This is necessary because of the large number of orphans or children from poor families.

In Estonia there are a number of women's clubs which have organized many charities, and in the provinces free lectures on house-keeping and farming are provided.

The most popular women's organization is the Women's National Defense League, to which 15,000 women belong. Their task is to look after the children and sanitation, and to help the army by supervising canteens and by giving Red Cross help.

Women in Estonia enjoy the same rights as men and work side by side with them. They have not been appointed judges nor have they held cabinet positions, but they vote and take a keen interest in politics.

#### YOUTH HAS ITS WAY IN LOVE

When I asked a young Estonian if children consult their parents when courting and marrying, he said, "In principle, yes. Our tradition still has it that both father and mother must be obeyed in all matters, but in reality youth has its own way, and does in matters of the heart very much as it pleases."

Before I left Tallinn I visited the "English College," which was founded in 1932 by Madame Anna Törwand-Tellmann. In this institution, as its name denotes, much stress is laid on the study of English, and subjects which deal with the United States and England are taught in this language. More than 500 pupils attend the college, and thus the youth of Estonia is given the opportunity of studying English thoroughly.

The Anglo-Estonian Society, which was founded seven years ago, now has several hundred members. The principal purpose is to afford an opportunity to hear good English. The society has its own small library and has recently sponsored a theatrical group, which gives short English plays.

#### LANDOWNER'S LIFE, NEW STYLE

Before leaving the country I spent some time on my sister's estate, not far from Tallinn. Part of this property, including

the main manor house, has been nationalized through the agrarian reforms. Under the law of March 1, 1926, landowners were allowed to retain a part of the nationalized land and were compensated for their property.

Now living in a smaller place very beautifully arranged, my sister has her own horses and cattle and is running a profitable dairy. I noticed with especial pleasure her excellent relations with the neighboring farmers, who often came to her for advice which she gladly gave.

Of course life is not so easy as in the old days and pennies have to be counted. But what of it, so long as one is reasonably happy? My sister's eldest daughter, who is in charge of the fruit and vegetable garden, drives the products herself to market, and sells them from her cart as proudly and happily as any landowner can.

Their house is comfortable in comparison with those of many of their neighbors, and they will "get along."

Not many years ago you could still find people living in mud houses, a hole in the wall serving as chimney. These huts have disappeared and are replaced by more modern houses, though one still sees many log houses with thatched roofs.

During the summer the farm women work in the fields beside their husbands; and during the winter they spin, weave, and knit. Some of the simple garden tools, like brooms and rakes, are homemade, but they serve their purpose, and are inexpensive.

#### GOD OF SONGS STILL LIVES

Estonians excel in singing, which for many centuries was their only means of national self expression. This is a country of "singing clubs," where even the railway officials have a choir. The small city of Tallinn, aided by the Government, even supports an opera house (page 804).

Most prominent of all the singing clubs is the Estonian Singers Association which helps to organize the great song festival, held every five years. In 1938 some 17,000 persons from all parts of the country came to Tallinn to sing (page 829).

When thousands of Estonian voices unite in singing folk songs born of the clouds and cold of the north, one senses the power that lies within—the willingness to suffer rather than yield. It is in the Estonian voice that the national soul is revealed, deep, patient, and full of faith.

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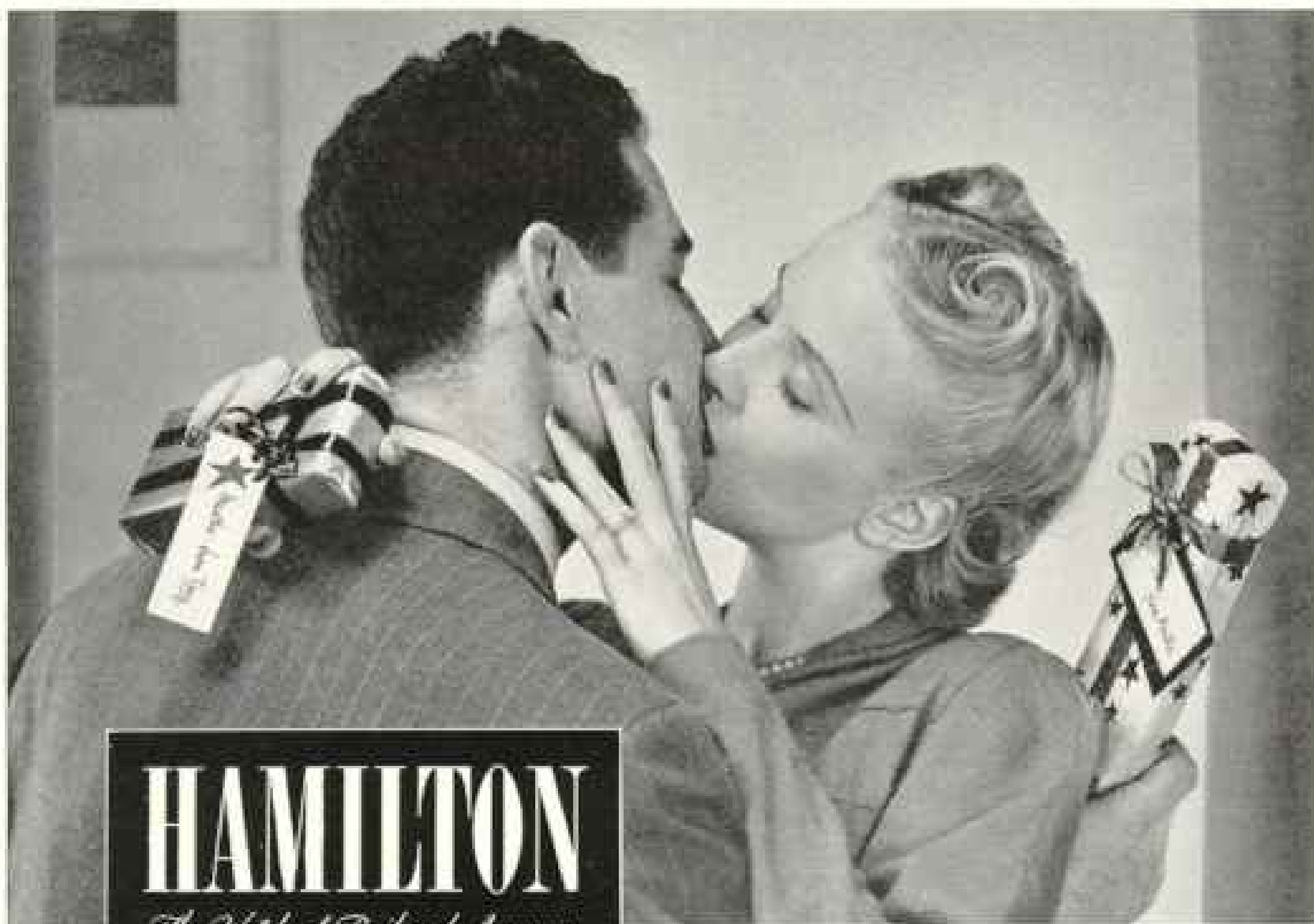
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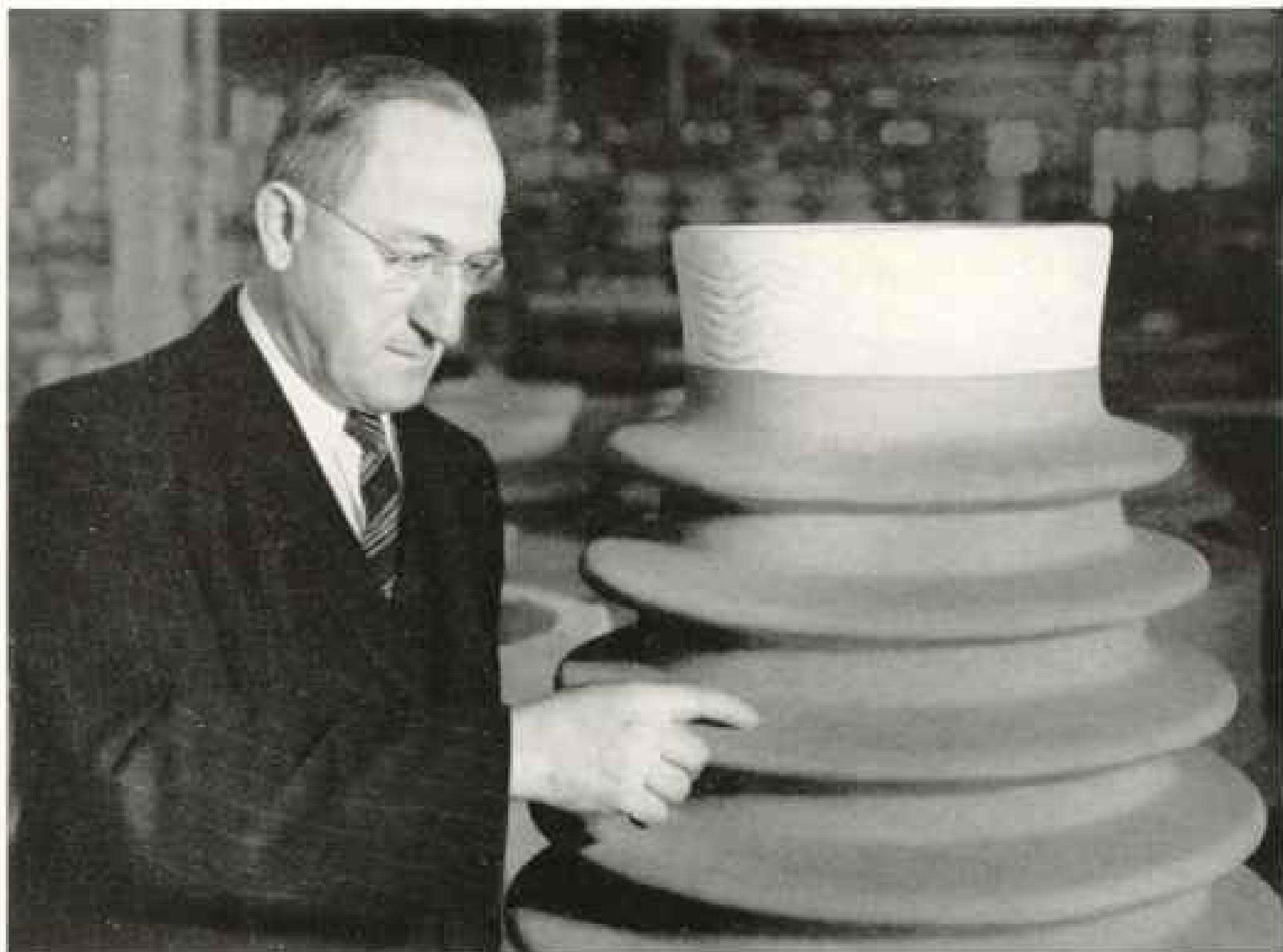
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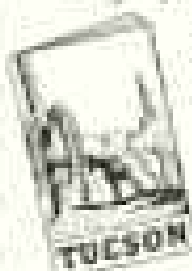
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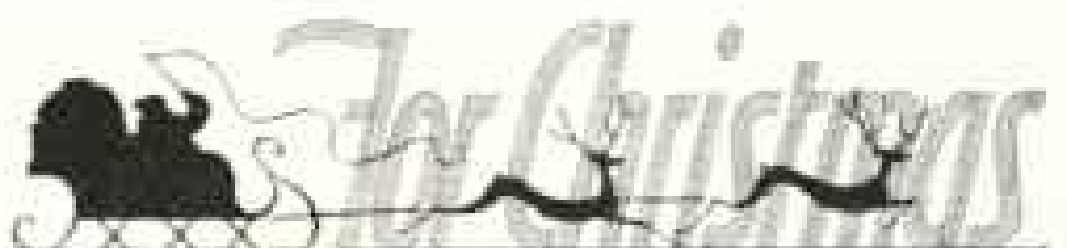


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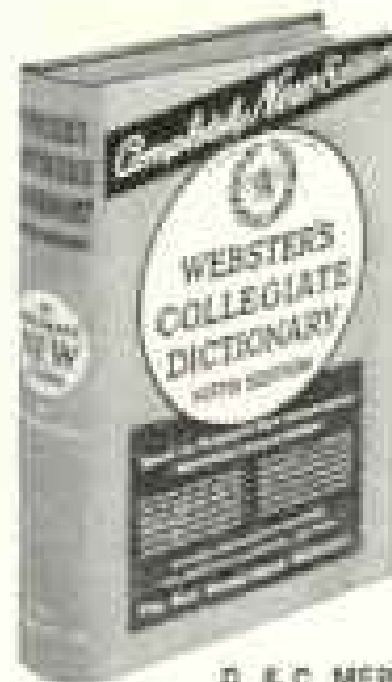
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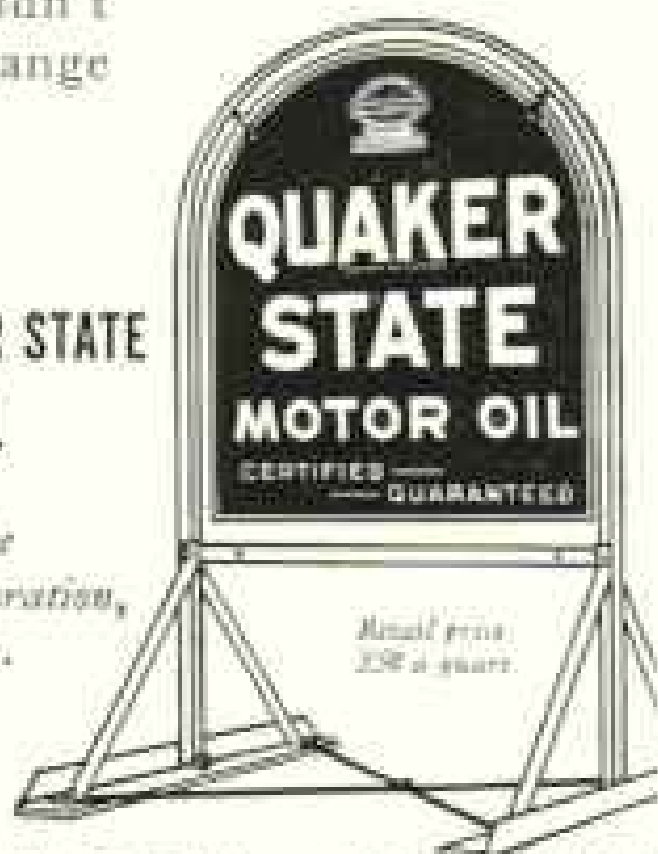


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**1939**—During the past three decades, the death rate for tuberculosis, according to latest available figures, has declined more than 66%; for influenza and pneumonia, 24%; for measles, 87%; for whooping cough, 59%; for diphtheria, 90%; for scarlet fever, 87%.

**A**MERICANS BORN TODAY HAVE, on the average, a prospect of living ten years longer than those born a generation ago.

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► *Why is America so much healthier?*

Because a tireless, eminently capable body of men and women—medical and public-health workers, and those engaged in safety work—have within one lifetime so brilliantly extended our defenses against disease and causes of death.

They have discovered the causes of many diseases and have produced effective vaccines and serums for their prevention and treatment. They have safeguarded our milk, water, and food supplies and the very air we breathe. They have helped us establish efficient health departments.

► How can you help America to maintain its enviable health record?

First of all, by guarding your own health—having regular medical check-ups and seeing your doctor promptly in the event of sickness. Second, by concerning yourself with the efficiency of your community's health services. And third, by giving your support, whenever you have the chance, to the cause of better local health conditions.

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## Why the hornbill never frets

**T**HE GREAT HORNBILL (*Dichoceros bicornis*) lives, among other places, in the hill districts of Eastern Bengal, and has, in common with other hornbills, very peculiar nesting habits.

The nest is made in some natural hollow high up in a tree. Then the female walls herself in, sometimes assisted by the male. The entrance, except for a small opening, is barricaded with a plaster that hardens like brick.

The hornbill stays inside until the eggs are hatched and breaks out after the young ones are big enough to brave the dangers of the forest world. But while it is shut in like that, the hornbill would be entirely out of luck if it weren't for its mate.

The mate stays on the job and, through the opening left in the wall, passes a steady supply of such nourishing tidbits as various wild fruits and

occasional mice, small reptiles, and insects. So, though a prisoner, the walled-in hornbill has nothing to worry about.

An accident can leave a man as shut-in and helpless as this forest prisoner. And it's a load off your mind, while waiting to get well, to have some outside "helper" providing for you.

Therefore, it's simple common sense to own accident insurance which will take care of your doctors' bills, all your hospital expenses, and bring you an income as long as you're laid up.

And remember, an accident can run up bills that make a hornbill's bill look small!

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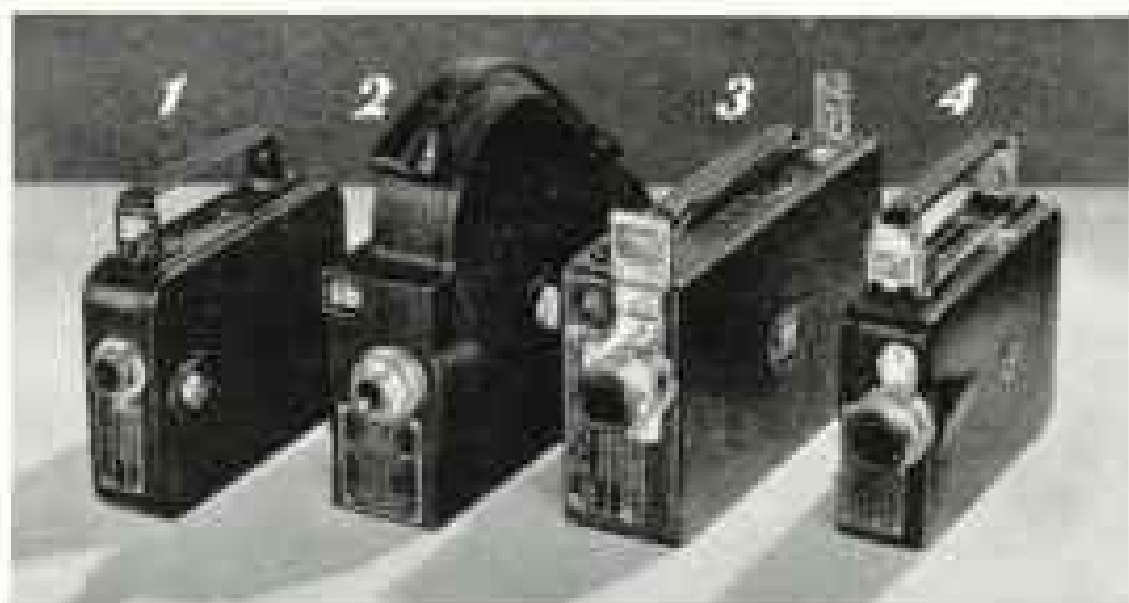
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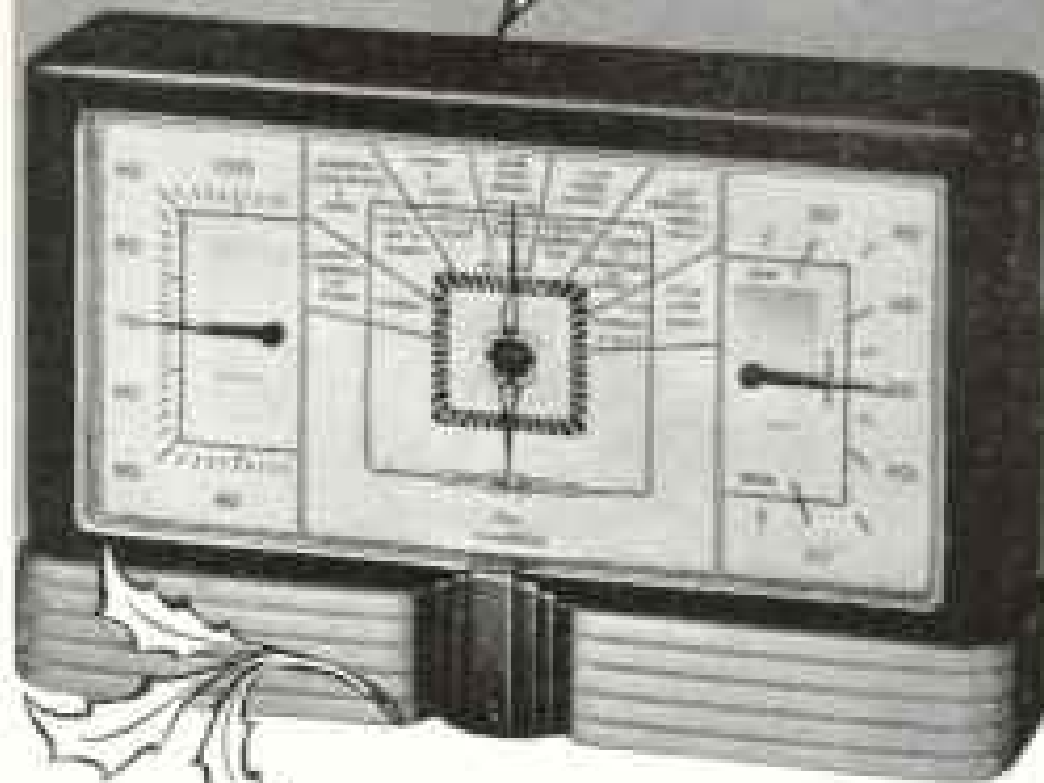
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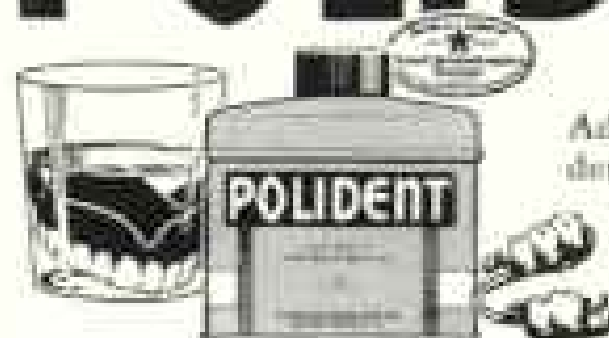
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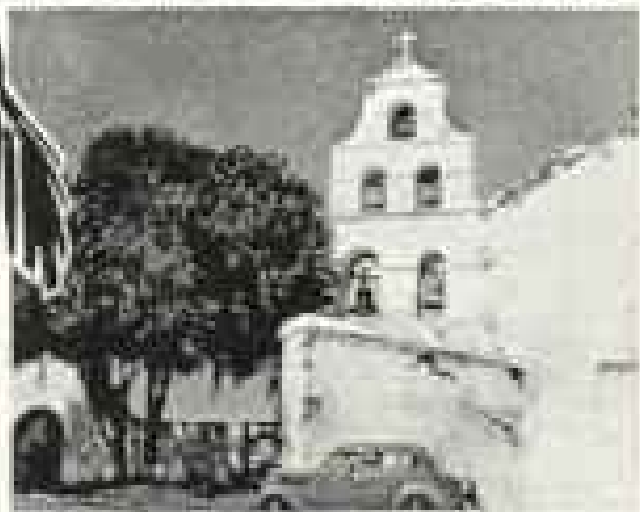
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# "Where shall we stay?"

NATIONAL GEOGRAPHIC MAGAZINE'S HOTEL SECTION

FLORIDA — A Page of Florida Hotels — FLORIDA

## Clearwater

**Fort Harrison Hotel.** Overlooks Clearwater Bay, Golf of Mexico, Golf, bathing, boating, fishing. A. J. K. plan. 224 rms., moderate rates. L. G. Davis, Mgr.

## Daytona Beach

**Princess Isabella, The Inn and Cottages.** A delightful hotel in a perfect setting catering to a selected clientele. Now Open. Henry W. Haynes, Prop.

## Fort Lauderdale



### Lauderdale Beach Hotel

Now, modern—ocean front between Miami and Palm Beach. 150 rooms with bath, steam heat. Spacious lounges, sun decks, beach walk, patio. Humidike, friendly—ownership management. American Plan, superior cuisine. Intimate, quiet, yet just around the corner from all that's going on. Clientele carefully restricted. Booklet, reservations: A. W. Ogil, Managing Director, P. O. Box 2010.

## Jacksonville

**Hotel Windsor.** Heart of city facing beautiful Hemming Park. Large rms.; unique porches; terrace dining room; wide porches. Laundry entrance garage.

## Miami



### The Columbus

Miami's finest hotel. Seventeen floors of solid comfort. Facing Park and Bay. In the social and geographical center of Miami. Convenient to everything. Two floors of public rooms. Individualized decorations and furnishings, soft water plant, steam heat—every possible service to enhance your stay. 17th Floor Dining Room. Reservations well in advance advisable. Booklet on request.

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### The McAllister

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## Miami

**Miami Colonial Hotel.** The outstanding Bayfront Hotel, steam-heated, solarium, bar, swimming low-water. Ask about our all-expense Miami Holiday.

## Miami Beach



### The Belmar

Capacity doubled this year by popular acclaim. Beach breakfast bar, Roof recreation room, ocean view dining room and terrace, solarium—privately patrolled beach, Palm garden. Light and sunny, extensive structural glass. Steam heat, tiled baths. European Plan. On the Ocean at 20th St. Advance reservations advisable. Rates and booklet on request. Bruce Weil, Manager.

**The Flamingo.** All that is best in Resort Life. Restricted. Special early season rates. Honeymoon Holiday rendezvous for students. C. S. Krom, Mgr.

## Miami Beach



### The Nautilus Hotel

A resort hotel with a country club atmosphere. 24 acres, beautifully located on Biscayne Bay. Own golf courses operated in connection. Convenient to all recreation centers. Fireproof. Every room with private bath and outside exposure. 19 attractive new-housekeeping villas with full hotel service. Restricted clientele.

**Roberts Beach Hotel,** 7th & Collins, 25 wk. wk. rates. Plus. Special Family Rates Xmas Holidays. Fine Beach. Selected Guests. Arthur L. Roberts.

## Miami Beach



### The Surfside Hotel

One of the largest private beaches of any Miami Beach hotel reserved for guests. 125 Rooms—all waterfront, ocean or lake—all with private bath and shower. Ownership management. European Plan, reasonable rates. Excellent Dining Room. All sports. Separate bathers' elevator. Fireproof. Steam heat. Suggest early reservations. Write for booklet to J. H. Miller, Managing Director.

## Miami Beach



### The Whitman by-the-Sea

"Aristocrat of Miami Beach" . . . Occupying full block between Ocean and Indian Creek in highly restricted section. Private bathing beach, Marine terrace for dining, dancing and deck sports. Convenient to all attractions. Unrivalled cuisine and service. European Plan. Selected clientele. Reservations in advance. Illustrated 12-page booklet on request to Patie Dunham, Manager.

## Orlando

**Colonial Orange Court Hotel.** Outstanding hotel in Orlando. Charming and convenient location. Every desirable feature. Descriptive folder.

## Palm Beach

**Palm Beach Hotel,** 500 rooms & bath. Excellent cuisine and service; attractive rates. Center of social and all sports activities. Hilt. J. J. Farrell, Manager.

**Surfside Hotel.** New, modern; 100% air-conditioned (optional use); near ocean, amusements, etc.; continental breakfast service; open year round.

**Villa Atlantique.** Near private beach—Best location—Special family rates Xmas Holidays. American Plan—Fine food—Arthur L. Roberts.

## St. Petersburg

**Deerport Hotel.** Overlooking Williams Park. Close to Tampa Bay and all points of interest. Steam heat, elevators. Amer. plan. Angus C. Craft, Mgr.

**The Huntington.** A Resort Hotel of merit, in beautiful and exclusive surroundings. Open Nov. to May. Eur. and Amer. plan. Booklet. Paul Barnes, Mgr.

**Jungle Hotel.** Country Club atmosphere. Golf at the door. Hunting, Fishing, Tennis. Pleased for food service and fair rates. John F. Hayes, Mgr.

**The Princess Martha—St. Petersburg's largest and best located downtown hotel.** Every modern amenity. European. Dining room. Hilt. A. L. Manning.

## St. Petersburg



### The Soreno

One of Florida's finest American plan winter resort hotels. Situated on beautiful Tampa Bay, overlooking tropical Waterfront Park, and close to all recreation facilities. Modern and fireproof. 200 rooms, each with bath. Dining room famous for excellent cuisine. Pleasant social life. Booklet and rates on request. Soreno Lind, Mgr.

**Sunset Hotel.** On Deer Clegg Bay. Quiet, refined, restful, yet close to all activity. 70 rooms, each with bath. Amer. plan. Moderate rates. L. A. Thorp, Mgr.

**Savannah Hotel.** Close to everything of interest. 26 rooms, each with tub and shower bath. European plan. Dining room. Paul Brown, Manager.

**Vinny Park Hotel.** Facing Glorious Tampa Bay. Every recreational feature. Open December 18. Booklet. Clement Kennedy, Managing Director.

# "Where shall we stay?"

NATIONAL GEOGRAPHIC MAGAZINE'S HOTEL SECTION

## ARIZONA

### Chandler

**San Marcos Hotel and Individual Bungalows.** Scores of luxurious desert playground. Golf, swimming, tennis, riding, othersports. Robert Faust, Mgr.

### Litchfield Park

**The Wigwam.** Distinguished winter resort hotel and bungalows in glorious desert setting near Phoenix. Famous cuisine, Golf, ride, swim, sunbath. B&B.

### Phoenix

**Hotel Westward Ho.** Premier Hotel of the Southwest. In world-famous Valley of the Sun. Midtown with desert resort atmosphere. Am. & E. Plans. B&B.

### Tucson

**Pioneer Hotel.** Southern Arizona's Finest. 250 Rooms with bath. Europ. Coffee Shop. Dining Room. Roof Garden. Sun Deck. Semiprivate Rates. Booklet.

## ARKANSAS

### Hot Springs National Park



### Arlington Hotel and Baths

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## CALIFORNIA

### Los Angeles

**The Ambassador.** Twenty-two acre Playground in heart of City. All Sports, Plunge, Beach, Lido, Coconut Grove for Dancing. European, \$5.00 up.

### Riverside

**Mission Inn.** California's Historic hotel. In lovely Riverside. Art treasures. All sports. American or European Plan. Rooms \$2.00 up. Write for Folder.

### San Francisco

**The Palace Hotel.** West's most distinguished hotel, famous for hospitality, appointments, cuisine. Heart of San Francisco's business and social life.

### Santa Barbara

**El Encanto Hotel.** Beautifully located on Riviera. Overlooking city and ocean. A way from noise. Warm beds. Frank J. McCoy, Manager.

### Santa Monica

**Miramar Hotel.** Ideal winter location atop beautiful Palisades on the Pacific. Sports of all kinds. Hotel suites, bungalows and apartments with hotel service.

## DISTRICT OF COLUMBIA

### Washington

**Continental Hotel.** Facing the beautiful Capitol Plaza opp. Union Station. All outside rooms, some air-conditioned. Garage. Coffee Shop. From \$2.00.

**The Dodge Hotel.** On Capitol Hill opposite Union Station Plaza. Celebrated cuisine. No tipping. Single from \$2.50, double from \$4.50. Direction K. P. Adams.

**Hay-Adams House.** 16th and L Sts., N. W. 4 blocks to White House. 3 blocks to Nat. Geo. Bldg. 22 rooms with bath from \$3. Double from \$4.50. Superior Cuisine.

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### Sea Island



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### Thomasville

**Three Trees Inn.** A charming winter resort hotel; splendid golf, swimming pool, riding, boating. Ideal climate. Booklet. Direction of Gen. C. Krawson, Jr.

## MARYLAND

### Baltimore

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## MASSACHUSETTS

### Boston

**The Copley-Plaza** faces beautiful Copley Square. Single rooms from \$4.00; double from \$6.00; Suites from \$10.00. Arthur L. Haas, Managing Director.

## MISSISSIPPI

### Pass Christian

**Inn By The Sea and Cottages.** Pass Christian, Miss. Always open. On private bathing beach. All sports. Paved roads. Climate ideal. Near New Orleans.

## NEW JERSEY

### Atlantic City



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## Philadelphia



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### Charleston

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### Summerville

**The Carolina Inn and Cottages.** Rest or recreation among the pines. Golf—18 holes—cross greens. Riding, hunting, skeet. Modern management since 1912.

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### Richmond

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### Virginia Beach

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CONTINUED ON NEXT PAGE

# "Where shall we stay?"

CONTINUED FROM PRECEDING PAGE  
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### Buenos Aires, Argentina

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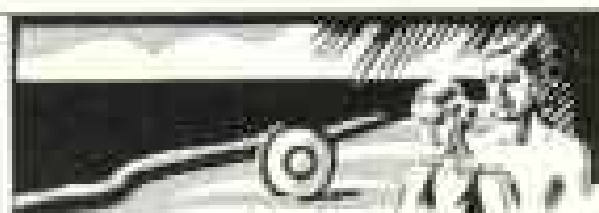
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