

VOLUME LXV

NUMBER FOUR

# THE NATIONAL GEOGRAPHIC MAGAZINE

APRIL, 1934

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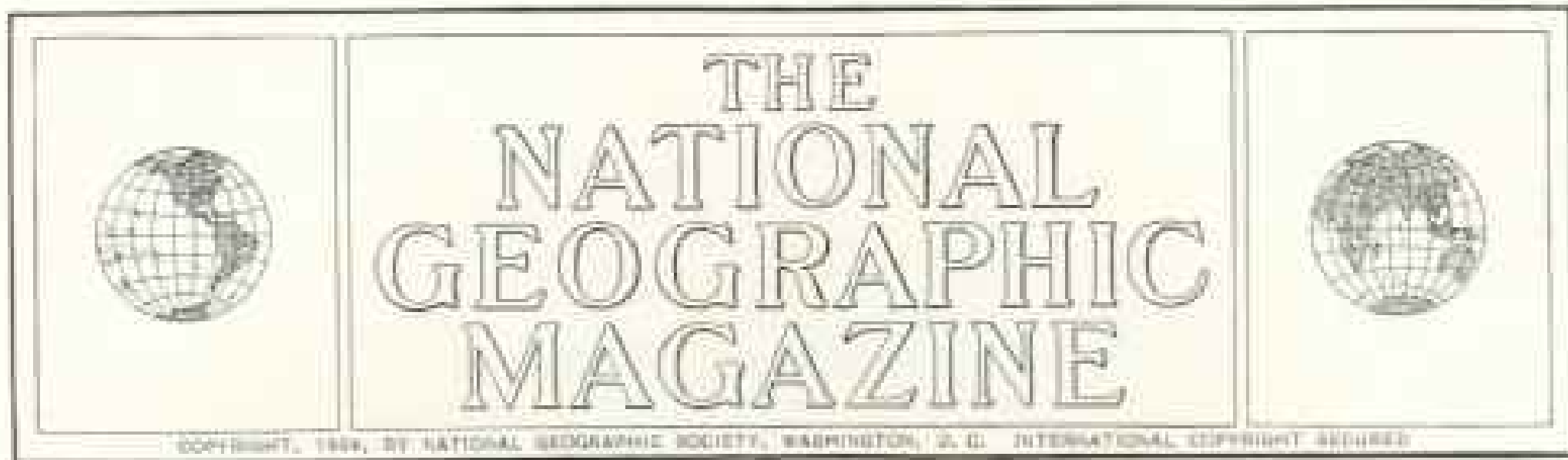
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With 1 Illustration

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

\$3.50 A YEAR

50¢ THE COPY



## THE SPELL OF ROMANIA

An American Woman's Narrative of Her Wanderings  
Among Colorful People and Long-Hidden Shrines

BY HENRIETTA ALLEN HOLMES

"CHAH! Chah! Chah!" All through my first night in Romania, as we sat in the car, hopelessly bogged down in a bottomless mud-hole, these weird falsetto cries, oriental in their cadence, rang through our ears. They were uttered by peasants, who were urging their sleepy oxen on to begin work before dawn in their distant fields.

Some hours earlier, on our way to Sibiu, our night's objective, we had gotten off the main road and become completely lost. At midnight, not having eaten since noon, we entered an obscure village. Obviously, everyone had gone to bed except the numerous canine population, which loudly resented our intrusion.

Out of the darkness emerged the figure of a man. We explained our plight, and he tried to take us over a short cut to the main road. Halfway there, unskillfully guided, we suddenly dropped into a mudhole. With the aid of some passing peasants and their six oxen, we worked for many hours to extricate the car. Finally we gave up and tried to sleep in the cramped quarters of our roadster.

At dawn our friend, feeling responsible for the situation, arrived with more help. After five hours of fruitless effort, we learned of a near-by Saxon farmer who owned a tractor. When we found him it was only to hear the sad news that the machine was out of commission! He gave us, however, at his house a breakfast of

freshly baked black bread and honey, which was manna from heaven to us.

After a sojourn of some twenty hours in the mud, with the help of four horses and a dozen men, we were finally on our way again.

A day later, entering Bucharest, I experienced a great disappointment. It was during the dry, hot month of July. On every side intense waves of heat from the flat Danubian plain engulfed us, and the green of the trees and grass was hidden beneath a thick coating of dust.

Driving down the *Chaussée*, we passed the now dilapidated plaster *Arc de Triomphe*, built for the coronation of King Ferdinand and Queen Marie.

Two years' residence in the country has changed this first, unfortunate impression. Great charm, I have learned, often lies under a dusty and shabby surface. In fact, I have fallen under the spell of Romania.

### MANY INVASIONS HAVE LEFT THEIR IMPRINT

In Romania, East and West are so interwoven it is difficult to see where one leaves off and the other begins.

Perhaps the countless invasions which have swept her land may partly account for this strange blending of Orient and Occident. Each invader, whether he be Roman, Hun, Pole, or Turk, has left his strong imprint on the nature of the people.



THE KING ARRIVES WITH THE POMP OF YESTERDAY

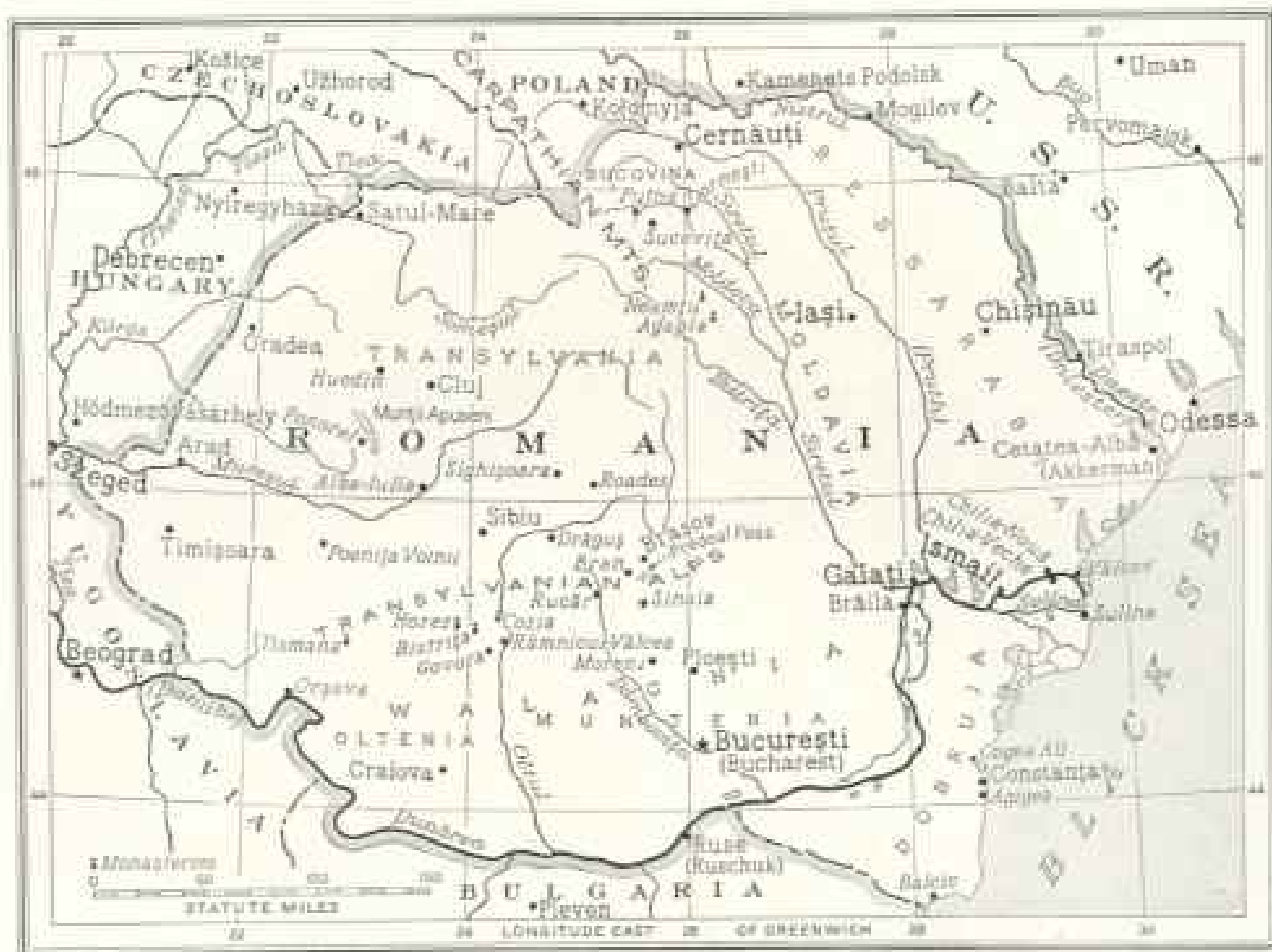
White-plumed guards stand like ramrods. Six coal-black stallions prance into view; the coachman energetically cracks his whip. Silks, satins, and brocades of postilions and footmen flash in the sun. The royal carriage rolls to a stop. Carol has come to open Parliament (see opposite page).



Photographs by J. Berrian

SWING YOUR PARTNERS IN THE GAY "BATUTA"!

On a fête day in the Carpathians, peasants enjoy a popular dance considerably more rapid than the measured movements of the *hora* (see illustration, page 433). "She dances at the dance" is a peasant way of saying a young woman has reached marriageable age. In this case there is a decided dearth of girls.



Drawn by Newman Bunistrad

FROM THE BLUE DANUBE TO THE GREEN HILLS OF BUCOVINA THE AUTHOR  
ROAMED

Her travels ranged among busy modern cities and lonely rural byways, gypsy camps, and caviar fisheries, mountain haunts of loggers and shepherds. She visited the regions of oil and wheat, and explored little-known fortified monasteries. Everywhere she met sturdy folk who cling to the gay costumes, dances, and customs of centuries past.

Though Paris may be France, Bucharest is hardly Romania. This capital has almost nothing in common with the country. It is a gay, cosmopolitan city, often, if not aptly, called the Little Paris of the Balkans.

Its streets are crowded with smartly dressed women, officers resplendent in their colorful uniforms and gold braid, and men and women of the foreign colonies, who contrast strikingly with peasants in native dresses and gypsies in rags and tatters. Its restaurants and coffeehouses, always famous for good food, are abuzz with the latest political rumors and gossip.

The opening, in the autumn, of Parliament by the King is a brilliant event. For several blocks and for hours, the Palace Guards in their bright blue uniforms, high patent leather jack boots, shining helmets with white horsehair plumes, stand smartly at attention until the members of Parliament, the Diplomatic Corps, the army generals, and the King have passed.

The great moments are the arrival and departure of the King, in an open landau. Footmen in satin breeches, long coats of brocade, and three-cornered hats, and a ferocious coachman cracking his whip at six milk-white or coal-black stallions, on whose backs ride postilions in bright red hunting costumes, add to the striking medieval picture (see opposite page).

We found it fun in winter to hire an open sleigh drawn by horses bedecked with bells and red ribbons, and driven by a coachman in a high fur *căciulă* (cachoula), a tall astrakhan cap, long velvet coat, and wide girdle of metal.

There are still a few coachmen living in Bucharest who belong to a curious alien sect called *Scopiți*, now almost extinct. The men were allowed to marry, but at the birth of the first child they were made sterile. I saw them often driving open carriages. They are fat and their skin is like yellow parchment.



Photograph by Wilhelm Tölgel

**A GYPSY FLOWER GIRL SURVEYS PROSPECTS WITH CALCULATING EYE**

The bare-footed sidewalk merchant of Bucharest then uses smiles and flattery to break down sales resistance. Although belonging to one of the gypsy families which have ceased wandering and settled down, she does not grow her flowers herself, but buys them each morning at the market.



© R. Kaffin

#### THE WHITEWASHING PROFESSION IS A BIT OVERCROWDED

Gypsy women with their long-handled brushes block a sidewalk, as if to compel the pedestrian to "stand and deliver" at least a chicken-coop or a fence to keep them busy. Even in the cities white-wash is widely used instead of paint. In the background at the right is a Bucharest railway station.

The wide avenue leading up to the Arc de Triomphe, past a pretty little race course and the golf links of the Country Club is a miniature suggestion of the Champs Elysées in the French capital. Many stately palaces and homes line its streets. Romania has gone modern in her new houses and apartments.

There is much music other than in the cafés. Bucharest boasts of rather good opera during the winter and a really fine symphony frequently plays modern music. Last year we heard a fascinating gypsy dance, composed by a Romanian musician, rivaling Ravel's "Bolero" in rhythm. Enescu, the Romanian composer and violinist, is eagerly awaited in many cities of Europe and America, but so full of love for his homeland is this Romanian that he delights Bucharest a part of each year with his music.

The National Theater is well patronized and plays by Romanian and foreign authors are given. Once ornate, the building is now shabby, although an air of faded elegance still pervades the place.

The Parliament Buildings and the Ro-

manian Orthodox Church stand on the summit of the only hill in Bucharest.

Bucharest is a city of churches. From everywhere can be seen rising the rounded domes of the Romanian Orthodox Church. The people are religious, but matter-of-fact about it. Despite the Slavic influence, there is no mysticism here. Religion is simply a part of everyday life. The Church is like a protective father, and they respond with a simple faith.

#### STORE SIGNS ARE ILLUSTRATED

Down by the banks of the Dâmbovița, which Eddie Cantor made famous in one of his songs, is the great market, where flowers, fruit, food, household goods, and Romanian handiwork are sold in the open booths of peasants and petty tradespeople (see illustration, page 407).

Because so many peasants are unable to read, signs on many stores and shops are illustrated with pictures of the articles for sale within.

Around Bucharest the country is not unlike the agricultural State of Kansas, my native State. Here is a tremendous wheat



Photograph courtesy Romanian Legation

#### THE BLESSING OF THE WATERS MEANS AN ICY BATH FOR SOME

Volunteers compete for the honor of retrieving the cross thrown by the white-bearded Patriarch into the Dâmbovița River in Bucharest on Epiphany, January 6. King Carol II, in long coat and spiked helmet, stands with church officials on the stone steps built especially for the ceremony.

and corn region. I love to go through the villages in this fertile district. Crazy little Rube Goldberg houses, whose white-washed walls are painted in soft pastel shades and decorated with borders of flowers or animals, present an amusingly shaky aspect along the streets. Romania is one of the few countries now left in Europe whose peasants usually dress in native costume (see Color Plates V, VI, IX, and XIII).

The Romanian peasant is lovable. Always gracious, courteous, and good-natured, he is industrious, yet somewhat inefficient. He works hard in his fields and forests, but always in a primitive manner, using the crude tools of his forefathers.

#### WASHING CLOTHES IS HARD BUT THOROUGH WORK

In Predeal, at the top of the Carpathian Pass, on the boundary line between the "Old Kingdom" and Transylvania, we spent a summer in a small cottage. During our holidays we had many opportunities to

observe the ancient methods of work followed by the peasants.

I was particularly impressed with the native manner of washing clothes. Our laundress built a fire in the yard beneath a large iron pot, in which she put the clothes to boil. Then, in a large wooden trough hewn from a log, she rubbed and washed the garments with her hands, without even the aid of a washboard. Next, she wrung out the heavy linen with her own hands. Back-breaking work it was, but the clothes emerged spotlessly white.

With an old-fashioned iron, kept hot by a small charcoal fire inside, she pressed them, and I am sure she would have scorned the electric washing machines and irons so essential to American housewives.

Politically, Romania traveled toward the left after the war, as have in a degree most of the countries of the Near East. The large landholdings were expropriated and the acres sold to the peasants on easy terms, the result of which was to place the peasant in a more advanced position than he had



Photograph by J. Dezman

#### A ROMANIAN BOY-POWER MERRY-GO-ROUND

The author saw it while traveling along the lower Danube near Ismail (see text, page 425). Husky youngsters on the platform overhead supply the motive power. Most of the children of the town, and even a grown-up or two, stand about awaiting their turn to ride.

ever known. It was not the intention to subject the landholding gentry to confiscation, although the results now present that appearance.

The land was appraised on a basis of reasonable value, and the gentry given Romanian bonds in compensation for the land. When subsequently the nation went off the gold standard and her money depreciated, these bonds became almost worthless. Since 1926, however, her currency has been among the most stable.

#### GYPSY CAMPS IN THE DANUBE DELTA

Our inclination led us to the south of Romania, so we went first to the Danube Delta country. There, during the spring and summer, many gypsy camps are found (see illustration, page 409).

In the Danube country gypsies carve out of wood huge water troughs, all variety and manner of cooking utensils, washing equipment, etc. With their wild animal eyes, scraggly black locks, wretchedly dirty, and clad in rags, gypsies are a proof of the disillusionment of reality.

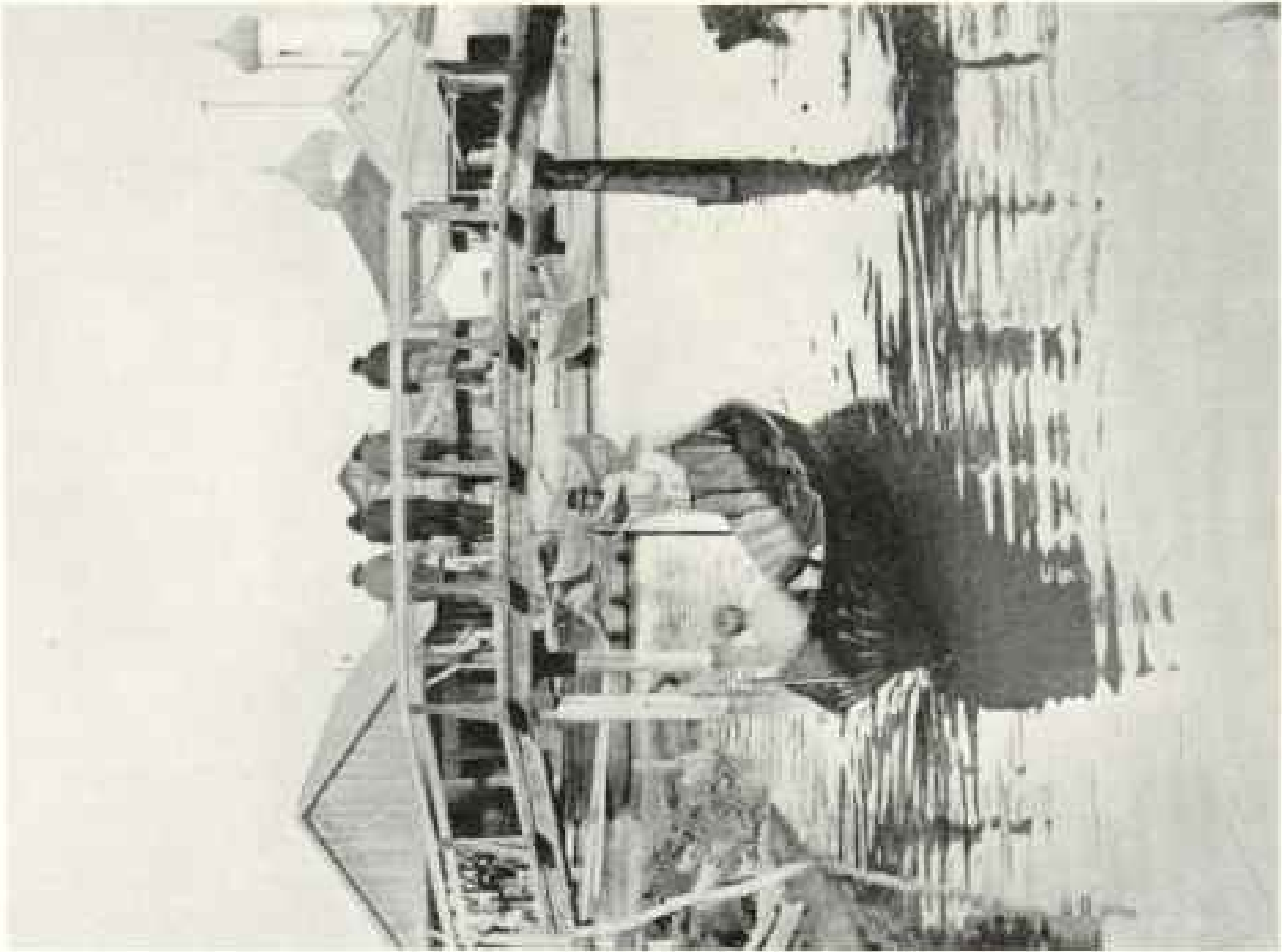
Who has not conjured up some gay, romantic picture of gypsy life from afar? Yet how distressing when one meets it at close quarters! But gypsy music is beautiful. Almost at every street corner in Bucharest one encounters an urchin with his violin, ready to play for a few lei.

My first winter in Bucharest, in contrast to the summer, was bitterly cold. Often I was distressed to see gypsy boys, half naked and shivering, begging at the street corners. I was soon cured when one day, giving two boys some pieces of lei, they laughed, pulled out of their pockets handfuls, and began counting and dividing the money.

#### BEAR-TAMERS AND BLACKSMITHS

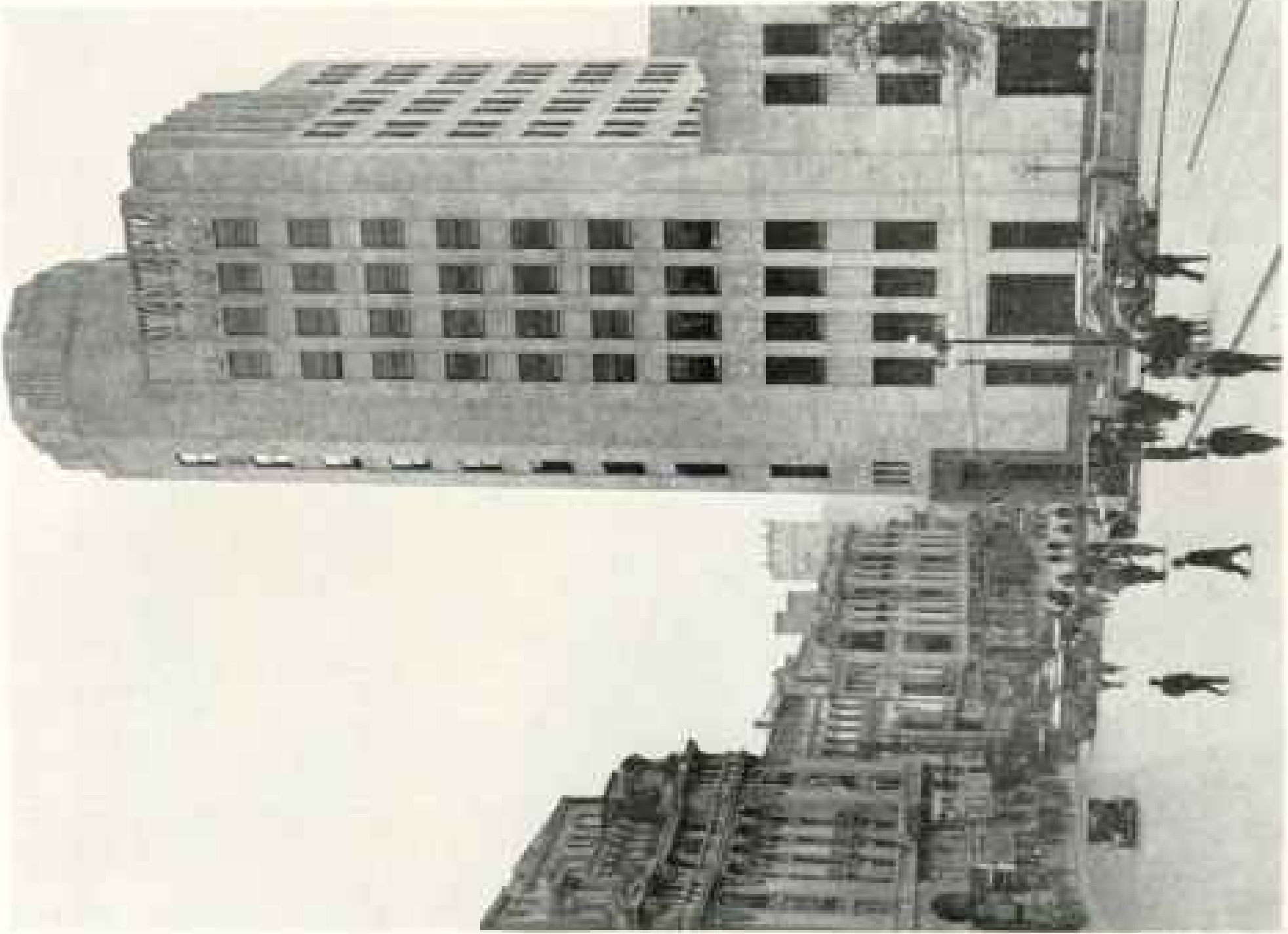
Since time immemorial gypsies have always gone into the bear-taming business. Very often you see several gypsies, with an equal number of bears, making them dance for a delighted crowd of onlookers. Or, failing a bear, gypsies are iron-forgers and blacksmiths, and their beautiful hand-wrought grilles are famous everywhere. Many times in passing a great house in





**VĂLCOV, WEDDED TO THE WATERS, PRODUCES CAVIAR**

Like Venice, this small fishing village on the Black Sea and the Danube Delta is interlaced with canals (see text, page 414). Here a bearded Russian fisherman poles his boat down a main thoroughfare.



Photographs by J. Borzua

**BUCHAREST HAS A BIT OF MANHATTAN SKYLINE**

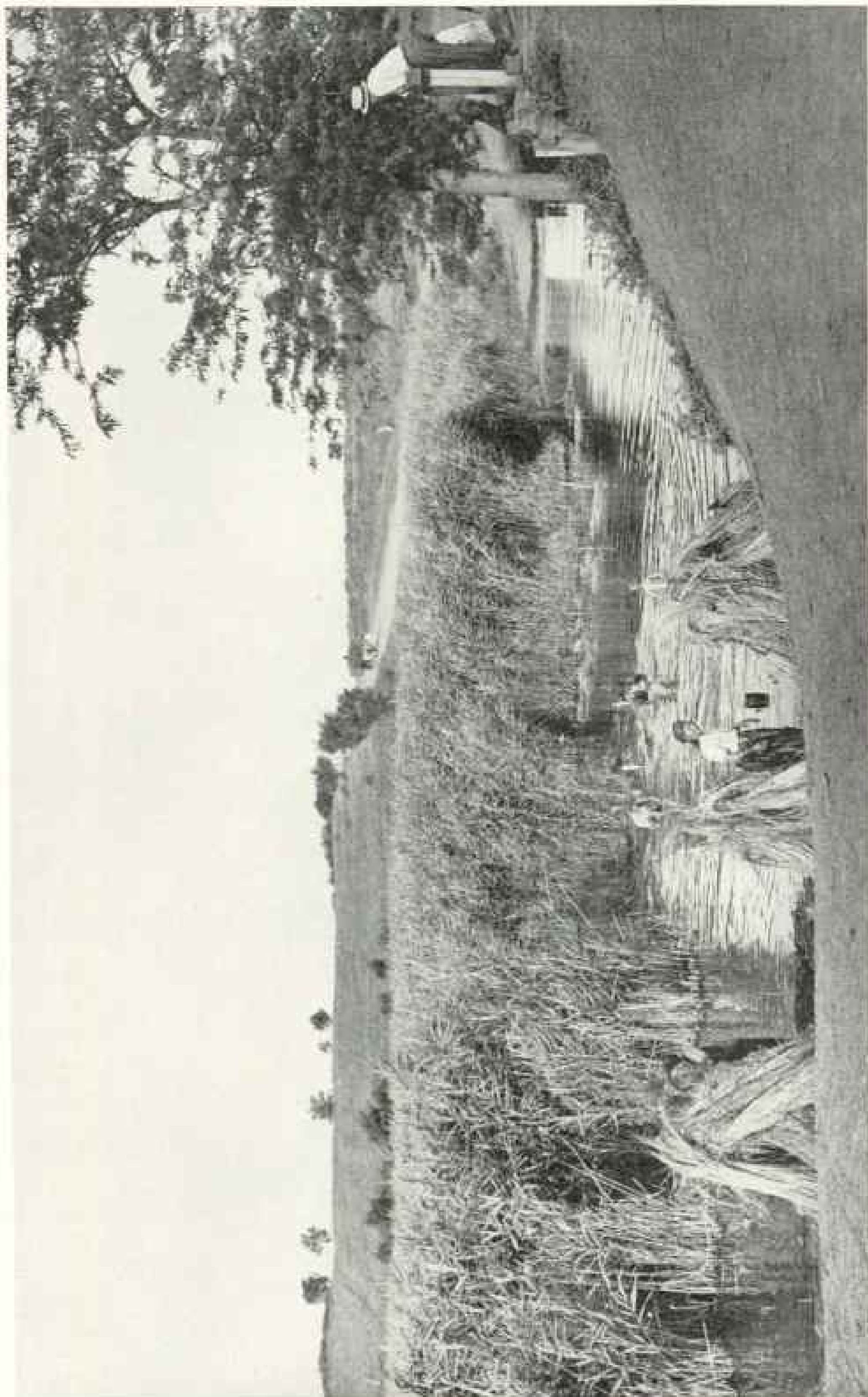
This building is Romania's tallest. It was erected by a Romanian subsidiary of the International Telephone and Telegraph Company, an American corporation, which operates all the telephones in the country.



© R. Ruffin

ROMANIAN PEASANT WOMEN WEAVE IMAGINATION INTO RUGS

Their handiwork forms a bright wall along the Dâmbovița River in the Bucharest open-air market, yet no two designs are exactly alike. Less elaborate pieces festoon the lamp-post. In the peasant home hand-woven carpets are considered too fine to be spread on the floor and are hung on the wall as tapestries or flung over bed, bench, or table. Oriental work introduced into Romania in the 16th century influenced the native art.



Photograph by Ewing Galloway

WITH A REED LIKE THESE FOR AN AIR-PIPE, THE ROMANIAN "ROBIN HOOD" ONCE ESCAPED BY HIDING UNDER WATER

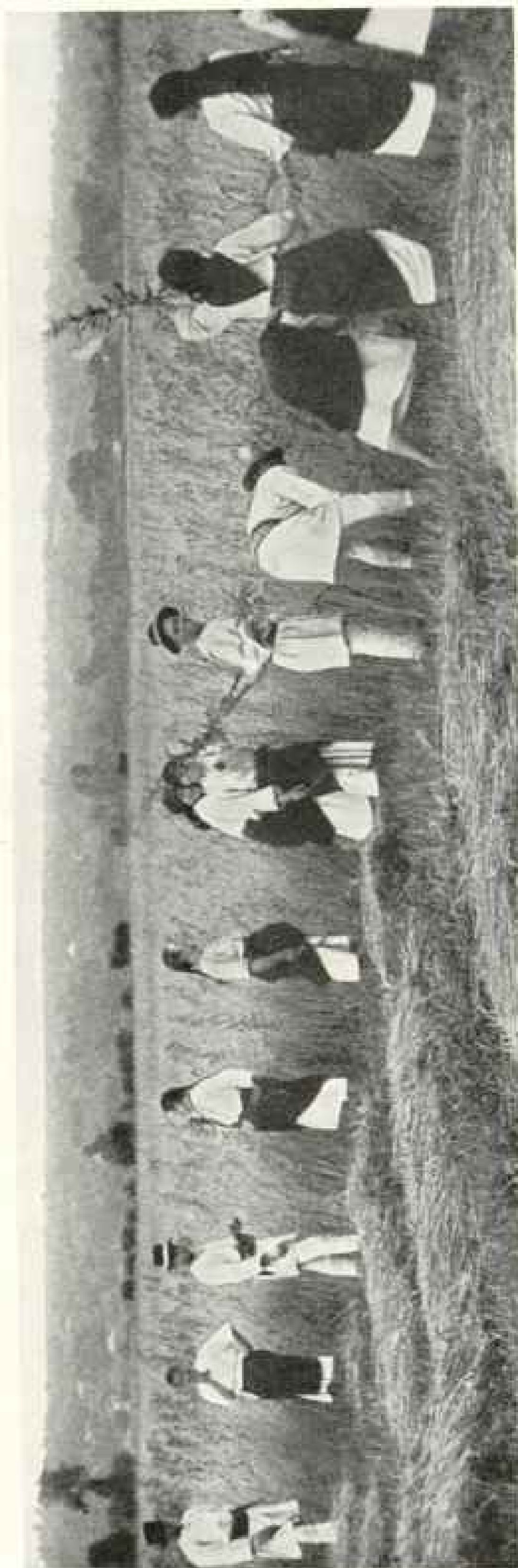
In such marshes, not long ago, dwelt the romantic outlaw, Terentie, who robbed the rich and gave to the poor (see text, page 423). Here peasants are harvesting thatch, still used on some houses. Two youngsters, minus clothes, have leaped into the water to help their elders cut, carry, and stack it.



Photograph by Dr. Finns Stenqvist

**A WRESTLING BOUT ENLIVEN'S A GYPSY CAMP ON THE BLACK SEA NEAR ACIGEA**

These nomads live by horse trading, begging, telling fortunes, and repairing pots and pans. Authorities make them move on after a day or two.



Photograph by Wilhelm Teubner

**HARVEST TIME IS MERRYMAKING TIME IN ROMANIA**

The gay harvesters pluck out tall weeds and stray stalks of hemp from last year's planting, as they reap the grain in this field near the eastern boundary of Bucovina.



Photograph by J. Berman

#### FARM WOMEN IN OLTENIA WATCH THEIR WHEAT TURN INTO FLOUR

Upstairs their husbands help the miller pour the grain under the millstone operated by a water wheel. The finished flour pours into the trough, in front of which the woman in the foreground is sitting, and is put into the elaborate hand-made sacks at the right to be taken home. The miller gets a percentage of the wheat as his fee.

Bucharest we saw fine examples of gypsy ironwork.

The delta country covers a tremendous area spreading between the three branches of the Danube.

Most important of Danube channels is the Sulina, which carries most of the river traffic coming down from far-off Germany, Austria, Hungary, Yugoslavia, and Czechoslovakia.

The European Commission of the Danube, which assures free navigation of the river, struggles constantly to keep the silt, washed down from half of Europe, from clogging up this artery to the Black Sea.

On the Danube's banks are two important ports, Galați and Brăila, which receive vessels of ocean draft. Principal exports are wheat, barley, corn, lumber, and some oil.

#### MANY RARE AND BEAUTIFUL BIRDS

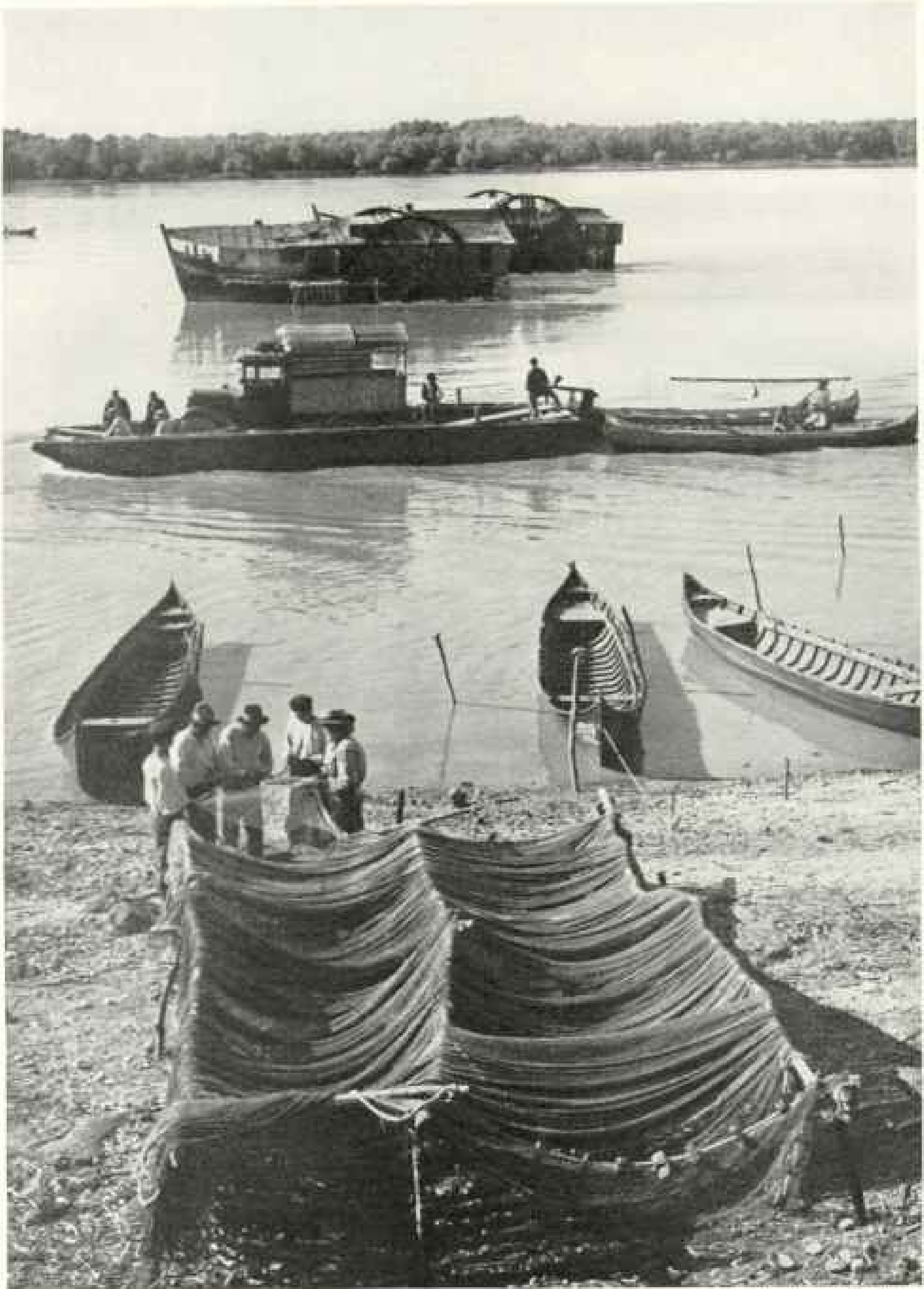
The bird life of the delta is wondrous beyond description. Many rare and beautiful birds are here for the looking. We hired, at fifty cents for the day, a black, flat-bottom rowboat, and slipped silently

through the reeds and narrow channels of the delta. Suddenly we surprised perhaps 200 pelicans, which, web-footed and gross, made their get-away quickly. We happened on a flock of wild swans sailing about in quiet dignity. Among the rarer varieties of duck is a snow-white bird with an emerald-green head and bill. Egrets, flamingos, cormorants, wild geese, many kinds of ducks, herons, and cranes are listed among the commoner varieties of bird life.

#### BOATMEN STILL WEAR FEZZES

As we were now near the Black Sea, why not go to Constanța? This city, Romania's most important port, still bears traces of the Turkish occupation of Dobruja Province, which is reflected in its shabby mosque and the red fezzes of many of its boatmen (see illustration, page 424).

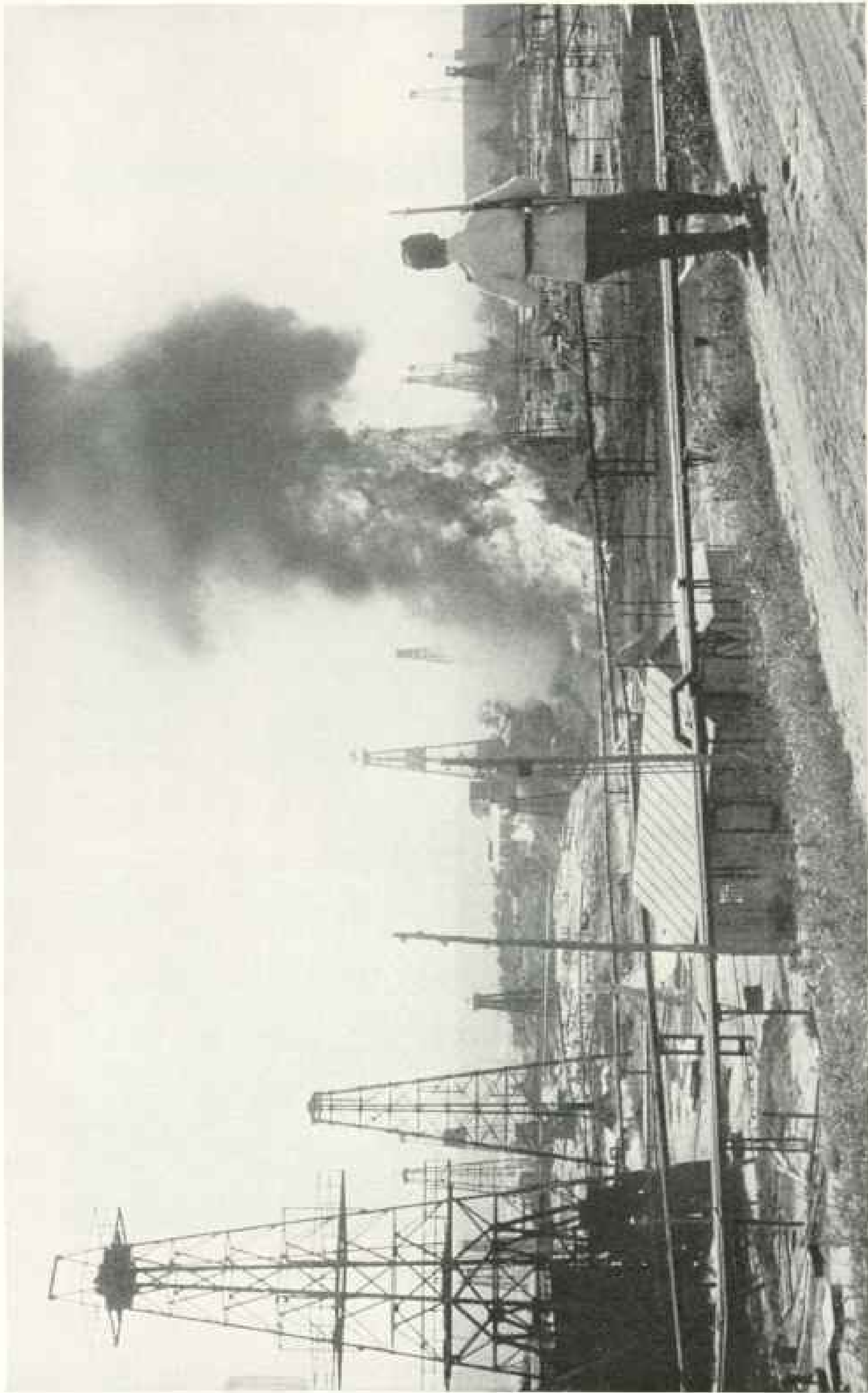
We found Constanța a modern harbor, with a well-equipped oil dock where petroleum products are pumped directly into ocean-going tankers. A pipe line from the oil fields terminates here, but it is not adequate to meet the demand, and thousands



Photograph by J. Berman

#### FLOATING FLOUR MILLS WANDER UP AND DOWN THE DANUBE

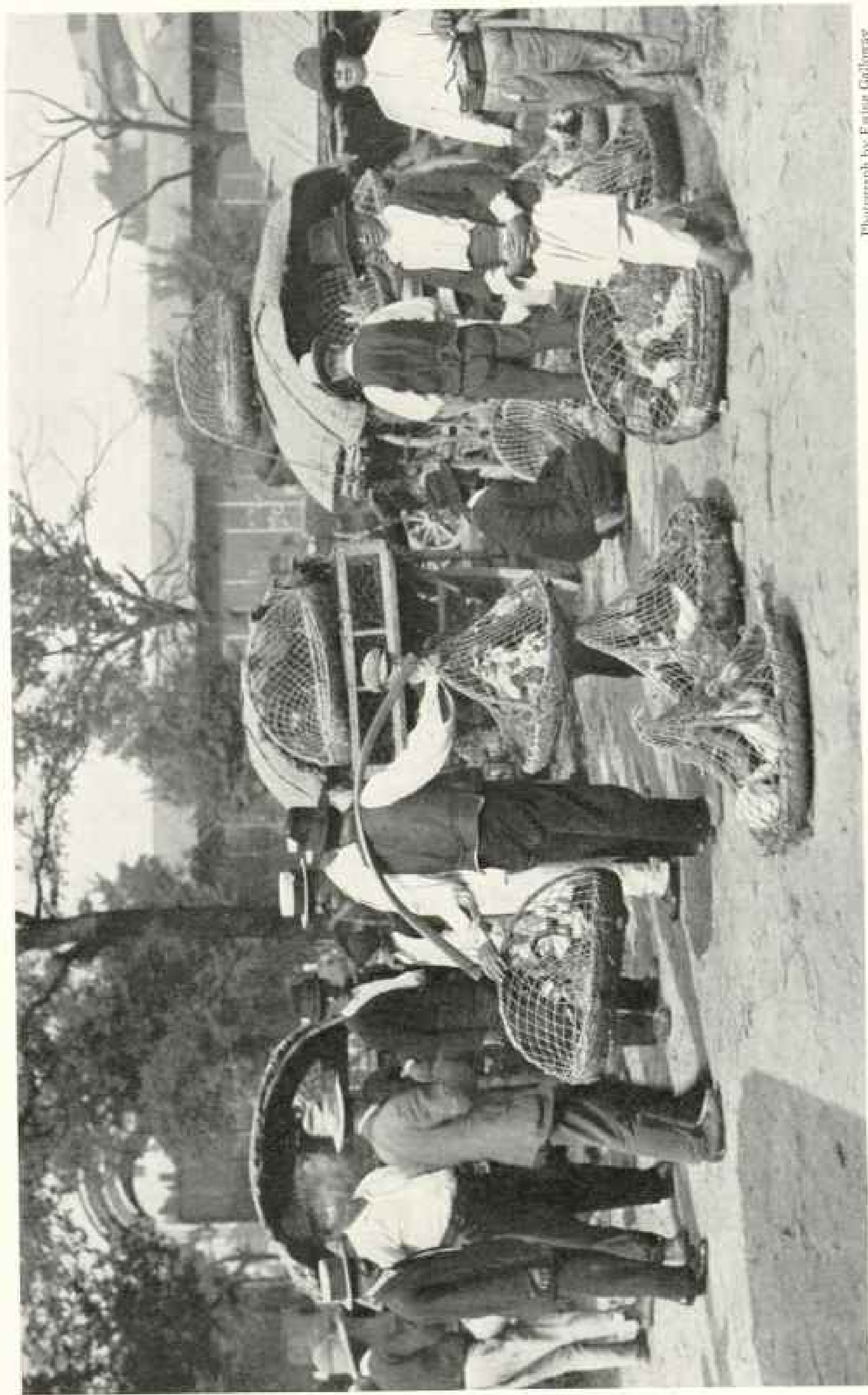
The boats farthest out in the stream are anchored where the current will turn their big water wheels and grind the grain. They go from village to village, handling the farmers' wheat. Nearer shore a motor truck is being ferried up the river, and in the foreground fishermen are drying and mending their nets.



Photograph by Wilhelm Fejzen

FOR YEARS THIS BURNING OIL WELL DEFIED EFFORTS TO EXTINGUISH IT

Romanian authorities kept a constant eye on the stubborn fire on the stubborn fire which belched black smoke from the center of a forest of derricks at Moreni, at the foot of the Transylvanian Alps. This is one of several petroleum regions which comprise a major natural resource of Romania (see text, page 414).



Photograph by Ewing Galloway.

**IN NETTED BASKETS LIKE BIG BIRDCAVES, FAT DUCKS AND CHICKENS TAKE THEIR LAST RIDE**

Fowls brought from the country in farm wagons are purchased by peddlers at the Bucharest poultry market, where farmers in folk costume rub elbows with city men in straw hats and store-bought suits. Shouldering his load and walking through the residential section, the peddler in the center foreground will invite housewives to pick out their poultry dinner alive.



of barrels are shipped overland by tank car.

Oil fields are tremendous, and vast tracts of proven land are yet undeveloped. Romania is one of the world's largest oil producers, being exceeded in 1932 only by the United States, the Soviet Union, and Venezuela. Petroleum products are important in her foreign trade because exportation is not seasonal.

The petroleum markets are principally Turkey, Egypt, Mediterranean ports, and even western Europe. Large quantities of grain are also shipped from the port, but unfortunately there are not enough grain elevators for efficient storage and lading.

Numerous resorts with good bathing beaches make this coast an attractive summering place. We enjoyed Eforia, a rather primitive resort just outside of Constanța, where we bathed in the Black Sea and gazed for hours at the ever-changing blues and greens of its waters.

To the south, at Balcic, Queen Marie has built a beautiful summer palace whose garden is the show place of the coast (see Color Plates II, III, and VIII). On the Black Sea, where the modern city of Constanța stands, are the ruins of old Tomi, where Ovid passed his life in exile and immortalized in verse the curative mud baths.

#### A BOAT TRIP DOWN THE DANUBE

One evening last autumn we boarded a Danube steamer at Galați whose staterooms would accommodate perhaps twelve people. We ate in the dining room, which was also the lounge. It was clean and comfortable and provided with a radio that shrieked oriental music into the late hours of the night.

Our only fellow travelers were a Romanian sea captain and his wife, also on their way to Vâlcov. Numerous, however, were our deck passengers—peasants with their live geese, goats, and household goods traveling to their homes along the Danube.

The boat cook was most obliging, allowing us to enter his kitchen, ask for certain dishes, and even explain to him the intricacies of baking an apple. Before we went to bed, he asked whether he should buy milk the next morning at one of the ports for our coffee.

As we were eating breakfast our friend the sea captain rushed to our table to point out at Chilia his ship. He was anxious to

let us know that he was a salt-water sailor of a seagoing vessel which had even been to Bristol. It proved to be an ancient tramp steamer, but his pride in it was delightful. In the company of himself and his wife we visited the Vâlcov fisheries under the guidance of our captain, who wore a Mephistophelian beard.

#### VÂLCOV HAS CANALS FOR STREETS LIKE VENICE

We were enchanted to find Vâlcov more Russian than Russia. The men all wore full beards and were dressed in long velvet coats buttoned very smartly up the front, while the women, in their full skirts and heads covered with bright scarfs, made a gay picture. Children were everywhere chewing sunflower seeds, the Russian substitute for gum and peanuts.

Vâlcov was like a tiny Venice, with its canals serving as main thoroughfares through the town (see illustration, page 406). Both in the fishermen's houses and in the market places, we always found at least one lovely ikon.

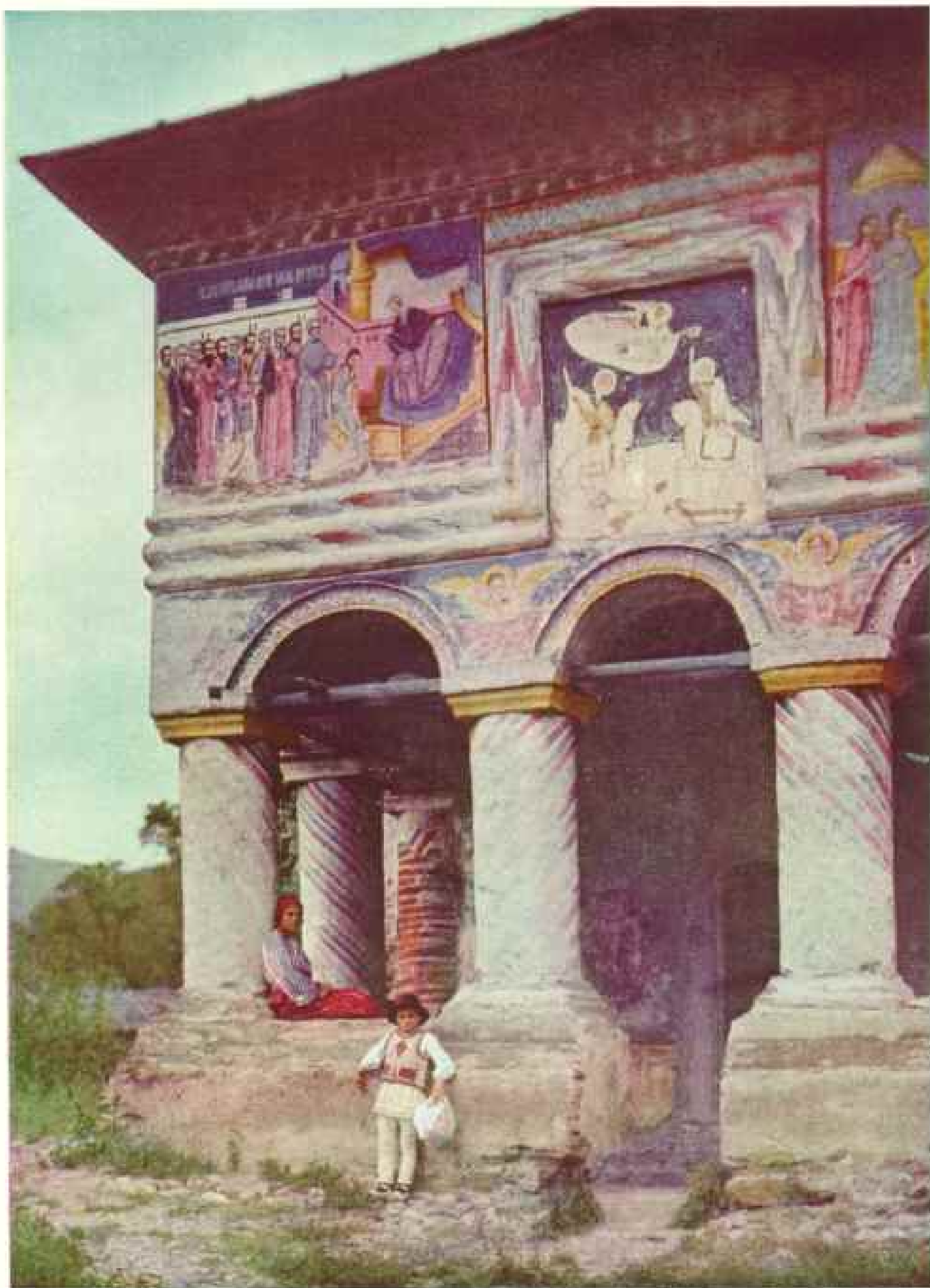
Entering first an immense storage building, we saw where the fish were cleaned, sorted, packed in ice for shipment to Bucharest and other consuming centers, and smoked or salted for export. There was a great variety of salt- and fresh-water fish, including some strange Danubian species which we could not identify. At the back of the storage house was a deep cave topped by an earthen mound, where hundreds of tons of ice, cut from the river and canals in winter, are stored against the summer heat.

Crossing the main canal by an arched wooden bridge, which reminded us of the Rialto, we arrived at the large open market. Here the fishermen bring their daily catch to be sold under the supervision of the State Fisheries. They go out in groups of five or six to each sturdy boat made water-tight and blackened by tar. The boats set out in time to reach the fishing grounds by daylight; the fishermen say they must catch the wary sturgeon while she is still asleep.

#### THE QUEST FOR CAVIAR

The fishing ground varies with the seasons; sometimes it is the Black Sea and sometimes the Danube and the channels of the delta, where the sturgeon come to spawn. The boats return about noon, are

ROMANIA, LAND OF COLOR AND CONTRAST



© National Geographic Society

Natural Color Photograph by Wilhelm Tobien

SAINTS ASCEND THE GOLDEN STAIRS IN THE FRESCOES OF RUCĂR CHURCH

Four centuries have left clear and bright these rich Byzantine paintings. Favorite themes of the artists were the rewards of the righteous and the fate of the sinner. The boy, carrying a packet of bread blessed by the priest, wears the costume of his Walachian forbears.



© National Geographic Society

**A MINARET TOPS A SEASIDE CASTLE**

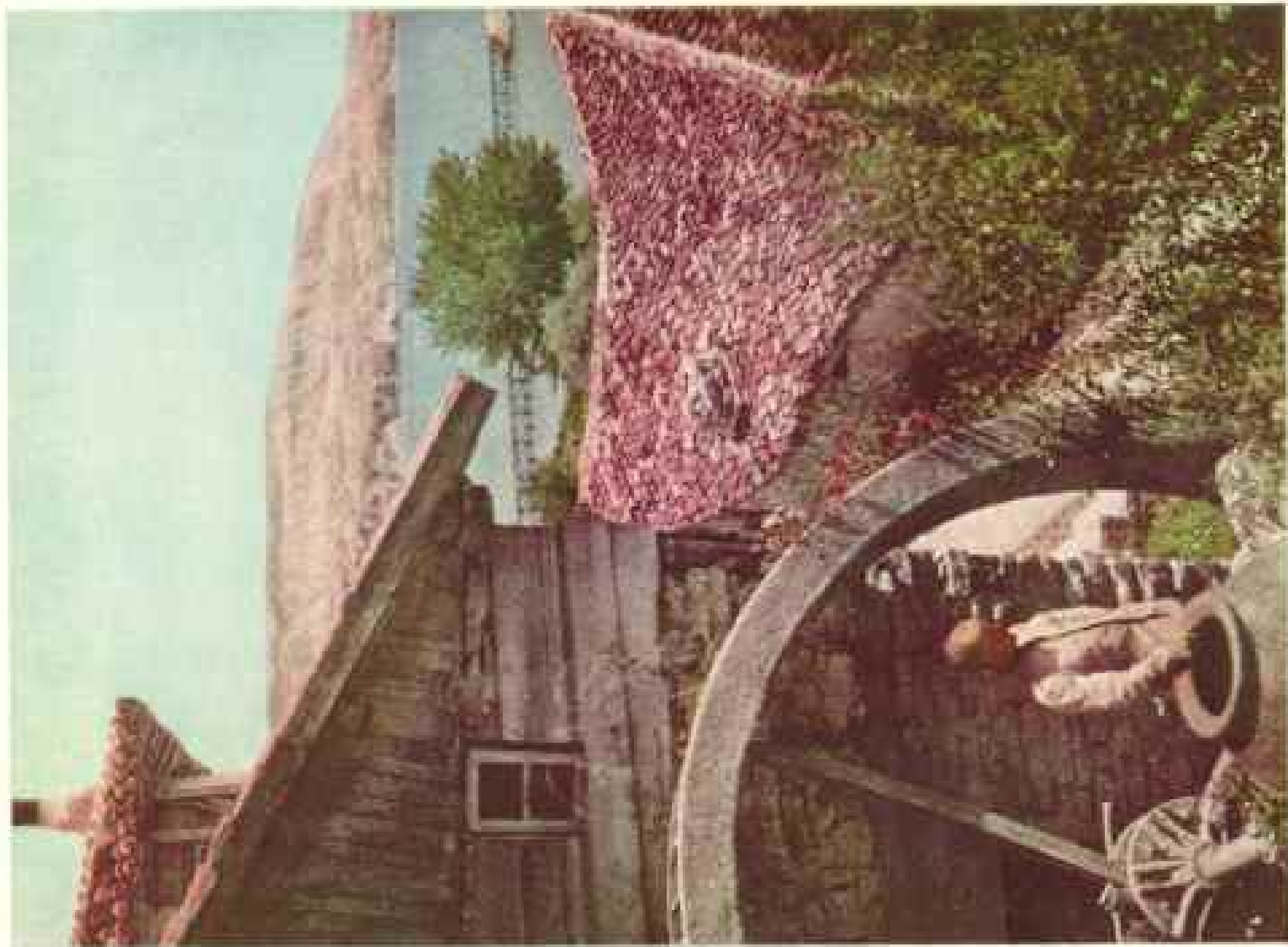
The solid whitewashed structure, with its flower-grown walls, is Queen Marie's residence at Balic, in the Dobruja, where the Turks dominated for four and a half centuries.



Natural Color Photographs by Wilhelm Tohian

**A MODERN VILLA REFLECTS THE PAST**

In an attractive Bucharest home, graceful Byzantine columns blend pleasantly with Romanian architecture of today. Shrubs and flowers brighten the sidewalks of the capital.



© National Geographic Society

**A TURKISH MILL SLEEPS BY THE BLACK SEA**

This relic survives the days of Crescent rule in the Dobruja. Beyond rise white chalk cliffs, framed by blue water and clear sky, which have won for this sunny region around Babic the name "Silver Coast."



Natural Color Photographs by Wilhelm Tobian

**SUCH A GARDEN MAY WELL TEMPT A QUEEN**

A wrought-iron gate opens onto the flower-bordered terrace of Babic Castle (see Plate VIII). Many flowers familiar to American garden-lovers are cultivated in Romania, where the climate resembles that of central New York State.



IN STEADY RHYTHM SWING THE SCYTHES

It takes teamwork to avoid cutting the other fellow's ankles as these peasants of Walachia Province move through the hayfield with their straight-handled implements. From their gay sashes hang whetstones and flasks of water.



© National Geographic Society

Natural Color Photographs by Wilhelm Tobien

THE CAMERA CAUSES A STIR IN RUCĂR

At the prospect of a picture, women and girls trooped from their housework and embroidery to pose. A sprinkling of males shows what somber clothes the menfolk wear as they go about their woodcarving, farming, quarrying, and timbering on the slopes of the Transylvanian Alps.

## ROMANIA, LAND OF COLOR AND CONTRAST



PEASANT EMBROIDERY DISPLAYS A WEALTH OF INTRICATE DESIGNS

Patterns are often geometrical, but frequently represent flowers or fruit and more rarely animals or human figures. A farm woman worked all one winter to make the skirt and jacket which the salesgirl is exhibiting in the Bucharest marketplace.



© National Geographic Society

Natural Color Photographs by Wilhelm Tobien

MATERIAL FOR THESE DRESSES CAME FROM SILKWORMS IN THE WEARERS' OWN HOMES

The silken veil worn by the second girl from the left indicates that she is married. Unmarried girls wear bright bandanas, like those of her companions. A favorite pastime of young peasant girls is to gather at their friends' homes to chat and stitch the embroidery which adorns their finery.



© National Geographic Society

**THE PEASANT WOMAN OF ROMANIA IS EVER SPINNING**

As a first step in the weaving of a rug, she draws and twists the wool from her distaff and winds it as yarn upon a spindle. The designs, such as that of the rug on the steps, are made up "out of her head."



Natural Color Photographs by Wilhelm Teichm

**SOME DAY THE GIRL MAY WEAR HER MOTHER'S DRESSES**

Such garments last a century or more. Especially durable is the woman's blouse of linen made from hemp instead of flax. Native vegetable dyes, which imparted soft, lasting colors, are being replaced today.



© National Geographic Society

**THIS DARK-EYED GIRL IS A GYPSY**

She wears the Romanian national costume in particularly gorgeous colors and lives at Rucăr, for not all gypsies are nomads.



Natural Color Photographs by Wilhelm Többen

**A BABE IN SWADDLING CLOTHES**

His mother clings to the belief that sheets and bands of cloth, wound snugly around the infant, will keep his tiny limbs straight.





QUEEN MARIE OFTEN ATTENDS CHURCH SERVICES HERE

Against a verdant hillside on the Dowager Queen's estate at Balciu (see Color Plates II and III) stands this modest stone chapel of the Greek Orthodox faith, Romania's official religion. Having been an English princess, Queen Marie is a member of the Church of England.



© National Geographic Society

Natural Color Photographs by Wilhelm Töhlen

AN ARMED COMRADE GUARDS ROMANIA'S UNKNOWN SOLDIER

Day and night an army sentinel paces to and fro beside the revered tomb in Carol Park. The Kingdom's colors—red, yellow, and blue—mark the resting place, where a flame is kept always burning. In Bucharest's war museum beyond is a notable collection of old firearms and flags.

unloaded, the fish weighed, and the caviar extracted.

A good catch in season may reach 40,000 pounds, of which usually 12,000 pounds are sturgeon. Twelve thousand pounds of sturgeon will ordinarily produce 500 pounds of caviar. The average sturgeon weighs about 450 pounds, and a record specimen just under 2,000 pounds. In the best season about 5 per cent of the sturgeon's gross weight is caviar. At New York prices for the little black eggs, a 2,000-pound fish represents a respectable sum.

The sturgeon are put up for auction and the buyers must be very expert to judge the amount of caviar in the fish before it is opened.

These were the most famous and richest of Russia's caviar fisheries before Bessarabia became a component part of Romania in 1918.

Our visit to Vâlcov was rather disappointing, as the preceding day had been a holiday, and as great quantities of *țuica* (*tzoo-icka*), the national drink, made from fresh plums, had been consumed, many of the fishermen had not felt equal to going out and the catch was small.

We visited the Lipovan Orthodox Church. Because of their refusal to subscribe to the ritualistic reforms of the Russian Church at the beginning of the nineteenth century, the Lipovans were sent by the Russian Government to colonize the delta. They still maintain that they are the only true believers in the old creed and stoutly adhere to their traditional beliefs and practices. The Romanian Government has not disturbed them since the inclusion of Bessarabia in Romania and their life goes on unruffled by political changes.

#### FEASTING IN THE CHURCHYARD

In the churchyard we found several townspeople cleaning up the remains of the St. Mary's Day feast given the day before to the poor of the town. Much food must have been cooked, judging from the size of the black-iron cauldrons.

Attracted by the sound of music and stamping of feet, we wandered into a small café, on our way back to the boat, where the men of the town were still making merry. They were singing lustily, and now and then one of them jumped up from his table and danced a wild, fast Russian folk-dance to the tune of a wheezy accordion

industriously operated by a blind musician. Over the bar hung an ikon of the Madonna, who seemed to smile down in approval on the gaiety of her people. With typical Russian cordiality our presence was welcomed and we were asked to join in the festivities.

#### WHERE THE DANUBE IS BLUE

Our afternoon and night trip back to Galați was a beautiful one. The Danube was as blue as one expects but rarely finds it. The land spread for miles on either side in low, flat stretches, but here and there one saw a cluster of small houses, a few lean cattle, and tiny plots of ground for cabbage and corn, which some enterprising peasant had reclaimed from the swamps.

In these hundreds of square miles of river and marshes live only the hard-working fishermen and many fugitives from justice. These latter hide themselves in the labyrinth of channels and almost impenetrable swamps.

Romania's most famous outlaw lived for many years in the delta and successfully defied the efforts of the police to find him (see illustration, page 408). He was the picturesque Terente, the "Robin Hood of the Delta." He robbed the rich and gave to the poor and never took a leu from anyone without giving a signed receipt for what he had stolen. He wrote amusing letters to the police and gendarmerie, saying that he had talked with the commandant the night before or thanking an officer for the drink they had had together.

Once the gendarmes combed the swamps and surrounded him, but he escaped by lying under the water and breathing through a hollow reed until the almost solid line of police had passed him by. But he was finally caught and shot down when the police lay in wait for him outside his sweetheart's hut on the edge of a fishing village—"cherchez la femme!"

Once on our return we saw a home-made merry-go-round operated by a group of boys who stood on a platform above and pushed it at top speed (see illustration, page 405).

Late in the afternoon we arrived at a very Russian town with the Turkish name of Ismail, at the mouth of the Danube. The population was perhaps 30,000, and from the boat we could see the green domes of at least a dozen churches rising above the town, bearing the Russian cross with its two



Photograph courtesy Romanian Legation

CONSTANȚA IS THE FUNNEL FOR ROMANIAN OIL AND GRAIN

The ancient city, founded by Constantine the Great in honor of his half-sister, Constantia, is the Nation's chief outlet to the Black Sea and is connected with the oil region by pipe lines (see text, page 410). The mosque at the right was built by King Carol I of Romania as a gift to the Turkish population.

bars. Along the quay were many of the low, open Russian carriages called "droshkies," which added to the Russian flavor.

All in all, the trip was charming and leisurely except for the fact that when we reached Galați the next morning we had only 40 minutes to make our train. The station was about two miles from the dock—not a taxi, not a vehicle in sight. Carrying our baggage, we began running toward the station. One of our party eventually discovered a cart and, mounting beside the driver and watching over the baggage, she jolted along over the rough cobblestones to the station. Arriving there, she was even more exhausted from the bouncing than we who had run the whole way, only to discover the train had been gone for three minutes.

When we penetrated into the Carpathians we found the timber business a flourishing industry. The logs are fastened together in fan-shaped rafts and guided by men to the sea in the spring, when the torrents are swift and dangerous.

All peasant life is interesting, and the wayside scenes are full of varying incident.

Often in the spring, when the nights were still cold and clear, we came upon large flocks of sheep, their bells tinkling and their eyes shining like points of flame. Romanian peasants, wearing large furry capes, like pictures from the Old Testament, herded the flocks on foot to pastures in the mountains away from the summer heat. Many came from the far Danube country.

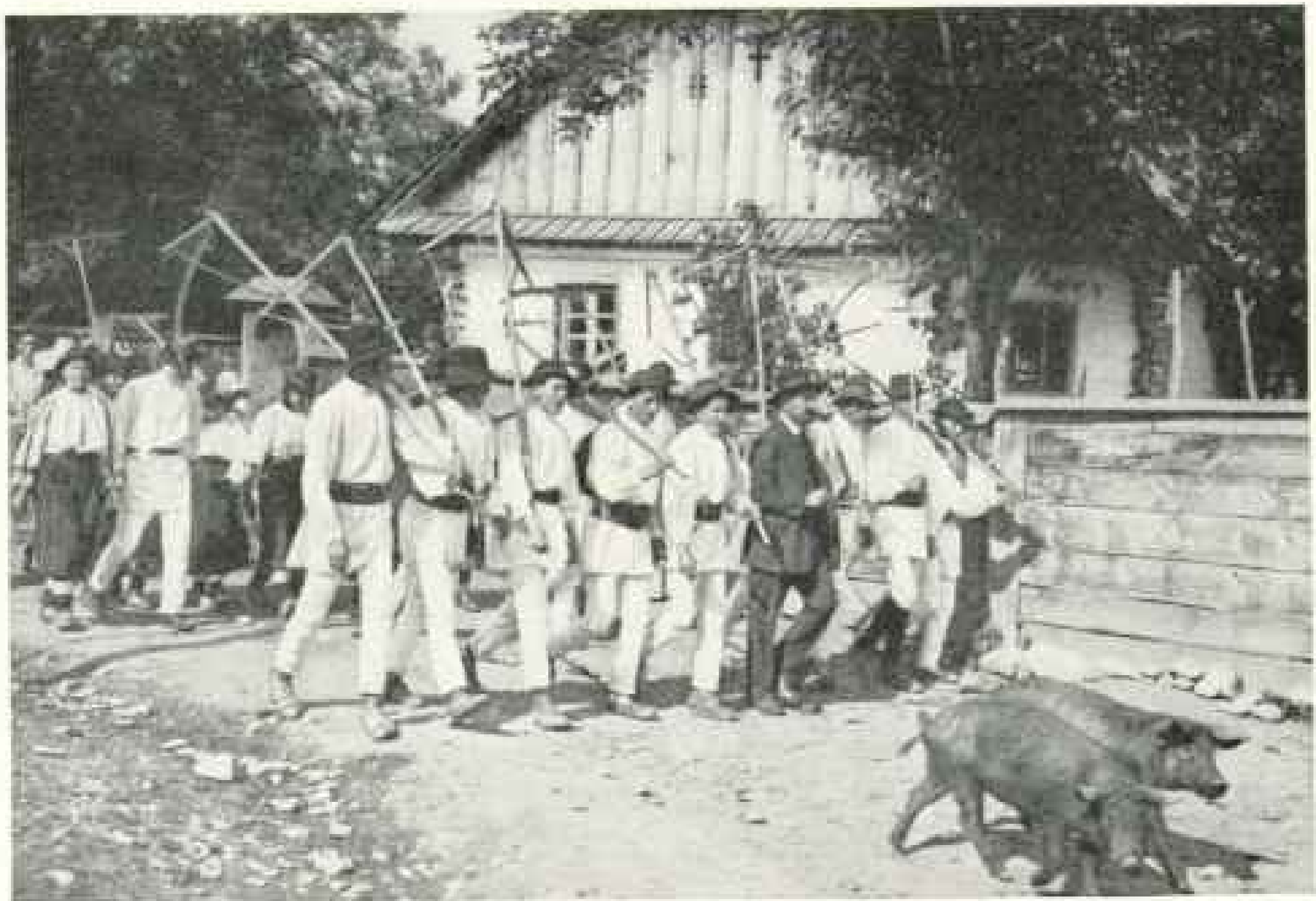
As we entered some cities of Transylvania the change was emphatic, because this province, formerly Hungarian, decided to become part of Romania following the war. Beside the embroidered dress of the Romanians, one sees Hungarian and Saxon costumes worn by tall men and women of the Magyar and Teutonic races. The women are pretty in their full skirts, tight bodices, and straw hats trimmed with flowers and ribbons, and the men wear broad-brimmed felt hats, black short coats, black boots, and tight breeches.

Often the architecture is distinctly different—the houses are gabled and Germanic. Everywhere the signs are in three languages—Romanian, German, and Hungarian. Transylvania has a mixed population



#### HOMeward PLOD THE HARVESTERS

Before sunrise this trio began swinging their long scythe blades through the fragrant hay (see Color Plate IV). Now the work is over, they don their coats and shoulder their implements, the blades carefully wrapped with cloth to prevent rust. In the bundles are corn and peas for the family.



Photograph by J. Berman

#### ALL HANDS GIVE A DAY'S WORK TO THE CHURCH

Custom decrees that the young men and women of this village each year harvest the priest's wheat. Shouldering scythes and rakes, they sing lustily as they follow him to his fields. Even the pigs seem to have caught the spirit of the occasion. When the crop is cut and stacked, a cross made of the wheat is borne back to the village, where the dominie provides a feast.



Photograph by Wilhelm Tolbin

FROM MAKER TO WEARER JUST AROUND THE CORNER

High leather boots, sold to those desiring protection from snow and mud, are taken from the artisan's small shop to the market place, in the university town of Cluj, Transylvania. An apprentice, still wearing the leather apron of his craft, shoulders the light end of the pole from which hang the boots in graded sizes.



Photograph by J. Berman

A BUCOVINA MOUNTAINEER PLAYS HIS BAGPIPE FOR POSTERITY

Roman warriors may have introduced the instrument into Romania, as they did into the British Isles. Like the bagpipe of the Romans and the Scottish Highlanders, this one is inflated by the breath, not by a bellows. Because the difficult art of making and playing these skin instruments is vanishing among its people, the music is now being recorded by phonograph.

of Romanians, who are in the majority, Hungarians, and Saxons. These latter were brought in by the Hungarian kings to form a defense against invasion. The German settlements centered around the seven Saxon burgs—the German name for Transylvania is "Siebenbürgen."

Of the original seven Saxon burgs, the largest and the most interesting are Braşov (Kronstadt), Sibiu (Hermannstadt), and Sighişoara (Schässburg). The first is the largest. The second has fine buildings, museums, and libraries which draw many people.

Braşov has a medieval church, now Lutheran, filled with rare Turkish carpets, gifts of merchants at christenings, marriages, or funerals. This city was formerly the trading point of central Europe with Turkey and the East.

#### THE CARCASSONNE OF ROMANIA

To me Sighişoara is the real jewel of them all. It is a medieval fortress city built on a hill, more untouched than Carcassonne. Because her people were too poor to tear down the old city and build new homes, a great treasure has been preserved in her fine church and guildhalls, in the towers of her walls (see Color Plate XII). We were shown through the museum by the curator and his sister, who were profound students. He, as the leading physician of the town, had been fortunate in being able to find precious articles in the homes of his patients. Here the Saxons use the German tongue when speaking of their rivers and their city, Schässburg, and some do not



Photograph by J. Bertman

#### IF YOUR BACK ACHES, BRUIN WILL DANCE ON IT

Gypsies teach their dancing bears to massage the muscles of poor people, weary from working all day in the fields. The patients lie flat on the ground and seem to enjoy Dr. Bear's somewhat heavy-footed treatment. While a policeman (upper right) keeps an eye on the group, one of the itinerants beats time with his hand-made drum and his partner handles the well-muzzled performer, to the delight of a crowd of youngsters in high-school uniform.

know the Romanian names which have been officially substituted.

It was near Sighişoara that our own soldier of fortune, John Smith, in one of the paid armies of Europe, fought bravely and distinguished himself in the Battle of Three Turks' Heads. For John Smith's bravery the Duke of Transylvania, Sigismundus Bathor, knighted him in 1603, and the records in the British Museum contain the following citation, a translation of the patent:

"Sigismundus Bathor, by the grace of God, Duke of Transylvania, Wallachia and



Photograph by Wilhelm Tobien

#### LUCKLESS SUITORS HELP CELEBRATE THE WEDDING

Nearly the whole village of Rucăr gathers at the bride's house, where music adds to the gaiety. Usually the musicians are gypsies, natural masters of the melodies of their race. Music is provided by a violin and a portable cymbal.



Photograph by J. Berman

#### ROMANIAN COUPLES ARE TIED WITH A DOUBLE KNOT

Law prescribes a civil ceremony before the church wedding can be performed. Here an Oltenian peasant bridegroom in a straw hat leads his bride before the mayor, the smiling young man standing at the far end of the table and wearing the official scarf. Two peasant friends sign as witnesses. The next step is the church, where the priest will marry the happy pair again.



Photograph by J. Berman

**BABIES SHOULD BE SEEN AND NOT HEARD AT THE SPINNING BEE**

Mothers bring them along in the evening and keep them quiet by gently swinging the suspended cradles with practiced foot. Proudly displayed in this peasant guest room is a picture of relatives who emigrated to the United States and prospered.



Photograph by Denis Galloway

**A WOMAN PROSAICALLY SELLS SAUSAGE AT THE "MARRIAGE MARKET"**

On a peak in the Munții Apuseni (the Sunset or Western Mountains), in west-central Transylvania, young women and men from sequestered valleys still assemble at the annual fair with a view to matrimony. Each girl coyly displays her trousseau as evidence of her skill in household arts, and a courtship thus begun may ripen later at her parents' home. The custom is dying out.





STRONG SHOULDERS SERVE AS A HEARSE IN RURAL ROMANIA

Young men carry the flower-decked coffin in this Transylvanian village funeral procession. Before them the venerable bearded priest of the Greek Orthodox Church walks slowly with the aid of a cane. The faces of children reflect the solemnity of their elders.



Photographs by J. Bermin

A BARNYARD FUNERAL IS HELD AROUND AN OPEN COFFIN

Mourners were so numerous that the small farm home would not hold them, necessitating this open-air ceremony in Moldavia Province. A robed priest conducts the service and a layman reads the responses. Afterward a hand-woven shroud will be wrapped around the body, the lid nailed down, and the coffin carried to the graveyard.



Photograph by Wilhelm Tuhien.

"MARRIED TO-DAY AND OUT AT THE ELBOWS TO-MORROW"

So goes a Romanian peasant proverb, since a young couple's financial margin is small and children soon arrive. This young bridegroom of Rucăr poses, with all the dignity his small stature can command, between his bride and his future father-in-law. The men wear flowers made of wax.

Moldavia, Earle of Anchar, Salford and Growenda; to whom this writing may come or appear: Know that we have given leave and licence to *John Smith*, an English Gentleman, Captaine of 250 soldiers; whose service doth deserve all praise and perpetuall memory toward us, as a man who did for God and his country overcome his enemies: Wherefore, out of our love and favor, according to the law of Armes, We have ordained and give him on his shield of Armes, the figure and description of three Turkes heads, which with his sword before the town of *Regall*, in single combat, he did overcome, kill and cut off, in the Province of Transylvania.

"Sealed at Lipswick in Misenland, the ninth day of December, in the yeare of our Lord, 1603.

"(Signed) SIGISMUNDUS BATHOR."

Before leaving Transylvania we saw the holy city of Alba-Iulia resting secure within its ancient walls on a hilltop. In the Orthodox coronation cathedral the late Ferdinand, on October 15, 1922, was crowned first King of United Romania. Alba-Iulia is the cradle of Romanian liberty, one writer has said.

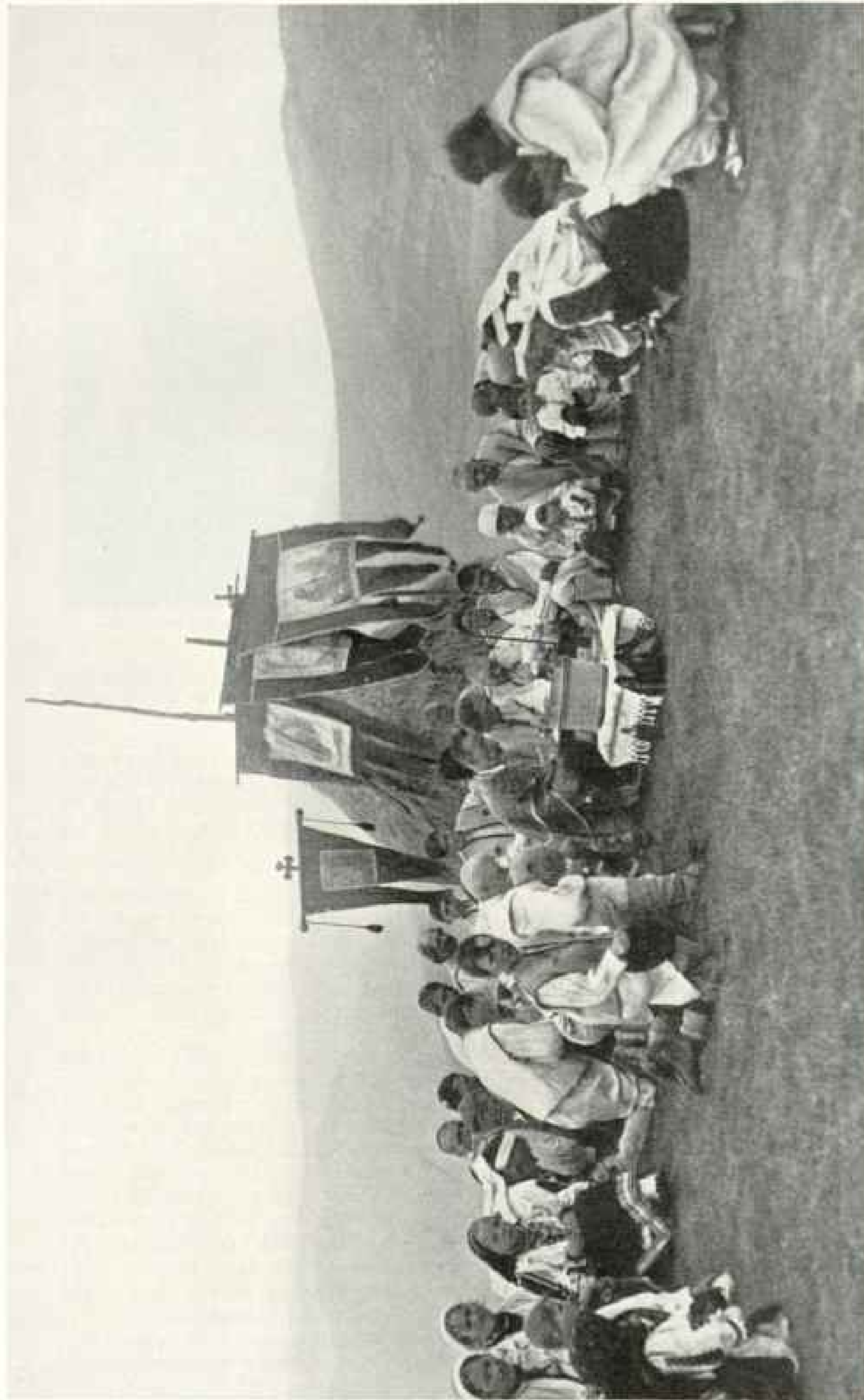
About 1600 Michael the Brave took and held Alba-Iulia and Transylvania, which constituted one of Romania's claims to Transylvania when they were united in 1918.

RESORTS DATE FROM ROMAN TIMES

Many watering resorts are scattered over Romania. They were mostly discovered and built by the Romans. One wit has said that so many are the baths found in the countries of early Roman occupation that it would seem the Romans conquered only for the joy of bathing.

In a motor trip of two weeks in northern Romania, I remember meeting no other sight-seers. As for the railroads, the main lines connecting with western Europe afford de luxe trains, such as the excellent Arlberg and the famous Orient Express, which pass through Bucharest; but I found taking local trains while traveling through the country was as slow as going day coach in rural areas at home. We were, however, very comfortable traveling second class to the Black Sea on a luxurious express.

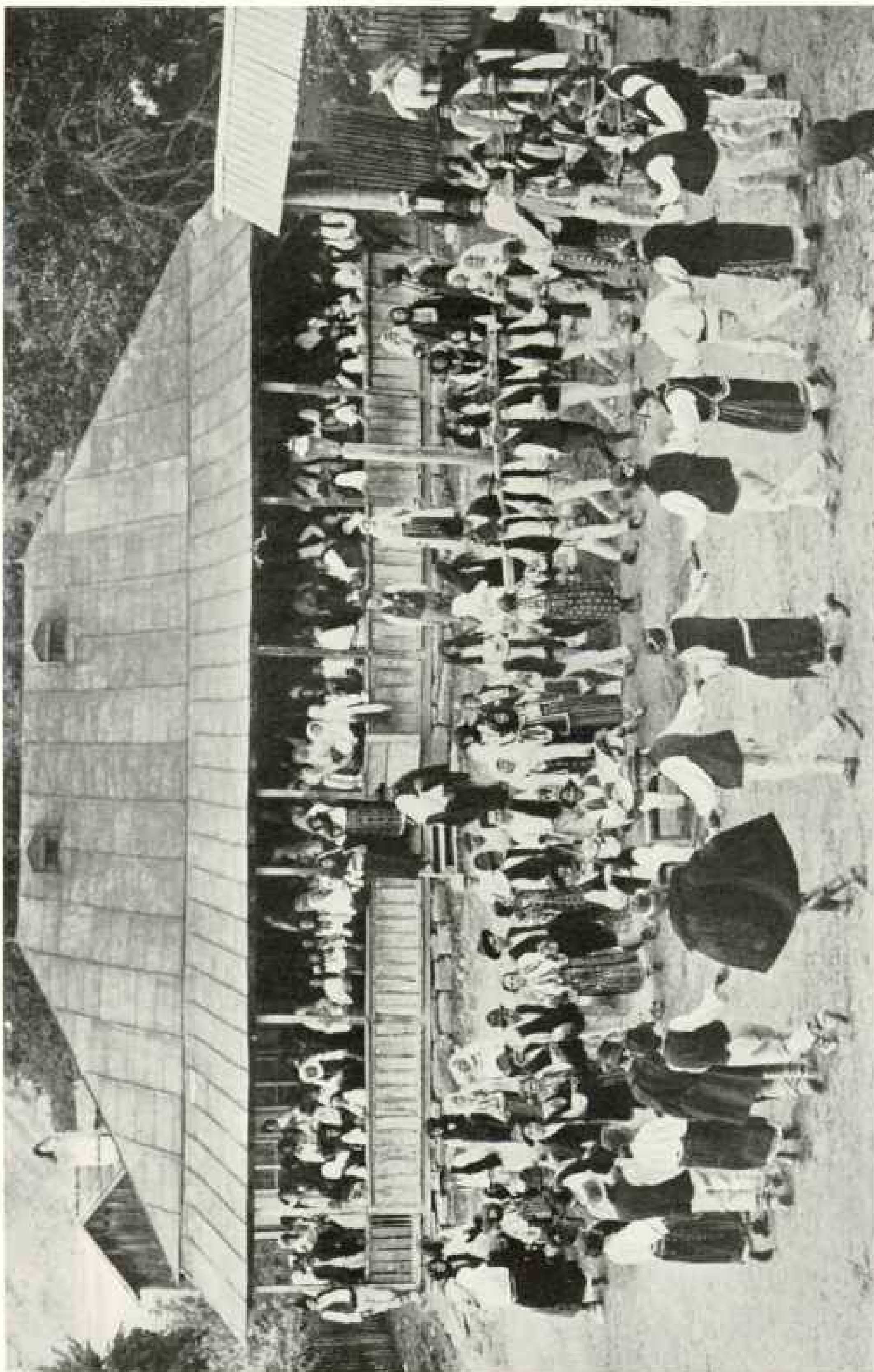
It would be a pity to travel through Romania by train. Going by automobile, it



Photograph by Denis Galloway. (Claj) Ethnographic Museum

**DEVOUT PEASANTS KNEEL BY A HAYSTACK TO PRAY FOR ABUNDANT CROPS**

Under the fluttering banners of the Greek Orthodox Church, a priest blesses water which he will sprinkle on the fields near Poenița Voimil to make the land fertile. The typical Romanian farmer always asks a formal blessing for his important undertakings. In time of drought prayers for rain are offered (see text, page 447).



Photograph by J. Bertram

PLEASANTS SAY THEY "DANCE ON SUNDAY TO KEEP THE CREAK OUT OF THEIR BONES ON MONDAY"

Whole villages assemble after church, the young people to tread the rhythmic measures of the horn, and their elders to look on. This ancient national dance of Roman origin, which sometimes continues for hours, seems a cross between a slow jig and a game of ring-around-the-rosy. Joining hands, the participants go through a stepping, awaying motion to the music of a fiddle and guitar.



Photograph by J. Braun

EVERYWHERE THE MARE WENT THE COLT WAS SURE TO GO

It followed her to market one day—through the southern Carpathian foothills, in the Old Kingdom of Rumania. The woman astride her small mountain pony has brought the inevitable mass of wool and she spins worsted as she rides. The saddlebags bulge with butter, cheese, and fruit to be sold in town.



Photograph by J. Bertram

BARGAINS, NOT BLUE RIBBONS, ARE SOUGHT AT THIS CATTLE FAIR.

On the outskirts of Drăgoș, in Transylvania, farmers shrewdly trade, buy, or sell, and then spend the proceeds in town, where leather goods and coveted articles for the home are bought. The late Queen Elizabeth of Romania, widely known by her *nom de plume* of "Carmen Sylva," referred to the rural folk of her adopted land as "its white-clad peasantry, frugal, grave."



Photograph by J. Borman

FOR THREE CENTURIES THIS GONG HAS SUMMONED  
MONKS TO PRAYER

The broken piece of metal bears the arms of one of the old Romanian principalities. It hangs in the Tismana Monastery, having somehow escaped the fate of the many bells which were melted down to make ammunition for artillery during the World War invasion of the country (see text, page 447).

is necessary to be prepared to suffer many hardships, not only in the manner of going, but also the hotels are often primitive and uncomfortable.

You can, however, have wholesome, simple food if you stick to native dishes. One called *sarmale* is a concoction of sour cabbage leaves, rather like sauerkraut but more delicately flavored, rolled around a meatball, served with coarse cornmeal mush, called *mămăligă* (*mamaliga*), and a highly spiced sauce, and oftentimes thick sour cream. *Mămăligă* is a national food and one of the principal means of sustenance of

the poor. It is also served with eggs and in other combinations.

Going by train, one would miss the beautiful countryside, the interesting peasant life, and the constantly changing scenery and atmosphere. Because of bad roads and inadequate railroad communications, within a comparatively few miles there is a marked difference apparent in dress and customs.

THE HOME OF A MYSTERY  
TRIBE

Motoring out from Braşov, through Transylvania, we were amazed at the change in the people, houses, and dress. This was the land of the Szeklers, that curious Turanian tribe about whose origin there has been so much controversy. Some historians maintain that they were left behind when Attila's horde of Huns withdrew to the east. Others contend that they were a distinct tribe of Arpád's invading Magyars who settled in the mountains of eastern Transylvania.

The houses of these people are built of logs and the carved wooden gates in front of them are distinctly central Asiatic

in form. We found it difficult to ask our way through this district, as almost no one spoke Romanian.

On our trip through Moldavia and Bucovina, the roadside scenes were a compensation for the long, hard miles we traveled. One afternoon, while descending the eastern slopes of the Carpathians, following the northern Bistriţa River, we came upon a tiny village of three or four houses, where a wedding was being celebrated.

From miles around the mountain people had walked to take part in the festivities. They were so clean, happy, care-free, and



Photograph by Denis Galloway, Cluj Ethnographic Museum.

#### TO THE HILLS! THE BARBARIANS ARE COMING!

In the ancient days of frequent invasions, these long wooden trumpets, or *taluca*, spread the alarm. The melancholy notes, of tremendous carrying power, relayed from mountain to mountain, meant that hostile hordes soon would sweep through the Transylvanian valleys with torch and sword. Now a peasant girl, watching her grazing cows, blows a stentorian blast.



#### WARLIKE WAVES HAVE SWIRLED AROUND THESE WALLS

Christian princes fleeing from Asiatic enemies centuries ago offered prayers of thanksgiving when they reached the fortified Sucevita Monastery, in the part of northern Moldavia which is now Bucovina (see text, page 450). In this border region the Romanians have fought many invaders, and during the World War the Russian and Austrian armies made it a battlefield.



well fed that the nightmare of world depression seemed a million miles away. They were handsome in their holiday clothes, which were the most beautiful I have seen in Romania.

In addition to the felt breeches and white starched blouses, the men wore white leather boleros embroidered in colored beads, rather like American Indian work, or in coarse multicolored yarn and trimmed with bands of caracul and astrakhan.

The women were equally charming. Many carried infants of three and four weeks old, bound like little mummies in linen bands, but muffled up to the chin in pink quilts and wearing conventional pink baby-hoods adorned with many bows. They were carried in little wooden troughs, which had been hollowed out from a tree trunk and gaily painted.

#### POSING FOR A PHOTOGRAPH

Another day we came upon crowds of peasants hurrying to a small wooden church where the feast day of St. Stephen was to be celebrated. We stopped four young lads dressed in pure white except for bright red sashes and small black felt hats in which a feather or paper flower was jauntily stuck.

To our request for a photograph they lined up in a dignified manner, assumed grave expressions, advanced one foot slightly forward, and with one arm akimbo made a smart appearance. Then with true Romanian courtesy and hospitality they invited us to come to the celebration.

Arriving there, we found hundreds of peasants gathered in the churchyard, forming a procession, a few carrying bright satin banners, while two strong men tolled the bell which was hung in a simple wooden tower apart from the church. Their objective was the little country graveyard, a few hundred yards away. There they knelt and prayed, the women in separate groups.

It was all rather touching, because this was obviously a poor district and, there being no priest, some of the farmers performed the ceremony. We were probably the only Americans ever seen by these people. They were ever so curious, but friendly and helpful.

A large group of young boys surrounded us, inspected every square inch of the car, begged for rides, and one proudly appointed himself guide and camera-carrier and helped keep off the crowd while we snapped pic-

tures. On our way back to the road we found a few late stragglers; some peasant women, no doubt detained by household cares, carrying their shoes in one hand, greeted us. When asked to pose for a picture, they first hurriedly put on their shoes.

#### BEAUTIFUL EMBROIDERY OF ANCIENT DESIGN

All the world knows of the art and handicraft of Romania's peasants (see Color Plate V). In the stores and import shops of the large cities of the world may be bought blouses exquisitely embroidered, striking bits of pottery, and carpets of an exceedingly artistic and original design. The Romanian peasant has wrought by hand, as he has done for centuries, these works of true merit, the science of which his ancestors have bequeathed to him. He has continued to make them in the same primitive manner with the same implements his forefathers used before him.

During the long Romanian winter, when deep snow covers the ground and seals his tiny hut, the peasant makes into thread the flax or hemp of his fields. On his home looms he weaves cloth and embellishes it with intricate embroidery whose ancient designs are a part of his polyglot background. His pottery is as primitive and brilliant as that of our American Indians, and in the dim past may have come from the same Asiatic source. The wool from the backs of his sheep is carded by hand, spun into yarn by the distaff, and woven on home-made looms into carpets (see Color Plate VI and page 407).

#### MONASTERIES ARE TREASURIES OF ART

But what does the world know of the greatest and richest of all Romania's art treasures—her medieval, fortified monasteries? Why does not the world come here to enjoy the beauties of these Byzantine monuments as it goes to see the inheritances of Italy and Spain, or the mosques of Istanbul? Why have so few travelers visited and written accounts of her monasteries, about which clusters a wealth of material, historical and legendary? Even if one lives in Romania, one is barely conscious of the existence of these monasteries.

Because of the lack of local interest, I was not prepared for their rare charm. Despite the hardships of travel over bad roads, we found it well worth our discomfort and

PALACES AND PEASANTS IN ROME'S OLD COLONY



CASTLE PELEŞ, AT SINAIA, IS A FAVORITE RESIDENCE OF THE KING

The palace nestles among the pines of the Transylvanian Alps, two hours by train from Bucharest. It was built fifty years ago by Carol I, the Hohenzollern founder of the Romanian dynasty. His grandnephew, King Carol II, the reigning monarch, was born here. Beyond rise the mile-high summits of the Bucegi Range.



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Natural Color Photographs by Wilhelm Tobien

COSTUMES BLEND STYLES OF NEARLY TWO THOUSAND YEARS

A modern hat and top-boots are combined by the man at the left with the long, loose shirt, trousers, and leather belt which were fashionable when the Roman legions of Trajan invaded the land. These peasants make their home in the northern Province of Bucovina, meaning "Forest of Beech."



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**TIME OUT FOR A DRINK OF SPRING WATER**

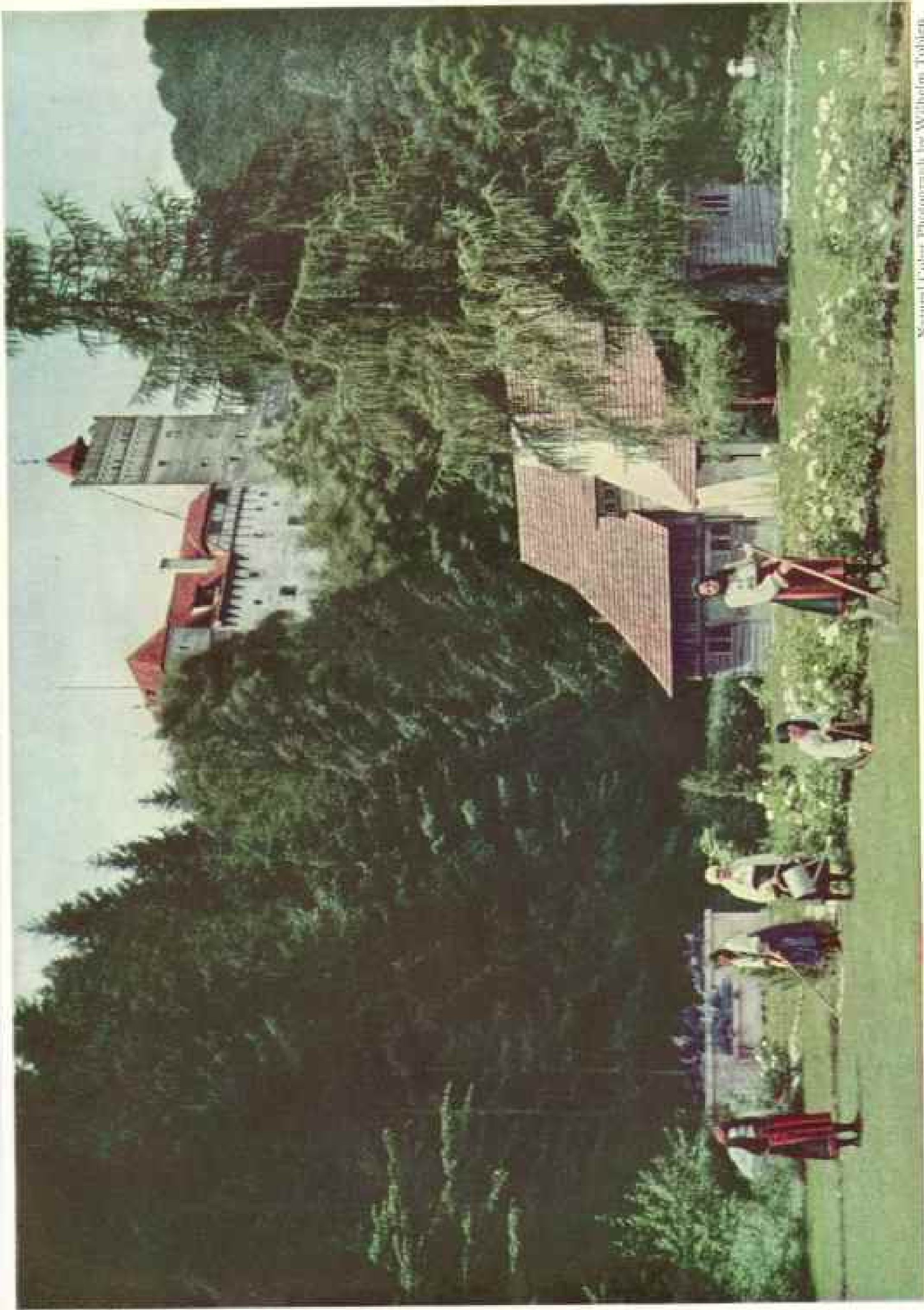
Bran Castle gardeners in Transylvanian peasant dress quench their thirst at a fountain dedicated to the donor's patron saint. Shelter and water are provided at many such stations in Romania.



Natural Color Photographs by Wilhelm Tobien

**SHE IS PROUD TO BE GARDENER TO A QUEEN**

Nasturtiums and campanulas are the flowers grown so luxuriantly by this girl in Queen Marie's gardens at Bran. Dark skirts and bright aprons with vertical patterns are favored in this region.



Natural Color Photograph by Wilhelm Tobien

TEUTONIC KNIGHTS BUILT BLAN CASTLE SEVEN CENTURIES AGO

When Transylvania was united with Romania after the World War, the city of Braşov presented this historic fortress to Queen Marie, who has furnished it in old Romanian style and often makes her home there in the summer. Beside a little tea house, once a favorite haunt of Princess Ileana, peasants till and water the flowers of the palace garden.

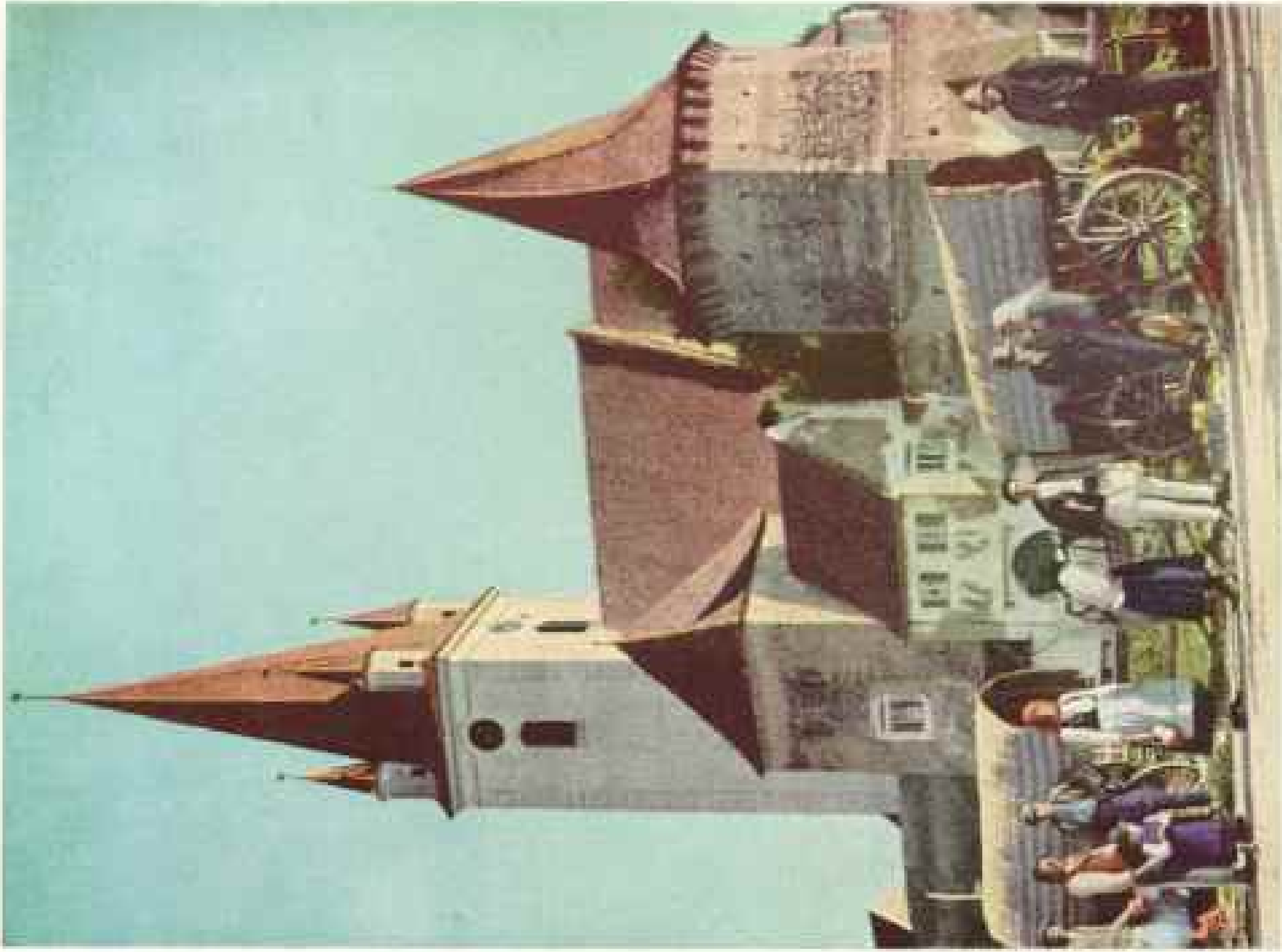
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**"THE TOWER OF THE HOUR" IS SIGHIȘOARA'S BIG BEN**

The towers and walls of the medieval city are as well preserved and distinctive as those of Carcassonne in France. Near this Transylvanian town our colonial soldier of fortune, Captain John Smith, distinguished himself at the Battle of Three Turks' Heads.



Natural Color Photographs by Wilhelm Tobler

**CHURCH AND FORT ARE MINGLED IN ONE**

In the Sibiu district of Transylvania there are several villages with a definite Teutonic aspect. The houses are gabled, Rumanian and Saxon costumes are worn, and three languages—German, Hungarian, and Rumanian—are spoken.



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READY FOR A PEASANT'S SATURDAY NIGHT

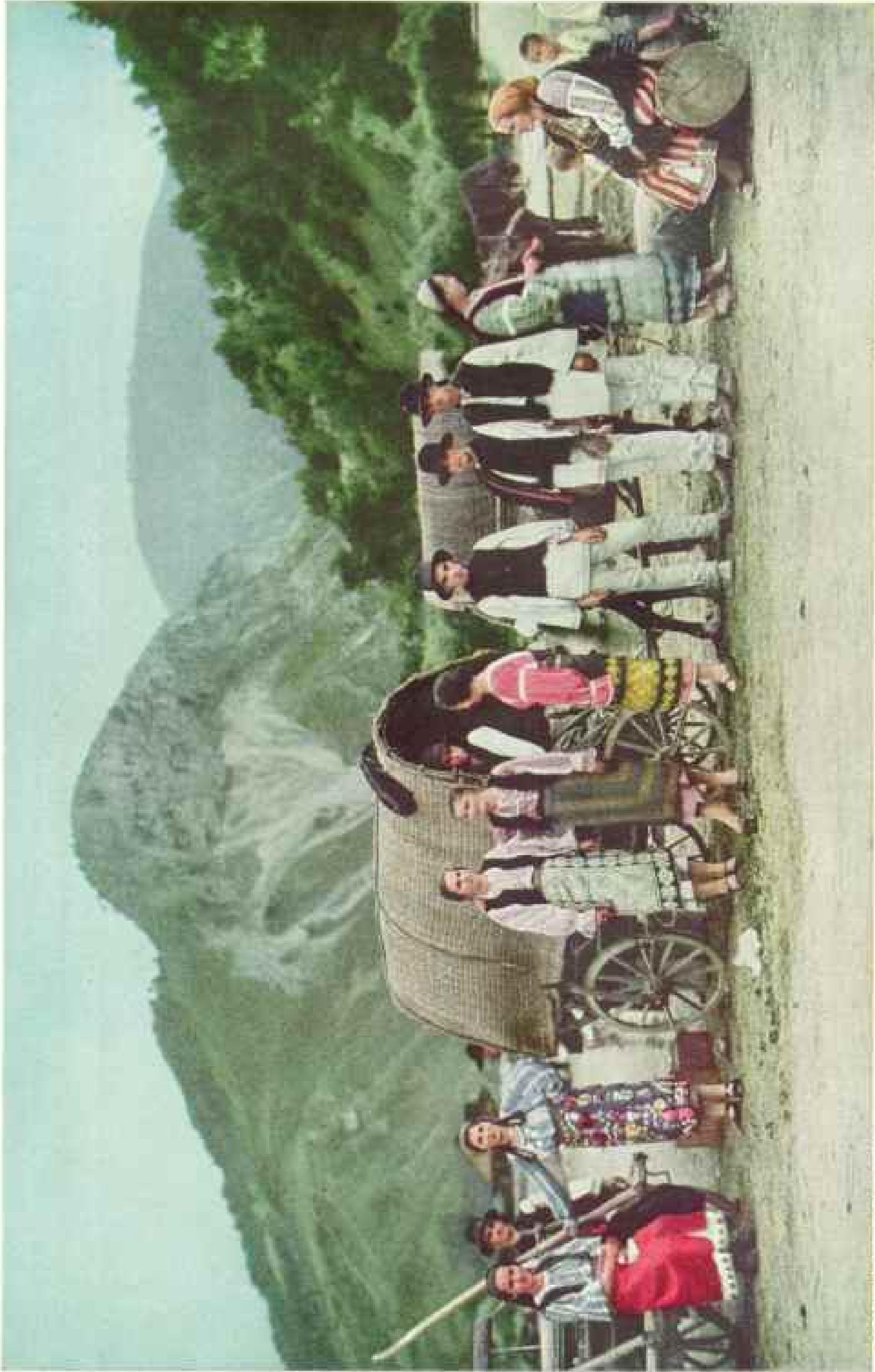
Don Juans of rural Transylvania, having finished their farm work for the day, don holiday attire. The one at the right wears an unusually fine black coat slung loosely across his shoulders, as is often the custom. Cockades of flowers add a touch of jauntness.



Natural Color Photographs by Wilhelm Tobben

EVEN THE BLACK SHEEP HAS ITS DAY

The girl at the upper right is transferring from distaff to spindle natural black wool for somber garments, such as the apron of her friend in the foreground. A Roman design, probably a heritage from early colonists, adorns the white underskirt of the spinner at the left.



© National Geographic Society

Natural Color Photograph by Wilhelm Fohrer

THE COVERED WAGON BRINGS PICNICKERS, NOT PIONEERS, IN THE TRANSYLVANIAN ALPS

Against a back-drop of mountain scenery, Romanian peasants on the way to market stop for a few moments to rest and gossip. Here in the Rucăr region of Walachia the woman's skirt is a long piece of richly embroidered material wrapped around and fastened with a belt.



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"TWO'S COMPANY, THREE'S A CROWD"

The couple chatting over the wooden bucket wear the white sheep-skin waistcoats popular with both men and women of Putna. Romanian fashion in Bucovina decrees a hobble skirt effect, attained by folding.



Natural Color Photographs by Wilhelm Tobien

GENTLEMEN PREFER BRUNETTES—IN ROMANIA

For her portrait, this young girl of Putna donned a waistcoat trimmed with fur and embroidered with wool and silk, her best bandana and matching girdle, and even a treasured necklace and earrings.





A FRESCOED CHURCH COMMEMORATES A MILITARY VICTORY

Stephen the Great, warrior prince of Moldavia, built a place of worship as an expression of thanksgiving after each of his forty-odd wars. Here is one of them in Bucovina, its paintings still distinct after 446 years.



© National Geographic Society

Natural Color Photographs by Wilhelm Teßler

SAXON PEASANTS READY FOR CHURCH

Tall, dignified headgear is worn by the women as well as the men in Roades, Transylvania. Male attire includes a white outer coat, embroidered with floral designs. Such costumes customarily are donned only on Sundays or feast days.

fatigue when we came upon one of these monasteries toward the end of a long day.

The monasteries are to be found in the old principalities of Walachia and Moldavia and in lovely Bucovina, lying in green and peaceful beauty on the eastern slopes of the Carpathians. The majority were built by local princes to commemorate a victory over an invader, or to serve as a refuge for their families and retainers in time of peril. Most of them are medieval fortresses and as such their location is of particular interest.

Built in isolated spots at the head of charming river valleys and hidden in wooded mountains, they were made impregnable as much by obscurity as by high walls, bastions, and occasional moats. Although they passed through the hands of many invaders, it is extraordinary how intact they have kept their early Byzantine character and Greek Orthodox tradition.

Romania is the only Latin, or Romance, country of the Eastern faith. The language, caught from the first Roman invaders, is basically Latin, but has absorbed much of the Slavic tongue. The ceremonial church language used from earliest days was Slavonic, and it occupies that place in the written record and ritual of the church which Latin does in the Catholic churches of the Western world.

#### A CHURCH BELL THAT SOUNDED LIKE A TOM-TOM

Slavonic was built on the alphabet invented by Cyril, a missionary monk of the Eastern church, to fit the Slavic tongue. Cyril and his brother, Methodius, set out from Constantinople (Istanbul) in the ninth century to convert the pagan Slavic tribes to Christianity. The Romanians had been Christians since Roman times.

We were fortunate in visiting Cozia, region of Oltenia, in the late afternoon. As we were leaving, our footsteps were arrested suddenly by a strange oriental rhythm. A young monk, beating on a heavy curved bar of timber, was calling his brothers to vespers. The bizarre tone and the echoes reverberating amidst the hills above the monastery recalled for a moment African tom-toms. We discovered that the wooden arc had been substituted for ancient bells which were melted down and made into cannon balls during the war.

A few miles farther on, in a secluded valley, we came upon the charming old monastery of Dintr'un Lemn, now a nun-

nery. On a hill, in a grove of hoary oaks, there stands a small wooden church, said to be made from the wood of a single tree.

On a balcony bright with pink geraniums, overlooking the church, the charming Mother Superior offered us refreshments of delicious preserved pears and a glass of water—the oriental fashion of serving sweets. Afterwards we were shown through the apartments filled with fine French Period furniture reserved for the Queen, who has honored this monastery with visits from time to time.

Some 25 miles from the Bistrița Monastery we came upon a procession of priests carrying the treasured casket containing the bones of St. Gregory through the streets of Râmnicul-Vâlcea. A crowd of peasants and townspeople followed in dusty pilgrimage, joining in the chanting and prayers of the priests for rain in this valley, which had suffered a drought for several months. Perhaps we witnessed a miracle, for while we were visiting Bistrița later it suddenly commenced to rain.

From Bistrița an easy half hour's drive brought us to Horez, the finest of all the seventeenth-century foundations of Constantine Brancovan. The monastery takes its name from the horned owls of its encircling forest. We entered the fortified gate, chilled by the forbidding aspect of its grim walls, to step into a more friendly world of beauty and repose.

Nuns now replace the monks, and we enjoyed our visit to the large workrooms, where they weave carpets and cloth from the wool of their flocks and the flax of their fields. Upon Horez, Constantine Brancovan lavished incalculable wealth in the expectation that it would serve as a final resting place for the members of his princely house.

#### EXTERIOR FRESCOES DEFY WEATHER'S RAVAGES

In the northern part of Moldavia, called the "Bucovina" from its vast beech forests, one finds many of the most beautiful of the fortress monasteries. The exterior walls of brick and stone are oftentimes decorated with enamel terra-cotta plaques and by exterior frescoes, whose state of preservation is amazing in this land of extremes of temperature.

To Stephen the Great of Moldavia, that religious and powerful prince who ruled from 1457 to 1504, is largely due the credit of having built these enduring monuments, as



Photograph by Denis Galloway, Cluj Ethnographic Museum.

#### VANITY PRESCRIBES THESE PANCAKE HATS

Even peasant women who work in the fields covet a smooth white complexion, so straw sun-bonnets are popular near Cluj, in Transylvania. The girls are pulling hemp, the fiber of which is used more extensively than flax for making linen cloth in some parts of Romania.

Constantine Brancovan did two centuries later in Walachia. One counts easily forty or fifty churches raised by Stephen within a radius of as many miles.

The church frescoes and ikons were painted according to the strict rules and regulations of the Eastern Church.\*

Although the perspective is primitive and the figures ramrodlike and unyielding, the wealth of small decorative detail and the color enhance the charm of these paintings, which have so well withstood the elements during centuries. Their preservation symbolizes in a way the strong church faith which resisted the years of battle fought on this ground.

\* See "The Hoary Monasteries of Mount Athos," by H. G. Dwight, in the NATIONAL GEOGRAPHIC MAGAZINE, September, 1916.

Neamtu, a monastery dating from 1390, is mainly interesting for its treasures and because it became a center of church Slavonic lore. It was restored in the late fifteenth century by Stephen the Great. The church is constructed of brick, with here and there a fragment of brightly colored enameled tile, reminding one that once it presented a façade of bizarre, strong, primary colors, elementary in design but satisfying a taste at once oriental and primitive. Old frescoes and fine ikons enriched the nave and pronaos.

Extraordinary are the treasures in the museum, with its jeweled diadems, heavy silver candelabra, lamps, and religious relics.

There are also Bibles with beautifully illuminated parchment pages, protected by

hand-wrought gold and silver backs. Some of these were gifts from Alexander the Second of Russia. The treasure includes a mantle worn by Stephen the Great, and some ikons, one of which, over 1,000 years old, was brought from Jerusalem by Alexander the Good.

#### AN ARCHITECTURAL COUSIN OF THE TAJ MAHAL

Neamtu Monastery is a going concern. Its long-haired, frocked monks till the fields, tend the vineyards, and themselves supply most of their wants.

In front of the church at Neamtu stands a baptismal font, crowned by a huge bulbous dome, reminiscent of the green domes of Russian churches. Curiously shaped, it is a heritage of the East.

When Tamerlane laid siege to Damascus he admired the graceful domes of the city's largest mosque, and gave orders that it be spared. Despite his command, the mosque was burned in the general fire which followed the storming of the city by his army. The Tatar conqueror then gathered together the architects and workers who had built it and took them with him to Samarkand, where they constructed a magnificent mosque, adorned with the bulbous domes which had caught his fancy at Damascus. It was from Samarkand that this unusual form of dome was adopted for the churches of Russia and farther west. Taken to India by Tamerlane's descendants, it may be recognized there in the Taj Mahal.

We spent a night in the nunnery of Agapia and next day saw the modern frescoes of the famous Romanian artist, Grigorescu, before going on to Putna.

#### THE STORY OF STEPHEN'S ARROW

The monastery was built by Stephen the Great, a quarter of a century before America was discovered, as a thank offering for delivery from Turkish invasion.

It is said that Stephen climbed a neighboring hill and from it shot an arrow. Where the arrow lighted he determined to build a monastery to serve as the burial place for himself and his line. The arrow was discovered in the heart of a tree, which was cut down and the base was encased in a plaster mold and formed a standard for the cross.

A long drive lined with venerable trees leads to the strong walls of the fortification. As we entered the thick doorway we saw

above our heads the carved coat of arms of the Moldavian princes—the bull's head and star. Although it has been greatly restored, the church retains its original slender steeple. This museum contains some of the most important treasures of all orthodox Christianity, thanks to the farsightedness of the monks in hiding them in times of war. During the last war a hole was hurriedly torn in the walls, into which the treasure was thrust. Hay, carelessly piled on top, acted as a natural camouflage which allayed suspicion.

The Bible of Putna is very rare. It is of the thirteenth century and its beautiful Slavonic characters were painstakingly lettered by hand.

#### "SATAN" COMES WHEN HIS MASTER CALLS

Here our visit was made more attractive by the young monk who conducted us. In many places we had found no one who could speak French, English, or German—only Romanian. This young man spoke good German, and it developed that he was an Austrian subject while Bucovina belonged to Austria. He had become a monk only six years previously following the death of his brother. He was extremely handsome, but his beauty was somewhat hidden by his red beard.

In the sleeve of his cassock he carried a black kitten called "Satan." Satan would come or go at a word from his master. When we visited the church during vespers, he escaped and ran about in a most impious manner. The brethren were horrified and a chase for Satan at once began. His master, very much amused, finally called Satan, who at once obeyed.

We decided our friend must be the "Peck's bad boy" of the monastery. We found that he was the tailor for the monks, but he had many other talents. We spent an hour in his cell admiring the oils and water colors of which he was the artist. He showed us the manuscript of a comedy which he was writing to be performed by his brothers. He played most artistically a Schubert serenade on an antiquated zither and sang, to the accompaniment of his guitar, a rollicking English ballad. We learned that his greatest earthly desire was to own a piano and we wished that we were in a position to offer him one.

To see Sucevita, we left the main highway and wound slowly up a rocky track which follows the tortuous course of a swift

mountain torrent. The tilled fields and the snug villages of the wider valley were left behind and the way led upwards through the pine and beech forests over which seemed to hang the mist of the Middle Ages.

We passed peasant woodchoppers with old-fashioned, crescent-shaped axes on their shoulders or driving oxcarts laden with forest wood. They were dressed in much the same medieval costume as was worn by their ancestors when they followed their liege lords to the wars. Long ringlets of hair which had never felt the shears hung from under peaked black felt caps like those worn by Robin Hood's merry men. Short fleece-lined jerkins, studded leather belts, tight felt breeches caught at the bottom by the thongs of leather buskins completed the feudal resemblance.

#### A REFUGE FROM ASIATIC INVADERS

In the mind's eye we were carried back through the centuries to the martial flight of the Movila brothers, with their women in horse litters, their knights and men-at-arms, hurrying to make a last stand in their mountain stronghold against the savage invaders from the East.

What a welcome sight those white walls of Sucevița, crowned with high towers, must have been for these Christian princes fleeing before the Asiatic hordes (see illustration, page 437). Once the huge portcullis had dropped behind them, the Prince's family and followers no doubt hastened to the church, which stands in the center of the fortress, to pray for deliverance.

For beauty and interest this church of Sucevița has no peer in Rumania. Rebuilt in the sixteenth century by Jeremiah Movila, it remains unaltered and unravished by time. The broad overhanging eaves of the round shingled roof have protected from rain and snow the beautiful frescoes with which the walls are adorned.

Against a jade-green background are seven tiers of frescoes—hermits, martyrs, prophets, apostles, angels, and archangels—

a strange and lovely symphony of primitive blues, reds, greens, and bright gold crowns and halos. On one side wall we were startled to find a procession of Greek philosophers side by side with the saints. Portraits of Sophocles, Socrates, and Plato with dull gold crowns differed little from the saints.

In the chapel of the Movilas the walls are decorated with portraits of the founders and their families. Stone slabs with Slavonic inscription and Persian tracery cover the tombs of all except Elizabeth, wife of Jeremiah, she who could not be buried here. To Elizabeth, a beautiful and ambitious woman, is attributed the death of her brother-in-law, Simeon, that one of her sons might reign. Eventually she was carried off to Constantinople by Turkish allies and dishonored by being thrown into the harem of one of the Agas, where she ended her days.

In this room hangs a bronze chandelier ornamented with ostrich eggs, a gift of her husband, Jeremiah. A small round box of gilded silver which hangs in its center contains a lock of Elizabeth's Titian red hair. This she cut off and sent from Constantinople by one of her faithful servitors as a good-luck token to the monastery.

In the museum were tomb coverings and rich tissues, many of which were wrought by the hands of Elizabeth and her sister-in-law, Margaret. Some of the rare Slavonic manuscripts have suffered slightly from the damp ground in which they were buried during the last war. It was with a feeling of melancholy and regret that we left the tranquil hospitality of Sucevița, and retraced our steps along the swift stream to a newer and busier world.

And so lie hidden in the deep valleys of the pine- and beech-clad Carpathians these rare treasures of incomparable beauty, wrapped in an atmosphere of medieval legend and romance, only waiting to delight him who has the curiosity to seek them out.

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*Notice of change of address of your NATIONAL GEOGRAPHIC MAGAZINE should be received in the office of the National Geographic Society by the first of the month to affect the following month's issue. For instance, if you desire the address changed for your June number, The Society should be notified of your new address not later than May first.*

# BY CAR AND STEAMER AROUND OUR INLAND SEAS

BY MAYNARD OWEN WILLIAMS

AUTHOR OF "SUMMER HOLIDAYS ON THE BOSPHORUS," "EAST OF SOLE TO THE MOUNT OF THE DECALOGUE," "FROM THE MEDITERRANEAN TO THE YELLOW SEA BY MOTOR," ETC., IN THE NATIONAL GEOGRAPHIC MAGAZINE

*With Illustrations from Photographs by the Author*

THE turn of a key, a kick at the self-starter, and I was off for a 9,000-mile road-and-water tour of the Great Lakes.

Early last June, at Buffalo, I visited the worried captain of a splendid freighter which had not moved for two years. Six weeks later, south of the "Soo," we waved to each other from ship to ship. His heart was light, his freighter heavy with cargo. Six times as much ore was moving down the Lakes as had moved in 1932.

Once more the big parade of ships makes Detroit River the busiest waterway on earth. Fresh, welcome smoke is again pouring from a thousand chimneys. Not since I traversed Mustafa Kemal Pasha's newly awakened Anatolia have I seen such a large proportion of road improvements. The Civilian Conservation Corps is saving forests and developing manhood on the same job. City folk find recreation at bathing beaches or beside trout streams and Old Sol is spreading sun tan in spots he never even saw before.

The Great Lakes contain half the fresh water on earth; enough to cover the continental United States 10 to 18 feet deep, or to fill a 30-foot ship canal from here to the sun!

## THE GREAT LAKES DESERVE THEIR NAME

Africa's largest lake, Victoria Nyanza, would cover most of Lake Superior, but it would take 71 Victorias to fill it. Asia's premier lake, the Aral Sea, is a bit larger than Lake Huron, but it would take four Arals to fill one Huron. Two Lake Baikals would scarcely reach beyond the edges of Lake Michigan, although they would contain nearly three times as much water.

If they only lay there, basking in the sun or raging with storms, our inland seas would be impressive. But they have served America as no inland sea has served another land. At every corner of the Great Lakes, and because of them, busy cities have risen. On the banks of a hundred tiny creeks commerce has planted its loading piers or elevators (see map, pages 454-5).

Our bridges crossed our Lakes as ore before they crossed a river. Scarcely a skyscraper whose framework has not wallowed in the swell of our "Big Sea Water" before combing our urban skies. The story of our Great Lakes is one of unbelievably cheap freight rates, of marvelously active freighters, of fur and lumber, iron and grain.

In the days when the principal crop of America was cold-bred fur, the St. Lawrence was the gateway to our Midwest. While the English were seeking the Northwest Passage to the alluring Orient and colonists along the Atlantic were consolidating their position against the wilderness, French *voyageurs* and missionaries were following stream and portage to the heart of America.

Colonization was caught between sea and mountain. Exploration paddled its swift canoes on lakes and rivers.

## FROM FUR TO TIMBER TO ORE

Fur was the incentive, and temporal or spiritual empire the dream, of Nicolet, Joliet, Marquette, and La Salle, to whom the watershed between the Great Lakes and the wide Mississippi Basin was familiar while the British were still settling the seacoast. As early as 1700 one could ride horseback from Portland, Maine, to Richmond, Virginia, sleeping each night in a village. But the Appalachian barrier held. Meanwhile the French, more nomadic, were spread thinly over a tremendous inland empire.

In 1803 most of this land became ours through the Louisiana Purchase, and the vast territory which fur trade and Indian alliances had won for France gave trans-Appalachian colonization new impetus. For a little less than four cents an acre the young American Republic acquired rich agricultural lands stretching to the headwaters of the Missouri and the Yellowstone.\*

Around the Lakes, fur ceded its primary place to grain or lumber. Hiawatha's

\* See "How the United States Grew," by McFall Kerbey, and "New Map Reveals Wonders of Our Country," in the NATIONAL GEOGRAPHIC MAGAZINE, May, 1933.



#### GREAT LAKES PORTS ARE NOT CROWDED, BUT BUSY

During the open season of seven or eight months, freighters seldom tarry long in port. At the end of the season, when Buffalo's vast grain elevators are filled to capacity, the freighters, held in idleness by the lake ice, store the overflow supply of grain (see text, page 456).

"forest primeval" crashed before Paul Bunyan's saw and ax. Hills of sawdust began to rise like sand dunes, and countless jig-saw verandas embraced American homes.

Then came iron!

At the northern end of the Lakes whole rust-red mountains of ore stood ready for the steam shovels (see illustration, page 488). Coal moved north and iron south, a combination providing profitable return cargoes. Wherever a creek reached the south shore of Lake Erie, coal and ore were tossed back and forth by car tipple and "clamshell."

My trip started at Buffalo, to whom geography played fairy godmother.

Protected from early traffic competition by the Niagara Falls, which were later to furnish its light and power, this rich

inland port stands at the east end of the upper Lakes and the west end of the only convenient break in the Appalachians. Superlatives, which swarm around the Great Lakes, hive at Buffalo.

#### BUFFALO THE "BEAVER CITY"

This favored spot no more suggests the bison than Rome does Romulus or Syracuse Sicily. And, had an Indian interpreter not made a mistake, it would have been called "Beaver," a startling but suitable name for this busy creek-side port.

A dozen railways now obscure the fact that Buffalo is not a creature of the plains but an aquatic city, founded on the creek that still sustains it. Its real greatness began on October 26, 1825, when the *Seneca Chief* started down the 4-foot-deep Erie Canal. The news of its departure thundered



Photograph by William A. Kuenzel

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TWO HUNDRED AND THIRTY-THREE YEARS OF HISTORY RISE UP TO GREET YOU

This air view of the buildings around Detroit's Campus Martius (upper center) was taken from a point directly above the site on which Cadillac built his fort in 1701, nearly a century before Washington, D. C., was founded. Woodward Avenue, running toward the Detroit River, crosses Detroit's banking section from upper left to lower right.

by cannonfire from Buffalo to New York, 500 miles in 90 minutes—shots which, like those of the Minutemen, were heard round the world.

On November 4, 1825, the canal-boat flotilla arrived at Sandy Hook, where Governor Clinton poured Lake Erie water into the Atlantic near New York City, which "Clinton's Ditch" was to lift to the position of America's premier port.\*

On June 22, 1933, at Chicago, salt water from the Gulf of Mexico was blended with Lake Michigan water when a flotilla of Mississippi River barges, bearing spices,

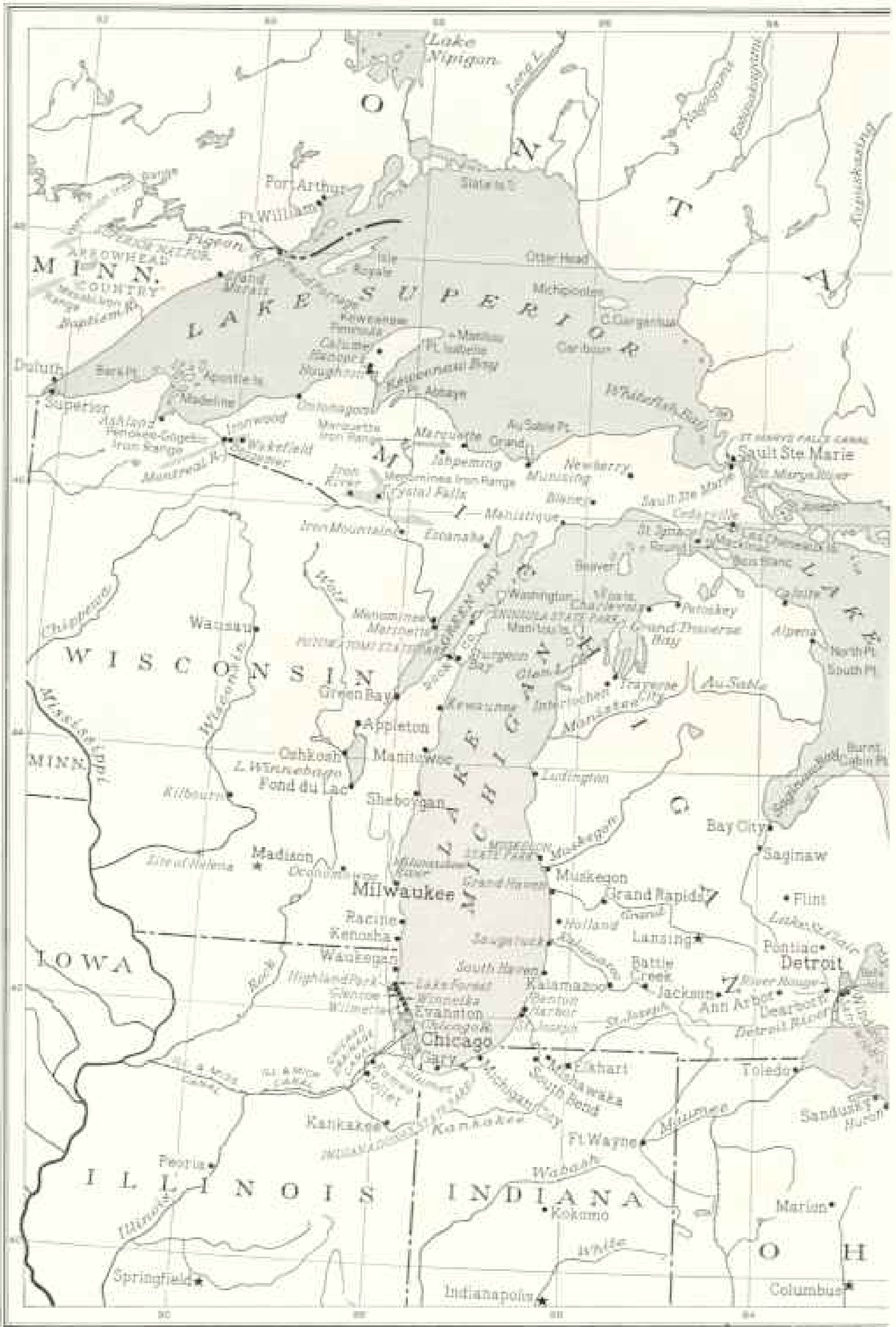
\* See "New York—an Empire within a Republic," by William Joseph Showalter, in the NATIONAL GEOGRAPHIC MAGAZINE, November, 1933, and "This Giant That Is New York," by Frederick Simpich, November, 1930.

coffee, and sugar, arrived at Lake Michigan. Bascule bridges, pointing like howitzers at the tall-speared phalanx of skyscrapers, aroused the raucous protests of a chorus of Klaxons, and pseudo-Indian war-whoops sounded over the busy waters beside which lonely Fort Dearborn first rose on a swampy shore (see page 483).

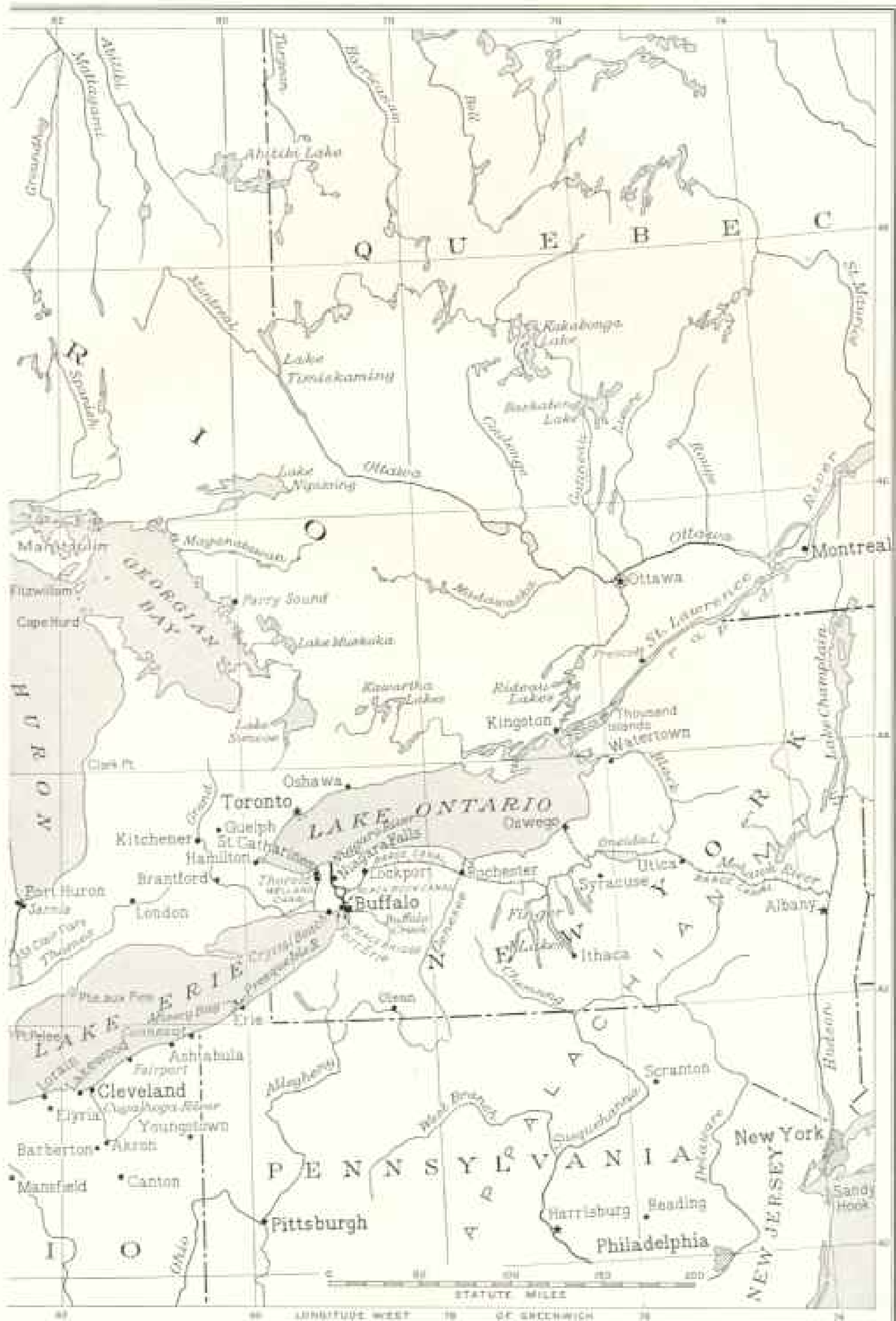
The 9-foot channel does to-day what river and glacier did more than once in the past—links the Great Lakes with the Gulf. St. Louis has become an export port for northern wheat. It took 260 years for Joliet's dream of a Lakes-to-Gulf waterway to come true, although Lake Michigan water has flowed into the Mississippi Basin since 1871.

Try to force your way through underbrush or struggle along on foot beneath





THE GREAT LAKES, HIGHWAYS OF EXPLORATION AND INDUSTRY, HAVE PLAYED



Drawn by Newman Dumstred

AN AMAZING RÔLE IN THE GROWTH OF THE UNITED STATES AND CANADA

such a burden as is easily carried in a light canoe, and you will realize why the French penetrated this continent by following Indian guides upon its rivers.

Canals extended the natural waterways. Then wagon wheels overrode the objections raised by the owners of pack horses and railways won their share. The motorcar, bringing broad, smooth highways, set the tax-collecting filling station in the place of tollgates, and passenger car and truck invaded the steel-webbed empire of the Iron Horse. The Panama Canal, opened in time to do its bit in the World War, brought our coasts together.

The new Welland Canal and the Illinois Waterway are additional transport factors in a region where motor manufacturers, having vied with steam engines, now face competitive traffic problems involving railways, lake steamers, truckaways, new car convoys, and widely distributed assembly plants.

Each form of transportation, fighting for its share, now forges ahead, now lags behind. But were traffic stopped on our inland seas, our industrial life would sustain a major shock.

#### FOUR ROUTES TO TIDEWATER

Four routes to tidewater now exist: the Illinois Waterway, with a 9-foot channel; the New York State Barge Canal and its branch to Oswego, both with a depth of 12 feet; and the St. Lawrence canals, in which there are 14 feet of water. The deepest artificial link is the new Welland Canal, which not only has 30 feet of water on the sills of its spectacular locks, but also accomplishes the steepest lift—326½ feet in 25 miles (see illustration, page 463).

Even before the war occasional tramp steamers entered the Great Lakes from tidewater, and to-day ocean bottoms are no novelty. In 1933 over a hundred steamers from overseas ports brought in cod-liver oil, canned fish, and merchandise from Europe to Detroit, and departed with pitch, wood pulp, and motorcars.

Shiploads of automobiles have been sent direct from Detroit to London and Hamburg. Romanian oil, coming direct from the Black Sea, competes with American gasoline in Detroit. Ships regularly sail from the River Rouge to ocean ports around the world. The economic balance beam is seldom at rest.

Buffalo, welcoming western grain and sending back return cargoes of immigrants

and pioneers, helped feed the East with bread and the West with brains and brawn. While retaining its preëminence in the transfer of grain, it has since become our milling metropolis.

Slide alongside a grain wharf beside Buffalo Creek, and close-built bastions of cement silos, rising to heaven, obscure the view. From a plane a grain elevator looks like a prison wall, barring the river from the rails. This is pure illusion. Through Buffalo's elevators the golden flood of grain pours like water (see page 464).

#### THE MIRACLE OF WHEAT

In October, 1839, when the brig *Osceola* brought 1,678 bushels of wheat from Chicago to Buffalo, it took seven days to unload the cargo. Buffalo's 29 elevators could now unload that much wheat in less than nine seconds. Yet, were they empty, it would take eight 8-hour days to fill them to their capacity of 50,000,000 bushels.

Grain steamers winter in Buffalo harbor and add vast storage space to that of the elevators, which take over the grain as fast as there is room for it. Ship-owners are thus able to earn money while their ships lie idle—as near paradise as owners of idle ships ever get. But if they arrive at Buffalo when the elevators are full and wish to make one more lake trip before the ice closes in, they are out of luck and the shipper pays a higher rate.

Bulk wheat rides from the head of Lake Superior to the foot of Lake Erie for about three cents a bushel. But flour can't be handled in bulk like so much ore or limestone, and, as a consequence, milling has moved east to a center within 500 miles of which lives 80 per cent of our population. The Great Lakes have been kind to Buffalo.

Although commercial Buffalo is largely aquatic and a creation of our inland seas, the Buffalo sport-lover is a landlubber, enjoying splendid parks, but largely ignoring the lake. It is 25 miles to Buffalo's nearest fashionable beach, and its Coney Island, Crystal Beach, is in Canada.

#### A BRIDGE OF 120 YEARS' PEACE

The Falls, long since outflanked by the oft-improved Welland Canal, are the power house of a giant international industrial area.

Over the new Peace Bridge between New York and Ontario rolls a rapidly increasing traffic, though many commuters by motor



THE ROMANS HAD WORDS FOR IT: "PER ASPERA AD ASTRA"

"Through difficulties to the stars" expresses the growth of the United States. Not a charmed life, nor freedom from causes of conflict has brought wealth and power to the Great Lakes region. Man has availed himself of the rare opportunities the Lakes afford. The 700-foot Union Terminal Tower rising above the Soldiers' and Sailors' Monument, Cleveland, symbolizes the persistent progress from creek-side towns to mighty cities.



A "CLAMSHELL" DUMPS THE MAKINGS OF SOME FUTURE MOTORCAR

In one bite of the grab bucket, five tons of ore are lifted from the freighter's hold and added to the Detroit ore heap. Behind are the furnaces which turn it to pig iron or steel. Farther up the River Rouge a motor factory fashions it into a car which may be shipped directly overseas to carry pilgrims to Mecca or ivory out of Africa.

patronize the cheaper ferries which cross from Fort Erie to the Black Rock Canal.

Branch factories in near-by Canada can be directed from Buffalo, and the Niagara area, favored by two sets of tariffs, is developing an international viewpoint noteworthy even along the boundary which has enjoyed the blessings of peace for 120 years.

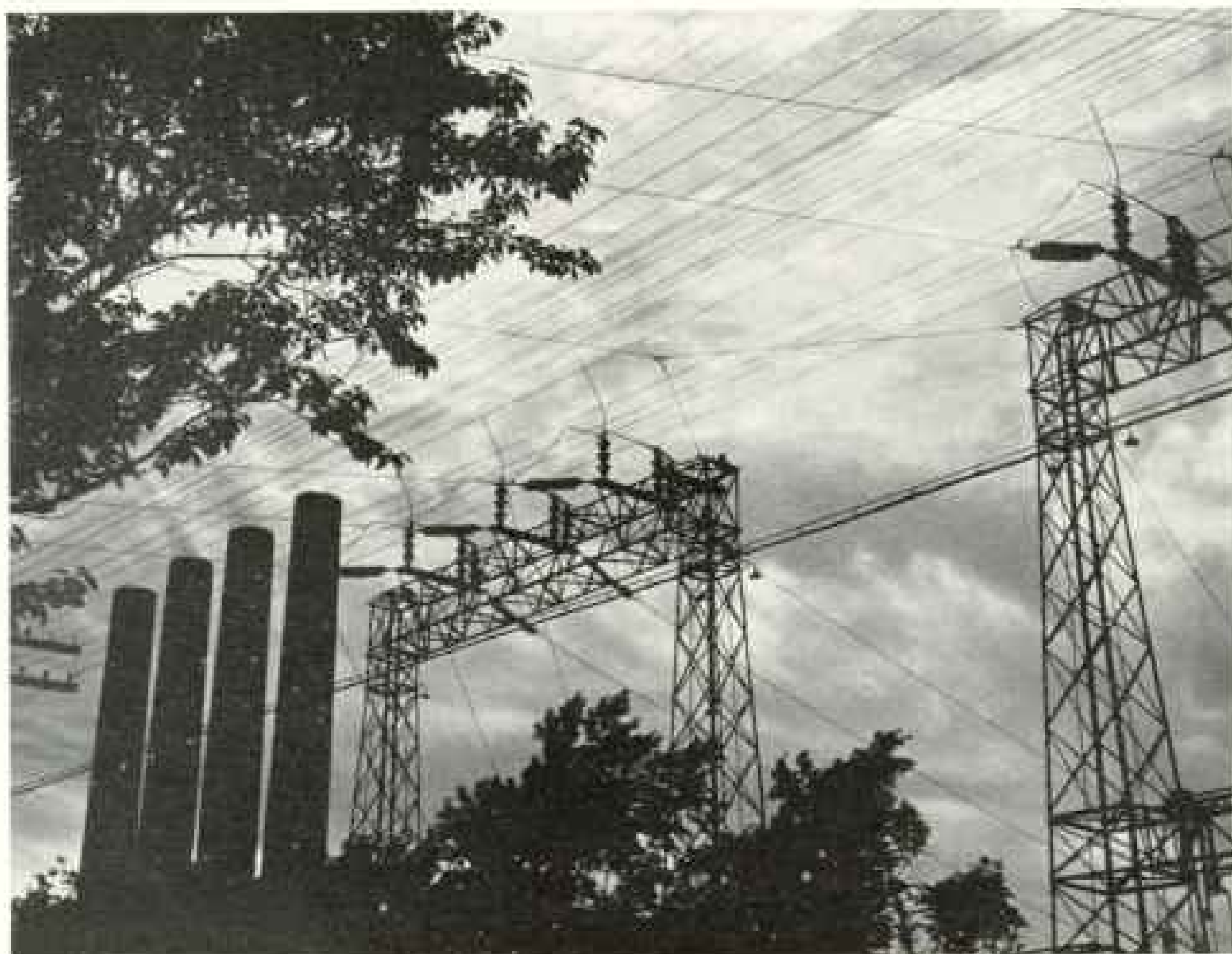
Lake ports are not superficially impressive. Those of the Mediterranean, through their traffickings with India, Australia, Madagascar, Netherland India, and the Far East, have a cosmopolitan air. Buffalo, ranking inland port in the world, most reminds me of Port Said, whose harbor, now teeming with traffic, empties itself during lunch.

Lake freighters are disarmingly unimposing, with their engines so far aft that they seem to have almost missed the boat; but they are efficient. A crack liner running between Istanbul and Trieste may

make 26 round trips in a year. The huge bulk freighters of the Great Lakes do vastly better in a shorter season. In 1928 the self-unloading steamer *Huron* carried 57 cargoes of stone and 73 of soft coal—a total of 130 cargoes, aggregating nearly a million tons—almost four trips a week.

In 1928 the average stay of Lake Carriers' Association steamers in the upper lake ports was three hours and eight minutes and the loading record was 10,940 tons per hour. Under such conditions ships don't stop. They only hesitate. And harbors harbor few steamers. Compared with a Great Lakes transfer port, some world-famous harbors are marine museums.

I motored through Conneaut, Ohio, a town of 9,691 people and 142 National Geographic Society members, where the *William G. McGonagle* discharged 11,445 tons of iron ore in 2 hours and 20 minutes—a world record. At that rate Genoa's entire annual imports could be unloaded in



NIAGARA FALLS CONTRIBUTE ENERGY, AS WELL AS BEAUTY, TO AMERICAN LIFE

Power plants and high-tension wires symbolize the huge enterprises near this world-famous beauty site. Somewhere amid the cataracts an international boundary is buried in spray, but the energy the falls create is the pulse-beat of a great and growing industrial area shared by Canada and the United States.

146 eight-hour days, those of Naples in 41 days, all from one floating steel trough with a dinky engine riding its rump.

THE "GRANDSTAND" OF GREAT LAKES SHIPPING

Theoretically, the best place to study lake shipping would be from a viewing stand off Alpena, with most of the 2,500 Great Lakes vessels, aggregating 3,000,000 tons capacity, weaving a fabric of traffic up and down the Lakes.

But the actual grandstand, if one likes open-water perspectives better than the "Soo" locks, is the lawn of Detroit's exclusive Old Club, in St. Clair Flats. In 1929, figuring on an 8-month season, 300 tons of traffic passed the Old Club every minute of the day and night—more than five times that carried through the Suez Canal during the same period. The year 1933 furnished the best traffic show the Old Club has seen since 1929.

From New York, through Pennsylvania and Ohio to Michigan, my motor route ran between gasoline pumps full of green, red, lemon, and orange-colored fluids suggestive of a Cairo soft-drinks fountain or the old-fashioned jars in a drugstore window.

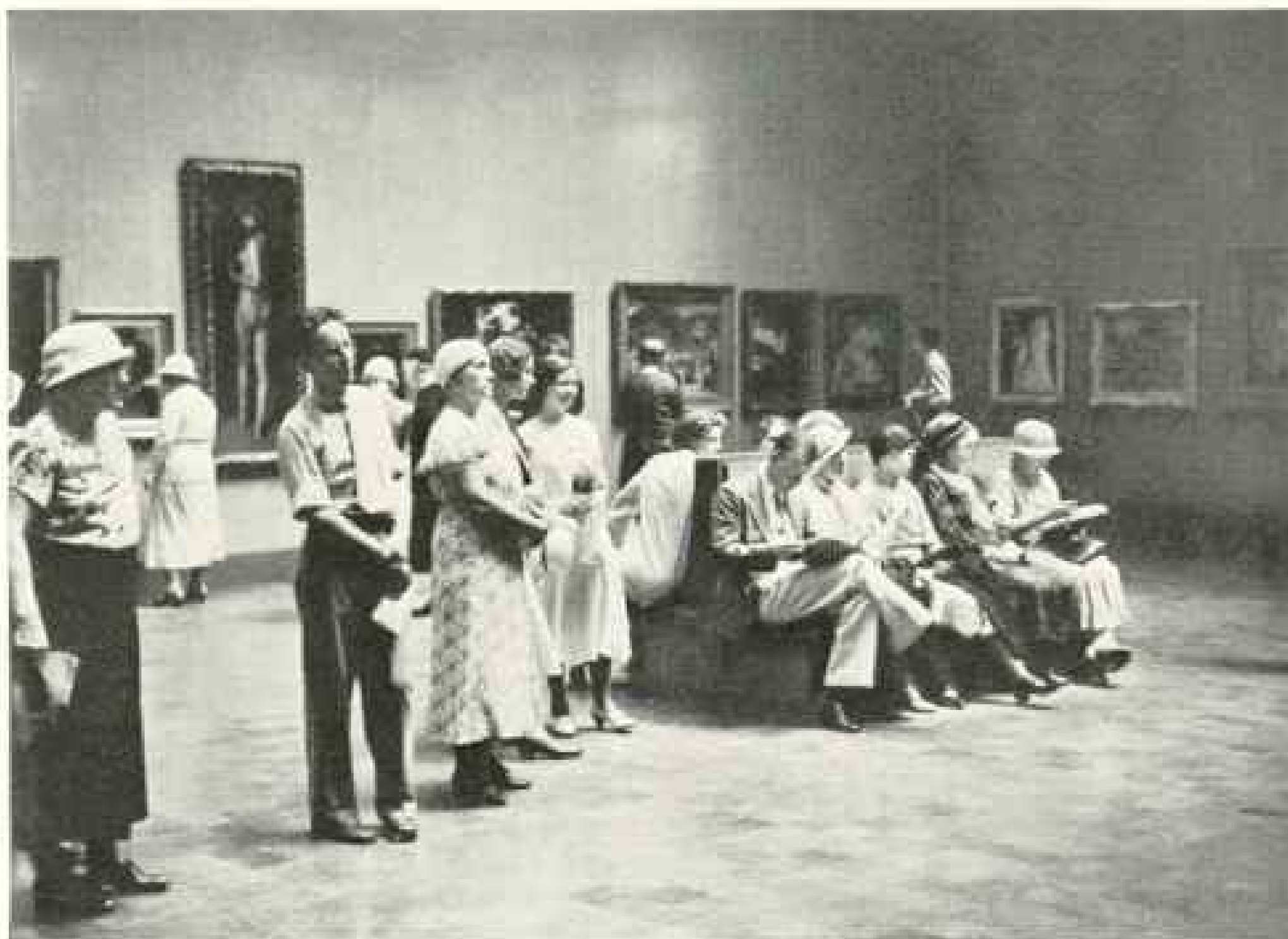
Only by a change in the roadbed or a different color of traffic marker does the motorist know he has passed a boundary. To us Americans this heedless crossing of a sovereign State's frontier is commonplace; but even we are impressed by the motorist's short cut through the Canadian corridor between the Peace Bridge at Buffalo and the Ambassador Bridge at Detroit.

A mural in Buffalo's new City Hall emphasizes the blessed fact of "Frontiers Unfettered by Any Frowning Fortress." Perry's message was thrilling: "We have met the enemy and they are ours." But for 120 years two great peoples have been composing one more noteworthy: "We have met our neighbors and they are our friends."



A MAN-OF-WAR GRANDDADDY OF IRON-HULLED LAKE STEAMERS

In a corner of Misery Bay, near Erie, Pennsylvania, the *Wolverine* (see page 462) is anchored at the foot of the Perry Monument. The first steamship on any of the Great Lakes, however, was the oak-hulled, Canada-built *Frontenac*, launched in 1816. Beyond the trees is Presque Isle Bay, where Commodore Perry's fleet was built during the discouraging winter and spring of 1813.



WHISTLER'S "MOTHER" FROM PARIS ATTRACTS ADMIRATION IN CHICAGO

Among more than a thousand paintings specially collected in the Chicago Art Institute for the Century of Progress Art Exhibition, none was more loved than James Abbott McNeill Whistler's painting of his mother. A similar art exhibit is to be given this summer.



Photograph by William A. Kuenzel

© The Detroit News

IN THIS BOAT RACE THE PHOTOGRAPHER WON THE HONORS

Snapping this picture for the 1931 Harmsworth Race at Detroit as the starting gun was fired, the aerial photographer recorded not only Kaye Don's premature start and Gar Wood's two boats right at the line, but also the white smoke plume of the starting pistol, visible above the two white figures in the upper boat. The race was called off, but the photographer won several prizes.



THE LAKE MICHIGAN ATMOSPHERE EXTENDS TO CHICAGO'S MAN-MADE CLIFFS

The lawn beside Oak Street Bathing Beach is thickly dotted in summer with bright bathing costumes, and although the waters of the lake have been pushed back by the park builders, lake life buffets against the towering buildings of this Great Lakes metropolis.



Off Erie, Pennsylvania, I found new ribs being fitted to a bit of the original keel of the *Niagara*, Perry's vice-flagship; but also interesting was the little ship *Wolverine*, now anchored in Misery Bay near the Perry Monument (see illustration, page 460).

#### A PROGENITOR OF IRON-HULLED SHIPS

This, the first iron-hulled ship on the Great Lakes, was forged in Pittsburgh and transported through the wilderness to Erie. Scoffers expected her to sink. She did stick on the ways until the distinguished guests had gone home. Then she launched herself by night.

Flying the Stars and Stripes, she dethroned King Strang, of Beaver Island, and helped Canada crush the 4-regiment Fenian raid. To-day she is our oldest-remaining proof that an iron-hulled vessel will float—a man-of-war granddaddy of all those iron-hulled ships which carry the commerce of the Lakes.

Since the templates and ribs of the *Wolverine* came through the wilderness, 89 years ago, the Pittsburgh region has driven many lines of iron rails to the lake-side, and rival industrial cities have grown to greatness along Lake Erie. Conneaut, Ashtabula, Fairport, Cleveland, and Lorain, all clutch the ore from Minnesota, Wisconsin, and Michigan in their clamshell buckets. Huron, Toledo, and Sandusky overturn millions of cars of bituminous coal into ships for Duluth-Superior, Milwaukee, Chicago, and other ports between Fort William and Montreal.

Railway tracks now occupy the old canal bed beside the Cuyahoga, but the forgotten Ohio Canal did for Cleveland what the Erie Canal did for Buffalo.\* The lowland route from coal field to iron range lay along the Cuyahoga Valley. Like Buffalo, Cleveland owed its early greatness to a creek.

Chic secretaries, high up in the 700-foot tower of Cleveland Union Station, look down in spirit as in truth on Cuyahoga "Flats."

From a tower owned by railways they can easily identify the site of a canal bed buried under a railroad right of way. In the most striking unit of Cleveland's ambitious "City Within a City" they survey the ugly valley which interrupts the plateau along which the spacious city sprawls.

\* See "Ohio, the Gateway State," by Melville Chater, in the NATIONAL GEOGRAPHIC MAGAZINE, May, 1932.

If they look with their eyes only, "the Flats" are a blot on the landscape. The Cuyahoga is but one of many crooked, slow, slimy, smelly little rivers, iridescent with oil, edged with rust, and crossed by dull black bridges, which obsequiously enter the Great Lakes.

But back of these homely little creeks, reflecting prosaic chimneys and veiled in smoke, are heart-stirring symbols on ticker tape, exclusive homes on many a Lake Shore drive, bridges on the Euphrates and the Irrawaddy, pipe lines across the Syrian Desert, and chemical works as efficient and odorous as those of the Ruhr.

Bridges and viaducts have so criss-crossed the Cuyahoga that folk need not descend into the valley, and usually only artists, photographers, and other Bohemians frequent the river banks, past which bright, officious tugs escort awkward barges like cinema ushers conducting patrons through their palaces of black magic.

A heat wave and I invaded Toledo together, and I took refuge in one of the many splendid art galleries which, along with colleges, libraries, and the like, make the American Mediterranean a New World center of cultural effort.

Other lands have richer art treasures, but where will one find them more fittingly displayed? In the Old World, paintings, sculpture, numismatic collections, and archeological finds often succeeded to palaces originally designed as dwellings for royalty; but the museums of Buffalo, Cleveland, Detroit, and Chicago provide suitable settings for their treasures.

#### ART THAT IS KEYED TO THE TIMES

At the Toledo Museum of Art it was not the priceless collection of rare glass, the chaste beauty of the Peristyle concert hall, or the fireproof storage vaults that most impressed me. This vast temple of diverse beauty, with eight acres of floor space, does admirably provide room in which the art collections can grow, but to its corridors are welcomed thousands of living artists for training in a Free School of Design.

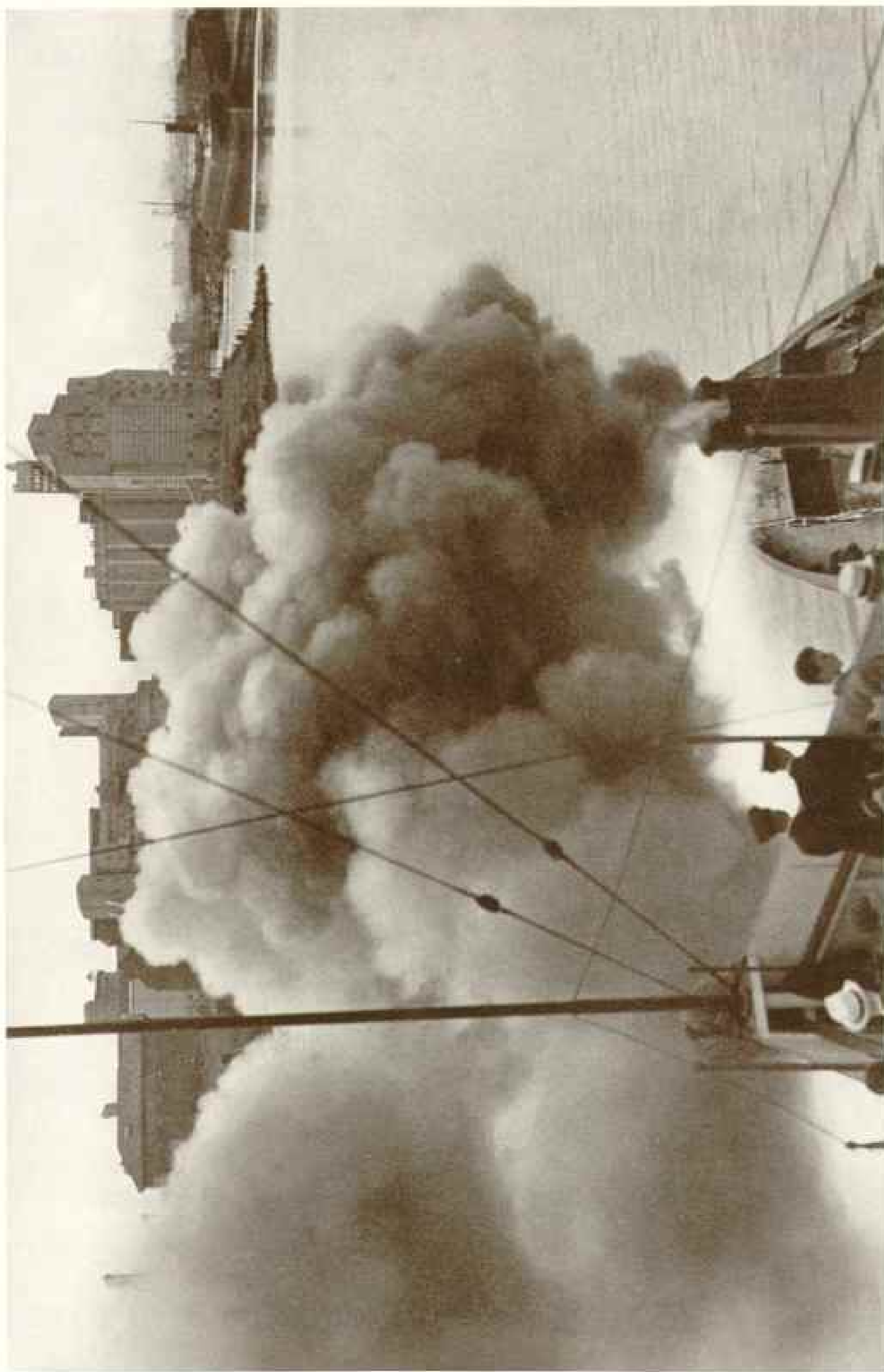
To me, the student sketches on the walls of the lower corridor were its most notable exhibits.

So related to the life of their times were the Phœnician tear bottles, peacock-tinted by the Syrian soil, the Flemish tapestries which, while presenting a regal picture, staved off chills and fever, or that splendid



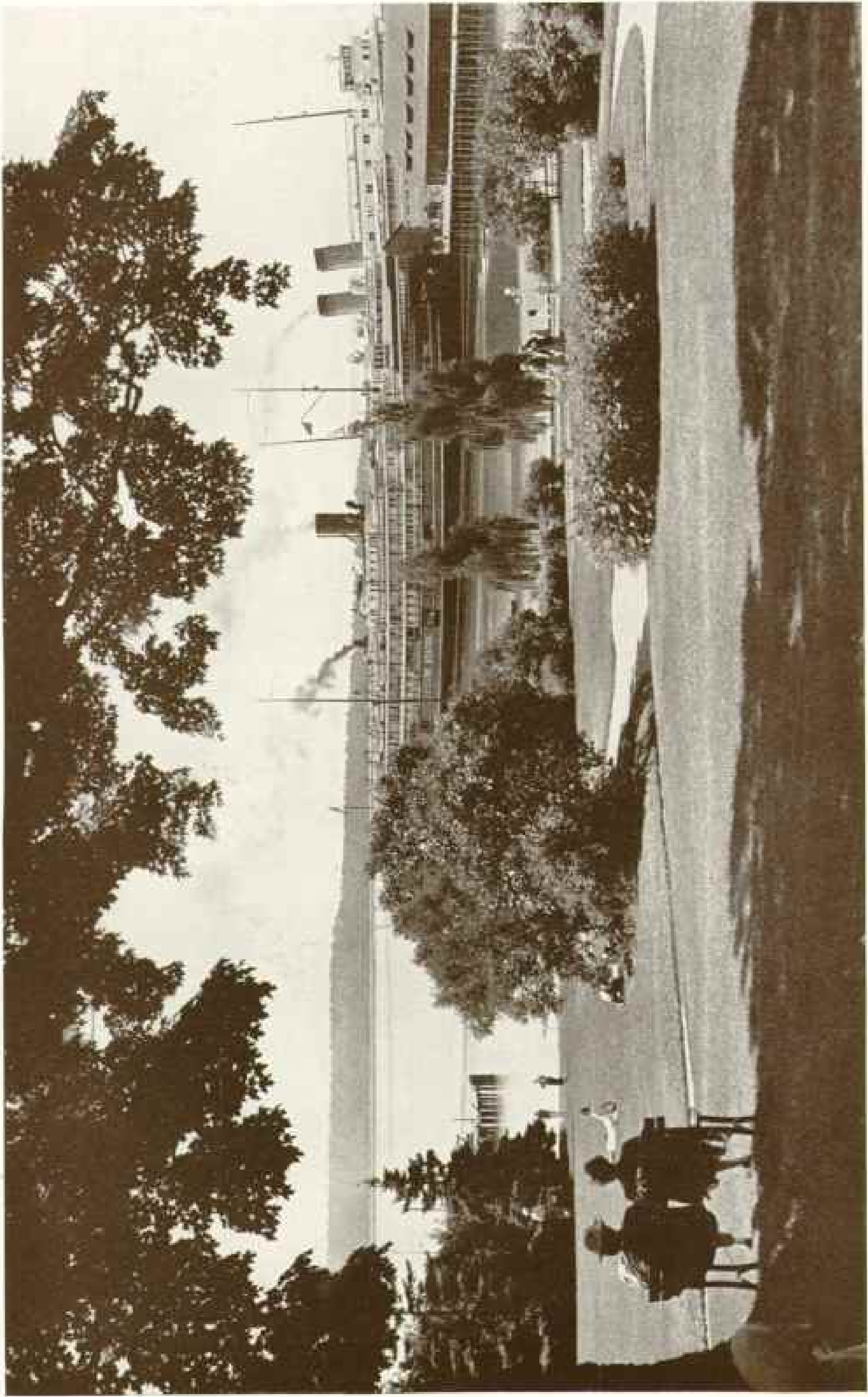
THIS AQUATIC ELEVATOR LIFTS A SHIP AN INCH A SECOND

On its passage through the new 25-mile Welland Canal, which by-passes Niagara Falls, the *Mariposa* was raised 325½ feet by seven such locks. On the upward trip the vessel carries coal, but on the return it will be deep with iron ore. She is fitted with several comfortable cabins and had on board six passengers for the lovely ride up the Great Lakes. The canal was officially opened in 1932 and nearly half as much traffic passed through it in that year as through the Panama Canal.



A HUFF AND A PUFF AND SHE'S HEADED FOR HOME.

This lake steamer, which carries more passengers than many ocean liners, is being turned around in the basin near the mouth of Buffalo Creek before docking. Beyond the smoke of the tugboat are some of Buffalo's grain elevators and to the right is the entrance of the City Ship Canal, lined with loading piers and railway tracks.



MACKINAC ISLAND IS FAMOUS FOR WHAT IT LACKS

No automobiles, no mosquitoes, no heat waves, no hay fever—no wonder Mackinac Island is a favorite retreat. Marquette Park, in the foreground, was named for the missionary-explorer who, with Joliet, discovered the Mississippi River from the north 112 years after De Soto penetrated its lower reaches in 1541.



BUSINESS AND PLEASURE CRAFT CROWD OUR INLAND SEAS

An excursion steamer, crowded with a Polish picnic party going up Lake St. Clair, passes a Great Lakes freighter about to enter the Detroit River. This busy bottle-neck of the Great Lakes in a recent peak year carried almost twice as much cargo traffic as the Suez and Panama Canals combined.



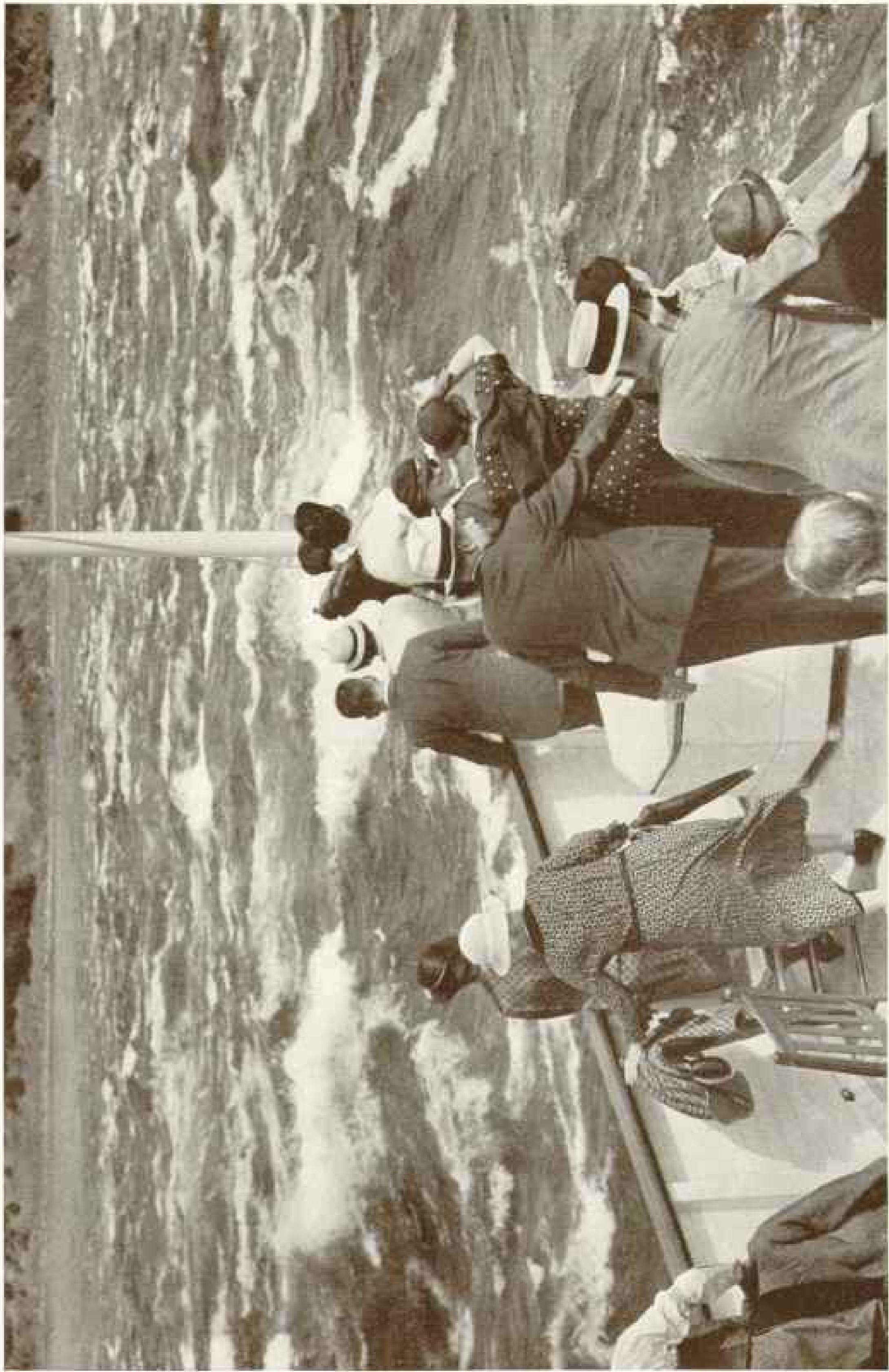
SOME CHICAGO ARTISTS "HANG" THEIR CANVASES ON THE SIDEWALK

For a week in summer Michigan Avenue boulevard has its touch of artistic Bohemianism. In the last two years hundreds of artists have offered for barter or sale their paintings, some brought back from other lands, or portraits sketched on the spot. Near at hand is Chicago's Art Institute, whose Art School hits 4,500 students.



"COME AND GET IT"

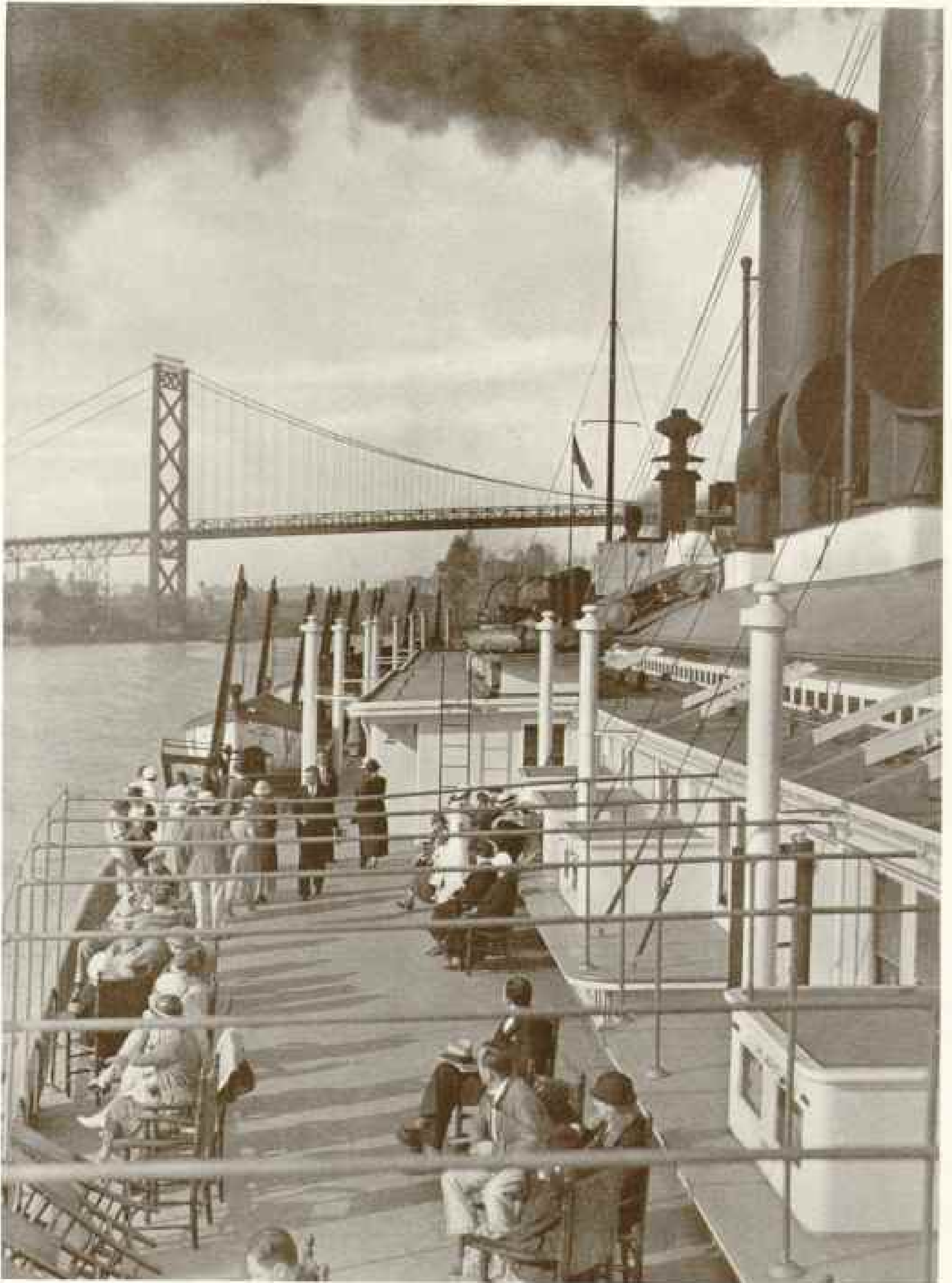
Graceful sea gulls frequently follow the Great Lakes steamers and sometimes, as in this case, swoop down to snatch bread from the hand of a friendly steward.



PLEASURE-SEEKERS SHOOT THE SWIFT ST. LAWRENCE RAPIDS BETWEEN PRESCOTT AND MONTREAL IN THE "RAPIDS PRINCE"

The small steamer, returning upstream, passes through Canadian canals and locks which raise it 246 feet, from the level of Montreal harbor to that of Lake Ontario.





THE AMBASSADOR BRIDGE PROMOTES FRIENDLY INTERCOURSE BETWEEN TWO GREAT NATIONS

With ample clearance under its suspension span, more than a third of a mile long, this bridge between Detroit and Sandwich, Ontario, has become for the motorists of two friendly lands a favorite link between Buffalo and the West.

Naga sculpture which calmed the fears of pilgrims to some jungle-bowered shrine of Angkor. Gainsborough, Raeburn, Millet, Corot, and Inness are represented among the Toledo treasures, but the museum is no more a copy than are its original canvases.

On the broad highway between Toledo and Detroit I passed a midnight procession of truckaways. Each long truck bore its quota of bright new cars, and in the glare of my headlights these scurrying machines seemed like shiny-scaled monsters carrying their broods on their backs. One of the young was peering over its mother's head with huge gleaming eyes, like a butterfly larva among David Fairchild's back-yard monsters.\* A Caterpillar tractor could not have given a better impression of its namesake.

Just off proud Woodward Avenue, temporarily humbled by penny cafeterias and "open all night" movie palaces full of sleeping men, I entered fairyland.

In front of a softly toned fireplace of polychrome pottery depicting story-book characters beloved by children, and beneath a brilliant decorative map of Michigan's two peninsulas set amid four of the five Great Lakes, happy youngsters were reading. They had escaped into the land of Wishing Wells and Elfin Temples.

When children come there asking for the story of "Hansel and Pretzel" or "Bottom and Titanic," the attendants understand. "Odysseus" is there and "Robinson Crusoe" and "Alice in Wonderland" — blessed geographers, skilled in the thrilling trails through ever-ever land.

On the third floor, in the same building, is the Clarence M. Burton Historical Collection, bulging with the history of Detroit and the Old Northwest, where I pored over aged volumes and enthralling maps by La Hontan and John Farmer.

#### A SPLIT-SECOND MASTERPIECE

Across Woodward Avenue, where controversy rages about Diego Rivera's murals symbolizing the Detroit of to-day, I found skill in technique, happy choice of subject, mastery of material, and artistic balance in an exhibit of photographs.

One showed the start of a speed-boat race as seen from the air. The photogra-

pher had scant control of his subject, for the race, not art, was the thing. Perched in a swift plane and looking down on Gar Wood's and Kaye Don's plunging motor-boats far below, this artist's conception was hurtled through the expanse of space and time, leaving him little chance for composition (see illustration, page 461).

At a given infinitesimal fraction of a second the boats, the landscape, and his plane must be at such a relative position that a now-or-never exposure would not only record an event but constitute a work of art. No painting in the Detroit Institute of Art impressed me more.

#### DETROIT, MOLDER OF MODERN MEN

What city has influenced modern mankind more than Detroit? Its businesslike stoves and oil-burning furnaces have supplanted the romantic hearth. Its drugs have aided healing around the globe. Its electric refrigerators have helped banish the iceman. Most revolutionary of all, it put horsepower under the feet of man.

Detroit is the capital of that dynamic automobile empire which has transformed transportation and even motorized the Mecca pilgrimage.\*

Most of America's automobile factories are adjacent to the Great Lakes. With 50,000,000 tons a year of iron ore and coal being borne south and north along the Detroit water front, and millions of tons of limestone from Calcite and Alpena passing its wharves, Detroit seems the natural center for automobile production. But the motor magnates emphasize the human side.

"When the automobile appeared," said Mr. Roy D. Chapin, "the centers of the tool-steel industry were New England and Cincinnati. Kokomo, Cleveland, and Lansing produced cars before Detroit was well started. But in King, Olds, Leland, and Ford, Detroit had a group of ingenious, restless brains whose value was immeasurable. When a fire destroyed the Olds plant, a bomb of initiative and ingenuity exploded and genius for motor-making spread over a wider field. There is something in the air, as well as the river, of Detroit which stirs men's minds."

A more objective group of men I never met. "What's a country without boats?" asked one master of motors.

\* See "Monsters of Our Back Yards," by David Fairchild, in the NATIONAL GEOGRAPHIC MAGAZINE, May, 1913.

\* See "Michigan, Mistress of the Lakes," by Melville Chater, in the NATIONAL GEOGRAPHIC MAGAZINE, March, 1928.



SUN-HUNTERS BESIDE THE GREAT LAKES HAVE A SHORT SEASON, BUT A MERRY ONE

Open-air gymnastics on one of Cleveland's municipal beaches are the more enjoyed because the bathing season seldom exceeds four months, and for all but hardy folk sun-bathing is more popular than lake bathing except from mid-June to mid-September.

"If I were you and wanted to know the Lakes, I'd park my car and travel by ship," said another whose bread is thickly buttered by the motor trade.

A Detroitier has organized camel races in the motor-invaded Sahara, and at the headquarters of one of the most famous of all motor plants I was directed not to the assembly line at which foreign visitors marvel, but to Greenfield Village, a community museum of Old America. Not a motor is allowed to enter Greenfield except those of high officials and the motorized street-sprinkler.

#### A MOTORLESS MUSEUM OF MOTORDOM

Greenfield Village resembles European tourist sites. In a hushed voice your guide informs you that such a fire has not been allowed to go out since Thomas Edison or President Hoover lighted it, years ago. Vestal Virgins could do no more. Before the lenses of Mr. Tremear

has passed an imposing procession of celebrities. But his pictures—in the era of aerial and color photography—are tintypes (see illustration, page 480).

A bell cast by the son of Paul Revere hangs in the Chapel of Martha-Mary. The courthouse in which Abraham Lincoln practiced law has been brought to Dearborn. A log cabin preserved from Michigan pioneer days retains the air of the past. The Steinmetz Cottage and Mrs. Sarah Jordan's boarding house, the first to know the dim yellow electric light, are assembled there. In the Edison Laboratory, in the presence of President Hoover, the genius of Menlo Park reenacted the invention of the incandescent bulb on the fiftieth anniversary of its first success.

My first view of this museum community was from the air. Not far away I could see the River Rouge plant, distinguished not so much by its size or the cluster of smokestacks or the salt-water steamers at



CONCRETE HIGHWAYS AND AMPLE PARKING SPACE LURE MOTORISTS TO LAKE AND DUNE

Waverly Beach, on the lake front between Michigan City and Gary, is the center from which hikers explore the Indiana sand dunes. What makes this a favorite resort for motorists is the wide expanse of paved parking space a few rods from Lake Michigan.

its piers, but by a surrounding army of automobiles—not surplus stock, but the personal vehicles of 40,000 workers! Where on earth could one match that sight?

North of Detroit there is limestone and salt, and enough fish to fill solid cars, which are rushed through to Chicago and New York. There are even at times special whitefish planes which fly the food to distant cities. But with such exceptions as Port Huron, Bay City, Alpena, Calcite, Muskegon, and Gary, the lake shore in summer is largely a playground.

Though several heat waves had made summer resorts attractive, I found few open.

"We can't do much till the colleges are out," explained one hotel proprietor. "From Detroit for 1,600 miles around to Chicago college students wait table, rent boats, guard beaches, bell-hop the steamers, and play saxophones. Hardly a resort could run without the collegians and co-

eds. For them, it's a great vacation, and we can't do without them."

#### THE MODERN NOMAD TAKES TO WHEELS

Michigan is rimmed with State parks, with splendid beaches, shady forests, and all the facilities for a nomadic life, far freer than that of Arab or gypsy. Vagabondage—age-old escape from bondage—has become respectable.

The key to a complete hospitality is a key. Nowadays your host gives you a key to a little home of your own, and the State, instead of giving you the key to its cities, gives you a welcome to the great outdoors. Log cabins, toy houses large enough for two, and tourist camps have appeared magically. Almost overnight, America has become a more hospitable land.

Our Great Lake States and near-by Canada have trout streams and lakes and beaches enough for all. The summer climate is just right for sun-bathing, and the



Photograph by Fairchild Aerial Surveys

FREIGHTERS CROWD THROUGH THE "SOO" LOCKS IN TANDEM, SO CONGESTED IS THE TRAFFIC

The freighter in the foreground has just left the Sabin Lock and is headed down St. Marys River. Her companion is about ready to pull out of the dock. Two upbound freighters (right) wait to enter the lock and two others at the far end of the canal pause for the down passage. In adjoining Davis Lock water has attained the higher level of Lake Superior, and two freighters are about to pass up. The small Weitzel and Poe locks to the left are little used. Beyond the rapids to the right is the Canadian canal.



MOCCASINED FEET AND EXPLORERS' BOOTS FIRST TROD THIS HISTORIC TRAIL.

The commemorative tablet reads "GRAND PORTAGE TRAIL, nine miles long from Lake Superior to Pigeon River above the cascades. Part of the principal route to the Northwest in the 18th century, over which tons of furs and trade goods were carried by Indians, French and English. Recognized as an international highway by Webster-Ashburton Treaty of 1842." Now a motor highway from Duluth to Canada's famous Lake Nipigon region crosses this old trail.



A COTTAGE ON WHEELS PAUSES AT A SYLVAN CAMP

Four girls sleep and travel in this fully equipped trailer, whose builder, their guide and chauffeur, spends the night under the stars.



A BASHFUL LITTLE INDIAN IN THE LAND OF THE OTTAWAS,  
EAST OF GEORGIAN BAY

whole region is a paradise for the Nature lover. Izaak Walton, Johnny Weissmuller, Paul Bunyan, and Bobby Jones could all indulge their fancies.

Upper Michigan pictures Hiawatha as a golfer playing a supercourse which starts at Menominee, Escanaba, and Manistique; continues at delightful Blaney Park and St. Ignace before crossing to Mackinac Island and back to Cedarville near Les Cheneaux Islands; plays on both the Michigan and Ontario shores of the "Soo"; drives past Newberry and Munising to Marquette and Ishpeming, in the iron country; detours into the copper territory at Calumet and Houghton-Hancock; takes a look at the "Big Sea Water" at Ontonagon before turning from woods to irons at Ironwood and Iron River, and then rounds

homeward to Menominee via Crystal Falls and Iron Mountain.

In the Lower Peninsula, lake life bulks large. Glen Lake seems to be a favorite among 5,000, and my advisers invariably added that a NATIONAL GEOGRAPHIC MAGAZINE writer placed it "among the five most beautiful lakes in the world."

I cannot find the statement, and to me the beauty of a lake depends as much upon the fleeting cloudscape above it as in its shape, size, or shores. My own choice must remain unnamed, but never have I seen a lake more beautiful.

#### A LIVING MEMORIAL TO THE "MARCH KING"

In vacation land all types of dress are seen; but at Interlochen, between Lake Water-Lingers and Lake Water-Lingers-Again, I came upon the distinctive costume of the students of the National Music Camp. There were few spectators in

the rustic bowl, and a hundred or more young men and women, from widely separated parts of the United States, were playing together for the first time, but there was no mistaking the excellence of their music. Into the complex picture of the Great Lakes vacation areas merged that of the late beloved March King, John Philip Sousa, conducting a huge orchestra of high-school students in a way to command the admiration of experts (see page 485).

Once lumber formed a major cargo on the Great Lakes and tall-masted lumber "hookers" were seen from the Tonawandas to Duluth. That was in the days when shingles and clapboards, rather than comic strips and world news, were forest products.

The Tonawandas are no longer "lumber towns," and Muskegon, once the "Lumber

Queen of the World," now makes motors as well as billiard tables, and boasts of the diversity of its products rather than leadership in one line. Now the forests of Michigan are playgrounds. But in them, protected by permanent Forestry officials and the Civilian Conservation Corps, are growing the tall trees of to-morrow.

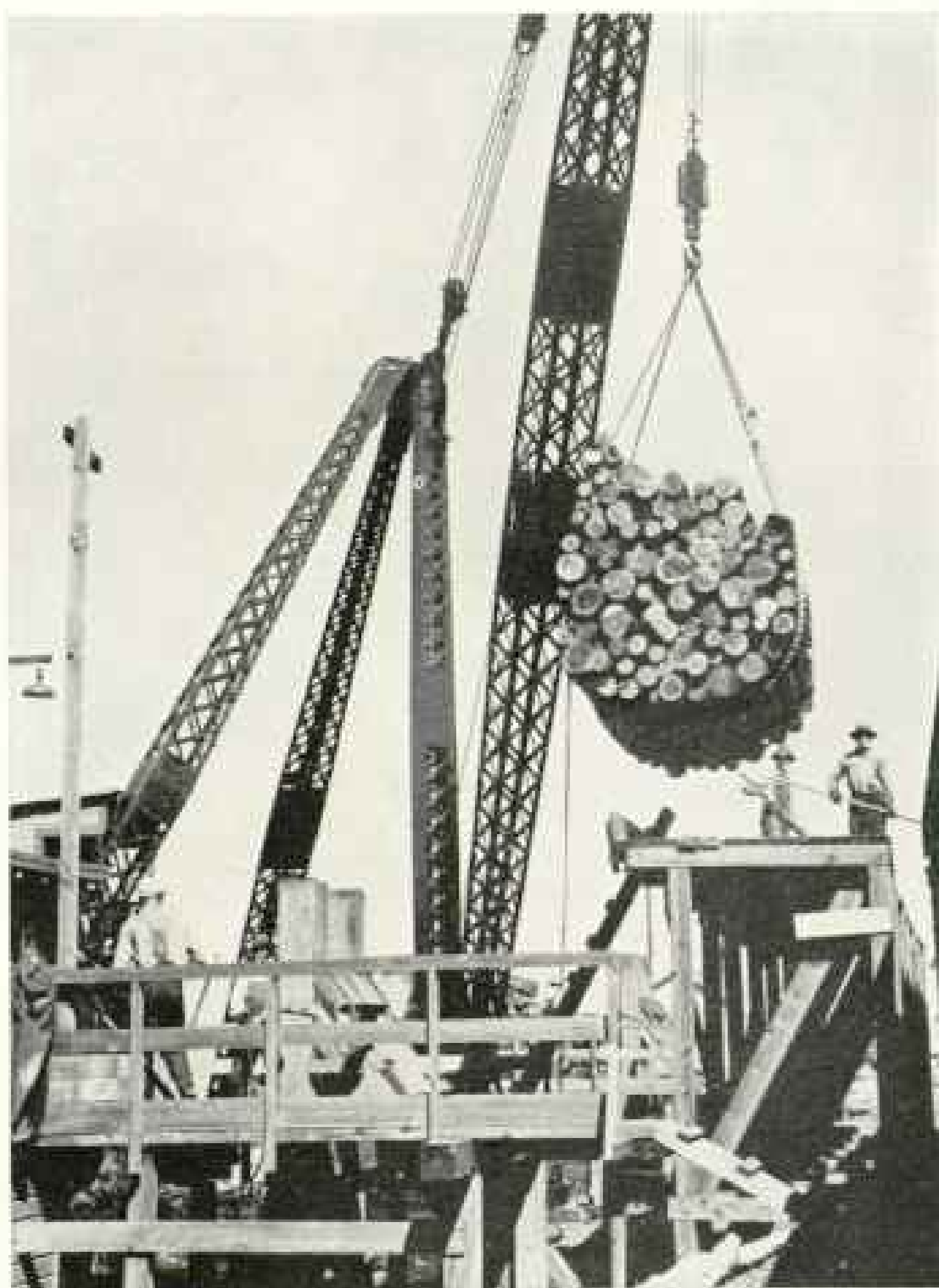
Alpena was a lumber town. Now it ships limestone and makes cement. To the modern world of fireproof buildings and 4-lane traffic, Alpena plays as important a part as ever in the log-team and sawdust days.

#### THE "BURIED TOWNS" OF THE DUNES

Several old towns of Michigan have been buried beneath the ever-advancing dunes. At the mouth of the Kalamazoo River I sought the site of Singapore. A middle-aged fisherman enlightened me.

"You're standing right on it," he said. "When I was a boy my father used to tell me about it. But it had been buried by then. It was quite a town once. But it must have lived a short life and a merry one 'cause a hundred years is all the history this part of the country has."

Space will not permit a detailed description of the birch-brightened paths near Petoskey; the sand dunes of Ludington and Saugatuck; the land-locked harbors and crowded beaches of Holland and Muskegon, Grand Haven and South Haven; Charlevoix's three lakes; "St. Joe's" beach and mineral baths, to which Chicagoans flock by steamer. The Indiana Dunes State Park, with parking space for thousands of cars as well as trails for multitudes of hikers, is a unique wonderland to which motorists come from all our 48 States.



BUNCHED LIKE ASPARAGUS, LUMBER IS LOADED ON FREIGHT CARS AT ASHLAND, WISCONSIN

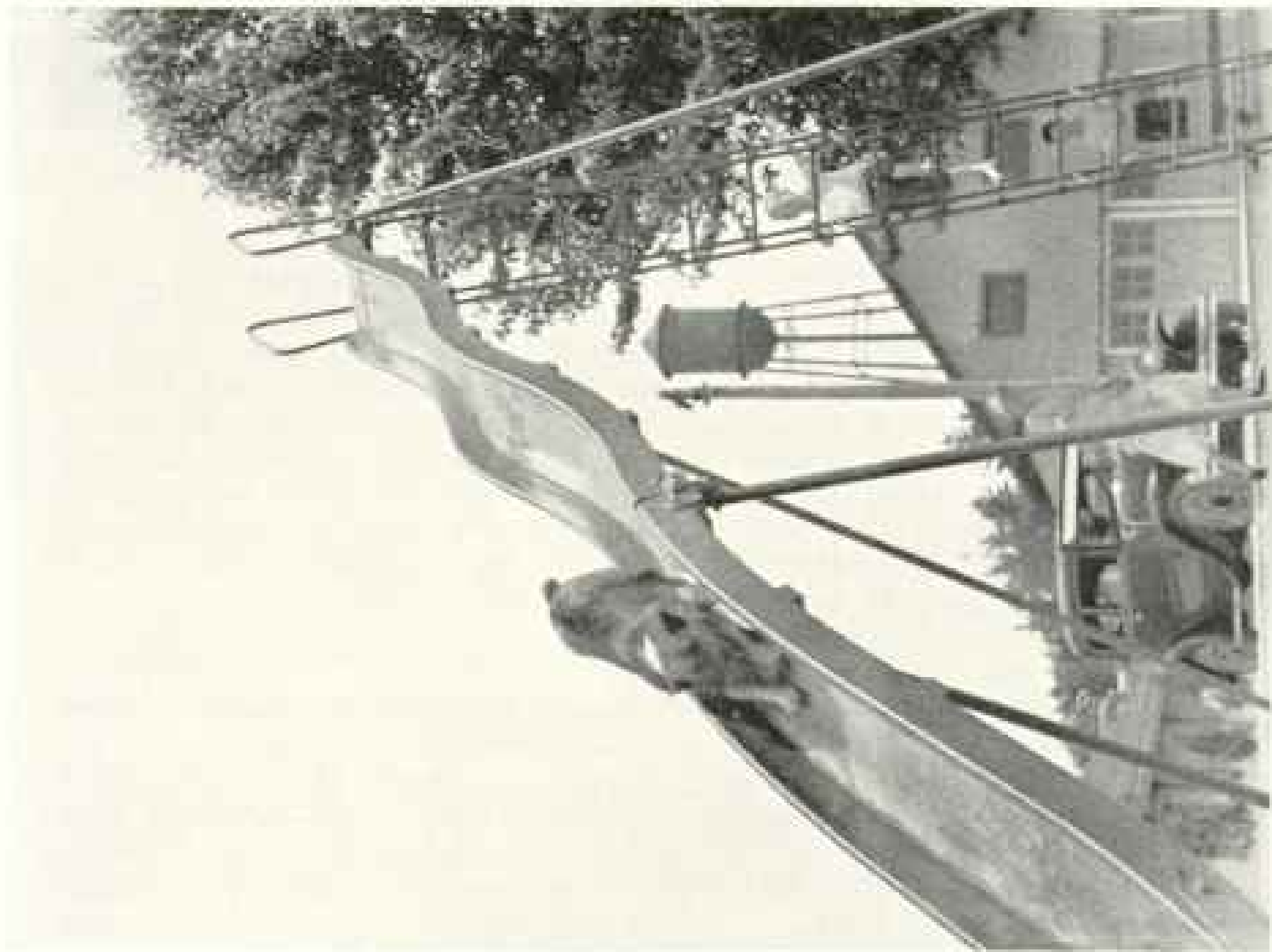
We must hurry to Chicago and catch a Fourth of July cruise to Georgian Bay.

The decks are restful and the climate invigorating, but let none take a Great Lakes cruise who does not care for fun. A tactful hostess breaks the ice and an official pied piper starts the whole happy crowd around the deck twice a day for the mile walk. On the Canadian boats a kilted bagpiper leads the way.

#### INLAND CRUISES OF THE LAKES

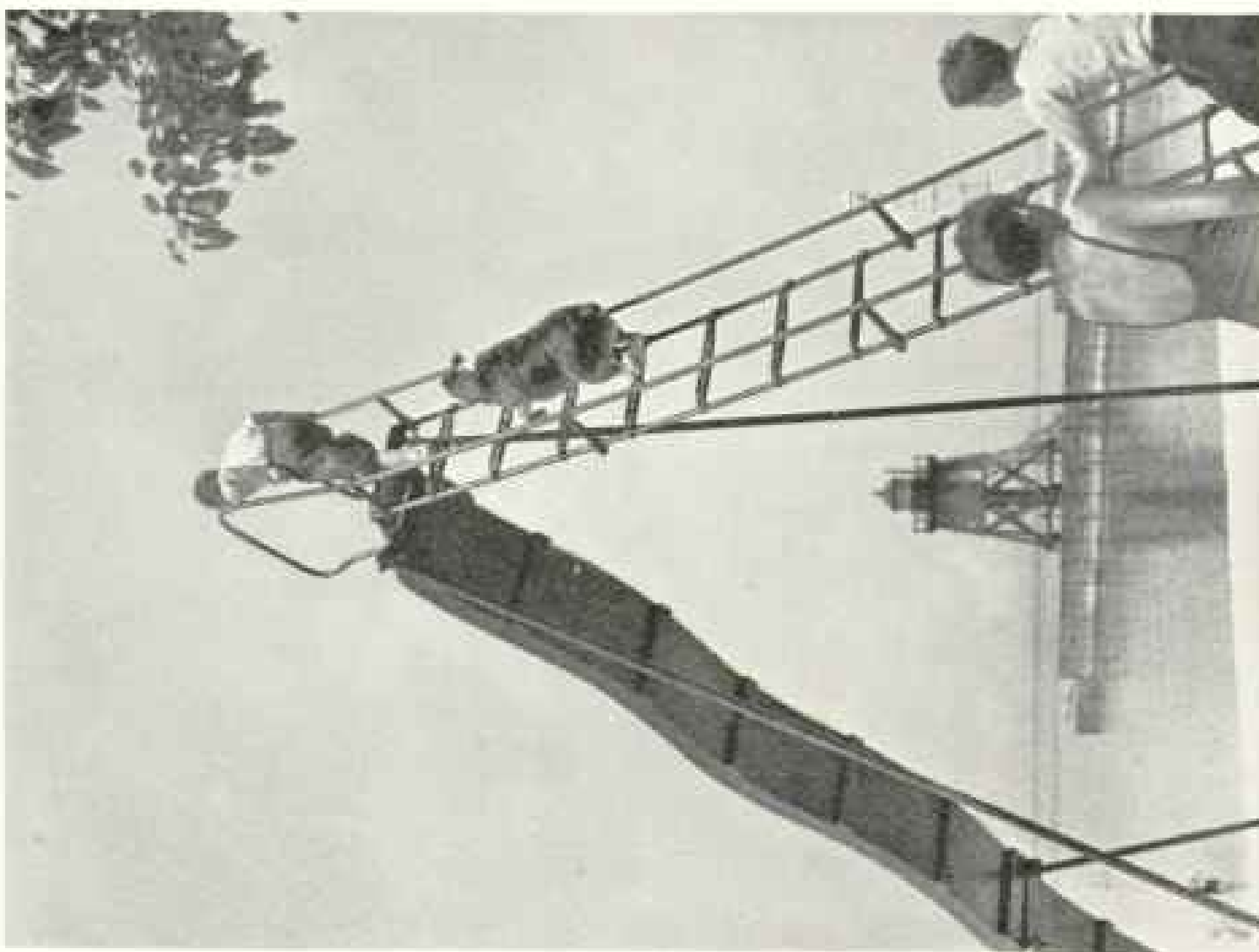
There are scores of pleasant cruises around the Lakes. I took the *Greater Detroit* for a Sunday at Niagara Falls, joined two Polish Sunday schools on a picnic from Detroit to Tashmoo Park, went north on the *North American* and south on the *South American* between Chicago and Georgian

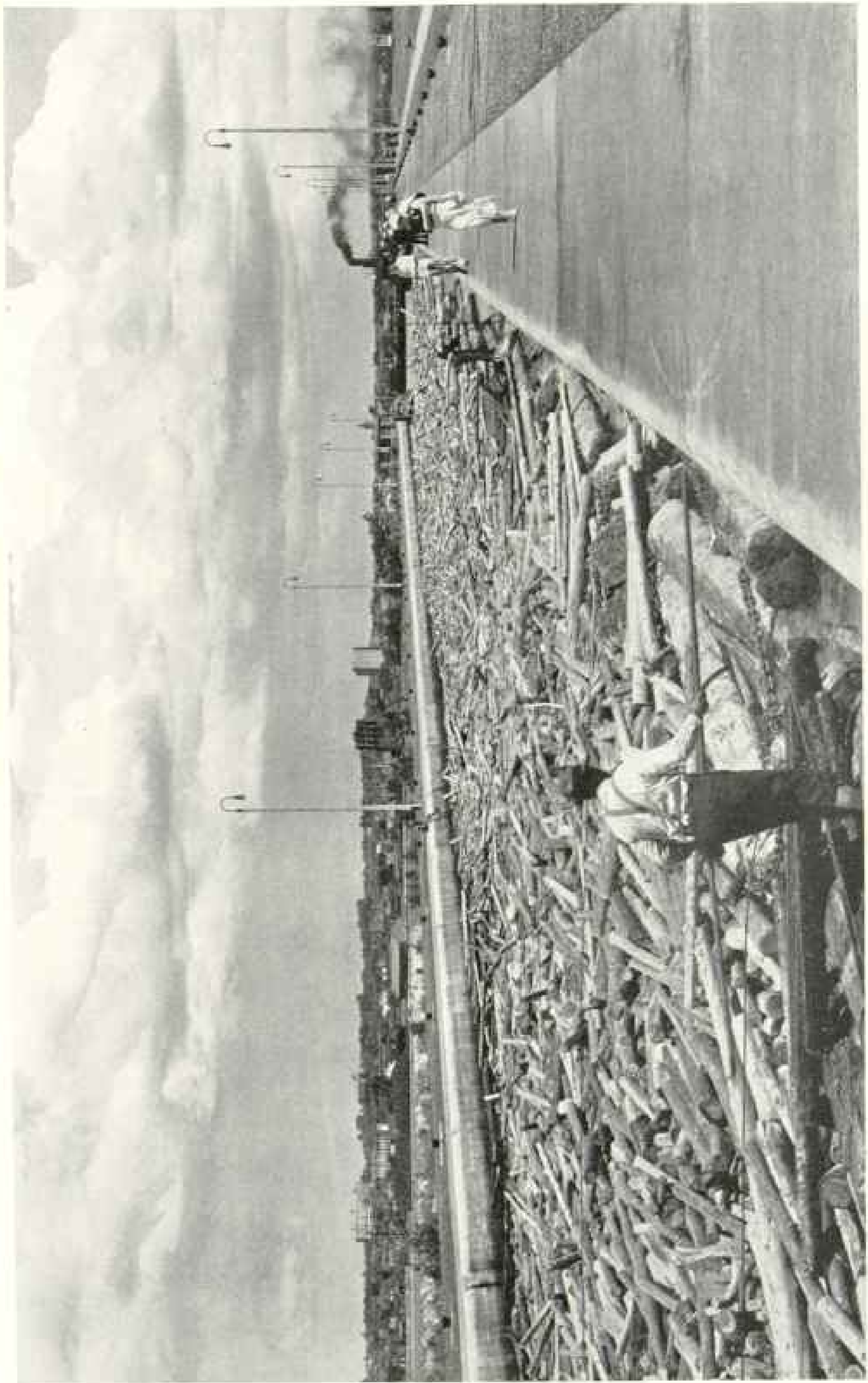




A SPORT-LOVING DOG ENJOYS THE BEACH SLIDE AT CHARLEVOIX, MICHIGAN

Situated on three lakes, Charlevoix offers its bathers diverse conditions and water of varying temperatures. This beach, on Lake Michigan near the steamship channel, is preferred by surf bathers.





A PULPWOOD RAFT IN THE SAULT SAINTE MARIE LOCKS

As vast forests have been stripped of their virgin timber, the movement of lumber through the "500" has decreased since 1902 to one-sixth its former volume. This raft, from the Ontario shore of Georgian Bay, is moving upward through the Sabin Lock, with Sault Sainte Marie, Ontario, in the background (see illustration, page 474).



THE TINTYPE MAN AT GREENFIELD VILLAGE IS A  
SUBSIDIZED ANACHRONISM

Wearing a badge as a "Ford workman," Mr. C. H. Tremear makes tintypes of visitors to the reconstructed early American village created by the great motor manufacturer as a retreat where motorists are barred.

Ray, and hurdled my car aboard the *Hamonic* just as she was leaving Port Arthur to return to Windsor.

Less noteworthy than the lake freighters, the passenger ships are still outstanding. Seventeen hundred passengers can sleep on the *Greater Detroit* at once, and for the favored few there are parlor suites with twin beds, tub and shower, and private verandas. No wonder the waterway between Detroit and Buffalo, Chicago and Mackinac Island, or Duluth and Chicago is popular.

Last season the *Tionesta* and *Juniata* kept so busy between Buffalo and the Century of Progress Exposition that Lake Superior schedules were reduced. The only

convenient way to get to primeval Isle Royale\* was to take a steamer from the Chicago River or fly from a slag-dump landing field near Houghton-Hancock—one of several pairs of river-hyphenated cities, including Buffalo-Fort Erie, Detroit-Windsor, Port Huron-Sarnia, Benton Harbor-St. Joseph, Marinette-Menominee, the Michigan-Canadian Saults, and Duluth-Superior (see page 489).

Since Chicago became the busiest railway center on earth and built a grid of bridges as safety valves for the high-pressure Loop, river-bound commerce has had an uphill fight on the uphill-flowing Chicago River.† Along Wacker Drive, between Michigan Avenue and the turning basin at the junction of the North and South Branches, a bird's-eye view includes as much swarming bridge as quiet water, and the water spaces between bridges are as wide as they are long.

Across the Chicago River, the Chicago Drainage Canal, and Calumet River, there are 101 bridges. To have them all swing or lift for each barge would turn the center of our second city into a fantastic toy. Hence barges have been devised which can squeeze under the city traffic without disturbing it, and Chicago's 22 railroads can function without permission of the water-right owners.

\* See "Winter Sky Roads to Isle Royal," by Ben East, in the NATIONAL GEOGRAPHIC MAGAZINE, December, 1931.

† See "Chicago To-day and To-morrow," by William Joseph Showalter, and "Illinois, Crossroads of the Continent," by Junius B. Wood, in the NATIONAL GEOGRAPHIC MAGAZINE, January, 1919, and May, 1931, respectively.

The outer harbor, whose splendid pier hasn't so far hooked up with any railway, is being improved as fast as the traffic demands. Nor will the newly opened Illinois Waterway materially change matters, since barges using a 9-foot channel can pass under most of the bridges, anyway.

#### CENTURY OF PROGRESS HELPED THE NA- TION'S MORALE

When I attended the University of Chicago the lake front was chaotic. Now it is mostly a splendid parkway and near its center is a magnificent one-sided boulevard. How this unique beauty of Michigan Avenue and the lake front was and is preserved is a dramatic, lengthy, and unfinished story. Every American lover of beauty should be grateful for what Montgomery Ward, John Barton Payne, and Daniel Burnham did to help Chicago protect itself. When the outer drive is completed, Chicago motorists will be able to move more rapidly between the Loop and North Chicago.

Comparable to the increase in freight tonnage on the Lakes was the increase in good spirits in Chicago. During the Century of Progress Exposition Chicago was the optimism factory of America, its "traveling salesmen" covering the country by railway, auto, bus, and boat.

During my visit, there were three noteworthy art exhibits in this hundred-year-old offspring of a log fort in a swamp. Whistler's "Mother" graced a loan collection at the Art Institute, Malvina Hoffman's "Races of Mankind" bronzes at the Field Museum lifted the science of anthropology into the realm of art, and some



A FREIGHTER CATCHES UP WITH THE NEWS

While this ore and coal carrier was passing through the locks at Sault Sainte Marie, her crew put a ladder over the side and brought aboard the latest newspapers and the mail (see text, page 486).

hundreds of eager artists paved the Plaza leading to the Buckingham Fountain with their paintings or did lightning portraits while their sitters divided with them the attention of the Michigan Avenue crowds.

Some offered to barter their work for bread or shoes; others lent their talent to clipping out silhouettes; but here, in one of America's most highly commercialized cities, were men and women who insist on being artists. At no sidewalk or café-wall show in Europe have I seen finer work.

Facing the al fresco art sale was the Fountain of the Great Lakes, by Lorado Taft, with our commerce-carrying seas represented as fair women, one after an-

other catching the sparkling waters of Lake Superior.

The Art Institute of Chicago attracts and trains 4,500 art students a year. Not all will produce work to compare with Rembrandt's "Girl at the Open Half-Door" or El Greco's "Assumption of the Virgin," but I'll wager my days spent in art museums from Paris to Peiping that some of the highly valued treasures of 1983 will date back to the Michigan Avenue sidewalk show of Chicago's centennial year.

Chicago's North Shore, reaching past Evanston, Wilmette, Winnetka, Glencoe, and Highland Park to Lake Forest, is among the finest residential districts I have seen. Route 41 winds between splendid estates and under shady vaults, and the lake environment of backless bathing suits and beach pajamas extends its *joie de vivre* atmosphere, suggestive of energy and optimism, for many blocks from the invigorating lake much of the way to the Wisconsin metropolis.

#### THE OBLIQUE BRIDGES OF MILWAUKEE

Milwaukee's bridges seem to have been cut on the bias (see illustration, page 487). The air traveler can see at a glance how two settlements glared at each other across the river, and the street signs still suggest that Milwaukee is as much a pair of twins as Benton Harbor and St. Joseph or Marinette and Menominee.

For years the rivalry between civil engineer Kilbourn and fur-trader Juneau was such that ferries furnished the only means of communication across a stream which the modern business section almost ignores. When the bridges came they could not match the spacious squares of the engineer with the smaller sections of the fur post. Diagonal bridges suggest that Kilbourn's Milwaukee slid south of Juneau's Plateau, with the river as a fault line.

In Milwaukee there is no question about the gender of a ship. About 1905 a young reporter for the *Milwaukee Sentinel* found ship news, for no apparent reason, hard sledding. A friendly sailor finally furnished the clue.

"The *Sentinel* will never hear the gossip of the water front so long as it calls a ship 'it,'" said he. So "it" came out of the *Sentinel* stylebook, "she" went in, and ship news began to boom.

In spite of the slogan that "made Milwaukee famous," only in one year, 1889, was brewing Milwaukee's major industry.

But Milwaukee shovels severed the link between the Americas and are banishing malaria from the land of the Thessalonians and Alexander the Great; a Milwaukee ore-crusher in Chile is the giant of its tribe; Milwaukee-made engines, hydroelectric units, and pumps are known the world over, and with the aid of pictorial advertising Milwaukee silk hosiery has gained a footing throughout the Near East.

As far as the Great Lakes are concerned, Milwaukee is second to Buffalo as a receiving port, and Milwaukee-made shovels are scooping up a considerable portion of the State of Minnesota to keep the ore boats busy.

When canals were most in fashion, Kilbourn planned one from Lake Michigan to the Mississippi via the Oconomowoc Lakes and Rock River, but railways arrived in time to prick the canal bubble.

Water power from one of the canal dams once drove Milwaukee's chief industries, and it is hard to believe that lead and buckshot once dominated the thoughts of Wisconsin's canal builders and railway men; but the ox-drawn lead caravans from Iowa County to Milwaukee ranked with the cheapest and most efficient transportation of our early days. Strangely enough, Wisconsin lead producers did not profit from the Civil War. The shot tower at Helena, center of the grandiose dreams of traffic men, ceased operations just after Fort Sumter fell.

#### LAKE MICHIGAN BREEZES FOSTER ORCHARDS

Lake Michigan's influence on climate may be measured by orchards. From the cherries of Traverse City to the peach orchards near South Haven, the Michigan shore is one vast fruit belt. The cool lake breezes from the west retard the blossoming and so prevent damage by frost.

Thanks to the tempering influence of Green Bay, over whose portage Father Marquette and Joliet first reached the Mississippi, Door County is Wisconsin's Cherryland. Near Sturgeon Bay I visited a camp where 140 girls, mostly from Milwaukee, were having the time of their lives. Clad in everything from shorts to overalls, they picked cherries or played tennis. But each had a swimming suit and dance frock for dress-up.

"You should see our dances," said one of these high-school girls, who looks forward to cherry picking as her year's best fun.



Photograph by Acme

MODERN CHICAGO SALUTES JOLIET'S 260-YEAR-OLD DREAM—A LAKES-TO-GULF  
WATERWAY

On June 22, 1933, under six bascule bridges tilted like howitzers, barges from New Orleans approached the site of Fort Dearborn, ascending the backward-flowing Chicago River toward its mouth. Joliet gave his name to a city on the waterway he foresaw, yet local settlers long called it Juliet and linked it in thought with Romeo, its neighbor to the north.

"City people dance because it's 'the thing.' But these men up here put their heart in it."

"Yes, and their feet," added a wise-cracking companion, rubbing her bare ankle.

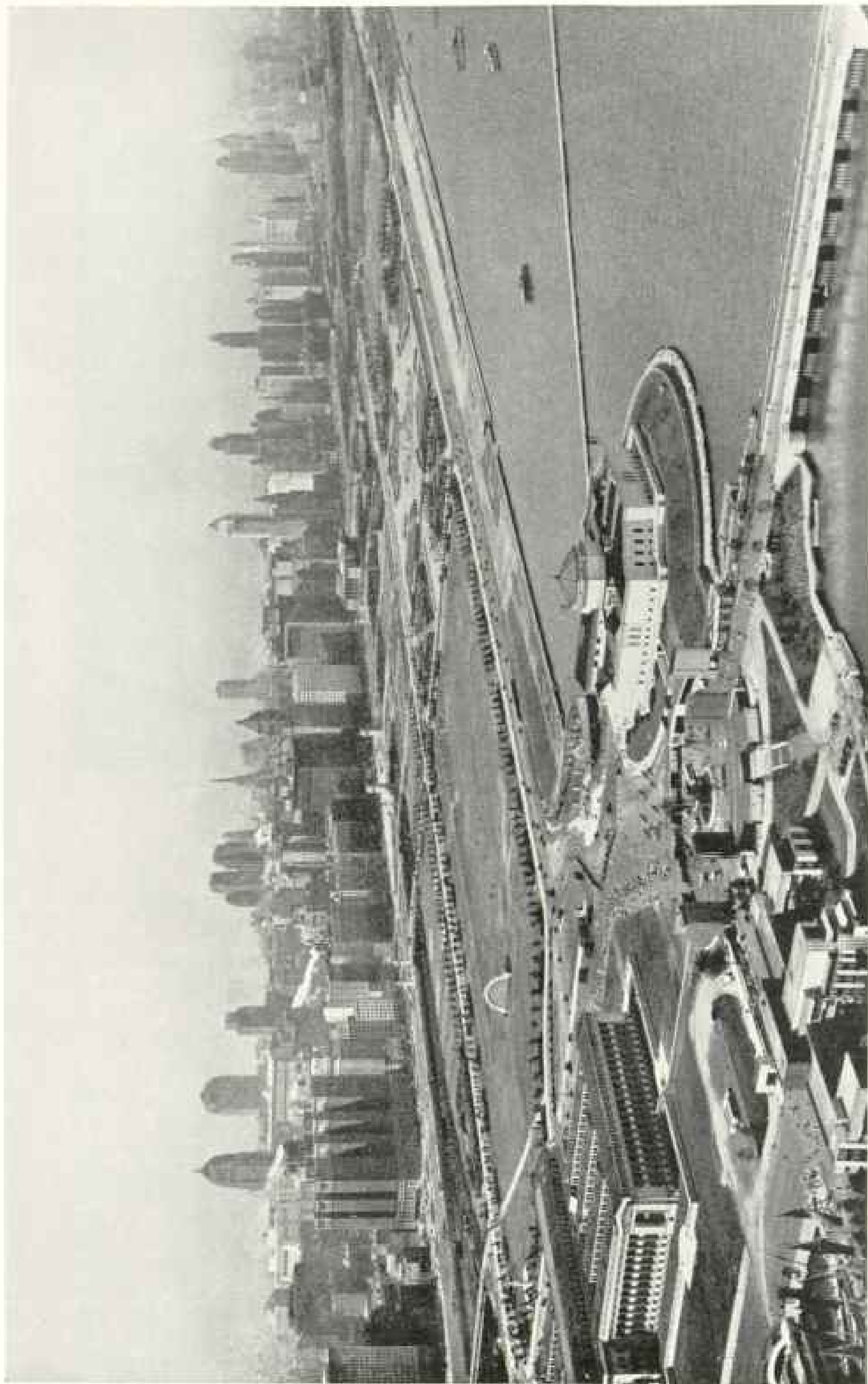
In the canning factory at Sturgeon Bay neatly aproned operatives were waiting for the red cascade of cherries to come pouring down into their machines. In the courtyard were scores of women eager for jobs. What between cherries and summer resorts, Door County is a busy place, and from the observation towers of Peninsula and Pottowatomi State Parks one looks down on a wonderland of forest and water, tourist resorts, and cherry orchards decorated with signs reading, "Pick your own, one cent a pound."

Enough lusciousness for three or four deep, gory cherry pies for fifteen cents.

Yet when I asked for cherry pie, only a few blocks from the cooperative cannery, the waitress thought me daft.

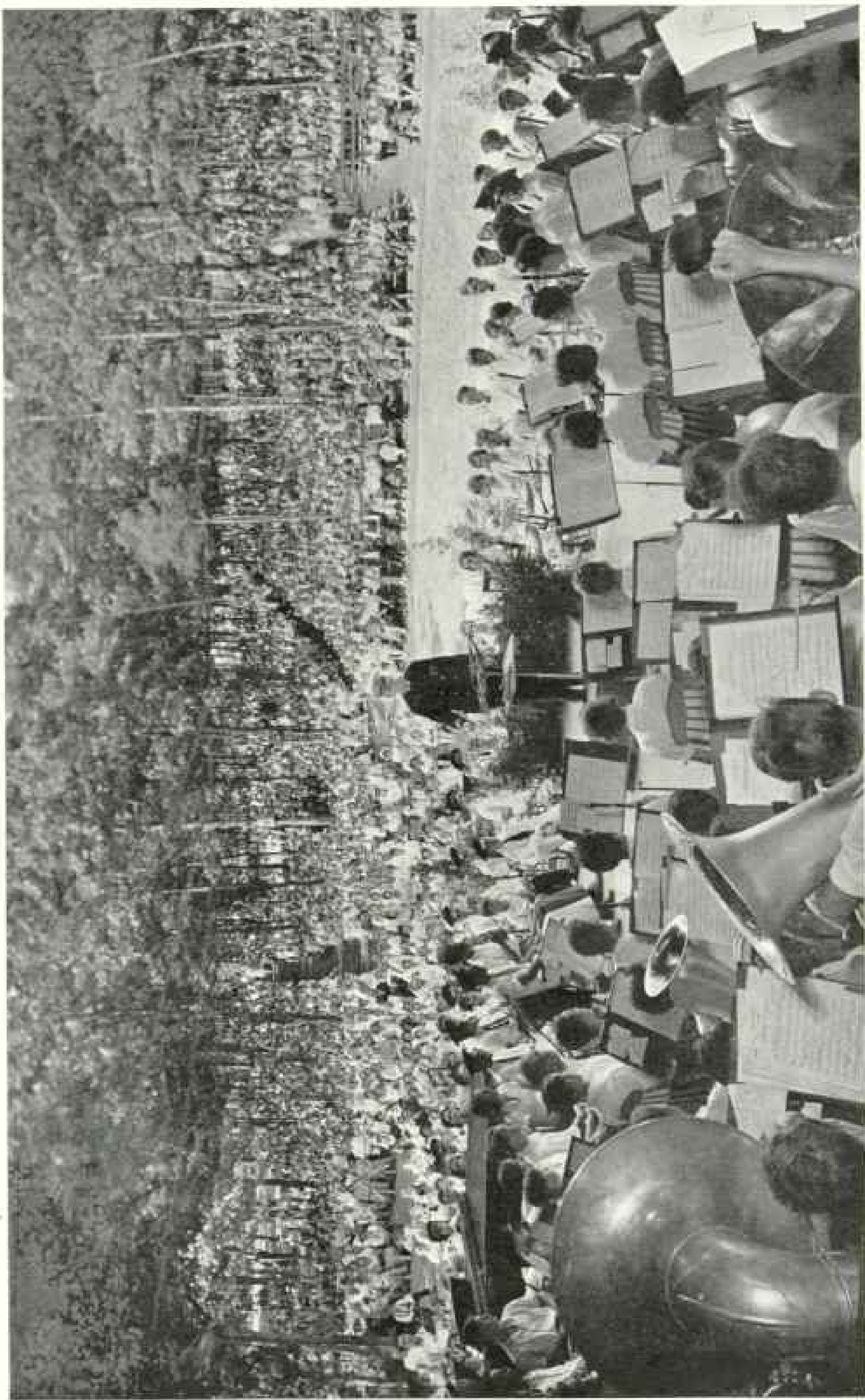
FROM "CHERRYLAND" TO THE "SOO"

It is a long jump from Cherryland to the "Soo," but a delightful one. Space forbids even a catalogue of the charms of this unspoiled playground, so easily accessible over excellent roads. Those who install traffic signs have become wise counselors whose advice the clever motorist heeds. In few places is the emphasis on fixed speed limits. Traffic officers realize that when an accident threatens is no time to look through the steering wheel for a speedometer alibi. Kewaunee, Wisconsin, contributed the best warning sign I saw: "We love our children. Please drive carefully."



BEAUTY AND ART, SCIENCE AND BUSINESS HAVE BUILT THEIR TEMPLES ON CHICAGO'S PRIMEVAL MUD FLATS

The Field Museum of Natural History (left) houses a notable collection, including the Malvina Hoffman bronzes (see text, page 481). In the John G. Shedd Aquarium (center) tropical fish occupy de luxe apartments (see "Rainbow Denizens of the Aquarium" in the NATIONAL GEOGRAPHIC MAGAZINE for January, 1934). The Art Institute, beyond Burnham and Grant Parks, has a world-wide reputation. A mighty city occupies what was formerly malarial swamp land, cut by two mere creeks, the Chicago and Calumet rivers. In the foreground is the north entrance to A Century of Progress International Exposition.



© Sporn and Wysocki

AMERICA'S MARCH KING LEADING A YOUTHFUL BAND IN THE SYLVAN INTERLOCHEN BOWL, MICHIGAN

Shortly before his death, John Philip Sousa visited the young music lovers at the National Music Camp. In addition to the band, here playing the overture from "Rienzi" under his direction, there are also an orchestra and classes in conducting, drum-majoring, orchestration, and instrument repairing.





HARVEST TIME IN WISCONSIN'S CHERRYLAND

Door County, on a peninsula between Green Bay and Lake Michigan, claims to have the world's most concentrated cherry-orchard area. Hundreds of young city women vacation there, living in cherry camps and combining cherry picking with swimming, tennis, dancing, and other pleasures (see text, page 483).

The Great Lakes region should draw an increasing number of summer visitors, for such simple, restful pleasures as the rich yearn for and poor men enjoy are available at every hand. Fishing, camping, canoeing, hiking—all are there. Hiawatha could still be happy in the Hiawathaland of 1933.

The north woods contain palatial cottages and hunting clubs whose members pay fat fees for a cool, quiet retreat. To enjoy a like coolness in the same latitude one would have to climb high into the Rockies. Hay-fever sufferers escape to the "Soo," where hundreds of them belong to the Ca-Choo Club of America. It's a pleasure to breathe along the shores of "Gitchee Gumee."

Our own Sault Ste. Marie is a homely, lovable city without white elephants. Not a premature skyscraper breaks the skyline of this delightful old town overlooking the famous locks. Detroit has a marine post office, with delivery by tenders, because many ships don't stop there. At the "Soo" the first ladder over the side is for the news (see page 481). Watching these freshwater sailors, one might think that a lake freighter is a social club like that which men of Sault Ste. Marie have long housed in the same homely rooms in which it was born.

In Hiawathaland I avoided as far as possible the cement speedways. Time and again deer leaped across my path and a fretful porcupine arched his back at my auto's invasion of his domain. The only tragedy of my 5,900 miles of motoring was the death of three young grouse, so contentedly sunning themselves in a sand rut that they gave no hint of being living things until it was too late.

To me this was a greater tragedy, because I hunt with lens rather than gun. That night, in a hotel worthy of any city, I slept beneath two wonderful photographs by George Shiras, 3d, of the wild life which, in spite of all efforts, is passing. Upper Michigan is full of local pride, and cities have proved their hospitality by building hostelrys which come as a pleasant surprise.

#### A NOTED PHOTOGRAPHER OF WILD LIFE

The man who so strikingly photographed the wild life of the Great Lakes, and whose matchless pictures and articles in the NATIONAL GEOGRAPHIC MAGAZINE adorn homes around the world, had a part in this



Photograph by Fairchild Aerial Surveys

#### MILWAUKEE'S OBLIQUE BRIDGES REFLECT HER EARLY HISTORY

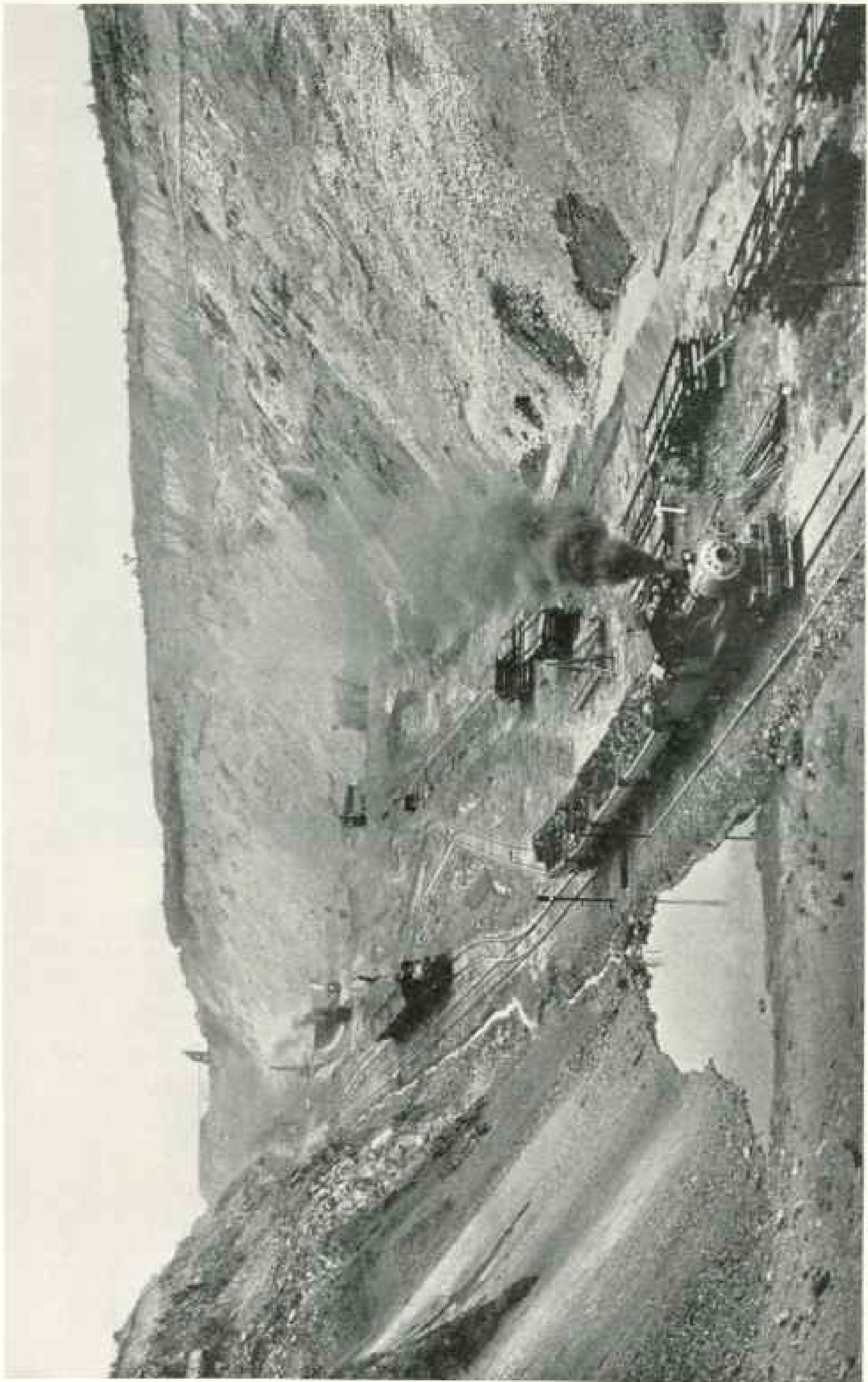
In the foreground lay the small squares of Solomon Juneau's fur trading post. Beyond the Milwaukee River his rival engineer, Kilbourn, laid out his settlement in more spacious squares. From 1795 to 1840 relations were so strained that no bridge was built between these two parts of early Milwaukee. When bridges supplanted ferries they were necessarily built at an angle to unite the unequally spaced streets (see text, page 482). The large building in the distance is the new Milwaukee County Courthouse, decorated with notable murals by Francis Scott Bradford.

welcome hospitality.\* From a plaque in the hall of my hotel I copied the inscription to this pioneer game photographer:

\* See, in the NATIONAL GEOGRAPHIC MAGAZINE, by George Shiras, 3d: "Photographing Wild Game with Flashlight and Camera," July, 1906; "One Season's Game-Bag with the Camera," June, 1908; "A Flashlight Story of an Albino Porcupine and of a Cunning but Unfortunate Coon," June, 1911; "The White Sheep, Giant Moose, and Smaller Game of the Kenai Peninsula, Alaska," May, 1912; "Wild Animals That Took Their Own Pictures by Day and by Night," July, 1913; "Nature's Transformation at Panama," August, 1915; "The Wild Life of Lake Superior, Past and Present," August, 1921; "Wild Life of the Atlantic and Gulf Coasts," September, 1932.

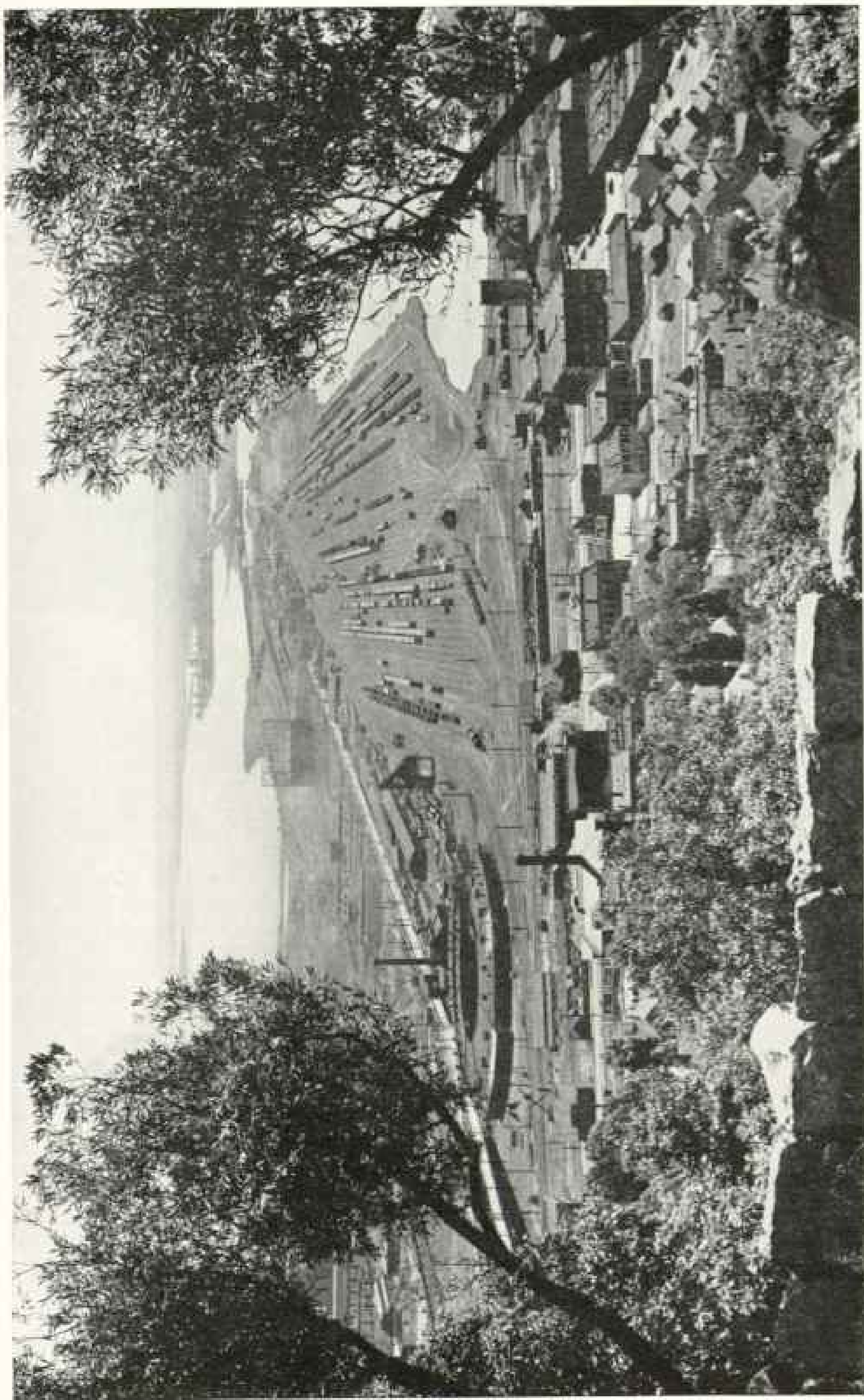
"This tablet has been placed by the citizens of Marquette in recognition of the able leadership of George Shiras, 3rd, whose devoted counsel and generous financial support have made the Hotel Northland possible."

Even more impressive than the hotels are the schools. Escanaba's dominate the mile-long business section. Ishpeming, Bessemer, and Hibbing have schools of which any city might be proud. Facing a pretty little lake, Wakefield's façade is made up of a Township High School, Memorial Community Hall, and City Hall, behind which the town itself seems dwarfed. I asked why.



THE RAW MATERIAL FOR BRIDGES AND BUZZ-SAWS, STEAMSHIPS AND SKYSCRAPERS COMES FROM SUCH PITS

Carrying Lake Superior iron ore to the steel mills south of the Lakes has given the lake freighters their task and their prosperity (see text, page 457). Much of the ore comes from open pits like this one in the Gogebic Range, near Wakefield, Michigan. Of 62,000,000 tons of iron ore produced annually in the United States, more than five-sixths are shipped from ranges near Lake Superior.



AT DULUTH-SUPERIOR RAIL AND WATER MEET AND SERVE A VAST INLAND AREA

Second in tonnage only to New York, this natural harbor, with an area of 19 square miles and 49 miles of frontage, is at the western terminus of the Great Lakes. Rice's Point, occupied by railway yards and fringed with elevators and coal-handling plants, is the chief protuberance on the shoestring city of Duluth, pressed between steep hills and the harbor. The small interstate bridge in upper center connects Duluth, Minnesota, and Superior, Wisconsin, the mightiest twins on our inland seas.



THE BEARS IN MILWAUKEE'S ZOO ARE MADE TO FEEL AT HOME

Few of the animals in Washington Park are caged. Visitors see them roaming free and in natural surroundings, although actually hidden walls and moats form a safe barrier.

"It's the mines. The operators sure take care of their folks. Wakefield kids get as good schoolin' as yours in Washington. (My D. C. license plate always aroused interest.) Yes, sir, when a man knows his kids are being well educated, he ain't goin' to make trouble."

With black skies turning to blue and white, I came to the tiny Montreal River which separates Michigan from Wisconsin. The cloudscape above it gave me one of the major thrills of the whole trip, and it was with reluctance that I pushed on to Ashland, once an important lumber city and now the iron port of the Gogebic Range. Even yet it ships pulpwood. Derricks were picking up chain loads of it, like bundles of asparagus, while hundreds of acres of the bay were covered with floating logs.

From Ashland it is a short ride to the huskiest twins on the Lakes—Duluth-Superior. Their rivalry keeps alive local spirit, but their combined strength is of world-wide importance.

Two sand spits inclose the most picturesque and remarkable harbor of all those around our inland seas, with 49 miles of

frontage and 17 miles of dredged channels. To the northwest a bluff rises so steeply from the water that those who approach over the two main highways suddenly look over the edge of the plateau upon this expanse of city and harbor (see page 489).

As long as grain is grown and the Mesabi mines hold out, Duluth-Superior will rank high among the ports of the world. As far as grain goes, they lag far behind Fort William and Port Arthur; but down from the plateau comes a never-ending procession of ore trains, and back go the coal trains that carry heat to the homes and fuel to the factories of our great Northwest. Duluth-Superior, as far as tonnage goes, ranks second only to New York.

CATTLE WADE NEAR THE FOOT OF GRAIN ELEVATORS

The boat trip up to Fond du Lac traverses utterly unspoiled regions within sight of immense industrial plants, ore docks, and coal dumps. Almost at the foot of mammoth grain elevators, cattle wade in the waters of a harbor whose shores offer unlimited possibilities for development.

From Duluth a beautiful international scenic route leads to Canada's great grain ports. Minnesota's Arrowhead Country is a paradise for Nature lovers, with every accommodation from free camping grounds to such a de luxe resort as the Naniboujou Club, whose living and dining room is as sophisticated and colorful as a Russian restaurant.

On one side is the Superior National Forest, still alive with deer and moose. On the other are the deep inlets or craggy promontories of Lake Superior, with occasional breath-taking views like that of Baptism River.

The International Highway, with one's steamer waiting at its pier in Port Arthur, is a tight rope between temptations to drop off into a free life amid beauty, excitement, and a quiet that almost frightens city folk.

#### THE REMAINS OF A TRAIL THAT MADE HISTORY

Just short of Pigeon River one comes to a tiny aisle through the woods. Deeply carpeted with ferns and overarched with silver birches, this idyllic lover's lane seems innocent of economic or political significance. Say that it is more important than Broadway or Michigan Avenue and window-shoppers would laugh at you. But it's true.

This shade-flecked pathway is what remains of Grand Portage Trail, so important a highway to the 18th-century Northwest that it made Pigeon River, not the St. Louis River, our international boundary with Canada (see page 475).

Not only did the fur trader open our continent, but his trail saved for us our richest iron mines and widest grainfields. But for Grand Portage Trail, most of the Great Lakes traffic might now be Canadian, and a deep St. Lawrence waterway, so

essential to Canada, might long since have diverted the lion's share of Great Lakes traffic to the sea.

Even the proud record of 120 years of peace may depend on the fact that fur traders two centuries ago used Grand Portage Trail, and Franklin and Webster in defining the boundary were able to confirm with ink and seal a fact already written with boot and moccasin.

The customhouses are farther on beside Pigeon River, to avoid whose cascades the Portage Trail was traced.

In crossing the boundary the clock advanced an hour. The *Hamonic* was fifty miles away and would sail in ninety minutes.

Nothing amuses Canadians more than speaking "United States" in dealing with us. The customs and immigration men hustled me past less hurried travelers and hastened me on my way with slang:

"You better step on it," said Canada's official welcomer, passing in my cameras and car. And "step on it" I did, though I could not resist the temptation to stop for several photographs along this wonder trail.

The water-front elevators of Fort William and Port Arthur can store 86,500,000 bushels at one time, almost twice Buffalo's capacity and enough to provide bread for all North America for months. But the *Hamonic* was ready to sail.

On rolled my car, in came the gangplank, and we were off for Windsor, King's Highway Number 2 across Ontario to Montreal and home to Washington.

The great Province of Ontario, half again as big as Texas, is all Frederick Simpich claims for it.\*

But that, as GEOGRAPHIC readers already know, is another story.

\* See "Ontario, Next Door," by Frederick Simpich, in the NATIONAL GEOGRAPHIC MAGAZINE, August, 1932.





Photograph by Gardner Wells

THE REEF ROCKS OF JAFFA ARE NUMEROUS, BUT SERVE AS A BREAKWATER

Cargoes and passengers are transferred in light boats; hence much shipping has been diverted to the newly improved harbor of Haifa (see page 516). Pre-war visitors recall the storm-tossed embarkation at Jaffa, whence Jonah is reputed to have set out on his famous voyage.

# CHANGING PALESTINE

BY MAJOR EDWARD KEITH-ROACH, O. B. E.

*District Commissioner, Northern Palestine*

AUTHOR OF "THE PAGEANT OF JERUSALEM" AND "ADVENTURES AMONG THE 'LOST TRIBES OF ISLAM' IN EASTERN DARFUR," IN THE NATIONAL GEOGRAPHIC MAGAZINE

THE last decade has shown greater changes in Palestine than have occurred since the beginning of the Christian Era.

The Holy Land, formerly the outpost of the East and the inspiration of the West, has become the meeting place of both.

Nowadays modern tractors, drawing a dozen plowshares at once, are seen beside the camel and the ass, dragging the primitive nail plow of Biblical times.

Beneath the cavern where King Saul sought the witch of Endor runs the pipe line which will carry the mineral oil of Iraq 627 miles, across desert and mountain, to the Mediterranean shore (see pages 494 and 495).

Across the plain of Dothan, whence the Ishmaelite caravan carried Joseph into Egypt, speed high-powered automobiles.

## ELECTRICITY GENERATED BY THE JORDAN

Long lines of steel pylons, carrying electric energy generated by the River Jordan, bring light across the Plain of Sharon to illuminate countless homes formerly dimly lit by olive-oil lamps (see text, page 496).

Modern machinery, delivering thousands of tons of soap annually, challenges the output of the soap-boilers of Shechem, now Nablus, who ply their ancient calling beneath the frowning scarp of Gerizim, where, in accordance with ancient religious rites, the few surviving Samaritans still celebrate their sunset sacrifice.\*

To meet growing needs, a new port has recently been constructed at Haifa, at the foot of Mount Carmel, in the only natural bay along the Palestine coast (see text, page 516). There are speed boats on the Dead Sea and seaplanes on the Sea of Galilee.

The creameries of a country-wide agricultural Jewish coöperative replace the lordly dish in which Jael, wife of Heber, the Kenite, brought forth her butter.

Modishly clad Jewesses from the boulevards of central Europe jostle the comely

\* See "The Last Israelitish Blood Sacrifice," by John D. Whiting, in the NATIONAL GEOGRAPHIC MAGAZINE for January, 1920.

women of Bethlehem clad in the flowing robes and peaked headdress of medieval times.

## THE OX, THE CAMEL, AND THE WOODEN PLOW

For centuries the Arab cultivator has carried on the primitive methods traditional throughout the East. Yoking his feeble oxen, his camel, or his ass to a rough-hewn wooden plow, he cultivates his wheat and barley, millet and sesame. In season he beats the fruit off his gnarled olive trees, and his animals stamp out the grain on the threshing floor.

Patches of unfenced land, scattered around the village, compose his farm; large tracts are still held in common and are subject to periodical distribution, while ancient custom releases herds of cattle to graze freely on the fields after harvest, thus rendering difficult the introduction of any but conventional crops.

Impressed by the development created by Jewish and German agricultural methods and aided by Government agricultural inspectors, he is beginning to stir.

Under Turkish rule the cultivator paid his dues in kind, and often money did not pass through his hands for months. Money is now universal, and the Arab, while learning its use, must be trained in thrift.

Initiative by the individual is rare. It is easier to get a number of villagers to adopt a new idea by discussing it with them together in the village meeting house than by arguing singly with each man. By the creation of Arab coöperative societies, distribution of improved seed, the establishment of Government experimental stations, demonstration plots, and stud farms, it is hoped to better the lot of the farmer.

## MUTE CITIES RECALL OLD STRONGHOLDS

Palestine has been a highway on the caravan route between Egypt, Syria and Asia Minor, and the East for so many centuries that public security has always been of major importance. The Romans recognized this, and to protect their frontiers they flung their outposts the other side of





Photograph courtesy the Lincoln Electric Company

NOW THE PIPE LINE VIES WITH THE CAMEL LINE ON THE DESERT HORIZON

From Kirkuk, in the famed Mosul oil fields of Iraq, the conduit threads its way across the historic Tigris and Euphrates and beside ancient caravan trails to Mediterranean ports. Along the coasts where Crusaders once landed, tankers soon will take on the petroleum piped from fields 617 miles away (see text, page 533). Nomads, camel trains, motorists, and airplanes share the historic trade routes through the Holy Land.

Jordan. From Palmyra to Jerash and Petra, ruined cities mutely testify to ancient strongholds.

Under later civilizations the Roman system lapsed until, under the Turks, government authority declined. The larger villages on the few main roads then in existence claimed the right of being guardians of the road, and upon every traveler and load of goods they levied a fee, in money or in kind, for the privilege of not being robbed.

To-day Palestine has a modern civil police force composed of British and Palestinian personnel. Constables mounted on Arab horses for service in the hills, or on traffic duty in the towns, vie for smartness with the camel corps recruited from the Bedouin tribes of Beersheba, in the south (see illustration, page 498).

Most of their work is behind the scenes, but the traveler who happens to be in Jerusalem in the autumn and attends the annual police sports has opportunity of seeing them at work and play, from demonstrations of first aid to tent-pegging, from a

tug-of-war to a musical ride by camels, followed by a display of camel-jumping.

To-day reasonable security exists and the peasant is able to take his goods to market without the constant fear of being robbed on the way. However, occasionally the old-time bandit appears in the hills and gives trouble to administration, police, and people before he is wiped out.

FROM ONE AUTOMOBILE TO 4,000

Before the war there were no roads in Palestine suitable for motor traffic; indeed, there was no need for them, for Palestine boasted only one automobile.

Instead of rough tracks and stony mountain paths, a network of modern roads now covers the country from Syria to the Egyptian frontier, from the Mediterranean to the River Jordan, and beyond into the gaunt steeps of Trans-Jordan. Desert routes to both the Sinai Peninsula and to Baghdad are practicable for motor transport (see map, page 496).

Among some 4,000 motor vehicles registered, the ubiquitous bus, built on to a



Photograph by Iraq Petroleum Co.

#### THE DESERT BURIAL OF A 1,200-MILE PARCEL

These Arab workers are smearing the pipe with bitumen preparatory to wrapping it with asbestos felt. The inlet of the pipe line lies among the oil fields of northern Iraq, where ancient Assyrians stood in awe before burning rocks. The Palestine end terminates near Mount Carmel, where Elijah's sacrifice was burned by a fire from heaven. The northern branch runs to Tripoli, in Syria (see text, page 513).

truck chassis, has ousted the horse-drawn native cart and is seen everywhere, crowded with diverse passengers, from Eastern prelates to office clerks, from inquiring travelers to veiled Moslem ladies, piled around with suitcases and farm produce.

Twenty years ago a French line from Jaffa to Jerusalem and a narrow-gauge line from Haifa going eastward across the River Jordan to join the pilgrim railway from Damascus to the Holy City of Medina, in the Hejaz, were Palestine's only railways. War operations necessitated a line from the Suez Canal across Sinai, along the Maritime Plain, by way of the ancient towns of Gaza and Lydda, the home of St. George, to Haifa. Passengers may now travel in comfortable sleeping and restaurant cars across the desert which Moses took 40 years to traverse and cross the width of Sinai and the Holy Land between breakfast and tea.

#### WINGS OVER THE SEA OF GALILEE

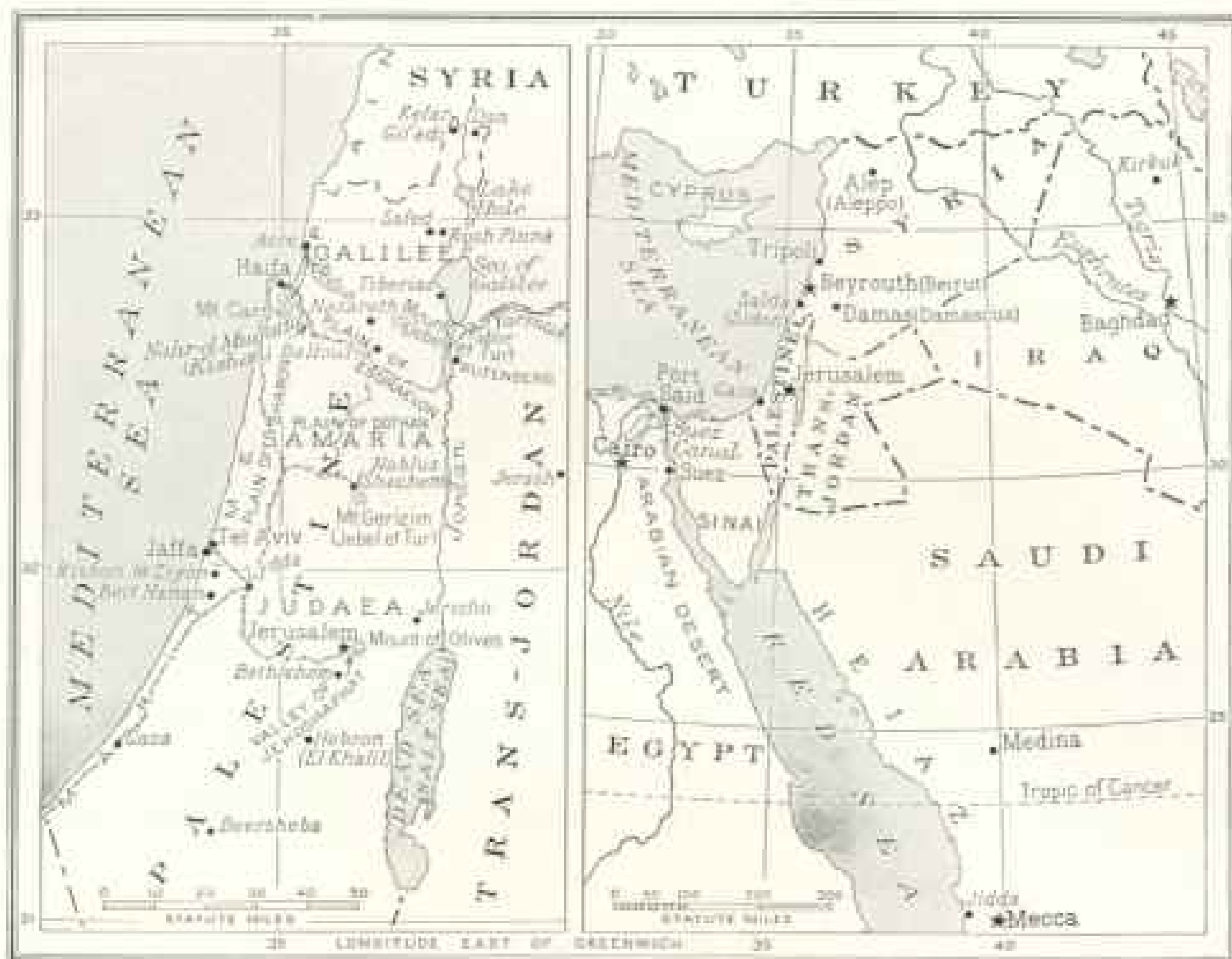
Recently fishermen on the Sea of Galilee, plying their age-old craft, were startled by the appearance of a flying boat, which,

dropping from the skies, cleaved the waters of this sacred inland fresh-water lake which nestles below sea level in a cup of the northern hills (see illustration, page 527). Galilee had become the meeting place of land- and sea-planes on the airway between Europe and eastern Asia.

Passengers are flown across the Mediterranean in luxurious flying boats providing accommodation for a score of persons. From either Galilee or Gaza they are carried eastward in four-engine air-liners at a cruising speed of 120 miles an hour. It is now possible to reach London from Palestine in three days by air and rail.

In 1914 the only means of long-distance communications was by shepherd boy to herdsman shouting across mountain crag to hilltop—from highland to valley.

To-day not only do networks of telegraph and telephone wires embrace the country, making it literally possible to speak from Dan to Beersheba, from Jordan Valley to Mediterranean coast, but by land wire and wireless people may talk from Jerusalem or Jericho to Europe or America.



Drawn by A. E. Holmbeck

#### PALESTINE IS A TINY BUT MOST INTERESTING LAND

"No country . . . has excited so keen an interest for so long and in so many nations as Palestine. Nearly all the events in the history of Israel . . . happened within a territory no bigger than Connecticut."—"Impressions of Palestine," by James Bryce, in the NATIONAL GEOGRAPHIC MAGAZINE for March, 1915.

Palestine, birthplace of religious associations, but hitherto solely an agricultural country, is beginning to stir with industrial life. So far, neither coal nor oil has been found in commercial quantities; so, for the creation of power, the waters of the Jordan and Yarmuk rivers have been harnessed (see page 508).

An old sheik told me that the end of the war found the towns and villages of Palestine places of darkness, without a single street light.

"Most of us were asleep soon after sunset," he said, "as the flickering light from an olive-oil lamp is of little use."

The country is now being surrounded by a network of pylons conveying electrical energy generated by the waters of Jordan.

The Jewish engineer responsible for this achievement is a Russian of dynamic personality, with a noble brow crowning piercing blue eyes.

"At present," he said, while showing me over the first Jordan power plant south of

the Sea of Galilee, "high-tension transmission lines, as you know, take the energy from the Jordan coastward across the Plain of Esdraelon to Haifa and southward along the Maritime Plain to Tel Aviv and Jaffa. Later we hope to link up Jaffa with the Dead Sea across the Judean hills and complete the circuit by coming up the Jordan Valley to the starting point."

South of the Sea of Galilee he has erected regulating sluices and dams across both the Jordan River and its tributary, the Yarmuk. These two sources are connected with a mile-long canal, and the flowing waters are diverted into turbines generating 8,500 horsepower each. The energy is transmitted across Palestine at 66,000 volts.

Jerusalem is supplied with light from Diesel engines operated by another company.

#### STEEL DOOMS THE ORIENTAL DOME

A striking change in Palestine is the modern method of building. New types have largely superseded the picturesque



© American Colony Photographers

"KEEP ON THE PLATFORM" SEEMS THE RULE OF THESE MECCA PILGRIMS

Tea for three, or more, is a welcome interlude in the hot, dusty ride on the Pilgrim Railway from Damascus to Medina. Central Asia Moslems, with their colorful garb and burnished samovars, are less numerous than they once were on the "Pilgrim specials," for many now make the run from Jidda to Mecca in American automobiles, which have a fixed fare.



Photograph by Maynard Owen Williams

AN ARAB STALLION, NOT A MOTORCYCLE, IS THIS PALESTINE POLICEMAN'S MOUNT

A British member of the civil police force halts outside the Damascus Gate of Jerusalem. His black Arab pony, which belongs to Major Keith-Roach, has won many races. Palestine now has more automobiles than good horses, but Arab stallions are being imported, and races are held for pure-bloods exclusively.

vaulted and alcoved homes of the Arabs, whose domed rooms necessitate walls a yard thick, with immensely solid corners to withstand the weight of stone on the roof. The cost is now prohibitive and iron girders, formerly unavailable, are cheaper supports for flat roofs.

With the main towns doubling their population in ten years and the all-Jewish town of Tel Aviv, which has sprung up beside old Jaffa to a flourishing city of 60,000 people, town planners have been active.

Owing to the cosmopolitan origin of their builders, every form of architecture

is portrayed in the new homes, types of central and eastern Europe predominating. Restrictions on their height prevent lofty buildings being erected.

Country settlements are also adopting up-to-date practices and many a village now possesses charming villas. Jerusalem has a fine, new hotel aptly called The King David (see illustration, page 511).

In creating a New Palestine, the basic industries of making cement and silicate brick have not been forgotten. Cement works, superseding local limekilns, have been erected in the valley of the Kishon (Nahr el Muqatta'), near Haifa, and supply local requirements. An entire hill in the Carmel ridge is being sliced away to provide the raw material. Dynamite now takes the place of water and wooden wedges. Cement plays an important part in the manufacture of the silicate bricks of which Tel Aviv is built (see page 504).

Among modern buildings, pride of place must be given to Government House and the Young Men's Christian Association Building in Jerusalem and the Franciscan Church on the summit of Mount Tabor (Jebel et Tur).

GOVERNMENT HOUSE RESEMBLES A CRUSADER CASTLE

The former has well been described as a Crusaders' castle, for it represents the fulfillment of a medieval dream. The raising of such a building in Jerusalem was the ideal that Peter the Hermit preached in the eleventh century—that brought God-

frey of Bouillon and a long host of knights to the Holy Land.\*

The Government architect has succeeded in building a worthy successor to such castles as Montfort, Blanchegarde, and a score of others. Executed entirely by Palestinian craftsmen, treated with massive simplicity, the building consists of a series of rectangular blocks culminating in the tower. With its flat domes, vaulted corridor, cloistered walks, and sunken garden, it stands on a spur jutting eastward toward the Kidron Valley (Wadi en Nar), two miles south of Jerusalem, east of the Bethlehem Road (see illustration, page 500).

The view is unique. Northward, past the Hill of Evil Counsel, it leaps the intervening Valley of Gehinnom (Hinnom) and rests on the walls, belfries, minarets, and domes of Jerusalem, culminating in the Dome of the Rock. Northeastward, up the Valley of Jehoshaphat (the Kidron Valley), is Mount Scopus, where the twentieth-century Crusaders of the late war rest. The Hebrew University and German and Russian monasteries may be seen beyond a ruined minaret marking the place of the Ascension on the Mount of Olives.

Eastward, across the bare Judæan hills, where the Baptist wandered, lie the bed of the Jordan and the placid waters of the Dead Sea, glimmering beneath the gaunt Trans-Jordan Plateau.

\* See "The Road of the Crusaders," by Harold Lamb, and "Crusader Castles of the Near East," by William H. Hall, in the NATIONAL GEOGRAPHIC MAGAZINE for December, 1933, and March, 1931, respectively.



Photograph from Maj. Edward Keith-Roach

#### THIS IS NOT LONDON—BUT PALESTINE

The rooms of Government House, near Jerusalem, like the exterior, seem modern, yet are in architectural harmony with the ancient structures of this historic city (see illustration, page 500).

Through the generosity of an American, the late Mr. J. N. Jarvie, of New Jersey, the international headquarters of the Young Men's Christian Association in New York has erected a Byzantine palace overlooking the so-called Tower of David and Jerusalem's city walls (see illustration, page 514).

Inside its portals, guarded by the "Lamb" on the right and the "Woman of Samaria with the Pitcher" on the left, may be seen Christian, Moslem, and Jew reading in the social halls, enjoying themselves in the swimming pool and gymnasium, or attending a lecture in the handsome auditorium. He who ascends the carillon tower has the whole of historic Jerusalem at his feet.



Photograph from Maj. Edward Keith-Roach

#### MODEST NEW GOVERNMENT HOUSE FACES MOUNT ZION

Like the simple castle Peter the Hermit, a leader in the First Crusade, dreamed of erecting in the Holy City, the newly built Government House, though glistening with newly cut stone, does not jar with the landscape or native architecture (see illustration, page 499).



© American Colony Photographers

#### PALESTINE PAYS POSTHUMOUS HONORS TO THE ARAB KING OF IRAQ

Ex-King Ali of the Hejaz and the Northern Palestine District Commissioner, Maj. Edward Keith-Roach, meet the body of King Feisal of Iraq, which reached Haifa September 14, 1933, on a British man-of-war and was carried to Baghdad by airplane (see text, page 523).



Photograph by Maynard Owen Williams

**MOTORING BELOW SEA LEVEL IS FREQUENT IN PALESTINE**

To the visitor it seems strange enough to be driving by automobile from Jerusalem to Jericho, and there is another surprise as he descends past signs which indicate "sea level" in three languages—English, Hebrew, and Arabic. This marker stands by the road to the River Jordan and the Dead Sea.

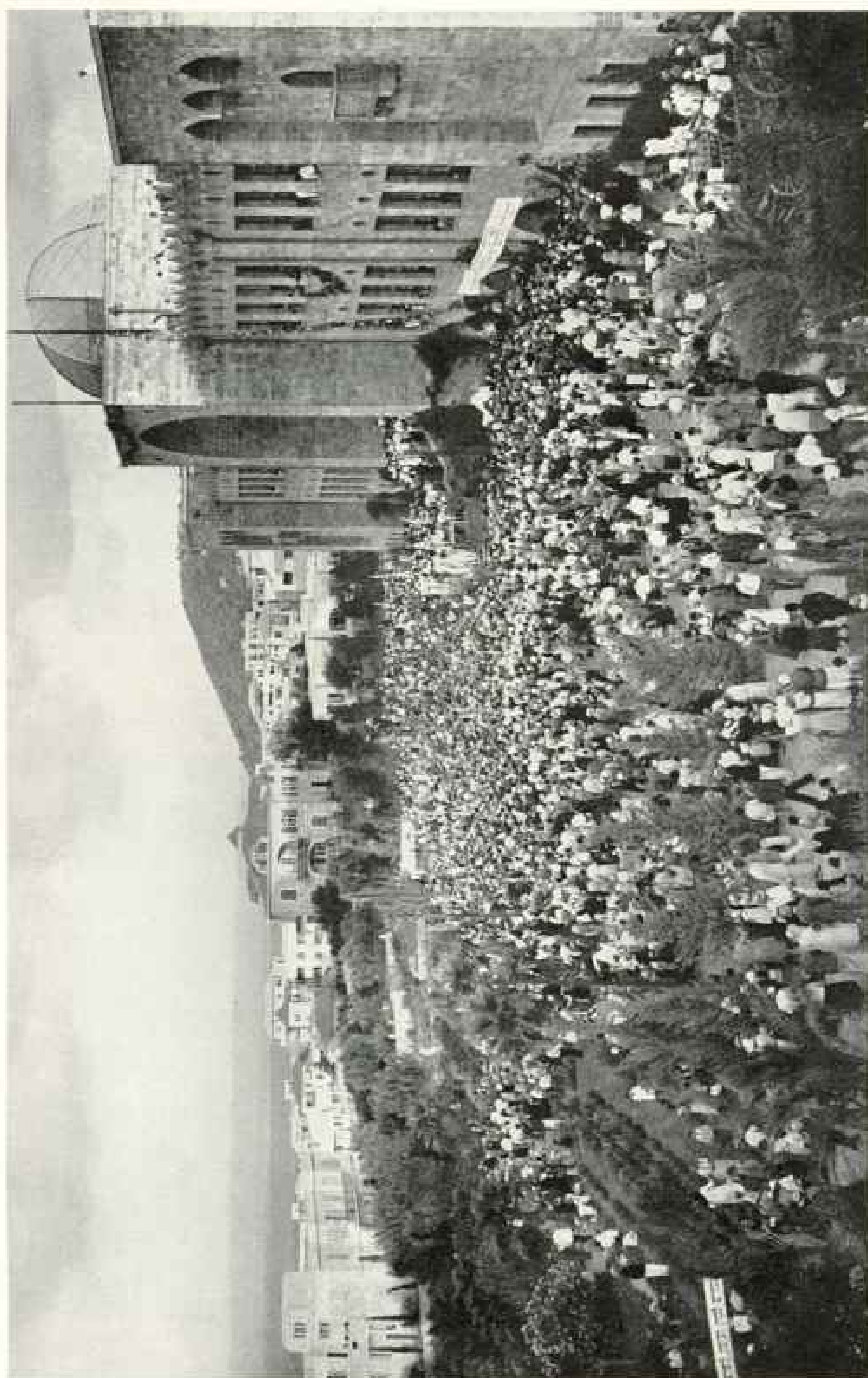


Photograph by John D. Whiting

**DEAD SEA WATER FLOATS EVEN A HEAVYWEIGHT CHAMPION**

The extraordinary buoyancy of the water is due to its large salt content, five times that of ocean water. An important potash and bromine industry is developing from evaporation of the brine (see text, page 506).

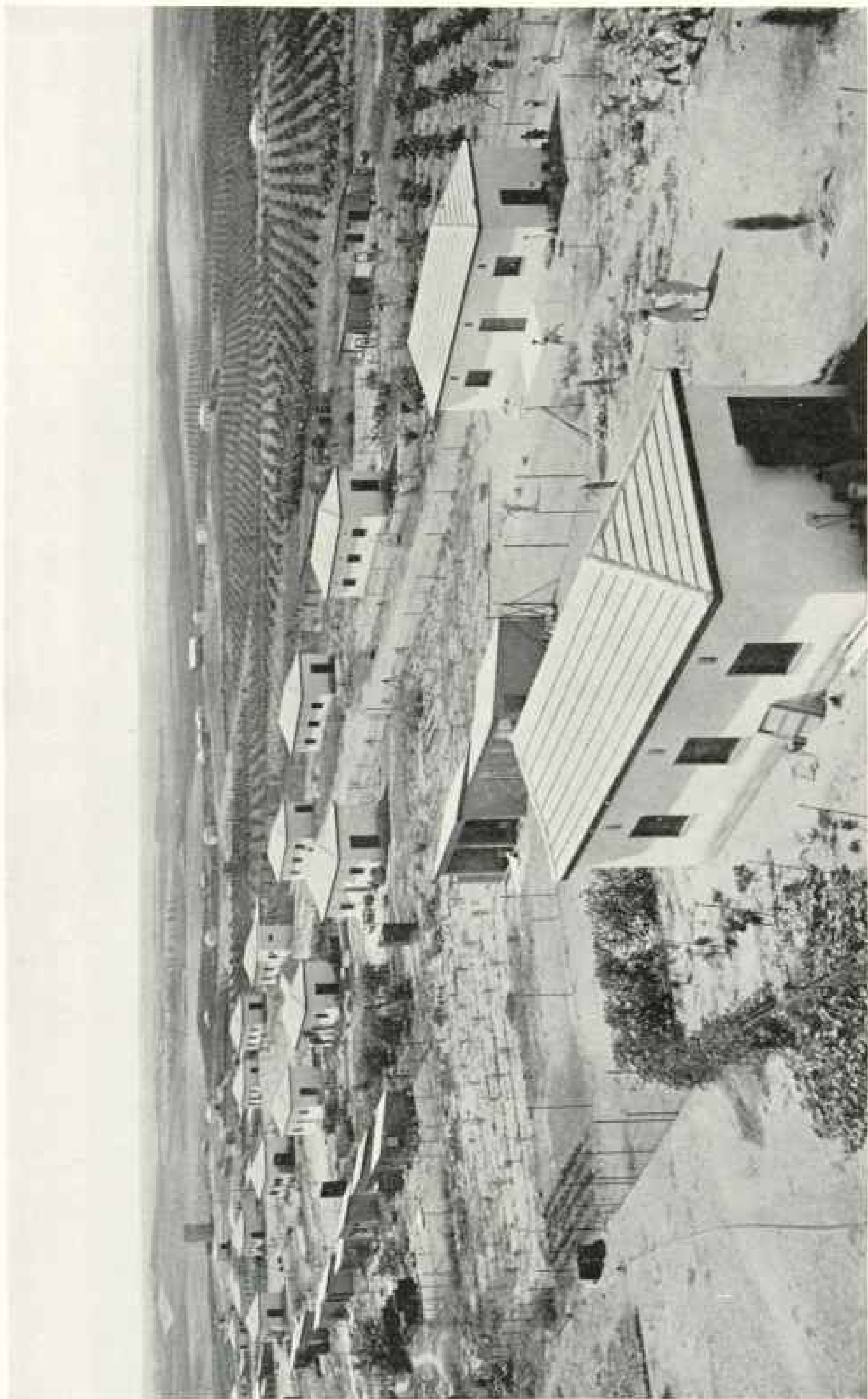




Photograph from Maj. Edward Keith-Roach

AMID MODERN BUILDINGS COLONISTS CELEBRATE A FEAST DATING FROM THE EXODUS, 3,425 YEARS AGO

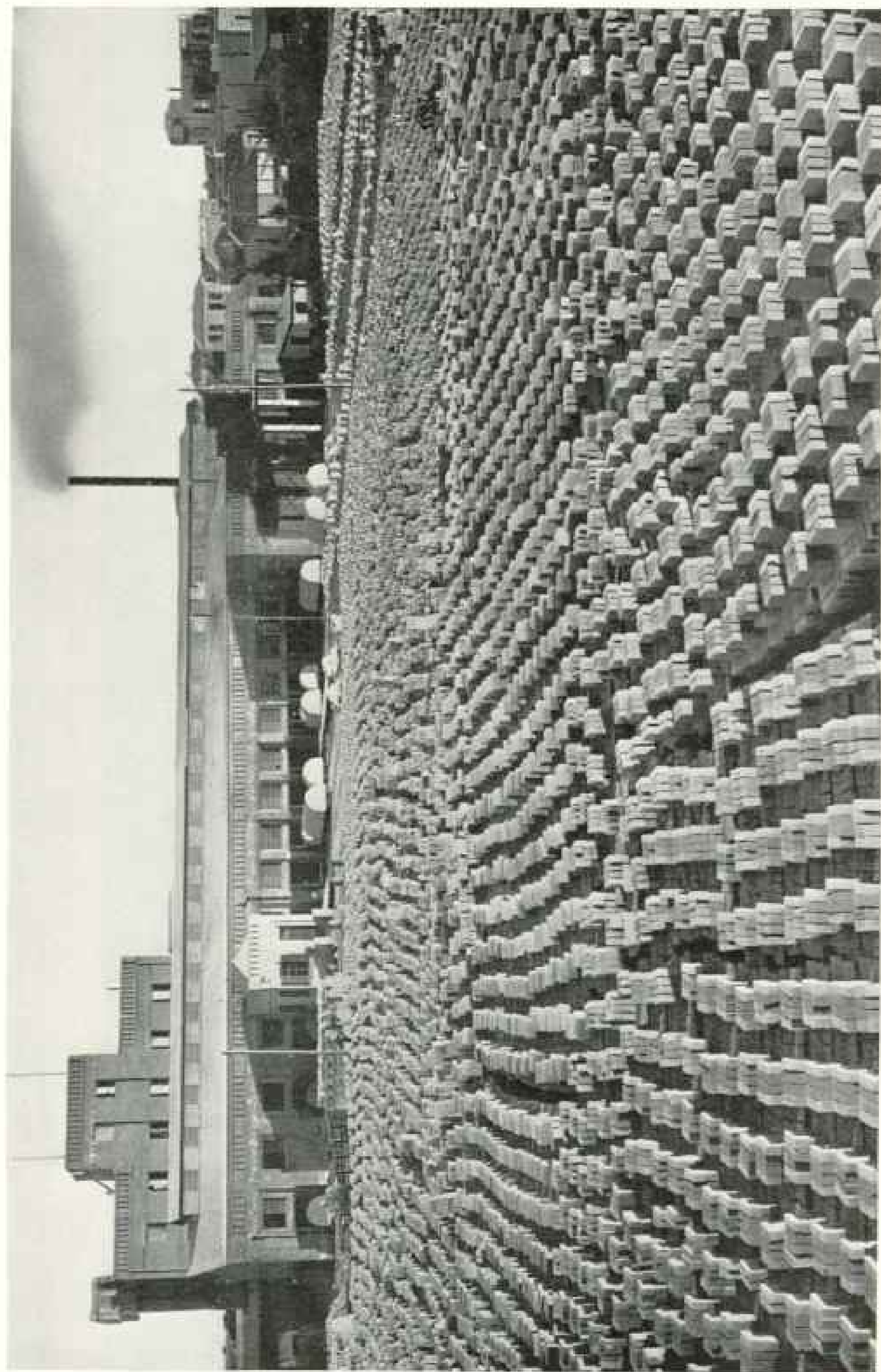
Througs take part in Haifa's Festival of the First Fruits, in accord with the Mosade injunction, "Thou shalt keep . . . the feast of the first-fruits of thy labours." The building to the right is the Hebrew Technical Institute.



Photograph from Maj. Edward Keith-Roach

**BET HANAN IS TYPICAL OF SCORES OF ZIONIST SETTLEMENTS IN PALESTINE**

Thanks largely to the Jewish National Fund for acquiring real estate as the inalienable property of the Jewish people, 285,000 acres of the best agricultural land in Palestine surround new colonies. Simple but adequate homes have been provided for some 46,000 colonists.



Photograph by Twiss and Magnus

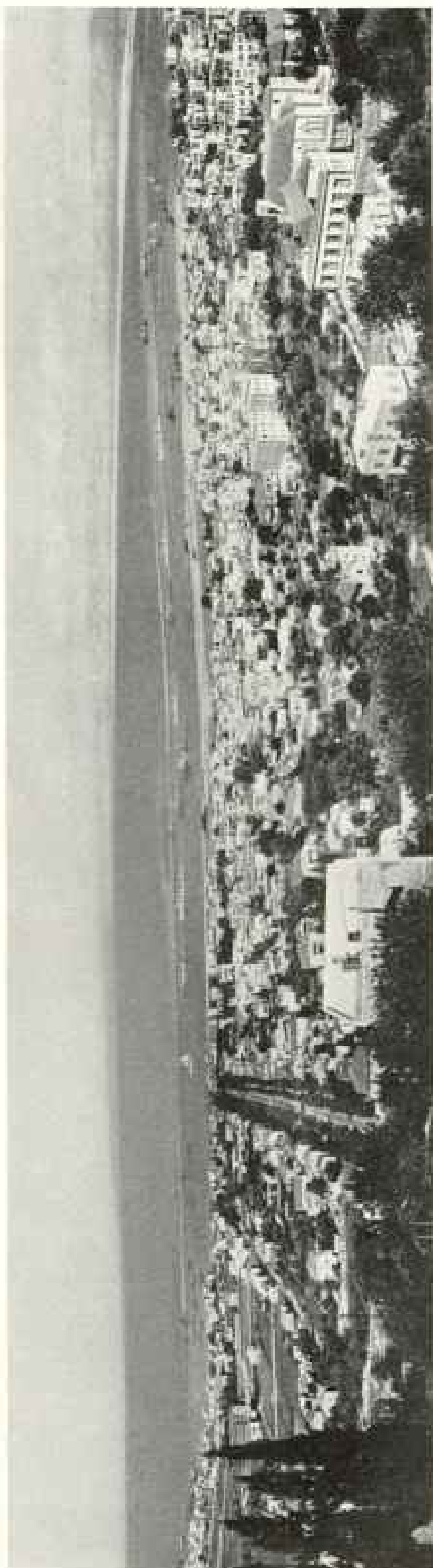
**PALESTINE'S FIRST INDUSTRIAL PLANT MAKES BRICKS WITHOUT STRAW**

Tel Aviv, Zionist center, on a low sand dune north of Jaffa, has grown in twenty years from a town of 2,000 to a city as populous as Kalamazoo, Michigan. Its bottles are largely built of silicate brick made from local sand by this factory.



THE AUTHOR CUTS THE TAPE AND OFFICIALLY OPENS KINGSWAY AT HAIFA

Around Mount Carmel, and along the curving beach to Acre and the north, kings and conquerors have led their armies for thousands of years (see map, page 496). Now silt from the newly dredged harbor makes a boulevard of this historic route, formerly obstructed by swamp and dune (see page 517).



Photographs from Maj. Edward Kirilb-Ramich

NEW BREAKWATERS MAKE HAIFA PALESTINE'S FINEST PORT

Opened in 1933, this harbor with its modern docking facilities has supplanted Jaffa as the chief port of the Holy Land. Even Jaffa oranges are now exported from this rival of the port of Jerusalem (see illustration, page 492). It also is a terminus of the Y-shaped pipe line from the oil fields of Kirkuk, more than 600 miles away (see illustrations, pages 494 and 495).



Photograph by Maynard Owen Williams

**JERUSALEM'S CHIEF MOTOR-BUS TERMINAL IS OUTSIDE THE VENERABLE JAFFA GATE**

Pilgrims, sheep, and donkeys formerly swarmed along the Jerusalem wall at the foot of the Citadel, rising on the site of Herod's Palace. Now this open space, not the near-by railway station, is the main traffic terminal.

In its symbolism, as well as in its service, the entire building—tower, portal, vestibule, oratory, panels—is built and carved to convey as far as possible the Christian message. On the façade of the central building three inscriptions appear, expressive of the three monotheistic faiths to which Jerusalem is sacred.

On the north side is the Hebrew inscription, "The Lord our God is one Lord." On the south, from a chapter by Mohammed in the Koran, is: "There is no God but God." In the center, in Aramaic, the language spoken by Christ, is "I am the way."

The Latin Church on Mount Tabor (Jebel et Tur) is a magnificent modern basilica on the site of a medieval church built in the North Syrian style of the sixth century.

As twilight approaches, the sun, gleaming through a round western window, lights up the golden mosaics that frame a beautiful wall tableau of the Transfiguration, of which, according to Origen and St. Jerome, Mount Tabor was the scene.

The stately Museum Building in Jerusalem donated by Mr. John D. Rockefeller, Jr., is nearing completion—a treasure house worthy of the historical riches of archeological research.

**DEAD SEA IS NOW COMMERCIALY ALIVE**

The precipitous Jerusalem-Jericho Road, shut in between frowning red sandstone cliffs, conjures the story of the Good Samaritan.

To-day it is becoming an industrial highway, for along the legendary track are brought, on huge six-wheeled Diesel-engine trucks, the products of the Dead Sea.

Hebrew writings refer to the existence of brass and iron in Palestine, but not to gold. "Dead Sea fruit" is a proverbial saying, yet the Dead Sea may prove to be the gold mine of this country.

During the ages, the Jordan has been bringing down in its rushing waters, from the hot springs of Galilee, about 40,000 tons of potash annually, to be deposited in



Photograph from Maj. Edward Keith-Boach

#### "JERUSALEM THE GOLDEN" HAS MODERN BANKS

There are branch banks in Jaffa, Haifa, Tel Aviv, Nazareth, Nablus, Acre, Tiberias, and Safed, but none in Bethlehem, which motorcars have made almost a suburb of Jerusalem. Banking in Jerusalem presents a special problem because depositors speak so many languages (see text, page 516).

the sterile waters of this demonic sea whose surface lies 1,300 feet below mean sea level and whose maximum depth is still another 1,300 feet lower.

For ages heavy evaporation during nine months of the year has carried away the surplus water, leaving behind quantities of potash and bromine, until the waters are so impregnated that practically no form of life can exist therein. Brine is pumped through a deep-sea pipe line to enormous evaporation pans, and a distillery plant has been constructed at the northern end of the Salt Sea. Thus Palestine is placed in the foremost rank of potash- and bromine-producing countries. Yearly production of potash will eventually reach 100,000 tons.

The Dead Sea is rich in bromine, and its use in the production of chemical compounds and dyes and in the production of anti-knock gasoline is increasing.

It was thought that Europeans could not live habitually at such a depth below the earth's surface, but facts prove otherwise.

To-day Jewish and Arab workers live together in a flourishing settlement, winning the riches of the sea which so long was dead but is now alive.

Near the main plant there is a fresh-water spring, and at the edge of the sea a pleasure beach has been established, where bathing belles from Jerusalem and workers of the Jordan Valley mingle Saturday nights in beach-pajama parades and dancing competitions.

#### BANANAS GROWN AROUND JERICHO

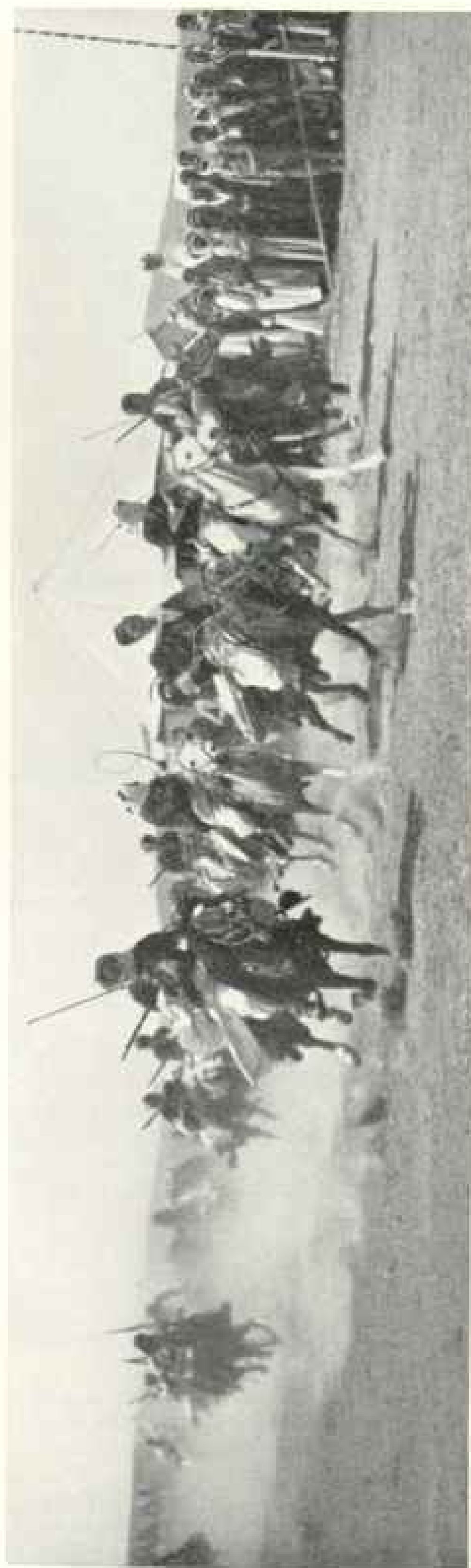
Newcomers to Palestine who are familiar with banana plantations in tropic lands of heavy rainfall are amazed to see bananas growing around Jericho, a few miles from the Dead Sea. While these plants, dependent upon irrigation, do not reach the proportions of those in the Tropics, the fruit finds favor in local markets.

Glass-making has entirely died out on the Phœnician seaboard, but there remains in Hebron a remnant of what was once



Photograph from Maj. Edward Keith-Enoch

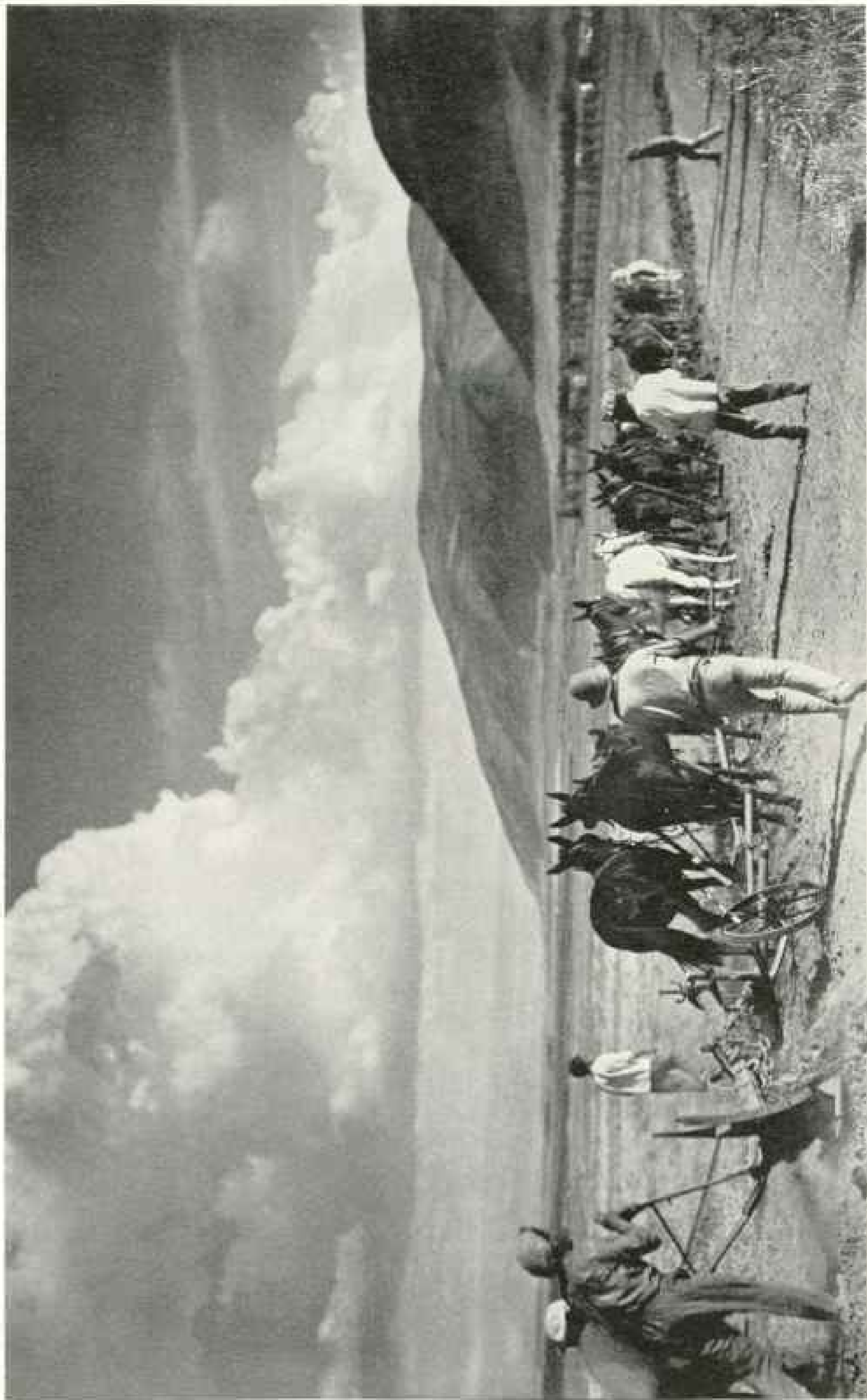
WATERS OF THE JORDAN AND YARMUK HELP GENERATE THE MODERN MIRACLE—ELECTRICITY



© American Colony Photographers

CHARGING ARABS RETAIN THE DASH OF SALADIN'S LIGHT HORSE

These superb riders, in a "field day" at a desert camp, afford a reminder of the days of the Crusaders, when knights in armor were no match for Saracen cavalry. In spite of the influx of colonists and encouragement of their activities, every legal safeguard is placed around the rights of the Arabs, long-time sons of the land.



Photograph from Maj. Edward Keith-French.

**MULES DRAW MODERN PLOWSHARES IN THE FIELD OF ARMAGEDDON**

What battlefield has not known the "Missouri mule"? In Palestine, Cutabonian Jackasses are used in breeding hardy mules for agriculture in the plain below Nazareth where, according to Revelation, the final battle of Judgment Day is to be fought.





Photograph by S. Kapitansky

#### MODERN SCIENCE IS TAUGHT IN THE HOME OF ANCIENT RELIGIONS

In the Hebrew Technical Institute at Haifa young students study physics with modern laboratory equipment. Many sciences and technical experts in various fields help in the development of the Promised Land.

a world-renowned industry. Since the twelfth century the manufacture of Hebron glass has been restricted to the members of three families, who produce primitive bottles and beads (see illustrations, page 513).

Standing in the darkened room, blackened by the smoke of ages, reminiscent of some old village smithy, I suggested to the aged man blowing a specimen of light-blue glass that he might adopt some newer shapes more useful to the buyer and the dining table; but he disdainfully implied that when a family has been making certain styles for centuries customers must accept what is offered. However, this man is at last producing useful fingerbowls and saucers of mottled blue or green.

Had the prophets of Baal predicted the most unlikely industry ever to flourish in Palestine, they could hardly have foretold a stranger one than a factory for the manufacture of false teeth. Yet this has become one of Palestine's most successful industries, and these little accessories to the welfare of mankind are dispatched to wholesale markets in various parts of the earth.

No greater contrast exists in this land of diversity than in the method of making soap. In Haifa there is now established a modern factory with the most up-to-date machinery; yet sixty miles away, at Nablus, the industry is carried on under the same conditions and processes that have been in existence for the past four centuries (see illustration, page 512).

#### OLIVE-OIL SOAP HELPS MOSLEM ABLUTIONS

From Haifa both soap and refined olive oil are exported. The inhabitants of Cuba, like those of South and Central America (except Brazil), whose origin and language are Spanish and who in the past took all their supplies of olive oil exclusively from Spain, have now started using Palestine's olive oil.

This young industry has already been awarded gold medals and prizes at various international exhibitions.

The Nablus olive-oil soap factories, numbering a score, produce 4,000 tons a year. No modern implements are used, as the work is carried on by hand. The principal virtue of this soap is that it does not



© American Colony Photographs

**KING DAVID WOULD BE AMAZED AT THE LUXURY OF THE KING DAVID HOTEL**

Near the western walls of Jerusalem is a new hostelry, from which one may set out to see some aspects of Palestine which remain much the same as in the time when David, then a mere shepherd lad, slew the giant Goliath.

contain any animal or forbidden fats and can therefore be used by orthodox Moslems, a virtue which insures it a ready sale in neighboring countries.

The swamps around Hule, the lake north of Galilee, remain almost the only large mosquito-breeding ground left in Palestine. Extensive drainage schemes undertaken by Jewish and Government enterprise have done much to exterminate the mosquito and rid Palestine of malaria. In this work for the health of the people, the Rockefeller Foundation has given munificently in both men and money (see illustration, page 518).

Despite malaria, an industry in mats, made from papyrus growing in the marshes, flourishes in the Hule region. The Bedouins work to-day as they did in the time of Solomon, and the design shows no change. The men gather and split the canes, but women only carry out the actual work of plaiting. Two mats, worth from fifteen to twenty cents, represent a day's work. In many cases they become local currency and are exchanged at the shop for sugar, rice, and other provisions. They also provide

the walls and roofs of many Hule dwellings (see page 525).

Living among these marsh Arabs, who have more than a touch of Sudanese blood in their make-up, and keeping the local shop, is a very orthodox Jew, who is so respected that he is continually called upon by the Arabs to settle their internal disputes. I have more than once consulted him on some local matter and found his advice shrewd and useful. This trust of the individual has a parallel in another village almost entirely Moslem, with only one or two Christian families. Here a Christian has been selected Mukhtar (chosen one) as head of the village, due to the respect with which he is held by his Moslem brethren.

Palestinian agriculture is emerging from the dark days, when little was done to encourage it and when what survived was clutched in the avaricious palm of the tax collector.

The cultivation of vines on a commercial scale was begun 52 years ago with the foundation of the Jewish colony of Rishon le Ziyon by Baron Edmond de Rothschild. An installation for the manufacture of wine



Photograph by Badr Bushra

#### A CAMEL IS THE INSIGNIA OF AN OLIVE-OIL SOAP

Moslems over a wide area use the hand-made, hand-cut soap of Nablus (ancient Shechem), since it is free from animal fats. Both the stamp and the sign read "Best Nablus Soap. Camel Brand. Hassan Jafa." Pillars of drying soap form the background. The stone floor is used as a pouring table on which the soap is hardened, cut, and branded (see text, page 510).

and large wine cellars followed. Several monasteries also produce good wines.

As the local grape contains a high percentage of sugar, it is particularly suitable for a dessert wine. Palestinian wines are also widely used for sacramental purposes.

#### WHERE THE CITRUS-FRUIT INDUSTRY WAS BORN

Even before the war, the Jaffa orange was becoming well known, and more than a million and a half cases were exported in a single season.

The citrus industry here, starting from the first century A. D., is older than that of any other country in Europe, America, or Africa, for it was through Palestine that the culture of citrus fruits was imported from Farther Asia to the Mediterranean. The narratives of pilgrims, as well as of military chroniclers of the time of the Crusades, bear witness to the existence of extensive groves of oranges, lemons, and citrons in Palestine during the Middle Ages.

Not until the middle of the nineteenth century were oranges exported from Jaffa to Europe. To-day this trade dwarfs all other forms of natural development and is the chief wealth of Palestine's agricultural life. More than 4,000,000 boxes of fruit were exported in 1933 (pp. 518, 521, 522).

Formerly trees were planted close together, with little pretense at straight rows, and were also grossly overwatered; but our experts have visited California and Florida, and now the groves are planted with mathematical precision.

The Arab growers still pile the golden fruit into immense heaps and picturesquely clad Moslem workers pack the boxes, hand-grading the fruit by eye and touch. Jewish growers, with a higher standard of wages, use more advanced methods.

#### ENGLISH, ARABIC, AND HEBREW ARE OFFICIAL LANGUAGES

English, Arabic, and Hebrew are now the three official languages of the country, and many children learn two of the three. Since 1920 a dual system of national



FOR EIGHT CENTURIES THREE FAMILIES HAVE MADE HEBRON GLASS

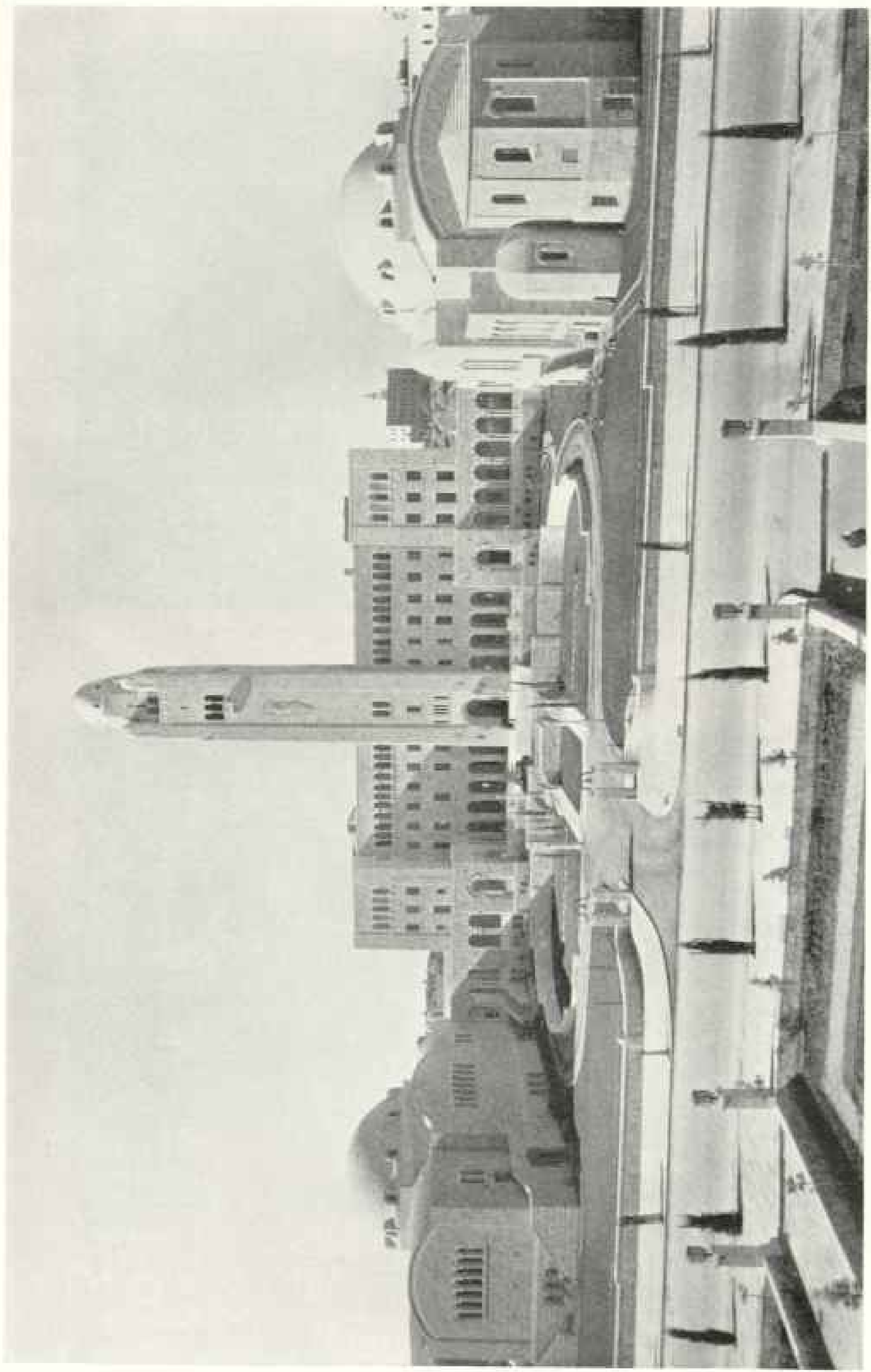
In one of the world's most ancient cities, where Abraham once dwelt, fingerbowls and saucers are at last supplanting beads and bottles shaped somewhat like the iridescent Phoenician glass vessels in the Toledo Museum of Art (see page 307).



Photographs by A. Kardus

A GLASS-BLOWER OF HEBRON AT HIS FURNACE

Sands of the Belus, near Haifa, provided the raw material for some of the earliest glass the world knew. Moslem demand for Hebron glass beads and bottles has kept alive three families since the time of the Crusades. In this primitive furnace one man is attaching a gob of the fused glass to the blowpipe. Behind him another worker blows a bottle from the end of an extended pipe.



Photograph from Maj. Edward Keith-Roach

WHERE CHRISTIAN, JEW, AND MOSLEM MEET IN THE HOLY CITY OF THREE FAITHS

In Jerusalem representatives of all religious groups utilize this splendid new Y. M. C. A. Building, designed in the architectural style of ancient Byzantium (see text, page 499).



Photograph by L. Burdoy

**A MODERN SOWER GOES FORTH TO SOW IN HIS NEW NATIONAL HOMELAND**

It was said they would not make farmers—these colonists from European ghettos—but their progress has disproved that prediction (see text, page 517). In Judaea, Esdruehon, and the Maritime Plain Jewish immigrants are gaining a livelihood from the soil.



Photograph by Maynard Owen Willata

#### A COMMUNAL COLONY KITCHEN

Near Jerusalem, Jewish colonists, while awaiting permanent dwellings, live in camps, of which this corrugated iron shelter is the kitchen. In addition to the seaside city of Tel Aviv, Palestine has more than 100 Jewish agricultural settlements. The Arabs live in some 750 towns and villages.

education has developed on a linguistic and racial basis—Arab and Hebrew.

About 300 elementary schools have been opened in Arab villages and more than 200 Hebrew schools for Jewish children in towns and settlements. The former are Government institutions and the latter are controlled by Jewish authorities aided by an annual grant from the Government. There also are many sectarian and missionary schools.

Agricultural education for men is cared for by three agricultural schools. The Hebrew Technical Institute at Haifa provides instruction in engineering and archi-

teature. The Hebrew University, at Jerusalem, provides a permanent home for the tradition of science and learning among the Jews, to study the sources of Judaism, to give opportunities for postgraduate work, and also to contribute to the revival of the Hebrew language.

Banking in Palestine has peculiar difficulties foreign to countries which have one general language; for here, in addition to the three official languages, many more are habitually spoken, and it is not at all uncommon to find the same junior clerk speaking English, French, German, Arabic, Hebrew, Yiddish, and fifteenth-century Spanish to successive clients.

#### HAIFA IS THE NEW PORT OF PALESTINE

Coexistent with a highly developed system based on European practice, together with coöperative credit organizations in every Jewish settlement, there is to be found hoarding of notes and coin in holes in the

ground in Arab villages, together with borrowing from the village money-lender.

Jaffa, the older port of Palestine, affords for lighters slender shelter from the open sea, and it is from the well-equipped new port of Haifa that the bulk of Jaffa's oranges will be shipped (see page 512).

The town of Haifa lies at the foot of Mount Carmel, on the southern shore of the Bay of Acre, the only natural bay along the coast of Palestine. It is the headquarters of the Northern Administrative District, the district which I administer, stretching from the Syrian frontier to Jaffa and embracing part of ancient Phœnicia,

Galilee, and Samaria. The Hejaz Railway connects Haifa with Trans-Jordan, Syria, and Europe, and the Palestine Railway links it with Jerusalem, Jaffa, and Egypt (see text, page 495).

In a decade Haifa has expanded from a population of 24,000 to over 50,000. Shipping has largely increased and exports show a steady rise. In 1922 Sir Frederick Palmer, the celebrated engineer and harbor expert, after a careful survey, recommended Haifa as being the most suitable site for the construction of a much-needed harbor.

Prior to its creation, sea-going vessels had to anchor nearly a mile from the shore. The roadstead lay open to the force of Mediterranean gales.\*

A month before the official opening of the port, October 31, 1933, an American ship docked alongside the quay. American liners of 14,000 tons already call regularly at Haifa. An entrance 600 feet wide gives access to an

area of 300 acres of sheltered water, of which a third, inclosed within the main and lee breakwaters, has been dredged to 37 feet (see pages 492 and 505).

The dredged material has been used for reclaiming 90 acres of new land behind the quays, providing 50 acres for town development, in addition to that reserved for the working of the harbor, on which immense transit sheds for imports and fruit exports have been constructed.

Along this stretch of New Palestine a magnificent boulevard has been laid out.

\* See "Syria, the Land Link of History's Chain," by Maynard Owen Williams, in the NATIONAL GEOGRAPHIC MAGAZINE for November, 1919.



Photograph by L. Bendov

#### A WOMAN TOILER IN THE JEWISH NATIONAL HOMELAND

Women immigrants work side by side with the male colonists. Young men, nude to the waist, toil under the brilliant sun. The "shorts" worn by colonists of both sexes contrast with the trailing robes in which Arab women walk like queens.

It is aptly named "Kingsway." Up and down this coastal plain have marched all the conquerors from Alexander the Great to Allenby (see page 505).

#### CARMEL COMMANDS A SPLENDID VIEW

The view from the heights of Carmel above Haifa is one of the most beautiful port views of the world.

In the foreground stretches a forest of conical Mediterranean pines, their deep green contrasting pleasantly with the terracotta soil. Terracing down the mountain side are the flat-topped roofs of stone houses whose ochre walls add another touch of harmonious color.

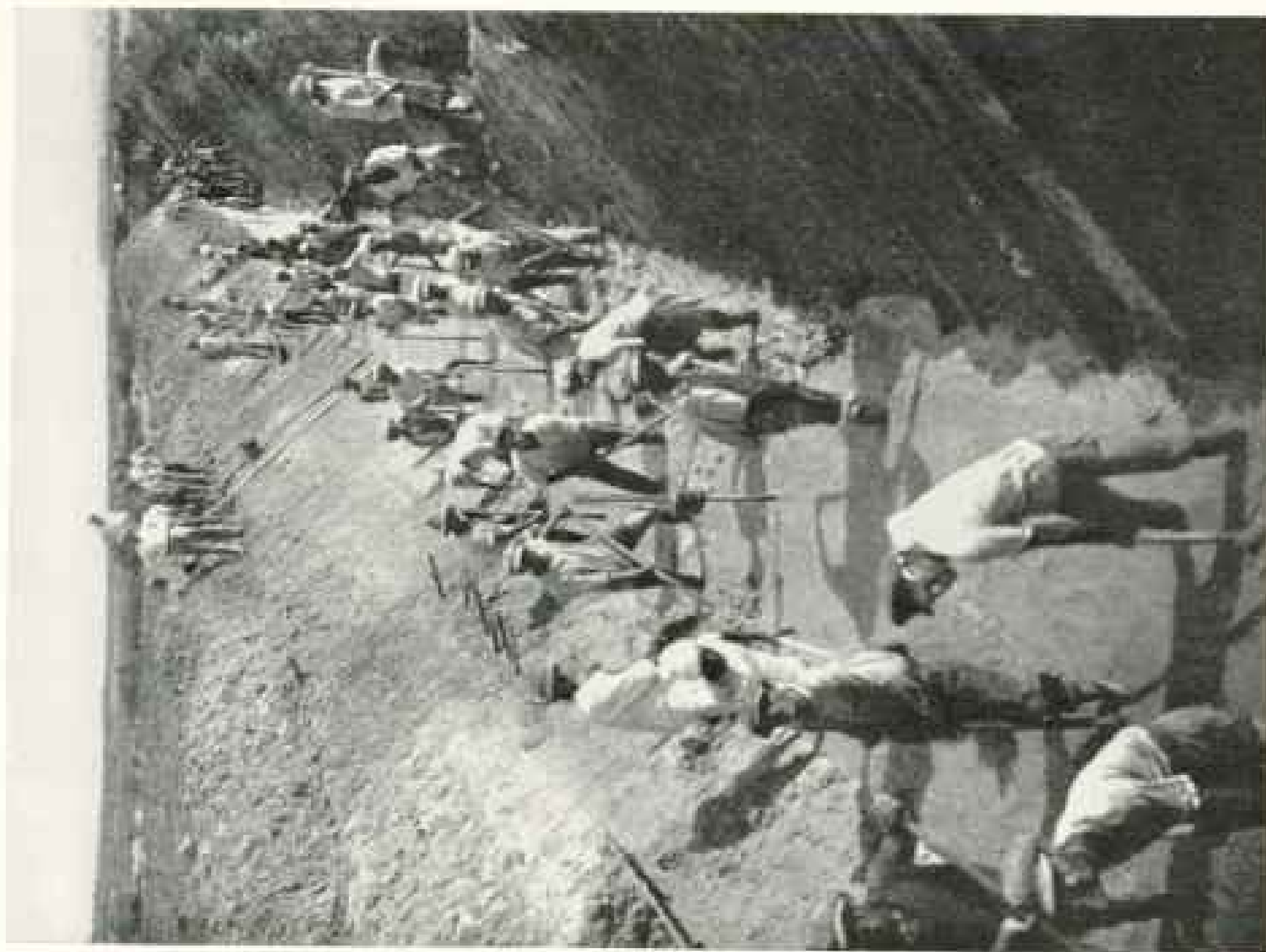




Photograph by C. Raab

**ORANGES ARE A MAJOR MONEY CROP OF PALESTINE**

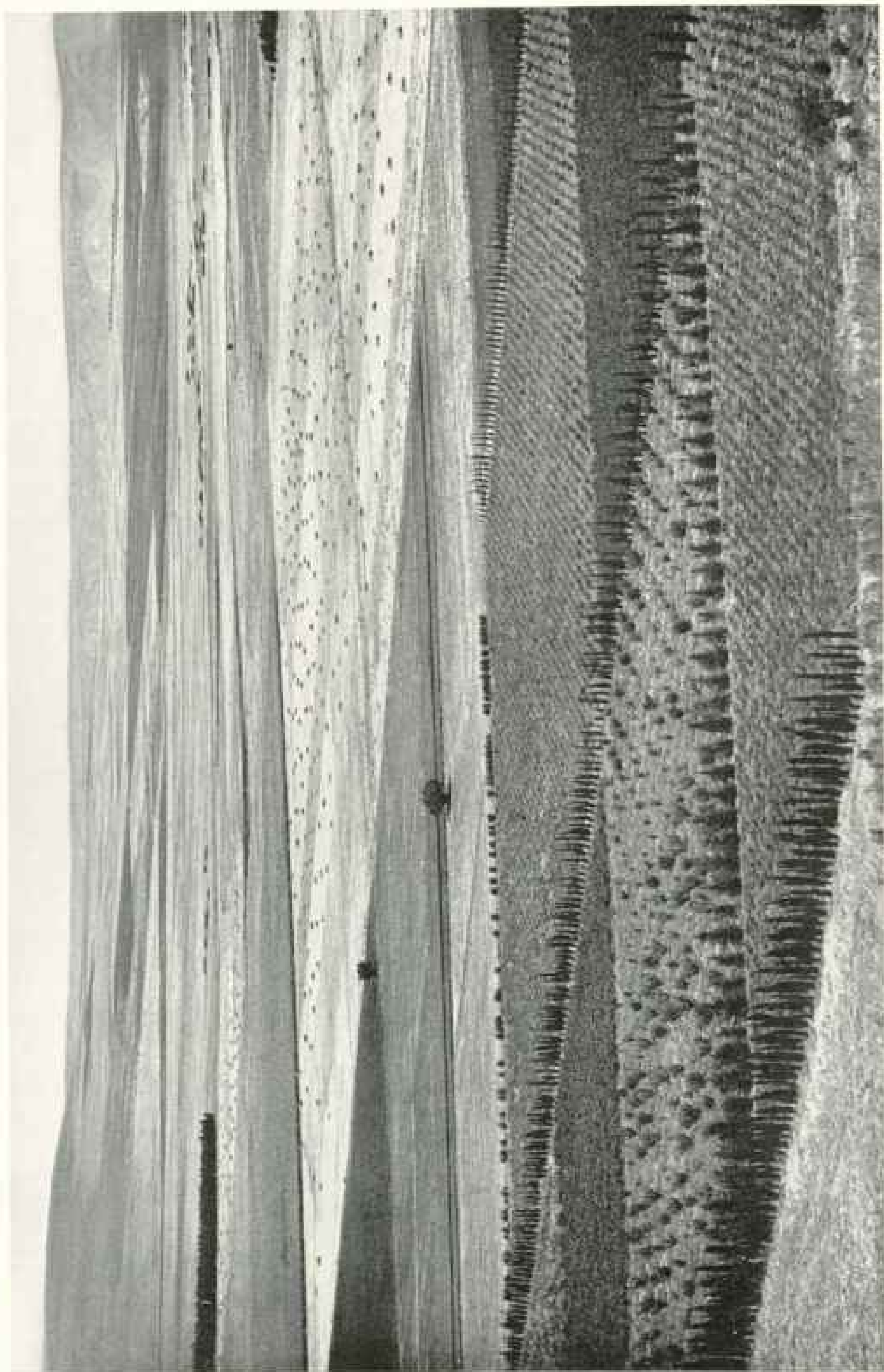
Already the Plain of Sharon exports millions of cases of the fruit (see pages 521 and 522). Arab growers such as these still own many groves, but new Jewish orchards, not yet bearing fruit, will further augment the orange crop within a few years.



Photograph from Maj. Edward Keith-Roach

**A "CIVIL WORKS PROJECT"—IN PALESTINE**

Colonists turn from digging mains through the asphalt of city streets to a drainage ditch in the Maritime Plain. Rainfall is light in Palestine and confined to the cool months, yet a campaign against malaria by reclamation of swamp areas is waged by the sanitary engineers of the Department of Health.



Photograph from Maj. Edward Keith-Roach

A NEW FOREST IS NAMED FOR THE AUTHOR OF THE BALFOUR DECLARATION

That document, in one sentence, contained the Magna Charta of the colonization: "His Majesty's Government view with favour the establishment in Palestine of a National Home for the Jewish People." Now scientific forestry is helping to fulfill the prophecy of Daniel: "The tree grew, and was strong . . . the leaves thereof were fair, and the fruit thereof much."



Photograph by H. Orabkes

#### A CAMEL JUMPS THROUGH A HUMAN HOOP

In this exhibition of fancy camel riding by the Palestine police, four troopers form the sides of the arch and a fifth spans the top. A sixth man, stretched between benches, makes the hurdle.



Photograph from Maj. Edward Keith-Roach

#### THRESHING MACHINES SUPPLANT TREADING OUT THE GRAIN

The patient plodding of the horses, oxen, and donkeys on the threshing floors is one of the most widely pictured scenes of the Holy Land; but with tractors drawing a dozen plowshares, modern machines are necessary to thresh the crops.



Photograph by Maynard Owen Williams

THE CAMELS SHOW THIS IS EAST, NOT WEST

As might a farm wife in our own Middle West, the woman in the center proudly displays a basketful of healthy chicks. The settlement, near Nazareth, is called Balfouria.



Photograph by C. Rand

ORANGES INVADGE THE LAND OF MILK AND HONEY

A commission inspects the Palestine product to maintain the high standard of "Jaffas." The oranges are so called for the port from which many are still shipped to Egypt, England, and continental Europe.



Photograph from Maj. Edward Keith-Roach

ORANGES HAVE FOUND THEIR PLACE IN THE PALESTINE SUN—AND IN WORLD MARKETS

Before the war citrus fruit growing was a haphazard industry. Native experts, returning from California and Florida, introduced scientific methods of growing, packing, and shipping, and now oranges are a profitable export crop (see page 312).

Below, in the narrow strip of land between mountain and sea, lies Haifa town. No glaring white buildings mar the picture. The main arm of the rough-hewn stone breakwater curves seaward in a generous sweep, sheltering a dozen ships from wave and swell. With every passing hour the color of the sea changes from gray to mauve, from azure to lapis lazuli.

At the back of the town, beyond a grove of slender date palms, stretches the storied Plain of Esdraelon, broken by the River Kishon (Nahr el Muqatta') flowing out to the golden sands. The plain terminates in the translucent purple haze covering the northern hills.

Across the crescent bay gleams the white Crusader town of Acre, and beyond shine the white chalk cliffs where Syria begins. Turning westward, we look across the pine

woods upon the broad bosom of the Mediterranean.

Above all is the chief glory of Palestine, its incomparable skies! I wonder whether anywhere else in the world there are clouds as radiant and as nearly perfect in color as these. They move by squadrons—air cavalry of the gods.

When the Haifa port was opened, the High Commissioner entered the harbor on a merchant vessel dove gray in color, a neutral background which enhanced the brilliant uniforms of the kilted Seaforth Highlanders forming the guard of honor to His Excellency.

The music of the pipes, akin to that of the shepherd boys of the Judean hills, stirred the hearts of the East and the West. The event was broadcast as far west as the British Isles.



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#### THE EMPRESS OF ETHIOPIA FOLLOWS IN THE FOOTSTEPS OF THE QUEEN OF SHEBA

On September 26, 1933, Jerusalem echoed to a royal salute in honor of Waizeru Manen, wife of Haile Selassie I, "the Conquering Lion of Judah and the Elect of God," who claims descent from King Solomon and the Queen of Sheba. At the right are several personal attendants and messengers whose swords and uniforms have survived from the days of Turkish rule in Palestine.

Before the harbor was officially opened it played its part in a memorable yet tragic event. In September it welcomed back to Arab lands the body of the outstanding Arab of recent centuries, King Feisal of Iraq, accompanied by his elder brother, former King Ali of the Hejaz (see illustration, page 500).

In the gray dawn a British man-of-war slipped into the harbor and the coffin of Iraq's first King was borne ashore by naval petty officers between the ranks of Scottish troops. All heads were bowed.

From the port it was transported on a military carriage to the airdrome, and after a short religious ceremony was placed in a huge Victoria airplane, which flew direct across the desert to the King's final resting place in Baghdad, the City of the Caliphs.

A happier event later in that same month was the welcoming of Her Majesty the Empress of Ethiopia. As the royal mate of the descendant of King Solomon and the Queen of Sheba, she was quite fittingly the first sovereign to tread Kingsway.

Haifa has been chosen one of the two terminals of the 1,200-mile Iraq pipe lines soon to bring crude mineral oil across the desert to Mediterranean shores, thence to be shipped, in its crude state or refined, to Europe. The other terminal will be Tripoli, Syria (see pages 494, 495).

What appeared to me the most striking feature, when I inspected this mighty work of construction, is that when the ditch-diggers, the erectors, the welders (husky lads from Texas), the painters, and the asphalters have left the pipe, it is carefully wrapped in asbestos felt and put to bed.



Photograph by Maynard Owen Williams

#### MODERN ART AT THE BEZALEL SCHOOL OF ARTS AND CRAFTS

Brassware, paintings, and art publications such as the Biblical "Song of Songs" are now being produced in Jerusalem. The Bezalel School had a booth at the Century of Progress Exposition at Chicago.

It has become an enormous parcel, 1,200 miles of continuous wrapping!

As a long length of welded pipes was laid to rest, I felt I should place a laurel wreath in honor of the constructors until I remembered I was not participating in a funeral rite, but having the privilege of sharing in the birth of a great industry.

#### HEADGEAR FURNISHES CLUES TO RACE AND OCCUPATION

Whatever material advantages have been gained and changes taken place as a result of the British occupation, it is the human side in this, as in all countries, that remains the more interesting.

In most countries history is marked by ruined buildings, monuments, coinage, and custom. In Palestine there is all this and more.

Jerusalem portrays, in an astonishing assortment of hats, an epitome of centuries of Christian, Jewish, and Moslem life and religion.\*

These hats include an exceptional selection of style, shape, size, and color, from the elongated brown tarboosh of the dervish and the Plantagenet-period conical headgear of the women from Bethlehem to the skullcap of the Franciscan monk and the *keffiyeh* and goat-hair *agal* of the Arab.

There is the crimson tarboosh of the Arab townsman and the fur-encircled hat that goes with the side curls and beard of East-European Jewish orthodoxy; there is the inverted "top hat" of the Orthodox priests and the black, pointed headgear of the Armenians, symbolizing Mount Ararat; there is

the exiguous turban in various colors and degrees of cleanliness, from the smart, snowy-white of the learned sheik to the grubby tangerine of the Hebronite.

Various hats are worn by the military and the British and Palestinian police, the postman, and the Grand Rabbis. There are the occasional mortar board of an Anglican clergyman and the biretta of a Catholic priest; the distinctive headgears of the Abyssinians, Copts, and Kurds; the woolly headgear of the Persian and Georgian Jews. Every known shape and

\* See "The Pageant of Jerusalem," by Maj. Edward Keith-Roach, in the NATIONAL GEOGRAPHIC MAGAZINE for December, 1927.



Photograph by J. Bergman

#### THE SOURCE OF ANCIENT SCROLLS AND MODERN MATTING

North of Lake Hule, in the plain traversed by the Jordan and now being drained as a health measure, rises a jungle of reeds, or papyrus, such as those used in recording the deeds of King Assa, 5,500 years ago. "Marsh Arabs" weave them into mats, from which rude shelters are built.



Photograph from Maj. Edward Keith-Rouch

#### PALESTINE NOW ROLLS ITS OWN CIGARETTES

Under the Turks, little tobacco was grown in Palestine, and the manufacture of cigarettes was a monopoly. The Palestinians of to-day have a choice of many local brands and imports are greatly reduced. These Jewish colonists of Rosh Pinna are baling cigarette tobacco grown on hills overlooking the Sea of Galilee.





Photograph from Maj. Edward Keith-Roach

#### COLONISTS IMPORT SUPERIOR BREEDING STOCK

At Kefar Gil'adi, near the Syrian frontier north of Lake Hule (see map, page 496), this shepherd exhibits two fine specimens—an Angora goat and a merino sheep—to be crossed with the local breeds.

fashion of Western hat is seen, including the consuls' full-dress hat with feathered plumes, the black and gray top hat for ceremonial occasions, down to the humble modern straw and bowler; but even the latter strikes comment by its rarity.

#### THE NEAR EAST IS LEARNING TO PLAY

Before the war, except at missionary schools, games were unknown. In 1920 I played football for the Mount of Olives team in a league of ten teams, and the number of Palestinians playing in the league could be counted on one hand. To-day football has caught on, especially among the younger Jews, and matches are played everywhere, Jewish teams playing even on Saturday in the Holy City, much to the dismay of the orthodox.

The Maccabee Association as well as various labor clubs have branches throughout Palestine, and organize field sports in which women play their part equally with men.

Yacht races and swimming matches are held along the coast and also in the beautiful indoor pool of the Y. M. C. A. in Jerusalem. Cricket and baseball find a few adherents among the local population.

Boy Scouts and Girl Guides from all religious creeds are seen in ever-increasing numbers. Rallies and camps are held frequently, and an annual camp for Moslem girls is operated under strictly harem conditions.

The shops and their contents, especially in Tel Aviv, compare favorably with many in Europe.

#### THE "MOVIE" AND THE RADIO IN BETHLEHEM

The cinema plays an important rôle in our daily lives, most of the pictures coming from Hollywood. In the winter we sit in somewhat indifferent buildings, but as soon as summer is ushered in the cinema takes to the open air, and we sit in basket chairs under a velvet canopy spangled with stars whose brilliance outshines that of their mortal counterparts on the screen. The harsh voice of the loud speaker is hushed by the absorbing quality of the night.

But the screen is not our only source of distraction. Palestine boasts a Hebrew Opera Company, and the home of the renowned Habimah Hebrew players is at



© American Colony Photographers

## WHERE AN AIRPLANE FLIES LOWER THAN A SUBMARINE DIVES

This "landing" is made on the Sea of Galilee, 680 feet below sea level. Four days by rail and air brings the visitor from London to Palestine. Before the completion of Haifa's new harbor, several Imperial Airways planes "landed" on the Sea of Galilee, where 19 centuries ago, "in the fourth watch of the night, Jesus went unto them, walking on the sea."

Tel Aviv. Wireless fans receive the broadcasting programs of most European cities.

Modification! Alteration! Innovation! Simple, gradual, subtle, revolutionary *change!*

Where is it leading?

Newspapers; communications by sea, land, and air; the telegraph, the cinema, the radio; iron, steel, invention, immigration—all here play their part in molding mankind, from humble worker to scientist.

In Palestine, possibly more dramatically than anywhere else in the world, modern inventions, modern methods, are making dual changes. They are developing a purely pastoral people to a higher plane of life. They are bringing back to pasture a people renowned for their achievement in the world of science, literature, and art.

## SHEPHERD'S PIPE AND TURBINE'S ROAR

The primitive tribesman of southern Palestine sends his son, born in a hair tent and nurtured on a camel saddle, to college in Jerusalem, where he plays football against a young Jew born and brought up in Poland. Sitting in a café, sipping lemon-

ade bottled in old Acre, he listens to an orchestra composed of musicians from Vienna, playing marches written in U. S. A.

To the Jew, reared and educated in some small confined quarter of an eastern European town, the magic air of Palestine, the land above all sacred to him, is making just as revolutionary changes. Accustomed for generations to town life, sedentary occupation, and work that involves the forearm only, he and his sister are finding themselves at last in Palestinian fields, developing a physique and a love for soil and agriculture that baffles those who believed the Jew would never make a farmer. Farm settlements, poultry yards, dairies, vegetable plots, and orange groves testify to the Jew's ability in his new life.

From Dead Sea to mountain top, from Dan to Beersheba, there is a communication of ideas unparalleled before. West is meeting East. They may not mingle, but wine and water are found in the same glass.

May the shepherd's pipe and the muffled roar of the turbine join forces to create a Greater Palestine, Holy Land of three faiths!

## YOUR SOCIETY SPONSORS AN EXPEDITION TO EXPLORE THE STRATOSPHERE

**T**O INCREASE scientific knowledge of the upper air, the National Geographic Society is cooperating with the U. S. Army Air Corps and a group of other donors in sponsoring a balloon ascent into the stratosphere in the summer of 1934. The balloon to be used in the flight, with a capacity of 3,000,000 cubic feet, is the largest free balloon ever designed. Fully inflated, it would entirely enclose an 11-story building as wide and deep as it is high (see illustration, page 529).

This huge bag is designed to ascend, with two passengers, to an altitude of approximately 15 miles above sea level. The balloon will be piloted by Maj. William E. Kepner, expert balloonist, and will have as observer and operator of scientific equipment Capt. Albert W. Stevens, both of the U. S. Army Air Corps.

The first ascent will be made in June. If this flight is successful, Major Kepner and Captain Stevens will make a second ascent in September, to check observations under similar conditions.

The completed plans for the flight are due to the efforts of Captain Stevens. He has gathered data during the past year with the idea of using, in a stratosphere flight, the largest balloon which it is practicable to construct, and of rising to the highest point which it is believed possible for man to reach in a gas bag, with assurance of a safe landing. Mere attainment of altitude, however, is not a primary object. It is desired to reach the loftiest attainable height above the earth to explore conditions there.

### MORE THAN TWO ACRES OF FABRIC

Two and a third acres of cotton fabric will be required to make the bag of the stratosphere balloon. Together with its necessary bands, ropes, valves, and other attachments, but not including the gondola, the huge bag will weigh slightly more than two and a half tons. The gondola, the crew of two men, the instruments and equipment, and the ballast will bring the total weight to be lifted to nearly eight tons.

To house the many instruments and automatic recording devices, the balloon will have attached to it a spherical gondola of light metal 8 feet 4 inches in diameter. This diameter is one and a third more feet than that of the gondolas used by Professor Piccard and Commander Settle and will provide a cubic capacity nearly twice as large.

The balloon will not be entirely filled out by its hydrogen gas until it reaches its "ceiling"—the highest point to which it can rise. It will then be a huge sphere 180 feet in diameter. When it rises from the earth, only partly inflated, it will be shaped like a gigantic exclamation point, with the round gondola representing the period. As the gondola leaves the ground, the top of the bag will be 295 feet above it—higher than a 26-story office building.

The balloon fabric will be impregnated with rubber. The spherical gondola, with its freight of men, instruments, and ballast, will be suspended from the balloon envelope by a system of ropes attached at 160 points around the bag. These suspension ropes will converge to a load ring, and from this ring ten supporting ropes will extend downward to the gondola.

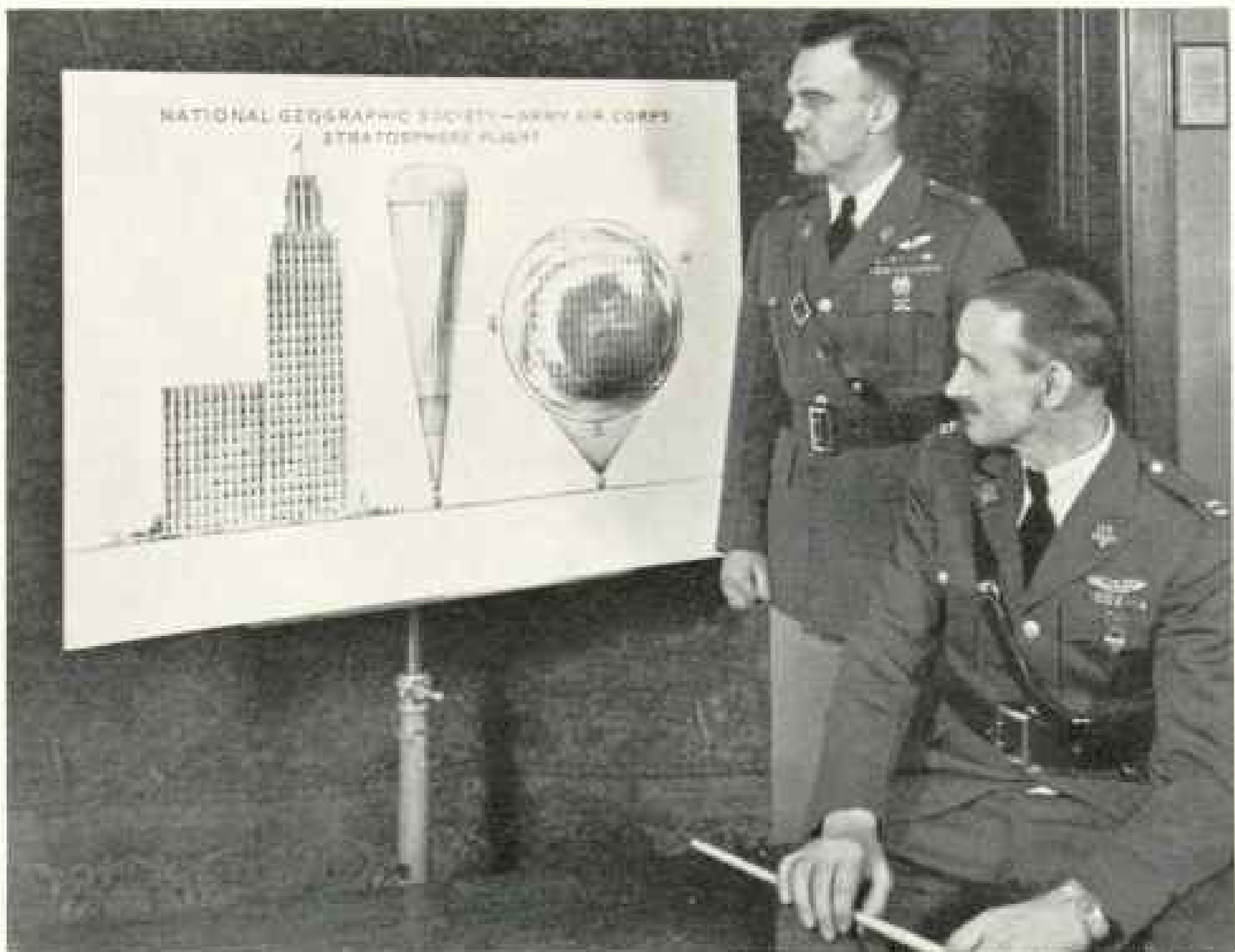
### AUTOMATIC RECORDING DEVICES

Because, in the past, balloonists have been handicapped by jamming of valve ropes, and by the impossibility of manipulating the ropes at high altitudes through the air-tight wall of the gondola, Captain Stevens has designed a novel safety system for operating the gas valve. A small tube will connect the valve mechanism, near the top of the bag, with the inside of the gondola, and compressed air will be used to open and close the valve, just as a camera shutter is operated by squeezing a bulb.

The balloon is being constructed in Akron, Ohio, by the Goodyear-Zeppelin Corporation, builder of the U. S. Navy dirigibles *Akron* and *Macon* and of the 600,000-cubic-foot balloon in which Commander Settle and Major Fordney made their stratosphere flight in November, 1933.

Many of the instruments will be outside the gondola shell and will be connected to dials and recording devices in the interior by tubes and wires. A number of the instruments have been designed and modified by Captain Stevens, as a result of trials during high-altitude airplane flights. The majority will be automatic, and a number of tiny cameras, using motion-picture film, will "read" dials and clock faces simultaneously at frequent intervals.

In an airplane flight over Dayton, Ohio, in October, 1928, Captain Stevens attained 39,150 feet (nearly 7½ miles) and obtained the only complete record of thermometer readings, showing on the same day the



Photograph by Edwin L. Wüherd

THEY WILL PILOT THE WORLD'S LARGEST BALLOON TO THE  
HIGHEST SAFE ALTITUDE

Maj. William E. Kepner (left), who has won international honors for balloon navigation, will pilot the craft, and Capt. Albert W. Stevens, one of the world's leading aerial photographers, will act as observer and operator of the scientific equipment. At the take-off the bag will be shaped like a carrot, its top higher than the roof of a 26-story office building. On reaching the rarefied air of the stratosphere the gas will expand and distend the balloon to its maximum size, large enough to contain an 11-story hotel.

"temperature gradient" in the region from the earth to the stratosphere. Such records of temperatures from the earth to an altitude of more than 75,000 feet comprise one objective of the 1934 ascents. The data will be extremely valuable in weather studies.

"TRAPPING" SAMPLES OF AIR

Samples of stratosphere air will be trapped at several levels. Later, these specimens will be analyzed and studied in physical and chemical laboratories.

Fourteen other items of scientific study vary from high-level photography and ascertainment of the electrical condition of the air at various levels to cosmic-ray studies and efforts to determine ozone concentration. The mysterious ozone layer of the upper air, which some scientists assert is a sheath that saves life on the earth from

destruction by ultra-short light rays, is thought to lie far above the highest point that can be reached by a manned balloon. It is hoped, however, that evidences of an increasing ozone content of the air can be detected 15 miles up.

The stratosphere, object of so much scientific interest in recent years, begins about seven miles above sea level, in the Temperate Zones. It is the region of the atmosphere above all clouds and in it the temperature no longer falls with increases in height.

The first ascent by a man in a balloon into the stratosphere was made in 1927, by Capt. Hawthorne Gray, U. S. Army Air Corps, in an open basket. He reached an altitude of eight miles and died on the way down from the effects of exposure to the rare air. Prof. Auguste Piccard made the first balloon ascents into the stratosphere

in an air-tight gondola in 1931 and 1932, reaching heights of 9.8 and 10 miles.\* In September, 1933, three Russian balloonists reported rising to 11½ miles, and in November, Commander Settle and Major Fordney reached a height of 11 miles. In January, 1934, another ascent was made, in the Soviet Union, to a reported height of more than 13 miles, by three balloonists, all of whom were killed when the balloon crashed.

Utilizing information collected by previous balloon ascents into the stratosphere and the experience of Captain Stevens, who has penetrated the lower reaches of the region many times by airplane, the advisers for the coming flight are making plans for the collection of diverse and complete scientific data.

#### NOTED SCIENTISTS ARE ADVISERS

The flight will be known as the "National Geographic Society-U. S. Army Air Corps Stratosphere Flight." To advise upon the scientific program and equipment and to direct studies of the data collected, Dr. Gilbert Grosvenor, President of the National Geographic Society, has formed a committee of outstanding American scientists. Its members are:

Dr. Lyman J. Briggs, Chairman, Director, U. S. Bureau of Standards; Dr. Frederick V. Coville, Chairman of the Research Committee, National Geographic Society; Gen. Oscar Westover, Assistant Chief, U. S. Army Air Corps; Capt. R. S. Patton, Director, U. S. Coast and Geodetic Survey; Dr. W. F. G. Swann, Bartol Research Foundation, Franklin Institute, Swarthmore, Pennsylvania; Dr. Floyd K. Richtmyer, Department of Physics, Cornell University, and member, National Research Council; Dr. Charles E. K. Mees, Director, Research Laboratory, Eastman Kodak Company; Dr. Charles F. Marvin, former Chief, U. S. Weather Bureau; and Dr. John Oliver La Gorce, Vice-President, National Geographic Society.

Captain Stevens has made numerous high-altitude photographs, some of them, by the use of infra-red rays, showing mountain peaks more than 300 miles from the camera. His most striking aerial photographs have appeared in the NATIONAL GEOGRAPHIC MAGAZINE. Two of them, of extraordinary interest to geographers and

astronomers, are unique. One, taken from a plane 21,000 feet over central Argentina, is the first photograph ever made showing laterally the curvature of the earth. The other, made at an altitude of 26,000 feet over southern Maine, in August, 1932, is the only photograph which shows the advancing front of the moon's shadow on the earth during an eclipse of the sun.\*

Major Kepner, who will pilot the stratosphere balloon, is an outstanding balloon pilot of the U. S. Army. He served in the World War in the Infantry and was decorated by both the American and French armies for exceptional services. He holds four medals: Legion of Honor, Croix de Guerre with Palm, Distinguished Service Cross, and Good Conduct Medal, U. S. Marine Corps. He has been an officer of the Air Corps since 1920.

Major Kepner won both the national and the international balloon races in 1928, receiving the Litchfield Trophy and the King Albert of Belgium Trophy. He was a classmate of Commander Rosendahl, of the *Los Angeles*, and of Commander Settle, for three years at Lakehurst. Major Kepner holds a naval certificate as rigid airship pilot; he served on the *Los Angeles* as assistant navigator and received training from the German Zeppelin crew. He commanded the *RS-1*, semi-rigid airship, in 1927-1928 and was the first to pilot an all-metal airship in 1929.

First Lieut. Orvil A. Anderson, U. S. Army Air Corps, has been assigned as an alternate to pilot the balloon. He has been connected with the Air Corps since 1918 and has attended various aeronautical schools. In 1922 he was a member of the crew of the airship *C-2* on its transcontinental flight to the Pacific coast.

Those who have contributed to the fund to make possible the stratosphere flights are: the National Geographic Society; the United Aircraft and Transport Corporation; the Eastman Kodak Research Laboratory; the Fairchild Aviation Corporation; William A. Burden, New York; Col. Edward A. Deeds, Dayton, Ohio; Sherman M. Fairchild, New York; Phillip G. Johnson, Seattle and New York; Charles F. Kettering, Dayton, Ohio; Dr. A. Hamilton Rice, New York; Capt. Albert W. Stevens, U. S. A.; Cornelius V. Whitney, New York; George D. Widener, Philadelphia; and the Sperry Gyroscope Company, Brooklyn.

\*See the NATIONAL GEOGRAPHIC MAGAZINE for May, 1931, and November, 1932, respectively.

\*See "Ballooning in the Stratosphere," by Auguste Piccard, in the NATIONAL GEOGRAPHIC MAGAZINE for March, 1933.

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## ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

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

ARTICLES and photographs are desired. For material which the Magazine can use, generous remuneration is made. Contributions should be accompanied by addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resulting given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

AT an expense of over \$50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole, and contributed \$55,000 to Admiral Byrd's Antarctic Expedition.

NOT long ago The Society granted \$25,000, and in addition \$75,000 was given by individual members to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people.

THE Society's notable expeditions to New Mexico have pushed back the historic horizons of the Southwestern United States to a period nearly eight centuries before Columbus crossed the Atlantic. By dating the ruins of the vast communal dwellings in that region The Society's researches have solved secrets that have puzzled historians for three hundred years. The Society is sponsoring an ornithological survey of Venezuela.

TO further the study of solar radiation in relation to long range weather forecastings, The Society has appropriated \$65,000 to enable the Smithsonian Institution to establish a station for six years on Mt. Brukkaros, in South West Africa.



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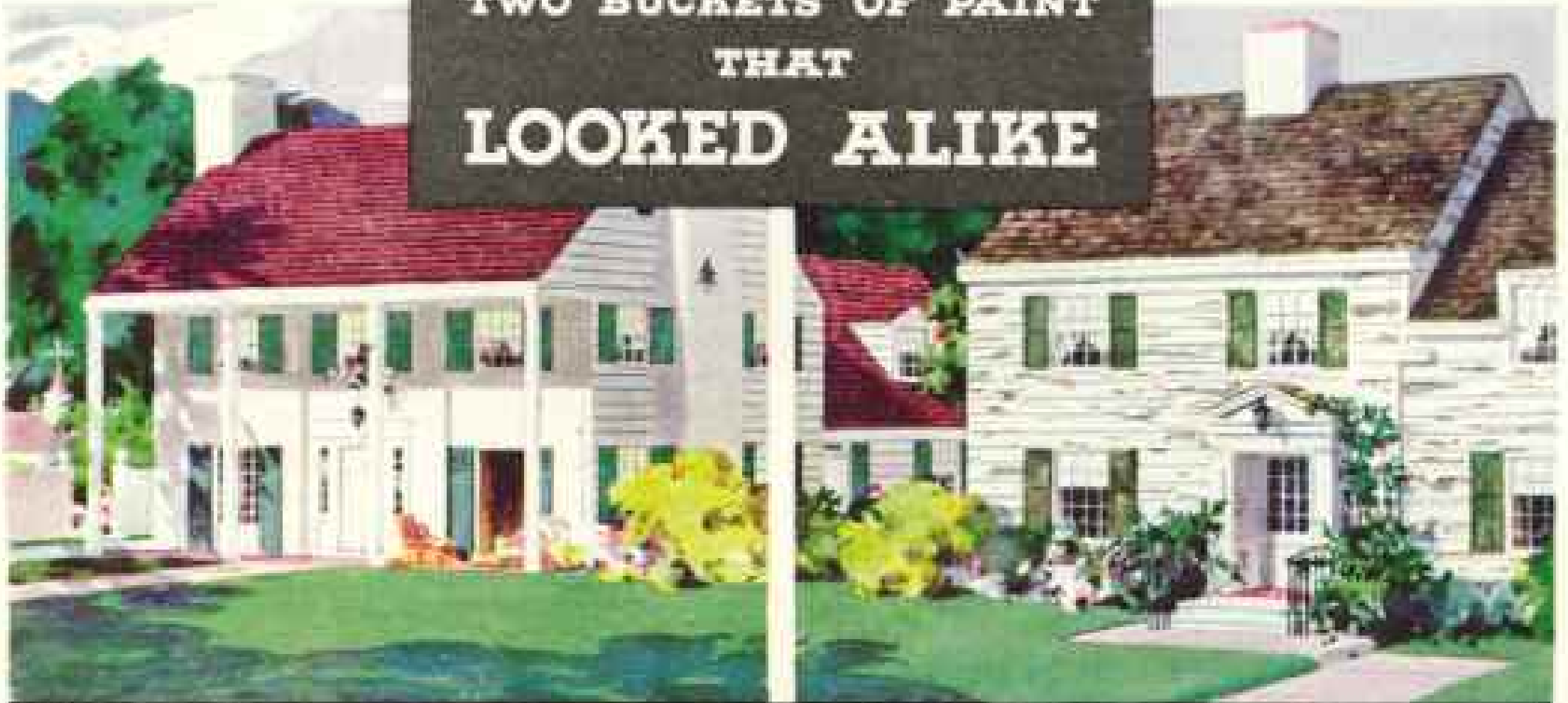


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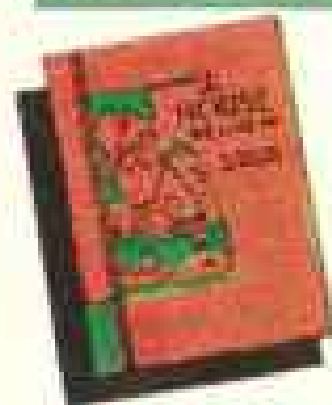
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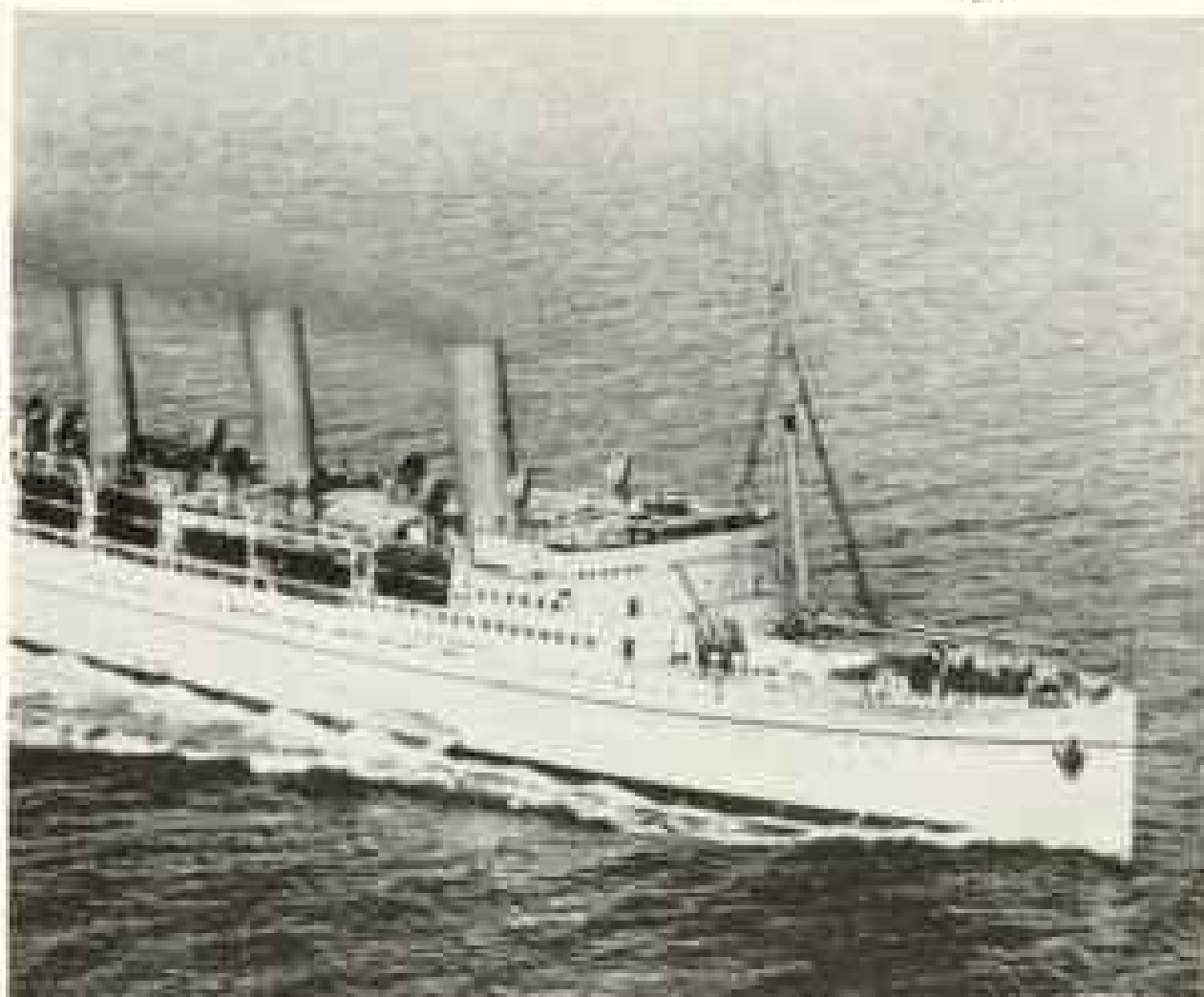
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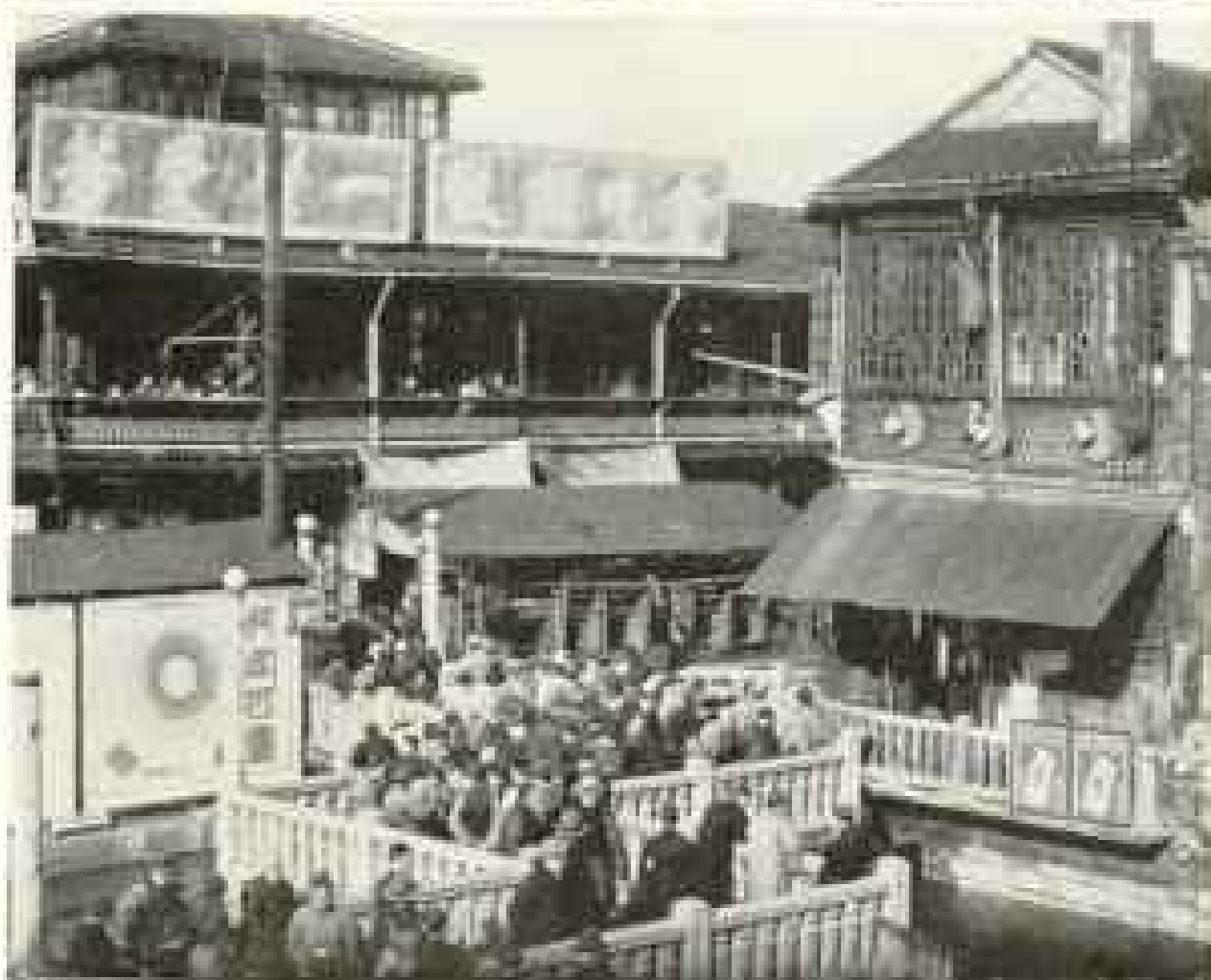
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The Airflow Chrysler is scientifically built to the laws of dynamic balance . . . it cradles its passengers at the center of balance—the natural point of minimum movement. Its weights are so distributed that its spring action is slowed to a gentle glide.

With seats like divans, front and rear . . . the Airflow Chrysler carries six passengers in luxurious comfort . . . with extra room for a big, inside, dustproof compartment for luggage.

In appointments, as well as engineering, the new Airflow Chrysler bids farewell to outworn habits and traditions. There is the spirit of tomorrow in its chromium mounted seats . . . in the new upholstery fabrics . . . in the washable, dustproof material that lines the roof.

No wonder that Walter P. Chrysler describes his latest masterpiece as the first real motor car since the invention of the automobile.

FLOATING RIDE BOOKLET FREE—Write for the interesting booklet which describes the romantic development of Floating Ride. Address the Chrysler Sales Corporation, 12311 East Jefferson Avenue, Detroit, Michigan.

*Four Distinguished 1934 Models Chrysler Airflow Eight . . . 122 horsepower and 121-inch wheelbase. Six-passenger Sedan, Brougham and Town Sedan, five-passenger Coupe. All body types, \$1245. Chrysler Airflow Imperial . . . 130 horsepower . . . 129-inch wheelbase. Six-passenger Sedan and Town Sedan, five-passenger Coupe. All body types, \$1495. Airflow Custom Imperial . . . 150 horsepower . . . 146-inch wheelbase . . . Individualized body types, prices on request. 1934 Chrysler Six . . . With independently sprung front wheels . . . for a levelled, cushioned ride . . . 91 horsepower, 7 body types on 117- and 121-inch wheelbase. From \$725 up. Four-door Sedan, \$795. All from F. O. B. Factory, Detroit. \*Name Copyrighted 1931—Chrysler Corporation.*



time to stop "JUST  
PLANNING" a trip to  
Hawaii

Along with thousands of others, you may be planning to go to Hawaii some day. It would be only natural. This island paradise has won a permanent place in the affections of the world. Somehow it sums up rest, recreation, rejuvenation.

What may at first have seemed extravagant overstatement concerning these islands of eternal May has proved a matter of statistics. Even the most prose-minded visitors to Hawaii have grown lyrical in singing its praises and started others planning to go.

But now you can stop "just planning", for the time of going and the cost of getting there are down to practical figures. Besides, no exchange, customs, or passports to worry about for travelers from the United States.

A visit to Hawaii may now be included easily in the usual vacation period. Fast steamer and train schedules make it possible. It's less than five days to Honolulu from Los Angeles, San Francisco, or Vancouver! *The cost as low as \$110 First Class... \$75 Cabin Class... one way from the Pacific Coast!* Drastic reductions in rail

fares offer substantial savings on tickets to California and Hawaii, New Zealand, Australia.

No more beautiful, more popular season than summer to enjoy Hawaii. Gentle trade breezes to cool you, a mingling of ginger lily and hundreds of other sweet-scented blossoms to delight your senses.

Remember, too, "Hawaii" is, not just one, but a cluster of islands of unsurpassed beauty... Oahu, Hawaii, Maui, and Kauai, linked by modern airplane and steamer facilities. Hotel accommodations are of the best, both from the standpoint of service and reasonable rates. To be sure, bring your golf clubs, for Hawaii's velvet fairways are magnificent.

*Almost next door to you there is a complete travel agent. Ask for a free, new booklet, whose vivid facts tell glowingly of Hawaii. Or kindly write to*

**HAWAII TOURIST BUREAU**

203 Market Street, San Francisco  
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A community organization with headquarters in Honolulu, for the dissemination of free, authoritative information about the entire Territory of Hawaii, U.S.A.



*\*For a larger book, equally colored, with maps and pictures, send 10¢ to cover mailing costs.*

**TIME TO STOP "JUST PLANNING" A TRIP TO HAWAII**

# Cruises a la Carte

**ORIENT ROUNDTRIPS** President Liners sail every week from Los Angeles and San Francisco via Hawaii and the Sunshine Route to Japan, China and the Philippines; every other week from Seattle, via the fast Short Route. You may go one way, return the other—stopping over wherever you like, travel on the new S.S. President Coolidge and S. S. President Hoover and as many others as you choose of the President Liner fleet. Roundtrips are from \$450 First Class, \$240 Tourist.

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First Class fares are from \$654. And you may sail any week from New York, Los Angeles or San Francisco; alternate weeks from Seattle. Get full details.



**CALIFORNIA** President Liners bring all the thrill of real world travel to this speedy Intercoastal trip, . . . via Havana and the Panama Canal to California. If you like, you may stopover with the same freedom that these liners allow you on the longer cruises.

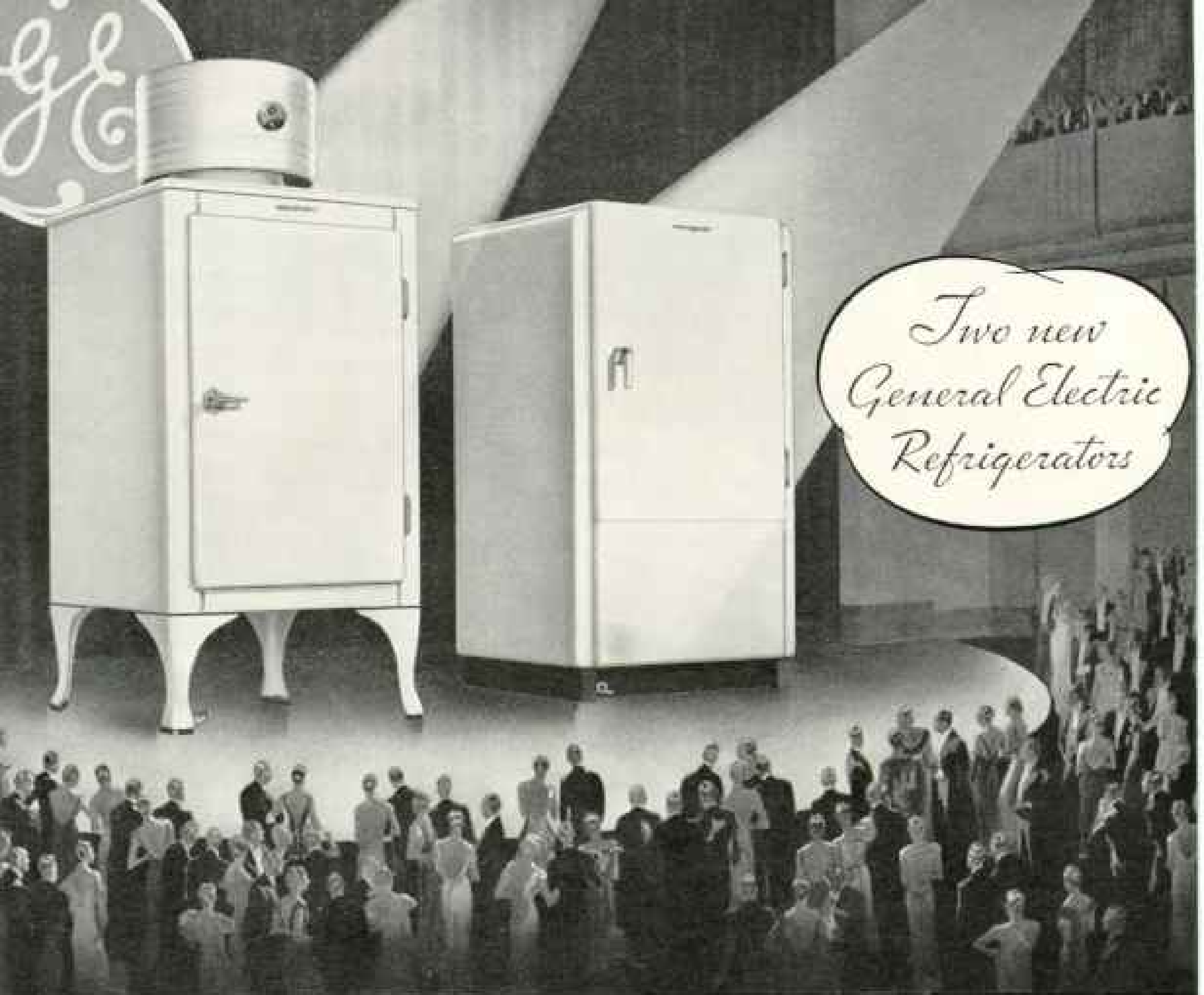
Fares are from \$165 on Round the World liners and from \$200 on the Trans-Pacific vessels. And Round America roundtrips—one way by President Liner, the other by train—are from \$255 First Class, hometown to hometown.

There is a sailing every week from New York; fortnightly from California to New York.

**THE PRESIDENT LINERS** If you do not already know all about these famed, world-traveling liners, ask any travel agent to show you pictures of their charming public rooms and ample decks—with outdoor swimming pools, their staterooms that are all outside . . . and to show you samples of their menus!

Get all information from your own travel agent, or at any one of our offices: New York; Boston; Washington, D. C.; Cleveland; Chicago; Toronto; Vancouver, B.C.; Seattle; Portland, Ore.; San Francisco, Oakland, Los Angeles or San Diego.

**DOLLAR**  
**STEAMSHIP LINES AND**  
**AMERICAN**  
**MAIL LINE**



*Two new  
General Electric  
Refrigerators*

# DISTINGUISHED STYLE

*now joins matchless mechanism*

**L**ONG THE RECOGNIZED LEADERS in mechanical performance, General Electric refrigerators now offer you new brilliant beauty in modern styling. You will find these de luxe models the most attractive cabinet designs ever presented in electric refrigerators.

### *Take Your Choice!*

Within the new Monitor Top is the same famous sealed-in-steel mechanism that made refrigerator history. Its record of dependable refrigeration service is unparalleled. Built for a lifetime, it requires no attention, not even oiling. Distinctive in design, the General Electric Monitor Top is universally recognized as the Standard of Excellence . . . and is lowest in ultimate cost.

The de luxe G-E flat top model steps far ahead of all conventional type refrigerators. Its smartness of style lends a new modern note to your kitchen. Here's new beauty of design, convenience features and performance capacity to be found in no other popular-priced model.

See these new style leaders at your General Electric refrigerator dealer's, and also note the complete line of standard G-E Monitor Top and flat top models . . . a size and price to meet every requirement.

For your nearest G-E dealer see "Refrigeration—Electric" in the classified pages of your telephone book. General Electric Company, Specialty Appliance Sales Department, Section R-4, Nela Park, Cleveland, Ohio.

**GENERAL**  **ELECTRIC**

Make yourself at home  
in this cabin . . . . to

EUROPE \$113

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TOURIST CLASS

‡204 UP  
ROUND TRIP



TOURIST

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June 6, Aug. 1

**New S. S. MANHATTAN**

April 25, May 23  
July 18, Aug. 15

**S. S. PRES. HARDING**

April 18, May 16  
July 11, Aug. 8

**S. S. PRES. ROOSEVELT**

April 4, May 2  
May 30, July 25



**UNITED STATES LINES**



# MOTORISTS THRILLED AS SPECIAL OIL INCREASES SPEED AND PICK-UP



## Remarkable Tough-Film Motor Oil increases speed, saves up to 12% on gas alone, and costs no more

**A**n oil that can save gas and increase speed is good news to any motorist. But to get this *special* oil at the same price you pay for other quality oils . . . That is front-page news for everyone!

All you have to do is ask for the correct grade of Pennzoil for your car. That's all.

### What Pennzoil Is

Pennzoil is refined by a special process from the finest Pennsylvania crude—it is 3 times concentrated to give it an amazing Tough-Film and far better lubricating qualities. This cuts down engine drag so remarkably that speed is increased.

Your engine runs easier. Your car smoother and freer. Much less gas is used.

### Breaks 14 World Records

Pennzoil is so much better, that Ab Jenkins in his Pierce Arrow broke 14 major world records from 200 to 3000 miles—using a light grade of regular Pennzoil. He drove at the unheard-of speed of nearly 2 miles a minute for over 24 hours without relief, without changing cars!

If you want to make your car go faster—increase pick-up 10 to 25%—save money on gasoline—then start today to use Pennzoil. Get it today from any Bonded Pennzoil dealer.



## THE PENNZOIL COMPANY

Executive Offices: Oil City, Pa. : Los Angeles, Calif.

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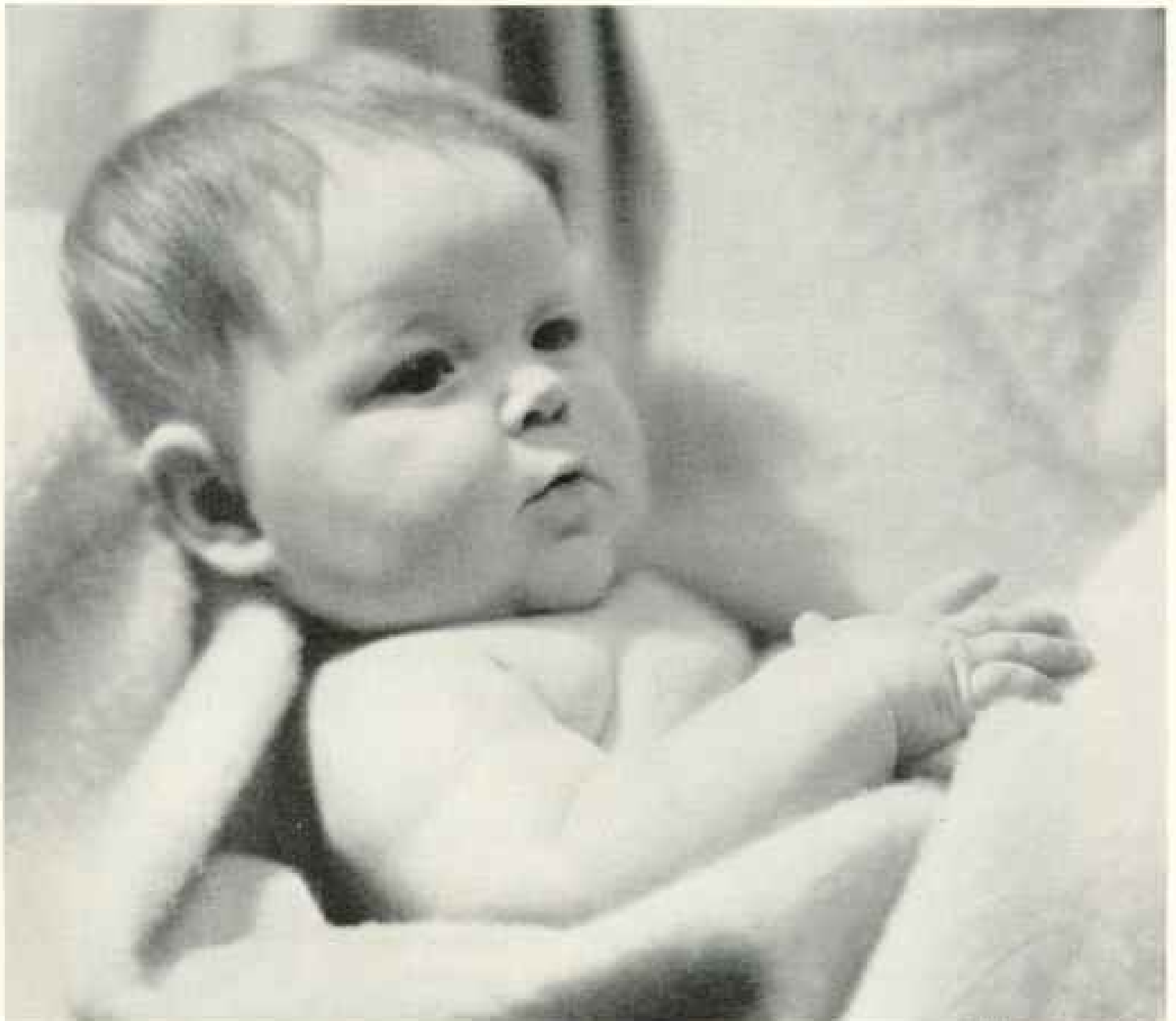


Member Penn. Grade Crude Oil Ass'n., Permit No. 2

REFINERY-SEALED CANS now available. Both cans and bulk Pennzoil are SOLD UNDER BOND to guard you from substitutes.

# TOUGH-FILM PENNZOIL

MAKES CARS GO FASTER..SAVES ON GASOLINE



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## “Not a tooth in his head”

But so much of his health and happiness depends upon the teeth that are to come. And they depend, so much, on what you do for him today, on what you teach him tomorrow.

Only the best is good enough for this child of yours. The diet your doctor prescribes—the cod liver oil with its precious vitamins, the calcium in pure fresh milk, that gives him sturdy bones and teeth; fresh fruits and vegetables, warm sunshine, pure air.

And when his teeth come, be ready to teach him the great lesson of cleanliness—and to teach him wisely. Let your dentist show you the proper way to brush teeth

and gums, so that you can teach your baby.

All that modern science can do to produce a perfect dentifrice, Squibb scientists have done in developing Squibb's Dental Cream. It gives you and your child the assurance of safe, thorough cleansing, of help in preserving the health of the gums and the teeth from decay.

Every member of the family can use Squibb's Dental Cream with absolute assurance of safety.

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# SQUIBB'S DENTAL CREAM

THE PRICELESS INGREDIENT OF EVERY PRODUCT IS THE HONOR AND INTEGRITY OF ITS MAKER

**LET'S**  
*change to crispness*  
**NOW**



WINTER is gone—and with it the need for heavy, monotonous winter menus. Bring spring to the breakfast table!

Call the family to a feast. Fill their bowls with Kellogg's Corn Flakes—crisp and golden—served with milk or cream and a bit of fruit. Watch their faces brighten as they taste that delicious flavor—that crispness, so refreshing to winter-jaded appetites!

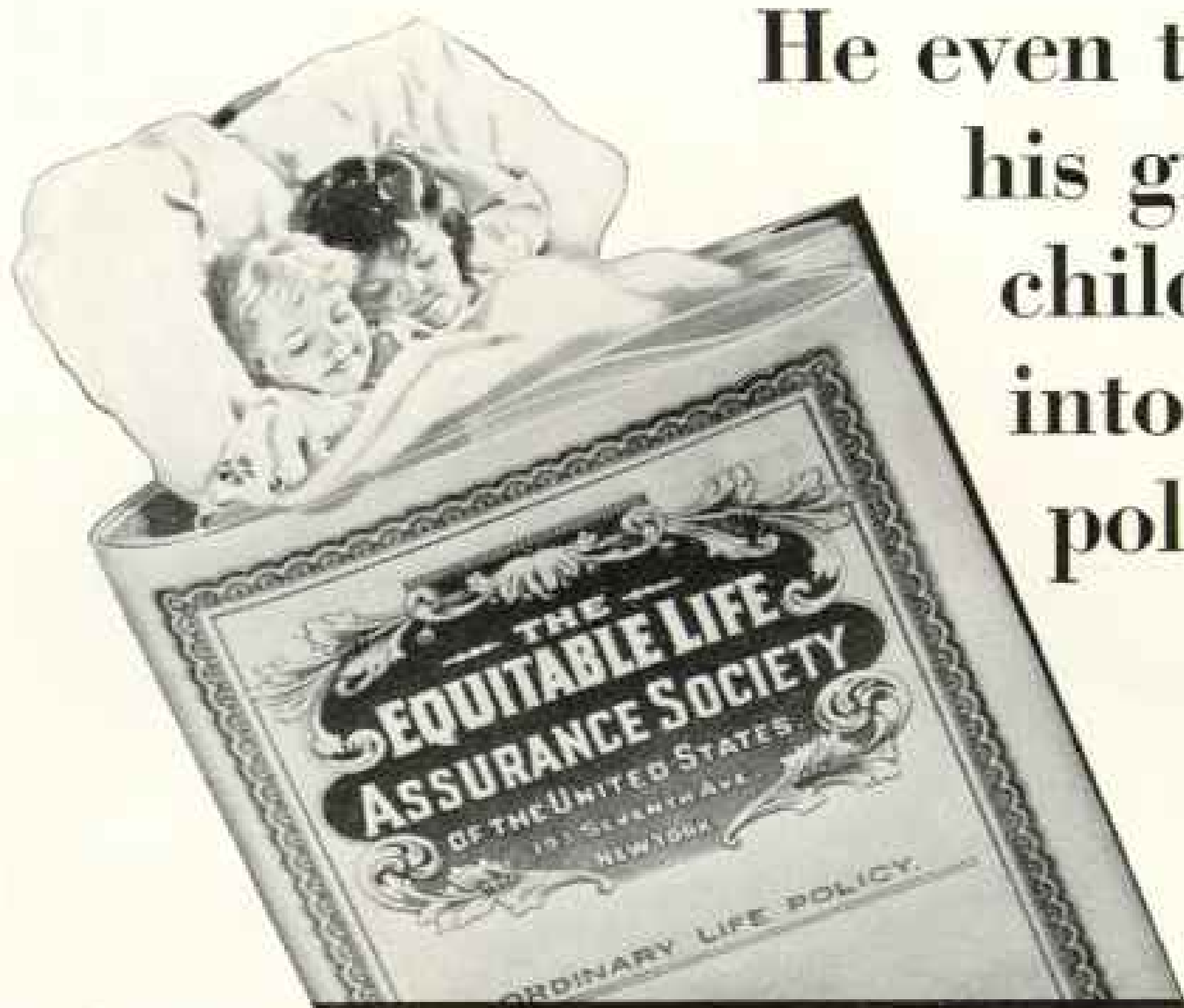
Kellogg's are rich in energy, easy to digest. A nourishing lunch or supper for children.

Economical, too, and so easy to serve! No cooking. Always oven-fresh in the *heat-sealed* inner WAXTITE bag—an exclusive Kellogg feature. Made by Kellogg in Battle Creek.

*Kellogg's*

FOR CRISPNESS





# He even tucked his grand- children into the policy

John Burdett wanted to take care of the financial security of his wife, his daughters and his grandchildren.

This was a somewhat unusual problem, yet a solution was found through the Equitable Case Method of life insurance planning.

An Equitable agent showed Mr. Burdett how he could arrange to have (1) the proceeds of his insurance held on deposit by the company to provide a life income for his wife; and at the time of her death (2) the income continued in equal shares to his two daughters for life; and at the subsequent death of a

daughter (3) her share of the deposit paid to her children.

Very different from Mr. Burdett's wish may be your own. Perhaps you want to make certain that funds will be available for your son's or daughter's education, or to clear a mortgage on your home, or to provide security for your old age. But whatever your requirement, our Case Method can give you a scientific program to guarantee it.

**THE EQUITABLE**

FAIR — JUST

**LIFE ASSURANCE**

SECURITY — PEACE OF MIND

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MUTUAL — COOPERATIVE

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NATION-WIDE SERVICE



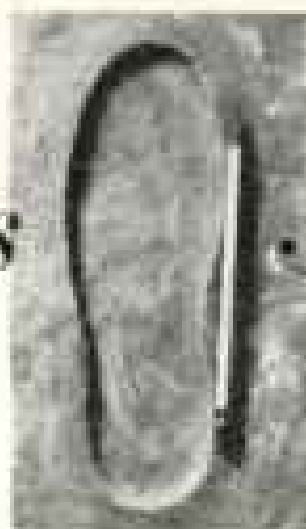
*For further information about the Case Method, address The Equitable Life Assurance Society of the United States, 393 Seventh Ave., New York, N. Y. . . . Thomas I. Parkinson, President.*

Don't risk Your boy's feet in



NORMAL FOOT

Shapeless Sneakers...fit them in



SHAPELESS SNEAKER

SCIENTIFICALLY LASTED



SCIENTIFICALLY LASTED KEDS

# Keds

REG. U. S. PAT. OFF.



Air-filled sponge rubber cushions the foot in the new Keds. The Shockproof Insole puts new *spring*—new *life*—in foot action. It adds to endurance by lessening fatigue. It protects feet by absorbing jolts and jars. You actually walk on a layer of live air!

THE WORLD'S LARGEST MAKER of canvas footwear ANNOUNCES two revolutionary improvements in Keds—New Scientific Lasts and New Keds Shockproof Insoles. Here are canvas shoes with *entirely* new ideals of foot health, of comfort and of fit.

Before the new Keds were presented to the public, they were proved absolutely *right* by thorough tests of actual wear on every kind and type of foot. That's why America's foremost designers of shoes and shoe-lasts call the new Keds the most perfectly fitting rubber-and-fabric shoes ever built.

Go to any Keds dealer and let him show you what a truly surprising difference the new Scientific Last makes in fit—and how the Shockproof Insole actually lets the wearer walk on air! And don't miss the other famous Keds features—the Full Breather Top; the Pressure-Applied Sole; the Selected Fabrics, the Special Reinforcements throughout; the Pull-proof Eyelets—and the fact that Keds can be washed in a washing machine.

Before you buy any canvas shoe, be certain you understand what a remarkable improvement the new Keds are over the ordinary "sneaker." Ask for *Genuine Keds*.

United States



Rubber Company

Hollywood Studios find almost every type of world's scenery in

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Yet costs need not exceed those of most commonplace vacations. And even a 2-weeks holiday gives you at least 11 days actually here from most points in the country.

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Southern California vacation book, most complete ever published. Nearly 150 photos, details of everything to see and do here, itemized costs, time required, maps and detailed routing from your home city—all free. Just mark and mail the coupon.

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"RIGHT  
with the  
WORLD!"



*Individually-Sprung Front Wheels Optional at Slight Extra Cost*

★ Nash is certainly on the right side of public opinion!

It's apparent in the way the 1934 Nash is clicking. The public clearly likes the style of its appearance, *and* the appearance of its style. The Nash speedstream design achieves refreshing smartness without a semblance of straining for effect. Smart outside, rich inside. Everybody who steps into a 1934 Nash comes at once under

the spell of the car's luxury. Likes the appointments. Likes the clear-vision ventilation system. Likes the way a touch on the clutch pedal starts the motor. And Nash Twin Ignition valve-in-head performance is something never to be forgotten.

Great automobiles . . . styled right, powered right, built right, priced right. Nash invites and *thrives on* all kinds of comparisons!

## 1934 TWIN IGNITION VALVE-IN-HEAD NASH

### BIG SIX

116" Wheelbase • 88 Horsepower • \$775 to \$965

### ADVANCED EIGHT

121" Wheelbase • 100 Horsepower • \$1065 to \$1145



### AMBASSADOR EIGHT

133" Wheelbase • 125 Horsepower • \$1375 to \$1625

### AMBASSADOR EIGHT

142" Wheelbase • 125 Horsepower • \$1825 to \$2055

— New Nash-Built LaFayette, the Finn Car of the Low Price Field, \$635 TO \$695 —

(All Prices) c. & f. Factory—Special Equipment Extra—All Prices Subject to Change Without Notice



## \$170 ROUND TRIP TO EUROPE

One price! No ups! This is the new low cost service to Europe. The summer rate is \$170 round trip; \$95 one way. (Eastbound April 16 to August 31. Westbound June 1 to October 31.) The winter rate is \$150 round trip; \$85 one way (New York-Havre-Antwerp).

This service is recognized as the favorite of students, teachers, doctors, lawyers, scientists, and families with children. There's a spirit of congeniality and good living on our ships that you can't duplicate for any amount of money.

We have received scores of spontaneous letters in praise of the fine accommodations, excellent food, and comfort and steadiness of the ships. May we show you some of these letters, and tell you all about it?

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This is the leading automobile service on the Atlantic. We have handled tens of thousands of cars without a scratch. No crating, no hoisting. You will see more and pay less if you take your own car. It's the most economical way to explore—especially for a party of two or three persons. Let us tell you about roads and motoring abroad.

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YES! Tell me about the new kind of service to Europe. I am especially interested in:

- Passengers (the low cost way),  
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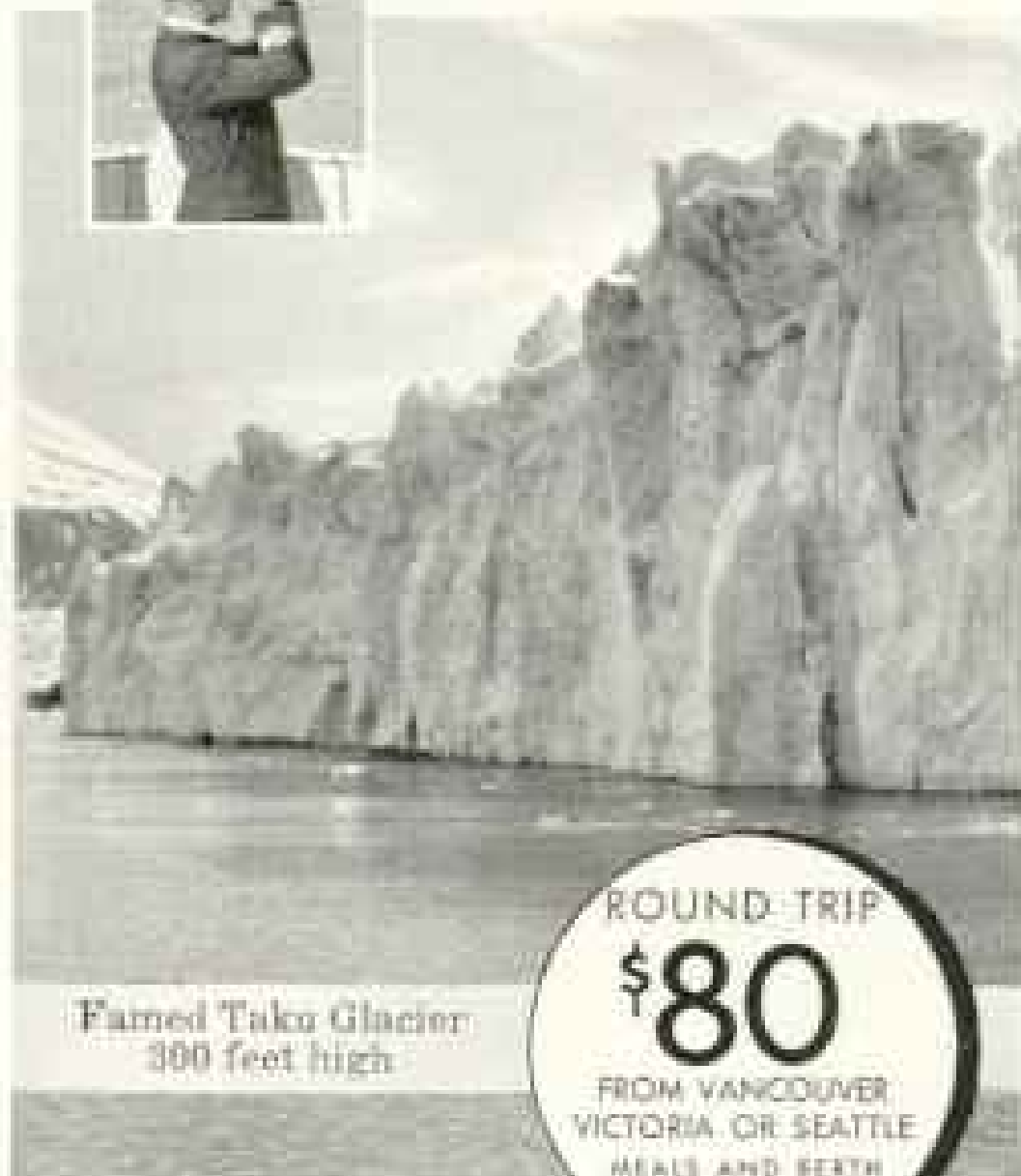
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this summer



Famed Taku Glacier  
300 feet high

ROUND TRIP  
**\$80**  
FROM VANCOUVER  
VICTORIA OR SEATTLE  
MEALS AND BERTH  
ON BOAT INCLUDED  
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A CRUISE vacation of contrasts! Mountains at the water's edge and 2000 miles of smooth sailing. Glaciers that sparkle and crackle in the dazzling Arctic sunlight—flowers that grow to double their normal size. Totems. Primitive Indian villages. Gold Rush towns. The "Trail of '08" that lures you on into the heart of Alaska . . . Two sailings weekly from Vancouver. Write for booklets. (For added scenic thrills, include the Canadian Rockies in your trip.)

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# NEW TIRE ENDS BLOW-OUT FEAR \_GIVES MONTHS OF EXTRA WEAR

**Sensational Life-Saver Golden Ply Makes New Goodrich Silvertowns 3 Times Safer From Blow-outs at High Speeds**

**T**HE odds are strong against you when you have a blow-out. Especially if you happen to be riding along 40, 50 or 60 at the time. BANG! It's all over in a flash. And your chances of keeping off the accident list are mighty slim—unless you have plenty of luck.

To protect motorists from blow-outs—to give you a tire that *will* stand up under the terrific speeds of today's high-powered automobiles, every new Goodrich Silvertown has the amazing Golden Ply. This remarkable invention, found only in the new Silvertown, resists heat. Thus, blisters don't form. The great, unseen cause of blow-outs is prevented before it begins. The "safest-tire-ever-built" is now made 3 times safer from blow-outs at today's high speeds.

And here's proof. Racing dare-

devils tested it out at breakneck speeds. Tested it on the world's fastest track. Gave it everything they had. *Not one blow-out.* Similar tires *without* the Life-Saver Golden Ply failed at one-third the distance the Golden Ply Silvertowns were run.

### No Extra Cost

Extra safety. Extra mileage, too. Yet Goodrich Safety Silvertowns cost no more than other standard tires. Get a set *before* your turn for a blow-out comes.

**FREE!** Handsome emblem with red crystal reflector to protect you if your tail light goes out. Go to your Goodrich Dealer, join Silvertown Safety League, and receive one FREE. Or send 10¢ (to cover packing and mailing) to Dept. 335, The B. F. Goodrich Rubber Co., Akron, O.



Heat starts "invisible blisters", which grow and grow until "BANG" . . . a blow-out.



New invention makes the Safety Silvertown 3 times safer from blow-outs at high speeds.

**Goodrich Safety Silvertown**  
WITH LIFE-SAVER GOLDEN PLY

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Sporty golf, fast tennis, the finest canoeing, sailing and motor-boating! Fine motor roads to the famous Maine coast—to a thousand beautiful lakes—to the woods and the mountains! Swimming, fishing, dancing, dining and luxurious, care-free loafing. Hotels, inns, camps and cottages. Rest and relaxation or a round of social gaieties. These make a Maine vacation a pleasant memory. Come. Let us help you plan. Mail the coupon today.



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Seattle



Boat Deck on S. S. Yukon

## TO Alaska's midnight sun

● I hate to appear mercenary—but think of it—this summer only \$80 for an 11 day round trip from Seattle to Skagway and Sitka—only \$115 for a 12 day round trip from Seattle to Seward! And the ships are the finest in the Alaska service—the *SS. Alaska*, *SS. Northwestern*, *SS. Alutian* and *SS. Yukon*. They sail under the American flag and serve American meals, of course.

*Take that Western trip this summer  
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Great Northern offers round trip fares too low to ignore, to Glacier Park and the *Logan Pass Detour*, Pacific Northwest, Alaska and California. See nearest Great Northern agent or write A. J. Dickinson, P. T. M., Room 710, Great Northern Ry. Bldg., St. Paul.

## GREAT NORTHERN

Route of the  
EMPIRE BUILDER

*Air-Conditioned Dining  
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Rail fares cut again! Just see these examples of low round trip fares from Chicago:

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This year..... 46.95

Complete tour of the Magic Wonderland, including meals, lodging, motor transportation, is cut from \$54 to \$45 (hotels); from \$45 to \$38 (lodges)!

An exciting free book tells the story. A story of roaring geysers, magic pools that boil like witches' cauldrons, colossal, colorful Yellowstone Canyon, a waterfall twice as high as Niagara.

Ride the famed transcontinental *North Coast Limited*, direct to Gardiner and Cody gateways . . . *shortest route . . . fastest time!*

Don't miss the Cody Road! 90 miles added sight-seeing through the Shoshone Gorge and over the Absaroka Mountains. Costs not a cent extra!

Your Burlington ticket can be routed through Colorado (with stopover) at no extra cost. And include a trip to Glacier Park for a trifling additional fare—a fine two-day motor tour of the Black Hills of South Dakota for only \$24.75 extra.

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Please send me your free Yellowstone Vacation Book.

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**"I can hear  
... my associates"**

ABLE, powerful, necessary—but increasing deafness made it difficult to carry on. He could not follow the discussion at business meetings. Retirement seemed unavoidable. He was told about the miracle of Sonotone bone conduction of sound, and tried in his office the new Lieber Oscillator, a unit of less than an ounce. The test was successful. He had recovered the full happiness and usefulness of hearing.

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*with the famous* **LIEBER OSCILLATOR**

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*is the Time*



*and the*  
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**Your Dollar will BUY MORE in the WEST than Abroad this Year**

You've earned and you need the kind of a vacation this year that only the West can provide. And, there's a world of things to see and do, an endless round of pleasure and beauty in the famous regions served by the Union Pacific, especially

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This summer with rail fares cut, Pullman rates reduced, all travel costs down, Western Vacations are brought within the reach of all. Write today for full particulars.

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Please send me information about Vacations in

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# Rest for Sick Lungs



"I am one of the lucky ones. Thanks to modern treatment, I was able to come home from the Sanatorium months before I had expected. I am going back to work Monday."

TREMENDOUS progress has been made during the past twenty years in reducing the loss of life from tuberculosis. This success has been the result chiefly of popular education and the development and use of modern methods of treatment.

Yet in spite of the progress made, this disease took more than 70,000 lives in this country last year. In the United States, tuberculosis is today the principal cause of death of persons between fifteen and forty-five years of age. The hope for further progress lies in an increasing recognition of the necessity for early diagnosis and in more extended use of modern treatment.

It is frequently difficult to diagnose tuberculosis in the early stages when the usual symptoms—loss of weight, lack of appetite, indigestion, fatigue and a persistent cough—are absent. Often the only way to detect tuberculosis is by means of X-ray or fluoroscope. The sooner the diagnosis is made, the greater is the opportunity for



proper treatment to bring about recovery.

Of the four factors in modern treatment—rest, sunshine, fresh air and proper nourishment—the chief one is rest. Medical science has discovered several ways of aiding Nature, when advisable, through artificial methods for resting an infected lung. The method used depends upon the particular case.

Pneumothorax treatment (lung collapsing), together with other kindred methods, concentrates rest where it will do the greatest good—in the sick lung. The relief from continuous motion and irritation due to breathing or coughing enables the resting lung to heal more rapidly.

The majority of cases of tuberculosis can be arrested when prompt action is taken and the four items of treatment—sunshine, fresh air, proper nourishment and REST—are faithfully and continually observed under medical care.

## METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT

ONE MADISON AVE., NEW YORK, N. Y.

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"Mention the Geographic—It identifies you."



*Body by Fisher*

# *Assurance* of Complete Motoring Satisfaction

CARRY in your mind's eye this portrait of the stunning new Buick beauty. But also call up in memory all you have heard of the supreme satisfaction which comes to the Buick owner. He is the envied among motorists. His car is known everywhere for rugged dependability, for blithely doing the things which other owners hesitate to ask of their cars.

Then know that in all Buick history there has been no Buick to equal these new ones. Incredible as it may seem, it is a fact that they elevate depend-

ability to a far higher level. Through the most alert and modern of engineering, they are greatly advanced in safety, and comfort, and convenience. The owner smoothly rides with the gliding ride as only Buick gives it. In fact, in every phase of his motoring he enjoys the utmost of satisfaction.

This *new* kind of motoring in Buick is attuned to modern desires, modern needs and modern conditions. It is the kind you want in your new car. It is to be had in full and generous measure only in the new Buick Eight.

## BUICK for 1934

---

WHEN · BETTER · AUTOMOBILES · ARE · BUILT · BUICK · WILL · BUILD · THEM

Just a drink but—what a drink. And so today ice-cold, refreshing Coca-Cola is served as a beverage in leading hospitals. It fills a need. There's wholesome buoyancy in its life and sparkle. Its tingling, delicious taste meets a happy welcome wherever it is served.



For your own home  
order a case (24 bottles) from your dealer



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# "Something that will refresh you"

*Served in Leading Hospitals*



5¢

- You can be sure it is pure and wholesome. Coca-Cola is a pure drink of natural products, with no artificial flavor or coloring. Complying with pure food laws all over the world.





# Ox Tail Soup

*so delicious...  
yet so seldom made at home*

It requires the skill of the trained soup chef and the resources of great soup-kitchens to make Ox Tail Soup as it really should be made. It is such a delicious and satisfying soup that it should be on your table at frequent intervals. And there is no need to deny yourself this soup at its very best. Simply let Campbell's famous chefs make it for you!

In Campbell's is the broth of selected ox tails and choice beef, blended with sliced ox tail joints, tomato purée, diced carrots, turnips, celery, onion, leek, and barley. The soup is delightfully flavored with sherry.

21 kinds to choose from . . .

Asparagus	Ox Chowder	Noodle with chicken
Bean	Consommé	Ox Tail
Beef	Julienne	Pea
Bouillon	Mock Turtle	Pepper Pot
Celery	Mulligatawny	Prinzener
Chicken	Mushroom (Cream of)	Tonoto
Chicken-Gumbo	Mutton	Vegetable
		Vegetable-Beef



EAT SOUP  
AND KEEP WELL

LOOK FOR THE RED-AND-WHITE LABEL



by Campbell's famous chefs





## *Would YOU know just what to do?*

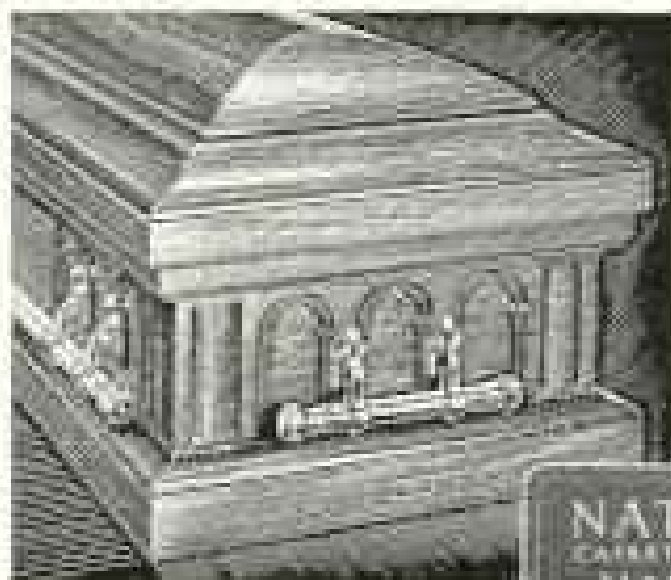
**Y**OU, as the sort of man or woman who is called upon to decide matters of great personal importance, would do wisely to inform yourself well in advance on one subject—the making of funeral arrangements. You may not have need for this knowledge for a long time, but now is the time to acquire it, *not* when bereavement has made clear thinking difficult.

In particular, you should know something of caskets—what is available, what is suitable, something of costs and values. You should know about NATIONAL CASKETS—made in every grade, at every price.

You should know and remember that these superior caskets cost no more than caskets of unknown make, that they are manufactured, trade-marked

and guaranteed by a company known and trusted for more than fifty years.

Funeral directors everywhere can supply NATIONAL CASKETS. Remember to look for the National Trade-mark when buying. If your funeral director does not have the NATIONAL CASKET in the grade or design you wish, he can quickly and easily procure it for you. You have but to ask him.



Send for our book, "Funeral Facts." It contains sound advice on the selection of a funeral director, and other matters pertaining to the funeral. One chapter is devoted to the important question of funeral costs. Already half a million of these booklets have been distributed. Ask your funeral director for one or more copies, or write us direct. Dept. N-4, 60 Massachusetts Avenue, Boston, Mass.

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*Casket*  
**COMPANY, INC.**



DISPLAY ROOMS IN THIRTY CITIES

NO. 1234—*A National Mahogany design. Be sure you see the National Trade-mark on the casket when you buy.*



**"YES, MOTHER.** *She's right here"*

AT THE close of the day, at the end of the week, at the turn of the year, when your mind ranges back to sum it up, what counts for most?

Is it not the people you spoke to and what you said to them and what they said to you? The ideas born in conversation, the new slant given to your thoughts by a word or two, the greetings and farewells, the hopes confessed and questions answered—these and a thousand other vocal expressions make up the story of our lives.

To be cut off from human contact is to live but part of life. The wonder of the telephone is that it multiplies human contacts,

restores broken ones, strengthens strained ones and constantly develops new ones.

Just think of this the next time you use the telephone. With no greater effort than the calling of a number or the turning of a dial, you can speak to almost anyone, anywhere. No place or person is far away when you can say—"I'll call you up."

---

*Is this somebody's birthday? Is someone in another town being married or celebrating a wedding anniversary? The sound of your voice and your good wishes will brighten the day. The rates are low. You can make a daytime station-to-station call to most places 75 miles away for about 50c. During the evening and night periods many rates are 15% to 40% lower than in the daytime.*

**B E L L   T E L E P H O N E   S Y S T E M**





Railways of

# FRANCE

Somewhere in France something is calling you. . . *the Riviera*, "playground of the world, where the sea calls, and the stars call, and oh! the call of the sky!" . . . *Normandy*, with its North Atlantic coast studded with fashionable seaside resorts. . . *Brittany*, land of granite, covered with oak, wild scenery and spacious, sandy beaches. . . *Picardy*, where roses are blooming. . . *Alsace-Lorraine* with its picturesque architecture and chimney-nested storks. . . *Champagne*, and the vine-clad hills. . . *Touraine*, the Chateau country, with its centuries-old castles. . . *Savoie*, the lofty peaks of the French Alps surrounding the world's most famous health-restoring Spas. . . *Provence*, with its treasures of antiquity, and sunny hills immortalized by Keats. . . *Bearn*, at the foot of the majestic Pyrenees, dotted with pilgrim villages dating from the Crusades. . . *Gascony*, whence came the gallant D'Artagnan of impudent mien and ready blade. . . *Île-de-France*, with Paris, just Paris. . . the world's garden spots are calling. . . your local travel agency will plan an itinerary.



610 FIFTH AVENUE, NEW YORK



## England's Finest One-Day Tour Through Shakespeare's Land

Stratford-on-Avon, birthplace of Shakespeare. . . Warwick Castle, home of ancient England's most powerful family. . . Kenilworth Castle, the scene of Scott's great novel. . . all in a fascinating one-day tour!

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This one-day tour will live forever in your memory, giving you a finer appreciation of Shakespeare's genius and a vivid picture of the historical background of his immortal plays. Yet the entire cost is only \$9.00 first class throughout including transportation, motor coach, entrance fees, luncheon, tea and gratuities. Send today for literature describing the complete trip. Write any office of the American Express Co. or ask your local travel agent for information.

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AMERICAN EXPRESS CO.

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it looks like a toy."

"Far from it... look at  
the way it's made...  
and wait till you see  
the movies!"



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Makes movies  
for 10¢ a shot\*



"It's such fun  
making movies—  
but aren't they  
expensive?"

"Not with the  
Eight—that  
shot of Tommy  
cost less than  
a dime."

"I've never been  
so thrilled.  
Imagine seeing  
myself in  
movies."

"They certainly  
are swell of you...  
the Eight doesn't  
miss a trick."



Don't miss another day of  
home movie thrills.

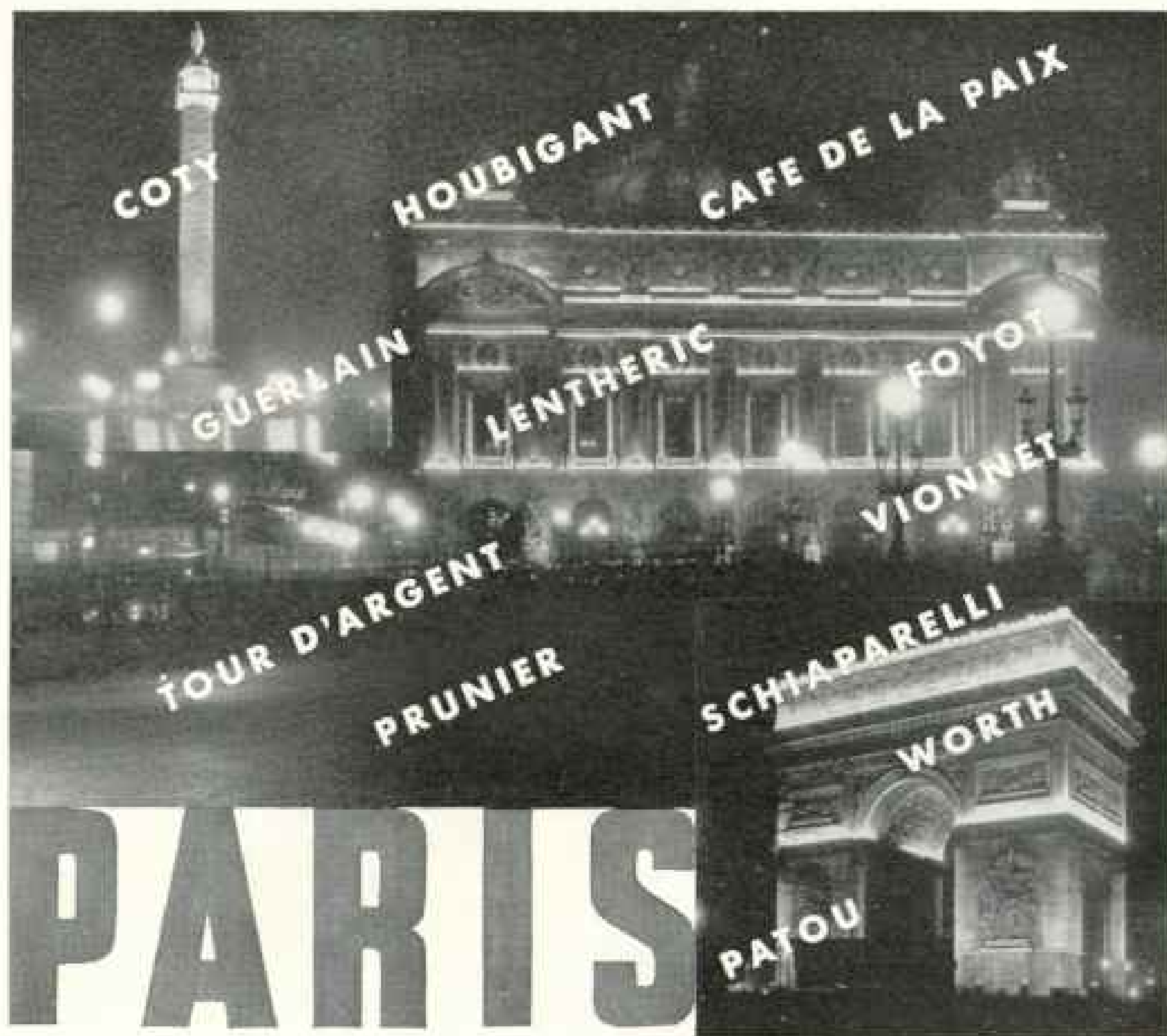
Ciné-Kodak Eight is a full-  
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\$34.50. Its operation—simplic-  
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expensive.

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\* IN THE MOVIE STUDIOS of Holly-  
wood, a shot is one continuous scene  
of a picture story. The Eight makes 20 to  
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And beyond Paris lies all of France and Europe. . . Historic cities and quaint little towns . . . health-giving spas and sunny beaches . . . a variety of places and pleasures for every one. A trip abroad belongs, in fact, among every woman's happiest

and most satisfying experiences.

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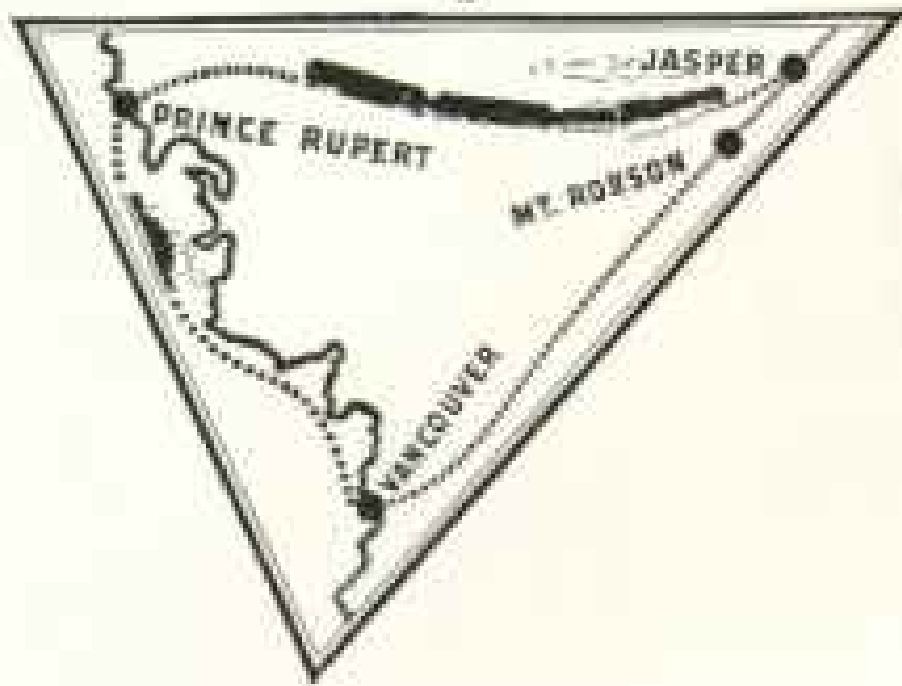
expert care. And throughout the voyage there's the sure protection of Breton seamanship.

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The entire rail journey is a never-ending succession of scenic thrills. Huge peaks. Jewelled lakes. Dark canyons and pine forests. The Skeena, the Bulkley, the Thompson and Fraser Rivers. Kitwanga, with its Indian totem poles. Mt. Robson, highest of Canada's Rockies. Jasper Park with its sports and motor drives and the luxury and comfort of Jasper Park Lodge.

And 2 days of sea air as you cruise through the Inside Passage of the North Pacific with smooth water and mountain scenery all the way. (It costs very little extra to sail right on to Alaska itself.)

This 4½ day Triangle Tour plus a stopover at Jasper Park Lodge is the perfect Canadian Rockies' vacation. From the East it costs no extra rail fare if you follow the cool Jasper Route across the continent. Stop in or write for details and illustrated booklets. Ask, too, about vacations in Eastern Canada.



- 1** 1400 miles by rail through ruggedly beautiful British Columbia and 2 close-ups of Mt. Robson.
- 2** A vacation stop-over at Jasper National Park in the heart of the mighty Canadian Rockies.
- 3** A 600-mile cruise through the mountain-guarded Inside Passage of the North Pacific.

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*"Twenty minutes at Navojoa"*

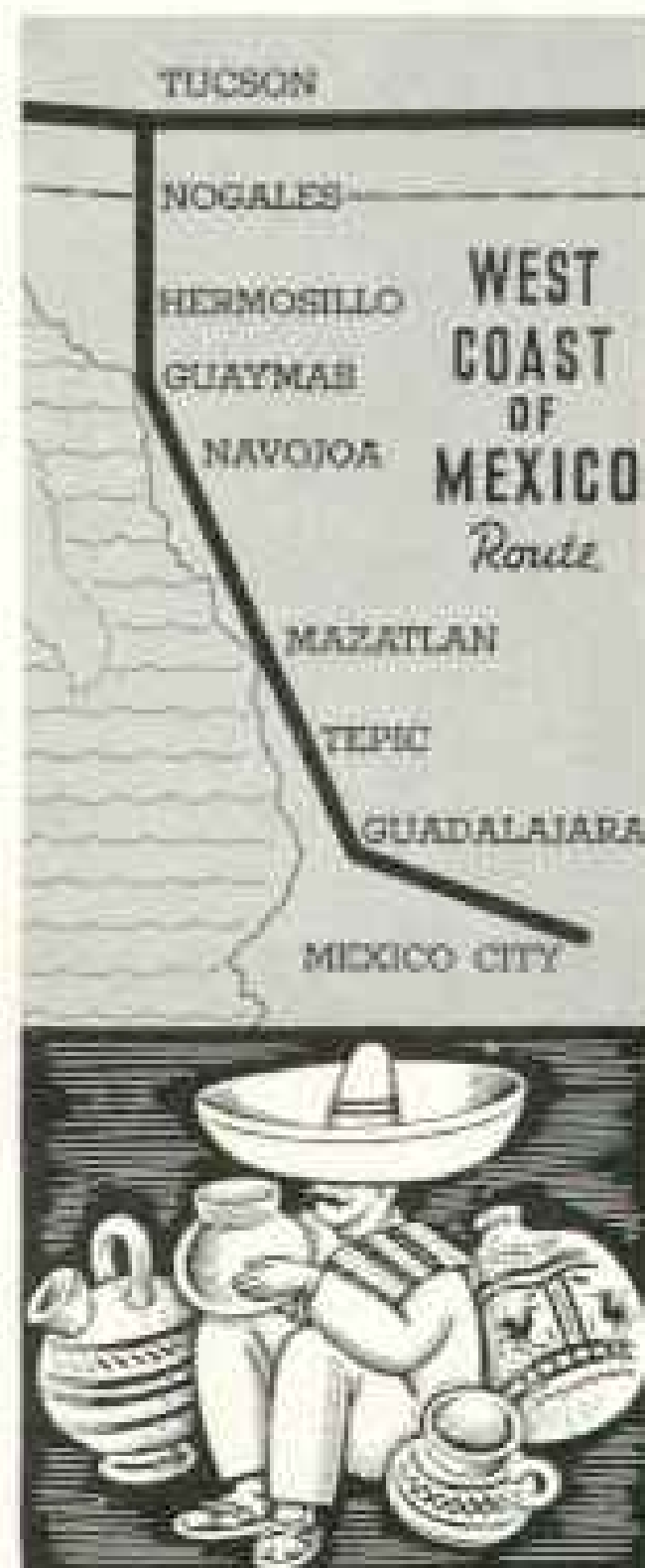
# MEXICO

The train stops. "Twenty minutes at Navojoa." You leave the car. Indians crowd around you, holding up beautiful *sarapes*. You see one you want. "How much?" you ask. "Twenty pesos", he says. You offer fifteen. He shrugs his shoulders. You walk away. He calls you back. The *sarape* is yours. "Gracias", he says. "Gracias", you reply.

You'll never tire of the colorful crowds that meet your train at every stop on the West Coast Route to Mexico City. No route gives you a better cross-section of Mexican life and scenery.

You start at Tucson (reached by our Sunset Limited and Golden State Limited from the East or West), or Los Angeles. A modern Pullman takes you straight through to Mexico City. Or you can use the West Coast Route to return from Mexico City. For details, see your railroad agent or write O. P. Bartlett, Dept. C-4, 310 So. Michigan Blvd., Chicago.

*NOTE: Rail and Pullman fares to Mexico are low and your dollar is worth more than three times as much there.*



## Southern Pacific



*"I saved \$300 on fuel"*

### "Iron Fireman heating also much cleaner,"

*... says Dr. Moore of Dixon, Illinois*

Dr. Moore saved \$300 in just one year by making a change in his home heating plant. He replaced another type of automatic heating with an Iron Fireman Automatic Coal Burner and cut his former annual fuel bill from \$378 to \$78.

"The saving of \$300 is not the only item of interest," writes Dr. Moore. "With Iron Fireman we had a more even and comfortable temperature, and a cleanliness that eliminated any necessity for interior decoration after the heating season."

Why don't you make a change in your heating plant? Why pay a premium for automatic heat, or plod along with the work of old-fashioned hand firing when an Iron Fireman can give you automatic heating luxury plus substantial savings in fuel bills?

Your dealer will gladly make a free fuel cost survey and give you the figures as they apply to your home. Ask for this service. The facts may surprise you. Iron Fireman Mfg. Co., Portland, Cleveland, Toronto.



Dr. A. F. Moore and the Moore residence at Dixon, Illinois, where Iron Fireman automatic heating costs 75 per cent. less. Iron Fireman burners are made in a range of sizes for residential warm air, hot water, steam or vapor heating plants, and for commercial boilers up to 250 h. p. They can be purchased on a convenient monthly payment plan.



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AUTOMATIC COAL BURNER



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FOR THE FIRST TIME  
AN ELECTRIC CLEANER  
WITH A . . .



# RADIO INTERFERENCE *Eliminator*

● The new Sentinel Model 925 Hoover has an unusual feature—known to the finest electric refrigerators and oil burners, but never before installed in a portable electric cleaner—a *radio interference eliminator*.

You can operate this de luxe Hoover and your radio at the same time, without the buzzing, crackling radio noises that ordinarily occur when an electric cleaner is in use. And the operation of your cleaner will not affect your neighbors' enjoyment of their radio.

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It LIGHTS . . .  
As it BEATS . . .  
As it SWEEPS . . .  
As it CLEANS





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Living cost is still low in the Santa Fe's cool Southwestern land. Transportation cost — major item in any travel budget — is the lowest in a generation. Briefly:

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**Helpful Savings.** These deep Santa Fe cuts mean much in financing a western vacation. For instance, they will cover a fascinating Indian-detour in northern New Mexico; or a Grand Canyon stopover — frequently both together. They will pay for extra days, often a full week, in the Colorado mountains; at a dude ranch; or in California. You may ship your car along, at the lowest cost in history.

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Thirteen days from coast-to-coast, and thirteen happy days for you when you sail on a modern, luxurious Panama Pacific liner—one of the famous "Big Three"—S. S. Virginia, S. S. Pennsylvania, S. S. California.

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You are your canary's dentist. He looks to you to give him the "teeth" he needs to grind his food and help digestion.

French's Bird Gravel furnishes "teeth" that are hard and sharp—like your own. It is uniformly screened and free of the harmful "chalky" dust in ordinary, soft gravel. Washed and sterilized for healthful purity.

French's Bird Seed and Discuit provide the perfect diet—French's Bird Gravel supplies the "teeth" to aid digestion.

## French's Bird Gravel

**GIVE A CANARY FOR COMPANIONSHIP**



## UP IN AN HOUR Up in the Woods

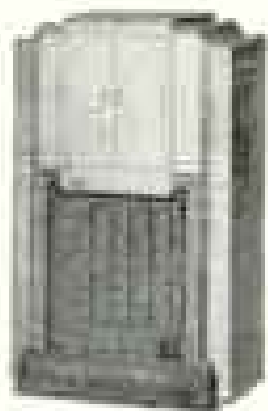
YES, an hour or so finds your Hodgson Camp House standing complete in the forest primeval! For we ship it in sections. Just bolt it together. And it stays together. Water-proof, wind-proof, made of red cedar. Nothing like it for roughing-it de luxe—or for overflow quarters on a country estate. 1, 2, 3 or more rooms, with or without outside porch. The cost? As low as \$150. See them indoors at our New York or Boston displays. Outdoors at S. Sudbury, Mass., near Wayside Inn. Or write for Catalog CHB-4. E. F. Hodgson Co., 1108 Commonwealth Avenue, Boston, Mass., or 730 Fifth Avenue, New York City.

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GLOBE-TROTTING  
AT HOME  
with a



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**SCOTT** ALL-WAVE  
FIFTEEN



Scott's exclusive sensitive Ferritron beamers with scientifically selected quality in a wide range of choice.

HEAR, in the quiet comfort of your own home, Spanish tangos, German symphonies, Italian opera, the rhythm of London dance bands, or the wild laugh of the Australian Kookaburra... direct from their homelands. It's easy... and positive... with this truly modern radio that guarantees daily world-wide short-wave reception from 10,000 miles or more in addition to vastly superior performance on the regular broadcast wave bands. Recent developments by Scott engineers give lower coil level for better distant reception, and gloriously natural, even richer and truer, tone... a thrill that will never lose its excitement. To keep in aural touch with all the world you must have this radio that for years has given its owners command of everything that's on the air between 13 and 330 meters.

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Send me complete information about the SCOTT  
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See your travel or railroad ticket agent  
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That's the question asked by everyone who has achieved a measure of the good things of life. Send for our booklet, which gives the answer briefly and simply.

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LIFE INSURANCE COMPANY  
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INQUIRY BUREAU  
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Street and No.....  
City..... State.....  
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HAT YOUR FAITH MAY BE JUSTIFIED

ROCK-AGES MEMORIALS ARE PERMANENTLY HALL-MARKED WITH A TINY SEAL. THIS YOU ARE ASSURED THAT YOUR TRIBUTE, FASHIONED IN IMPERISHABLE GRANITE BY SKILLED CRAFTSMEN AND EXCLUSIVE PROCESSES, IS A SYMBOL OF REMEMBRANCE THAT WILL ENDURE FOREVER.

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# ROCK OF AGES

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Where can you find such cool summer beauty as in New Hampshire? Dive into her crystal-clear lakes and dry yourself in the pleasant sun. Hundreds of mountain and wooded trails will charm you. Whether you wish a gay, care-free vacation, or a restful one, New Hampshire offers the ideal background. Those who seek easy relaxation might well try living in or visiting New Hampshire.

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*the daily pageant*

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### To the Policy-holders and the Public:—

The service of a life insurance company is measured, largely, by its returns to policy-holders and beneficiaries. By this standard the New York Life accomplished more in 1933 than in any other year since it began business in 1845.

In this year of stress, in addition to making many policy loans, the Company paid the enormous sum of \$255,977,483 to policy-holders, beneficiaries, and annuitants.

It closed the year with Assets amounting to \$2,010,943,112, the largest in its history, valued as prescribed by the National Convention of Insurance Commissioners. The Company's total Liabilities were \$1,896,651,321.

Its surplus funds reserved for general contingencies amounted to \$114,291,791.

In the interest of conservatism, the Company voluntarily set up in its liabilities two special contingency reserves as follows: \$21,014,507, which is the difference between December 31, 1933 market quotations and the values carried in Assets of stocks, and of bonds in default, bonds of companies in receivership, and bonds which for any reason are not carried in Assets at amortized value; and \$7,500,000 for deferred mortgage interest collections, which are larger than normal due to the general economic situation.

The Company also set aside a reserve of \$48,038,244 for apportionment of dividends during 1934, a sum sufficient to provide the same regular annual dividend on each individual policy as was paid in 1933, except on term insurance policies.

Of special interest was the increased demand for annuities. Many men and women, desiring to secure a fixed income for life and relief from investment worries, placed their capital in annuities providing a guaranteed life income. The total so invested was \$20,662,386, a larger amount than in any other single year.

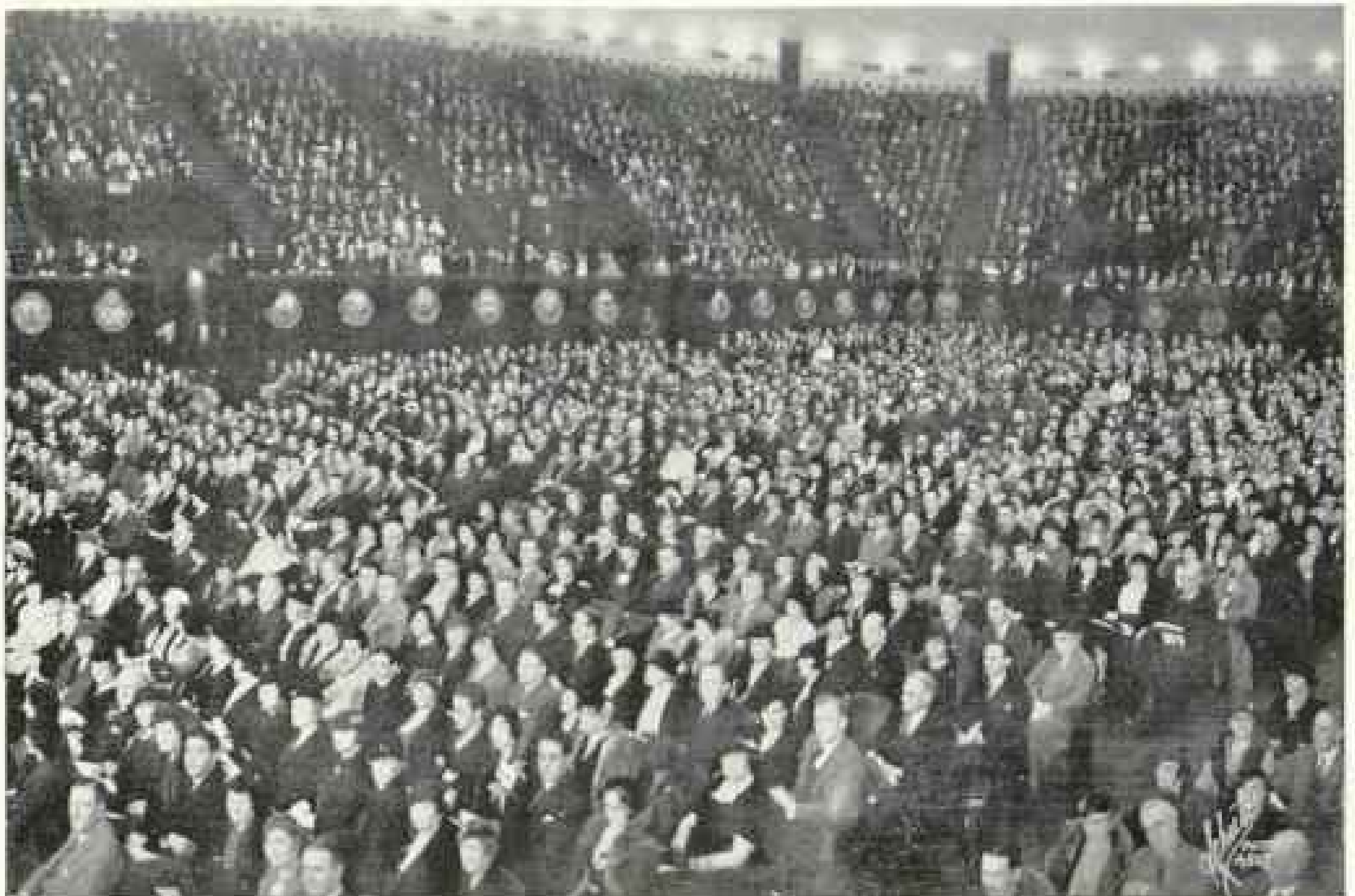
The total insurance in force represented by 2,672,876 policies was \$6,869,268,269. The total new paid for insurance was \$378,669,800.

The following table shows the diversification of the Company's Assets as reported to the Insurance Department of the State of New York and valued as stated above:

		Per Cent
Cash on Hand or in Bank . . . . .	\$30,943,412.43	1.54
United States Gov't. Bonds . . . . .	98,164,386.21	4.88
State, County, Municipal Bonds . . . . .	154,913,244.26	7.70
Public Utility Bonds . . . . .	154,483,453.00	7.68
Industrial and Other Bonds . . . . .	18,598,126.14	.93
Railroad Bonds . . . . .	360,293,658.42	17.92
Canadian Bonds . . . . .	39,957,188.69	1.99
Foreign Bonds . . . . .	2,064,448.32	.10
Preferred and Guaranteed Stocks . . . . .	67,923,705.64	3.38
Real Estate (Including Home Office) . . . . .	72,477,359.29	3.60
First Mortgages, City Properties . . . . .	495,297,998.40	24.63
First Mortgages, Farms . . . . .	17,353,431.95	.86
Policy Loans . . . . .	413,873,648.41	20.58
Interest & Rents Due & Accrued . . . . .	41,269,429.08	2.05
Other Assets . . . . .	43,329,621.78	2.16
<b>TOTAL ASSETS . . . . .</b>	<b>\$2,010,943,112.02</b>	<b>100%</b>

Further information about the Company will be furnished upon request to its Home Office at 51 Madison Avenue, New York, or to any of its Branch Offices throughout the United States and Canada.

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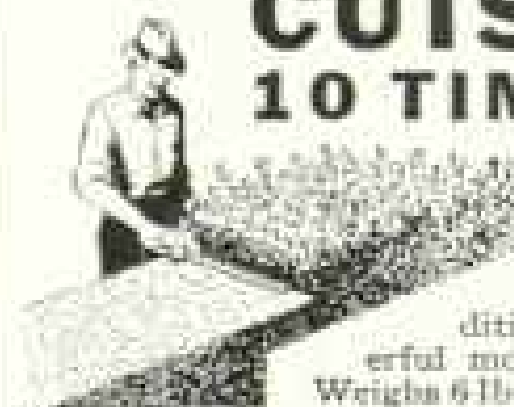
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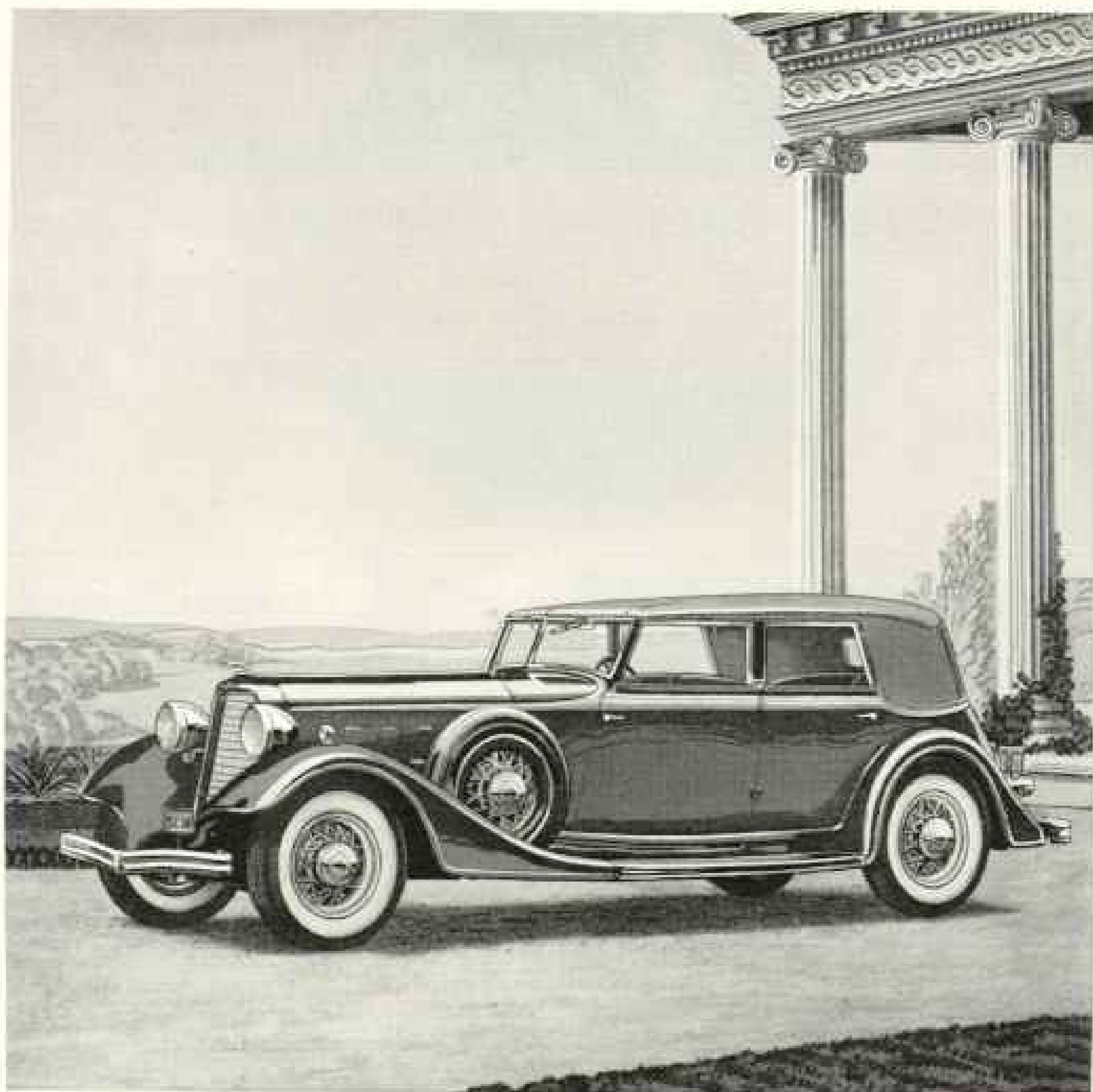
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