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MAGYAR MIRTH AND MELANCHOLY

By JOHN PATRIC

AUTHOR OF "FRIENDLY JOURNALS IN JAPAN" AND "IMPERIAL ROME RESIDEN," IN THE NATIONAL GEOGRAPHIC MAGAZINE

PROUD Magyar banners drooped, disconsolate, outside the windows of Budapest's Royal Palace, at half-staff after 20 years for four "lost provinces" where, patriotic Hungarians say, "four foreign flags are flying."

Nicholas Horthy, Regent of Hungary, spoke sadly to me: "This was Europe's greatest nation some 800 years ago," he said. "Even in 1914 we had everything: lands and men and minerals, timber, wealth, seaports, and ships. Look at us today!"

"Yet still I'm glad to be Hungarian. Our poorest, humblest peasant would rather lose an arm than break a promise. Our wheat may go to America, our musicians to Poland, our chess players, even, to France, and win against the best.

"In Berlin an international contest sought the world's best cook," he added.

"Who won?" I asked.

"My cook!"

"RESURRECTION" IS NATIONAL DREAM

It was Nicholas Horthy, fleetless admiral, who marched troops into Budapest 19 years ago after the overthrow of Bela Kun's bloody four-month communistic dictatorship.

Hungarians acclaimed him Regent, to uphold a Constitution more than seven centuries old, and to rule a kingless kingdom where St. Stephen's sacred crown is the revered, thousand-year-old emblem of limited monarchy (pages 3, 4, and Plate VI).

Children begin each school day as they end it: singing plaintive prayers for a restored Fatherland they were born too late to know. Metal plaques—Hungary crowned with thorns—are tacked to thousands of

doors. A lever on a popular, ingenious postcard tears from a map of old Hungary, as the Treaty of Trianon did, nearly three-fourths of her territory.

A clipped hedge map in a Budapest park is the Nation "then and now." The same motif appears on cakes in bakers' windows, in a dozen children's games, in every bus and streetcar. "Remain as it is?" reads the caption. "No. No. Never!"

This subject completely dominates Hungarian life and thought. Its implications must be understood, or Hungary cannot be.

November in Budapest* was dark and damp. When north winds raced down-river, gentlemen buttoned full fur linings into overcoats and ladies tucked soft fingers into muffs that were purses, too.

Teamsters walked beside their horses. Peasant women transferred shawls from shoulders to their heads.

Chestnut vendors, edging closer to charcoal fire kettles, sold more hot wedges of roast pumpkin. The Danube fell, inches daily, between masonry-protected banks; soon towboat funnels could have cleared its unopenable bridges without being "broken" like shotgun barrels.

Sometimes fog rolled down the valley, stayed twice the clock around, and halted river barges. There came sleet and sanded streets. On a few days, short, bright, and cold, Buda's crescent of hills seemed in the clear air to draw nearer and huddle around Pest's warm chimneys, like Hungarian plainsmen about their autumn fires.

* See in THE NATIONAL GEOGRAPHIC MAGAZINE for June, 1932, "Budapest, Twin City of the Danube," by J. R. Hildebrand, and "Hungary, a Kingdom Without a King," by Elizabeth P. Jacobi.

I remember just one moonlit midnight when skies were blue as a Colorado summer dawn. From the high old Citadel, built to defend Buda from attack on the side facing its sister city, I watched Pest's lights spreading so far over its alluvial expanse that upon the horizon they faded as stars do—into invisibility.

At two-thirty the next afternoon a wan sun dropped wearily behind the precipitous limestone hill whence St. Gellért, whose name it bears, was thrown to martyrdom and immortality.

"SANTA" COMES DECEMBER 6

A dim daylight hour remained: I walked first beside the river, then along *Váci utca*, Budapest's smartest street. There, as in China, bargains reward good bargainers. Already, in confectioners' windows, symbolic candy boots shone red and tinselled. On December 6, not Christmas, comes Santa Claus—Hungary calls him Mikulás—as children's empty footwear waits on window sills. Knee boots are fashionable!

Snowflakes were falling as I passed a gas lamp lighter. A traffic policeman's little girl brought his hooded white mackintosh; he looked monkish in it. Surprised starlings, roosting in streetside trees, twittered and shook themselves.

Crossing Elizabeth Bridge, I walked again along the river. Against dark, slow-moving water a string of moored barges shone ghostly white. Yellow fingers of lamplight reached out from little windows of snug after-cabins.

That night I went to a movie theater—small, like most in Hungary, with every place "reserved." Prices climbed in a dozen steps from eight cents for front rows to fifty for choice balcony seats. Long intermissions were frequent. Then patrons strolled in the foyer until a bell recalled them, or remained seated to watch jerkily animated advertising cartoons.

"Go away!" wheezed a bent old man, in one of these cartoons, to a beauty. After gulping quarts of the advertised tonic urged on him by cronies, the same man, alert and vigorous, kissed her and winked at us.

Hawkers peddled chocolate or salty, foot-wide pretzels, leaving thirst behind. Then came angels of mercy, vending unflavored soda water.

When air in the crowded theater became stale, an usher "freshened" it. Blowing pungent perfume from a hissing fly spray

gun, he stalked the darkened aisles, a tall, gray specter enshrouded in a mist.

"Ventilation wastes heat," seems axiomatic in Hungary. Fuel is costly. The perfume was cheap.

Because I alone laughed at an American joke, another American in the audience, long resident in Hungary, knew a countryman was there. After the show he greeted me. Together we walked to a restaurant.

Gypsy music runs to extremes, sad or gay. Here it rippled a joyful love song from two violins and a dulcimer-like instrument the size and shape of a small library table. With two firm cloth balls on drumsticks, one brown man tapped harplike music from a hundred or so horizontal strings.

"That's a *czimbalom*," my companion explained, "popular with gypsies."

Gypsy musicians, in this warm-hearted land where quick infatuations are not unknown, sometimes make strangers acquainted. We saw an example.

A young Magyar, sitting alone, beckoned a violinist and slipped a coin into his hand. The gypsy musician moved quietly among the tables. Where a girl sat reading, he paused to play a haunting air of sweet melancholy.

"It's a well-known song," explained my companion, "about someone so inaccessible that only the yellow thrush can go to her."

The girl, pensive, heard the song to its end. Then she spoke to the gypsy. He threaded his way back again. Now he played more gaily, but softly still.

"I know that song, too," said my companion, as we were leaving. "I'll translate it, though it sounds better in Hungarian:

"Come when I call to you;
Your boot heels shall be silent,
Your spurs shall not jingle,
And mother will not waken."

A TYPOGRAPHICAL TRAGEDY

Here, as everywhere, love sometimes ends painfully. I had read the week before of a printer's apprentice found unconscious. He recovered after surgeons removed seven pieces of lead type from his stomach.

Jilted by his sweetheart, he had set her name, "Mancika," in type. Then he had swallowed the letters.

"Hungary likes Americans," said my countryman. "Budapest celebrates the Fourth of July with speeches beside Washington's statue in the park—did it even during the World War. Hungarians never



Photograph from Keystone

ONE SOLDIER'S EYES MUST ALWAYS FIX ON HUNGARY'S GOLDEN CROWN

Within a fireproof safe of the Royal Palace under perpetual guard rests the treasured royal emblem of kingless Hungary (page 4). The instant these wardens leave, three more will snap to attention in their places. In the corner, facing the safe, a guard stands rigid, "eyes left," every second he is on duty. He must never look away from the glass case in the strongbox where, after a thousand stormy years, his country's sacred crown awaits a wearer.

really looked upon us as an enemy nation."

We came to the massive door of a large old apartment house built of ornate artificial stone in halcyon days when Budapest was rich. My countryman pressed a button. Through open iron grillwork beside the door, a bell sounded faintly, far away. Soon an aged face peered at us through lantern light. Then heavy lock machinery moved ponderously.

ELEVATOR FARE HIGHER THAN CARFARE

My companion gave the doorman forty *fillér* (eight cents). "Residence buildings, even modern apartments, are locked at ten; no one has a latchkey," he explained. "Glorified janitors, usually richer than I, charge ten *fillér* 'admission fee' from then until

midnight. After twelve the price doubles.

"In this house, as in office buildings, elevator fare is ten *fillér*. Most people ride up and walk down, for the fee exceeds that of a short streetcar ride in Budapest. Here, elevator fare doubles after midnight. If my family of five returns late, it costs me thirty cents—as much as our servant's daily wage."

Next day I asked the captain of a towboat if I might ride to Mohács, down the Danube, at the southern frontier (map, page 7, and page 8).

Two evenings later I boarded the *Count Gyula*. Her navigator's bridge, facing fore and aft from amidships, extended well over her wide, protruding side wheels. From an airplane, she would resemble a



Photograph from Keystone

ON A VELVET CUSHION LIES A CROWN NO MAN WEARS

Though Hungary is a kingdom still, a regent guards the royal emblem and keeps his country's throne for some future monarch that nobody yet knows. It is in two parts. The inner shell was given to St. Stephen, first ruler of Hungary, by Pope Sylvester after the turn of the first Christian millennium, in 1001. The outer case was a later gift of a defeated Byzantine emperor, grateful for chivalrous Hungarian treatment of a captured town. The crown has been hidden often in troubled centuries. Once it was dropped from a jolting wagon and lost; another time it was buried. On one adventure the cross was bent, and it is so portrayed on the national flag (Plate VI).

far-off cigar between two penny matchboxes.

Far behind us five heavy-laden, snub-nosed barges, much larger than the tug, were secured by two heavy cables.

As Budapest lights grew dim astern, we moored for the night.

Aft, below water line, a coal stove warmed a dimly lighted, rudely furnished lounge. An officer's cabin adjoining it was mine for the voyage. It contained a hard straw mattress, a mirror, a washbowl, a pitcher of silty river water, and a lantern to be lighted when failing steam pressure, as fires were banked, stopped the little dynamo that provided electric lights.

Throbbing of old engines awakened me from cold sleep at dawn. Coffee-flavored milk, full of "skin," had long simmered in the galley. That morning it tasted good.

The *Count Gyula* swung her tow clear of our mooring place and into the current. Through the captain's glasses I saw the five barges' helmsmen, far astern, turning their wheels in unison to keep in the channel.

Their wives chopped wood, fed poultry, or hung washing as warmly clad children played on large decks.

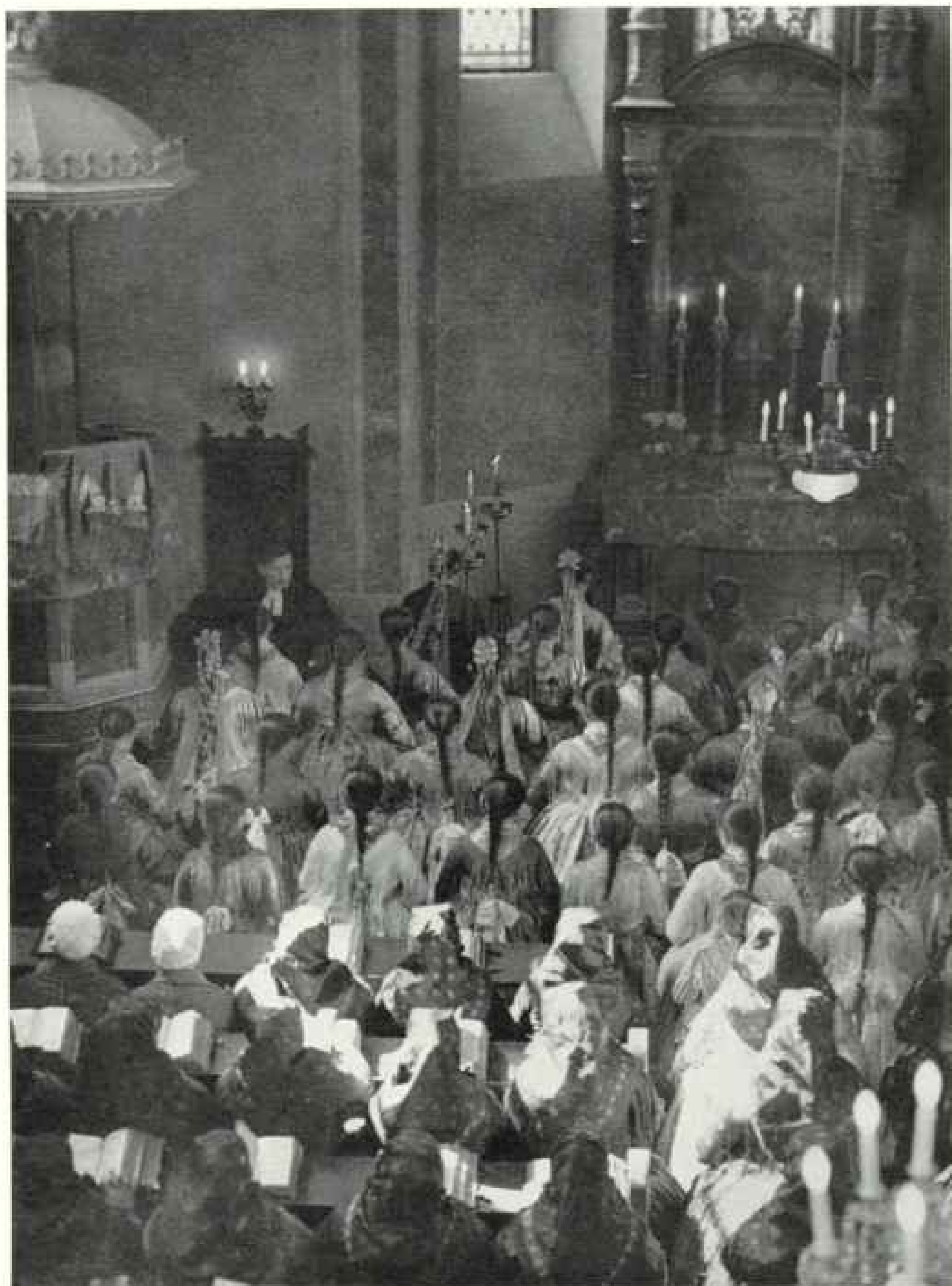
Channels and islands appeared on the pilot's charts. "Some are man-made," he explained. "Nature's shortcuts produced others."

Quiet estuaries stretched eastward. The captain traced the Greek letter Ω . "Perhaps Roman galleys used that old channel. Here's the new," he said, closing the Ω with a pencil mark. "It's like that all along the river, except in rugged country."

DIKES PROTECT FARMS

Danube farmers hereabouts dwell behind dikes built inland from forested, uninhabited river banks. We saw woodchoppers, passed crude ferries, and observed an occasional flour-dusty face peering from a Noah's ark-like mill, anchored in the river.

I visited our good-natured cook in her little galley overhanging the water just aft of port paddle wheels. A barefoot, mouse-



Photograph by Tibor Hegrey

DEVOTION CALLS FOR "FULL DRESS" IN THE VILLAGE CHURCH

For six days, in simpler garb, Hungarian women of the countryside spin, bake, churn, and work with their men in the fields. Sunday is for parade, as well as prayer and rest. Pridelul dressing takes hours, and the seven or eight cotton petticoats, starched and pleated, preclude sitting at Mass. The procession homeward after service is as much a rite as an American Easter Sunday parade (page 32).



Photograph by John Purke

ROOSEVELT'S "ANNIHILATING VICTORY," SO PROCLAIMED IN THIS HEADLINE, SCREENS TWO AT A BUDAPEST RESTAURANT TABLE

The proprietor has used shears and paste to write his own streamer on the copy of *Az Est* glued to the wall—"Unprecedented catastrophe," referring to a law requiring compulsory tips of 10 or 15 per cent of all cafe bills. A mural menu of this establishment, popular with artists and frugal film folk, not highly paid in Hungary so that they often must do other work, gives low prices for pancakes and jam, steaks, and omelets.



Drawn by Ralph E. McAleer

LESS THAN A THIRD OF OLD HUNGARY STILL FLIES THE MAGYAR FLAG

"Your United States is so young," remarked a Hungarian, whose nation dates its history from a thousand years ago when nomad horsemen from Asia unexpectedly found the mountain-rimmed Danube plains a "promised land." The post-war Treaty of Trianon gave a Germanic strip of western Hungary to Austria; Ruthenia and Slovakia, in the north, to new-born Czechoslovakia; Transylvania, and almost two million Magyars, to Rumania; and southern Hungary to Yugoslavia. The rich agricultural core of the ancient kingdom still is Hungarian, though more than three million people of that race now live beyond its borders.

like scullery maid rolled noodles, tossing one occasionally to two soiled pet hens.

PUMPKINS, PAPRIKA, AND POPPY SEEDS

Cook showed me her storeroom. Pumpkins, potatoes, and cabbages were staples. Slightly wrinkled grapes hung on a wire (page 14). There were bins of poppy seeds and ground paprika, a barrel of apples, a big sack of walnuts, racks of sausages, hams, and fat bacon.

A hundred shiny jars held her own preserved cherries, peaches, apricots, pickles, and pickled peppers.

For the first time on shipboard, I was to dine at the captain's table. A fresh cloth was spread in the lounge and soon the scullery maid—waitress now—appeared in shoes and clean apron.

She brought a steaming tureen of chicken noodle soup for the captain, chief engineer, and me. Next course was "stuffed cabbage"—bits of boiled beef wrapped in hot sauerkraut—and then chicken stewed with paprika.

Smoking noodles appeared next.

"Epicures—like me—eat them *so*," said the captain, sprinkling his helping liberally with powdered sugar, spices, and finely chopped walnuts.

"Men like them this way," said the engineer, shoveling grated sour cheese over his.

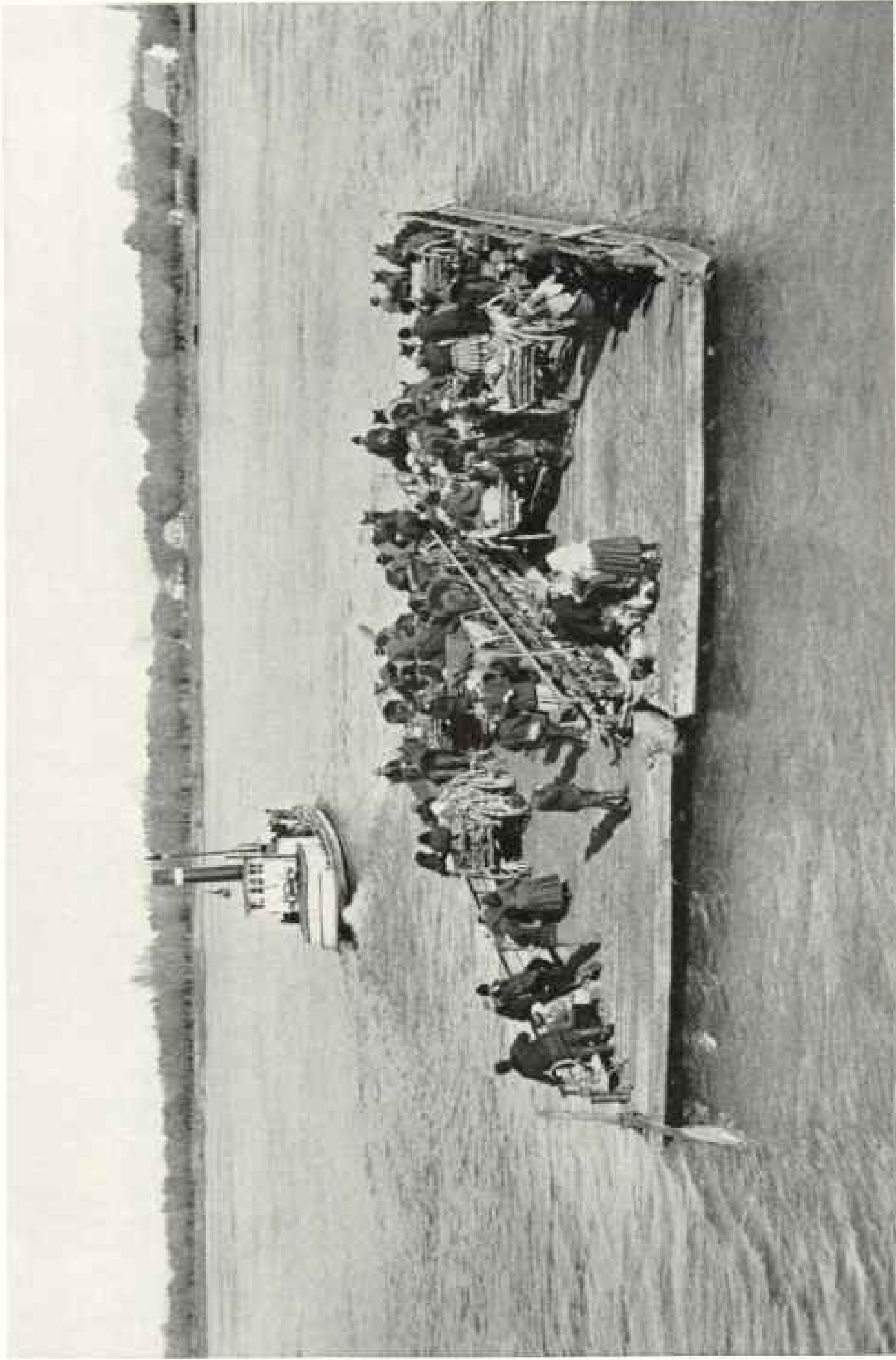
"He's a country boy; never learned good eating," grinned the captain.

"He's a sissy," said the engineer, grinning, too.

Captain and I had *palacsinta* for dessert. Thin, warm pancakes in rolls like Mexican tortillas are filled with hot apricot jam. The engineer ate four green, sour, pickled peppers.

Fog halted us that afternoon. The captain found quiet water and shouted megaphone commands to bargemen who dropped four-pronged mudhooks. Our sooty stokers banked their fires and smoked on deck in the lee of the warm stack. Another short day was over.

Two afternoons later the *Count Gyula*, hugging the river bank opposite Mohács,



Photograph by John Patric

HOMeward FROM MARKET AT MOHÁCS, FARMERS FERRY THE DANUBE ON CARRY-ALL BARGES TOWED BY A TUG

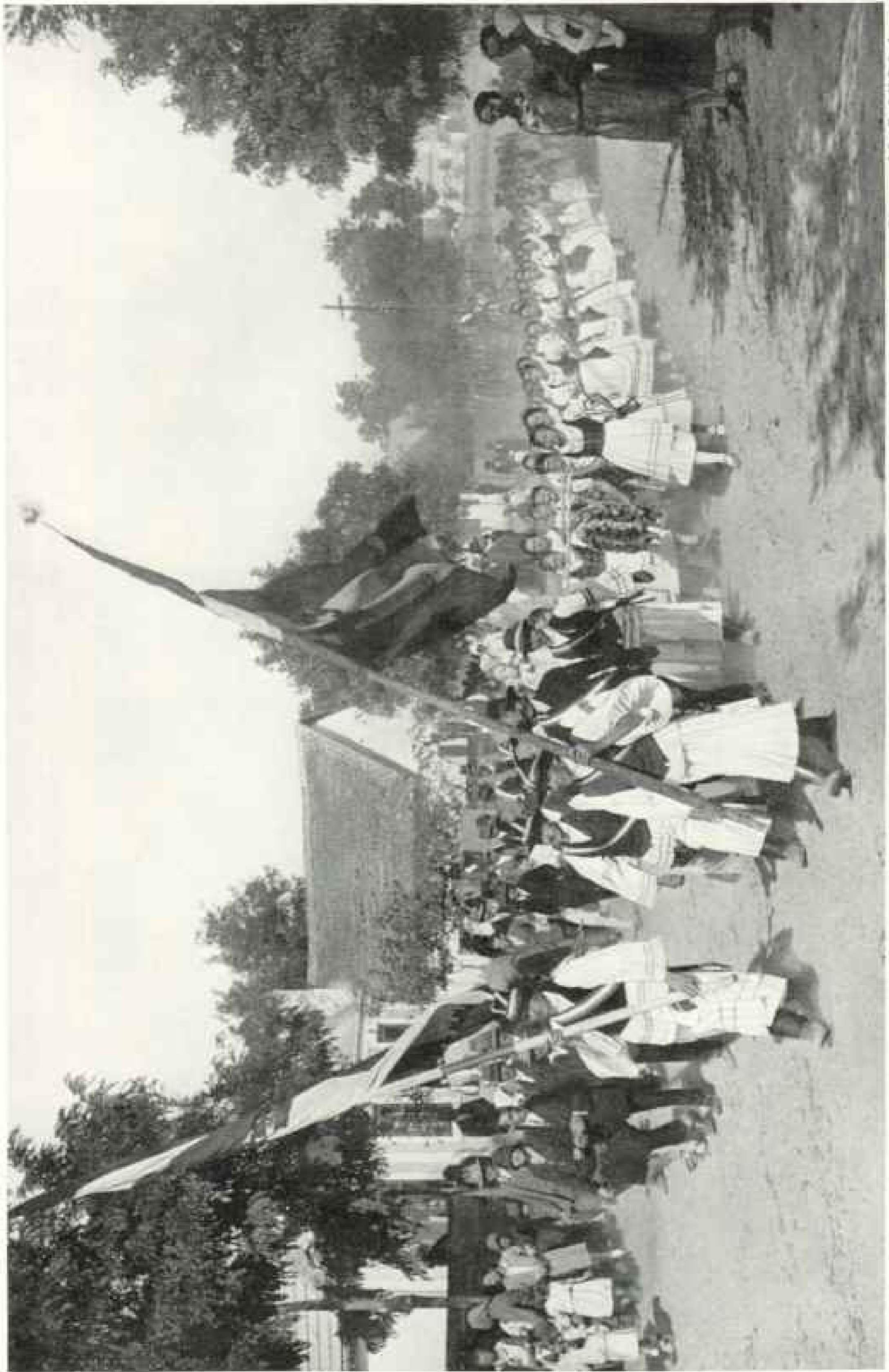
Booted, brightly dressed peasants cross with poultry and produce to sell in this river port, used by ships of many nations, at Hungary's southern frontier. Far from salt water, the town has aspects of an international seaport. Death came here, in 1526, to 24,000 fierce fighters as advancing Ottoman armies, 150,000 campaign-hardened men, defeated 28,000 desperate defenders at this Magyar Waterloo. Thereafter the Turks dominated Hungary for eight generations. In 1697 they lost the battle of Zenta (now Senta, Yugoslavia), east of Mohács, then left Hungary, never to return.



Photograph by Rudolf Hubogh

TO HONOR HUNGARY'S GREAT COMPOSER, REGENT HORTHY, ACCOMPANIED BY HIS WIFE, ATTENDS THE OPERA

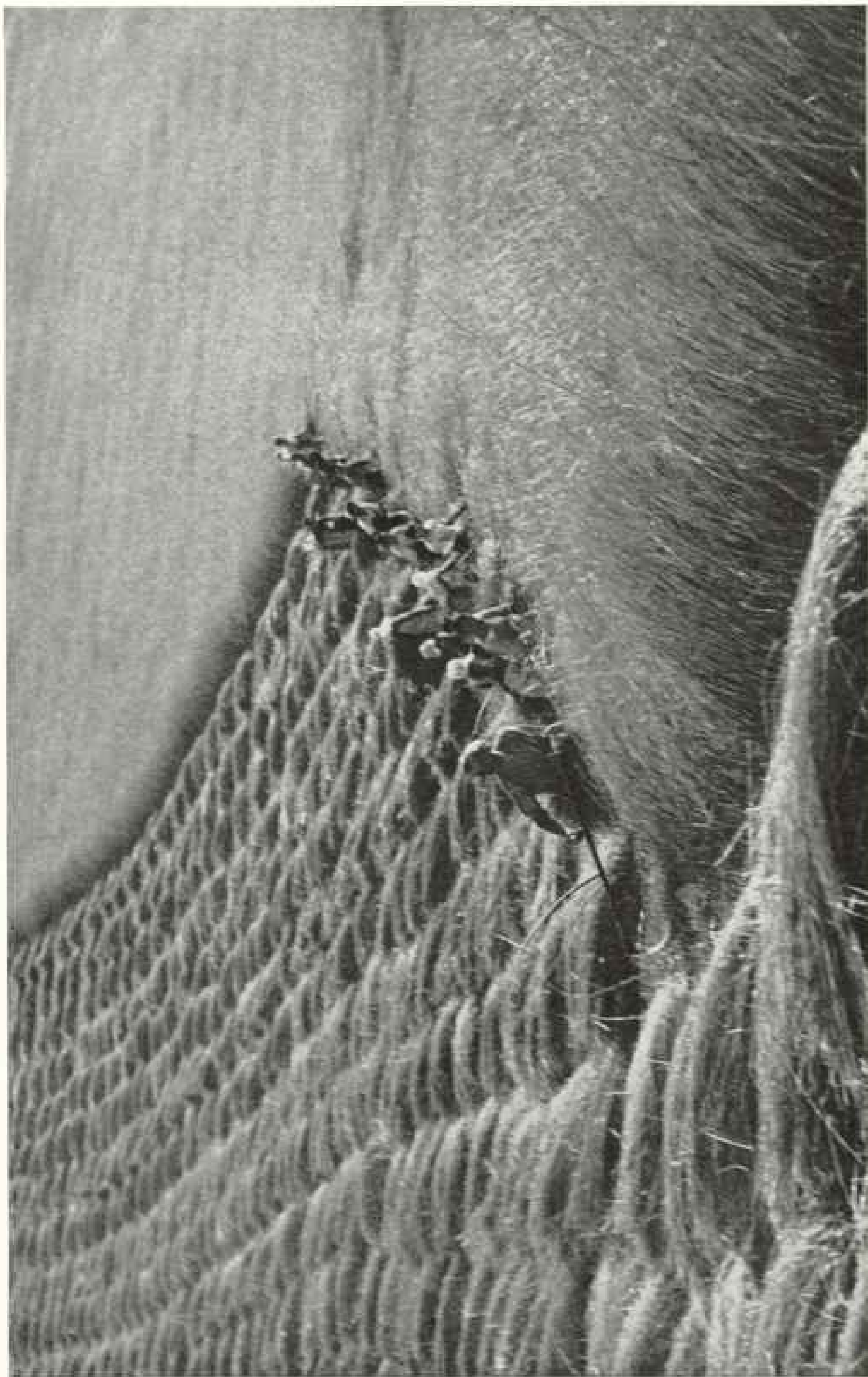
In the high-arched royal box, amid ghosts of a broken line of monarchs whose ancient throne of Hungary, a kingdom without a king. The "who's who" of the capital attended this performance in memory of Franz Liszt, at the Royal Opera House in Budapest.



Photograph by Rudolf Jastigh

TO A TAVERN IN THE TOWN GO GRAPES AND GIRLS AND MEN IN SKIRTS

At Dunaszentgyörgy, or "St. George-on-the-Danube," Hungarian farmers and townsfolk follow their national flag to the inn to dance and drink new wine. Grapes often hang from the ceiling at vintage feasts. Celebrants who "steal" them are fined by a mock judge; the proceeds pay for the indispensable gypsy music.



Photograph by Erno Vadas

LIKE A GUST OF WIND SWEEP HARVESTERS ACROSS A SEA OF WHEAT

Whole families work at harvest time on the large estates; for centuries their payment has been part of the crop. Mowing machines on big farms are "discouraged, not forbidden," until the traditional man with the scythe finds other work to do. Yet enormous areas are often plowed with the aid of two steam traction engines, creeping slowly forward in tandem, perhaps half a mile apart at opposite ends of the field. They drag a gang plow on a cable back and forth between them.



Photograph by John Parde

JUVENILE CHRISTMAS MINSTRELS TRAMP SNOWY ROADS OF HILLY NORTHERN HUNGARY

Rudolf Balogh excavates a camera from cluttered *Tofoliao* to photograph a troupe of boys, carrying staves and a miniature church, and dressed as Wise Men, prophets, and shepherds. From house to house they go, giving simple, plotless plays and singing carols. Gifts of food, rarely coins, reward them. "Old men" are bearded with raveled rope; little girls, often playing cherubim, wear goose wings. Though this country is intensively cultivated, no houses are visible here; farmers live in villages.



Photograph by Rudolf J. Brough

TRAINLOADS OF BEETROOT YIELD TONS OF SUGAR, MOTOR FUEL, CATTLE FEED, AND FERTILIZER

Sugar beets, unloading at Hatvan, are sliced and steeped in hot water. Beet juice, mixed with carbon dioxide gas and lime, then filtered and evaporated, is crystallized into sugar. From residual molasses, alcohol is manufactured; to mix with motor gasoline. Beet pulp is fed to cattle, and filter dregs to overworked land.



Photograph by Rudolf Balogh

TO A COOL, DARK STOREROOM GO GRAPES FOR WINTER TABLES

Choice fruit, borne from the vineyard by pole and basket, is fresh long after Christmas, only a little wrinkled, in the moist climate of the Danube Valley. In Érsekcsanak boys sometimes wear dresses. On each girl's head a soft, doughnut-shaped *tekerca* eases burden balancing (page 55).

swung suddenly into midstream. Her barge pilots spun their wheels and with surprising grace both tug and tow turned about in the river and came to rest beside the old town.

In near-by Pécs I was shown about the sprawling Zsolnay ceramics plant by its founder's grandson. It makes sewer pipe and teacups, giant insulators and fragile china dolls.

"You're growing fast," I said, noting recent construction.

"No credit to us. Tariffs block competitors—they're in the lost provinces."

CERAMICS DESIGNS COPIED FROM "THE GEOGRAPHIC"

We watched an artist painting deep-sea fish on half-glazed vases from color plates in THE NATIONAL GEOGRAPHIC MAGAZINE.

"Mother lends them to us. She's past 90, and still keeps up with the world." We had coffee with her at her park-encircled home within protecting factory walls.

Twenty butterflies pressed bright wings gently against the glass bottom of our green coffee tray as if, resting momentarily on broad June leaves, they might flutter into the room and lose themselves among unfading ceramics of other lands and times.

"It seems a pity to kill them," I said.

My hostess laughed.

"Look closely," she said. "Those wings were iris petals: these, a tiger lily's, dusted with pollen. Purple spots were violets. Feelers I made from stamens and pistils. Bodies, too, are lily stamens. I'm too old to chase butterflies."

With a commercial banker, recently returned from a Rotary convention in New Jersey, I visited a coffeehouse.

Although coffeehouses are as popular in Central Europe now as in Dr. Johnson's England, I never saw a Hungarian workman patronize one. Coffee twice a day there would cost a third of his wages. Yet they are almost clubs to officers, country



Photograph by Rudolf Balogh

A STRAW FIRE SAVES COSTLY MATCHES WHEN HORSEBOYS ALIGHT FOR A SMOKE

Hard-riding herdsmen, spurning saddle girths and pummels, have come to fresh grass on the fenceless Hortobágy, part of the great Hungarian plain. Here the town of Debrecen owns a vast area that provides municipal revenue from grazing fees. When an owner arrives to take them to winter stalls, his unbranded animals are picked unerringly from the herd, because horseboys recognize their equine wards as other men know human friends. Flat, plumed hats, curled mustaches, braided quirts, and embroidered greatcoats are the trappings of an ancient calling that passes, like nobility, from father to son (Color Plate II).

gentlemen, politicians, and business men.

We swung past three sets of doors, then pushed aside a semicircular curtain of heavy red blanket cloth. It overlapped three feet and dragged the floor like a train. Windows were double and weather-proofed.

Thus no chill breath of winter mixed itself with bluish air of the large room where human bodies and burning tobacco shared the heating task with a tiny airtight stove, efficiently placed many warm pipe-lengths from its chimney.

A hundred newspapers in holders hung on a rack. Boys learn patrons' favorites and bring them to the little tables.

Perhaps for convenience of coffeehouse reading, Hungarian papers are tabloid in size, and actual circulations are much larger than the number of copies printed. Yet a good issue of an American small-town daily contains more advertising than the largest Budapest papers combined.

"Fellow Rotarians here," said the banker, "think hard-working American business men must be money mad. Most Americans work hard, I explained to them, for what money *brings*—everything that makes life so rich and varied in your country.

"Here they won't believe that, though your gangsters and G-men are well known." He chuckled. "A bearded Pécs restaurateur once ordered a portrait and refused it, on completion, as 'unrecognizable.'

"It drew laughing crowds when the annoyed artist displayed it, in a store window, labeled 'Capone in Disguise.'

"Everyone knew of Capone, and from his beard recognized the now furious restaurant man, who paid immediately."

Late that afternoon I left Pécs by train. "First call" filled the diner with men who ate leisurely, smoked, and talked until, two hours later, we reached Budapest.

"It's the coffeehouse tradition on wheels," remarked my tablemate.

TAXIS LACK SELF-STARTERS

The next Sunday an Englishwoman invited me to meet "a prima donna, past 80, once Liszt's pupil."

A cab driver in padded overcoat graciously bowed us into his taxi. Fare was 20 cents for our first mile, 12 cents for the next.

"Must *all* Budapest taxis still be cranked?" my companion asked.

"I kiss your hand; yes, madam," he re-

plied. I noted in two months only three cabs with self-starters.

We climbed a long stair, traversed dark corridors, and rapped beneath a placard: "Carlotta Feliciano, Singing Lessons."

A little old lady let us in. She wore an ornate dress of dull-green velvet and tarnished gold braid, snug-waisted, wide of skirt. The dress itself was faded; strangely, the sleeves were not.

She sang "The Last Rose of Summer," in Hungarian, playing it on an oaken piano. In this so-much-lived-in little room it was like a burnished golden throne in a cobbler's shop.

Clippings in scrapbooks told Carlotta's story—her debut, her marriage, her studies with Hungary's great composer. "Once I praised Wagner to Franz Liszt," she said, "forgetting they weren't friends. Maestro threw my music on the floor and stomped out. I was afraid of him after that."

A DRESS WITH A HISTORY

From opera programs—some on silk—we could follow Carlotta, singing her way in splendor across Europe. There were royal photographs, signed, and masculine handwriting on fine note paper, still white.

"Mash notes? I liked them anyway. This was from a Hussar. He sent me 36 white roses after I sang in 'The Barber of Seville.' I let him see me, wearing the dress I am wearing now."

"*That* dress?" I asked, incredulously.

"I've worn made-over costumes for years. This is the last. Long ago I cut off the train and saved it to make new sleeves. Those pillows and rag rugs were costumes once."

As we were leaving, Carlotta showed us a large, stained old photograph of two pretty women with a tall, vaguely familiar young man, riding camels by the Pyramids.

"That's Tom Lipton, a countess I knew, and me," said Carlotta. "Tom liked her—"

"You mean Sir Thomas Lipton?" I asked, recalling the trim old yachtsman who had spent so liberally and fruitlessly to regain for Britain the America's Cup.

"Yes. He hadn't been knighted, but he was a millionaire, in *pounds*, even then. Yet he was thrifty. When I told him about the countess's birthday he gave her two flowers."

"Orchids?"

"Two big daisies. He picked them himself," she said, laughing, as we left her.

RURAL HUNGARIAN RHAPSODY



© National Geographic Society

Agfacolor Photograph by Rudolf Balogh

BRIDESMAIDS "DANCE THE DOWRY" FOR ALL THE TOWN TO SEE

Tripping down village lanes, friends of a bride display her hope chest treasures. Even the poorer country girls present their husbands with fluffy, handworked pillows and down-stuffed feather beds, to be proudly piled in the parlor and seldom used. The Kalocsa country of Hungary excels in flowered embroidery, like these jackets, aprons, and clocked stockings. On holidays, as a matter of course, color-loving Magyars still wear folk dress.



© National Geographic Society

Autophrase Lumière by Hans Hildenbrand

GREATCOATS ARE HEAVY; SADDLES ARE LIGHT

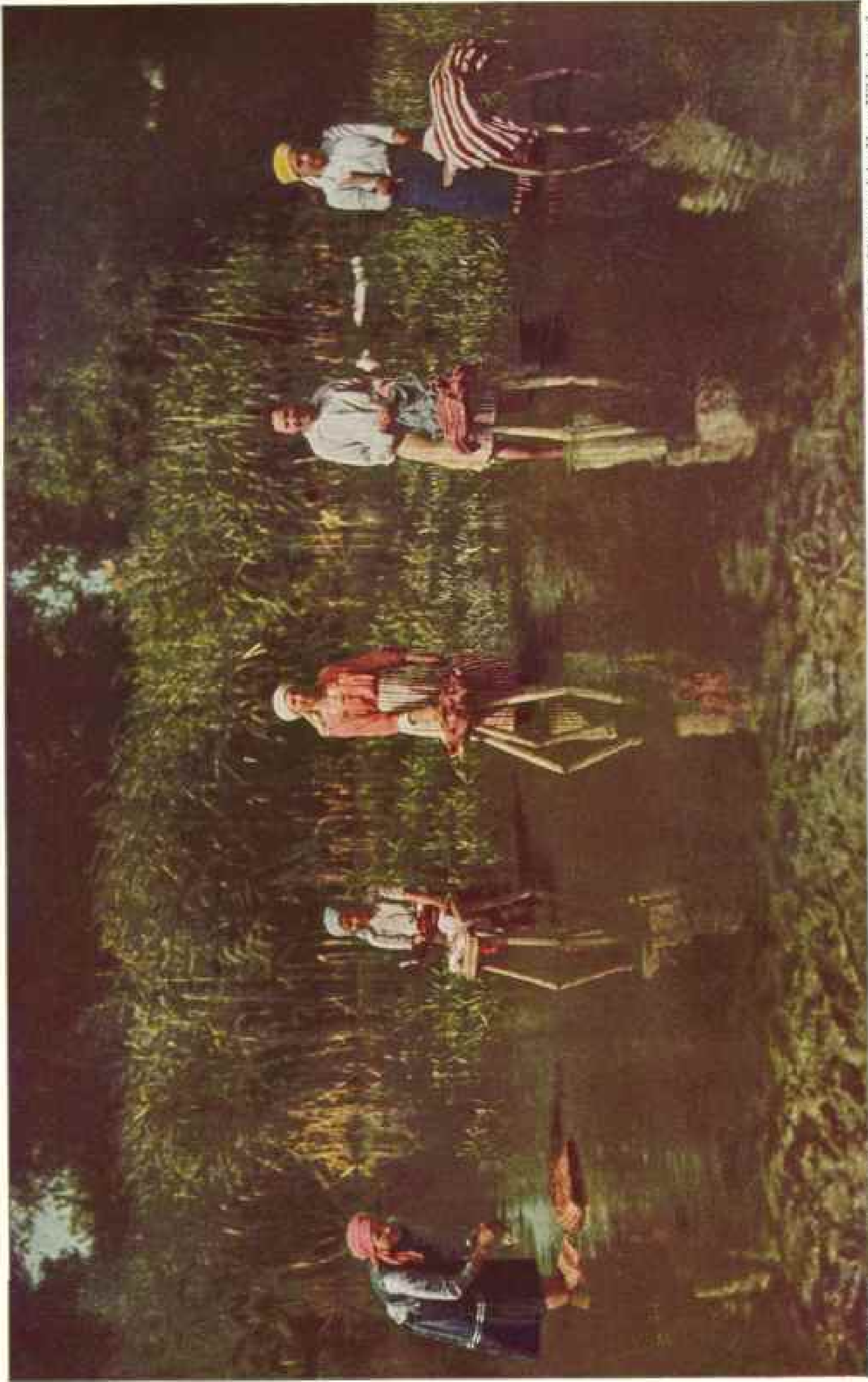
Hard-riding, mustached, this herdsman, Magyar counterpart of an American cowboy, watches horses, not cattle, on the Hungarian plain. His girthing saddle, a woven rug with stirrups, is thrown loosely over his mount.



Autophrase Lumière by Hans Hildenbrand

YOUTH AND MATERNITY TRAMP THE ROMANY ROAD

Some gypsies travel as tinkers in summer; others beg and forage; many, in gay cafes, provide gypsy melodies. Liszt credits them with the origin of Hungary's distinctive music.

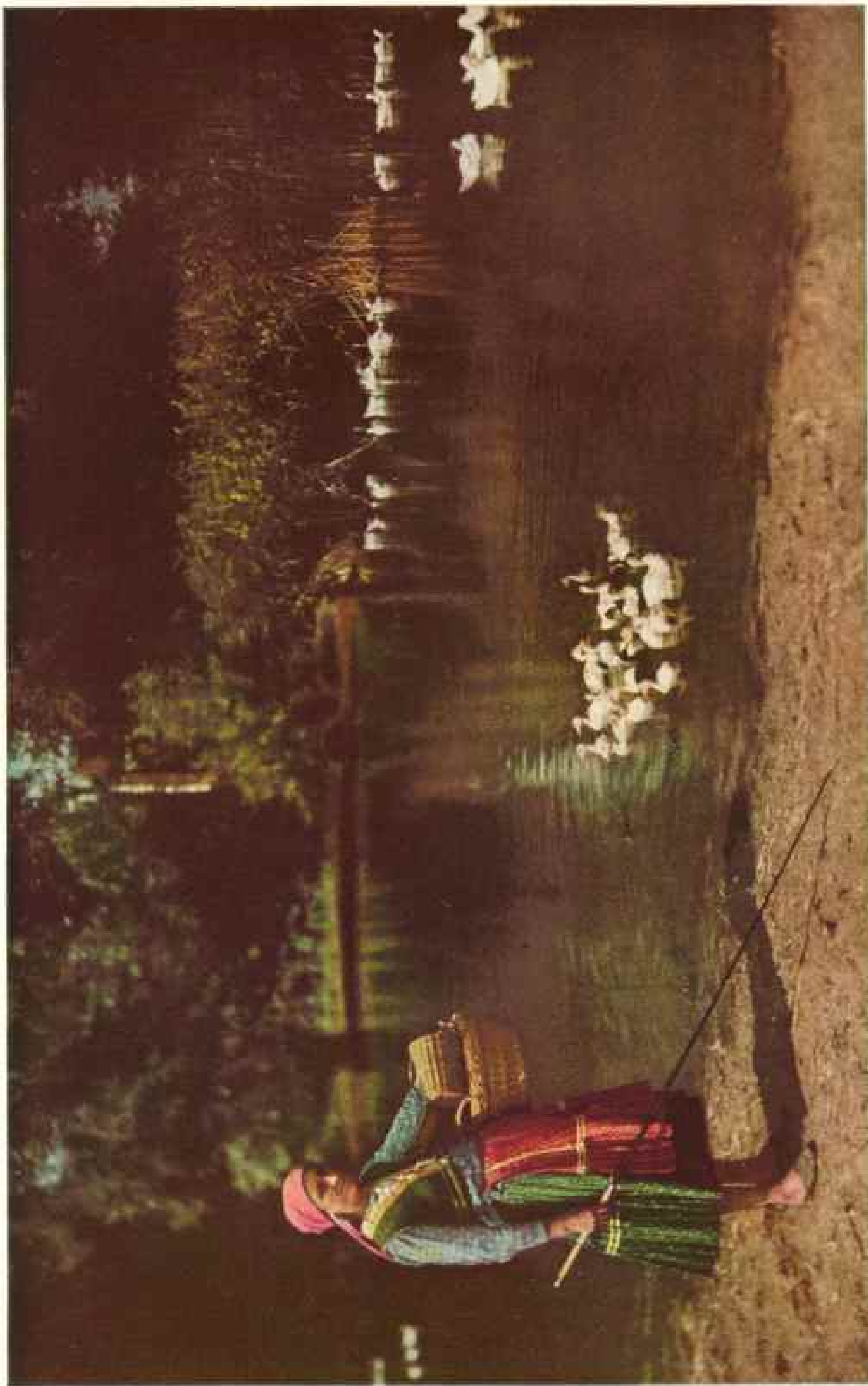


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HOT KITCHENS ARE DESERTED ON WASHDAY WHEN PONDS ARE COOL IN PEACEFUL HAKONY FOREST

Agfacolor Photograph by Hans Hildner/Sand

Standing barefoot in the water before a backdrop of rushes still used to thatch their simple cottages, farm women near Vesprém gossip while pounding their clothes with sticks on sturdy, homemade tables. The little girl may hear stories of raiding highwaymen who once rode forth from these woods. She shivers at the tale of Sobri Joska, most dangerous of all. Gendarmes had been capturing his men and sending them to the gallows. Meeting four of these policemen one day, Joska killed every one of them and took their horses.



© National Geographic Society

Aerialcolor Photograph by Hans Hildebrand

THOUGH SHEPHERDS AND SWINEHERDS ARE MEN, WATCHING DUCKS IS WOMEN'S WORK

Armed with an old buggy whip, a village girl in everyday dress has herded ducks to a pond in Bakony Forest (Plate III). Neighboring families, owners of the little flocks, share the cost of her watchfulness against hawks and hungry gypsies. To speed the quiet summer day, she brings her washing and sewing. At evening feeding time her charges waddle home as she walks behind. Better able to protect themselves, geese are given less care.



© National Geographic Society.

A color photograph by Rudolf Dalmuth

HARVESTS ARE OVER, STOREROOMS FULL, AND SHADOWS LONG: THERE'S TIME TO DINE, TO DANCE, AND TO BE MARRIED

The bridal pair, in the center, dances the *cañón* with a group of friends. Visiting the couple in *francesada* a year after this picture was made, the author and photographer were served a chicken and *straw* dinner by the still-smiling bride. "I *twice* she could cook!" her husband boasted.



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"THE CROWN OF THE LEANING CROSS" IS CARRIED IN STRAW

Cushioned on a sunflower, the facsimile of St. Stephen's crown will be carried in a Bata harvest procession. Centuries ago, the top of the original was bent when Hungarians hid the regal emblem from invaders.



Autocolor Photographs by Reiffel Balogh

PUMPKIN GOES TO ROAST AFTER THE BREAD IS DONE

It is not made into pie; farmers relish slices hot from the baking. Seeds, to be eaten like peanuts, are drying in a pan. The fresh loaves, each weighing many pounds, were baked in this oven in a Boldog farmhouse.



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Articolor Photograph by Rudolf Dalmagh

"AND AFTER THAT, MY DEARS, WHAT DO YOU THINK HE SAID?"

On winter holidays in Kuzár, village girls in Sunday dress gather in the parlor to talk of sew, Fancy headgear indicates that six are single. The two whose hair is unadorned are matrons. "She remained in her headress" is to say "She never married."



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Agiscolor Photograph by Rudolf Balogh

BLUSHES ARE ROUGELESS WHEN THEY BLOOM ON THE CHEEKS OF THE BRIDE IN BOOTS

Yards of costly silk ribbon, ruffles and beads and lace, pleated skirt and petticoats, boots that are burnished and high—this is the wedding dress of a bride in Buják, where cosmetics and pavement are unknown. Like a Christmas tree in her window, for passers-by to see, a wedding cake is adorned with blossoms, popcorn strings, and paper chains. Such cakes, slowly hardening, are often kept months, and fed at last with tears to the chickens.

In one of Buda's old houses, high above its caves, I sat one night after dinner with a young Hungarian count and his wife. His family name—and the countess's—appear often in Hungarian history books.

Yet mantles of nobility and family fame were lightly worn. Except for painted ancestors, heirlooms, and old books I might have imagined myself visiting a machinist in some Minnesota town.

The countess, with a wooden match fully a foot long, lighted a fire for us. Then she brewed coffee in a glass globe held over an alcohol lamp.

The count spoke of honor among his countrymen. He had attended that day a fellow officer's funeral.

"He fell in love with his friend's wife," explained the nobleman, "and considered his own death the only honorable way out. Such matters are still, unhappily, the occasion for dueling. Usually the man who has suffered the wrong, and is thus the challenger, has choice of weapons. Rarely do they fight an 'American duel.'"

"Fists?"

"No. A black and a white ball are placed in a box. The duelists draw. After putting his affairs in order, the man who has drawn the black ball quietly kills himself."

About this time I met Rudolf Balogh. A critical American who knows photographers had called him "a truly great one." He was more: a friendly, generous Hungarian, philosophical, skeptical, more widely read of my country than many Americans.

Balogh had been chief military photographer for Hungary during the World War. Bitter weather and gas-ravaged battlefields had so affected his eyes that now they were always weeping. He looked sad.

OFF TO RURAL HUNGARY

Among Hungary's peasant folk, unchanged by fast-moving centuries, another Hans Christian Andersen today could write new tales around rural characters as naive as ever he found in old Denmark. Rudolf Balogh could illustrate them.

Because of his 30 sympathetic years of journeys among these people, Balogh knew them well. I asked him to show me rural Hungary, and make some color pictures.

"It's late November," he growled. "Short, sunless days. No flowers. Bare fields. I'm a photographer, not a magician!"

He saw my disappointment.

"I *could* make a few color shots by flashlight," he reflected, in milder tones, "of indoor life in winter. But the best of that is in obscure villages, far from railroads."

"I'll get a car," I promised.

"All right. Meet me at half-eight, a week from today, in this coffeehouse."

I went to the Budapest factory branch of Fiat, Italian motor makers. Sixty men worked fast, using the latest types of labor-saving auto service equipment. I saw no sharper break with tradition in all Hungary, whose Government discourages mowing machines, lest scythes find less to do.

A CURB ON HIT-AND-RUN DRIVERS

Men installed magnetic turning semaphores and disconnected tail-lights from dash switches to comply with the Hungarian laws.

"Must I stop, get out, and walk back to turn on the tail light?" I asked George Horovitz, the plant manager, as a midget *Topolino* was being serviced for my use.

"Likewise to turn it off," he replied, "so you can't hit a man at night, cut the lights, and hurry away. Our rear number plates are several times the size of front ones—another curb on hit-and-run driving."

A Hungarian automobile factory Horovitz once ran had failed. "To understand our market," he said, "imagine only five cars in an American suburb of 3,000 people. One Hungarian in 600 has a car.

"New car sales, accurate American business barometer, are considered so here. In 1928, Hungarians bought 2,738 new cars. Then we dropped faster than you did. In 1932, the year America knew despair, only 233 new cars were sold in this entire Nation!

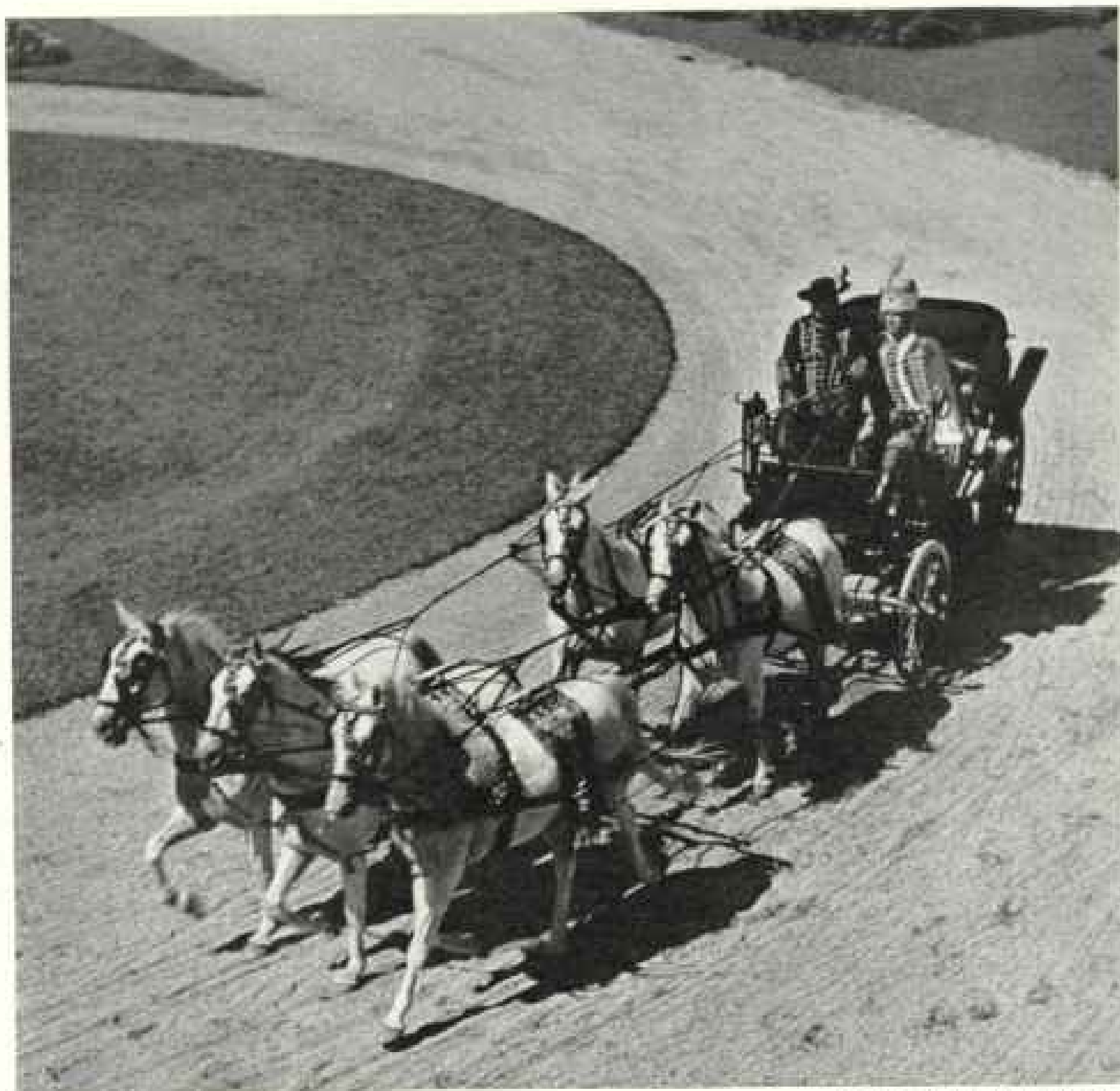
"I've been listening to your campaign speeches on my radio. Your depression is over. So is ours. New car sales in Hungary will reach an all-time record in 1936.

"You brought no driver's license? It usually takes six weeks to get new ones, though an official note might help."

At the obliging bureau of "trade and tourism" I met Hanna Mikes. "Your English is good," I said, though I was thinking of her pleasant looks and manner.

"I like languages," she replied. "Sometimes I work without pay for a travel agency on Váci utca, just to practice them."

I supplied the police with two photographs. They borrowed my passport, inquired even into my religion, then sent me



Photograph by Rudolf Balogh

VISITING KINGS MAY GO BUGGY RIDING, DRAWN BY THIS FIVE-IN-HAND

Silver harness jingles, white manes fly in the wind, sunshine gleams from burnished carriage work, coachmen and footmen sit in resplendent rehearsal here. This equipage is kept for noted guests at Bábolna, near Győr, where spirited Hungarian horses are bred at a Government-owned estate.

across Budapest to a large chill room where one tiny bulb illumined humanity in despair. Two bandaged workmen waited beside a crippled peddler. A deranged old woman muttered between tearful daughter and sympathetic policeman.

At last city doctors tested my sight, hearing, and heart, collected a fee, and sent me back to the police station.

The examiner, fortunately, spoke no English. This enabled my bright young interpreter friend to phrase translations carefully into lead questions.

"Is night tooting forbidden in Budapest?"

"Yes," I replied, astonished, "it is!"

The long quiz over, we went to the Department of Commerce, across the city.

There I sought to convince the Kingdom of Hungary, by driving its skeptical inspector on trick streets, that its subjects were safe.

TRAFFIC VIOLATORS HAND THE OFFICER A TICKET!

Once again at police headquarters, for five dollars I got my license card in a heavy celluloid-and-metal case. With it were a dozen near-replicas, blank.

"These are traffic tags. Always keep three filled out. When an officer halts you for traffic violation, just hand him a ticket!"

"Hand the *officer* a ticket?"

"Yes. Summons will come by mail."

As I drove proudly away, I glimpsed, crossing the street ahead of us, a hurrying,

birdlike little woman. A pigeon perched on her shoulder; another peered from her big basket. I asked my friend to question her.

"She's a widow, Farkas Györgyné, or 'Mrs. George Wolf,'" he said. "She never begs, 'because it is forbidden,' though people often give her things because she is so old. Officers fighting under Kossuth for our independence in 1848 loved her. She was pretty then. Now she's 104."

Though her face was wrinkled like an old apple long forgotten in the corner of the bin, her gait had been a happy child's.

"I don't believe it," I said.

"All Hungarians carry papers," my companion explained, as Mrs. Wolf drew forth tattered yellow documents. "Yes, they're official," he said, after a scrutiny. "She was born in 1832."

Curious to see how and where she lived, I gave her a coin, and took her address as we drove away.

I went often to the travel agency where Hanna Mikes worked, seeking needless information. At last I found her, and tried to persuade her to go with me on rambles about Budapest, but failed until I described Mrs. Wolf.

"I'd like to talk to *her*," said Hanna.

Together, we sought the centenarian. Knowledge that Miss Mikes, pronounced "Mickesh," was Countess Mikes, brought no awe of her. Already I knew a Hungarian marquis and two baronesses. They were a guide, a milliner, and a typist.

Of our quarry, a slatternly landlady said, "She *was* here. I asked her to move. All night she burned lights, washed her underwear, sang to her birds—no one knows when she slept. Try the taverns."

A COUNTESS AND A CENTENARIAN

We tried a dozen taverns. Next evening we found Mrs. Wolf in an old wine cellar. Countess and centenarian promptly fell to chatting (page 39).

"What's her secret?" I asked at last.

"Regularity, especially when you're young. But most important is *love*. Only one great love in a lifetime, she thinks, makes that lifetime long."

"Yet she told us of officers in 1848."

"*They* loved *her*. She didn't love them," explained Hanna, "so that doesn't count."

"Her life," I persisted, "isn't regular at all. She doesn't follow her own rules."

"I thought of that," replied Hanna

Mikes, "and asked her why she lives so. Instead of replying, she questioned me."

The countess was silent for a moment.

"If I had married young, for love and forever; if my husband, children, and all close relatives were dead; if, as old as she, I still liked lights, gypsy music, freedom, and cheerfulness around me—as indeed I do—would I then live as she does, or would I choose the only alternative, the poor-house, and there—just wait to die? There is only one answer, isn't there?"

Next morning Rudolf Balogh greeted me reprovingly in the coffeeshop. "I said 'half eight,' not 'half nine.' The Lord Mayor'll be waiting in Kecskemét at 10."

I had forgotten that "half eight" in Central Europe is half an hour *before* eight.

TOPOLINO BEARS BURDENS SWIFTLY

After breakfast Rudy looked thoughtfully at my little car. "Well, I guess we can carry it," he said resignedly.

Topolino *was* small, yet we could ride in it. Luggage space held four photo equipment cases, two bags, and a typewriter.

"Kecskemét," guidebooks say, "is an hour and 47 minutes by fast train." Topolino beat that time by a half hour.

Men awaited us in a Kecskemét coffee-house. "Meet my friend, the Lord Mayor," said Rudy, whimsically.

"Just mayor," replied the attorney-editor. "That's all I was elected."

"Lord Mayor," Rudy insisted, "Kecskemét's bigger than London."

An hour later I was one of 20 passengers aboard a special train, plainsward bound on little rails. I hunted them on my map.

"You won't find this railroad; it is new." The speaker was a teacher of English from a college in the town. "Some visionary dreamers wanted a hard road instead."

I didn't wonder. We passed straining teams pulling farm wagons through sandy trackside mud.

Its staff was here to reopen for us Kecskemét's hotel, closed for the winter. It paid to know the Lord Mayor. Our train halted a few miles short of its destination: the professor and I climbed into a wagon.

We passed new groves of fast-growing locust, hard, tough substitute for natural forest trees still growing—but now in the lost provinces. Then came open, grassy, roadless prairie, the Hungarian *puszta*.

Sheep grazed far away. As we approached them, a furry ball uncurled into



Photograph by Rudolf Balogh

AT THE END OF THE HARVEST TRAIL, THERE'LL BE A THANKSGIVING FEAST

Men with scythes have slashed for days at one big field of wheat; women with sickles have cut stray stalks, then raked and shocked the grain. At last they shoulder their implements and march to the landowner's house. Paprika chicken and wine await them, and all will dance the *csárdás* in the farmyard (page 30, and Color Plate V).

a dog: a squatting shepherd emerged turtlewise from his cone-shaped sheepskin mantle (page 38).

"American? Americans are rich; let's take him into the woods," he suggested genially to my guides, and seemed to be drawing a knife.

He drew only a long pipe. Peasants buy clay bowls for a cent or two, then make their own wood stems. Proffering finely shredded tobacco from a leathern pouch made of a ram's scrotum, he struck a light with flint, steel, and the skill of centuries.

"Chop down that snag and sit by a fire," I suggested, indicating the gaunt gray ghost of a long-dead tree beside a shallow pond.

A SHEPHERD'S TALE OF STORKS

Beneath shaggy old brows, two tired eyes swept the plain, as a lighthouse keeper's scan the sea. As they rested upon the spectral landmark, he shook his head.

"Nearly 20 years ago," he began, "I watched two storks build a nest of sticks in a high crotch of that tree. I called them István and Ilonka. They became my friends in an aloof, storkish way. I helped them sometimes when food was scarce. I returned to the nest many a little stork who'd fallen. So I guess they liked me.

"Last year they worked mighty hard—for old folks—to feed four hungry fledglings. One September day, just before they flew south, Ilonka circled near me several times, as if to say goodbye.

"I never saw her again. István came home in May, after his long African summer, alone and sad. He's a widower now, like me—I know Ilonka's dead. He'll no more have another wife than I will. He's company, like my dog, though he never really comes near.

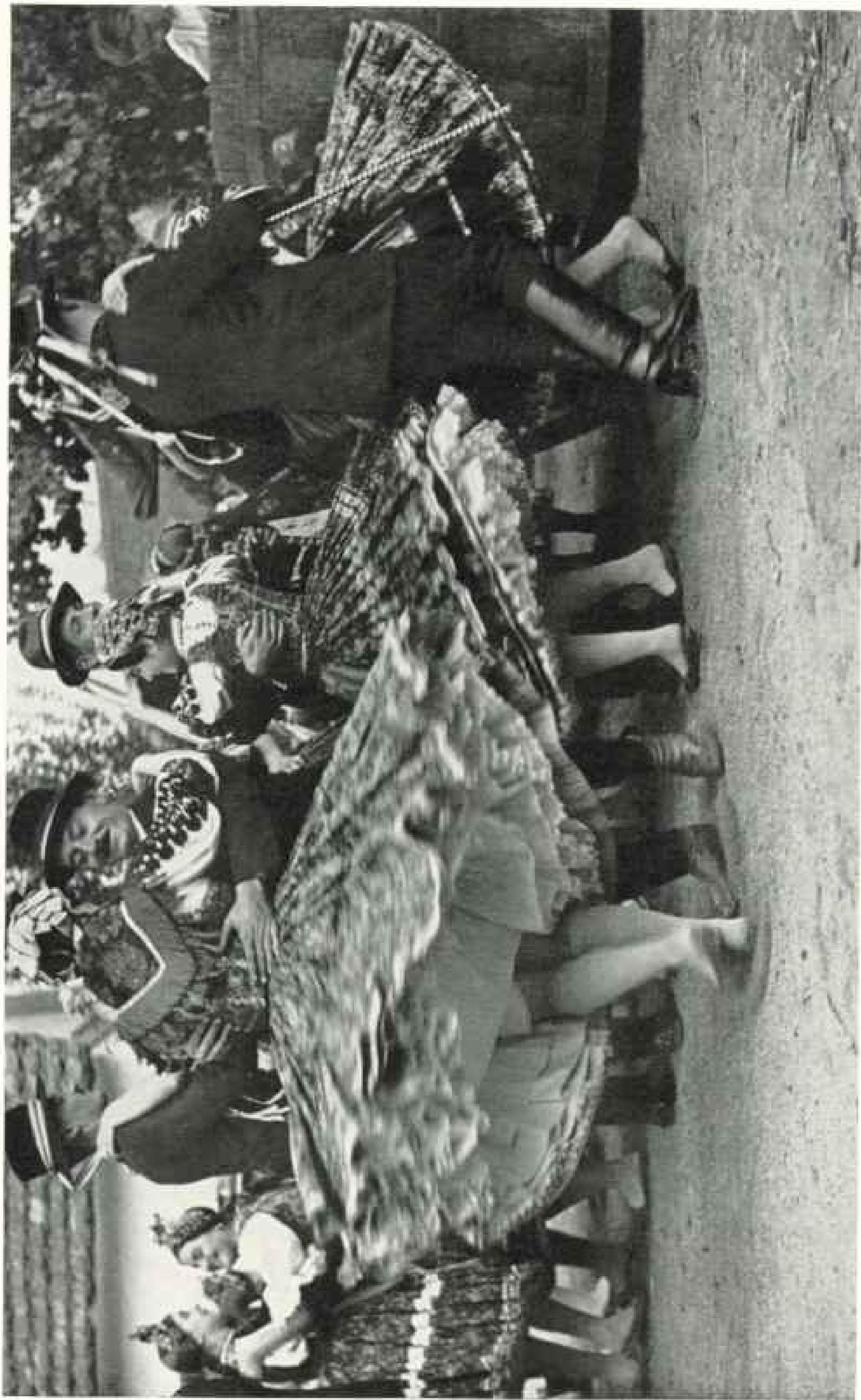
"Burn up his old home? Never!" The shepherd said it grandly. Then he pulled his head turtlewise into his mantle.



Photograph by Rudolf Balogh.

"HOLD TIGHT AND PUSH, ILONKA; MAMMA LEARNED TO WALK THIS WAY!"

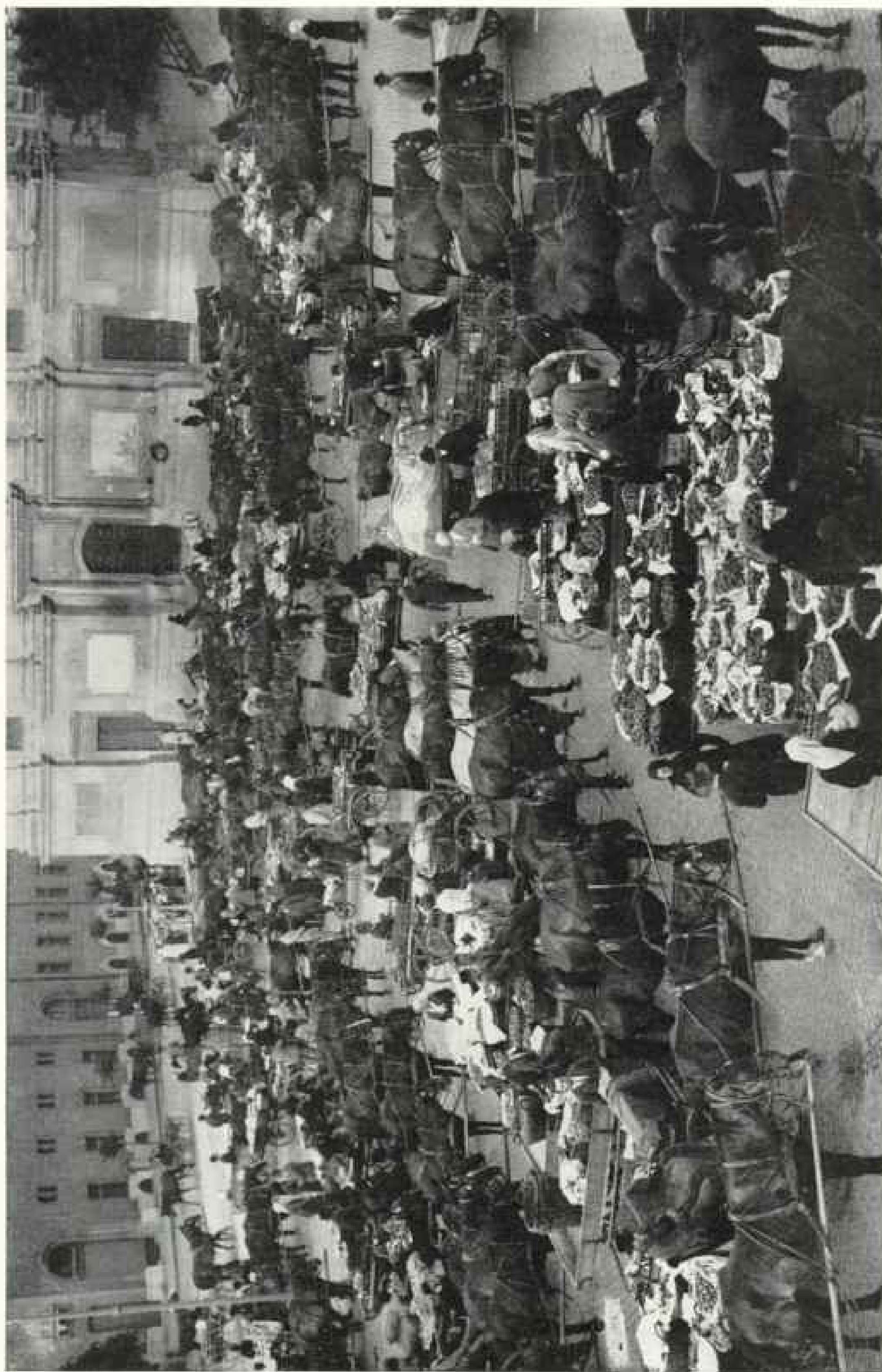
Grasping the handlebar firmly, as baby fingers can, little sister will soon lose her awe of it and toddle unaided behind the crude tricycle built long ago by her grandfather. Most of the furniture and utensils within the mud-brick walls of his thatched cottage were made by hand. Despite the low income of this Nógrád county family, its women members own and wear costumes often more costly than those of an American college girl. Folk dress is dying out in many villages because factory-made clothes are cheaper than the hand-fashioned garments.



Photograph by Kouhik Hatogh.

YARDS OF STARCHED PETTICOATS GYRATE WHEN COUNTRY FOLK TWIRL THE CSÁRDÁS

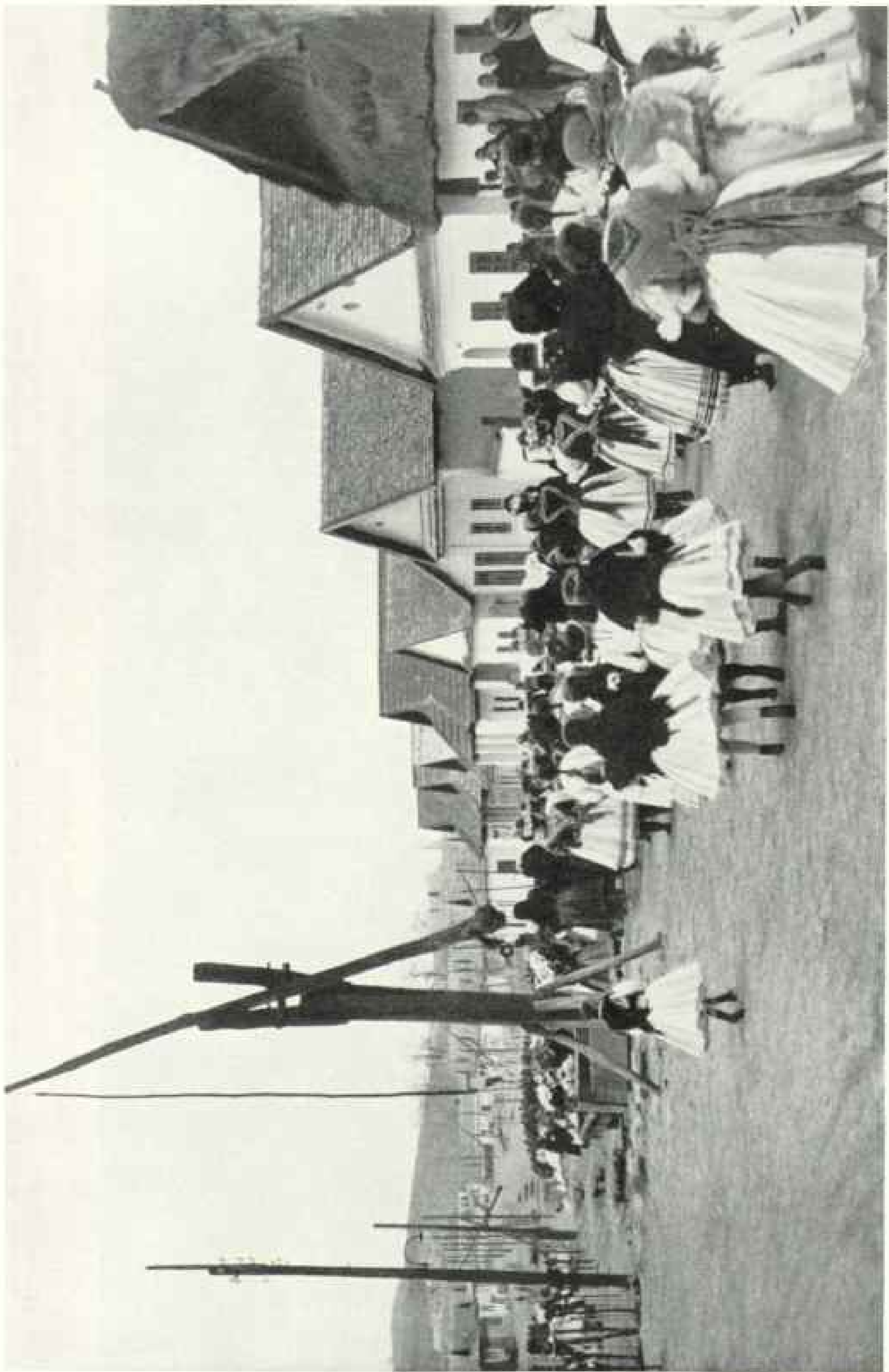
As athletic as the recently popular "Big Apple," the Hungarian national dance changes tempo violently. Now it is fast, wild, furious; now slow, restrained, and graceful. Smoothly glides have no part in it. Booted farmers enjoy it at vintage time in sandy country courtyards; yet it is performed where silken, benna brush slipper tops on polished inlaid floors. Feminine fingers rest lightly on stalwart shoulders; men grasp their favorite firmly by the waist (Color Plate V). In an odd, barrel-like wine press a barefoot boy tramples juice from grapes to the rhythm of the music.



Photograph by Károlyi Balogh

IN HUNDREDS OF WAGONS, ON THE ROAD ALL NIGHT, COME APRICOTS TO MARKET IN KECSKEMÉT

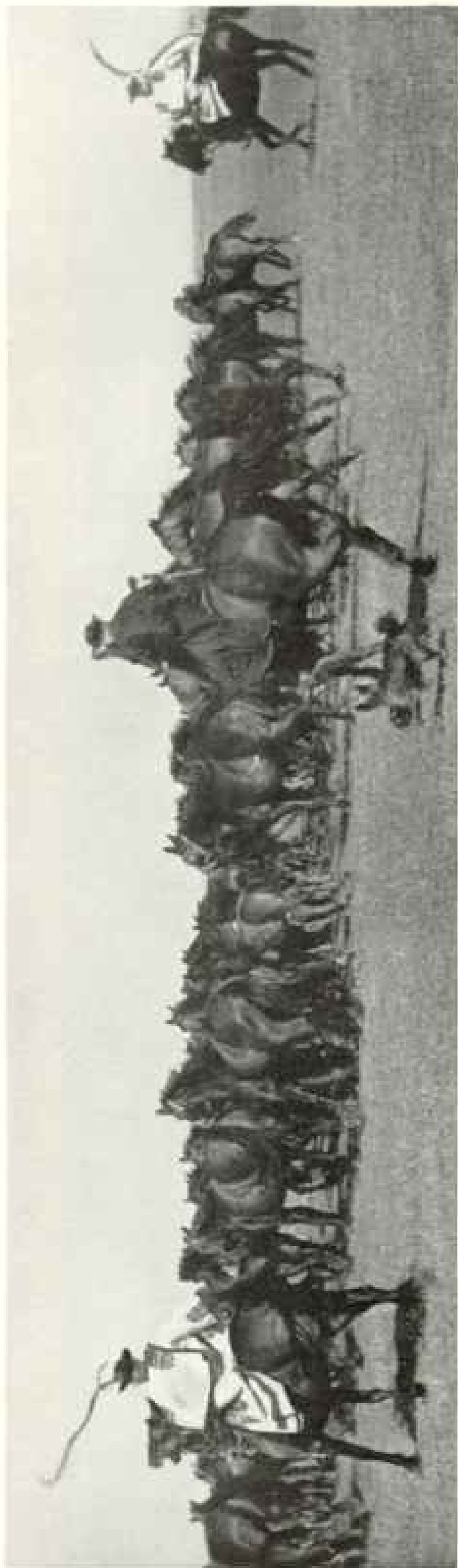
Many farmers, none with motor trucks, left home the evening before. Earliest comers arrived soon after midnight, awaiting buyers who ship prime fruit to Budapest and abroad by special trains. Carloads of sticky apricot marmalade, an essential as coffee to a complete breakfast in Hungary, are produced here annually.



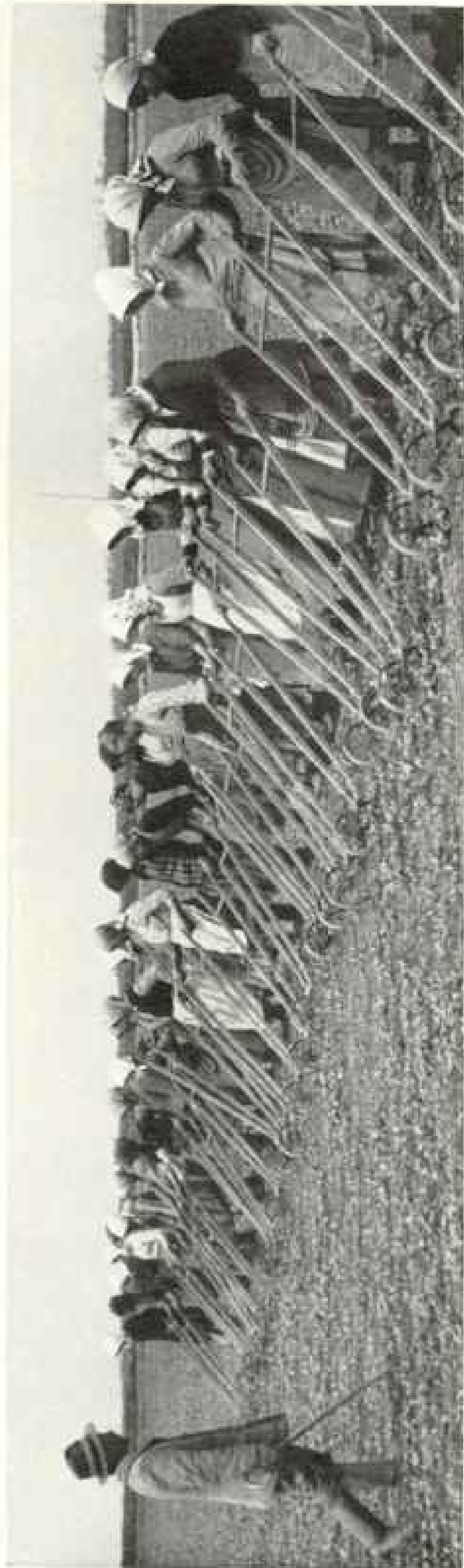
Photograph by J. K. Brezner

GOING HOME FROM CHURCH, WOMEN OF KAZÁR RUSTLE STARCHILY PAST A WELL CRANE

Young girls are gay with color; older women dress in black, yet all wear pleated petticoats on Sundays. Tile-roofed houses, cheaper to insure against fire, are gradually displacing the thatched cottages still common in Hungarian villages.



WHIP CRACK LIKE PISTOL SHOTS; TAILS AND MANES ARE FLYING; A HUNDRED HUNGARIAN HORSES THUNDER OVER THE PLAIN



Photographs by Knudolf Halbocht

BACKWARD WALKS THE FOREMAN AS "FORWARD, MARCH!" HE CRIES; ONWARD MOVES HIS ARMY—DOWN ROWS OF SUGAR BEETS



Photograph by Rudolf Bischoff

STAMPEDE! NO, HUNGARIAN LONGHORNS ARE CHASED TOWARD A BRIDGE IN A CLOUD OF DUST

A horse, a colt, and a cowboy lead the charge to the span; yelling drovers follow. These strong, heavy cattle, sharp-horned yet docile, are used as draft animals on farms in Hungary. There the water buffalo, too, still pulls plows and wagons.



Photograph by Knott Hirsch

POULTRY FOR BRITISH TABLES IS WEIGHED ON BRITISH SCALES.

Freshly killed chickens from racks are crated for shipment to industrial England, whence come factory goods in trade for food. From Budafok, a shipping point near Budapest, much pork, too, is sent, and wine in tank carloads.



Photograph by John Patric

IN MOHÁCS A LOAF OF BREAD IS A LOAD

As it is kneaded in a wooden tray, straw burns long in a thick, beehive-shaped oven. After the fire is raked away, the wheat loaf is baked so slowly that its thick crust must be swabbed with water as it cools to keep it soft enough to cut. Heavy, crumbly, the color of American rye bread, it will keep a week or two.

Far, far out on the puszta, its site commanding the horizon and little else, Kecskemét has planted a grove of long-leaf pines, and in it built an inn. Hoofbeats were silent on the sandy road as we turned into the woods. Somewhere a gypsy's melancholy violin sang sadly of lost love; harness clips tinkled a merry overtone, as if a lady laughed to hear.

There was a little clearing in the pine woods; leaves lay deep and brown around a clump of mixed young hardwoods within it. Some had been raked aside. A charcoal fire was glowing beneath our dinner.

Four girls of Kecskemét knelt in the sand. Slowly, as if to the gypsy's mournful music, they turned 25 roasting chickens (Plate X).

We dined in the inn. Gallons of chicken soup buoyed cornmeal dumplings, firm and tender. Plates were heaped with hot sauerkraut, white and red. Tokay wine—it came first from Tokaj, in Hungary—flowed like a topaz torrent that would run forever.

Until yellow lamplight time we danced the csárdás with the girls who had cooked and served our dinner.

"GEESE AREN'T SELLING TODAY"

We returned to Kecskemét that night. Next morning the central square had become a market place. Peasants

from afar, on the way all night in jogging wagons, had taken choice places before dawn (page 31).

Each had paid toll to enter town. Market fees, in addition, were as low as three cents for those who lugged their wares.

"Geese aren't selling today," said an old woman standing beside a wheelbarrow containing four fowls so creamy white I was sure she had washed them (page 50). "I live four hours away. Market space for my wheelbarrow costs six cents. If my geese don't sell, I'll take them home again," she replied philosophically to my questions.

The market was zoned. Here was poultry; there, sauerkraut and pickles; yonder, cheeses. Crisp cabbage mountains surveyed a vegetable kingdom.

Here were neat piles, each heap containing seven or eight items—perhaps a carrot, half an onion, a turnip, a cabbage quarter, some greens, a parsnip, and part of a rutabaga. "Vegetable soup for four," said Rudolf Balogh. "It costs a cent."

We walked past coopers' stocks—barrels, kegs, and tubs. Here were rope-makers' displays, or brooms and brushes spread upon the pavement. There sat a fur-clad weaver of baskets and here a cobbler. A blacksmith flailed his arms to keep them warm. Around him were handmade shovels, hoes, and hayforks. None had handles; buyers make their own.

Leaving the market, Rudy and I drove eastward to the dikes, somewhat back from the Tisza River, which protect low-lying farm land. Strips of river bank and wooded islands formed by quiet bayous are not so defended. There dwell pioneers.

Rudy and I followed a trail by a slough. Ice formed slowly in pools beside it. A damp man fished from a boat, and as we paused by the warmth of an ashen phantom



Photograph by Rudolf Balogh

BAREFOOT POWER SILENTLY SPINS THE POTTER'S WHEEL

On a simple machine of wood, stone, and only a bit of iron—little changed since ancient Egyptians devised it—a Mezôtúr ceramics maker, his clayey fingers dipped often in water, shapes a whirling vase. It will dry awhile outdoors before it is baked and glazed in a crude kiln. Often, on such earthenware, appears an 18th-century motto: "No handicraft can with our art compare; for pots are made of what we potters are."

of a fire he had built on the bank, he rowed ashore and greeted us.

He had learned English in a British prison camp. "I ran Austrian messages," he said, pulling little baked potatoes from the ashes and dividing them.

"We just caught a carp," he continued. "We'll broil it. Do you like nuts?"

I nodded. From the ashes now he raked scores of hard-shelled, black, thumb-size water chestnuts that might have been skulls of sharp-horned little lizards.



FOR WINDY WINTERS ON THE PLAIN, OVERCOATS ARE THICK

Rough blanket cloth in this driver's embroidered, streamlined, galeproof garment is almost too heavy to wrinkle. Horizons seem limitless here, yet this fenceless steppe lies within the "city limits" of Kecskemét, population 82,000, more than ten times the area of San Francisco.



Photographs by John Patric

SHEEPSKIN MANTLES, SHEPHERDS SAY, SHED BOTH HEAT AND COLD

Fur coats are worn summer and winter by the pup and his master. Intelligent Hungarian sheep dogs, which obey a word or a wave of the hand, are used also by cattlemen and swineherds. On the distant horizon, when the steppe is hot in summer, there sometimes appears mysterious *Fata Morgana*, a cruel mirage conjured, legend says, by Morgan le Fay, an evil fairy, to deceive tired travelers.



Photograph by John Patrick

"HOW MUST I LIVE," ASKS THE COUNTESS, "TO BE 104, LIKE YOU?"

Replied Mrs. George Wolf, born in 1837, "Be regular in everything, and fall in love but once." The centenarian likes to sit in the taverns, munch bread, and listen to gypsy music. Her teeth have been gone for decades; now her gums are hard enough for chewing (page 27).

"They catch in our nets," he said, cutting the tough shell with his jackknife. Pure-white kernels tasted like hard lumps of laundry starch I had liked as a child, with traces here of some rare spice.

BOOTLEG TOBACCO

He led me into a brush shanty, unslung a pair of boots from the cross-pole where corn was drying. "Have some of my own tobacco."

He extended a bootleg tightly packed with unstemmed natural leaf. Since tobacco is a closely controlled, high-profit government monopoly, possession of unprocessed leaf by unrecognized growers is akin to running a distillery in the attic. Revenue men are at war with rugged individuals who persist in raising their own in backyards or quiet glades.

Landward of the dikes we visited the trim, plastered, three-room house of a richer farmer. Its thick walls were "peasant brick," sun-baked mud and straw (page 29). Near it a modern little gristmill ground out flour; two fat horses walking in a circle provided power.

We entered a snug, neat, low-roofed barn of mud brick. Windows were few and small. We opened the tightly fitting door; a cloud of fog seemed to rush ahead as freezing outdoor air condensed warm humidity within. Bodies and breath of 40 head of livestock were the source of a moist temperature I estimated to be 70 degrees.

A boy, 24, slept in that warm barn, as peasant men do in Hungary. He earned 190 pengő and his keep—\$38 a year. He saved most of it. Some day he, too, hoped to become a proprietor.

Hungarian plainsmen preserve the independence of nomad forefathers. As we drove westward, I recalled a story.

Emperor Franz Josef walked in a Budapest park, pleased at bows and awed greetings of urban subjects. A plainsman on a bench neither rose nor spoke.

"Who are you? Where do you live?" asked the ruler, seating himself.

"I raise horses in Debrecen," replied the man, between puffs on a long pipe.

"That's fine. Do you know me?"

"No."

"I'm Franz Josef, your King."

"That's fine, too," remarked the plainsman. He spat, and kept on smoking.

We slithered slowly in second or oozed onward in low toward Kalocsa. I seemed, in a nightmare, to be driving a diminutive, underpowered tank over ploughed fields after a flood. Peasants in high boots walked like flies through syrup.

Rudy's forthright map, trilingual, had warned us: "The occasional state of a route depends on weather and the fashion it is mended by. Before starting on such ones it is best to take informations."

TOLLS, TAXES, AND LICENSE FEES

Gasoline is 35 cents a gallon, mostly tax, in Hungary. Automobile license fees are enormous. Yet medieval toll gates halt wagons and automobiles at most Hungarian towns. Motorists may pay many times in an afternoon's driving. Car fee is 20 cents, almost two days' cash earnings of some farm hands.

We slid wearily to a muddy halt before a Kalocsa inn that night. After a goulash dinner, Rudy repaired a camera as I sat listening to gypsy music. The innkeeper brought four different blank "hotel register" forms. I counted 73 dotted lines on the first, 43 on the next—239 in all.

Patiently Rudy filled in one blank as I told him my family history. The innkeeper wrote answers to other questions, copied the results upon other blanks, then took them with my passport to the police.

"I'd have trouble," Rudy said, as I grumbled, "with police registry forms in small American towns."

"You'd merely write 'Rudolf Balogh, Budapest.'"

He still doesn't believe me.

We visited a Calvinist school next day in near-by Érsekcsanak. On the single little blackboard beside a table of metric weights and measures, I wrote the name of the President of the United States.

"Who is he?" I asked.

Only one little girl raised her hand.

"I know, mister," she said, proudly. "He's the King!"

We dined with a farm family on St. Nicholas Day, the sixth of December, in their seldom-used guest room where apples mellowed on rafters, sacred pictures hung, and linen was stored.

They gave us chicken broth, yellow with melted fat and hand-rolled egg macaroni.

Roast chickens came next. Forlorn they looked, for they still wore feet and heads. Rice-and-meat, sharply paprika-spiced, followed stuffed cabbage.

Last of all, except for grapes and red wine, was strudel. That noble dessert came hot and serpentlike, curled round and round the bottom of a low, flat pan big as a washtub bottom (Plate XV).

There were three kinds. Dough smoother than finest piecrust had been rolled about fillings of chopped apples and walnuts, chopped apples alone, or poppy seeds ground with sugar.

After dinner, iron-studded boot heels clinked on the flagstones of the long, narrow porch. There was heavy knocking.

"I wonder who it can be," mused the farmer, mysteriously, "on such a windy winter night?"

"Mikulás!" chorused most of the children happily.

"Maybe it's Krampus," whispered János, darkly, to his little brother Mihály.

THE HUNGARIAN SANTA CLAUS

The farmer walked slowly to the door. There, in a "Santa Claus" robe, stood St. Nicholas. Icy wind whipped his beard.

"God brings you," greeted the farmer in the country manner. "Come in, Mikulás!"

Stepping across the threshold, Mikulás shut the door. "Krampus is out there. He says to ask if the children have been good."

Apprehension chased joy from childish faces. Krampus, a vindictive, black, horned devil, likes to spank *bad* children.

"The girls have *all* been good," said their father.

Dimples reappeared.

"Yet I think Krampus should visit awhile with my son János—"

"Please, no, daddy!" wailed little János, miserably. "I'll do everything you say. I'll come right home from school. I'll—"

"You're *sure*, János?"

János was.

The farmer nodded. Mikulás reopened the door. "You can go away, Krampus," he called into the gloom. "Write 'János' in your book. Ask of him *next* year."

All again was gayety. Mikulás stuffed candy and nuts into the children's boots. He had jackknives for János and Mihály, thread and embroidery patterns for their sisters. He remained long enough for a bite of chicken and a hearty drink of the

RURAL HUNGARIAN RHAPSODY



© National Geographic Society

Agta-color Photograph by Hans Hildenbrand

BEAUTY IS NOT ITS OWN EXCUSE FOR BEING, IN RURAL HUNGARY!

Working barefoot in the fields beside their fathers, mothers, and brothers, farm girls in summer are busy from dawn to dusk. The sun is still high; an Eger miss walks home early and happily, laden with vegetables. Perhaps today is *her* day to cook the family dinner.



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Agfandor Photograph by Rudolf Balogh

AS WHEN NOMAD ANCESTORS TREKKED THE ASIAN STEPPES, MAGYAR WOMEN DELIGHT THEIR MEN WITH COOKERY UNDER THE SKY. On wooden spits, 25 chickens for 15 people are roasting over glowing charcoal on the Bugac Plain. Living in the town of Kecskemét, not in the country, these young women prefer modern clothes and wrist watches to folk dress. The polka-dot creations are waitresses' uniforms.



© National Geographic Society

Autocolorame Lamine by Radloff-Balogh

FARMS ARE SMALL, LIFE IS HARD, HOMES ARE SIMPLE HERE; YET MÁTRA MOUNTAIN MAIDENS WEAR RICHES IN THEIR DRESS. Seven or eight expensive and pleated skirts, starched so stiffly that sitting is virtually impossible, are necessary for Sunday. "Lyons" is a synonym for "silk" among country women of northern Hungary, because formerly all their flower-woven ribbons came from that French city.



GRANDMA TEACHES GOOD LITTLE GIRLS TO CARD AND SPIN NEW HEMP

A Váralja woman combs home-grown yellow fibers between thin points of her round, spiked card, built fifty years ago by the man who initialed it. She will weave them into tablecloths like the one in her lap. The village spinning wheel maker built her wheel last year.



© National Geographic Society

Aqtaicolor Photographs by Rudolf Balogh

PAPER HANGERS FIND NO WORK WHERE PLASTERED WALLS ARE PAINTED

A professional decorator of Homokmégy (right) tries out new designs for the porch wall. Her daughter, in hand-embroidered jacket, is learning, while the boy in store-cloth blouse watches enviously.

RURAL HUNGARIAN RHAPSODY



© National Geographic Society

Agla-color Photograph by Rudolf Balogh

WHILE LADIES BID HEARTS IN THE CITY, YARN IS SPINNING IN THE COUNTRY

Seated on a semicircular bench around a warm, beehive-shaped masonry oven fired from the next room (Color Plate VI) and extending into the parlor, girls of Tard chat as they spin flax and hemp. Soon come refreshments, like "five o'clock tea"; afterwards, boys of the village, joining them, may be given mellow apples from the rafters. In many villages these distaffs and whirling bobbins are preferred to the spinning wheel (opposite page). They are fast in skilled fingers.



© National Geographic Society

"BYE-BYE, DEAR—YOU'LL BE A LONG TIME MARRIED"

Deeply religious, as the sacred pictures reveal, rural Hungarians wed in solemn ceremony. Booted friends of a recent Buják bride are about to end a friendly call. Two tones of packed clay form this parlor floor.



Agfacolor Photographs by Rudolf Biskerch

HEAD BRIMMELS OF BÁNK WEAR APRONS

Hand-embroidered hems, collars, and shirt fronts are no mark of femininity along the northern border. The girl's dress is holiday costume of her village, Órhalom, where floors of many simple homes are earthen.



© National Geographic Society

THEIR MEN ARE DINING APART; THAT IS THE SOCIAL TRADITION IN RURAL HUNGARY

Affectionate Photograph by Rudolph Buhagh



© National Geographic Society

Agfueolor Photograph by Rudolf Balogh.

"YOU THREW THE WATER ON ME—SO PICK OUT YOUR EASTER EGG!"

Hungarian boys at Easter chase girls down village streets, attempting to douse them with perfumed water. Maidens then invite these tormentors to their homes to reward them with Easter eggs, hand-painted, as is the furniture. On the wall is an English scale still used by conservatives, though the metric system is official in Hungary today. These Rimoc folk, in Sunday clothes, have driven far over bad winter roads in a farm wagon to a Government ethnographical museum in Balassagyarmat. In realistic settings like this, the finest peasant art is being collected while it is plentiful and cheap, against the future when rural Hungary "goes modern."

red wine that brings two cents a quart to these farms, costs twenty in Budapest.

We traveled two weeks among Danube folk. For years I'll taste their dinners in my dreams, ride their roads in my nightmares, and look backward with wistful nostalgia upon the kindly warmth of their hospitality.

The thought of dismembered Hungary saddened me at first. Maps of the proud old nation were like strange pictures of a strong man living without arms and legs. I remember, too, a painting of a bowed old Hussar, battle-scarred and gray, his fighting legions marching only across dim shadows of his memory.

Postwar treaties forbade large armies to the Central Powers. Might another nation disavow her covenant, rebuild her fighting forces, reassert her ancient right to power and to glory?

Hungary has not.

Few sons of that Fatherland march to martial music. Not all its bacon, sugar, wheat, and pink goose livers are sold to buy new guns. No roaring bombers frighten the fat sheep that graze its plains.

Danube farms are snug and food-stocked. Unworried seem the mothers of carefree, playing children. Weary farmers rest, smoke, and sip their wine when day is done. Strong sons, unscripted, are ready to help them.

That frontiers are nearer, that pomp and power and pageantry have faded, matter little on the farm.

We drove across the little Kingdom to the colder, rocky highlands north of Budapest, where Hungary's new frontier is the Ipoly River.

The Nógrád county prison in Balassagyarmat is an old round tower. From a high window we looked across the frozen frontier into Czechoslovakia.

SMUGGLING ACROSS A NEW FRONTIER

Men were exercising in the snowy yard.

"What brings *him* here?" I asked, indicating one old man.

"Smuggling," the warden said. "He was born and raised over there beyond the Ipoly. For thirty years he crossed with produce. Now, though the stream runs on as always, that farther shore is a foreign nation. Some articles retail more cheaply there than Hungary can manufacture them.

"Recently he stole across that frontier stream with lighter flints and sold them.

He was arrested and imprisoned. He cannot understand. Smuggling across the Ipoly will never seem a crime to him. He'll do it again when he's free."

Prisoners earned a cent or two daily. It was not paid in cash, but placed in a loan fund.

"Suppose," explained the warden, "the wife of a prisoner we trust is dying. We allow him to go to her. He may borrow from this fund to pay his railroad fare. Suppose a man is broke when we release him. He can walk home, even some distance, but he needs money for food."

POOR IN LAND; RICH IN FOLKWAYS

Farmers in hilly Nógrád county, poor in land and money, seem to be richer in folkways. "They are imaginative and resourceful," said the museum curator in Balassagyarmat, showing me an old horn. "Its owner used this to find wild honey. Catching several dozen bees, he released them from this little hole at intervals, observed their flight and went directly to their nest."

The ethnologist showed me a near life-size wood statue of St. Anthony of Padua among a collection of round, braided-grass beehives. "Boys had been throwing rocks at the hives; gypsies had been stealing honey. So from a log the beekeeper made a hive in the likeness of the patron saint of bees."

It worked. No boy threw stones at the Saint; no gypsy, however honey-hungry, stole what it protected.

One twilight I walked along the snowy streets of Orhalom. Grimacing, foolish faces peered at me through cottage windows. Vacuous pedestrians smiled stupidly or scowled dully. I felt uneasy in the dusk when I saw one weird woman clutching to her breast a headless rag doll.

Was all the village mad?

Rudy, waiting in the store, explained that 900 of the 1,400 patients of the Balassagyarmat mental hospital were "boarded out" to villagers at thirteen cents a day.

"Most are healthier and happier so," explained the superintendent. "Many harmless patients develop fear or hatred of these unfamiliar asylum surroundings."

Snow fell lightly that afternoon as Rudy and I left Balassagyarmat for Gyöngyös. Frequently we detoured, for culverts are repaired in winter when traffic, shunted around them, may cross ice-paved creeks



Photograph by John Parde

THE GOOSE YEARNS FOR HOME AS PATEFUL MARKET NEARS

Walking miles to town, a farm woman carries a creamy-white bird to Kecskamét to sell. For weeks she has forcibly fed her fowl with corn; now its enlarged pink liver, an epicurean delight, is worth as much as all the rest of it.

and frozen quagmires. Warmly fermenting barnyard manure, packed against hardening concrete of bridges and culverts, kept it from freezing.

LIGHT IS A LUXURY

Thickening snowfall whipped before us in the gathering darkness. We lost our way. Despairing of reaching Gyöngyös, we halted in a dark, snow-swept village. Its gloomy main street was illumined by flickering lanterns shining faintly from a few coffinlike glass cases.

Sluggish rivers, unlike the mountain torrents around former frontiers, provide scant water power. Larger towns make frugal

use of steam-generated electricity. Costly kerosene often provides the only village light. Whole families sit around one dim lamp scarcely visible to passers-by.

There was an inn in this village, far back from the street. We drove past rotting timbered doors in an age-old archway, down a walled lane to a protected courtyard where snowy trees glistened brightly in the anachronistic beams of Topolino's lights.

Rudy ordered a cold room for himself, "double heating" for me.

Hungarian hotels do not ordinarily include service, taxes, or heating in rental fees. Hostelryes boasting steam heat usually turn it on briefly each day in winter

weather, depending on weather-stripped double windows to retain the warmth. Hardy Hungarians, used to sleeping "cold," need not buy heating.

Steam-heated hotels seemed to me less comfortable than washbowl- and -pitcher inns with wood stoves, where I could pay for "double heating"—twice the usual amount of wood—open the windows slightly and enjoy both warmth and fresh air.

My room was chilly. A tiny fire burned deep in its big stove. A large woodbox was nearly empty. I put in the stove what fuel remained and called the landlord.

He must have understood. I said it was cold, in Hungarian, pointing to the



Photograph by Rudolf Ilaloch

WARM WORK FOR THE WOMEN, BUT IT WILL BE COOL FOR THE RAM

Mezőhegyes matrons shear old winter overcoats from sheep to make new garments for men. Though Hungary imports English fabrics, it weaves and exports woolsens. In chill Helsinki, Finland, the author once bought a coat from an enthusiastic tailor who boasted, "The goods are Hungarian!"

empty woodbox. I huddled, shivering, in my overcoat, and went "B-r-r-r!"

He shrugged and departed. No wood arrived.

I piled furniture around the woodbox, laid a chair on its side, removed a loose rung, opened the stove, and rang again.

Leisurely reappearing, my shocked host found me grinning, posed as if about to trample his furniture into firewood.

Wood, armloads of it, came at once.

Next morning a glum, sneezing Rudy waited for me in the dining room. Breakfast had been tasted and pushed aside.

"This," he observed, "is the worst hotel in Hungary." His windows, with broken fasteners, had blown open. He had awak-

ened three hours early, covered with snow.

Topolino was cold; the starter scarcely turned. We shut off the gasoline and built a steady little fire of straw beneath the motor. I had heard of arctic explorers starting airplane motors in similar fashion.

"A PERFECT BREAKFAST"

Rudy promised me "a perfect breakfast" in Kazar, 20 miles away. We shoved hungrily onward through snowdrifts over winding roads, across rolling country and icy hills. We passed trudging peasants and a tinker whose tools and tin protruded upward from a box on his back.

Rudy said such men, common in Central Europe, earned scarcely enough cash



Photograph by John Patric

VILLAGE ARISTOCRACY RIDES TO TOWN IN STATE

The young lady's father, progressive master farmer, operates the estate in Kazár where Rudolf Balogh's promise of a "perfect breakfast" was so happily fulfilled. She does not usually wear folk dress, yet she owns a peasant wardrobe, as her mother did, and likes to don part of it when she joins the festivities of villagers. Fine horses and carriages, not automobiles, are still a mark of rural wealth and position.

to buy solder, tin, and wire. Like old-time troubadours, they were paid in food and lodging. Swineherds blew on crooked horns at villages; aproned women chased straying pigs from their yards.

Morning was almost gone when we halted at the manor house of an old Hungarian estate.

"Now order your best breakfast," commanded Rudy, as we sat with the farm superintendent before a crackling fire. Our host, Rudy added, would be proud to fill a large order. So I asked for fried chicken,

ham and eggs, toast with jam and honey, palacsinta, apples fried in butter, and coffee with thick cream.

Rudy's order came with mine.

He had requested a huge slab of smoked bacon, virtually all fat. Sliced with his jack-knife, dipped in paprika, and eaten raw, that was his "perfect breakfast."

We remained two days at Kazár. The son of the owner showed me around the farm.

"We have at Kazár," he said, "the first horned horse since the unicorn."

I bet him that horned horses didn't exist.

He led me to the stables, pointed to two bumps like hazelnuts on the forehead of one of his friendly saddle horses.

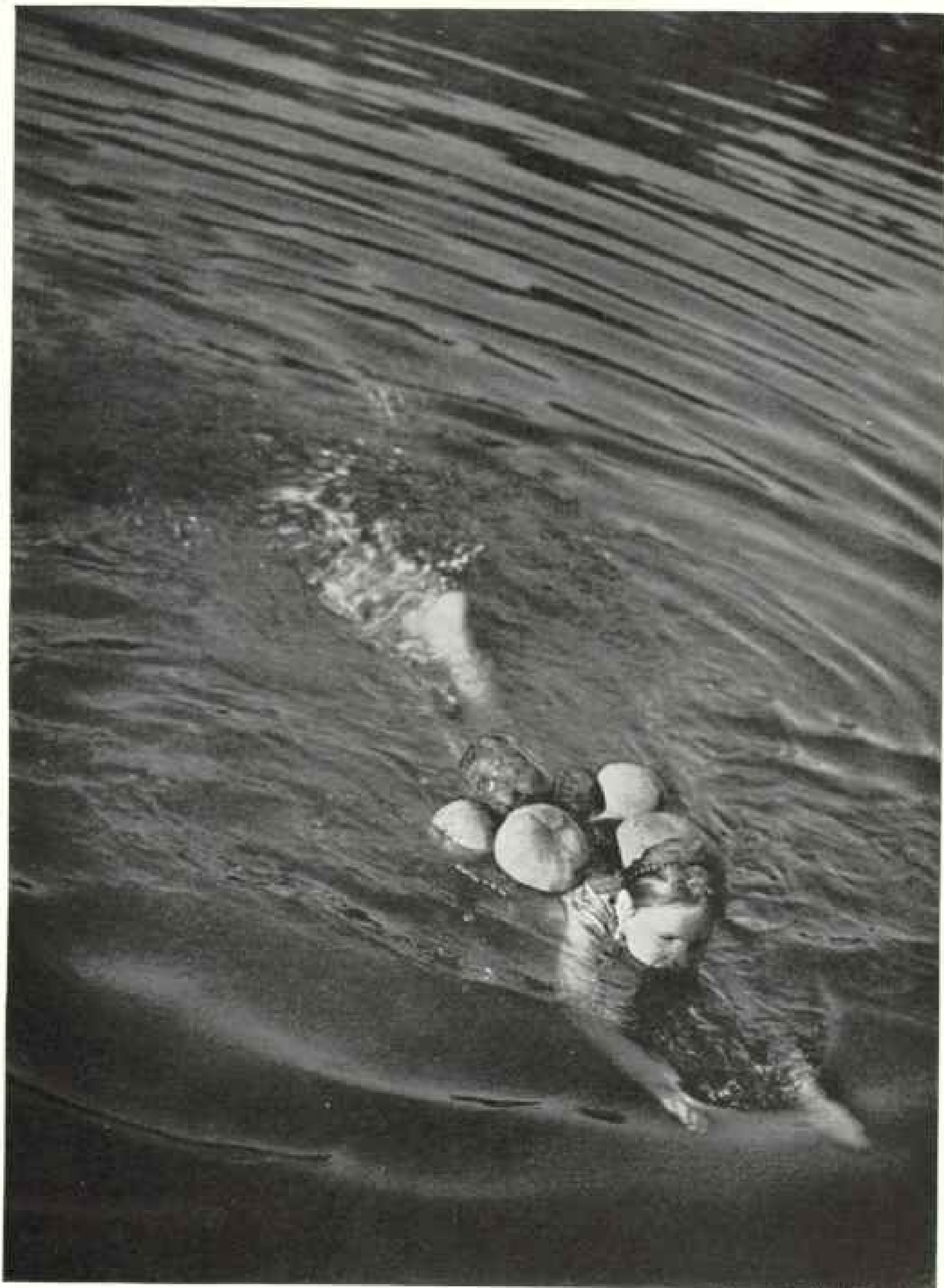
"Warts, or something!" I scoffed.

"Stroke his forehead."

I did so. Two identical, well-placed bony growths poked almost through the skin. Still sure there were no horned horses, I nevertheless lost that bet.

Some Kazár villagers were small land-owners or renters. Some mined coal at much less than a dollar a day. Others labored seasonally on the estate, where even gypsies were employed.

A Romany rye is a person who understands gypsies. Rudy said the superintendent had been so kind and patient with gypsy ways and shortcomings that here the



Photograph by Rudolf Balogh

DRY GOURDS RESEMBLING PUMPKINS FLOAT LIKE TOY BALLOONS

Supported by home-grown "water wings," a country girl of Bâta practices the breast stroke in the Danube. Though a dreamy waltz calls it "blue," the silty river is never quite that color. In prehistoric times, as today, it bore rich sediment to the mountain-rimmed valley that now is Hungary. Nomadic Magyars, trekking westward from Asia with flocks and horses, found a land so fertile that they wandered no more.



"YOU MISSED, SIR! YOU'LL GET NO EASTER EGG!"

It's an age-old Hungarian rite, to douse a girl at Easter time, and win a reward of hard-boiled eggs she has painted (Plate XVI). Here the bucket was drawn, by turning a worn wagon wheel, from a well in the yard of a thatched cottage. "Sborly the Sheriff," they say, introduced Mezökövesd derbies, worn by lads of that village. To make himself appear taller, long ago an undersized official adopted high heels and small-diameter hats.

children even went to school and the women, with few customers for soothsaying, were spinning and knitting.

Time was when gypsies could be bought, sold, or inherited like slaves. Their life among the Magyars was long unhappy, though Liszt—mistakenly, some critics believe—credits to them the origin of Hungarian music.

When, in 1782, supposed murder victims could not be found, 45 Hungarian gypsies were tortured until, stretched in anguish on the rack, they moaned: "We ate them."

After a monstrous execution, it developed that there had been no murder. That year Hungary freed the gypsies.

Today this ancient race, despite an aversion to work and a tendency to thievery, lives untroubled in Hungary. Cafe musicians are its aristocracy.

Commoners, poor and often barefoot, live all winter in shanties or rag tents, eating anything they can get—sometimes even boiled crow. Abandoned clay or gravel pits are favored townsites. In summer they

follow a vagrant trade as coppersmiths, tinkers, or even horse traders.

A "VILLAGE" OF 20,000 PEOPLE

From Eger we went to Mezökövesd,* a "village" preserving that simple government despite a population of 20,000. We slept in one of its hotels, and drove by day to Tard, a little village in the hollow of the hills, constructed ingeniously and long ago of Nature's simplest building materials—mud, straw, and brush.

Lajos, a plainly dressed lad of 20, was always eager to help us and to carry our heavy equipment. Seeing the poor little house he lived in, Rudy tried to pay him. Lajos refused money, asking instead for a ride in Topolino.

My passenger's first request was that I halt "right before the front window" of the village store. He went in, and emerged with a black cigar that smoldered as aromatically as a fine Havana burning on an

* See "A Sunday in Mezökövesd," by Margery Rae, in THE NATIONAL GEOGRAPHIC MAGAZINE for April 1935.



Photograph by John Patten

SCHOOLGIRLS SEW, READ, AND PRAY FOR RESTORATION OF OLD FRONTIERS

In the country, where mother works all winter on one Sunday outfit, and grandma's girlhood gowns are stylish still, daughter learns needlework. Boys in back seats of this Érsekcsanak schoolroom practice whittling, that their craftsmanship may supply handles for their wives' hayforks and cradles for their first-born. Leaning against the sewing basket, and used to help balance it when it is carried to school on the head, is a *tekercs*, or soft cloth ring (page 14). Against the wall is the U-shaped pipe of a small stove and the coat of arms of Hungary, held between two angels.

expensive rug. At passing friends Lajos waved the hand that held it.

Thinking to please the boy, I started down the main road toward the paved Budapest-Miskolc highway, where we might ride fast. Lajos demurred, insisting on repeating circuits of the same side streets. One house seemed to interest him. It was big. It had a tile roof. More geese than usual waddled in the muddy lane beside it. A girl waved as we approached it the fourth time.

We halted. She minced gingerly through the mud to her front gate. Lajos alighted like a cavalier. Three could not ride in Topolino. He motioned her to his place. She hesitated.

The girl's stout, determined mother interrupted his ardent persuasion. Disregarding mud, startling geese, she marched toward us. Ignoring us, she led her daughter firmly into the house again.

Lajos tossed his cigar at a fat goose.

I drove Rudy back toward the capital. Our work was over. I should soon

leave Hungary, and miss his gentle irony.

A few evenings later I left Budapest. An English-speaking Hungarian sat with me as my train halted at the frontier and foreign customs men entered to examine us.

"Twenty years ago," he sighed, "you might have traveled onward all night from this frontier town, and still have been in Hungary at breakfast time.

"In Geneva a few years ago," he continued, "we sought certain modifications of the Treaty of Trianon. Neighbor nations, in denying them, said we would never be permitted to regain our power.

"Count Albert Apponyi, our League of Nations delegate, stood up.

"I'm past 80," he said. "I've seen the rise and fall of the German Empire. I've seen the rise and fall of the Second Empire in France. I've seen the rise and fall of the Austro-Hungarian monarchy. I've seen the fall of the Ottoman Empire, the fall of the Russian Empire, and the rise of Italy.

"Gentlemen, the word *never* means nothing to me."



Photograph by Hans Engelmeyer

JUDGE THE MAGNITUDE OF "EUROPA'S" COLOSSAL ANCHOR BY THE MEN BELOW!

Painters on the raft are retouching the white figures, which show how many feet or meters of water a vessel is drawing. Sometimes an anchor, being hoisted or lowered, scratches these figures; then they must be repainted. To lose such a huge anchor means to drop thousands of dollars worth of metal and chain.

SHIPS, FROM DUGOUTS TO DREADNOUGHTS

BY CAPTAIN DUDLEY W. KNOX

United States Navy

WHAT an eventful day when man first found that a floating log would bear his weight!

What trial and error, what wreck and tragedy intervened even before the first dugout, or raft with clumsy sails of skins or plaited grass actually put to sea and finally reached a neighboring shore safely!

Imagine the daring sailors' return from that first of all voyages. Shouting fellow tribesmen crowd about as they beach their craft, excited over the strange fruits and weapons the dusky Argonauts have brought back, and gaze curiously at the lone woman captive, snatched from her coral-beach shelter as the invaders retreated to the sea.

Till then that distant shore, its peaks dimly visible only on clear days, had been a region of mystery; now they had landed upon it, had tasted its dangers and delights.

"Let us return for more wealth," the excited welcomers urge.

"Nay, brothers," reply the sailors. "The winds are evil and the waves run high. We must make a bigger raft and take more fighting men, for yonder they have mighty warriors to give us battle."

To the perils and mystery of the sea: to adventure and romance in far-off, unknown lands, countless thousands have responded.

ETCHINGS SHOW EVOLUTION OF SHIPS

With this issue of THE NATIONAL GEOGRAPHIC MAGAZINE is presented a series of original ship etchings by the internationally known artist, Norman Wilkinson. They suggest man's colossal achievement in progressing from canoe and catamaran to modern liner, superdreadnought, air-plane carrier, and flying ships.

This evolution of ships, like that of land and air vehicles, reflects the incredible inventive genius, persistence, and the ever-growing needs of peoples living on sea-coasts or inland waterways.

Contrast pirate pistol and cutlass, hand-to-hand sea-fighting technique with the World War Battle of Jutland, when armored giants hurled tons of projectiles at each other with lightninglike rapidity over leagues of intervening blue water (Plate XIV and page 85).

When the Spanish Armada put to sea, it was acclaimed the most powerful fighting fleet ever assembled (Plate VIII and page 64). But today, in all its vaunted strength it could sail past an *Iron Duke* or a *Hood*, fire broadsides of solid shot, and do these modern "battle wagons" little more harm than heavy hail on a tin roof.

TRADE, NOT WAR, WAS THE URGE

Fighting on the water, perhaps, had less to do with the development of ships than did man's peacetime pursuits, his restless urge always to find and see new lands, and to gain wealth by barter with faraway people for salt, amber, and slaves.

One primitive craft, in use to this day, is the Polynesian catamaran, shown in Plate II. Anyone who has lived in the Philippines or cruised the waters of the South Pacific knows this outrigger sailing canoe and its age-old use in interisland traffic.

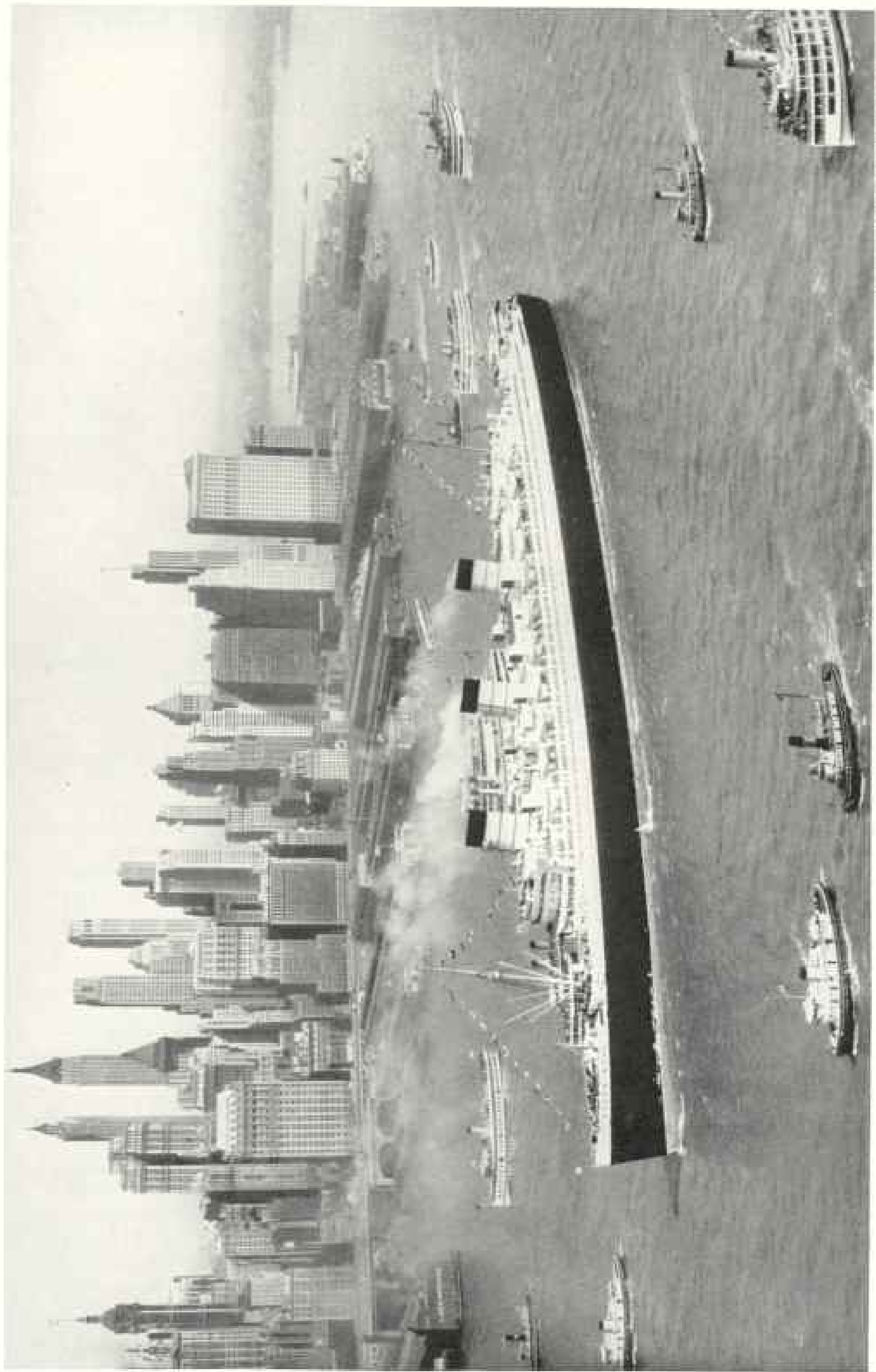
Aboard this catamaran, long centuries ago, dusky adventurers from Asiatic coasts, guided only by stars, the flight of birds, or instinct, sailed for countless watery miles out into the Pacific. Hawaii, Easter Island, and New Zealand were all colonized by these daring sailors. There is some evidence that a few of them even reached the coasts of Mexico and South America.

Look at their small, flimsy catamaran, and reflect that a thousand years ago, and more, sailors had no coffee, sugar, canned goods, condensed milk, or hardtack to sustain the ship's company on long voyages—not even a compass. Yet these self-reliant brown men, taking women and children along, carrying water in gourds and coconut shells, or catching it in straw mats when rain fell, crossed the widest ocean in the world to colonize virgin islands.

Far better boats existed, even then, than the Polynesians' catamaran; but the South Sea islanders did not know it. Such larger boats had been developed in the Mediterranean, where world commerce was born.

To carry Roman wine and wool to Egypt and to bring back grain and cotton called for cargo ships with spacious hulls.

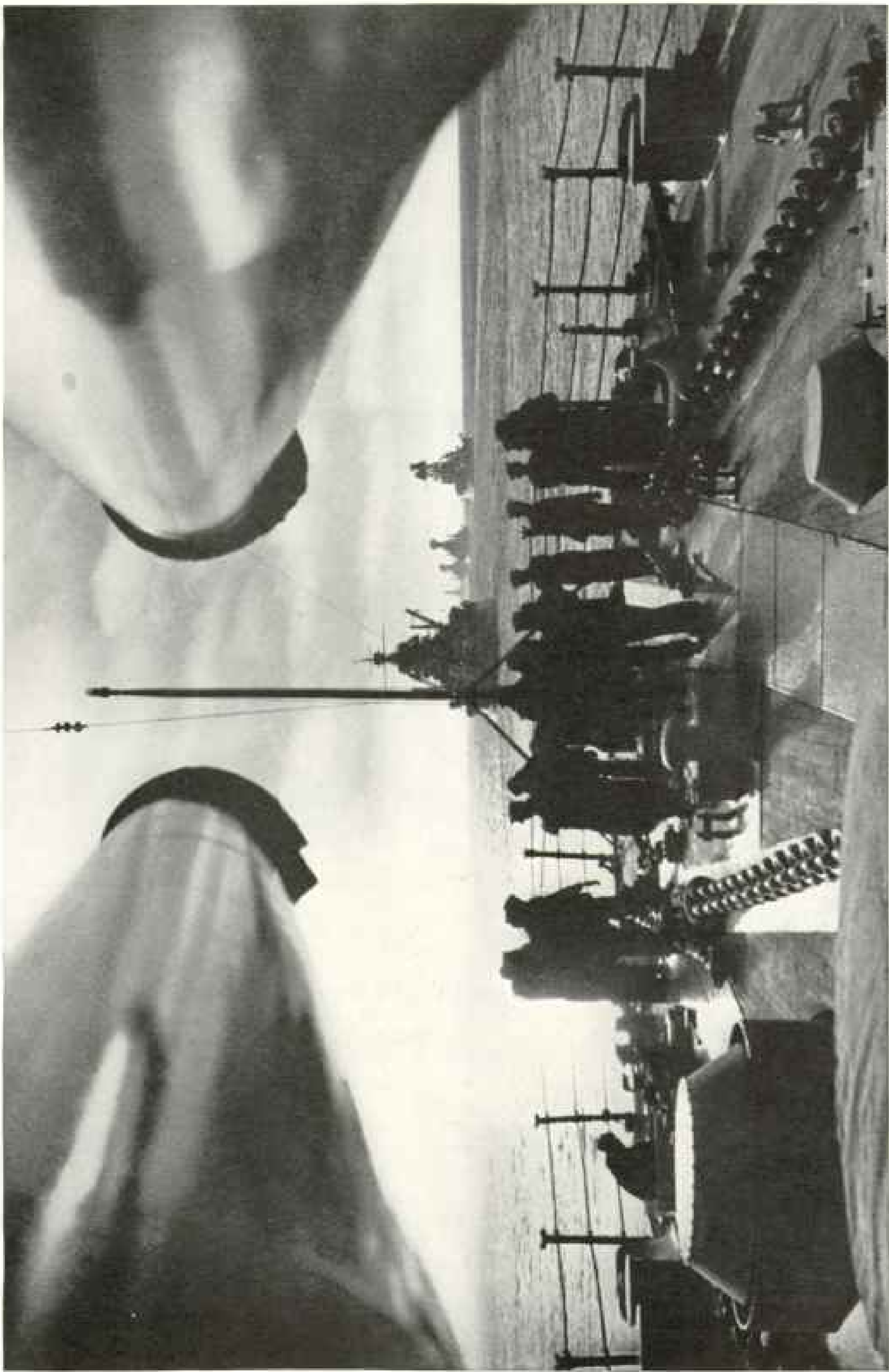
To keep out waves, protect cargo, and strengthen the ship itself decks were invented.



Photograph by Fairchild Aerial Surveys

NEW YORK NOISILY WELCOMES THE "QUEEN MARY" AFTER HER MAIDEN VOYAGE FROM SOUTHAMPTON

Latest luxurious example of shipbuilding rivalry among nations, this 200,000-horsepower Queen of the Oceans generates electricity enough to supply a city; 21 elevators carry passengers from deck to deck. On a saloon wall map a miniature ship crosses a painted Atlantic, showing the Queen Mary's position at all times.



Photograph courtesy U. S. Navy Recruiting Bureau

STANDING OUT TO SEA, BATTLESHIPS OF THE UNITED STATES NAVY STEAM IN CRUISING FORMATION

Beneath gleaming 14-inch guns, bluejackets aboard the U. S. S. *Pennsylvania* secure anchors and ground tackle. Commissioned in 1916 before the advent of the clipper, or overhanging bow, the ship has a blunt or rounded forecastle. Immediately ahead steams the *New Mexico*, with the *Nevada* at the right.



Photograph from New York Herald Tribune

FUTURE YACHTSMEN START THEIR MODELS IN A CENTRAL PARK (NEW YORK) LAKE

Observation of toy boats, sailing under different conditions, like the study of miniature airplanes in wind tunnels, may give hints for better designs in full-sized craft. This model-yacht race is sponsored twice a year by a large New York department store.

Higher masts, wider spread of sails, better ropes and rigging, heavier anchors—all these were slowly developed, through trial and error, by many widely separated, aquatic-minded peoples.

Though history records no famous voyages made by Egyptian navigators, it was from early Egypt that shipbuilding ideas spread to Phoenicia, Greece, and later to Rome—even through the Red Sea to the Orient.

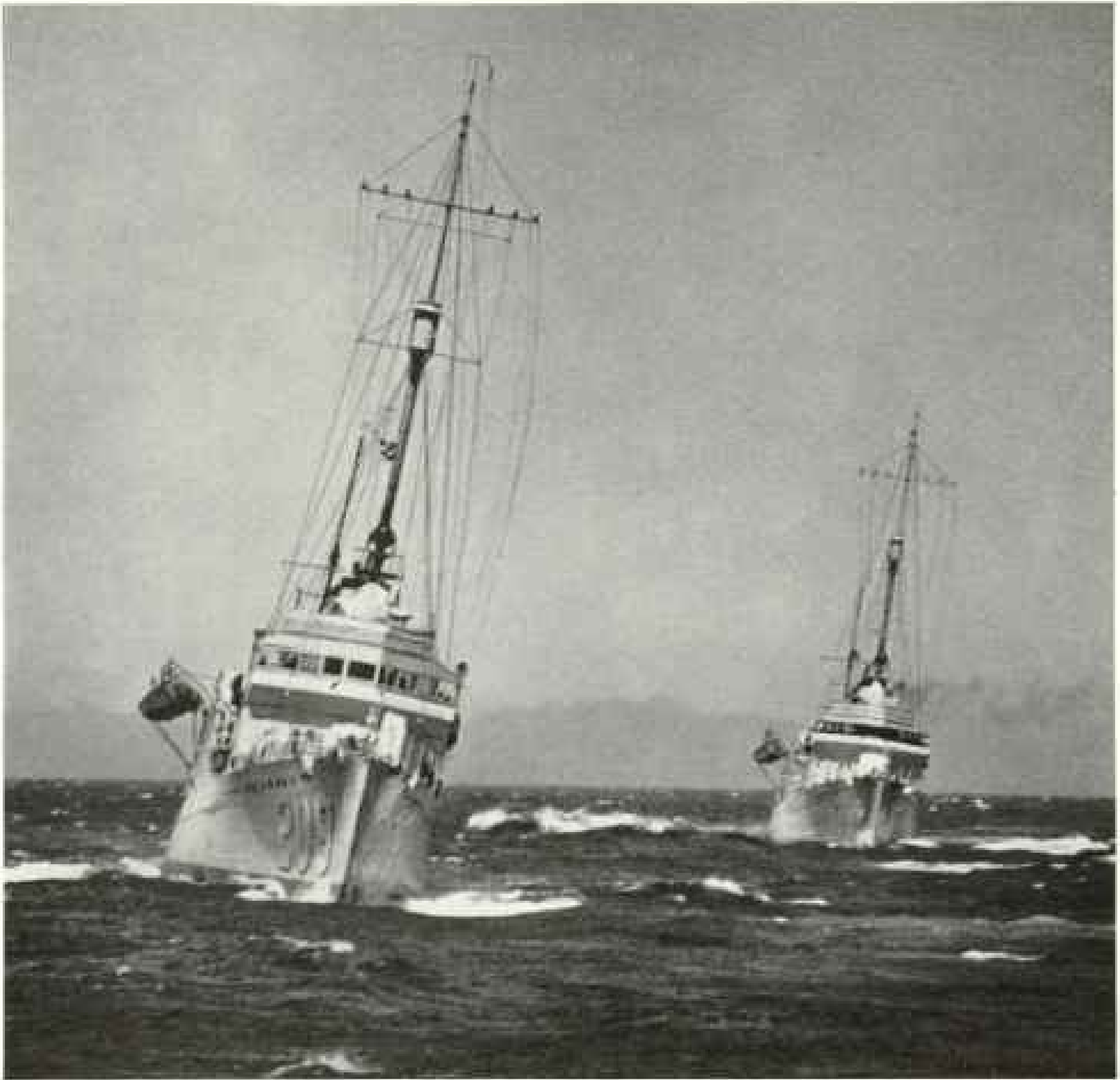
CHINESE USED COMPASS AND A RUDDER

The Chinese junk (Plate III) bears a strong resemblance to pictures of ancient Egyptian craft, especially in the shape of the hull. Although seagoing ships grew up

in the Mediterranean, early Chinese used the compass. Their junks, trading between Canton and the Persian Gulf in the third century, had magnetic iron needles; also, their junks used a rudder mounted on the sternpost.

Beyond the junk, however, Chinese ship-makers progressed little. On canals, rivers, and along coasts, myriad junks and sampans continue to haul much of China's colossal domestic commerce (page 91).

Phoenicia, today, is a forgotten land. Yet "merchants of Tyre" cornered the world trade of their day. They sent dried fruit and wine to the then remote British Isles, and brought back tin and cloth. They are even believed to have sailed



Photograph courtesy U. S. Navy Recruiting Bureau

"ROLLIN' HOME"—TWO DESTROYERS WALLOW THROUGH PACIFIC WHITECAPS

The *Long* and *Wasmuth*, of the U. S. naval scouting force, here are returning from maneuvers to base at San Diego, California. Large figures on their bows identify them as destroyers. Lifeboats are carried "rigged out," ready for quick use if a man goes overboard.

around Africa centuries before Vasco da Gama.

Vikings, bold sailors in their day, ravaged the coasts of Gaul and Spain in their stout oaken vessels (Plate I and page 89) centuries before Columbus was born. Living on dried fish and such little grain as they could carry, they later explored the northwest Atlantic; about 1000 A.D., Leif Ericsson voyaged to North America through icy seas.

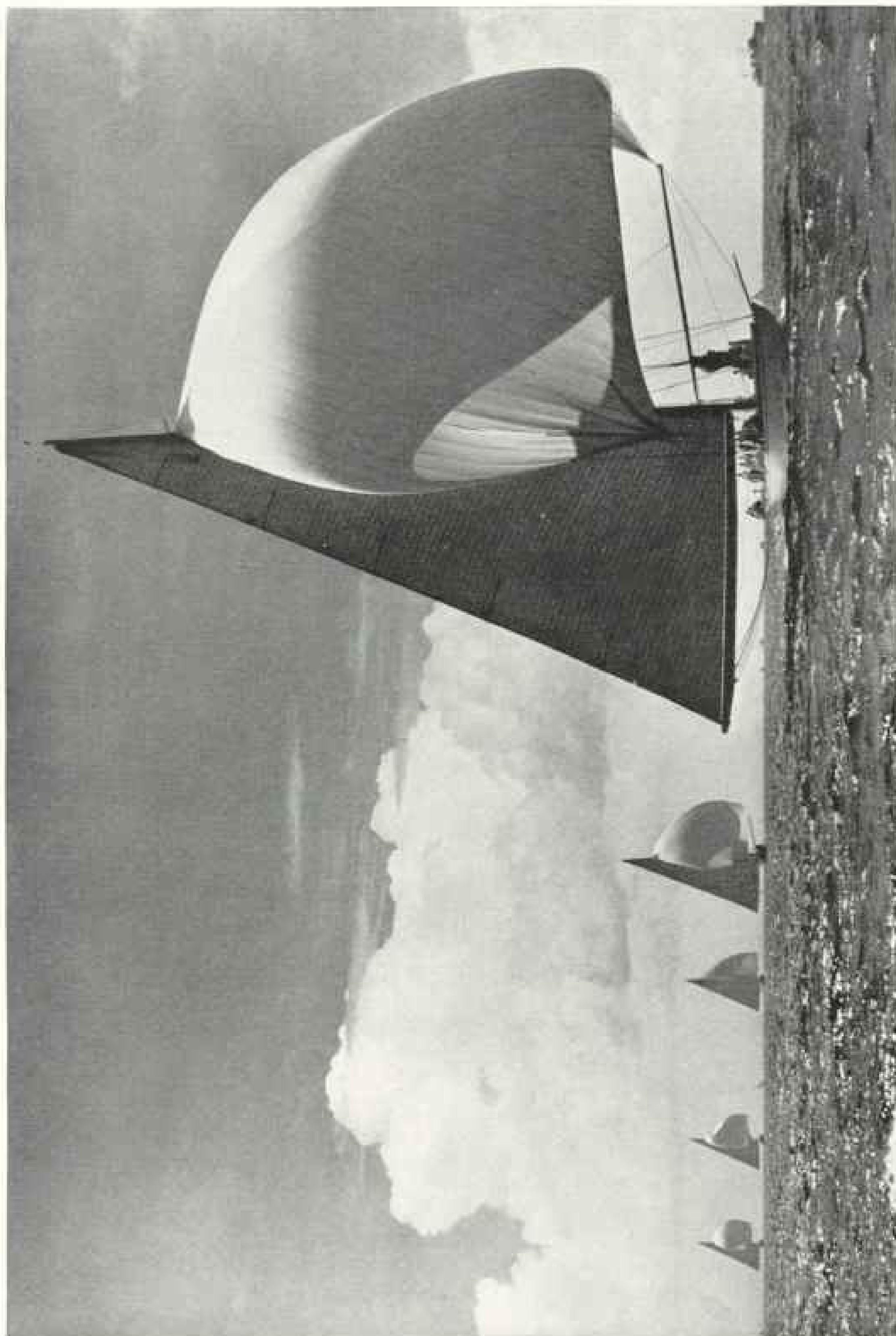
In each passing century, after Egypt supplied a pattern for seagoing merchant craft, first the seafarers of one nation, then of another, made improvements. Columbus's flagship, for example, was a "modern" boat, compared with Leif's open "long

ship." His crew had better sleeping quarters, bigger water casks, more dried meats, better arms and clothes, and better navigation charts and instruments.

THE MERCHANTS OF VENICE

Medieval Venice gained the peak of wealth and power with her Mediterranean merchant fleet that carried goods between Europe and the Near East. During the Crusades it was largely the ships of the merchants of Venice that carried troops and supplies for Palestine campaigns.

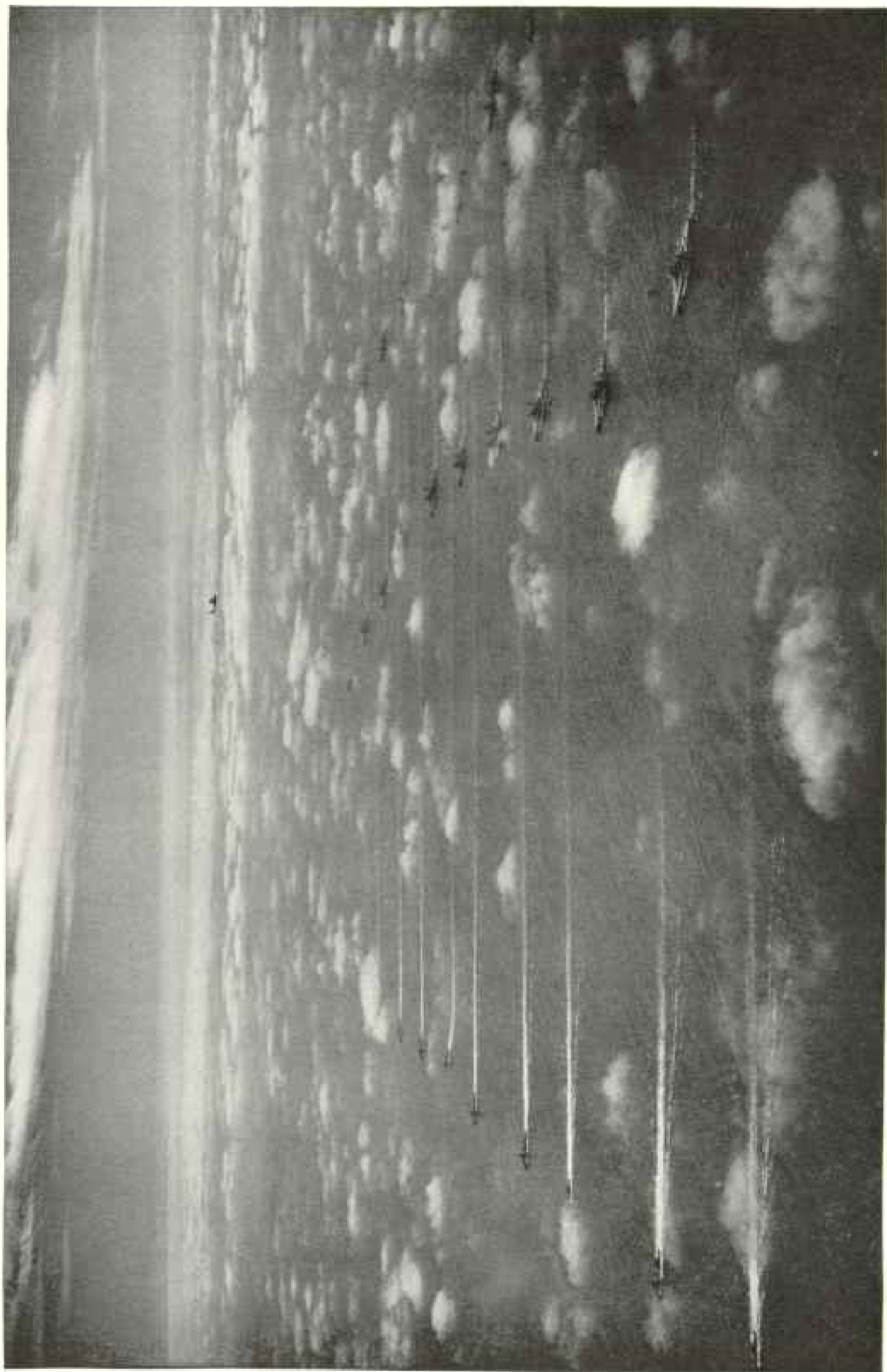
Plate IV portrays a Venetian galley; such were the fighting craft when Christian allies under Don John of Austria defeated the Turks at the Battle of Lepanto in 1571.



Photograph by Maria Hooperfield

SPINNAKERS BALLOONING, MAINSAILS TOWERING, FIVE FAMOUS CUP CONTENDERS TEAR FOR THE FINISH: 1937 BUZZARDS BAY REGATTA

From right to left, the yachts are: *Ranger*, *Rainbow*, *Endeavour I*, *Endeavour II*, and *Fantree*. Driven by brisk breezes, *Ranger* crossed the line first in this 52-mile race.



Photograph courtesy U. S. Navy Recruiting Bureau

DURING NAVY DAY MANEUVERS DESTROYERS RACE THROUGH COLUMNS OF BATTLESHIPS AND HEAVY CRUISERS

Clouds shown are real, not a smoke screen. From overhead a seaplane observes the exercises and by radio keeps in communication with the ships.

In that battle larger vessels carried 100 crossbowmen, 40 cannon, and catapults for throwing stones. Power came from 150 galley slaves, chained to their long sweeps and whipped savagely upon their naked backs to make them pull hard, in steady rhythm.

In Greek and Roman galleys oars were arranged in two or more tiers. The Venetians abolished this system, installing all oars on the same level. The rowers, however, sat on two or three different levels, with the benches inclined in such a way as to leave each man's motions free from interference by the others.

The oars of each group of two or three rowers projected through the same opening or "rowlock." The high bench was nearest the center of the vessel and its occupant pulled the longest oar—sometimes measuring nearly 50 feet in length. The galleys themselves were about 150 feet long.

COLUMBUS'S FLAGSHIP SMALLER THAN MANY MODERN YACHTS

We look now at models of the tiny caravels of Columbus, and are amazed that in craft so frail he dared so much. We might set his whole fleet, the *Pinta*, *Niña*, and *Santa Maria*, upon the decks of the new *Queen Mary* (page 58) and still have room to drill a regiment of infantry.

Yet, in their day, these were stout little ships, developed by man after centuries of experience with Egyptian Nile and coastal craft, Chinese junks, Phoenician traders, Arab dhows, and Roman galleys, successive rungs of man's maritime ladder.

Columbus's flagship, the caravel *Santa Maria* (Plate VI), was a type of vessel developed by the Portuguese in the course of their explorations about Africa; she had better lines than the old cargo carriers, sailed faster, and maneuvered better. Yet she was only 128 feet long—about as big as a fair-sized yacht of today!

Despite their small size, often less than 100 tons, caravels became famous for seaworthiness on long voyages; Vasco da Gama used one in rounding the Cape of Good Hope; so did Magellan, in his pioneer circumnavigation of the globe.

Opening the doors to a new world-wide era of exploration, commerce, wealth, and empire, the little caravel poked its bows into harbors previously unfurrowed by white men's ships, and fled safely from un-

friendly shores, easily escaping from the canoes of warlike native tribes.

Among heroic pioneer navigators in this age of exciting discovery was Sir Francis Drake. This English sea hawk sailed around the globe in the *Golden Hind* (Plate V) at the end of the 16th century, and was the first Englishman to pass through the Strait of Magellan and to explore the west coasts of South and North America.

Drake scraped his ship's bottom hard by what is now San Francisco Bay, crossed the Pacific to the East Indies, and sailed home around the Cape of Good Hope. Rich with spoils from Spanish ships, he reached England after an absence of nearly three years.

In those adventurous days some maritime nations built men-of-war of unprecedented size, called "great ships." As early as the 15th century the Portuguese had vessels of 2,000 tons carrying 1,000 men and 40 guns. Spain followed Portugal as mistress of the seas, using "great ships" to trade with her New World colonies and to carry home fabulous treasure in gold and silver.

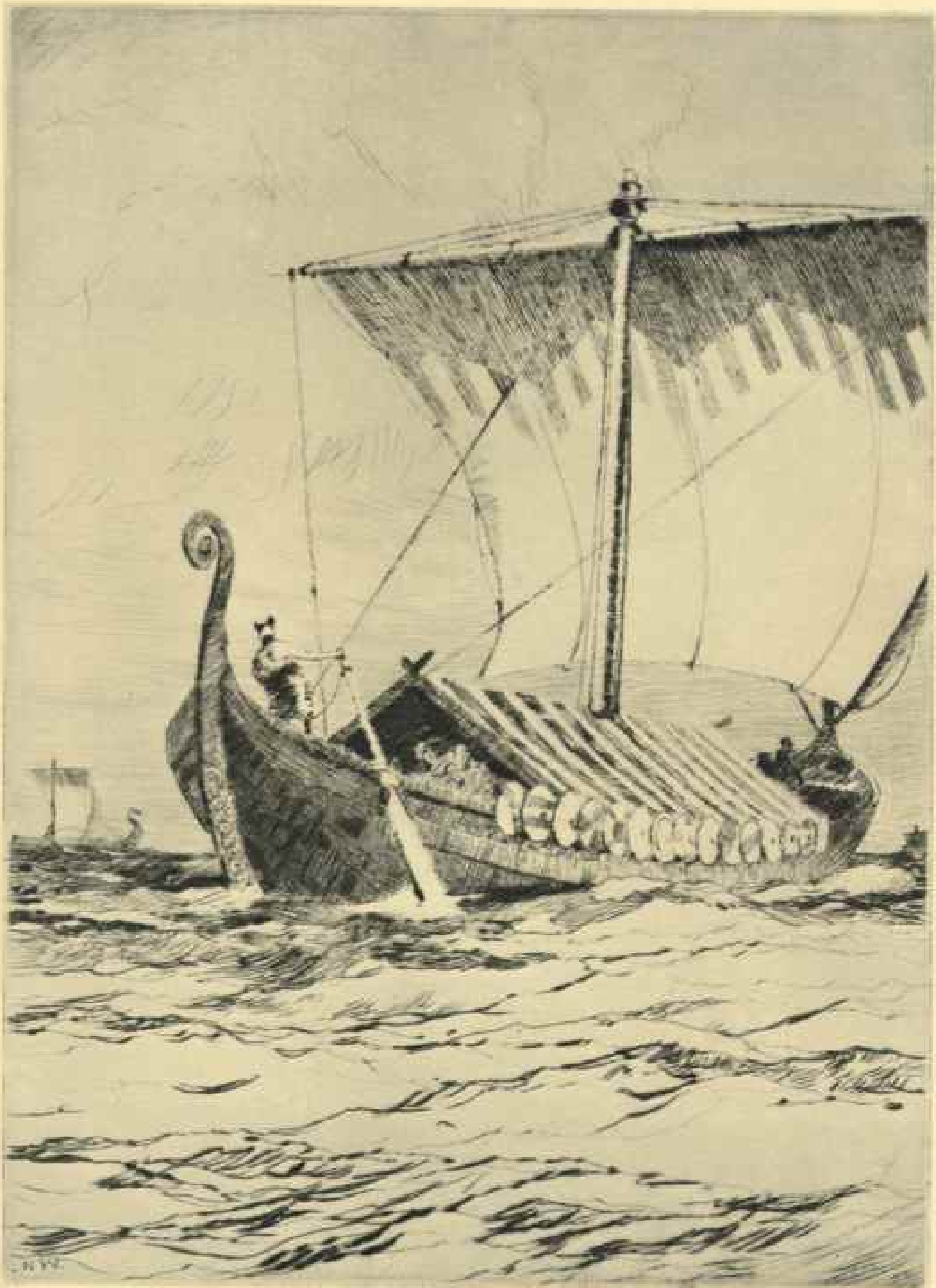
When the proud Spanish Armada concentrated its forces to crush Britain's rising sea power in 1588, the *Ark Royal*, of 800 tons and 55 guns, was the English flagship (Plate VIII). Many types of ships from galleys to galleons took part in this decisive battle.

The British had 197 fighting craft to the Spaniards' 130 or so; but they were smaller and less heavily armed. Britain's superiority lay in the greater mobility of her men-of-war, in advanced seamanship, and in gunnery. After some ten days of fighting and maneuvering, terrific Channel storms wrought havoc among the invading fleet, driving the Spaniards north around the British Isles.

Fully half the ships of the great Armada were wrecked on the coasts of England, Scotland, the Orkney Islands, and Ireland, or sank in the open sea. That fight finished Spain as the greatest naval power, and Britain's sea star rode high.

WHEN AMERICAN MERCHANT SHIPS WERE SUPREME

Long before steamboats came into use, sailing ships had already explored the open waters and inhabited coasts of practically the whole world.



© Norman Wilkinson, 1911

Norman Wilkinson

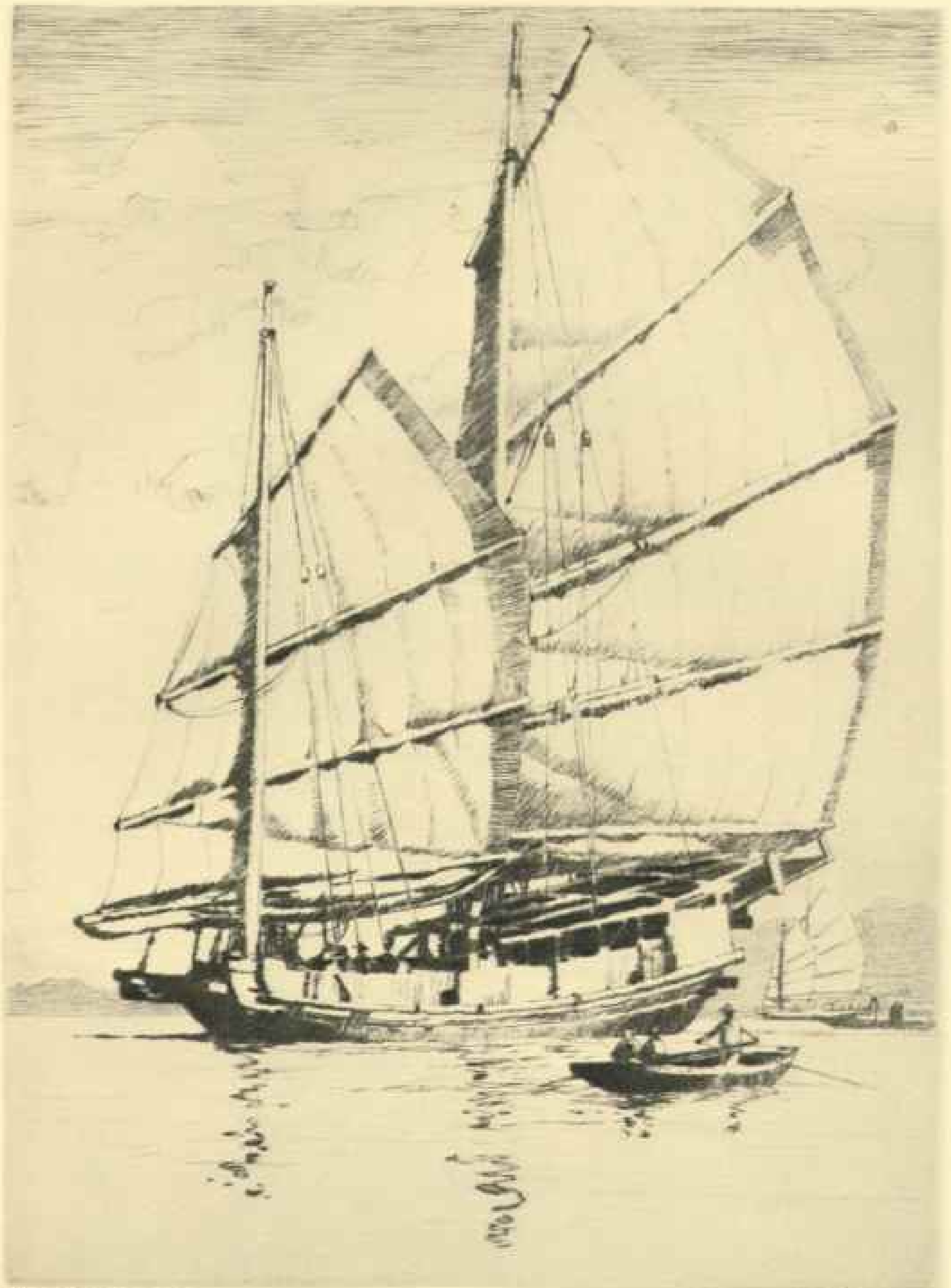
VIKING LONG SHIP: DAUNTLESS EXPLORER OF ICY SEAS



© National Geographic Society

- NORMAN WILKINSON -

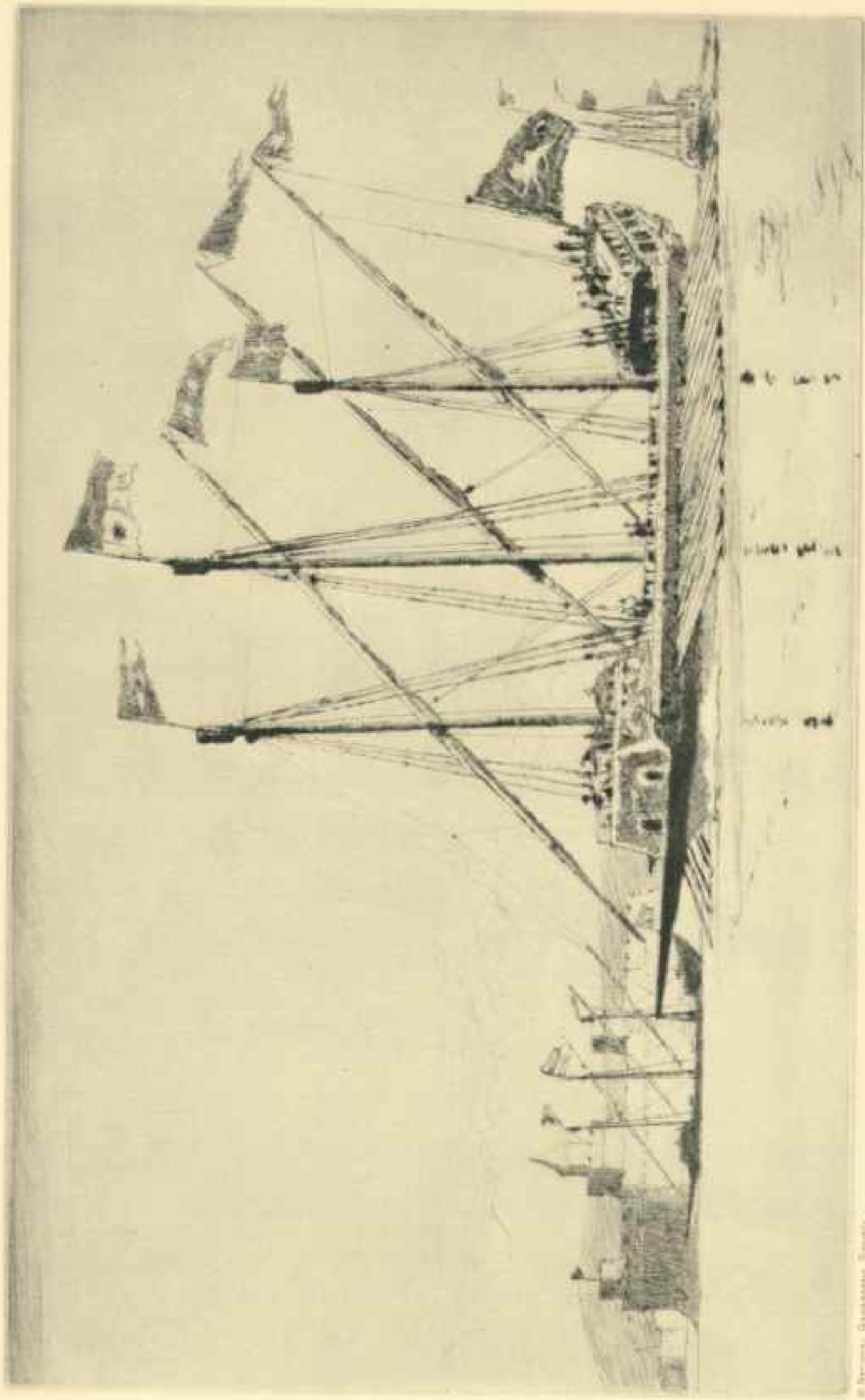
POLYNESIAN CATAMARAN: SOUTH SEA WANDERER AND COLONIZER



© National Geographic Society

Illustration by W. J. KENNEDY

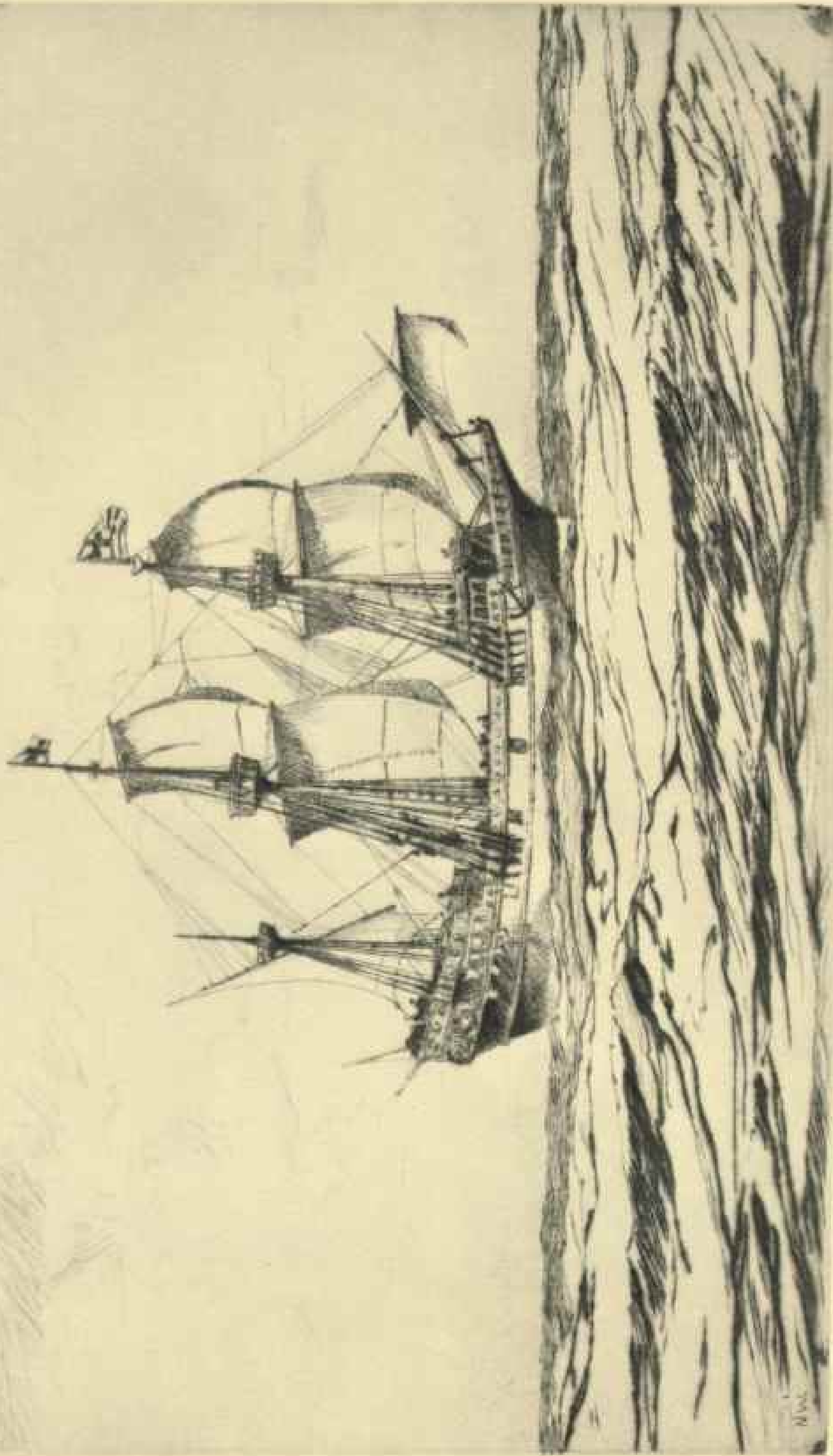
CHINESE JUNK: AGELESS MERCHANTMAN OF THE FAR EAST



© Giuseppe Casanova, Venice

VENETIAN GALLEY: TRADER AND CRUSADER

— NIPPONAN WILHELMSEN —



DRAKE'S GOLDEN HIND: PIONEER OF BRITISH SEA POWER

Illustration by [unreadable]

© [unreadable]



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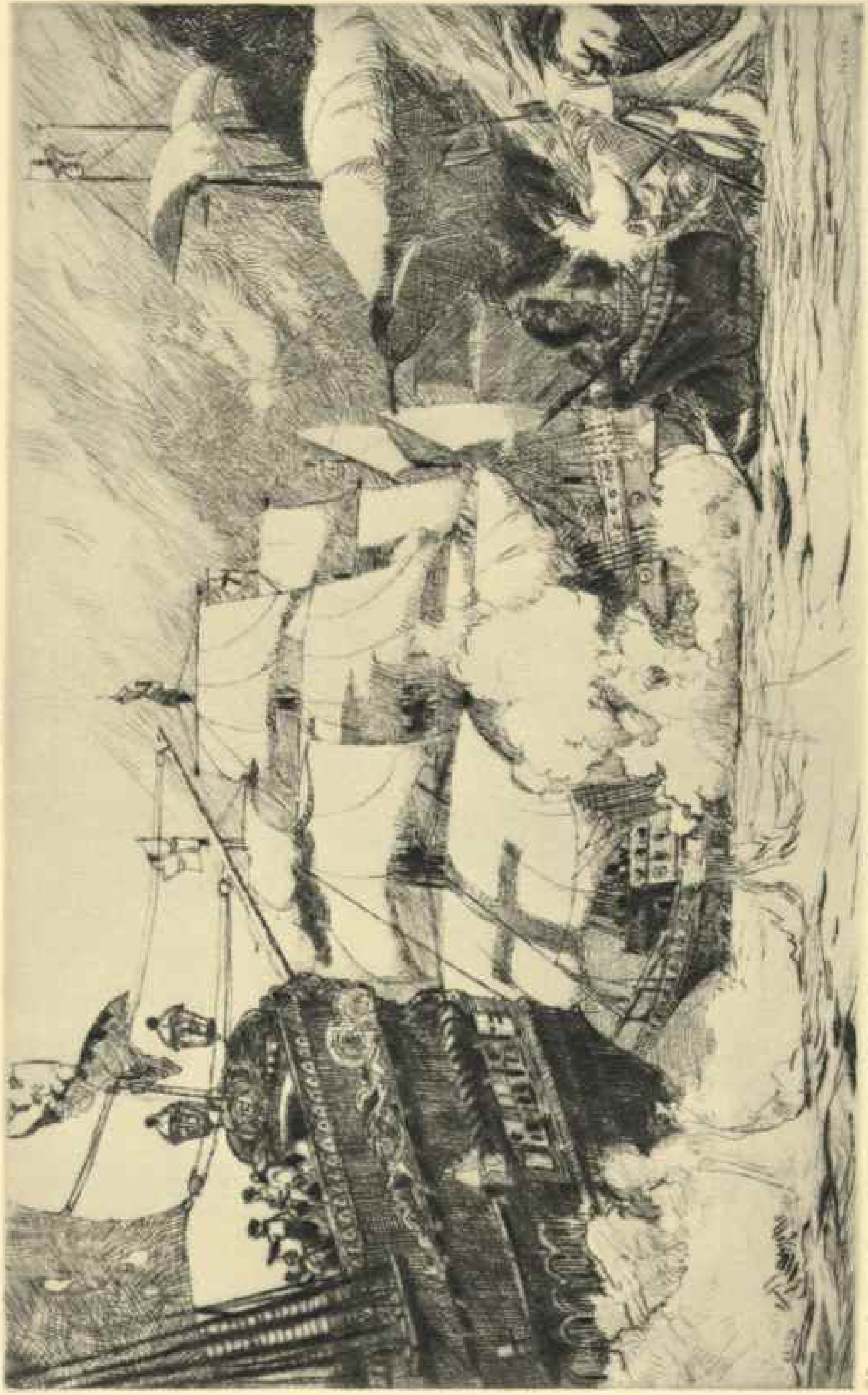
SANTA MARIA: THE GREAT ADMIRAL'S FLAGSHIP OF DISCOVERY



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— Norman Wilkinson —

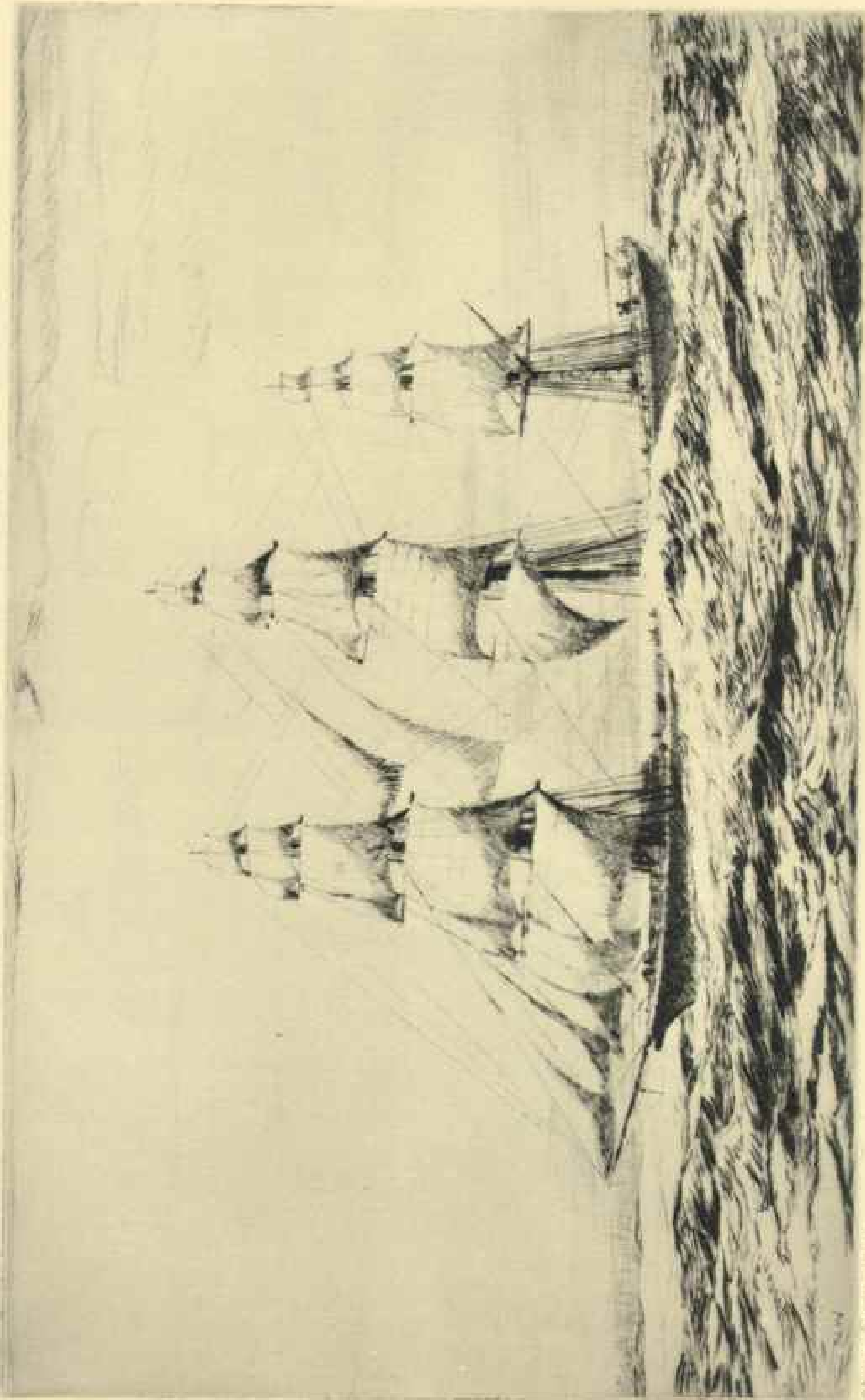
U. S. S. CONSTITUTION: SYMBOL OF AMERICAN PATRIOTISM



© 1895, Currier & Ives

THE ARK ROYAL SPANISH ARMADA DEFEATED

Illustration by G. J. Ross



© American Clipper Ship Co.

FLYING CLOUD: WHEN AMERICAN CLIPPER SHIPS SWEEP THE SEAS

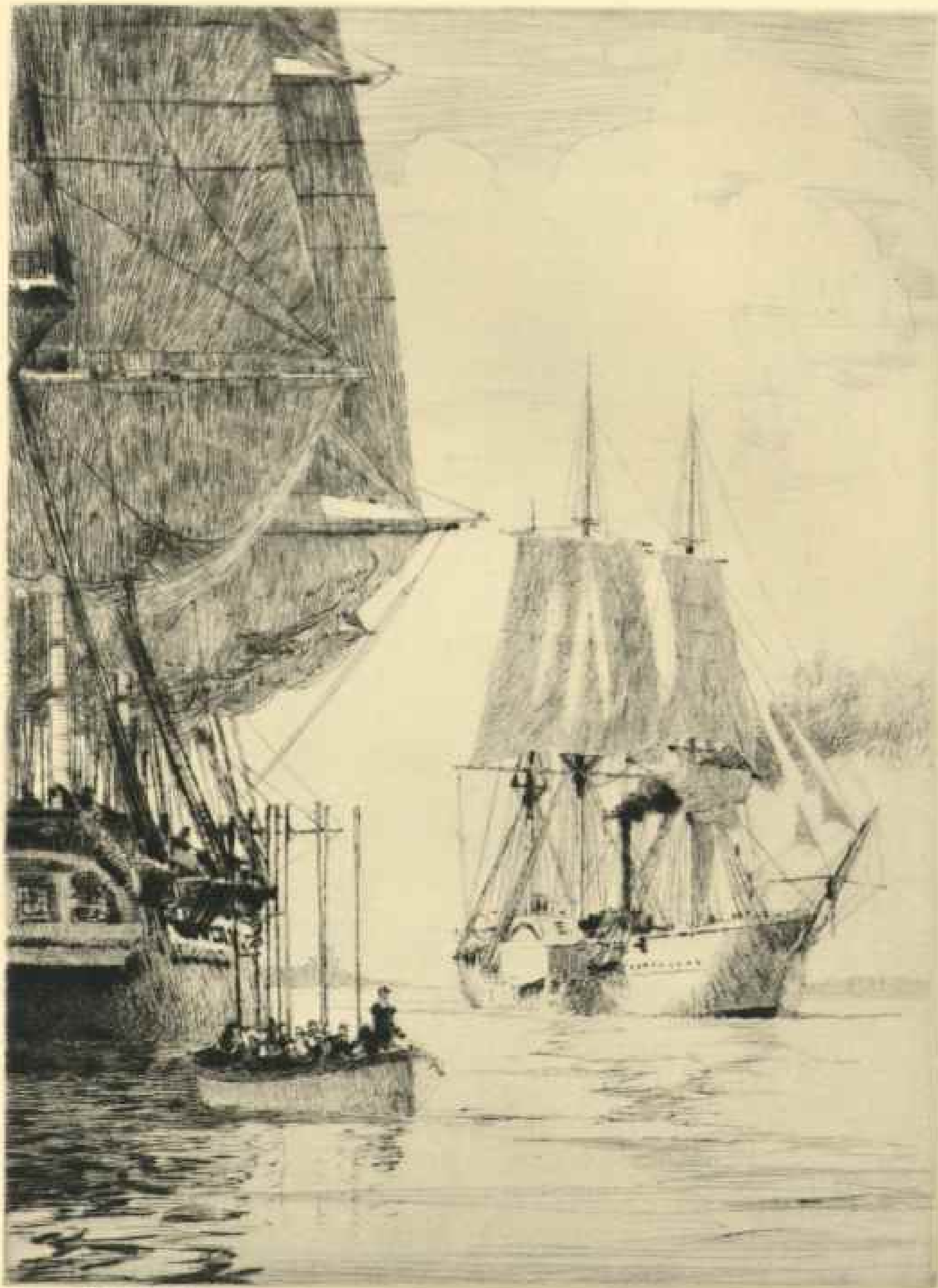
Illustration by W. W.



© 1890, GEORGE S. STANTON

NORMAN WILKINSON

AMERICAN BRIG: WORLD TRADER AND PRIVATEER



© Norman W. Kinnison - 1907

- Norman W. Kinnison -

U. S. S. MISSISSIPPI: PERRY'S FLAGSHIP OF VICTORY AND DIPLOMACY

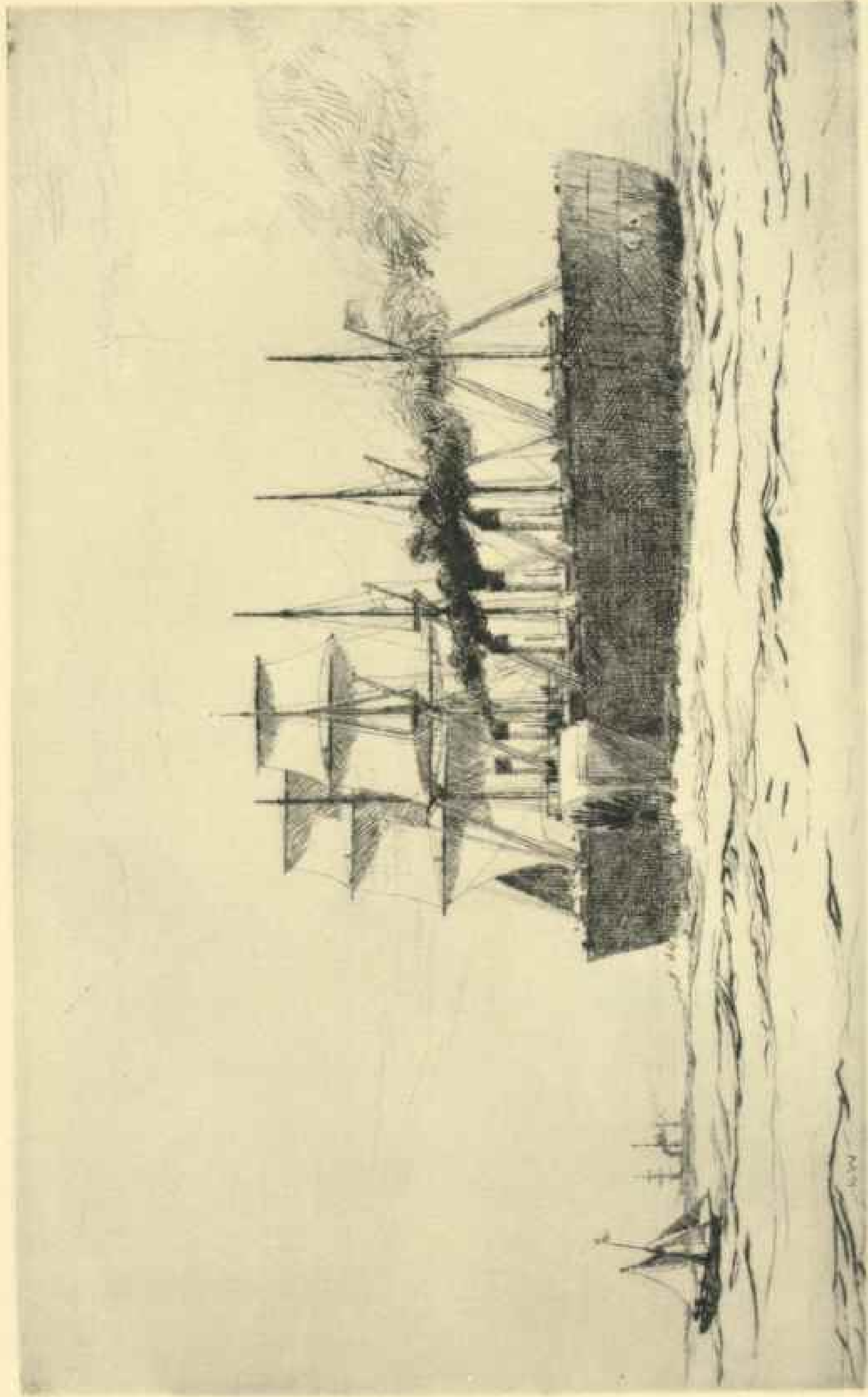
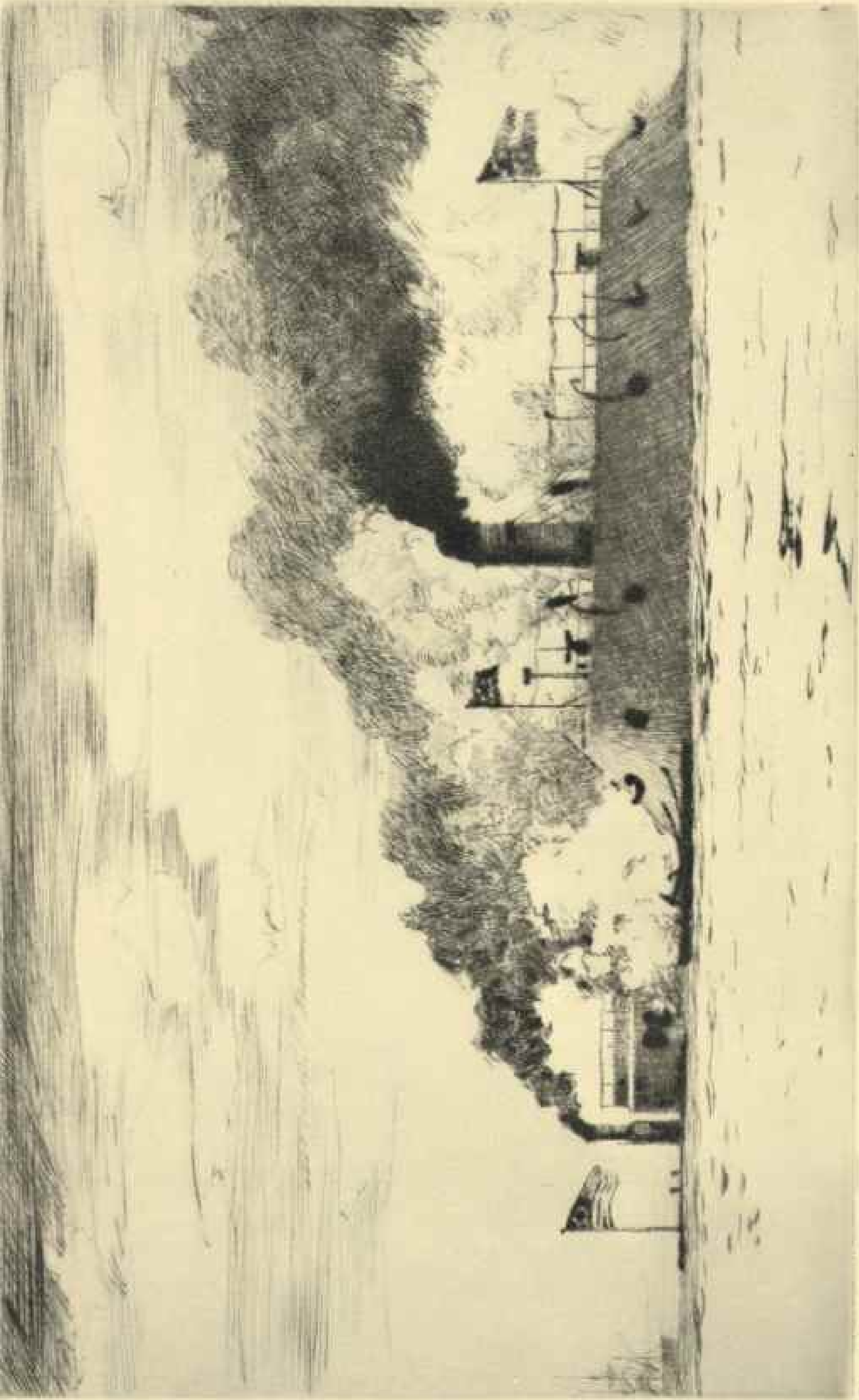


Illustration of the ship

THE GREAT EASTERN: SAIL AND STEAM ON THE ATLANTIC

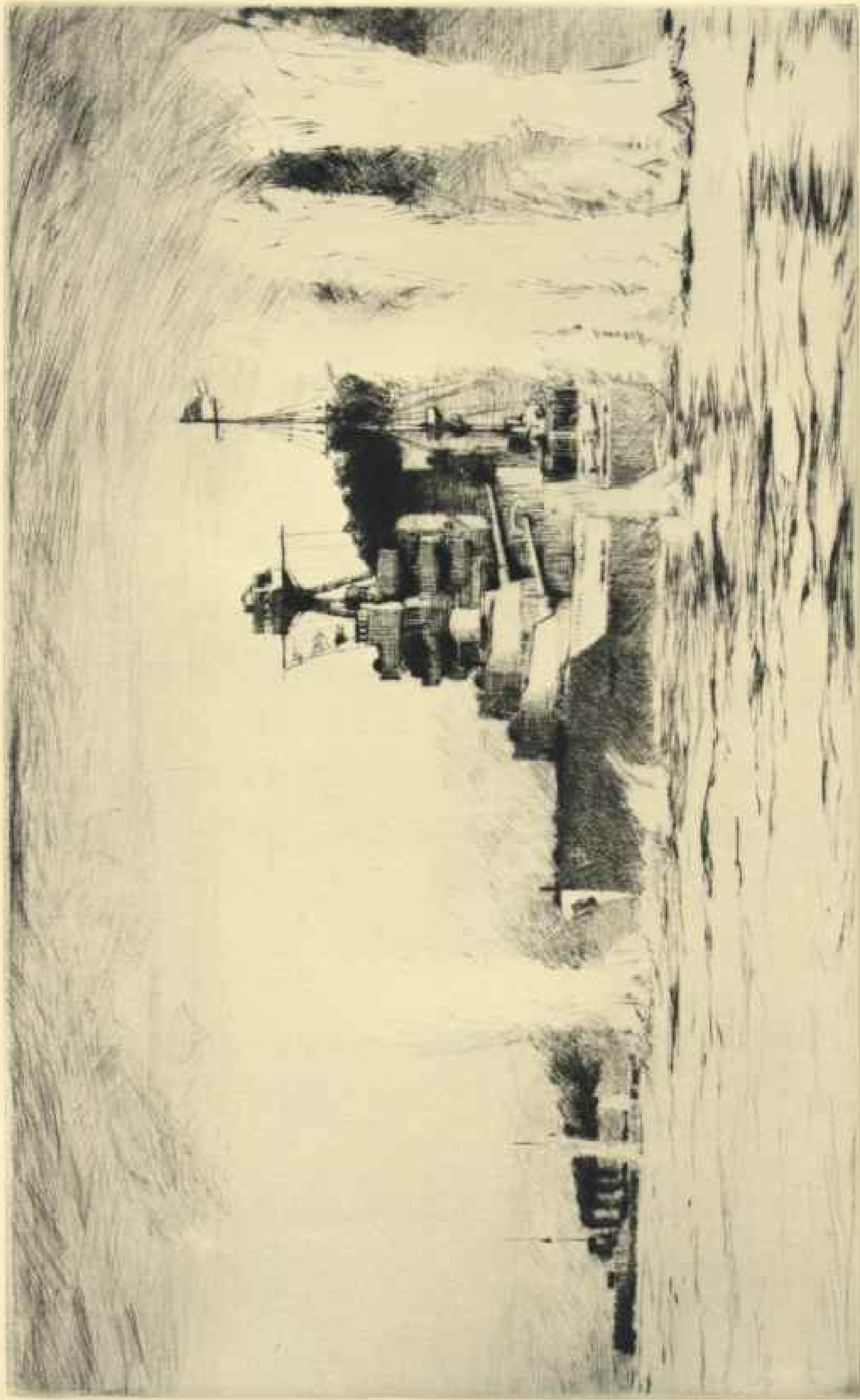
Illustration of the ship



© National Geographic Society

MONITOR AND MERRIMAC: BAPTISM OF THE IRONCLAD

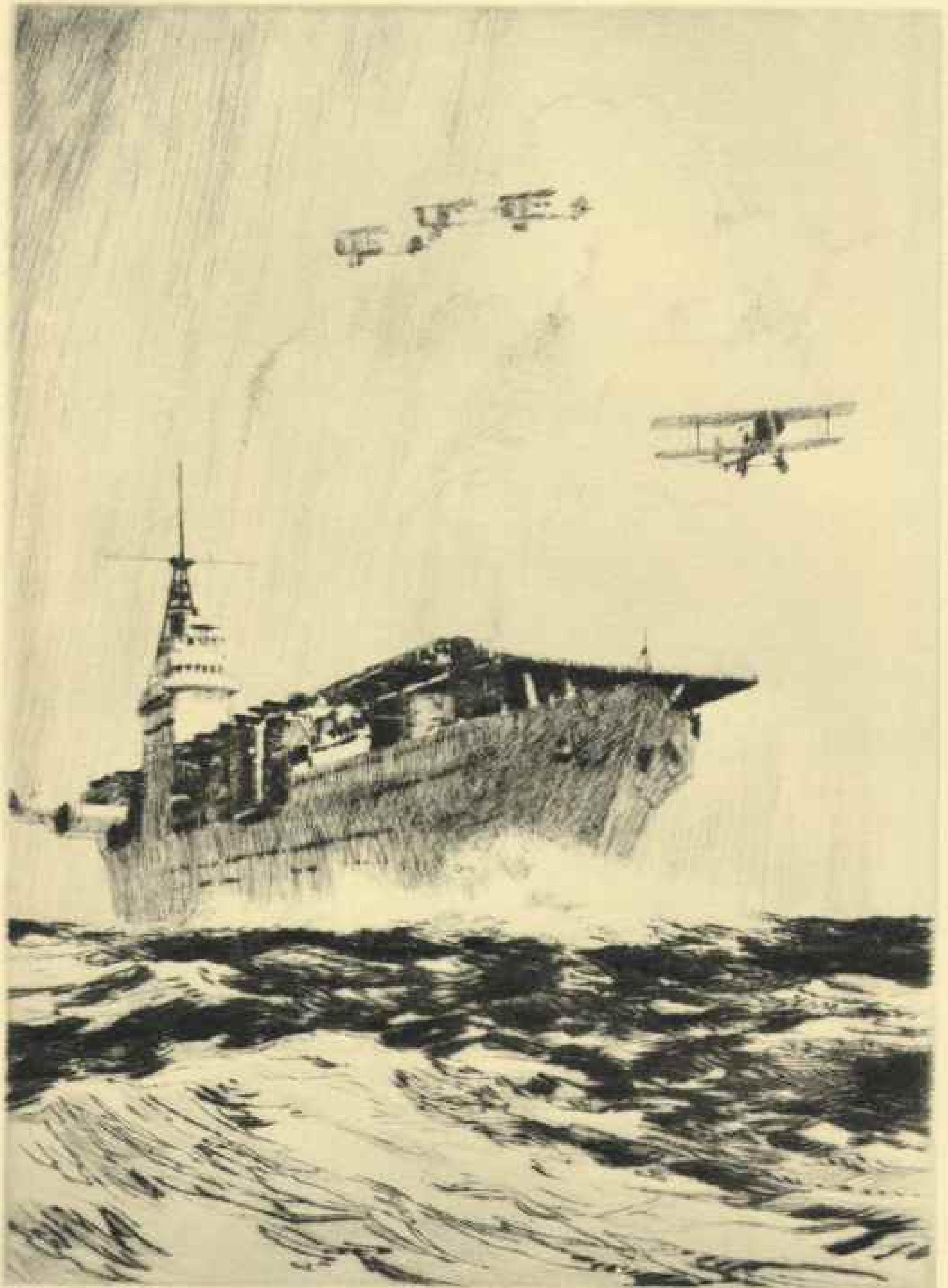
— NARRATIVE BY J. H. HARRIS —



© 1906 - H. M. S. WARSPITE

H. M. S. WARSPITE, A DREADNOUGHT AT JUTLAND

- N. M. S. WARSPITE -



© 1918, GEORGE A. HARRIS

- NORMAN WILKINSON -

U. S. S. RANGER: LINKING SEA AND AIR POWER

Profits were enormous, too. Often on a single voyage to India for pepper and spice, or to China for silk and furs, a ship would enrich its owner for life.

Colonial American shipping grew so fast that by 1775 a third of all vessels engaged in British trade were American built.

There is little doubt that, during the last century of sail, American merchant ships were the world's best for speed and seaworthiness.

Probably lack of money led to elimination of the ornate and top-heavy forecastles and cabins that were characteristic of foreign-built ships. But simple superstructures made for trimmer and handier ships, which were further improved in speed and maneuvering by ever developing "stream lines" and by devising better rigs aloft, with larger sail area.

Many influences obliged America to build better ships. Our geographical position forced us to make very long voyages; lack of naval protection meant that we must design ships speedy enough to show their heels to sea enemies. Many different rigs were used, but perhaps the best-known type, until about 1820, was the trim armed brig of some 200 tons, shown in Plate X.

More size and speed came with the transatlantic packet ship, a trend accelerated in 1849 by the discovery of gold in California and Australia.

THE GLORY OF THE CLIPPERS

There followed the enduring glory of the American clippers, most wondrous sailing vessels of any age. Unheard-of speeds, faster even than those of many steamers, were attained by increasing the proportion of length to beam, by making the bows concave, and by carrying enormous spreads of canvas even in heavy weather. Capable captains and able seamen "drove" their ships as ships had never been driven before.

Master designer of Yankee clippers was Donald McKay, a native of Nova Scotia, who came to the United States in 1827. From his East Boston yard was launched a succession of history-making ships.

Most talked about and still living in song and story was the *Flying Cloud* (Plate IX). Twice she sailed around the Horn from New York to San Francisco in the record for that time of 89 days. During four days of heavy, favorable gales, she averaged more than 15 miles per hour.

With his 2,400-ton *Sovereign of the Seas*,

then the world's largest merchant ship, McKay hoped to better the *Flying Cloud's* performance.

Attempting to break the record rounding the Horn, the *Sovereign* lost her mast. Later, however, in 1853, she did break all previous records for sustained speed under canvas, averaging $17\frac{3}{5}$ knots for 24 hours and on short stretches logging over 19 knots!

Two McKay ships built for the Liverpool-Australia trade, the *James Baines* and *Lightning*, set world records for speed under sail that have never been surpassed.

The *Baines* swept across the Atlantic from Boston to Liverpool in 12 days and six hours, the fastest transatlantic port-to-port passage ever made by a sailing ship. The same vessel also set the round-the-world record of 134 days, attaining at times a speed of 21 knots!

Lightning made the greatest day's run in the annals of sail, 436 nautical miles, which is the equal of many a modern liner's top performance. Only the advent of steam could have driven such a perfect sailing machine from the seas.

THE FAME OF THE "CONSTITUTION"

Superiority of America's ships in the last century of sail was also reflected by her men-of-war.

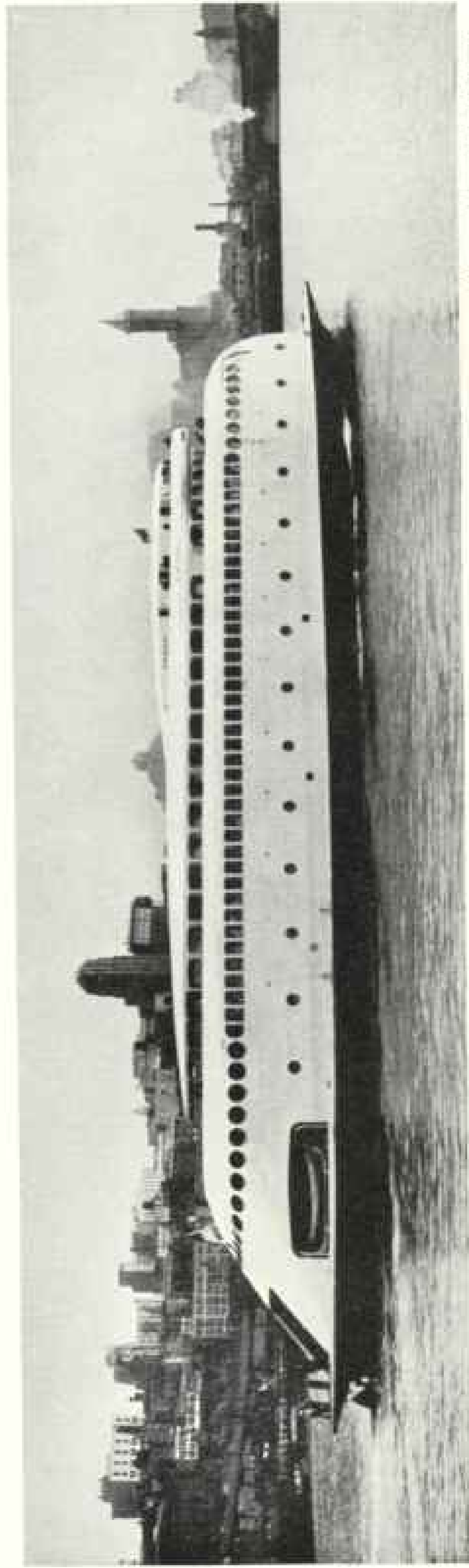
In three straight victories the frigate *Constitution* (Plate VII) became the most celebrated of our ships, and has ever since been revered as a symbol of American patriotism and fighting courage. Recently restored, she is preserved at the Boston Navy Yard as a cherished national memorial to the glory of the infant Navy.

The steam frigate *Mississippi*, Commodore Perry's flagship on his mission to alter the isolationist policy of Japan, was the same vessel that had flown his flag as commander in chief during the Mexican War (Plate XI).

Perry's fleet anchored in Yedo (now Tokyo) Bay, facing Kurihama, from whence he went ashore to present President Fillmore's letter. Southwest, on Izu Peninsula, is the old town of Shimoda, with the temple in whose grounds are buried five of Perry's American crew who died there.

Townsend Harris, first American Consul General to Japan after the treaty negotiated by Perry had been signed, lived in this old temple at Shimoda.

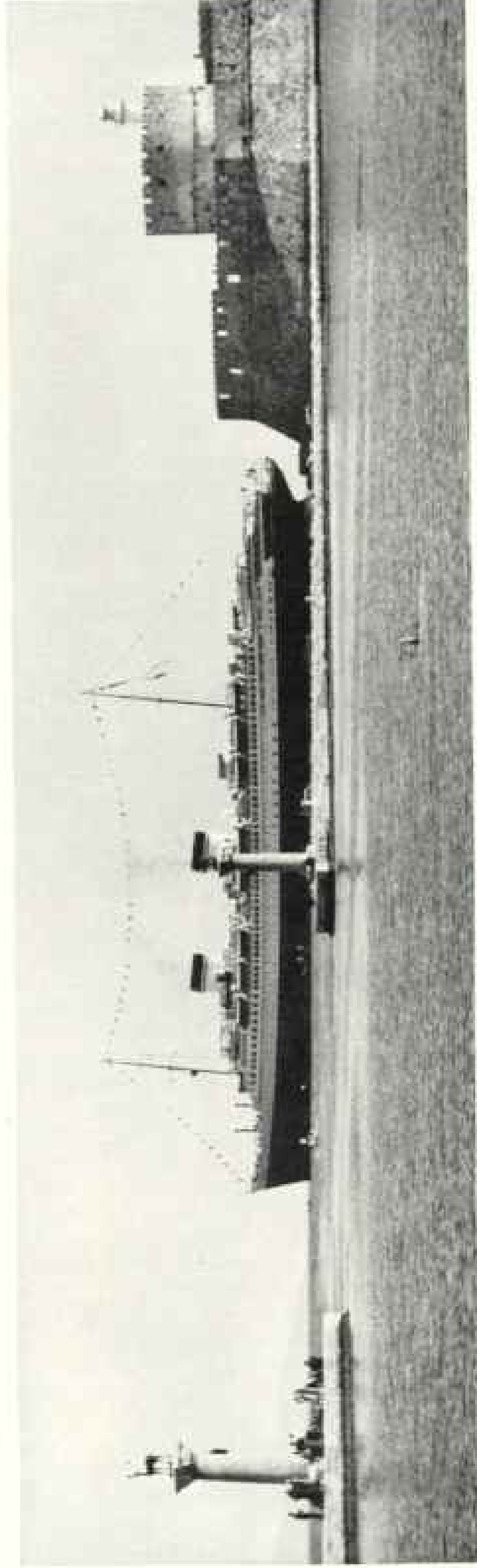
Harris was an extraordinary man. Orig-



Photograph from Ewing Galloway

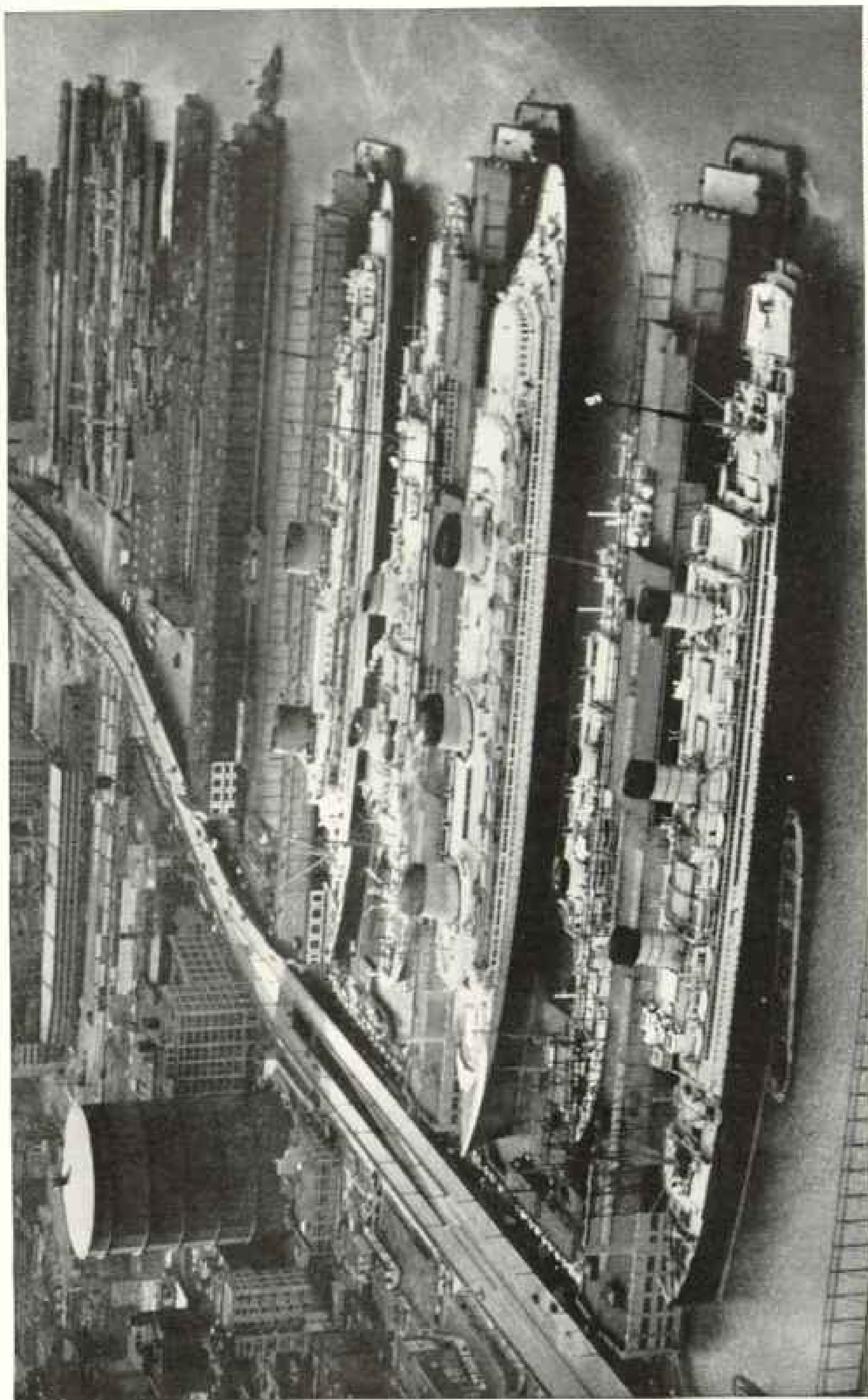
BETWEEN SEATTLE AND BREMERTON SPEEDS THIS STREAMLINED FERRY

The queer-looking craft, carrying 1,370 passengers, is the *Kakabobé*, Indian name for Flying Bird. It was rebuilt and so named in 1935.



FROM THE ISLAND OF RHODES, IN THE AEGEAN SEA, CAME THE FIRST LAWS OF THE SEA

Beside this harbor, till felled by a quake in 224 B. C., stood that enormous figure, the Colossus of Rhodes, one of the Seven Wonders of the ancient world. The city of Rhodes is now visited annually by throngs of sight-seers. The *Rez* lies anchored off the entrance.



Photograph from Wide World

LUXURIOUS FLOATING HOTELS SHUTTLE FERRYLIKE BETWEEN NEW YORK AND EUROPE

In good times every cabin is sold. For decades the United States has paid enormous sums for carrying its mails, people, and freight. Here, in order, are *Brenenburg* (British, 52,100 tons), *George* (British, 27,759 tons), *Normandie* (French, 83,423 tons), *Rex* (Italian, 51,064 tons), and *Europa* (German, 49,746 tons). Not often are so many famous big liners found in port together.



Photograph by Richard B. Huit
HEWN FROM AN IMMENSE MAHOGANY LOG, THIS ROOMY
COLOMBIAN CANOE HAS A BEAM OF 3½ FEET, AND
IS 4 FEET DEEP

nally an unschooled, convivial merchant in New York, he first became interested in the Orient while visiting there on a trading ship. Eventually appointed Consul General to Japan, he achieved an influence there which to this day has been unsurpassed by any foreign diplomat.

The *Mississippi* was one of the earliest naval steamships, at that period invariably equipped with auxiliary sail power. She had paddle wheels instead of a screw propeller. In 1863 she met her end on the

river for which she was named; Confederate batteries sank her as she was following Admiral Farragut in the *Hartford*.

FROM SAIL TO STEAM

In the decade before the American Civil War there was a slow transition from sail to steam for the motive power of ships, and from wood to iron for their construction.

England set the pace. In 1859 she completed the 19,000-ton liner *Great Eastern* (Plate XII), a mammoth for her day. Paddle wheels driven by 5,000-horsepower engines were designed to give her 15 knots speed. Forty or fifty years in advance of her time, she was unhappily a commercial failure.

Once the *Great Eastern's* rudder was disabled during a heavy gale. The ship fell off into the trough of a great sea and rolled so violently as to pitch a cow through a skylight into the grand saloon, crowded with passengers!

Later this leviathan liner was used in cable-laying. She put down the second transatlantic cable in 1865 and laid four more by 1874.

SHIPS OF THE CONFEDERACY

During the Civil War, the Southern States were cut off from sea communications by an almost impregnable Union blockade. Having no navy to start with, and handicapped in building war vessels by lack of facilities, the body of naval officers who "went South" in 1861 showed much resourcefulness in devising new types of ships and weapons with which to combat the strong Federal Navy.

Although European navies had already used armored vessels, the *Monitor-Merrimack* duel at Hampton Roads in March,



Photograph by Maynard Owen Williams

IN SUCH AN "ARK OF BULRUSHES" THE CHILD MOSES MAY HAVE BEEN FOUND BY PHARAOH'S DAUGHTER

The gufa, or coracle, woven of switches and lined with bitumen, has been used since antiquity, especially on the Tigris. Here lime is being unloaded at Baghdad.

1862 (Plate XIII), was the first engagement between two such men-of-war.

The Federal *Monitor*, "a cheese box on a raft," was an entirely new type of ship invented by John Ericsson; her revolving gun turret set a fashion that still remains a feature of present-day battleships. The Confederate *Merrimack* (sometimes spelled *Merrimac*) was originally a wooden steam frigate whose upper works had been replaced by a turtle-backed citadel faced with armor.

On the day before the fight, the *Merrimack* had sent a shiver through the North by easily destroying two fine Union frigates in Hampton Roads. With dramatic timeliness, the newly built *Monitor* arrived from New York at night, and offered combat early next morning. Her fantastic outline and tiny bulk amazed the officers aboard the Confederate ship, which was greeted with a 168-pound shot fired from an 11-inch turret gun.

For four hours the action was hot and lively, the ironclads firing at close range. For both ships, armor proved to be almost perfect protection. No one was killed and only a few wounded. The battle was virtually a draw, the *Merrimack* finally returning upriver to Norfolk.

Its worth proved, armor thereafter became as essential as guns for men-of-war of the battleship class; now they can take as heavy punishment as they give.

THE DREADNOUGHT ARRIVES

At the historic naval Battle of Jutland in May, 1916, the British Grand Fleet numbered 28 huge battleships of the dreadnought class. Plate XIV dramatically depicts one of these, the *Warspite*, at "Windy Corner," so called because there she came under the concentrated fire of a large part of the German High Seas Fleet.

Although struck 27 times by big shells, the heavily armored dreadnought sustained



Photograph by James C. Sawders

**BALSAS, GRASS BOATS WITH REED SAILS, PLY LAKE TITICACA, ALMOST TWO
AND A HALF MILES ABOVE THE SEA**

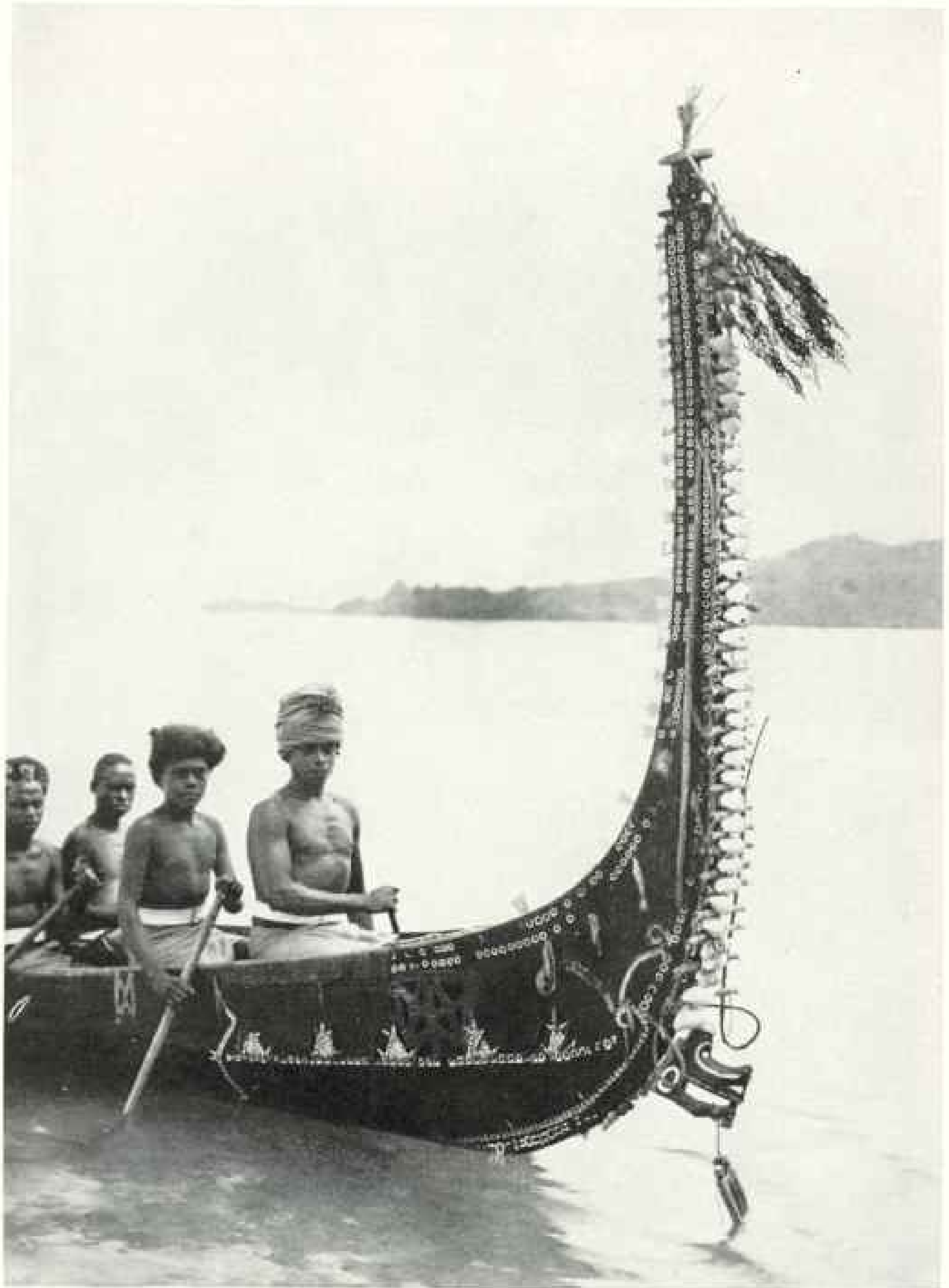
High in the Andes, touching Peru and Bolivia, Titicaca is 130 miles long by 41 miles wide. The man here is steering his *balsa* with a paddle held under his right leg.



Photograph from Publishers Photo Service

PIG OR COW SKINS, INFLATED LIKE BIG FOOTBALLS, FLOAT HEAVY LOADS

On ancient Nineveh's walls carvings show men swimming the Tigris, aided by such skins, which are also lashed together to form rafts. Here a raft is being made on the Sutlej River in the Himalayas.



© Merf La Vey

PROUDLY ERECT, MUSCULAR SOLOMON ISLANDERS PADDLE A NEW WAR CANOE

The grotesque wooden head on the bow near the water is a tutelary deity, which islanders believe can see hidden rocks or approaching enemies. The lofty prow, decorated with shells, is used to hold the hull of the boat high off the sand when it is beached and tipped for cleaning. The bow originally served somewhat to protect the crew from flying arrows when paddling toward an enemy.



Photograph by Eisenstaedt from Pix

ARAB SAILS REFLECT THEIR SPEARHEAD FORMS IN GLASSY SUEZ WATERS

From ancient Egypt other nations borrowed the art of boatbuilding. Chinese junks, like Arab ships of the African coasts and Persian Gulf, still reflect early Egyptian lines and rigging. These craft are hugging a bank of the canal, that their tall sails may catch every zephyr from land.



© A. B. Wilse from Axel H. Osholm

ABOARD THIS ANCIENT SHIP, A VIKING QUEEN RODE INTO THE GREAT UNKNOWN

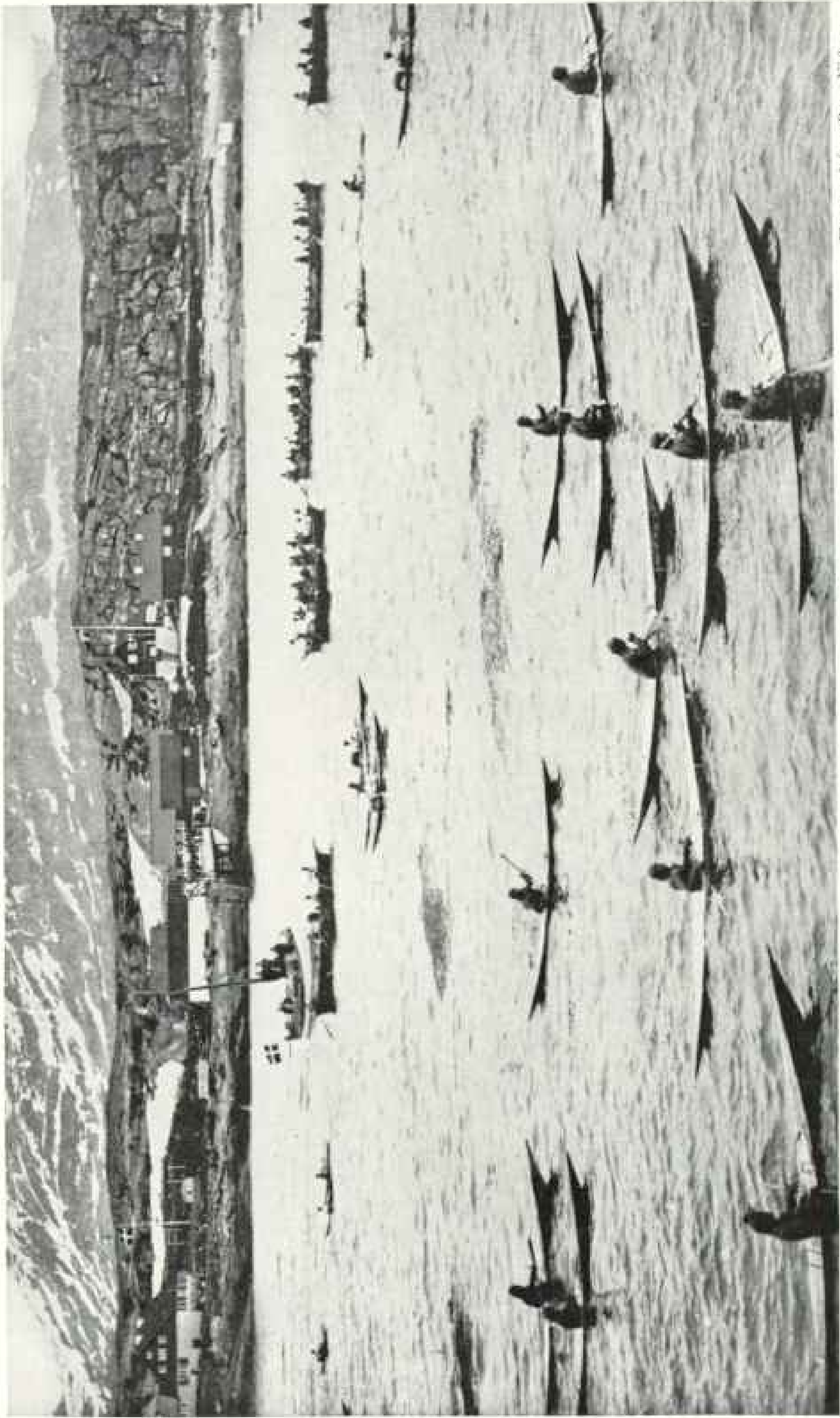
During her life it had been a pleasure craft, and when she died it was used as her coffin. Excavated years ago on Norway's coast, the high-prowed boat is now in a museum near Oslo.



Photograph by Eduardo Gast

MARK TWAIN GAINED HIS PEN NAME PILOTING BOATS LIKE THIS

With its tall stacks, ornate pilothouse, and splashing stern wheel, this Magdalena River craft, copied after old Mississippi packets, plies between Barranquilla, Colombia, and upstream towns. "Mark twain" was a cry used by the boatman casting the lead, to indicate river depth.



Photograph from Roger Stollen.

GREENLAND ESKIMOS BUILD THEIR KAYAKS AND UMIAKS MOSTLY OF SKINS BECAUSE WOOD IS SCARCE.

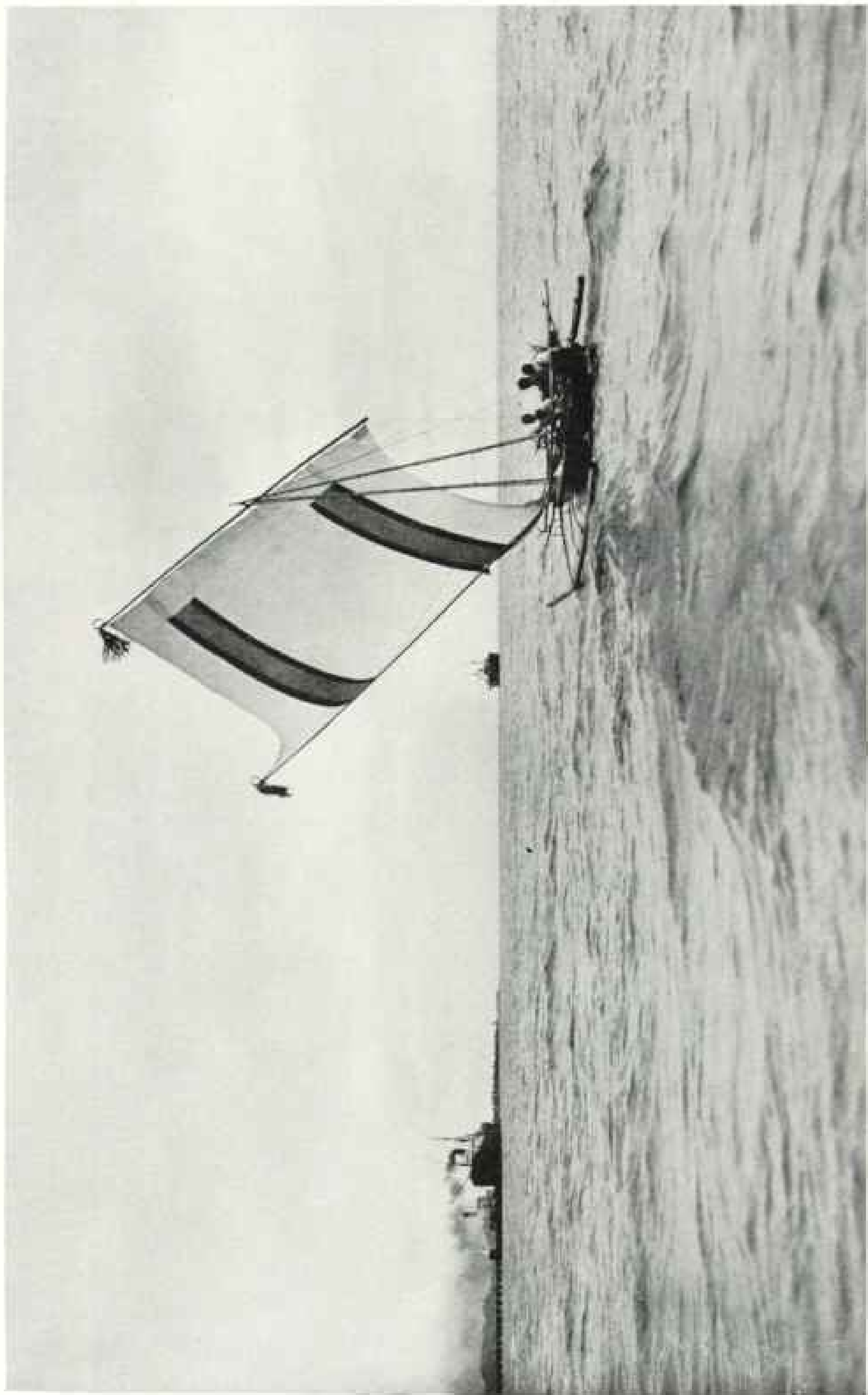
Only a wooden framework is used, to form the craft and hold the skins in place. The kayak, driven by a double-bladed paddle, is a man's craft, holding only one person. It is the usual means of transport when waters are ice-free. Women travel in the larger umiaks, seen in the background.



Photograph by Gilbert Grosvenor

EVERY "OLD CHINA HAND" KNOWS THIS FAMILIAR GLIMPSE OF HONG KONG JUNKS MOVING SILENTLY THROUGH HARBOR MISTS

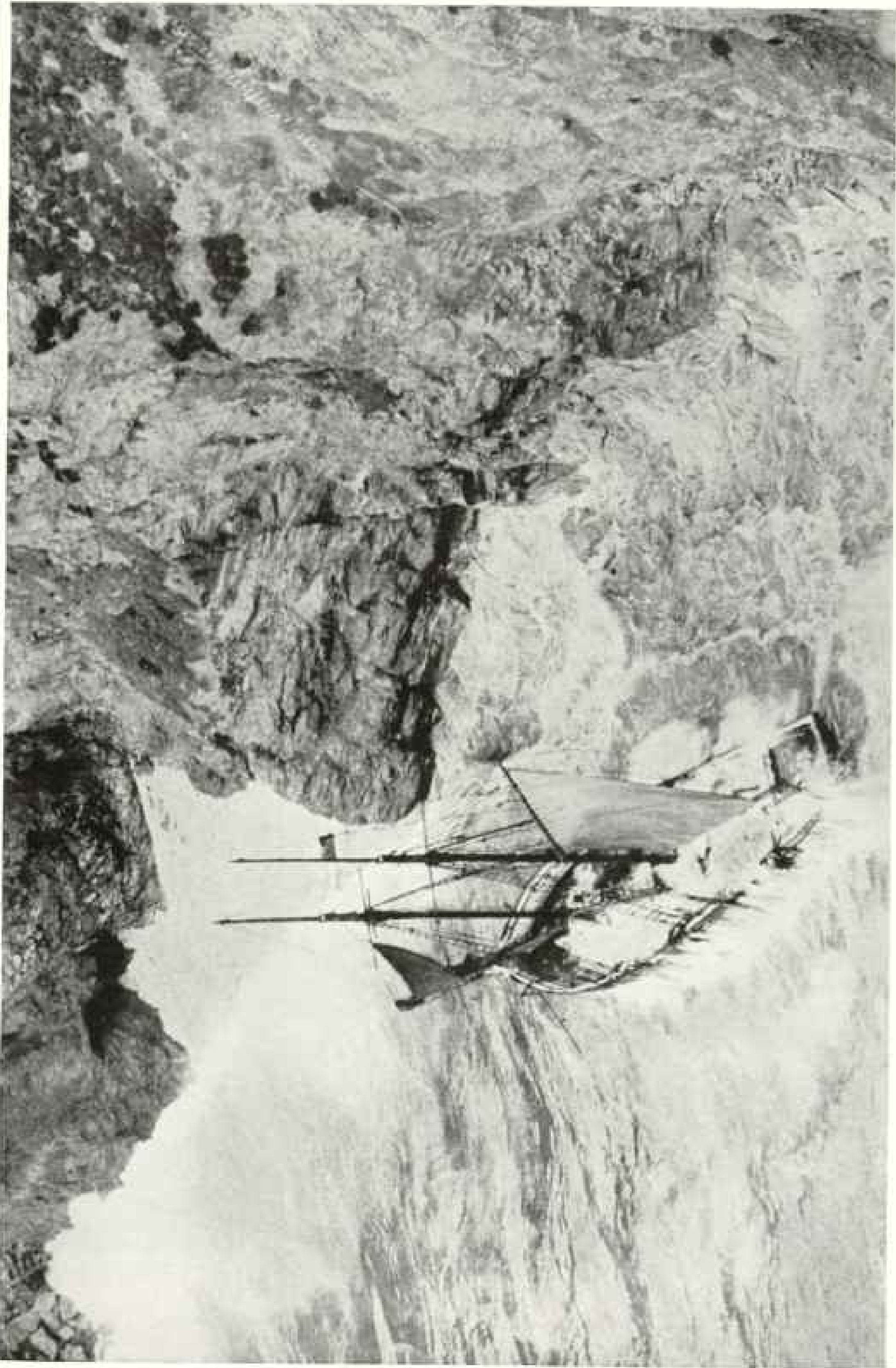
Even the rugged, storm-torn sail of one junk is characteristic of these ancient craft, which traffic along Asiatic coasts, and down to India and Arabia. Foreigners long resident here feel nostalgic affection for the distinctive sights, sounds, and smells of this busy, chattering, bewildering harbor life. Note the big rudder of the craft on left.



Photograph by K. Koyama

MOROS HEAD FOR ZAMBOANGA, ON THE PHILIPPINE ISLAND OF MINDANAO, IN THEIR OUTRIGGER SAILING CANOE

Ornamented with tassels and boldly marked with wide, dark bars, this huge sail, set on a tripod mast, would capsize the boat but for its stoutly lashed bamboo outriggers. In the Sulu and Celebes Seas many a pirate and pearl-hunting voyage has been made in these swift, cleverly handled sailing *banca's*.



© Western Morning News

DRAGGING HER PORT ANCHOR, A STORM-TOSSED SCHOONER POUNDS AGAINST THE STONE FEET OF CORNWALL CLIFFS

Sail still set shows how the *Sarah Evans's* crew sought frantically to work her out of danger near Portreath. Much of all world shipping is listed and insured at Lloyd's in London. When news comes that any such craft is overdue, or lost, a hell in the big hall rings and brokers gather quickly to learn what ship is involved.



Photograph by Morris Rosenfeld

A FIREBOAT'S GUNLIKE NOZZLES SHOOT BROADSIDES OF WATER

Shown here from the George Washington Bridge is the *John J. Harvey*, of New York City's fleet of fireboats, speeding up the Hudson in a cloud of spray. She has eight fixed "turret pipes," or nozzles, 50 other nozzles, and can shoot 18,000 gallons of water a minute at a pressure of 175 pounds. Two-way radio lets her talk with other fireboats.



Photograph by Walter J. Rack, courtesy Eastman Kodak Co.

"FINE-LOOKING MODEL. BUT WILL IT FLOAT, OR TURN TURTLE?"

Making miniature replicas of his boats has been one of man's diversions since remote antiquity, as shown by toy ships found in Egyptian tombs. Various marine museums of the world show interesting collections of models old and new. This photograph won a prize in a recent Newspaper National Snapshot Awards.

no vital hurt and kept her place in the battle line through many more hours of fighting.

The World War brought about a temporary revival of the American merchant marine. There was urgent need for new ships to supply the armies in France and to feed the population of the British Isles.

American shipbuilders were called upon to make a Trojan effort. The world had never before seen such an epic of shipbuilding. On a single day, July 4, 1918, ninety-five ships were launched from American ways.

By the wartime effort, America's merchant marine had been augmented by nearly six million tons, and once more she was a close second to Britain on the seas. Then, again, unhappily, the picture changed, and our shipping went into the doldrums—but that's another story, and a long, sad one (page 83).

We still have some busy lines to the

Orient, South America, and Europe; and recent legislation favoring subsidies for our merchant ships will, it is hoped, revive shipbuilding in the United States.

Plate XV illustrates a splendid type of modern American cargo and passenger steamer, the *Santa Elena* of the Grace Line. She displaces 17,000 tons and can make 20 knots. Apart from ample cargo capacity, she has luxurious accommodations for 290 passengers to and from South America.

Today bombers and pursuit planes add another weapon to Mars's armory. Nearly every large cruiser or battleship now carries its own planes. On such ships, however, there is not room for many planes; a flying deck being out of the question, the aircraft must be launched by catapult. On their return, they land in the water alongside the ship, to be hoisted back on board by her crane.

Naval aviation is now so much of sea



Photograph from Captain George T. Plummer

TIME TURNS BACK TO THE 1860'S IN THIS RARE OLD WHALING SHIP PICTURE

In high hat the skipper talks with the owner; by the cart stand their daughters, in stylish costumes of 1865. Barrels of whale oil have just been unloaded. Sails hang loosely, to dry.

power that a fleet must have many planes for scouting and attack; some are of such huge size that they cannot be put on board ordinary warships. Therefore, a new type of fighting craft, the airplane carrier, has been developed, one devoted to housing and "mothering" squadrons of planes.

Among the latest of these craft built for the United States Navy is the U. S. S. *Ranger*, shown in Plate XVI with a few of her brood hovering overhead. A strange-looking sea monster she is, with her entire upper works designed as a flying deck, except for a single towerlike control structure, placed far to one side to give space for planes landing and taking off at high speed.

Even smokestacks do not appear on deck, being led horizontally outboard.

Ranger has a speed of 30.35 knots and carries 75 airplanes, most of them of large size for bombing or long-distance scouting.

In addition to her aircraft, this ship carries small guns for defense against attack either by air or water. Powerful elevators rapidly take her planes to or from the hold and flying deck.

Marine engineers never cease effort to reduce operating costs and increase speeds.

Steam turbines with mechanical-gear drive push the *Ranger*, the *Queen Mary*, and the latest British battleships.



© Wile World, from Topical Press

UNDER FULL SAIL A MODEL OF ADMIRAL HORATIO NELSON'S FLAGSHIP "VICTORY" CRUISES ALONG ENGLAND'S SOUTH COAST

On board the 50-foot scale model appears the head of the helmsman. Others of the 24 officers and midshipmen comprising the crew are below deck. Because she is heeling to the breeze, "guns" on the lower deck have been pulled in and the ports closed. Built at Portsmouth in 1930, this baby reproduction of the heroic Admiral's flagship takes part in Navy Week celebrations. In the engagement at Trafalgar on October 21, 1805, a shot from the French ship *Redoubtable* struck Nelson as he paced the quarter-deck of the *Victory*, mortally wounding him. In this fight he hoisted the famous signal: "England expects that every man will do his duty." The original *Victory* is preserved at Portsmouth, England, and the spot on which the Admiral fell is pointed out to visitors.



Photograph courtesy Pan American Airways

AIRLINERS FLY THE PACIFIC BETWEEN SAN FRANCISCO AND CHINA VIA MANILA

Four motors furnish 3,600 horsepower for this giant Martin flying boat. With a crew of seven it may carry 30 passengers; but only 12 or fewer on the longest hop, between Honolulu and San Francisco, when mail is heavy or winds unfavorable. Its course to Macau and Hong Kong, China, is by way of Honolulu, Midway, Wake Island, Guam, and Manila.

On the *Normandie* (page 83), steam turbines supply power to generate electricity which, in turn, has spun its four propellers fast enough to win the giant French liner the blue ribbon for speed in both directions across the North Atlantic.

The United States Navy aircraft carriers *Lexington* and *Saratoga*, as well as the battleships *Colorado*, *Maryland*, and *West Virginia*, similarly have electric-driven propeller shafts, the necessary "juice" being generated, as on the *Normandie*, by power from steam turbines fed by fuel oil.

THE PASSING OF THE STOKERS

The Diesel engine (a type of internal-combustion engine using crude oil instead of gasoline) is becoming more and more popular for ship propulsion.

Oil can be piped directly to the cylinders, eliminating the necessity of a boiler. Petroleum has done away with the old-time horde of "coal passers" and stokers that were essential in the crews of coal-burning boats.

Even more revolutionary are the long-range flying ships which oil has made possible. These new craft now span all the seas.

The first of the great flying boats were

the Clippers connecting North and South America, placed on schedule some years ago by Pan American Airways. Even larger Clippers of this service now cross the world's greatest ocean from San Francisco to Hong Kong in 50 hours of flying time and six days of elapsed time.

These comfortable, fast Clippers traverse the Pacific with almost clocklike regularity via Hawaii, Midway, Wake, Guam, and Manila, and are restoring to the United States her former maritime prestige.

Over other seas splendid ocean craft of Imperial Airways carry men, mails, and express. Flying ships ply between Europe, on one end, and Africa, the Netherlands Indies, and China on the other. Newly commissioned and powerful American and British flying ships are also beginning to brave the stormy Atlantic; for the present they fly via Bermuda and the Azores.

Improvements are constant. Each succeeding type of seaplane seems to increase in size, speed, and comfort.

Members may obtain enlarged reproductions of the sets of 16 etchings, by Norman Wilkinson, suitable for framing, by writing the National Geographic Society, Washington, D. C., at \$2 the set. The reproductions will be 11 by 14 inches and they will be available only in sets.

WOMEN'S WORK IN JAPAN

BY MARY A. NOURSE

DURING the fourteen years I lived in China I went often to Japan for one to three months. Each time I was more fascinated with this oriental country and hoped sometime to visit it more thoroughly. After twelve years' absence from the Orient my wish came true, and in the summer of 1936 I returned to Japan for a year to study its history, institutions, and social customs.

Always I was struck with the unique part the women of Japan play in its economic and industrial life. As I visited Japanese families, went through factories, offices, and schools, and walked miles both in city and country with my camera, the bending backs and placid faces of the women, old and young, became a vivid image which I never could quite dismiss from my mind.

Everywhere I was confronted with women working at all manner of jobs.

Only in two places did I miss her—in jobs requiring skilled manipulation of machinery, and in government and professional positions. Everywhere else, bowed often under the weight of a child on her back, she cheerfully bears her full share of the work of the Nation; frequently the heavier end of the load is hers.

HOUSEKEEPING A LIGHT TASK

One reason for her undertaking so many outside occupations is that homemaking appears a minor problem of Japanese women. Houses are fragile wooden structures, unpainted, with sliding paper windows and partitions. The tiny one or two rooms with matting-covered floors are bare of furniture and decoration except for chests of drawers and the single scroll hung in a recess.

Low, individual, traylike tables and a few saucers and bowls for dishes are brought in from the entrylike kitchen at meal time (page 103).

Beds are simply quilts pulled from the cupboards and laid on the floor at night.

Twice a year, in the spring and fall, the Government orders house cleaning, and floor mats and quilts are taken out of doors for this purpose. Cleaning is thorough, for the policeman who inspects the houses will not give his stamp of approval if he sees a torn partition or dusty mat.

A minimum of time and labor is required to get the family started every morning. Bed quilts are rolled up and put away in a closet. Chopsticks and bowls are rinsed out in either hot or cold water and left to dry.

Even the daily cooking takes little time. Fish and rice are the staples. Fish is often eaten raw, and rice may be cooked at any time and set aside in a wooden tub to be served cold.

Vegetables are few. Peas are cooked in the pod, and the big white carrots and cabbages are pickled. In slack seasons they are cut up and salted down in large wooden buckets and kept ready for instant consumption.

Other household duties are quickly done. Except among the well-to-do, the general custom of going to public baths and buying ready-made clothing frees the women from many hours of housework. The cotton kimonos are washed out and hung to dry on poles run through the sleeves. Stretching on the pole is the only ironing necessary.

The country woman, after giving the family a quick breakfast of rice, pickles, and hot tea, ties the baby on her back and makes for the fields. With kimono tucked up, she engages in any kind of farm labor. Sometimes she works alone, more often side by side with husband or son (pages 104, 105, and 106).

In the spring she hoes or weeds, transplants the young rice, or cuts the winter wheat. In autumn, she moves with bent back down the field with a sickle, helping menfolk cut and thresh the rice—the major crop of Japan. Two farm jobs seem exclusively hers—the picking of tea leaves and the tending of silkworms.

EVERY FAMILY MEMBER WORKS

As I wandered through the country in the Kyoto-Nara region during the rice-harvesting season, I came upon one family after another working on the small farms of two or three acres.

In one group the small children played on a matting spread out on the ground. A youngish man threshed at a handmade device, his mother sifted the rice on a large round sieve, his wife carried up bundles of rice from the drying racks, and his sister dragged away the stalks.



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THE WAR SPIRIT GRIPS THE FLOWERY KINGDOM

On the streets of Tokyo young women conduct drives for funds to aid the soldiers who are fighting in China. Girl students on vacation voluntarily return to school to make gifts, and all kinds of organizations seek contributions. Though October is the month of marriages, shopkeepers found less sale last autumn for the elaborate wedding dresses that normally cost hundreds, even thousands, of dollars.



Photograph by Mary A. Nouse

BUY A TYPEWRITER IN JAPAN AND GET TYPING LESSONS FREE!

Just as automobile dealers in the United States teach purchasers to drive, Japanese typewriter companies give instruction in the use of their machines to their customers. The author visited this class of girls in Tokyo at their noon hour (page 125).

In an adjoining field an old woman sifted the grain while her son carried the huge baskets to a cart. I followed him as he pulled his cart along the road until he entered his own gate. Peeping through, I saw along one end of the court the storeroom for the grain.

On one side was a shed for the ox and on the opposite side the one-story thatched-roofed house, the whole side opening to the court. Here the wife was not only tending the children, but also was preparing the storeroom and helping her husband unload the cart.

Woman does much carrying and hauling. In every season she may be met trudging along the road with a huge basket heaped high with vegetables strapped on her back or pulling a heavy wagon filled with truck or grain bound for the nearest market village (page 111).

Often I have seen her with baby on back, pushing the cart which her husband pulls. In cities a common sight is an

old woman with pack on back, walking along the streets or boarding a streetcar.

In shop houses lining city streets, woman does her full share of work. With the ever-present baby on her back, she switches from housework to shop duties. She arranges the shop, keeps it tidy, and waits on customers.

Every village and city has a multitude of markets with open-air stalls.

Up at sunrise, women pack their wares and trudge to town carrying loads on their backs or pulling laden carts. Fruit and vegetables, ready-made clothing, and *geta* (wooden shoes), cakes and soft drinks, small toys, and trinkets are their stock in trade.

TEMPLE FAIRS ARE MARKETS, TOO

Market women find the temple fairs a good place for business. In temple enclosures and streets near by they set up stalls and cry their wares to lure the crowds. They display cold food and soft drinks,



Photograph by W. Robert Moore

BEFORE AN UNSEEN AUDIENCE, A DANCING TEACHER COACHES HER PUPIL

Throughout Japan radios are popular, and crowds gather around public ones to hear play-by-play reports of baseball games and other programs. This lesson is broadcast from JOAK, Tokyo.



Photograph by Mary A. Nourse

GIRLS IN CHIC UNIFORMS ASSISTED THE POLICE AT THE PAN-PACIFIC FAIR

Stationed near the entrance to the grounds in Nagoya, they helped passengers on and off streetcars and aided in directing traffic.



AT MANY GAS STATIONS THE ATTENDANTS ARE YOUNG WOMEN

They fill the tanks and check the oil and water. In summer the girls generally wear Western dress, but in winter more often kimonos. These are employed in Kyoto.



Photographs by Mary A. Nourse

THE AUTHOR ENJOYS TEA WITH A JAPANESE BELLE

Dressed in a green suit with brown hat and blouse, this young woman, who has been on a tour of the silk filature at Omiya (page 125), represents the ultramodern in her country.



Photograph by W. Robert Moore

HARVEST DAYS IN WESTERN JAPAN COME WHEN HILLS ARE TINGED WITH AUTUMN FOLIAGE

Only hand labor is employed in rice cultivation. Women work in the fields with their husbands and sons from the time when the shoots are planted until the cereal is threshed and stored (opposite page).



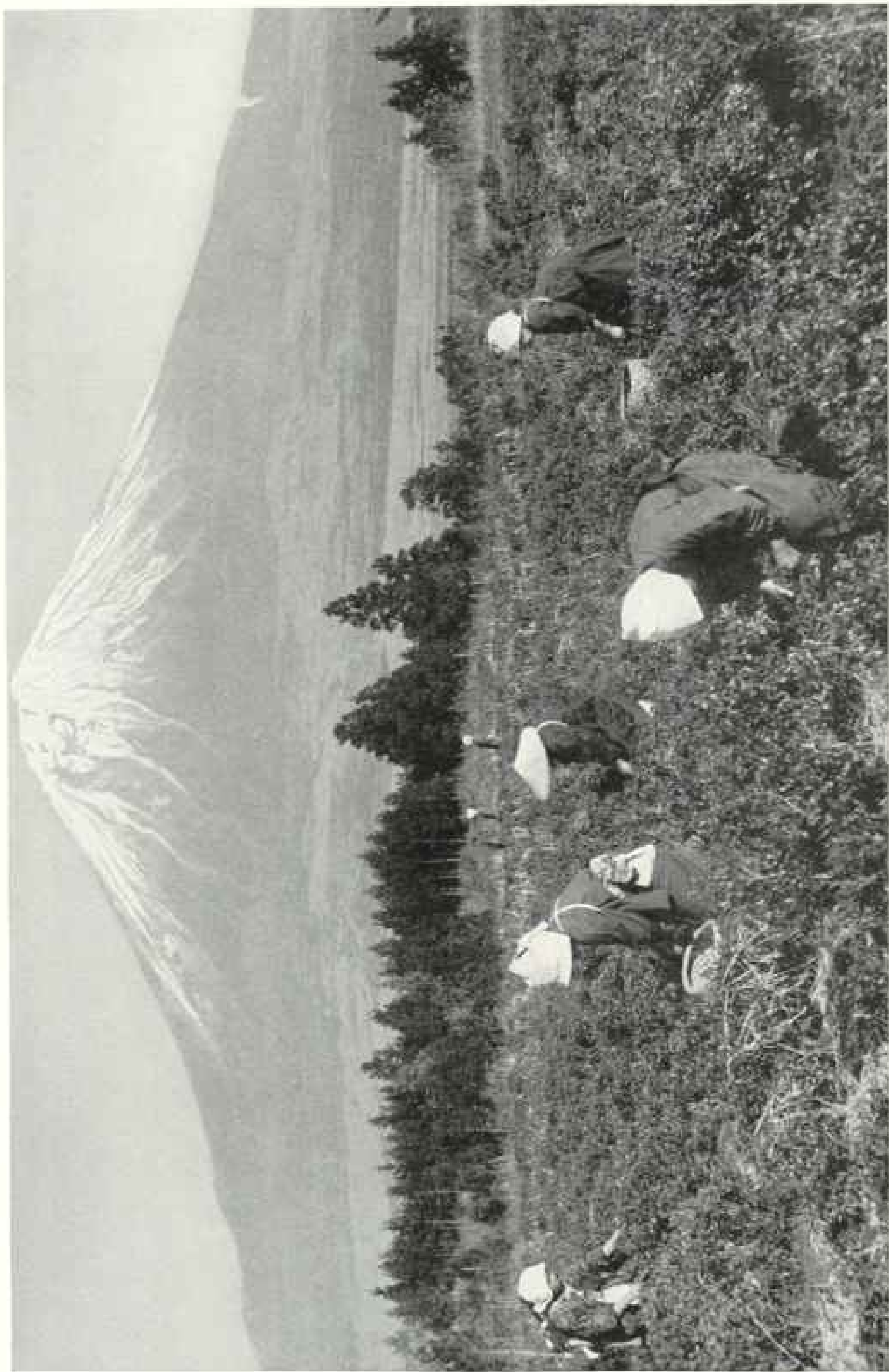
Photograph by W. Alan Gillhings

PLANTING OUT YOUNG RICE SHOOTS NEAR KOBE IS A MUDDY TASK FOR WOMEN WORKERS



Photograph by Mary A. Nourse

SHOPPERS CROWD DECORATED BEPPU STREETS TO PURCHASE RICE CAKES AND BAMBOO, PLUM, AND EVERGREEN BRANCHES FOR NEW YEAR'S



Photograph by Maurice Fresson

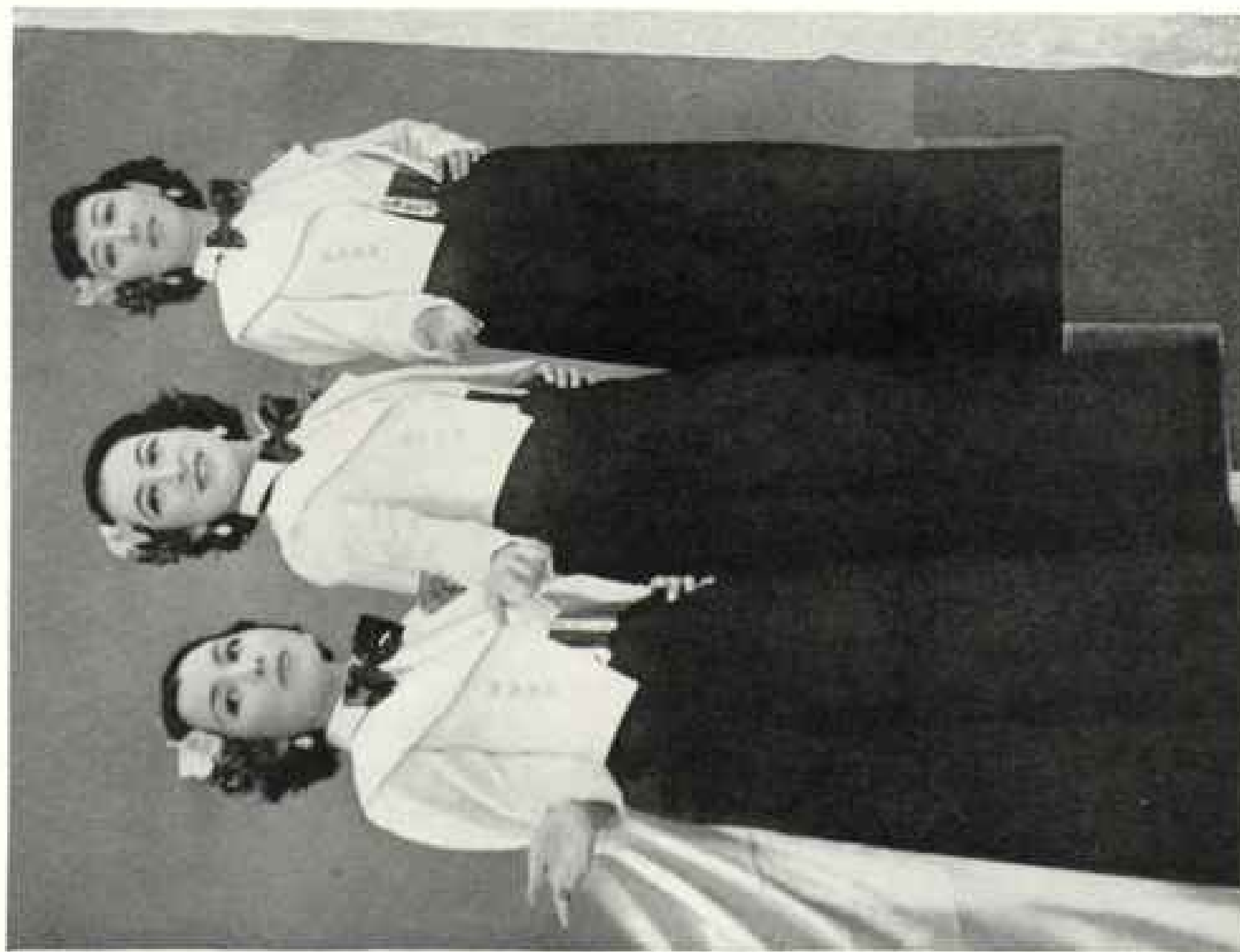
AT THE FOOT OF FUJI WOMEN LABOR IN THE TEA FIELDS

Picking begins in early May and continues during June. After filling their large baskets with the green leaves the workers carry them to the drying houses or sheds. The young mother on the extreme left goes about her task with her child on her back (page 99).



EASTERN AND WESTERN ATTIRE GO SIDE BY SIDE

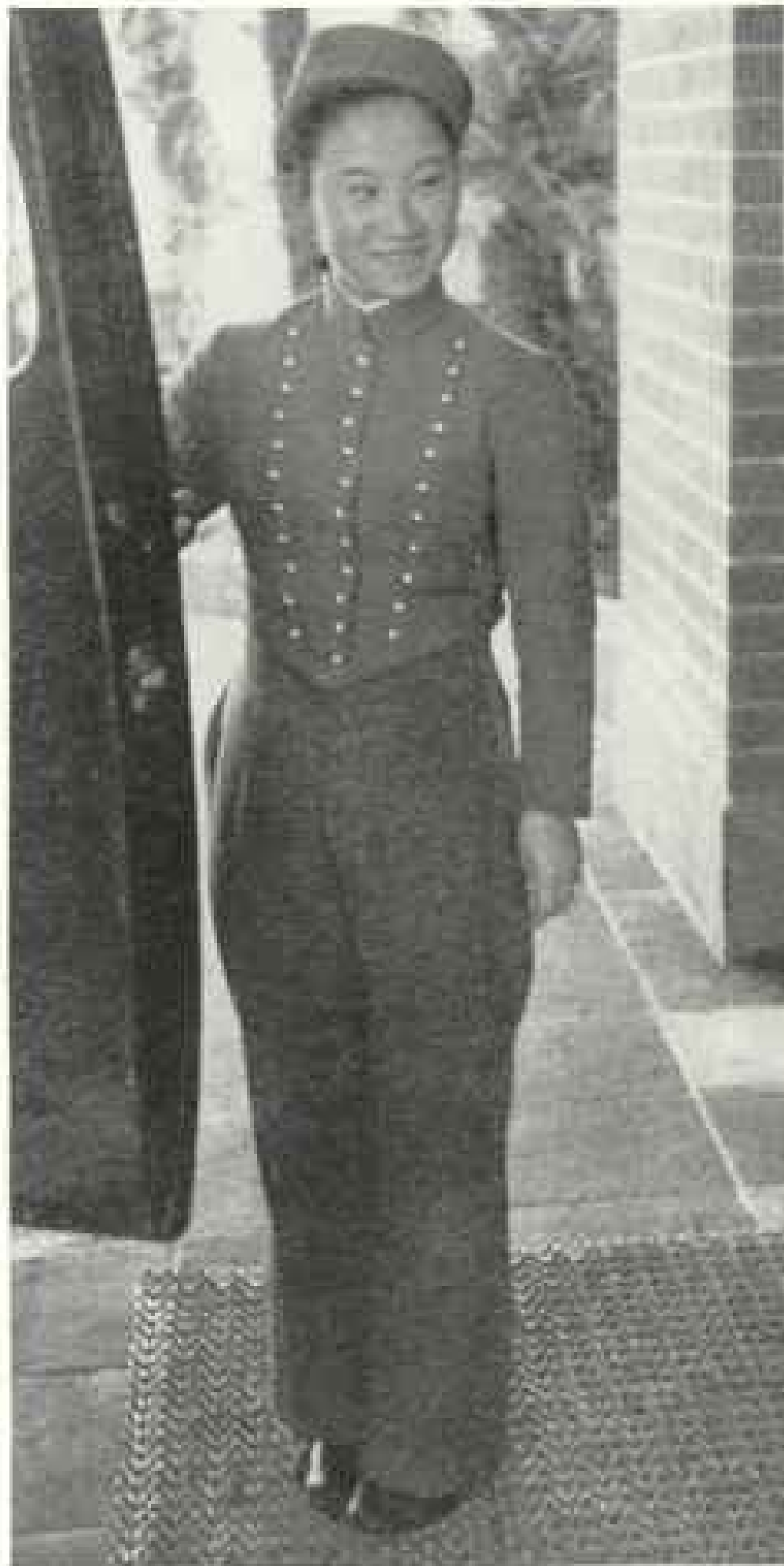
Many women in business positions dress according to Western style, but those not so employed usually wear the Japanese costume. This is the dress their men prefer for them.



Photograph from Mary A. Nomura

AN OCCIDENTAL INNOVATION ARE THESE "STEP SISTERS"

In large modern theaters in Tokyo and Osaka Japanese misses present an entertainment modeled principally on foreign musical comedies. Here is the staircase ballet so familiar to American audiences (page 127).



Photograph by Mary A. Nourse

"YOUR CAB, SIR"

At Kawano Hotel, in the Izu Peninsula, this young girl served as bellhop. She wore a red coat with brass buttons, and blue trousers and cap.

and manipulate toys, bright gewgaws, and tricky gadgets.

Even the Buddhist nun works at these times, walking about peddling charms or sitting in a stall selling pictures, altar vases, and ancestral tablets for household shrines.

One day while strolling through a temple compound in Tokyo past the stall of a Buddhist nun, I noticed on the front of the table heavy, plain band rings similar to our old-fashioned wedding rings. A young student was buying one for fifty sen (fifteen cents). To my query a woman standing near me explained that these trinkets were good-luck rings.

Another day I saw two nuns in dull black gowns with heavy shrines strapped on their backs laboriously getting on the streetcar. At the next station they got off and canvassed the town with begging bowls.

At Shinto shrine festivals, in commemoration of some god or in memory of some sainted hero, women are also busy in open stalls similar to those at the temple fairs. Instead of the Buddhist nun, here we see the Shinto priestess.

In striking contrast to the dark-gray or black gown of the Buddhist nun, the Shinto priestess wears a bright-red skirt and white top garment with flowing sleeves. It is her duty to perform on open raised platforms the ancient dance with sword and jewels.

GIRLS SWEEP SCHOOLROOMS

Woman's work begins when she is young. Everywhere one sees little girls, their backs bent under the weight of the family baby. School releases no girl from labor. At the end of a day of hard study, girls push back the seats and sweep and tidy the school-room. Others sweep up the playground (opposite page).

Six years of primary school are compulsory throughout Japan. In low wooden rambling buildings the children are crowded 50 or 60 in a room. It is arduous to learn the intricate characters and to trace them with brush pen and thin paper.

Despite all the wearying work, only half of the three thousand characters necessary to read the newspaper are mastered at the end of the six years.

As I watched some girls in a Nagoya high school scouring the porches and polishing the floors, I asked them if they liked this work. With one accord they replied, "It is school discipline."

In Beppu, Kyushu, a Japanese gentleman was showing me the schools of the city. I remarked that the students' uniforms seemed rather lightweight for such cold weather, and I received the same answer as at that other school, "It is school discipline."

When the six years of primary school are finished, the girls must find work. Many girls enter that institution rather new to Japan, the department store. In some, the girl wears a kimono, but in many she dresses in Western style. She works in every department—women's and children's clothes, shoes (native *geta* or modern



Photograph by W. Robert Munn

JAPAN IS AIR-MINDED IN PEACE AND WAR

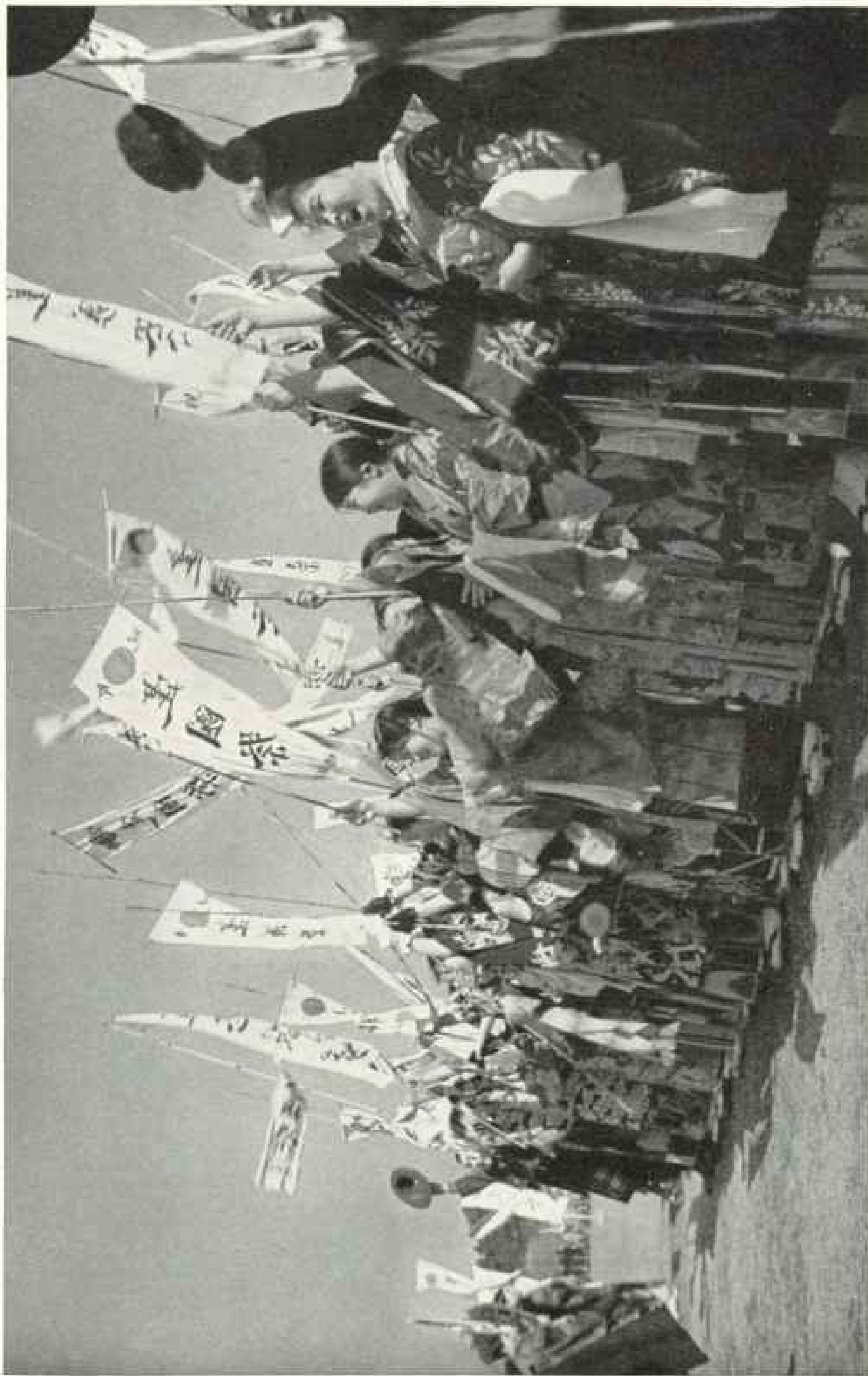
Planes are used for carrying mail, for advertising, and for passenger service. This one is ready to take off on the regular route from Tokyo to Dairen. Modern Miss Japan acts the perfect hostess on flights just as her elder sisters serve tea at home.



Photograph by Mary A. Nourse

GIRLS AT A PRIVATE HIGH SCHOOL IN NAGOYA TURN JANITORS AFTER CLASSES

Every afternoon a group of them may be seen scrubbing the outdoor passageways (opposite page). The regulation winter uniform is the dark-blue "Peter Thompson." This class has enlisted the aid of one of the men teachers, who is handling the hose.



Photograph by Maum Horton from *Wide World*

WITH "DANZAI" FOR THE EMPEROR, GIRLS BEFORE THE IMPERIAL PALACE CELEBRATE THE NATION'S "BIRTHDAY"

Though the first date of recorded Japanese history is about the middle of the fifth century, A.D., the country observes the 2,597th anniversary of the first Emperor, Jimmu. In his honor the present ruler, attended by the Empress, Princess and Princesses of the blood, court functionaries and high officials of the Government, and peers, annually conducts elaborate ceremonies in front of the Imperial Sanctuary. Characters on the banners present the name of the festival, *Kenkoetsu*.



Photograph by C. H. Knigh

A HOUSEWIFE CARRIES HOME A LOAD OF WEEDS FOR THE KITCHEN FIRE

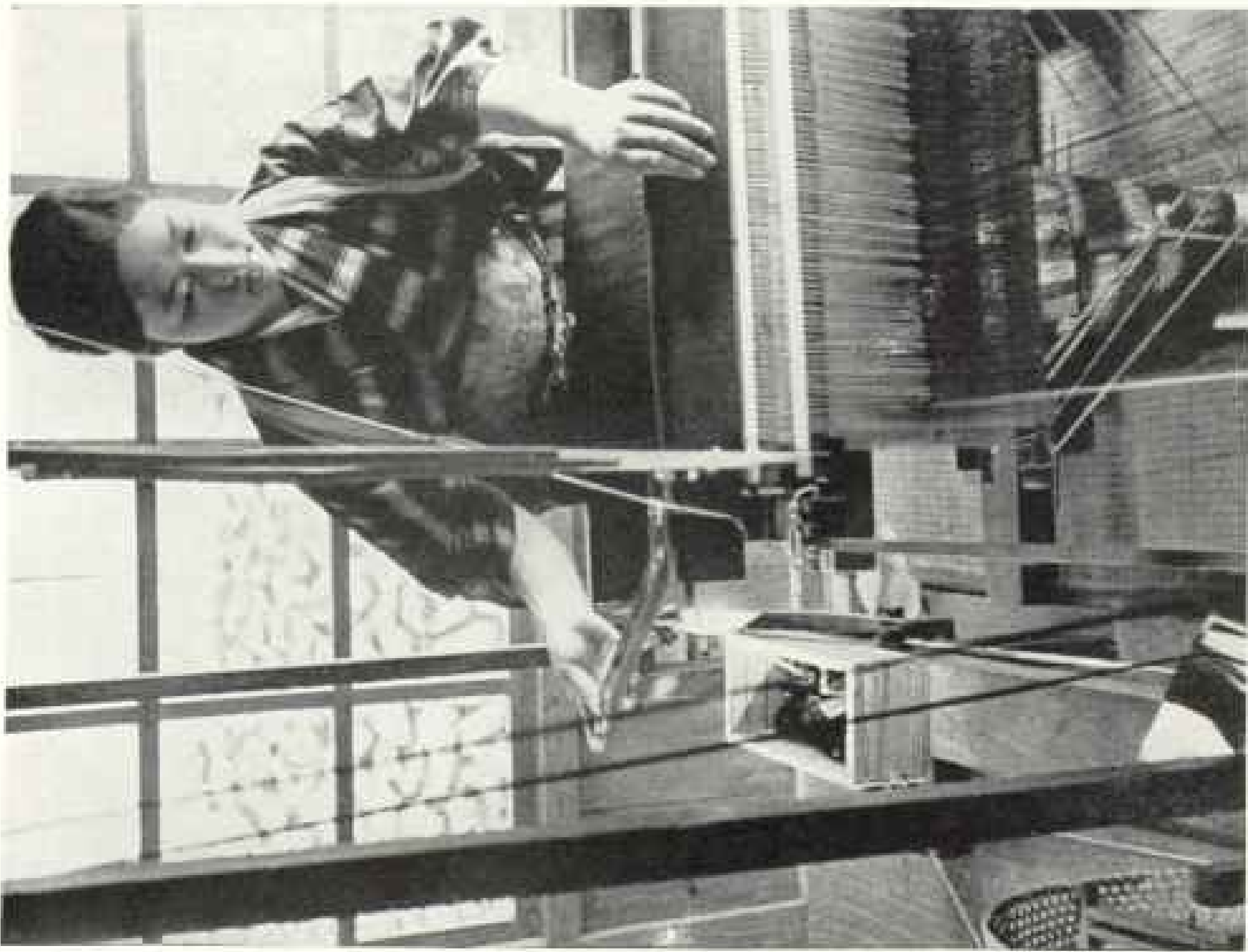
Because of the hard work which they perform, Japanese country women age early, but they are not ashamed to show their years, for old age means, in part, freedom from service to those about them. The elders may say what they think, and be waited on by their children and grandchildren.



Photograph by Mary A. Nourie

"HATS AND CAPS, FIRST AISLE TO THE LEFT"

Women work as clerks in department stores, now found in every city of Japan (page 108). Some wear kimonos; others are in plain dark-colored uniforms with white collars. These salesgirls have charge of a section in one of the large emporiums in Osaka.



Photograph by Nipponfoto

YELLOW HACHUJO CLOTH IS WOVEN ON A ROMANTIC ISLE

Though only a day's steamer voyage from modern Tokyo, the people of Hachijo Island, a place of eternal summer, adhere to old-fashioned ways. This romantic and historic island is a favorite hiking and picnic ground on holidays for visitors from the capital city.



Photograph by Mary A. Nojima

WOMEN BRING THEIR YOUNGSTERS TO KINDERGARTEN ON THE OPENING DAY AND STAY TO SEE THE FUN

Some of the tots, too shy to join in play, cling to their mothers. This private school in Nagoya is typical of those patronized by the well-to-do. Throughout Japan children, even of the poorest class, are given educational opportunities (page 108).



Photograph by Mary A. Nourse

BUS GIRLS PERFORM EVERY DUTY FROM "REDCAP" TO "BARKER"

While the crowd of sight-seers is visiting the Diet Building in Tokyo, these two young women enjoy a period of leisure from their duties of baggage shifting or giving travelogues. They are smiling and alert, proffering many services that make travel pleasant in Japan (page 116).

leather styles), caps and hats, candy, stationery, notions, or what not (page 112).

One day while shopping we went to a counter where they were displaying fancy brocade bags. The clerk stood smilingly by as we looked over her stock in the case. When we indicated we should like to see more, she was still pleasant but seemed not to understand that we wanted to see other stock than that already on display.

Finally my friend went behind the counter and began pulling down other bags. When in the end she bought a dozen, all the neighboring clerks crowded around in great excitement.

Time and again we noticed this strange touching but not mingling of East and West. The department stores have modern equipment like those in New York or Chicago, but the reluctance to show goods follows the old Oriental habit. Often I have en-

countered in both China and Japan this disinclination to show goods from the shelves.

I enjoyed an interesting evening visiting some night classes at the Tokyo Y. W. C. A., which is under the management of an American woman. The classes were varied: traditional tea ceremony and flower arrangement; cooking, both Japanese and foreign; English; typewriting, and sewing.

STUDYING ENGLISH FOR THE OLYMPIC GAMES IN 1940

The Japanese secretary took me to visit an English class composed of department-store clerks. When I asked them why they studied English, one replied that she must know English for the Olympics which will be held at Tokyo in 1940. Another explained that when foreign women came to the store she was sent to different departments with them as interpreter.



Photograph by Mary A. Nourse

A TOKYO TOOTHPASTE FACTORY EMPLOYS 350 GIRLS, 70 MEN

In this modern concrete building equipment is up-to-date. The women workers fill the tubes, paste on labels, and pack the finished product in cartons (page 116). Since no stools are provided, girls must stand all day in stooped positions.



Photograph from The Tokyo Asahi

TO RADIO MUSIC A FAMILY FASHIONS ARTIFICIAL FLOWERS

The living-room workshop has not long known this modern innovation, but the industry is old. Japan exported hand-fashioned blossoms to the value of \$58,000 in 1935.

As one enters theater or motion picture house, again one sees young women and girls. They sell the tickets and usher patrons to their seats. The ushers wear Western dress—blue, brown, or green, according to the house they serve—and white collar and cuffs. Their hair is waved, and they look very chic.

In hotels and inns, whether native or modern, in restaurants and teahouses, in railway diners, the young woman serves as waitress. In old-style inns, and in many restaurants, the girl moves demurely about, clad in a kimono; in other places, she is ultramodern in dress, with the latest style of white-lawn apron and cap. Sometimes she works as bellhop, dressed in a fetching costume of blue trousers, bright-red coat, brass buttons, and blue cap (page 108).

In places little frequented by foreigners one must stay in Japanese inns where the kimono-dressed maids know no English.

TOOTHBRUSH FURNISHED, BUT NO SOAP

When I motioned that I wanted to wash, a maid led me to a washroom for use of both men and women. To my surprise there were neither towels nor soap. These the guest himself is supposed to carry. However, in the room are comb and toothbrush, both in paper covers, and a clean kimono laid out for use.

Everyone uses the common bath, but meals are served privately. A maid brought in my meal on a tray, set it on a low table in front of me as I sat on the floor, and knelt opposite me to replenish my rice bowl and pour the tea.

In the native inns most of the work is done by women and girls. A row of kneeling maids greets the guest at the entrance and bows low to the floor. Then one comes forward, gives the guest slippers (shoes must be left at the outside entrance), and leads him to his room.

This maid conducts the guest to the bathroom, brings meals, makes up the bed on the floor and carries it away in the morning, sweeps up the room and takes care of clothes.

When a guest leaves, it is she who accompanies him to the door and puts out his shoes. As he looks back from the street, she is standing at the outer gate smilingly bowing him farewell.

Then there's the bus or tram girl who works on the bus routes that extend everywhere in Japan, and to a lesser extent in

Taiwan (Formosa) and Chosen (Korea).

Each bus carries two operators—the man driver and a girl, 15 to 20 years old, who in addition to traveling five or six hours a day does garage work.

The girl collects the tickets and jumps off and on at every stop to help passengers. She calls out the stopping places, and on scenic routes gives a sight-seeing travelogue (page 114).

On a trip I took from Aomori to Lake Towada in northern Japan, one led the sight-seers up to the top of a mountain and pointed out the interesting spots of the landscape.

At the filling stations, one generally finds women or girl attendants. Clad either in kimono or in Western dress, they fill the tank and check the oil and air (page 103).

Besides these miscellaneous occupations, the women of Japan are employed in all types of manufacturing.

In the large cities such as Tokyo, Osaka, and Nagoya, are Western-type factories. Some of these are thoroughly up to date—cement buildings, large windows, running water and modern toilets, clinics, and lunch-rooms.

IN A TOOTHPASTE FACTORY

I visited such a plant, a toothpaste factory in Tokyo, where the majority of the jobs are filled by girls—350 girls and only 70 men (page 115).

The girl workers were filling tubes, pasting on labels, and packing the cartons. Their work did not seem arduous, except that they were provided with neither chairs nor benches. They stood at long tables from seven in the morning until five in the afternoon. Forty minutes for lunch and two rest periods of ten minutes each were their only chances to sit down.

The manager who showed us around pointed proudly to the rooms where the employees changed from street to work clothes, and to the laundry with running water where the uniforms were washed. I asked him who washed the uniforms, and he replied that each girl was required to wash her own suit once a week at any time she chose outside of working hours.

In a stocking and rubber shoe factory near Osaka again the majority of workers were women and girls—4,000 girls to 1,000 men. Some worked at sewing machines, others packed the finished product. The girls wore white cloths over their hair, but

TRADITION LINGERS IN MODERN JAPAN



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Finlay Photograph by W. Robert Moore

GIRLS CONTEMPLATING A HISTORIC STRUCTURE BRING TO LIFE A BIT OF OLD JAPAN.

Sixty-six years before Columbus discovered America the five-story pagoda of Kofukuji was erected in ancient Nara; yet styles of the young women's costumes may be older. The edifice towers 165 feet from its base to the tip of the bronze demon arrester at its top. In the foreground is Sarusawa Pond.



Friday Photograph by W. Robert Moore

HOTEL MAIDS OFF DUTY WATCH THE BEGGING DEER FEED IN NARA PARK

Trained from childhood in gracious manners and arts of entertainment, these young women brighten festive occasions with songs and dances. For generations they have been the dining club hostesses of Japan, but nowadays occidental customs are something of a menace to their profession, and many of them may be seen learning the latest steps in modern dance halls.

© National Geographic Society



Finlay Photographs by W. Robert Moore

ONLY 14 YEARS OLD, YET A SKILLED ENTERTAINER

This Tokyo serving maid does her hair in puffs and rolls and decorates it with bright baubles. Perhaps some day she may lay aside her traditional kimono for modern dress, but not her elaborate etiquette.



© National Geographic Society

FINE SATSUMA VASES REQUIRE METICULOUS HANDWORK

In the back room of his combination home, factory, and display room the artist produces exquisite pieces of pottery. Women also are adept at ceramic decoration and outnumber men in many establishments.



THE KIMONO SEEMS FITTING APPAREL FOR THE FAN SALESGIRL. Made in countless designs to suit any taste, these artistic accessories of the Japanese lady's costume are much in demand in summer both for use and for adornment.



© National Geographic Society

Finlay Photographs by W. Robert Moore

INFINITE PATIENCE GOES INTO LACQUER WORK

In this Kyoto factory one set of screens was more than two years in the making, so numerous were the coats of finish required and so long the intervals of drying.

TRADITION LINGERS IN MODERN JAPAN



© National Geographic Society

Finlay Photograph by W. Robert Moore

JAPAN IS THE HOME OF DOLLS

Like one of the toys come to life, a little maid stands in an outdoor shop before shelves laden with models of legendary heroes, actors, brides, babies, and what not, made mostly of clay or plaster of Paris and painted with bright colors by girl workers. The small customer needs only a few sen to purchase whatever one she chooses; the price tag behind her (right foreground) reads, in Japanese, "ten sen." Incidentally, she is wearing her "rainy day shoes"—wooden *gōza* with crosspieces which keep her feet well above the wet ground.



© National Geographic Society

KYOTO ERECTED THIS GIGANTIC TORII TO COMMEMORATE THE CORONATION OF THE PRESENT EMPEROR

At the end of a long avenue leading to the Heian Jingu, guardian shrine of the court, a kimono-clad mother waits for her child to catch up with her near one of the concrete columns.

Finlay Photograph by W. Robert Moore



© National Geographic Society

WOMEN PRESIDE OVER THE DEPARTMENT STORE TOYLAND

When sister, clad in Oriental fashion, takes little brother in his Western clothes to look over the collection of dolls, balls, teddy bears, and mechanical playthings, a smart salesgirl is ready to demonstrate the toys.



Finlay Photographs by W. Robert Moore

AN OLD-STYLE LETTER GOES INTO A NEW-STYLE POST BOX

Recently, however, Japanese women have been coming more into clerical professions. Many, particularly second-generation (American-born) girls, are employed as typists and interpreters in business offices.



© National Geographic Society

Finlay Photograph by W. Robert Moore

TWO LITTLE MAIDS FROM A TEAHOUSE GO OUT TO SEE THE CASCADE

Near Nikko is Kegon Waterfall, a plume of spray that drains Lake Chuzenji into a lovely gorge. Most visitors descend to this lookout point by an elevator, for the winding footpath is hazardous.

no masks to protect their lungs from the lint which filled the room.

The proprietor who showed me around the stocking factory seemed like a father to the workers. During the ten-minute recess they crowded around us and laughed every time I asked a question or took a picture.

To my questions as to age, hours of work, and living conditions, he answered that the girls lived in the neighborhood and had lunch in the factory.

One of Japan's largest industries is the preparing of the raw silk (skeins of silk thread) to be sent to Europe and America. This work is done in factories called silk filatures which are practically staffed with girls and young women.

CONTRACT WORKERS LIVE IN DORMITORIES

In these factories the cocoons are placed in vats of very hot water which loosens the silk web so that it can be pulled from the cocoons and wound upon the spindles in a row above the vats.

To the onlooker, the job itself seems to be most trying, since each girl has to watch constantly the silk feeding onto 20 spindles. To do this, she must stand all day, and her hands are continually in and out of the basins of hot water, pulling the silk strands from the cocoons and directing them over the tiny wheels to the spindle above.

The workers of the silk filature are on a contract basis and live in one part of the factory building called the dormitory. I asked one girl where she came from. She answered "Hokkaido" (the most northern island), and named a year which the American with me said had been a famine year in Hokkaido.

To any section suffering from famine managers of factories go and make contracts with the families of girls. The family receives a sum of cash to help them carry on until the next good harvest, and the girl pays for it by serving three or four years in the filature. After her contract is fulfilled, she goes home and is married to a young man whom her family has chosen.

By far the greater number of Japan's factories are small workshops manned perhaps by two or three workers, or at most by 10 to 25. Some of these are family concerns, in which the women and girls of the family help. Others are neighborhood enterprises, to which the local girls and women flock.

In any street may be heard the soft whir of looms or the clanging and banging of heavy machinery. A few of these illustrate how vast numbers of Japan's women are employed.

In a glass factory in Tokyo, housed in fragile wooden buildings, women sort, wash, and pack the glassware. Floors are simply well-packed earth, and the window openings small. The furnaces make the heat insufferable even on a cool day.

I visited a concern which made metal fixtures, heads for electric-light bulbs, tops for candy bottles and vanity cases—heavy machine work. Machinery was placed so close together that I feared to pass through a room lest I be caught by some part of my clothing. Women and girls with rounded shoulders squatted before machines crudely made by the concern itself, fashioning the covers and bulb ends.

Some of the girls were barely 14 or 15; some were middle-aged or old women. One woman with bad eyesight bent and squinted over her work.

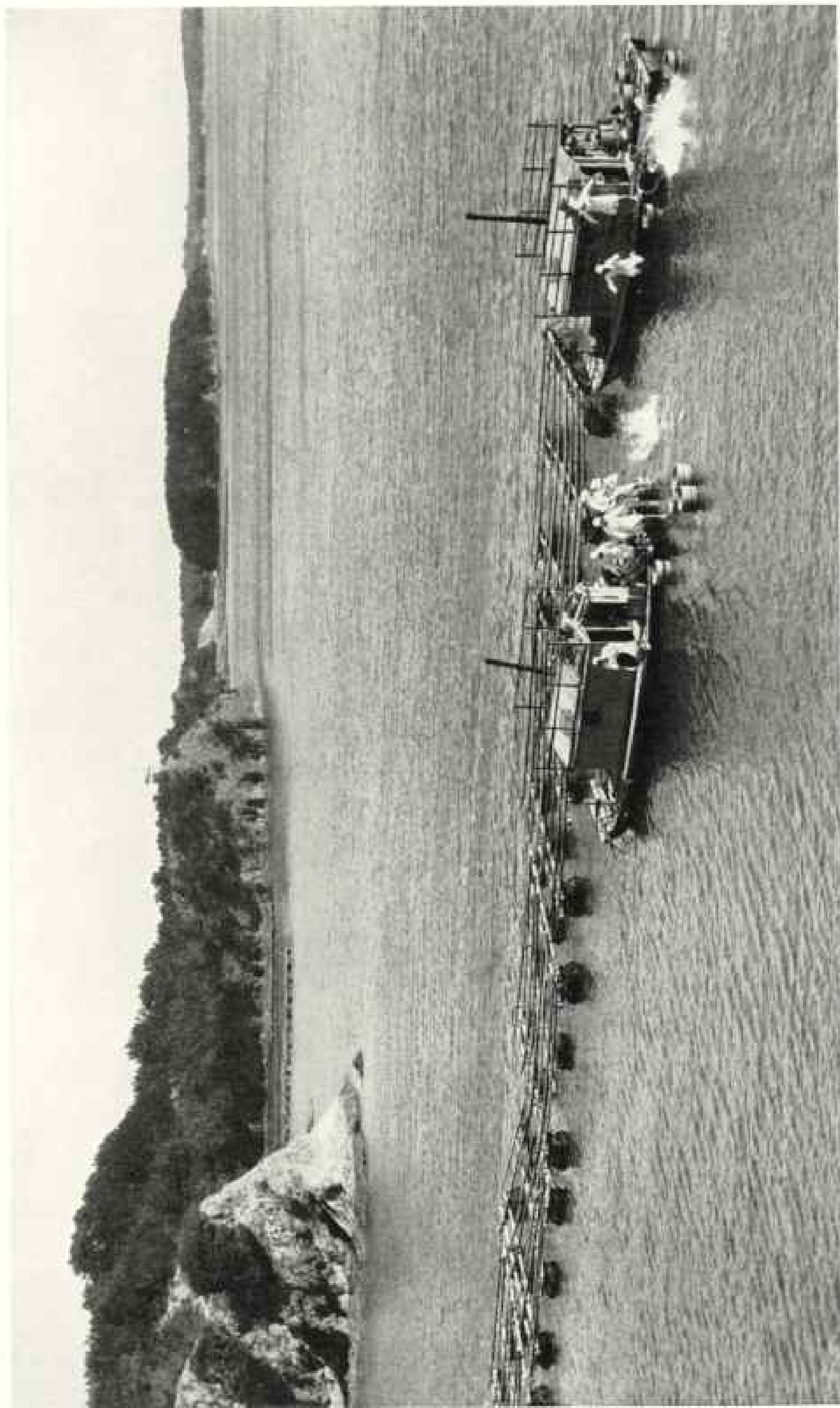
POTTERY MAKERS MOSTLY WOMEN

Another major industry of Japan which engages woman labor almost entirely is that of pottery making. In little workshops women mix clay and run it into molds. Others carry huge trays of dishes to the open court to dry. Some sit for hours bent over the close work of decorating the bowls and plates, washing and packing the finished dishes.

In larger and more modern factories, I have seen them sitting at long tables, each doing her particular part of decorating, glazing, or testing. Whether on floor or at tables, the girls and women sit for hours bent close over the finely detailed work.

As we ascend the scale of employment, the Japanese woman is not missing. Telephone girls, typists, or copyists through the business offices. The telephone girls are, on the whole, older than the clerks. Many of them are married. The typists are higher school students, ranging in age from 18 to 20. Some use the native instrument; others, who know English, are trained to use the modern machine.

The oriental typewriter has a board containing more than 2,200 symbols, including some 2,000 Chinese ideographic characters, two *kana*, or syllabary systems of 51 symbols each, the English alphabet



Photograph by W. Robert Moore

PEARLS SEEN AT BRITAIN'S CORONATION AND OUR PRESIDENT'S BIRTHDAY BALLS CAME FROM THE ROCKY ISE COAST

The girl divers who tend the oysters rest on the boats between plunges, their baskets floating alongside. Behind them are the rafts to which are attached cages containing the oysters that they nurse for many years. By careful tending and breeding, the Japanese have developed a vigorous oyster stock. At the age of three years an oyster is opened, and a tiny bead, which has been wrapped in living tissue from another oyster, is inserted. This grafted oyster is placed in a cage (to protect it from starfishes, etc.) and lowered into the sea. For seven years the oyster continues making secretions around the irritating particle. Then it is opened, and the chance is one in twenty that the graft has become a lustrous pearl. The process has been developed by Kokichi Mikimoto, who now owns and operates 11 "farms." He began experiments in 1893, completed the invention and obtained perfectly spheroidal pearls in 1911.



NO MEN PERFORM IN THE GIRLS' OPERA

Reversing the practice of the old Japanese theater where all actors are men, these young women take masculine parts (page 107).



Photographs from Matsy A. Nozawa

THE ACCORDION TAKES THE PLACE OF "SAMISEN" OR "KOTO"

The members of the Girls' Opera lay aside the old Japanese guitars and zithers and play modern dance music on Western instruments.



Photograph by Nippundoto

MILKMAIDS ARE A RARE SIGHT IN JAPAN

Because the country has no pasture land, few cattle are raised, and dairy products are not a regular part of the diet. The Hachijo Island woman seen here milking her cow will make a part of butter to be sold in Tokyo, 180 miles away.



Photograph by Lionel Green

NAPPING BABIES GO SHOPPING PICKKABACK

Whether marketing like these kimono-clad, *zeta*-shod women in Kobe or laboring in the fields, mothers and big sisters are seen everywhere thus laden (page 106). Only the straw hats worn by the children introduce a Western touch.



Photograph from Mary A. Noyama

WAITRESSES PUT ON A "FLOOR SHOW" IN A BEPPU HOTEL LOBBY ON NEW YEAR'S EVE

While at their regular duties in the dining room, they were attired in Western uniforms, consisting of blue skirts and white blouses; but for the evening performance they donned gay flowered kimonos. The steps are the stately movements of the traditional Japanese dances.



Photograph by Mrs. Bessie De Cou

ALL MOTHERS LIKE TO HAVE THEIR CHILDREN'S PICTURES TAKEN

The Japanese like photography and are good at it. The woman, kimono clad, wears the native *geta*, or sandals, as does the smaller boy. The other lad has Western clothing and shoes.

(both small and capital letters), and the Arabic numerals.

Slowly the operator pushes a long arm over the board to locate the symbol she wishes to use. This intricate apparatus is a copying machine only. It gives a clear, distinct copy vastly more legible than the written one, and by the use of carbon paper duplicates the copy—its only speed value. The companies that sell typewriters give lessons in the use of them to girls who wish to learn (page 101).

"SECOND GENERATION" GIRLS

In commercial companies and banks much English is used. Here the Western typewriter is the office tool. Young women

who have acquired enough English by tutoring or in some foreign school handle this work. A large number of these girls are the so-called "second generation" girls; that is, girls born in Hawaii and in continental United States and educated in American public schools. Only when grown do they go to Japan.

English is more natural than Japanese to them, and they easily find employment as stenographers and secretaries in offices of foreign firms or in native ones doing an international business.

In hotels and restaurants which attract travel trade and in department stores in large cities like Tokyo and Osaka, they find employment as interpreters.



Photograph by Mary A. Nourse

CHILDREN CLAP HANDS AND SING BEFORE GOING TO LUNCH

In a private settlement in Sumida, the factory district of Tokyo, these young pupils receive care and schooling. They have been called from the playground to march into the dining room.

One evening at a famous restaurant in Tokyo I ran across one of the second generation girls, a chic lass in pink sports costume and bobbed and waved hair, who showed us around and explained everything in such good English that we asked her where she had learned the language.

She said that she was born in Los Angeles and had only a few months before come with her mother and brothers to Japan for the first time. Her father was still in the United States.

At the Y. W. C. A. English class I came in contact with two others who, California born, had just come to Japan. They told me that they worked in an office downtown and that this was their first attempt at

teaching. The Japanese secretary smilingly said that their Japanese sounded like that of a foreigner.

Some educated girls turn to teaching and nursing. Most of the teaching positions open to women are those in the early grades of the primary schools, though there are some in the higher girls' schools and in private institutions.

In primary schools, the children are segregated by rooms—some for girls and others for boys. In the first and second grades, most of the teachers of the girls are women. In the higher schools, special training in English or gymnastics gives a few women good positions.

Principalships are closed to women, and



Photograph by Maurizio Fresco from Pix

GIRLS BAG DRIED TEA FOR THE FOREIGN MARKET

In this small factory at Shizuoka a Japanese copy of an American machine is used for filling the containers, which before installation of the modern equipment were packed entirely by hand. Here the old-style hair dress with "buns" is worn; most workers have adopted simpler Western coiffure.

consequently chance of advancement is slight. A rule that they must retire at 40 also militates against them. Thus women now hold only the lowest ranks in the profession. But in case of the country's emergency, they would be found capable of filling positions now held by men.

Nursing is on a much lower plane professionally than teaching, and in a decidedly lower place than it is in the West. The drudgery of cleaning and washing seems to form a large part of the task.

A Japanese Y. W. C. A. secretary explained to me that this phase of the work kept many from entering the profession, for it placed the girl in an unfavorable social position. Education for nursing is attained either in a doctor's office or in some hospital.

Even the women and girls of the wealthy are not permitted to idle. They are relieved of going out as wage earners, but long hours at home and in school are devoted to learning household duties and ceremonies, little services for the living and the dead, tea ceremony, flower arrangement, and proper offerings to ancestors.

By practice a girl must learn to sweep the house and garden, and to cook ordinary food and festival delicacies. Personal service is expected of her. It is her duty to wait on men and children.

BRIDE WAITS ON HUSBAND

One day I watched a young couple on a train. They were obviously bride and bridegroom. He took off his hat and handed it to her to put in the rack, and then she reached for his overcoat. After chatting awhile, he wanted something, and she dragged down the suitcase from the rack.

From time to time, he handed her some article which she would dispose of in some bundle or case of their luggage. In all the journey of several hours she constantly waited upon him; it was the accepted procedure.

On a steamer trip to Taiwan, table talk veered to the subject of woman's work. I hazarded the remark that the women of Japan worked very hard. The Japanese purser at my left straightened himself and said, "It is the national custom."

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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.

The Society cooperated with Dr. William Beebe in a deep-sea exploration of undersea life off Bermuda, during which a world record depth of 1,028 feet was attained August 15, 1934, enabling observations of hitherto unknown submarine creatures.

The Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole, and contributed \$100,000 to Admiral Byrd's Antarctic Expeditions.

The Society granted \$25,000, and in addition \$73,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees in the Giant Forest of Sequoia National Park of California were thereby saved for the American people.

The 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.

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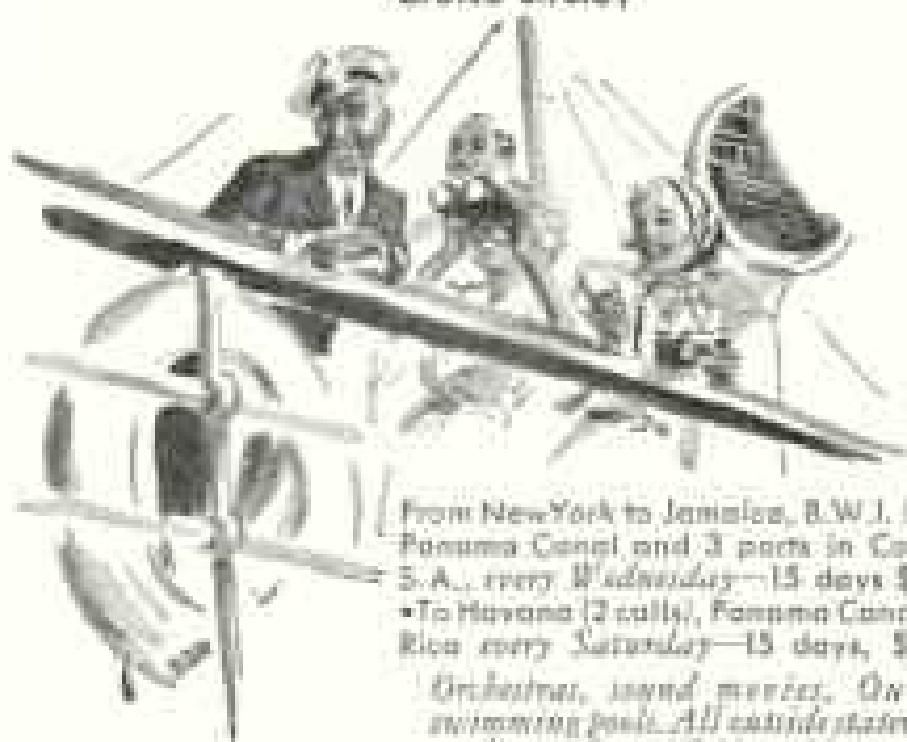
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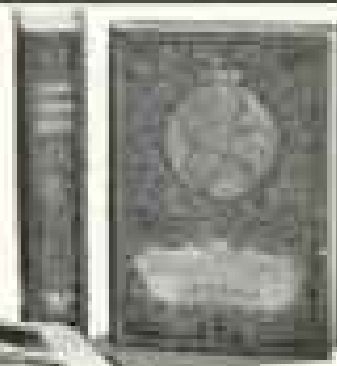
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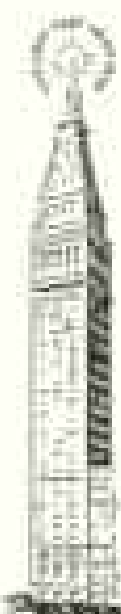
Pneumonia is an inflammation of the lungs. It comes on usually with a chill, followed by a high fever, accompanied by pain in the chest or side, and coughing. A doctor should be called at once. With prompt medical treatment and good nursing, pneumonia can usually be controlled.

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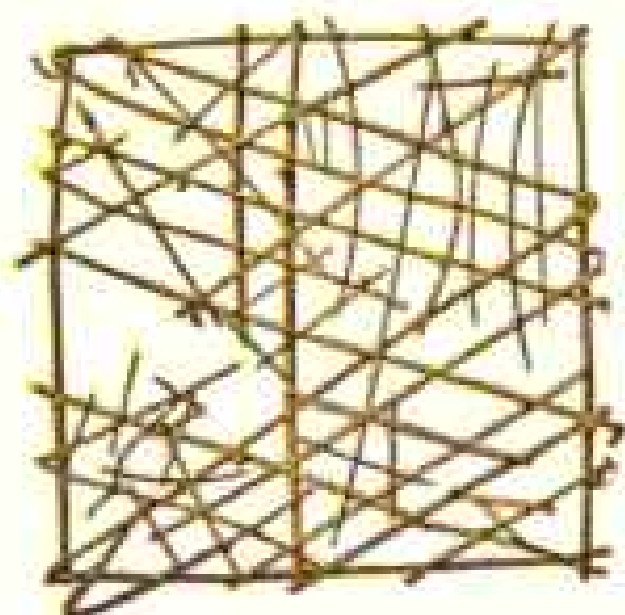
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1938

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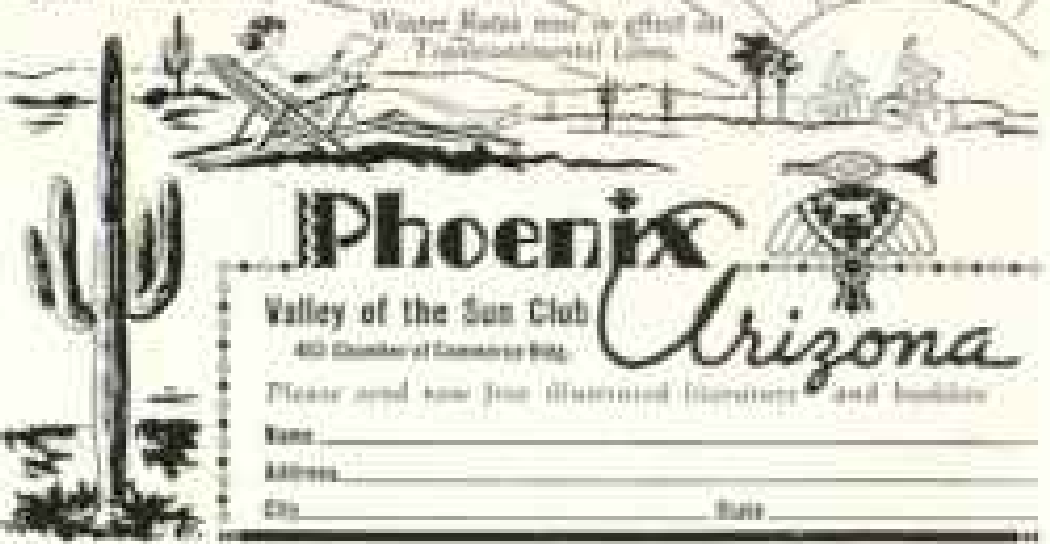
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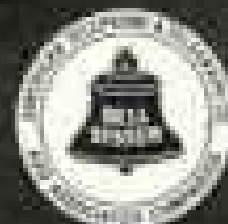


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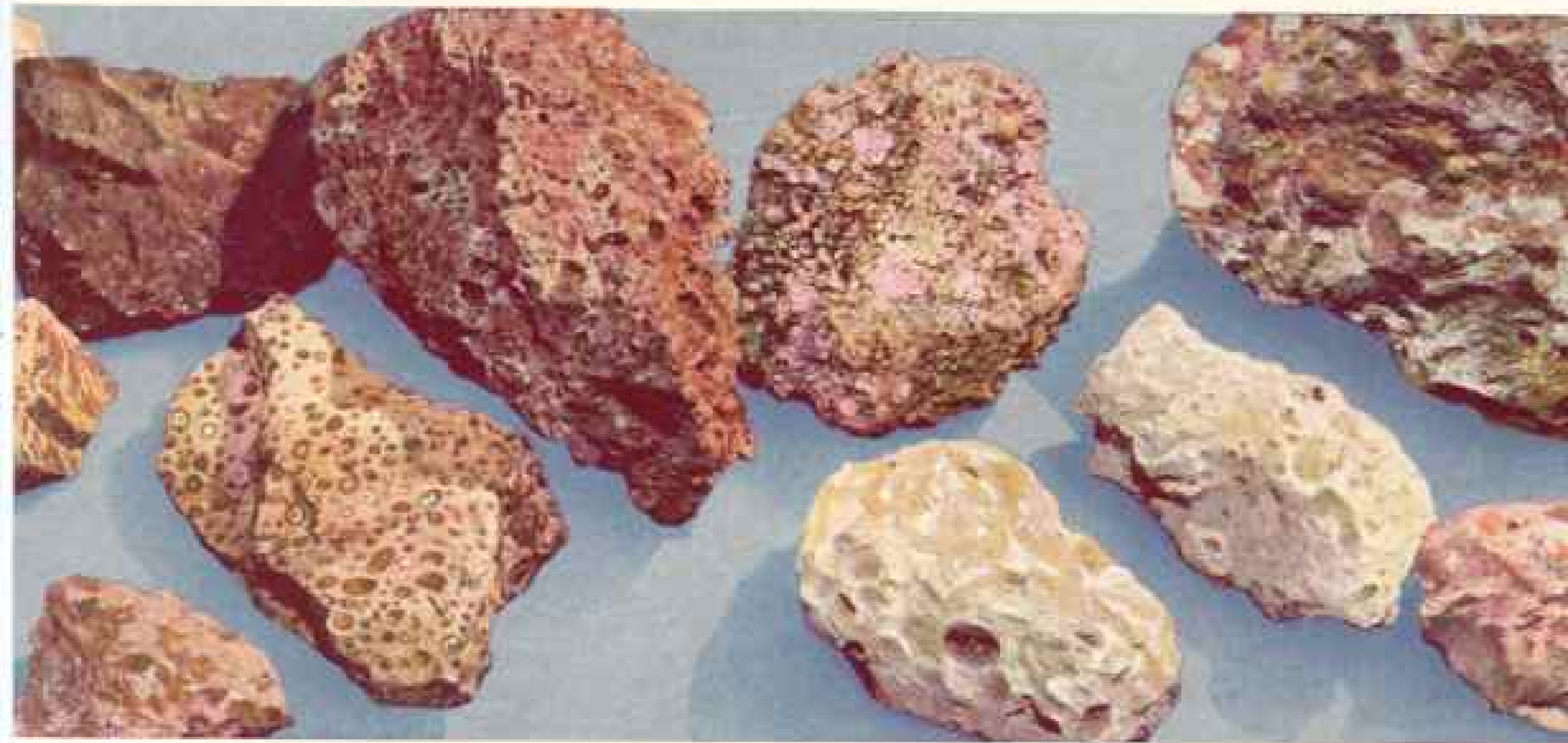
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For fifty years we have held to one purpose: To make aluminum plentiful and cheap. We have invested large sums of money in efficient plants to make aluminum low in cost, and in research to make it lower.

It is these investments which have given aluminum to this country so cheaply that you see it everywhere.



A L U M I N U M C O M P A N Y O F A M E R I C A