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TWENTY-FOUR PAGES OF ILLUSTRATIONS IN FULL COLOR

As London Toils and Spins

With 38 Illustrations

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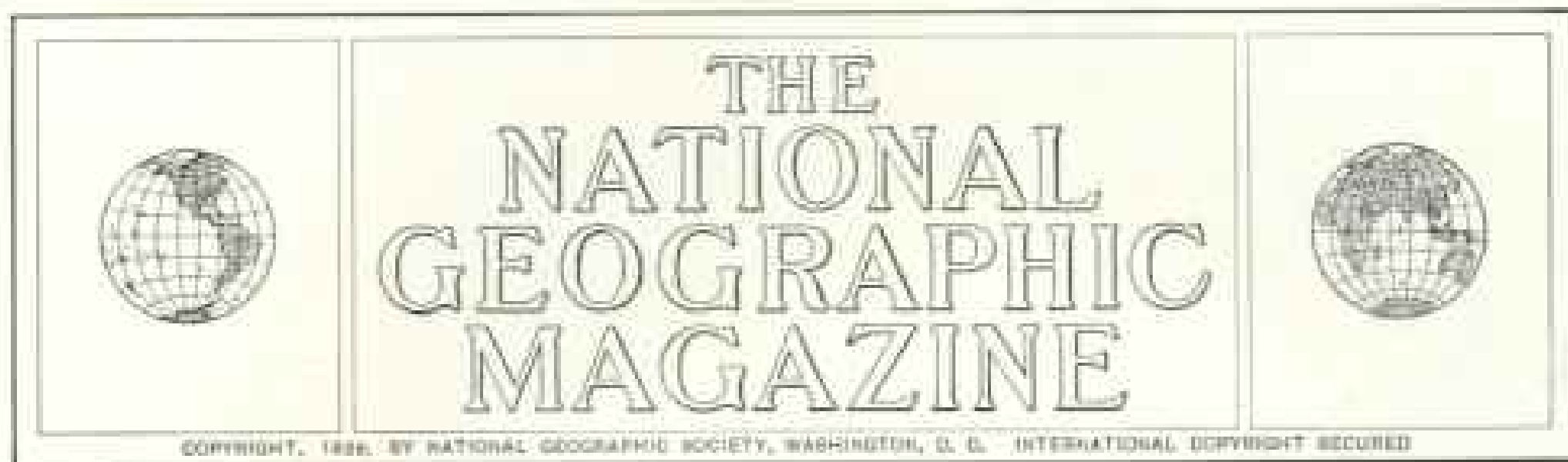
With 23 Illustrations

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AS LONDON TOILS AND SPINS

BY FREDERICK SIMPICH

"THAT'S where they hanged Captain Kidd," said the launch skipper giving me a ride along London's water front.

"Where did Captain John Smith sail from, when he went to found the Virginia colony?"

"Dead ahead in the stream, off where the old East India Docks now stand.

"And there by Deptford pier is where the *Golden Hind* lay, when Queen Elizabeth came aboard to knight Francis Drake."

Thames traffic makes London the world's foremost river port. Since Roman galley days—when Britons traded grain, slaves, and dogskin for European salt and horse collars—commerce has flowed between London and the continental countries along the Schelde, the Rhine, and the Elbe. After Drake nerved England to smash the Spanish Armada, London ships gained in time the lion's share of ocean-borne trade.

Names immortal in discovery and conquest are linked with this water front. From here Frobisher went seeking the Northwest Passage, and Hawkins to Puerto Rico and Veracruz; from here Lancaster made his voyages to the East, before the downfall of Portugal and the rise of the British East India Company. Raleigh sailed from here to explore the Orinoco, to popularize tobacco and, tradition says, to start the Irish planting potatoes.

It was London's daring money which sent Sebastian Cabot to found the Russia Company, opening trade with that land. London merchants and skippers promoted the Turkey, African, Virginia, and Hudson's Bay Companies.

London emigrants helped colonize in the Americas, in Australia, New Zealand, China, India, Africa, and the rich islands of the sea.

From this water front went the English language. In Drake's day only a few millions spoke it. Now it is a world tongue. Of all letters, telegrams, books and papers printed now, it is estimated that 70 per cent are in English. London alone uses enough newsprint *every day* to cover a ranch of 9,350 acres—or nearly 15 square miles of paper.

"The smell from that big paper mill at Bayswater is one of the marks I steer by on foggy nights," said a Thames pilot.

THE WORLD'S BUSIEST RIVER PORT

Exploration of London's crowded docks reveals not only what amazing piles of food a great city can normally eat, but also what odd items, from live bats to rhino horns, are mixed in the life stream of world commerce.

Imponderable, in variety and magnitude, are these fruits of man's barter. Here, too, his work ranges from ratcatching and opium sampling to dredging the Thames and handling annual cargo enough to fill a road with loaded trucks from the Yukon to Patagonia.

To say that every day some 500 craft, big and little, pass through the Thames mouth tells only half the story. More significant is what happens on the docks.

Even London people themselves don't dream what incredible activity is here. Few ever see it. Confusion on this crowded river, in days gone, grew so intense that



Photograph by B. Anthony Stewart

A MODEL OF LONDON PORT FOR DISPLAY AT JOHANNESBURG

One tiny vessel is seen about to pass under Tower Bridge. The artist, whose seemingly gigantic hands move the ship, operates a studio that employs architects skilled in modelmaking. For education in yellow-fever control in Africa they built a mosquito six feet across! (Page 14.)

waiting boats often lay unloaded for weeks; goods were piled in disorder on river banks, and pilfering was enormous. One river bandit stole almost a whole shipload of sugar! To combat this chaos the West India merchants built their own fortlike docks.

With more trade came more docks, and more toll-rate wars and other confusion. This ended in 1909 when the Port of London Authority, a Royal Commission, took full control under Act of Parliament.

It paid £23,000,000 for privately owned London docks, spent millions more to make

the lower Thames the world's longest deep-water channel, and to enlarge and re-equip cargo-handling facilities.

It has dredged mud enough out of the Thames to build a Chinese Wall, and has constructed the world's most extensive dock system. One of its cranes, the "London Mammoth," lifts 150 tons!

Finally, with characteristic British financial genius, it sold its debentures on the Stock Exchange, and now its operations usually pay all costs and leave a profit which is used for more improvements.

"The PLA is not in trade," explained Sir David Owen, its general manager. "We are merely custodians of merchandise that may range from wild animals for the Zoo to a shipload of molasses from

which to distill fuel alcohol. We weigh goods, report on their quality and condition; we open bales and boxes for customs inspection, furnish samples for buyers, and look after repacking and loading for those who ship from London to other ports."

AN AMAZING VARIETY OF GOODS

On the north bank of the Thames, scattered for miles downstream from the Tower, stand these great PLA docks: London, St. Katharine, East and West India, Millwall, Victoria and Albert, King George V, and the Tilbury (page 8).

On the south bank, near London's heart, are ancient Surrey Commercial Docks, with a lumberyard that covers 150 acres! More wood is piled here than I have ever seen in any other spot. Sunshine followed a shower the day I spent there, and the place smelt pleasantly of fresh-cut pine and spruce, a forest sawmill smell in the middle of London!

Besides the railways and truck lines that tie these docks to the outlying Kingdom, some 9,000 Thames barges handle goods to and from ships' sides.

Each dock has its own character. St. Katharine Docks are built on the site of the old Church of St. Katharine by the Tower, founded by Queen Matilda in 1148. What heterogeneous goods they store: wool, skins,

wines, spices, sugar, rubber, balata, tallow, ivory, barks, gums, drugs, coffee, iodine, hemp, quicksilver, canned fruits and fish, coir yarn, coconuts, and brandy!

West India and Millwall Docks lie in a river peninsula known as the Isle of Dogs. Here the passer-by may smell 12,000 punch-ions of rum, a million tons of sugar, and shiploads of dates.

Victoria and Albert and King George V Docks form one huge structure, the world's largest sheet of enclosed dock water.



© Fox Photos

"BEATING THE BOUNDS" AT THE TOWER OF LONDON

The Chief Warden watches as boys carry out a tradition dating back to Anglo-Saxon times (page 56). Before towns and parishes were mapped, youngsters were made to beat the local boundaries with sticks so they would never forget their "city limits." Sometimes the boys themselves were bumped against the boundary-stones to make them remember! Sons of soldiers quartered in the Tower observe this ceremony every three years (Plate III).

Often 40 or 50 ships—equal to a good-sized navy—tie up here at one time (Plate XIII).

Tilbury is the first dock one sees when sailing up the Thames. Its long landing stage forms a homeland gateway for people from Australia, New Zealand, India, China, and other eastern countries who land or embark here. Fast trains of the London, Midland and Scottish Railway touch the dock's edge and whisk passengers away to all parts of the Kingdom.

In the city, PLA has still more ware-

houses. At its Butler Street building I was shown 70 rooms full of Oriental carpets—enough to cover a farm of 120 acres!

"People buy most carpets in June, for wedding presents," said a man looking for moths. There were electric ovens, too, for conditioning raw silk; a mountain of Havana cigars, and leaf tobacco enough to last one man, say, 500,000 years!

Here is a furtive horde of lean black cats, to help out the official human ratcatchers.

Musty wine vaults use 28 miles of underground track on which to roll barrels that hold the 12,000,000 gallons of wine brought to London each year. "Most of it is port and sherry," said an old gauger who has worked there 41 years. "Some of the oldest was here when I came."

AN IVORY AND TOOTH MARKET

This is the world's ivory and tooth market (page 9). It takes 16,000,000 artificial teeth from the United States every year—and some 2,000 elephant tusks from Africa and Asia.

"Not many tusks are from newly slain elephants," said a warehouse guard. "Most of them come from mudholes, left by animals long dead. Sometimes we get the ice-preserved tusks of Siberian mammoths, as well as narwhal tusks and hippopotamus teeth.

"That pile there is rhino horns; they're not ivory—just compressed hair. Chinese usually buy them for medicine, but when the Italians were invading Ethiopia, agents came from Emperor Haile Selassie to buy these rhino horns; they wanted them to make 'courage-giving' medicine for their warriors. They bid the price up so high that the Chinese dropped out of the market. But apparently the 'medicine' wouldn't work in Abyssinia!"

Wool was England's chief export in the Middle Ages. Today it is one of London's main imports. It takes the fleeces from about fifty million sheep to meet London's annual demands!

Tea trade has centered here for 300 years. In Mincing Lane you can see brokers bidding on lots which have been expertly sampled by PLA's own teatasters (page 13). I went in bareheaded, slipped into an empty seat, and watched bidding—which absorbs 500,000,000 pounds of tea a year.

When they "bulk" tea, or mix it, on some warehouse floors you may see it heaped up in mounds higher than men's heads.

Still in business, in London, is the successor of the firm that shipped tea to Boston for that historic "party" of long ago (p. 53).

Spice rooms on the docks smell of Singapore pepper, Ceylon cinnamon, and cloves. Here experts "garble" or sort nutmegs, kernels of a fruit of which mace is the husk; perfume makers come here for tonka beans from Panama, and civet cat serum packed in sealed cowhorns from Djibouti. I saw one chunk of ambergris worth \$5,000!

From the Matto Grosso (Brazil) come vanilla beans, ipecac, and sarsaparilla roots wound in balls that look like brown twine; also aloes from Aden packed in dried monkey skins, for the pill makers; from Mexico dried flies and lizard eggs as food for pet fish (page 28).

There was dragon's blood gum from Malaya, used in dyes, and 90 tons of African ostrich feathers worth \$25 a pound. In one big vault were stacked 60 tons of small opium cubes, wrapped in red paper; police guard it, to see that none of the drug slips into unlawful channels.

"Plenty of happy dreams in that pile," someone remarked.

"I'm tired of the smell of it," said the guard. Even a taciturn customs chemist, boring little holes to take samples, admitted that some fresh air might do him good. I, too, felt relieved to get out of the "hop room," and up where men were weighing dried turtle meat from Panama.

Think of all the "liquid history" that has been packed into this ancient water front since Roman galleys traded here; since Danes and Vikings came to plunder; since the great companies of merchant adventurers launched their tiny ships for daring trade and colonizing far over then little-known seas.

Think of the 60,000 ships a year that now form smoke lanes from London to every nook of the world where goods can be bought or sold, and you begin to see why this 70-mile stretch of "London River" is, incomparably, the world's busiest water front.

LONDON'S BIGGEST BUILDING BOOM

Not even London's growth after the Great Fire can compare with today's swift, significant changes. More than 600,000 new homes, besides square miles of flats, have been built in recent years to house people taken from slums, crowded sections, and from areas cleared for parks, factories, or new streets.



Photograph by Maynard Owen Williams

FLEET STREET, CENTER OF BRITISH NEWS, LEADS PAST THE GLISTENING BLACK GLASS HOME OF THE "DAILY EXPRESS" TOWARD ST. PAUL'S

Double-decker buses roll along the thoroughfare to the "Parish Church of the British Empire," where Nelson, Wellington, and other famous heroes rest. More news words are written, bought, sold, received and dispatched in Fleet Street than in any other equal area. Each year the Western World obtains more than 22,000,000 words by radio, cable, and mail from London (page 25).



Photograph by B. Anthony Stewart

ONE OF BRITAIN'S "SAFETY VALVES" BLOWS OFF STEAM IN HYDE PARK

For years London crowds have flocked to hear soap-box orators in this open-air forum. On taxes, tariffs, politics, religion, war, peace, work, wages, speech is free and no proper theme is barred. Hecklers may heckle, but if speakers are molested, or abuse their privilege, watchful bobbies gently intervene (page 12).

Historic Metropole Hotel served its last supper the week I reached London. Sad-faced waiters closed its doors forever. Now famous Adelphi Terrace is being torn down, even as Hotel Cecil melted into scrap.

As ancient city landmarks fade, queer modernistic structures, bewildering to Londoners returning after long absence, rise in their place. Look at that big cube of metal and glistening black glass which holds Lord Beaverbrook's *Daily Express* in Fleet Street (page 5); or the classic stone temple of the British Broadcasting Corporation (pages 27 and 32).

Or at Shell-Mex House on the Strand, Bush House in Aldwych, and all the monster new piles raised here as official headquarters by Canada, Australia, South Africa, and other members of the British Commonwealth—whose show windows display the products of these far-away lands. They seem unreal, out of place, in this long-static, smoke-stained, weather-beaten old town.

Rise of new suburbs is no less astonishing. "Satellite" towns, dormitories of 50,000 or more, spring up where yesterday

lay green fields and truck gardens. Smoky forms of new factories rim the horizon.

Middlesex County, men say, will soon be wholly urban. Steadily the city unfolds down through Surrey. Southeast towards the hop fields of Kent "ribbon towns" sprawl beside the highways; in Essex and Hertfordshire, "the scaffold poles of the builder are like wands that conjure new towns out of the ground" (page 50).

Drawn by this boom, industry tends to shift here from the less prosperous North. Workers flock along; each year London adds a young city to its population, and each day 100,000 visitors pass through its streets. In one week, at Regent Palace Hotel, 40 different nationalities filled out the police form. Yet you see few idle men. Munition works run day and night; 40,000,000 gas masks are being made—even every child is to have one; flying field schools turn out more and more pilots.

To learn how London, growing so fast, handles its passengers, I went to "London Transport" headquarters, a system which hauls a crowd each year equal to twice all the tabulated people on earth.



Photograph by B. Anthony Stewart

NEWS PHOTOGRAPHS, BEHIND "INVISIBLE GLASS," INTEREST PASSERS-BY IN FLEET STREET

From this newspaper center, great London dailies often send photographers by special plane to picture distant events. Day and night, cameramen dash about the city in motorcycle sidecars, chasing "story shots." Nearly one million news pictures are marketed here annually.

This greatest of all urban transport systems was formed under the Passenger Transport Act of 1933. Its Board has issued more than half a billion dollars' worth of stock. Listed on the Exchange, it is an example of the British public utility sponsored by Government, yet owned by private stockholders.

EVERY DAY LONDON PEOPLE TAKE
10,000,000 RIDES

The genius who guides the London Transport Board is Lord Ashfield. Born Albert Henry Stanley, at Derby, England, Lord Ashfield came to America as a child; he grew up here, attained high posts in Detroit and New Jersey traffic systems, and then went to London as head of its Underground Electric Railways Company.

"When I returned to London," he said, "I found many competing lines. When we finally organized London Transport we took over some 157 different bus, omnibus, tram, and railway lines—some owned privately, some by the city."

"What was your chief handicap?"

"Time," said Lord Ashfield. "It took 27 years to develop the present system."

"Is it complete?"

"By no means. Working with Main Line railway companies, we are beginning a five-year program that will cost £40,000,000. Also, we need more tube railways. Our vehicles, though modern as any, are not perfect.

"Centuries ago men could build beautiful bridges and houses, but even 20 years ago bus bodies were ugly and clumsy. They were still influenced by the shape of horse-drawn vehicles, our only pattern. The difference between our latest Diesel-driven, double-decked bus and the char-à-banc of a decade ago hints at what progress can be made" (Plate V).

"I see so many horses here pulling trucks. Do you use any?"

"None. The horse is a costly animal in any city—if you consider his slow pace, the amount of road space he occupies, and the congestion he causes. What we must aim at is a higher average speed upon the streets, to obtain their maximum use."



Photograph from Port of London Authority

THE WORLD'S GREATEST "WET DOCK" SYSTEM LINES THE THAMES FOR MILES

In such basins the water level is kept constant by means of locks. With a snorting tug at her side, a freighter in Gallions Reach maneuvers before the gate leading to the King George V Dock (left), where a fleet of vessels is already berthed. The Victoria and Albert Docks (right) extend nearly three miles and are lined with vast warehouses for tobacco, grain, meat, and other commodities that the world ships to England.

Londoners have a deep affection for their buses. They grow up to respect the conductor for his courtesy, efficiency, good temper, and wit. I saw many visitors hold out handfuls of pennies, trusting the conductor to pick out the right fare.

THE JOYS OF BUS RIDING

Here the joy of a sight-seeing ride on a bus never stales. London played skillfully on human nature when she sent buses to France with British troops in the World War.

These gay, red vehicles, or "scarlet galleons," bore London's familiar advertisements right up to the front line.

There is no less romance underground than above. It is easy to imagine the relationship between the motorbus of 1936 and the first wheeled vehicles, made by shaping logs, that rumbled along prehistoric roads.

But the Underground, a triumph of mechanization, is uncompromisingly of today. The automatic ticket-vending and change-giving machines, the fast-moving escalators, the air-operated car doors, and the automatic signaling which enables forty 8-car trains an hour to travel on some lines—these wonders cannot be taken for granted, even if they are mechanical.

Only by keen study of human nature



LLOYD'S WILL INSURE ANYTHING—FROM BALLOONS TO DANCERS' FEET

Under the clock in the main hall hangs the Lutine Bell, recovered long ago from a sunken British treasure ship. The bell is rung by a clerk to announce a wreck or the arrival of an overdue vessel, or to attract the attention of the brokers. Policies are written by individual members, not by the corporation (page 31).



Photographs by H. Anthony Stewart

ALL THINGS COME TO LONDON'S DOCKS, EVEN TONS OF ELEPHANT TUSKS

Most of them are from animals long dead, comparatively few from newly killed elephants, a warehouse guard told the author (page 4). These long, curving spikes of precious ivory, taller than a man, are carved into all manner of tiny, delicate articles in near-by London shops where craftsmen sometimes postpone their work until after midnight to avoid the vibration of traffic.



© AP from Pictures, Inc.

KING GEORGE VI, AS DUKE OF YORK, RIDES TO ST. PAUL'S CATHEDRAL FOR THE 1955 SILVER JUBILEE OF HIS FATHER, KING GEORGE V

At the King's left is seated Queen Elizabeth, then Duchess of York, who was before her marriage in 1923 Lady Elizabeth Bowes-Lyon. The little girl in the left foreground waving her hand is Princess Elizabeth Alexandra Mary, the King's elder daughter and next in line of succession to the throne. Beside her is her younger sister, Princess Margaret Rose. Perched stiffly erect behind this old-fashioned coach uniformed footmen add a traditional touch to the royal scene.

can the Underground carry its 1,750,000 passengers a day. Consider the escalators. If people walk or run up an escalator instead of standing still, its capacity rises by as much as 40 per cent. Therefore each escalator is run at a speed designed to keep people walking. The 137 moving stairways used here travel more than 2,500 miles a day—enough to form a narrow bridge full of people stretching almost across the Atlantic!

Ticket-selling machines present another problem in psychology. The extent to which they are used depends upon their situation; a remoteness of a few feet may discourage purchasers. In a year the Underground sells 350 tons of tickets! And on busy week ends its riders spend thirty tons of copper and ten tons of silver.

"What about the future?" I asked Lord Ashfield.

"Apart from new lines, signaling will be improved and platforms will be lengthened so that in time probably all lines may carry forty 8-car trains an hour during peak periods. We now use the Metadyne system of control, which enables faster and smoother acceleration and better braking. We have also reduced noises in the tubes.

"Some 1,200 Diesel-driven buses are in service and eventually all will be of that type."

"Can you reduce traffic jams?"

"Certainly we can't let them get any worse! Even now, ours are not so bad as New York's, because we have no sudden crowds dumped at closing time from skyscrapers that house 10,000 or more people. But London urgently needs some bold street widening and some stagger plan by which all people going to and from work will not travel at the same time."



© Donald McLeish

LORD NELSON HAS WATCHED A CENTURY OF LONDON LIFE SWIRL PAST TRAFALGAR SQUARE.

Second only to Hyde Park as a gathering place for political demonstrations is this wide plaza, laid out in honor of that doughty British sea fighter and his victory over the French and Spanish at Trafalgar. Atop the lofty granite Nelson Column, guarded by its four huge Lionesses, stands a thrice life-size statue of the hero, mortally wounded by a French sharpshooter during the battle in 1805. Beyond appears the long façade of the National Gallery.



Photograph by Acme

FOR ONCE LONDON'S POLICEMEN GET COLD FEET

On one of the hottest days of last June these Port of London Authority police tested new life-saving equipment. Wearing full uniform, minus shoes and socks, the bobbies donned unsinkable jackets and jumped in. The nearest, caught by the camera's quick eye, seems to be walking on water.

For eight weeks I walked these kaleidoscopic streets, vivid with life's drama and tragedy.*

"Old Kate," the match seller, had her pitch near my hotel. In sunshine or rain, there she sat, facing the Gaiety Theater where long ago, when she was a famous American star, the lights had flashed her name. Now, weeks later, come the London papers saying: "Old Kate is Dead. Once Famous Stage Favorite—Who Squandered

* See "Some Forgotten Corners of London," by Harold Donaldson Eberlein, NATIONAL GEOGRAPHIC MAGAZINE, February, 1932.

Three Fortunes—Leaves Only £2, in Pennies. She Will Be Buried in Tooting Tomorrow."

By Piccadilly curb stands an old Louisiana negro, singing Stephen Foster ballads.

"Uncle, why don't you go home?"

"It's a long ways back to the canefields, and I'm old. I was a cook on Atlantic freighters; got torpedoed and hurt in a wreck in the war, off Holland. The English people brought me here. I get by, singing."

He took my pennies and bowed, and began to sing "Old Black Joe."

"Let's go out to Hyde Park Sunday morning and hear the soapbox orators," a friend said (page 6).

Imagine my astonishment to see there, in hilari-

ous harangue, an American newspaper man with whom I worked years ago on a Western daily.

"I just couldn't let the previous speaker's claims go unchallenged," he later explained. "So when he quit, I jumped up on his stand and commenced. I made the crowd laugh—and laughed with them.

"My opponent took me aside, when I'd finished, and warned me not to ruin this Hyde Park business by making a joke of it. 'It's our art,' he said, 'and we take it seriously. You laughed too much!'"

One speaker described America as a

happy land where idle men get free lunches in bars, free shaves in barber schools, free newspapers in public libraries, and all go to Florida to get free warmth in winter—and where women have all control of men's wages, and run the country!

Another old man I listened to had been speaking here, on the League of Nations, so often that now hecklers knew his sentences by heart; whenever he began a line, they'd say it with him, like church responses, in owlish solemnity!

But police arrest hecklers who get abusive. One shouted to a speaker, "You're dead! Why don't you fall down?" A bobby led the heckler away.

On a passing bus a sign reads, "If you can't laugh at *Punch*, there's something wrong, but not with *Punch*."

"Houdini the Second" with the aid of a helper is wrapped in big chains and then padlocked, only to escape miraculously.

"Look!" he shouts, holding up a yellow receipt. "Yesterday the police got me for blocking traffic and I was fined a pound. Now I need cash to eat! Please don't all throw pennies; somebody throw a little silver!"

With the greatest of ease a versatile painter on a bicycle wobbles his way



© Fox Photos

IT'S ALWAYS TEATIME FOR TASTERS IN THIS LONDON WAREHOUSE

To arrive at suitable blends and to fix prices, teas from various countries and plantations are "tasted," but seldom swallowed. At Shanghai the writer knew an American "charoe," or teataster, who claimed to be able, with eyes shut, to taste any Chinese variety and tell the district from which it came and the season when grown.

through Piccadilly traffic, carrying a long ladder and a bucket of paint, and smoking his pipe as he rides!

In that seething bazaar which is Woolworth's sounds the babble of innumerable tongues.

"Will you have tea at half time?" ask theater ushers, meaning at intermission. Say yes, and they bring it, passing the tray along to you over other people's laps.

From the Adelphi stage door trips a

dancing girl in pajamas, sandals, and her toes red-painted, mincing across Maiden Lane for a "spot of tea" between acts. More giggling chorines loiter about the stage door, ignored by blasé pedestrians who prefer to stare at stuffed New Zealand birds shown in a near-by window.

"I served my apprenticeship in the New York theaters," said C. B. Cochran, famous London producer. "For years I played the American cities, with Richard Mansfield. Your GEOGRAPHIC is my favorite. Every time you publish pictures of San Francisco, Chicago, or Pittsburgh, it brings back familiar scenes."

Sitting in a Maiden Lane cafe behind the theater, we counted noses: a Bombay merchant, two Argentine cattlemen, a Netherland tulip salesman, the agent for a French brandy, a British Army man on furlough from India, and the publisher of a Pacific coast newspaper. From there I went to meet a modelmaker, just leaving for Capetown to exhibit a miniature model of the Port of London and all its docks (page 2).

"I wish you could see the big mosquito I made," he said. It was six feet across—for use in an African educational campaign against fever.

"Turtle oil removes wrinkles," insists a sandwich man, while street gamins before a movie house sing, "Git Along, Little Dogie." Cockneys adore Wild West pictures.

"Yes, our police *do* use their heads," agreed an inspector. "Lately we sent out a squad to keep order where an agitator was trying to excite a crowd. With them they took a football, a clever dodge, and began to kick it about the park where the agitator talked. His listeners began to drop away to watch the police play football. 'Come on and play,' challenged the police, and the crowd came and formed a team and played against the police. And so faded one more threatened incident."

ALL LONDON PATIENTLY "FORMS A LINE"

A Saturday-noon High Street bus queue was 200 yards long, three or four abreast. Thus, in orderly patience, you see London trained to wait in line; no crowding, no cutting in at ticket windows and bus stops. Cars drive to the left, of course. It is only pedestrians who swarm in curious disorder.

Walk any crowded street, and you feel that all London is plunging straight at you.

Nobody instinctively keeps either to right or left. Morning millions scurry to work, pouring from bridges, tunnels, buses, and trains. After weeks of watching, your most vivid memory is of millions of little business girls running—all running to work.

Ask directions here and people do not say, "Across the street"; they say, "Over the road." You do not "turn to the left"; you "take the left turning." Odd street names abound, such as Haunch of Venison, Rabbit Row, Shoe Lane, Mincing Lane, St. Mary the Axe, Wood, Bread, and Milk Streets, Honey Lane, Roman Bath Street, Lime Street, and Gutter Lane, with Ironmonger and Petticoat and Fetter Lanes.*

You see all men lifting their hats when they pass the Cenotaph in Whitehall.

While you talk with the Lord Mayor in his red robes, his old-style carriage and four, with drivers and footmen in white wigs, draws up before the door to take him to open the Courts.†

Before the Mansion House a soldier demonstrates an antiaircraft gun, while another pleads for recruits. Beneath its routine hurly-burly, all London is uneasy. Thoughts of war and bombs are with it always. They still point out where World War bombs were dropped (page 36).

Drums, bugles, bells, and tramping feet sound everywhere. Bells of St. Paul's peal merrily for weddings that unite ancient families. Royal Horse Guards in white breeches and high black boots cross sabers over the heads of bridal pairs while crowds cheer.

Handbells at St. Clement Danes Church in the Strand are played by children on a day in spring when, by ancient rite, Danish children present an orange and a lemon to other youngsters who attend. They call it "Oranges and Lemons Day," and quote an old rhyme:

Oranges and lemons,
Say the bells of St. Clemen's.

Two life-sized mechanical men wiggle their heads and raise their clubs to strike the hour on the bell of St. Dunstan's Church in Fleet Street.

Before "Ye Olde Cock Tavern"—founded

* See "London From a Bus Top," by Herbert Corey, NATIONAL GEOGRAPHIC MAGAZINE, May, 1926, and "Vagabonding in England," by John McWilliams, March, 1934.

† See "Great Britain on Parade," by Maynard Owen Williams, NATIONAL GEOGRAPHIC MAGAZINE, August, 1935.



Photograph by B. Anthony Stewart

LONDONERS WAIT FOR A BUS IN FRONT OF "THE BANK," FISCAL AGENT FOR THE BRITISH COMMONWEALTH

Though the Bank of England's home has been enlarged and modernized in recent years, the ground floor is still without windows. Even high officials, to enter or depart after hours, must give the password used by the soldiers who guard the building at night (page 51). Vaults are shown only to official visitors. English paper money is manufactured under the supervision of The Bank.

in 1549," a gray and aging dog strains a bleared eye at the mechanical men, then waddles back inside to beg mutton bones. Playful guests squirt seltzer water on his nose—an old joke of which even he seems never to tire.

"What are those odd tin cats for, with their glass eyes and wobbly tails?"

"Scarecrows," says the clerk. "Hang 'em on a string; the wind swings them, the sun makes their eyes glisten. That scares birds and rabbits out of your garden."

A big "L" on a motorcar means the driver is learning; it warns others to give him plenty of room.

Said a hotel stenographer: "Curious people pass through this big town. One famous scientist dictated a serious paper to me on a formula for eternal youth. Another client, who flew the Atlantic in the Zeppelin and spent a fortune on horses here, left town forgetting to pay my bill of a few shillings."

Outside a mosque is a card inviting the public to come in and get acquainted with the Moslem faith.

Walk any street and you meet men holding out their caps. Outright beggars are arrested, so mendicants always "sell" something. One wanted pennies for pictures chalked on the pavement.

"They are good," I said. "Where did you learn?"

"Not mine," he answered. "I collect for the artist, who has gone to the movies."

STYLE KNOWS NO FRONTIERS

American-made women's frocks hang in Selfridge's windows. "Style and price, that's all," said Mr. Selfridge. "We send buyers to New York to watch for new frocks, handbags, anything new. Style is international. It breaks out anywhere.

"Lately, in Paris, the world's leading dressmaker died. No successor to him has appeared. He may turn up again in Paris, or here in London, or over in New York. New style is anything that catches on."

"When you introduced department store ideas to London years ago," I asked, "what was your big problem?"

"I had plenty. Money was one. In Chicago, as partner of Marshall Field, if I wanted \$100,000 to try out a new idea, I had only to ask for it. Over here on my own I had to raise the cash myself. Then there was public opinion. At first people were disposed to look down on retailers.

Today this feeling is much changed. The retail merchant is respected, as he ought to be.

"In recent years retailing has developed into a vast industry, with lots of other fine big stores. This has put 600,000 additional clerks to work here. Strangely enough, this just about coincides with the total number of men who have been forced into idleness by the decline of coal mining."

"Do you employ many Americans?"

"No; they get homesick."

Then, wearing his high silk hat, like merchants of old, he hurried away on his daily trip through the big store.

FOR LUXURY LONDON PAYS HIGH PRICES

Wealth here is incalculable. There is no end to luxurious clubs, mansions, sumptuous palaces of government, lavish hotels, and high-priced shops.

In New Bond Street you can pay \$1,500 for a cigarette lighter, but in Whitechapel you can buy one that works for 25 cents.

Grapes, peaches, melons, grown in steam heat under glass, sell at a fruit stand near the Ritz for incredible prices. I saw strawberries there, each berry wrapped separately in cotton, at \$3.75 per box of 12! Cantaloupes at \$5 each! At that price, fifty were just being packed for delivery to the Mansion House.

"When very scarce, we get as much as three guineas each for melons," said a clerk. \$15.39!

Just around the corner, of course, may be a street peddler with bananas at two or three cents each—and good grapes at sixpence a small bunch.

In New Bond Street, plover eggs, peradventure even gull eggs masquerading as plover fruit—at 35 or 40 cents each.

In Limehouse, a dish of stewed eels and a glass of beer at 10 cents.

Go to Petticoat Lane on Sunday morning and you can see clothes sold at auction. A boy steps up to try on a new suit. Spectators crowd about to discuss its fit and urge the boy to take this or that coat—or pants. Women buy new dresses at auction for 75 cents, and up, while husbands skeptically look on.

Exclusive tailors of Savile Row work behind stained-glass windows, disdaining to expose even their rolls of cloth—much less a vulgar signboard.

You ponder all this as you go off to hunt the tomb of Captain John Smith.

THE POMP AND PULSE OF MODERN LONDON



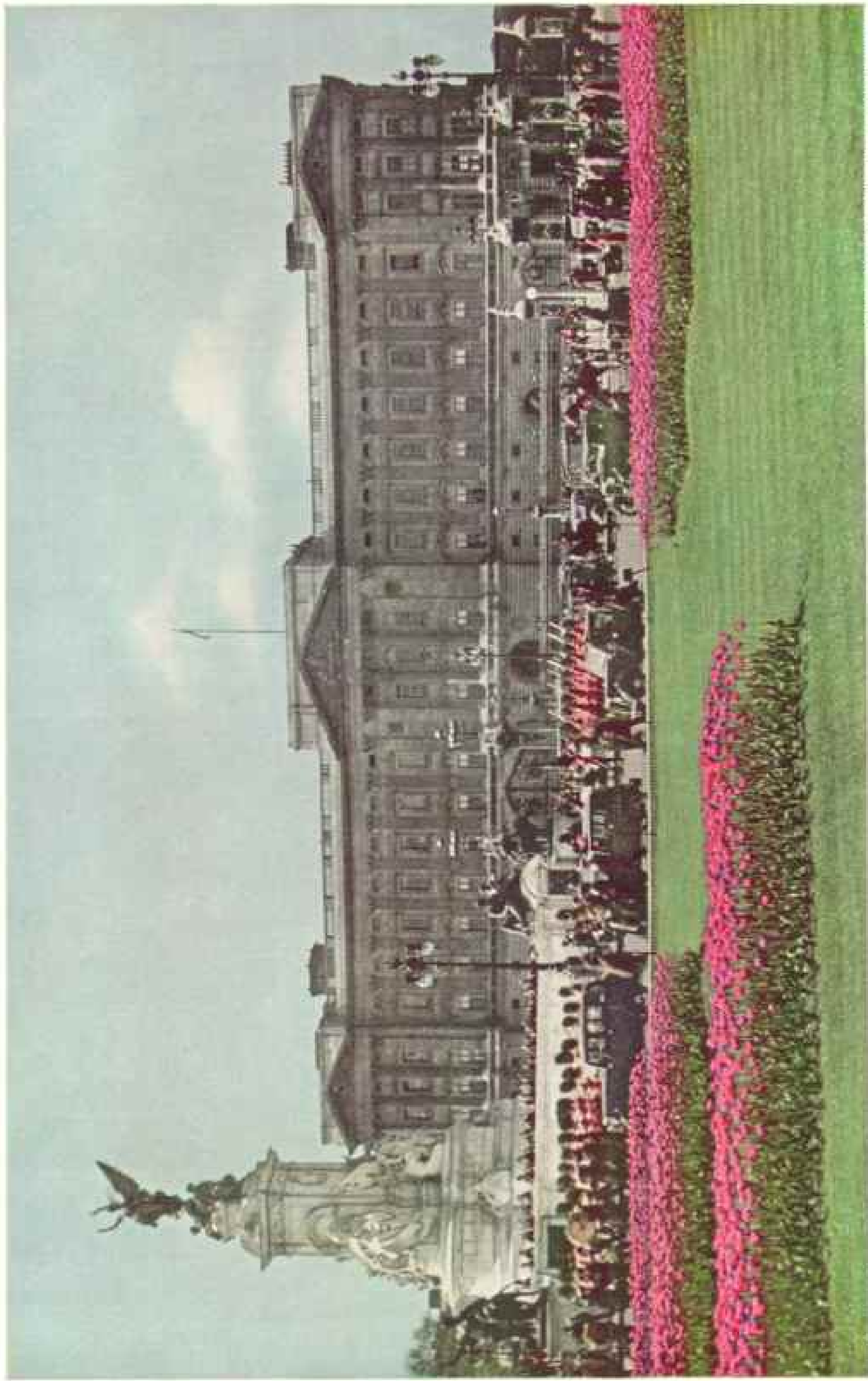
YEOMEN OF THE GUARD WEAR TALL BLACK BUSBIES, OFTEN CALLED "BEARSKINS"
The proclamation announcing the accession to the throne of King Edward VIII was read at St. James's, and here the new King lived for several months thereafter (Plate II).



© National Geographic Society

Finlay Photographs by B. Anthony Stewart

FLAWLESS HORSEMANSHIP MARKS THE DAILY MOUNTING OF THE GUARD
Stalwart Life Guards replace a retiring detachment in a colorful ceremony on the Whitehall side of the Horse Guards, a building now used as military headquarters for the London district (Plate V).

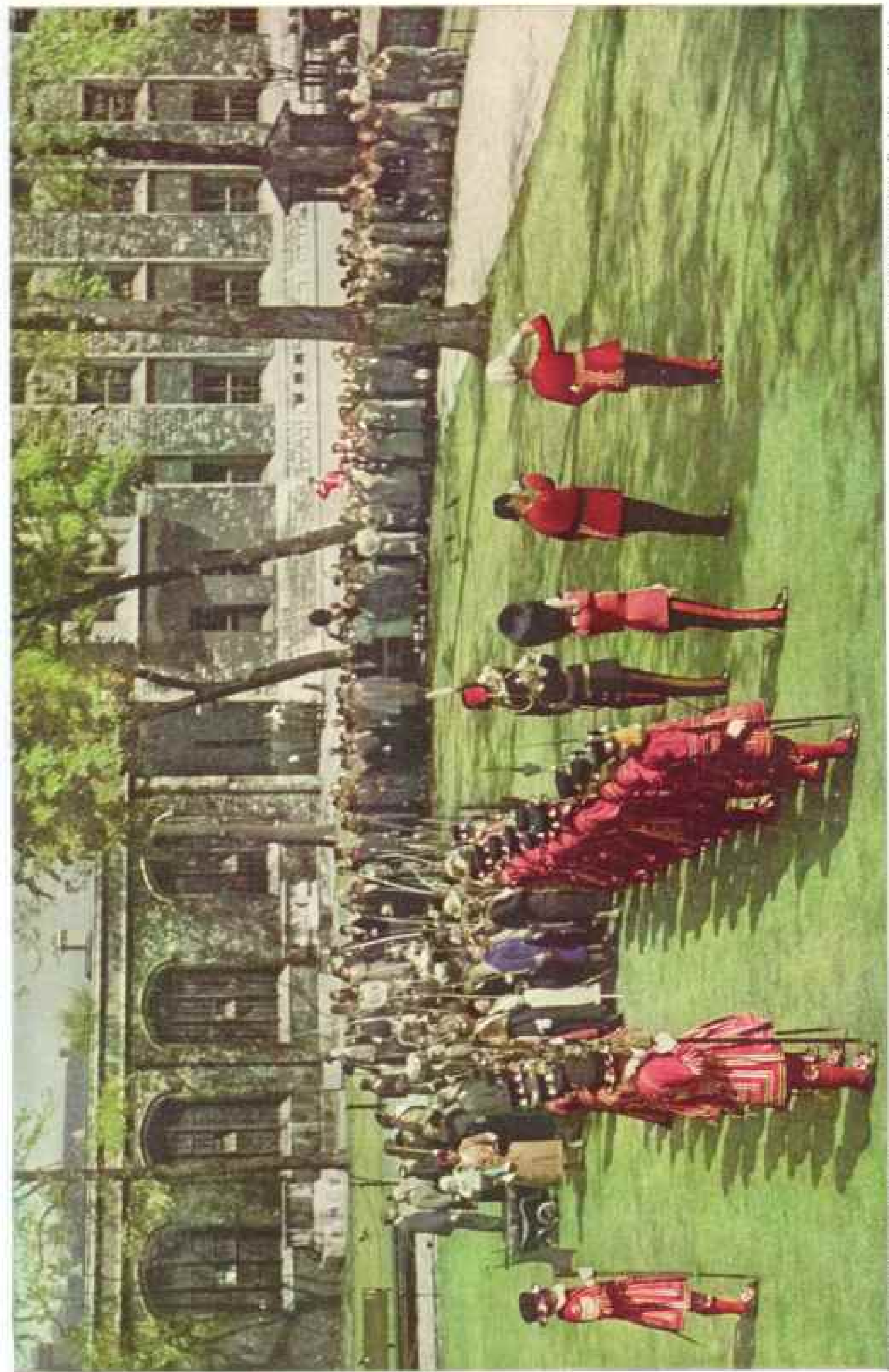


© National Geographic Society

Friday Photograph by B. Anthony Stewart

IT'S DRUMS, DRUMS, DRUMS, AND MARCHING FEET, WHEN GUARDS ARE RELIEVED AT BUCKINGHAM PALACE

Originally built during the reign of James I, the London residence of the King, at the west end of St. James's Park, frequently has been altered and repaired. The Queen Victoria Memorial rises at the left, with a colossal seated figure of the Queen surmounted by a gilded bronze Victory. The guard is changed at Buckingham Palace only when the King is in residence, otherwise at St. James's Palace (Plate 1).



© National Geographic Society

Finlay Photograph by B. Anthony Stewart

RED-COATED BEEFEATERS STAND AT SALUTE BEFORE THE TOWER OF LONDON

In the triennial "Beating the Bounds of the Tower Liberties," the Constable leads a procession of Yeomen Warders, or Beefeaters, around the Tower grounds. Spectators carry switches which commemorate the ancient custom of whipping a small boy at each marker to teach him and the citizenry to respect boundaries. At the extreme left stands the Yeoman Gaoler. In former times, the edge of his ax, when directed toward a prisoner returning from trial, indicated that he was condemned to death.



ABOVE SOUTHWARK BRIDGE LOOMS THE MASSIVE DOME OF ST. PAUL'S

London's most conspicuous building. St. Paul's Cathedral, is often called "the parish church of the British Empire." Barges, temporarily stranded by low tide, are a few of some 9,000 such craft that handle freight to and from ships' sides on the Thames.



© National Geographic Society

Finlay Photographs by B. Anthony Stewart

INNER TEMPLE GARDENS, A SERENE RETREAT FROM BUSY LONDON STREETS

Only a step from the bustle of Fleet Street are the stately buildings and quiet courtyards of the Temple, comprising the Inner and the Middle Temple where Englishmen study and practice law.

THE POMP AND PULSE OF MODERN LONDON



THE GUARDS' WAR MEMORIAL OVERLOOKS FLOWER-DECKED ST. JAMES'S PARK

Henry VIII drained a swamp to make the deer park that later became St. James's Park. Between the memorial and the Horse Guards building (in the background) stretches Horse Guards Parade, scene of the "Trooping of the Colour" on the King's birthday.



© National Geographic Society

Finlay Photographs by B. Anthony Stewart

GLEAMING NEW DOUBLE-DECKERS JAM PICCADILLY

The outsides of myriad London buses are placarded with advertising. Piccadilly is named after a prosperous tailor who made "pickadils," lace ruffs worn in early Stuart times.



Finlay Photograph by H. Anthony Stewart

HEART OF AN EMPIRE—THE THAMES-SIDE HOUSES OF PARLIAMENT

The Gothic edifice covers 8 acres and contains 11 courtyards, 130 staircases, 500 apartments, more than 700 monuments, and 2 miles of corridors. Here are the sumptuous House of Lords and the comparatively plain House of Commons. Familiar Big Ben strikes the hours from the Clock Tower. Since Guy Fawkes's plot to blow up the Houses in 1605, Beechey's from the Tower of London search the building on the eve of Parliament's opening to forestall any similar attempt!

© National Geographic Society



© National Geographic Society

Finlay Photograph by B. Anthony Stewart

"THE LAST SUPPER" IN MOSAIC ENRICHES THE HIGH ALTAR OF WESTMINSTER ABBEY

Venetian glass, wrought into a familiar composition in mosaic, glows among surrounding carvings like jewels in a richly chased ring. Within the altar rails English sovereigns have been crowned since the Norman Conquest. The Abbey is crowded with the tombs and monuments of many of Great Britain's Kings and Queens and of outstanding lords and ladies, statesmen, musicians, engineers, architects, bards, and writers. Especially popular with visitors is the Poets' Corner in the south transept.



© National Geographic Society

Finlay Photograph by B. Anthony Stewart

A SHRINE OF CARVED STONE AND WOOD IS HENRY VII'S CHAPEL

This chapel is generally considered the most magnificent part of Westminster Abbey. Widely famed are its doors of bronze-plated oak, its sculptured saints, and its fan-tracery ceiling. The carved oak choir stalls are assigned to the Knights of the Bath. Above each hang the sword, the helmet, and the banner of the incumbent knight.

In the midnight brilliance of Piccadilly stands a hansom cab. "London's last," says a policeman.

We rode in the old cab down Piccadilly and into the Strand just as theaters disgorged their crowds. Even the policemen smiled; people whistled, and a boy yelled that we had "just come off the Ark."

"I've known that old cabman for 40 years," said my hotel doorman. "He has driven many famous people, even the Sultan of Turkey."

Titled ladies in tiaras and silver slippers, coming from the opera, lifted silk skirts to steer past onion crates of Covent Garden Market (page 50). The theater stands in the old market, amid mingled smells where, in early morning, shouts of fruit and vegetable dealers instead of opera stars' voices fill the foggy air.

Confused tongues chatter in these noisy streets. Pretending to speak no English, a polyglot reporter wrote of his lingual adventures. For a week he roamed London, using a different language each day. Yet no matter what tongue he chose, he soon found someone who understood, and gave him directions when he said he was lost.

Flocks of Dutch, French, or German school children, herded by teachers, meet here on holiday excursions.

Most visitors go to Westminster Abbey, the museums and parks, the Zoo, or to the Tower, with its Crown jewels, chapel, armor exhibits, and historic dungeons. Others seek the fustian of Hyde Park orators, or the japery of music halls like the Palladium, where you may see a clown borne high in air grasping the feet of a flying goose equipped with red tail lights. What you don't see is the hidden wire that swings them along!

THE ABBEY ATTRACTS MOST SIGHT-SEERS

"Most popular with sight-seers is the Abbey," said a Cook's guide. "Yes," agreed a verger there, who tried to sell me a piece of Maundy money lately distributed by the King. "But to most of them this Abbey is just a museum. I've seen excursion parties of 5,000 waiting at sunup for us to open the doors. Ask them if they'll stay for services, and they say they're just looking around." (Plates VII and VIII.)

"Working here, among the bones of the great, must inspire you with noble and solemn thoughts," I said to a porter dusting a marble queen.

"Right now," he said, "I'm thinking about lunch and beer."

Visitors seldom get far behind London scenes. Steadily thousands tramp the crowded British Museum aisles to marvel at the Elgin marbles, the Rosetta Stone, at all its millions of fascinating items. But few, except scholars, see such hidden treasures as the astonishing "Anglo-Saxon Chronicle," kept under lock and key.

This curious Latin and Saxon script is set down in different handwritings through long periods. Part of it reads as follows: "A. D. 1. Octavianus reigned 56 years; and in the 42d year of his reign Christ was born.

"A. D. 2. The three astrologers came from the eastern parts . . . to worship Christ.

"A. D. 3. This year Herod died, having stabbed himself . . ." And so forth.

FLEET STREET—A WORLD MARKET FOR WORDS

More writing goes on in Fleet Street and its side lanes than in any other equal area (page 5).

News-gathering armies, such as Associated Press, Reuter's, British United Press, International, British Press Association, and others, have busy staffs here. They buy and sell news, which is the record of change.

To this word mart news flows from every nook and cranny of the globe; it is carried by every means, from yak-back to radio. Exported words flash from London across the Atlantic, some via Paris, at the rate of about 11,000,000 a year. As many more move by mail.

From the United States London buys only about one-tenth as many words as we take from her. From us she buys mostly market news, editorialized political dispatches, Hollywood gossip, the odd and the queer, sensational scandal, crime, and disaster. "We give our readers what they want," insist London editors, defensively.

"One of our high-priced men is kept at Hollywood," said Reuter's director, "because London wants news about movie actors."

Circulations are enormous; three of London's 21 morning papers print more than two million copies each, and circulate over the whole of the British Isles. Some weeklies, like the *People* and the *News of the World*, sell between three and four million copies each. London Sunday morning



Photograph from *Typical Press*
**BAREHEADED BROKERS AND NOISY MESSENGERS CROWD
 THROGMORTON STREET**

After closing hours, members of the Stock Exchange often adjourn to the street and there carry on business. During a boom, the narrow thoroughfare is packed. Founded in 1773, the Exchange is nicknamed the "House" (page 40).

paper circulation has touched 18 to 20 million copies. Night and day huge trucks groan through Fleet Street, piled high with rolls of paper. London prints 357 different newspapers, weeklies, and monthlies, besides boatloads of books.

One night I watched them "put the *Times* to bed." When a bell rang at 11:30 o'clock, the presses started. Afterwards they served supper in their editorial cafe and took me to see their garden by moonlight, with its tree and tulips.

"Do you speak for the Government?" I asked.

"When it is right."

"Why print advertising all over your first page?"

"For revenue."

The first copy of the *Times'* latest edition is always sent by special messenger direct to the King, no matter where he may be. This is called "The Royal Edition." It is printed on extra-fine, durable paper.

London had newspapers long before the *Times*, but none has had a better name for integrity and careful writing. Every article in the *Times* is designed to bear the criticism of experts in that particular subject with which it deals, and yet interest the general reader.

As early as Sir Francis Drake's day, London had its news tracts, illustrated with



Photograph by Charles E. Brown

PRIVATE GARDENS SCREEN BUCKINGHAM PALACE FROM TEEMING HYDE PARK CORNER

The King's official London residence is the quadrangular building near the end of the tree-lined avenue leading from Wellington Arch (right center). English sovereigns since Queen Victoria's accession have resided here. The royal standard is flown from the palace when the monarch is at home. In the distance (upper left) is the Clock Tower housing Big Ben (Plate II).

woodcuts; but its first real newspaper, printed fortnightly in English, in Amsterdam, delivered here, did not appear till 1620. Oddly enough, the first sentence in this first of all newspapers complained that there was no news, saying that the "latest tydings" had not yet arrived! Known as the *Coranto*, this first paper appeared about the time the Pilgrims landed.

At the London Press Club they show you a fascinating file of historic newspapers.

One veteran on the *Illustrated London News* gave me an old woodcut, made from an on-the-spot drawing of British soldiers camped on the Nile, when "Chinese Gordon" was fighting the Mahdi at Khartoum.

What a difference now, with photography! Enterprising London editors send cameramen by special airplane to points

as far away as Egypt and Palestine to get pictures for one big news story. Photographers race about London on motorcycles.

Radio news is chosen and broadcast under Government control.

"Does radio news injure newspapers?" I asked an editor.

"No. The printed word embalms and preserves the suspended thought—people like to read news—even to read about events they have already witnessed."

You must pay the equivalent of about \$3 a year license fee to own a radio in the Kingdom.

"B.B.C." is the popular name for the British Broadcasting Corporation, whose modernistic building stands in Portland Place (page 32).



WITH PROUD WIFE'S HELP AND THE FRIENDLY CRITICISM OF BYSTANDERS, A WAITER TRIES ON A TAIL COAT IN CROWDED CALEDONIAN MARKET

Not even the Orient's jumbled bazars hold more heterogeneous odds and ends than clutter this famous market of sheds and open-air bargain counters.



Photographs by B. Anthony Stewart

AMID QUEER CARGO ON LONDON DOCKS WAS SEEN THIS DRIED MONKEY SKIN

Hemplike bales in the lower foreground are balls of South American sarsaparilla roots. Tragacanth gum, used by pharmacists; dragon's blood, or resin exuded by the fruit of a Malayan palm; ambergris from the Indian Ocean; rhinoceros horns; turtle shell, opium, and live vampire bats for a movie company—all these and other odd items move through the vast warehouses (page 4).

"Though the Government controls all political and other speeches that go on the air," said Sir Stephen Tallents, a director, "minorities enjoy adequate radio time for stating the opposition's views."

Besides programs radiated on long wave lengths for reception in the United Kingdom, B.B.C. also sends out a 24-hour "Empire Program." Because of difference in time, this is so scheduled as to reach far-off lands, like Australia and Jamaica, at convenient listening hours.* "But it's tough to come on the air and try to be funny at six in the morning," complained a comedian.

News, music, plays, sporting events, speeches—all are broadcast. Public schools have radio sets, and receive regular lessons. For Welsh schools broadcasts go out in that language.

No advertising is allowed. The only radio talk of toothpaste or cigarettes London ever hears is that which is bootlegged by air from near-by French stations.

One May night I heard the program closing with the solemn strokes of Big Ben. Suddenly a nightingale began to sing. For days, their "mikes" set in the woods, radio men had been trying to catch that bird song, and now it broke in gloriously a few seconds before midnight!

* See the new map of The Pacific Ocean, and accompanying miniature time clocks, published as a supplement to the NATIONAL GEOGRAPHIC MAGAZINE for December, 1936.



Photograph from Keystone

DUCKLINGS DO A GOOSE STEP BEFORE A SLIGHTLY SCANDALIZED BOBBY

It all happened on Crooked Road, says the cameraman. Mother duck strayed from a neighboring estate, hatched her brood in a garage, and now in duckish dignity leads them home while traffic halts.

London is a colossal clearing house for mail. Larger Atlantic liners commonly carry from 12,000 to 20,000 bags. The record load to date, brought by the United States liner *Washington* to Plymouth in 1935, was 27,607 sacks—approximately 10,000,000 letters, besides newspapers and packages.

London's great G. P. O., or General Post Office, not only handles mails but also operates the telegraph, telephone, and radio services.

To see one phase of postal work, I rode the "Traveling Post Office"—that fast L. M. & S. mail train of a dozen red coaches that rushes north every night to Scotland.

"We missend only one letter in every 30,000," said a sorting clerk.



Photograph by B. Anthony Stewart

"THIS MAN STOOD ON HIS HEAD SO LONG IT MADE OUR OWN NECKS ACHE TO WATCH HIM"

When theatergoers "queue up" to buy tickets, itinerant entertainers—like the jongleurs and troubadours of old—appear to play, sing, or do tricks to catch pennies. This sidewalk performer seems to be ignored by the onlookers for whose comfort campstools are provided while they wait.

Every time we roared through some dim-lit country town, nameless to me, a man would dump off a bag of letters.

"How do you know the exact spot?" I asked.

"By sounds. I've made this run so often that I know the roar of every tunnel, every bridge, every crossing rattle."

Local bags, hanging ready beside the track, were swept up by the basketlike scoop and slammed in at us with fearful violence. "The other night we were running so fast that a heavy bag flew in hard enough to smash those sideboards in our car."

No wonder they pulled me to a safe corner as we neared a pick-up!

"What would happen if you scooped up a stray cow?"

"It would break every bone in her body!"

Mail is extra heavy during the shooting season in Scotland, when guests swarm up that way.

Often official pouches carry odd items. "When a certain European queen was visiting up here," said a grinning clerk, "she

used to frank her laundry out every Monday—to be washed at home."

"ARE YOU THERE?"—TO THE WORLD

Much of the world makes its international telephone calls through London, except that North America and South America speak directly with each other. About 5,000 conversations a day pass between London and the Continent; most news dispatches come this way, for speed and more freedom from censorship.

In London's great world-wide "Central," I met young women operators who in quiet periods gossip with sister operators in Tokyo or Moscow.

Over the switchboards are painted the names of far-away cities, each with a little lamp that glows to signal a call. These lamps seem to say, "If you want Berlin, Warsaw, or Geneva, here we are."

They let me test this service by introducing me, over the air, to telephone officials in widely separated Buenos Aires, Iceland, and India. Fortuitously, to my own satisfaction, those who answered in Iceland



© Fun Photos

"THE STUFF THAT DREAMS ARE MADE OF!"

"I can't believe my eyes," the bus driver is probably muttering to himself, as he squints through the rain at this 11-foot rubber giraffe. What's it for? Where's he taking it? Just another unsolved mystery of London streets!

and Argentina said they were members of the National Geographic Society.

Though world-wide talks are no longer a novelty, some hold odd qualities of humor and human interest. One London man refused to pay his bill after a long-distance call to Australia.

"I proposed to my girl," he complained, "and she said 'No!' It was all because your service is so bad; I could hardly make myself heard."

"Try it again," urged the telephone people. "If the connection isn't better, there's no charge." He tried, and the Australian girl said "Yes!"

"Hold my new son up to the telephone, and let me hear him yell," said an excited American in London when the stork came to his home in the States. The nurse did, and over the far wastes of the Atlantic night came the new youngster's lusty cries.

Trying to clinch a potential telephone subscriber, a salesman said, as a special inducement, "We have now an easily remembered number, 1066, the date of the Battle of Hastings."

To which the harassed victim replied,

"Why not 1665, the date of the Great Plague?"

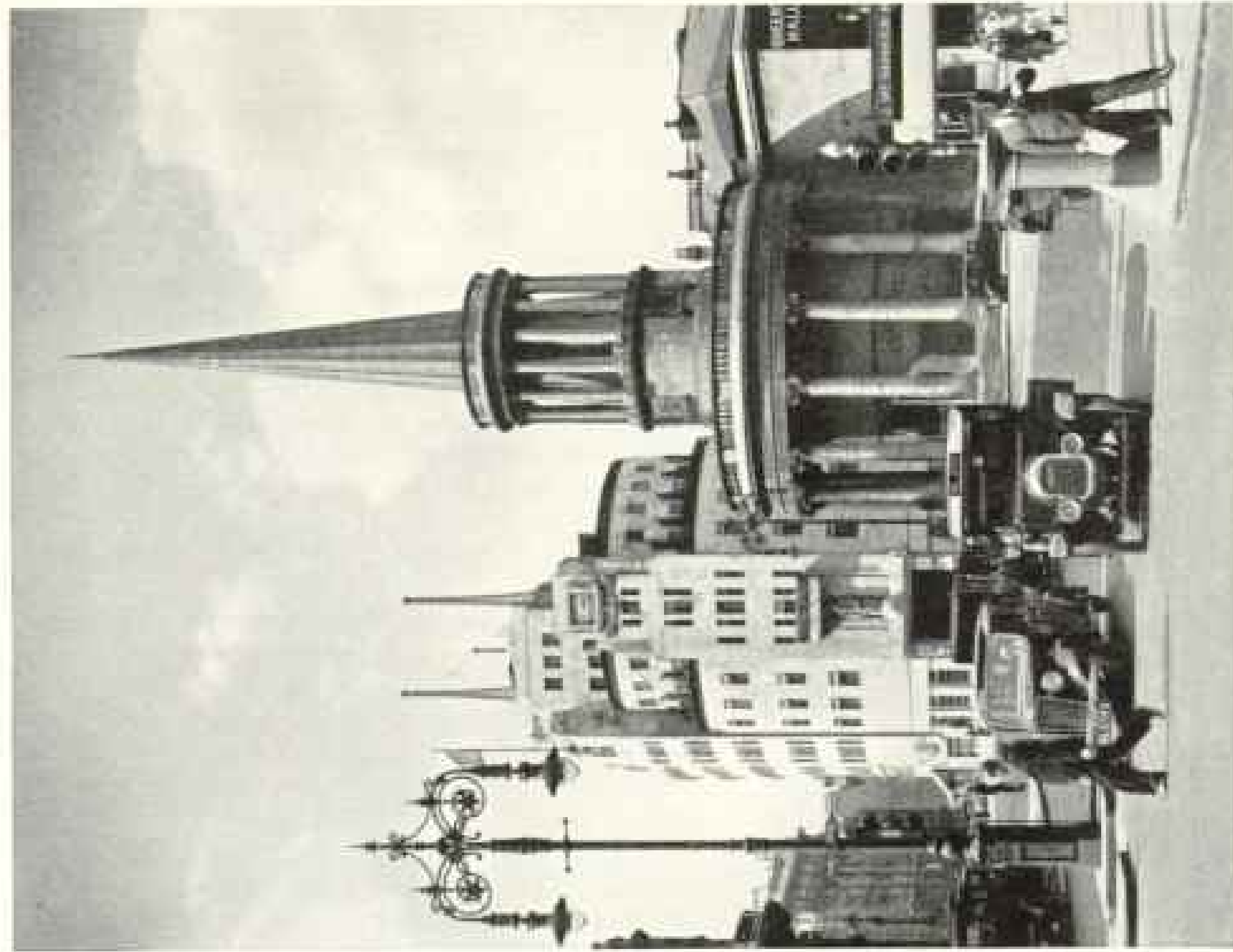
THE "BOXES" AND "WAITERS" OF LLOYD'S

Lloyd's is a name known everywhere. It stands for ships and insurance.

Because underwriters met merchants and captains in the 17th century at Edward Lloyd's Coffeehouse, the seats where the modern underwriters sit are called "boxes" and the red-coated attendants "waiters" (page 9).

In the big hall of Lloyd's new structure on Leadenhall Street, where the old East India House used to stand, hangs the famous Lutine Bell. It was salvaged in 1853 from a treasure ship which sank off the coast of Holland in 1799. It is rung by a waiter to announce news concerning an overdue ship—once for a wreck, twice for an arrival. Underwriters and brokers cease their work to listen to its tidings.

Lloyd's is not an insurance company, as many believe. It is simply a corporation with some 2,000 members grouped in syndicates and each "doing business on his own." These members include many men



PERHAPS YOU HAVE CAUGHT BROADCASTS FROM THESE B.B.C. TOWERS

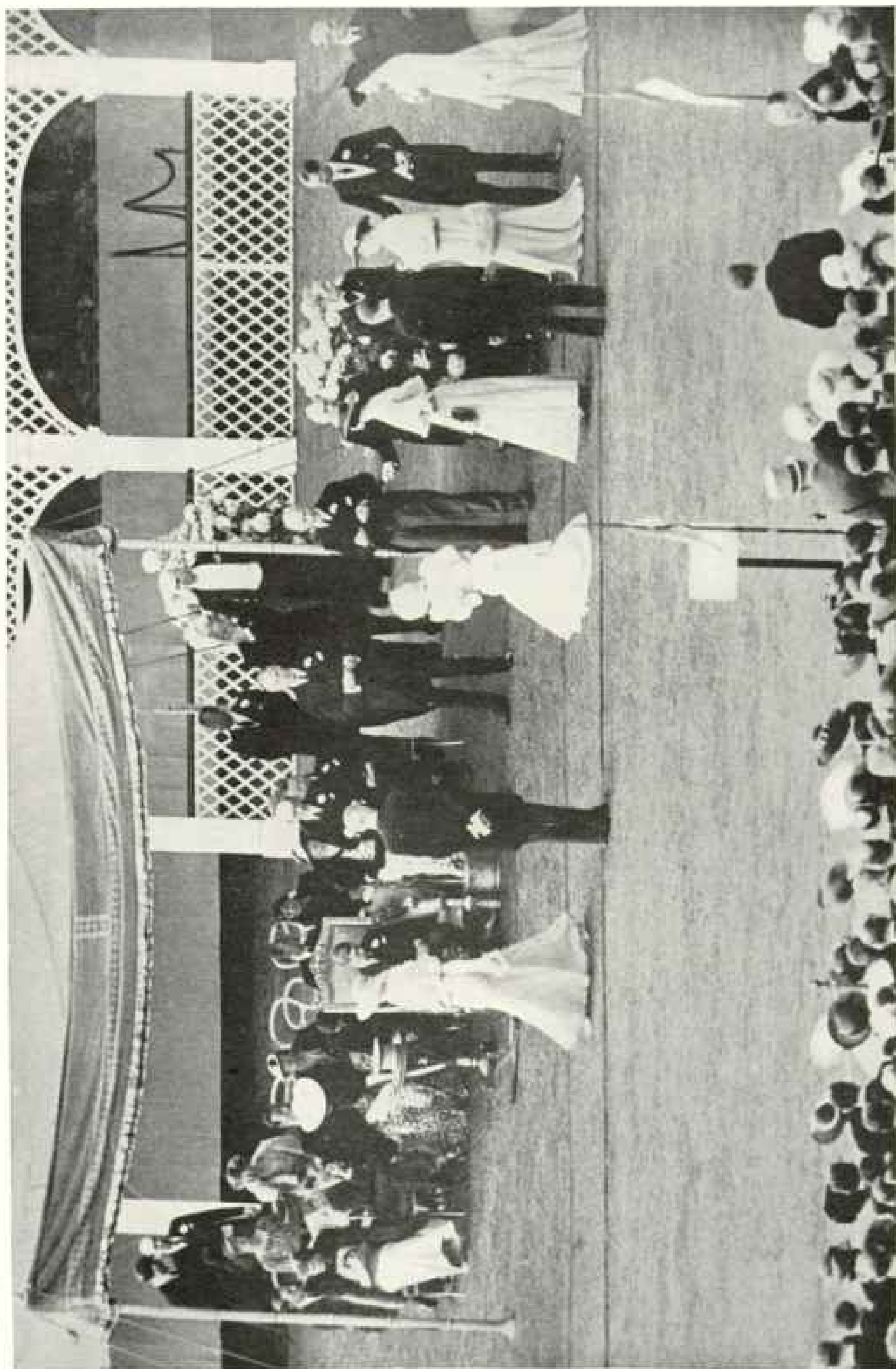
London radio programs originate in the modernistic building, whose masts loom above the spire of All Souls' Church in Langham Place. A special chair was reserved for King Edward VIII, who came to these studios for his Empire broadcasts. Broadcasting is controlled by the Government (page 27).



Photographs by H. Anthony Stewart

MESSENGER AND WINGED LION—TWO FEET AND 3,000 YEARS APART

In this five-legged monster with the features of an Assyrian king, ancient sculptors combined the wisdom of a man with the strength of a lion and the speed of a bird. The British Museum's archeological exhibits are renowned throughout the world.



Photograph from *Wide World*

WOMEN MADE THEIR CURTSY TO KING EDWARD VIII, SEATED IN A GILDED CHAIR AT A GARDEN RECEPTION AT HUCKINGHAM PALACE

Previous to formal presentation, coaching in Court etiquette is given and often costumes must follow prescribed style. The ladies must wait hours for their brief turn.



Photograph by B. Anthony Stewart

NEARLY 100 YEARS' SERVICE IS THE COMBINED RECORD OF THESE TWO
VETERAN PRINTERS

They have set type for news stories of such historic events as the battles of the Boer War, the earliest airplane flights, the World War, and many recent news events. Here they make up a form in the print shop of the *Illustrated London News*, popular weekly found in English-speaking homes and clubs the world over. Long before photographic half tones were made, this paper sent artists far and wide to cover news-events with pen-and-ink pictures (page 35).

distinguished in British public life who seldom go near Lloyd's themselves but are represented there by underwriting agents.

Until recent years, Lloyd's was only a market for marine insurance. Today it goes far afield. The bulk of its policies are the usual kind, on ships, cargoes, policies against loss from fire, storms, strikes, etc.

But it is the odd and queer policies which it also writes that make people talk so much about it. Insurance is issued, for example, to cover loss should a proposed wedding not take place. They insure a surgeon's or musician's hands, or the feet of a dancer. So many people here insure against having twins that printed forms are in use, called for almost daily!

Besides insurance, Lloyd's services to shipping are enormous. Ships' movements from all over the Seven Seas are reported here throughout the day by the 2,500 Lloyd's agents who are established all over the world. News of movements of ships, shipwrecks, and airplane crashes are posted on the board in an alcove. Fires, acci-

dents, earthquakes—all kinds of disasters that injure business—are telegraphed here. Major catastrophes are entered in the "Casualty Book," familiarly called the "Chamber of Horrors," indeed a doleful record.

In the great underwriting room of Lloyd's I found the broker who had insured the National Geographic Society-U. S. Army stratosphere balloon, gondola, scientific instruments, and lives of the flyers. They showed me a policy once issued on how long Napoleon Bonaparte might remain in power; also original letters of marque and reprisal, and a bill of fare from the ill-fated *Titanic*, carried away in the pocket of a passenger who was picked up in the Atlantic after that ship was lost.

Cables that pour in here to Lloyd's great "intelligence room" with news of world commerce and ships' movements are printed in *Lloyd's List* and *Shipping Gazette*, founded in 1734. This is the oldest newspaper in London, with the exception of the *London Gazette*.



Photograph by B. Anthony Stewart

BELLS WERE CAST IN THIS FOUNDRY IN THE DAYS OF "GOOD QUEEN BESS"

Here at the Whitechapel Bell Foundry, in 1858, was cast the 13½-ton Big Ben, whose tones have been broadcast by radio throughout the world. In preparing a mold, the craftsman sweeps the curved strickle board round and round to shape the loam-coated core. This is fitted into the outer mold, an iron case lined with loam (left); then metal is poured in. After cooling, the case is removed and the core knocked out, leaving a brand-new bell ready for finishing touches. One hangs by chains behind the man.

One queer method of selling ships at Lloyd's in the 18th century was by "inch of candle." Bidding started when the piece of candle was lit, and the last man to bid just before the candle sputtered out got the property.

It was during the South Sea Bubble scandals in 1720 that many wildcat insurance schemes started in London. Some of these included policies against death from gin, against lying, and one provided insurance of female chastity.

One service of Lloyd's, of which the general public seldom hears, has earned the gratitude of sailors. That has been Lloyd's work in developing lifeboats and in specifications for the safer building of ships. Lloyd's has always fought against such practices as overmanning, bad stowage, overloading, and the use of obsolete charts.

Lloyd's is the most cosmopolitan insurance exchange in the world and it is the world's center of marine information. During each hour of the day and night, the movements of every vessel under every

national flag reach Lloyd's; the news of every wreck and casualty is recorded.

London is the cradle of insurance. Life insurance especially grew up here. The work of its actuaries served as model for many other lands. London scatters her fire and marine insurance agents into every nook of the world. Premiums pour in here from everywhere, and from London huge sums have gone abroad to pay losses in historic fires.

THE HOME OF THE BEEF EATER

This is a carnivorous country.

Lunch any day at Simpson's-in-the-Strand, and you see cooks roll their serving wagons among the tables—wagons that fairly creak under giant chunks of sizzling roast beef. Guests tip the cook who skillfully cuts big slices with a swordlike knife.

Crowd into the tiny, ancient Cheshire Cheese in Fleet Street, overrun now with tourists buying souvenirs, and there's the rump steak, kidney, and Yorkshire pudding, just as served long ago to Dickens,



© AP from Pictures, Inc.

PREPAREDNESS—1937 STYLE!

With Europe uneasy, the British Government has ordered 40 million gas masks for the safety of the citizenry in time of war. Like a fanciful lady from Mars, this girl steps from a mobile chamber at Hendon, where she was taught how to adjust the new equipment. Britons vividly recall the horror of the air raids over London during the World War, and some modern homes are provided with gas and bombproof chambers (page 14).

Sam Johnson, Tennyson, Goldsmith, and Thomas Hood. Over some benches are brass plates honoring such historic guests.

"Our prize dish," said the manager, "is not a Yorkshire pudding, but one made of steak, kidney, mushrooms, plovers, and spices; it is boiled at least 16 hours and weighs over 60 pounds."

When the pudding season opens in October, the Bishop of London, a cabinet minister, or a foreign ambassador comes to bless or formally cut the first one. Here the noisy bar is packed, at midday and

early evening, with barristers from near-by inns, with Fleet Street journalists, with actors, poets, printers, painters, and vestrymen.

Here no habitué ever orders Scotch; he simply says, "Whiskey." If he wants Irish whiskey he asks for "Cork," and gin is never just vulgar gin, but "rack."

For forty years a Rabelaisian parrot lived here, famed for its gift of army-flavored invective. When it died, the *Daily Telegraph* honored it with a lead article and a poem.

Simple qualities of old-fashioned English cooking are not disguised, as in Paris, by fancy names and sauces. Unlike the French, the English do not feel that inventing a tasty new dish is more important to mankind than discovering a new

star. But somewhere in Soho or the West End the epicure may easily find any continental dish, be it Italian, French, German, or Greek. There are Indian restaurants, too, like Vereswamy's, where retired Army men go for curry and rice.

London has as great a variety of eating places as any world city—except Paris. You can easily find American hot cakes and corn on the cob. But when an Australian friend boasted that we could even walk into the Savoy and get kangaroo-tail soup for lunch, I dared him to try it.

"Yes," said the wary hotel chef, "but give us a little more notice."

HOW FOOD HABITS CHANGE

Dense populations of recent times have brought the rise of large industries which import vast amounts of food, prepare and distribute it. Conspicuous is the Lyons Company. It operates over 250 eating places, a string of hotels, employs 30,000 people, and uses nearly 2,000 trucks to deliver food (page 57).

"In the forty years of its life, our pioneer cafe at 213 Piccadilly has fed over 35,000,000 people," said an official of this company. "Some guests, young men when we started, still dine with us.

"We have seen changes in London's eating habits. During our first year, we served only 40 dishes of ice cream a day; now we sell as many as 3,000,000. Curiously, about 70 per cent of all our customers ask for vanilla flavor. When this fact was ferreted out by reporters, a perfect spate of letters followed, many to the *Times*, wanting to know why people didn't eat more strawberry, lemon, etc.

"Take salad. Years ago we served none at all. Now our customers eat half a million dishes a day.

"Weather, of course, affects human habits. Our weather expert makes his final decision between 3 and 5 every morning. The change point in diet lies between 50 and



© Topical Press

"WHEN DOES THE NEXT TRAIN LEAVE FOR MAIDENHEAD?"

Now, thanks to this ingenious machine, ticket sellers no longer need answer such frequent questions. Travelers press the labeled button, and the device flashes the answer automatically.

60 degrees. Fifty is on the cold side and people start to order more soup, hot entrees, stewed steak, hot sweets, suet dumplings, and jam rolls. Sixty is the beginning of a milder spell. Then demands upon the cold counters and ice cream increase."

So huge is this firm's tea business that it pays one-sixth of the whole tea duty collected in the United Kingdom, and sells more than 1,250,000 packages of tea a day! It even owns its own plantations in Nyasaland, though these grow but a small share of all the tea it sells.

At this company's Greenford factory sits a line of teatasters. These men of keen



Photograph by B. Anthony Stewart

TOWARDS MIDNIGHT COFFEE SHOPS ON WHEELS FILL THE COOL, DAMP AIR WITH SAVORY SMELLS.

Coffee, tea, "snacks," and cigarettes are served at modest prices to after-theater crowds, taximen, messenger boys, and other late workers. Before the days of lunch clubs and exchanges, London merchants, brokers, and sea captains met at coffee shops to transact important business.

palates may taste a thousand different brews a day. Samples of drinking water from different places in the world are tested and tea blends are made up to suit each locality (page 13).

Robinson Crusoe never heard of vitamins, but he was on the right track when he packed and stored limes and dried grapes.

This vitamin problem is only one of the many studied in Lyons' laboratory, with its 150 chemists. They not only test flour dough and other foods for nutrition value, but make bacteriological examinations of fish, meat, and poultry, and work to control milk and its products; and to keep jam and candy pure. Each year they test at least 50,000 food samples, besides supervising wrapping papers, string, and the laundering of table linen.

"You must have funny adventures serving meals to 150,000,000 people a year," I said.

"Plenty! One excited man wrote:

"My fiancée's father has ordered our wedding cake from you. Can you help

me with a best man? My friend has failed me through illness. If so, please state your terms."

"I told him we could send him a best man—for three guineas!"

SCOTLAND YARD IS A NAME TO CONJURE WITH

"'Jack the Ripper' wrote this letter to the police," explained an inspector in Scotland Yard's "Chamber of Horrors." "It is written in human blood."

All about this grim exhibit, not open to the public, you see burglars' tools, murderous weapons, counterfeiters' layouts, ropes that hanged notorious criminals, jewelry, furniture, and clothing that figured in famous cases. Like a frieze about the walls are ranged the death masks of men executed for crime. They stare down at you, silently, and many look quite calm and commonplace, like any normal man you might meet in the streets. "There's no art to find the mind's construction in the face."

"Here is the crime map," they said, and



© Photopress

IN LITTLE WHITE LION STREET THE LAST OF A LONG LINE OF DEVON
ARMORERS PLIES HIS TRADE

Sam Rex, who inherited the craft from his father and his father's father, hammers "iron suits" and swords out of sheet steel and sells them to theater costumers, museums, and people with big houses to dignify with decorative armor. Nearest modern dress to armor may be deep-sea diving suits.

showed a big chart of London, covered with red- and yellow-headed pins. Routes taken by fugitives were marked with colored strings.

"Don't show him the Flannel Foot's map," warned a superior. The Flannel Foot is a clever thief who rides a bicycle, takes only cash from houses, and moves without noise, his feet wrapped in flannel cloths. He's a veteran—and still an exception to the rule that "Scotland Yard always gets its man!"

"Calling all cars." We know that voice on our short waves.

In London it's different. Scotland Yard men cruise in radio cars—some in "blind" cars disguised as milk wagons, newspaper or dry cleaners' delivery trucks. But they are all telegraphers, and warnings go out to them in code. No listening crook can know.

"It takes us less than three minutes, on an average," said a cruising constable, "to arrive at the scene of a reported crime."

In a big radio room at the "Yard" sit

a dozen operators, with headphones on. And on a huge platform map of city streets are many disks, which are constantly being moved about in synchrony with wireless dispatches. These disks represent the cruising police cars. Boat-shaped symbols come and go, up and down a wide streak which stands for the Thames. These are river police craft.

"C.I.D. men" they call these quiet, keen-eyed constables in business suits. That means Criminal Investigation Department. They work hard. One was to dine with me. "Sorry," he sent word. "Another Soho murder—I'm having a look."

About Scotland Yard you see no cells, no hoodlum wagons. They're somewhere else. Nor do you see any prisoners. But their records are here—pictures, fingerprints, and endless written reports from secret agents. And over one desk this whimsical placard: "Softly, Softly, Catchee Monkee."

With our consuls in England and with visiting Department of Justice agents, Lon-

don works in close harmony. That well-known little book called a passport is often of curious interest to both countries.

THE ZOO'S "PET CORNER"

"This is a unique institution," said Dr. Julian Huxley, Director of the London Zoo, "because it is not only a zoo, but attached to it there is a scientific society. Further, we actually pay our own way, and more."

Some 8,000 members of the Zoological Society pay about \$15 a year each in dues, a fee which has not been increased in the last hundred years.

"Excuse me if I smell of ether," said Dr. G. M. Vevers of the Zoo's staff. "I have just manicured a cougar. I had to give him the anesthetic to make him lie still."

"What is the most popular sight here?"

"Well, the public seems to think it is this 'Pet Corner.' Here we have various tamed animals. For a shilling the visitor can come in here and play with the animal he likes best and have his picture made with it (Plates X, XI).

"To some people the fact that we haul salt water here by the ton from far out on the Atlantic for the comfort of sea animals is most interesting.

"Others are fascinated by our parrots that fly about in comparative freedom. Still others study this pair of gorillas, the only such pair in captivity.

"Their board costs about \$40 a week, and includes cod liver oil and boiled chicken. When the male was younger, I used to go in the cage; now no one would dare risk it.

"One pair of giraffes here had 15 young in a period of 20 years. At Whipnade, in the country, the Zoo has one pair of Baringo giraffes that run out of doors all winter. They have actually been seen breaking ice on their trough to get water."

Some of the aviaries in paddocks of this Zoo are covered with green turf or sod. "This is frequently changed and not only furnishes fresh green food," said Dr. Vevers, "but it also keeps occupants in better health."

Queer "lung fish" are shipped here from the Tropics encased in blocks of dried mud. These blocks are dissolved by soaking and the fish then revive.

If a snake's cage gets too hot or too cold, a thermostat rings a warning bell which calls the keeper.

A myna bird talks freely to visitors, usually about the time of day and human rascality.

Ringling sounds like an anvil chorus rise from the bellbirds' cage.

A trumpeter hornbill was busy plastering shut the door of his wife's nest so she couldn't get out till her eggs hatched.

"But he will leave a little hole in that mud wall," said Dr. Vevers, "through which to pass food to her and to the young.

"That African anteater is the laziest animal here," he continued. We went in to where he lay, and I shoved him hard with my foot. He didn't move or even grunt.

Along came a girl worker carrying a sick chimpanzee to the isolation ward. "They all like that girl," said the Doctor. "But every chimp has its favorite. I saved one female when she had pneumonia. Now her attitude toward me is really embarrassing. It takes a young chimp eight or nine years to grow up.

"That sloth's hair grows upside down. To sleep, as you know, he hangs under a limb. Naturally his hair hangs down and becomes fixed that way. While he is asleep this is good, because it lets the rain run off; but when he stands upright his hair goes the wrong way."

To neutralize cat smells in the feline hotel, Dr. Vevers invented an ozonizer. This not only deodorizes but prevents diseases like distemper. I leaned over the apparatus and smelled the fumes, which suggested clean sea-side air and kelp.

THE LONDON STOCK EXCHANGE

The London Stock Exchange, called the "mart of the world," has raised capital not only for endless private enterprise, but for developing backward nations overseas.

As early as 1285, brokers had to take an oath before the Mayor. They brought rich men into touch with borrowers, and aided the flow of new capital into business. Many were mere agents, getting a fee for selling corn, wine, and cattle.

Actual dealers in shares of stock appeared only toward the end of the 1600's, when the public began to look for some method of using its gold savings.

Speculation in stocks grew so wild by 1697 that an act was passed to stem the tide. Such wildcat stock-selling schemes involved plans from perpetual-motion machines to breeding milk-bearing asses. One

THE POMP AND PULSE OF MODERN LONDON



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Finlay Photograph by R. Anthony Stewart

QUEEN VICTORIA, IN CORONATION ROBES, AS SHE ASCENDED THE THRONE IN 1837

Sir George Hayter painted this brilliant portrait of England's longest reigning sovereign. It hangs in the new wing of London's National Portrait Gallery. The 63 years of Victoria's rule spanned the swift growth of her Empire, and saw the development of the steamship, the railroad, and the beginnings of ocean cable communication, textile weaving on a large scale, penny postage, and the automobile.



HAUGHTY BACTRIAN CAMELS BEAR YOUTHFUL RIDERS IN THE ZOO

More than 2,000,000 visitors enter the Zoological Gardens every year. About 10,000 animal inmates consume nearly \$75,000 worth of food annually.



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Finlay Photographs by B. Anthony Stewart

ALL DRESSED UP FOR THE CART HORSE PARADE!

Hundreds of horses and wagons turn out for the annual Regent's Park cart-horse show. Medals (two hang from this dobbin's collar) are awarded to the best-looking combinations.

THE POMP AND PULSE OF MODERN LONDON



ZOO PARROTS BOB AND CHATTER FOR FASCINATED SCHOOL CHILDREN

More than 3,000 animals usually are on exhibit. Salt water by the ton is hauled from far out in the Atlantic for the comfort of sea specimens,



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Finlay Photographs by H. Anthony Stewart

NEVER TOO OLD TO BOWL

Pensioners in the Chelsea Royal Hospital for aged soldiers keep limber with a game of bowls. Sir Christopher Wren designed the building for the institution, founded by Charles II.

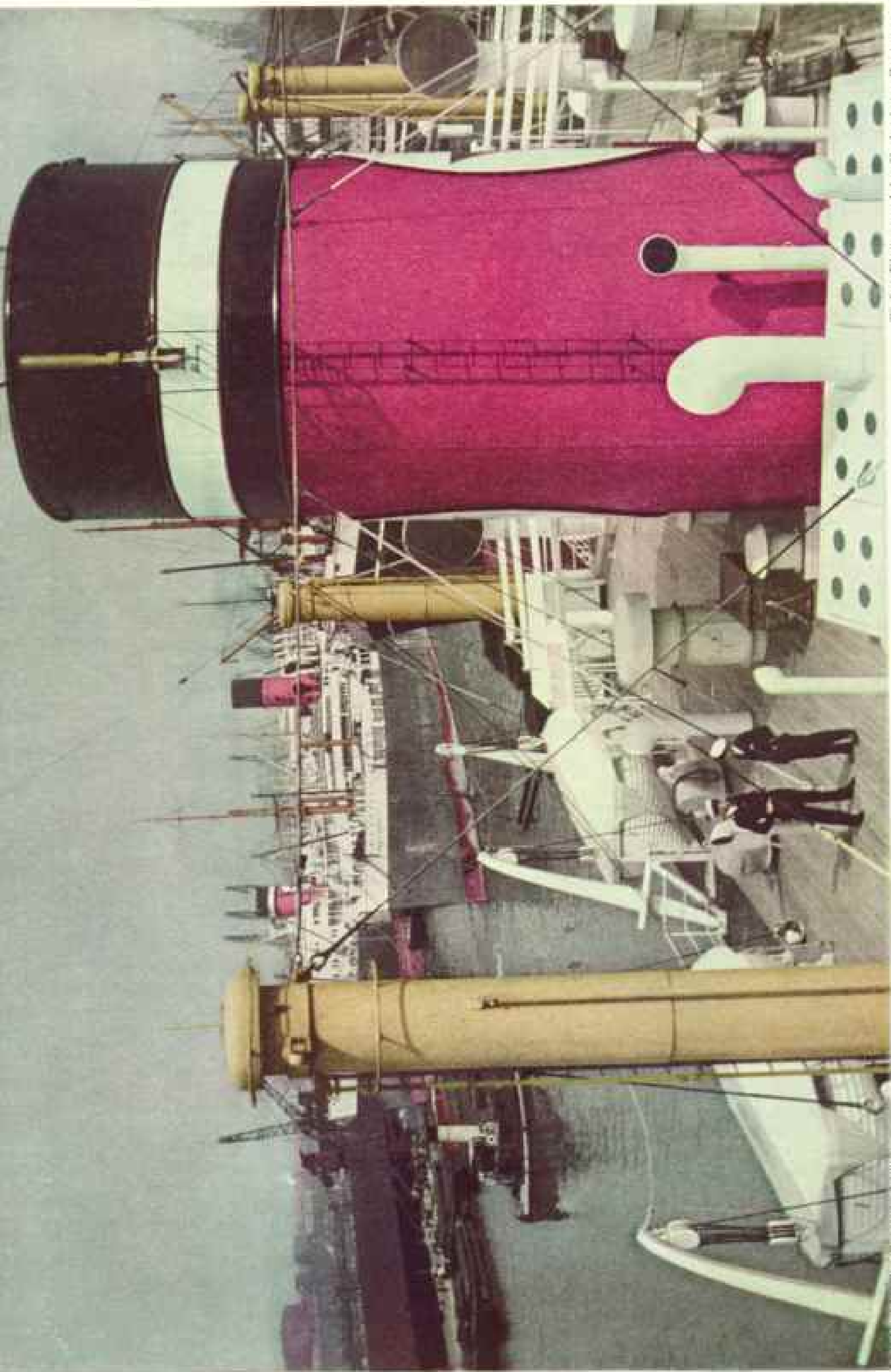


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ALBERT MEMORIAL AND ROYAL ALBERT HALL. COMMEMORATE QUEEN VICTORIA'S CONSORT

Facily Photograph by B. Anthony Stewart

The Gothic canopy of the Memorial, which shields the bronze-gilt figure of the Prince, stands on a pedestal adorned with 175 marble reliefs depicting artists of all periods. The glass-domed Royal Albert Hall in the background seats 8,000 people. Though principally famous for concerts, the great amphitheater also is used for meetings, exhibitions, and boxing matches.



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SHIPS FLYING FLAGS OF MANY NATIONS CROWD ROYAL ALBERT DOCK

“Thames traffic makes London the world’s greatest river port.” Every day some 500 craft, big and little, pass through the mouth of “London River.” The Royal Albert, Royal Victoria, and King George V Docks form a single structure and enclose the world’s largest sheet of dock water. Often 40 or 50 ships tie up here at one time.

Fineby Photograph by H. Anthony Stewart



THE CALEDONIAN MARKET IS WORLD-FAMOUS AMONG BARGAIN HUNTERS. Second-hand shoes from Hollywood sell at a premium! Everything from old tennis balls to bathtubs is offered for sale here. Valuable antiques are frequently "picked up for a song."



© National Geographic Society

Finlay Photographs by B. Anthony Stewart

MR. MUDGE ARRANGES HIS FLOWERS IN COVENT GARDEN MARKET

Established by royal charter in 1661, Covent Garden is London's chief market for fruits, flowers, and vegetables. Friday is the busiest day. The flower market glows brilliantly on Easter Eve.

THE POMP AND PULSE OF MODERN LONDON



THROUGH LIMEHOUSE STREETS MILKMEN PUSH THEIR CARTS

The Limehouse district, long the haunt of Chinese opium dealers and petty racketeers, has now become a quiet and orderly part of London. It takes its name from vanished limekilns.

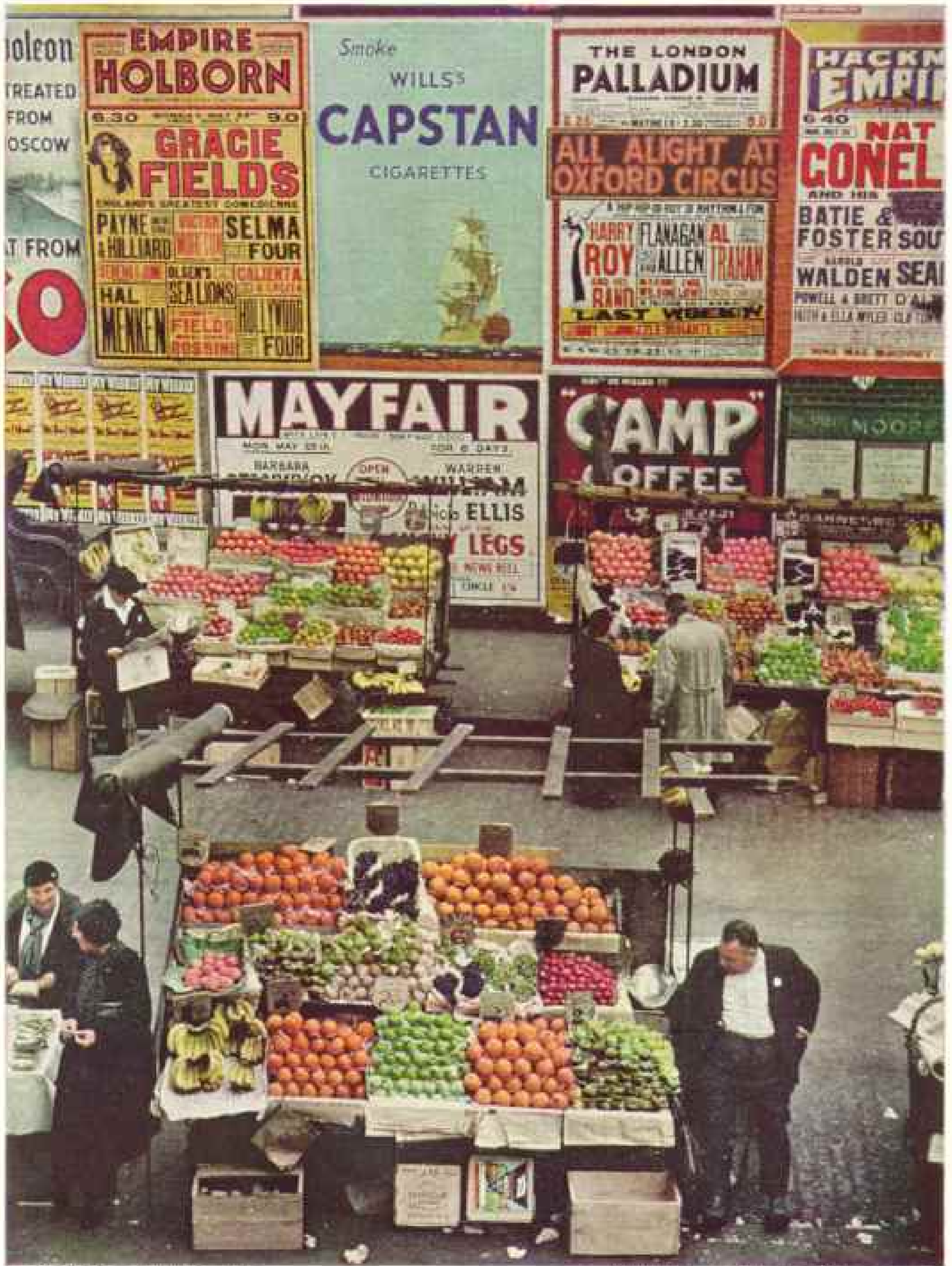


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Friday Photographs by D. Anthony Stewart.

DERBY DAY AT EPSOM DRAWS OUT FAMILIES OF "PEARLIES"

The gala-day costume of London costermongers (originally, apple sellers) is encrusted with pearl buttons. A bespangled Mexican chief who visited England is reported to have inspired the style.



© National Geographic Society

Finley Photograph by B. Anthony Stewart

AN EAST END SYMPHONY OF SALESMANSHIP

Street-side fruit and vegetable stands abound in poorer parts of London. Here glaring posters compete with polychromatic piles of fruit for marketers' attention. Huge type offers vaudeville, "cinemas," cigarettes (luxuries all!) to purchasers of necessary fruit.

in which shares were sold said its purpose would be announced after all the capital was raised!

Even then brokers were versed in the art of getting "tips," and advance information of events likely to affect prices. It is written that one speculator paid £6,000 a year to the Duke of Marlborough to go with his army so that he could get first-hand war news for use on the stock market.

This Exchange came into being to trade in the National Debt; to this day, the bulk of business is in "the Funds," and in the national debts of foreign countries, dominions and colonies, and the municipal debts of local authorities at home and abroad.

The founding of the Bank of England in 1694 gave impetus to this trading in Government bonds, and it was here the modern stock company, as we know it, was gradually evolved.

One writer says: "Mr. Pepys had stored his wealth in silver plate, in deposits with the goldsmiths, and in loans to his patron, Lord Sandwich. The discovery that the purchase of a piece of paper would pay higher interest, forestall the thief, and perhaps even bring to its happy possessor a substantial bonus by way of capital appreciation, went to the head of the rapidly increasing capitalist population of London."

Three chief classes of securities dealt in here now are the debenture or bond, the preference share, and the ordinary share.

Nobody knows how many shares are bought and sold daily on this Exchange. Unlike our practice in the United States, daily papers do not publish this total turnover because the Exchange directors will not give it out.

However, a quick glance at the financial pages of any leading London paper shows column after column of listed stocks and their daily price ranges.

Besides quotations from abroad, London prices are shown for stocks in British railways, banks, textiles, metals, steamship lines, plantations, breweries, hotels, motor and aircraft companies, Indian, Canadian, and foreign railways. In fact, here is a catalogue of practically all the great corporations in the world whose stocks are bought and sold, and a list of all securities from every government known to investors.

It was the passage of an act in 1862, under which limited liability companies could be set up, which gave final impetus to the London Stock Exchange as a capital

market. Under this law, the liability of any shareholder is limited to the amount of money he has invested.

Because the London Stock Exchange closes a few hours earlier than that at New York, by a difference of time, London brokers and jobbers swarm in the street about the Exchange building for hours afterwards, in what is called the "American market." Rain or shine, the crowd is packed in the narrow confines of Throgmorton and adjacent alleyways; messenger boys squirm through the crowd, and excited voices cry the bid and ask prices for well-known American stocks (page 26).

In July, 1773, the name "The Stock Exchange" was formally adopted, and in 1801 the present Exchange in Capel Court was established.

BROKERS IN PLAYFUL MOOD

"Subscribers Only Admitted," says a sign over its door. It has no public gallery, like the New York Stock Exchange, and any outsider who, by accident or design, strays in is hunting trouble. Any invader is soon spotted, and up goes a warning yell of "Fourteen hundred!" Immediately brokers and jobbers come running from all directions to eject the intruder.

"He is sure to lose hat and tie, and lucky if he can even keep his trousers," said a broker.

"Why do you yell 'Fourteen hundred'?"

"Its exact origin is lost. Some say it arose at a time when we had only 1,399 members—and that the 1,400th man was therefore an interloper."

Besides brokers, stock jobbers are also members here. They own outright the shares they deal in.

Brokers here are a playful, exuberant group, as on the New York Exchange. To wear a too-loud tie, or a new suit of striking pattern is to run the risk of being placarded, or "mussed up."

Practical jokes, such as the old funnel and penny game, are still played when a victim can be found. One old broker, now nearly 90, is very fond of that ballad, "After the Ball," popular in London in the 1890's. Moderns, of course, have seldom heard the song in public, but this old man has taught it to his colleagues, and because they like him they often gather about his seat and sing "After the Ball" to him.

Another old member is fond of his daily nap, and over his bench is a sign which



Photograph by B. Anthony Stewart

WHITE TIE, TOP HAT, SILVER SLIPPERS—AND FRUIT CRATES!

Opera is sung here in Covent Garden Theater, set squarely amid market stalls fragrant with fruits, flowers, and vegetables. Soon after the singers' last notes fade, early-morning vendors' yells arise.



Photograph by Aerofilm

ON WATLING ESTATE, HENDON, STANDS THIS EXAMPLE OF MODEL VILLAGES
BUILT FOR PEOPLE BEING MOVED FROM CROWDED LONDON

Slum clearance and the tearing down of other dwellings to make room for new parks and factories is moving an army of people into suburbs rising now in fields and pastures around the rim of London (page 6).

reads, "The ram sleeps here every day from three to four."

Amateur dramatics, glee clubs, and athletic contests, including an annual endurance walk from London to Brighton, are popular aspects of a London broker's life.

London lends less money than when the gold sovereign was the world's most popular coin. Yet, unquestionably, it is still the earth's biggest banker. Here are more banks than in any other city. Branch banks, numbered by thousands, are thick as chain stores in American cities.

Though privately owned, the Bank of England is tax receiver and financial agent for the Government, which is its best customer. It prints the Bank of England notes, the only paper money that circulates in England, and holds the Nation's gold reserve. Paper for its notes is made secretly, from rags, in one carefully guarded mill (page 15).

Many banks are larger, but none is more mysterious. You ask in vain to see its vaults, or to get it to talk about itself. In the great wall that surrounds the Bank of England, for safety in time of riot, there are no windows; at dusk soldiers tramp through London streets to guard The Bank.

"If I work late, I can't get out myself without giving the password, which is handed to us each day in a sealed envelope," an official told me.



© E. G. Hoppé from Durieu Leigh

ABSORBING THE WISDOM OF THE SPHINX

Schoolboys study their ancient history lesson under the watchful eyes of one of the two bronze figures guarding Cleopatra's Needle on the Thames Embankment. Bombs fell here during an air raid in 1917.

Enter the Bank, through a high prison-like door, and immediately a tall guard in a long red coat halts you, to ask your business.

The "Big Five" banks—Barclays, Lloyd's, Midland, Westminster, and National Provincial, each with many hundreds of branches, form the reservoir of the London money market. On their colossal deposits Empire trade and industry depend for credit.

Barclays is an example of the modern fusing of many banks, to form credit units large enough to meet the growing demands of larger and larger industrial combina-



© Charles E. Brown

WHERE REGENT STREET CURVES, LONDONERS CALL IT "THE QUADRANT"

The wide thoroughfare was laid out about 120 years ago to enable the Prince Regent (later King George IV) to reach a proposed country villa which was never built. Most of the original houses on the street have disappeared; today it is lined with fashionable shops and restaurants. Piccadilly Circus, at the upper end of the arc, is not a tent show, as its name suggests, but one of the city's busiest traffic centers.

tions. It has more than 2,000 branches, and owns all, or part, of other banks operating in foreign lands.

Barclays receives and transmits to Washington the dues of the National Geographic Society's members residing in the British Isles, a convenience arranged for British members.

MAKING THE TROPICS SAFE FOR TRADE

Scurvy, in the old days, could kill half a London ship's crew. Yellow fever, cholera, and plague scattered London traders' bones from Bahia to Shanghai.

"Today malaria still kills more people than does any other disease," said Sir Malcolm Watson. "But we can conquer it, if the layman will help." He is the Director of Ross Institute, a department of the

University of London's School of Hygiene and Tropical Medicine.

It was Sir Ronald Ross who experimented to show how malaria germs are passed from one man to another by mosquitoes; and it was Sir Malcolm Watson who, by his pioneer work in Malaya, demonstrated that malaria could be eradicated or controlled.

Work of this School in the control of tropical diseases is important to the whole world.

In one laboratory, warm as the Everglades of Florida, are jars in which air bubbles from the end of a pipe. When you look closely at these jars you see in the green slime snails of many shapes and sizes. They have been sent from every region in the Tropics and each has its home in its own special jar. They are used in



Photograph by B. Anthony Stewart

TEA SHIPPED BY THIS STAID OLD FIRM BECAME TINDER FOR THE
AMERICAN REVOLUTION

Still doing business, in Creechurch Lane, are the successors of the original company whose tea was dumped into the harbor at the "Boston Tea Party" in 1773. Conspicuous on the shelves today are goods from the United States, notably prunes from California.

the study of a disease so old that it has been found in Egyptian mummies.

In another laboratory are cages of mice. One hundred thousand mice have been used in studies that will, it is hoped, throw light on the great epidemic diseases, such as influenza, which killed millions of people in 1918.

In this School chemists and bacteriologists have combined forces. The latter grow bacteria by the bucketful, so that chemists can extract their poisons and prepare them as pure drugs.

MOSQUITOES WEIGHED, DAY AFTER DAY,
BY THE POUND

In still another laboratory are mosquitoes by the thousand, you might say by the pound! In some experiments 1,000 baby

mosquito larvae are put in a jar, fed on special food, and weighed every day, just as human babies are weighed, and for the same reason, to see whether they put on weight.

Not much is said here about what is going on; but you sense a feeling of hope under all this cold scientific self-control!

"While this School fights all tropic diseases," continued Sir Malcolm, "and aids industry in solving factory ventilation, lighting, noise control, etc., malaria and tropical hygiene are the chief concerns of the Ross Institute.

"Look at it this way. In the 16th century high adventure lured Englishmen—as well as Spaniards, Portuguese, and Dutch—to explore new worlds and build up overseas trade. Disease killed as many of



Photograph from Pictures, Inc.

SHE'LL BE THE PROUDEST GURL IN THE CART HORSE PARADE

In preparation for this big annual event in Regents Park, the little lady polishes the hair-crowned hoofs of her father's big Clydesdale entry. "Why don't you shave off those leathers?" a Cockney driver was asked. "It tykes the pride away from the 'orse," he answered. Many carts nowadays have rubber tires. (Plate X).

these explorers as did their human enemies.

"White men could never have safely grown tea and rubber, cut teak, and mined tin in Siam, or run trading posts from Singapore to Trinidad, unless medical science had helped them. Yet it was not till the 19th century that a spirit of adventure also infused the medical men of many races; then the discoveries of Koch of Germany, Pasteur of France, Lister, Manson-Bahr, and Ross of Britain, and Reed of America opened a new era in medical thought.

"Now whites live and work in the Tropics

without fear, if they apply, practically, what science has learned about how to control tropical disease.

"The trouble is, they do not always do it. After Lister made his discovery, there was a time lag of nearly a generation before anti-septic surgery came into wide use. History repeats itself by a similar lag in malaria prevention, as was recently seen in Ceylon, where about 100,000 people died from this disease.

"After years of malariology work on one estate alone in Malaya, the Rubber Growers' Association reports that malaria cases declined in ten years from 6,185 cases treated to six cases!

"You keep talking about London, because you are writing about London, but our tropical-disease control,

while studied here in our Laboratory on Keppel Street, is for the whole world's good.

"So all the world that labors in the Tropics may benefit by our work here; planters, miners, engineers, missionaries, all come here to study at our laymen's courses. This year 160 men and women came from tea and rubber estates, mines, teakwood camps, sisal farms—from all the tropic world—also many missionaries, including nuns.

"London's oversea trade and colonization both benefit from the good work done here. Today, in India, 300 plantations, jute and

sugar mills, and southern Indian tea estates find malaria death and sick rates much reduced, owing to the work of trained men sent out by the Ross Institute.

"Copper mines in Northern Rhodesia report the malaria death rate cut 75 per cent in one year. Zambezi's new bridge, in a notoriously malarial region familiar to Livingstone, was built without one case of malaria among Europeans. The list is long, too long for record. The point is that but for medical science, London's colonies and over-sea ventures could never have reached present expansion; but for doctors, we might not boast that the sun never sets on the British flag.

"Today," continued Sir Malcolm, "airplanes add a new peril to fever control—especially that of yellow fever.

We are only realizing today how great is the danger of yellow fever reaching Asia from Africa. A report by the League of Nations summarizes the researches carried out during the last ten years, mainly by the Rockefeller Foundation.

THE PERIL OF YELLOW FEVER

"Whereas ten years ago we thought that yellow fever was a rapidly disappearing disease and that men would soon talk of it as something historic, researches have now



Photograph by Lionel Green

SIDEWALK ARTISTS WITH COLORED CHALK CONJURE RED INDIANS FROM THE PAVEMENT

Keenly sensing what will appeal to the public, they choose subjects ranging all the way from Dickens characters to Haile Selassie. With his battered hat ready to catch the pennies of passers-by, this man at work just outside the Tower of London bids for their attention with portraits, landscapes, and still-life studies. Sidewalk masterpieces are short-lived, as they last only until the next shower or the street cleaner comes along.

shown that it is deeply embedded in the forests of South America and central Africa, and there is very little likelihood in the immediate future, or even in the distant future, of our having any real control over this deadly fever. The dangerous thing to Asia is the rapid communication between Africa and India by airplane. A plane service from West Africa starts in a yellow-fever zone and a passenger traveling by it could reach India within the incubation period of the disease.



© Fox Photos

VINTNERS IN LIVERY AND TOP HATS "BEAT THE BOUNDS" ONCE A YEAR IN LONDON

The ancient custom, according to one legend, originated at a time when cluttered streets had to be swept to make way for the Master and Wardens of the Guild when they went to church. Wine merchants belong to an old and honorable guild. Port wine from Portugal is among the city's favorite beverages. Vaults controlled jointly by the Customs and the Port of London Authority annually receive many million gallons of imported wines, some of which have now aged 40 or 50 years.

"To this fever, the East is more and more exposed. Millions would surely die should yellow fever reach such close-packed cities as Bombay, Calcutta, Singapore, and Hong Kong.

"Facing this grave danger," said Sir Malcolm, "the Government of India has set up most careful control at Karachi, where planes that might bring yellow fever enter India."

This School, then, is but another of London's infinite world-affecting activities.

London's own public health problems since the historic tragedy of the Great Plague, the cholera, and other epidemics have been simplified by modern sanitation, which has brought ample pure water and the clean, swift disposal of garbage and sewage.

Since the old days, when open drains in the middle of the streets befouled the town and drove many people to build their homes outside the city, two vast sewer systems with 370 miles of pipes have been laid; one

on the north side discharges at Barking, and that on the south at Crossness, Thames tides keeping the lower river clear.

Murky coal smoke, which used to mix with fog to make London so dark and grimy, is now much diminished by the increasing use of gas and electricity. At Beckton rises the greatest of all gas works; it has its own wharves and collier fleet and, with smaller plants, consumes the astounding total of more than 4,000,000 tons of coal a year.

WHEN LONDON HAD WATER CARRIERS

Water for London used to be carried by rough characters who called themselves the "Brotherhood of Saint Cristofer of the Waterbearers." They were a distinct class, akin to the swarthy rascals who, in some Oriental towns, still peddle water from goatskins.

For generations after 1582, clumsy wheels turned by the tide under London Bridge pumped water, insufficiently, for the



© Associated Press

NOT CLASSIC DANCERS BUT STUDENT WAITRESSES, LEARNING TO BALANCE TRAYS GRACEFULLY

On the roof of the Lyons Teashops' Building in Orchard Street, London, every would-be "nippy"—London's nickname for waitress—is put through a course in physical culture to improve her poise and carriage. The immense chain of Lyons eating places serves more people in a year than live in the United States and sells enough dishes of ice cream daily to supply every citizen of Philadelphia. One 40-year-old customer offered \$25,000 cash in advance for two meals a day for the rest of his life. Another ordered a wedding cake to match his bride's leaf-brown bridal frock!

city. But, for centuries, how to get enough good water was a constant problem. Even as late as the 19th century, though five or six different companies then operated, one section of London might have ample water, while its neighbors went thirsty.

In this period engineers began to bore artesian wells through the clay and chalk beds that underlie London. Though hard, this water is very pure and to this day many hotels, breweries, and other large water consumers use such wells.

ONLY THE THAMES CAN SLAKE MODERN LONDON'S THIRST

But now London has grown so large that only the Thames can satisfy it. In 1904 the Metropolitan Water Board took over all private companies and now pumps water from the Thames and the Lea into vast artificial reservoirs, such as the Queen Mary

near Staines and the King George V near Enfield.

From these sources the city and districts far beyond the limits of London County now take more than 230,000,000 gallons daily.

Today, if every man in London did nothing but carry water, not enough could be brought by men on foot with buckets to meet the city's needs!

So it is; whether in tropic jungles, or here in ancient London, British civilization still works, patiently, without pause, that man may live in health, happiness, and safety.

Men's names—their buildings and their machines—may change. But behind the scenes, the mind of London, shrewd, bold, adventurous, is the same indomitable spirit that has made her, indisputably, the Old World's most influential city.



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TRIFESMEN BARGAIN FOR RUGS IN THE MARKETS OF BEERSHEBA

The Bedouin is too fond of bartering to hurry when making a purchase. "It is naught, it is naught, saith the buyer: but when he is gone his way, then he boasteth" (Proverbs 20:14). Rug-weaving, like most domestic tasks, is woman's work. The famous ancient wells of Beersheba, with copings cut by the bucket ropes of many decades, have now been modernized (page 63).

BEDOUIN LIFE IN BIBLE LANDS

The Nomads of the "Houses of Hair" Offer Unstinted Hospitality to an American

By JOHN D. WHITING

AUTHOR OF "PETRA, ANCIENT CARAVAN STRONGHOLD," "BETHLEHEM AND THE CHRISTMAS STORY," "AMONG THE BETHLEHEM SHEPHERDS," ETC., IN THE NATIONAL GEOGRAPHIC MAGAZINE.

MY EARLIEST recollections go back to the time when all the homes in Jerusalem were huddled within the imposing city wall built by Solomon the Magnificent. In those days a medieval atmosphere still clung to the Holy City. Every night at dark the iron-sheathed and studded city gates were closed and barred until dawn. The governing Turks took every precaution against the threat of Bedouin attack.

Our house was perched on the highest point of the north city wall, close to the Damascus Gate. Built like a miniature stone castle, with upper and lower domed courts, it surrounded an open, stone-flagged patio.

WHEN BEDOUINS COME TO CALL

I can just remember Ali Diab (Ali the Wolf), at that time the powerful Sheik of the Belka Bedouins. Our elders used to visit his Trans-Jordan camps. He, in turn, accompanied by a retinue of lesser chiefs, spearmen, and Negro slaves, used to pass days at a time at our home.

Arriving from a 40- or 60-mile trek, they would stride into the patio, the iron heels of their red top boots clattering on the stone pavement. First, they disarmed, for they said ours was a house of peace. On hat pegs in the closed court they hung a long row of silver-sheathed scimitars, Morocco holsters with twin flintlock pistols, and an occasional broad-mouthed blunderbuss. Each horseman planted his long spear in one of the rose boxes in the patio.

Well can I remember mounting the steps to the upper court when no one was around, climbing into a flower box, and with difficulty leaning far over the iron railing to grasp the spearhead. Brushing aside the plume of black ostrich feathers, I felt with boyish joy the keen edge of the long, wicked blade.

Thus from an early age I was intimate with the Bedouins. Since then I have even been adopted into their tribes. Often have I partaken of unstinted desert hospi-

tality in their black tents. Weeks and months I have passed riding on horseback, or on swift racing camels, or, more recently, in comfortable American automobiles, through their deserts and oases.

A SUN-BAKED, FROST-CHILLED LAND

Trans-Jordan, where I have enjoyed many interesting experiences among the Bedouins, is a little country. Separated from Palestine by the great valley of the Jordan, the Dead Sea, and Wadi el Araba on the west, it is hemmed in by the Levant States, Iraq, and Arabia. It is a British protectorate ruled by His Highness the Emir Abdullah Ibn Hussein, son of the late King Hussein of Hejaz and brother of the late King Faisal of Iraq (map, p. 72).

A little fringe along the Jordan and Dead Sea depression is fertile because of perennial streams. Otherwise all is waste. It is a rolling plateau desert, mostly composed of white chalk and sandy soil. Flint chips and lumps of basalt are widely scattered.

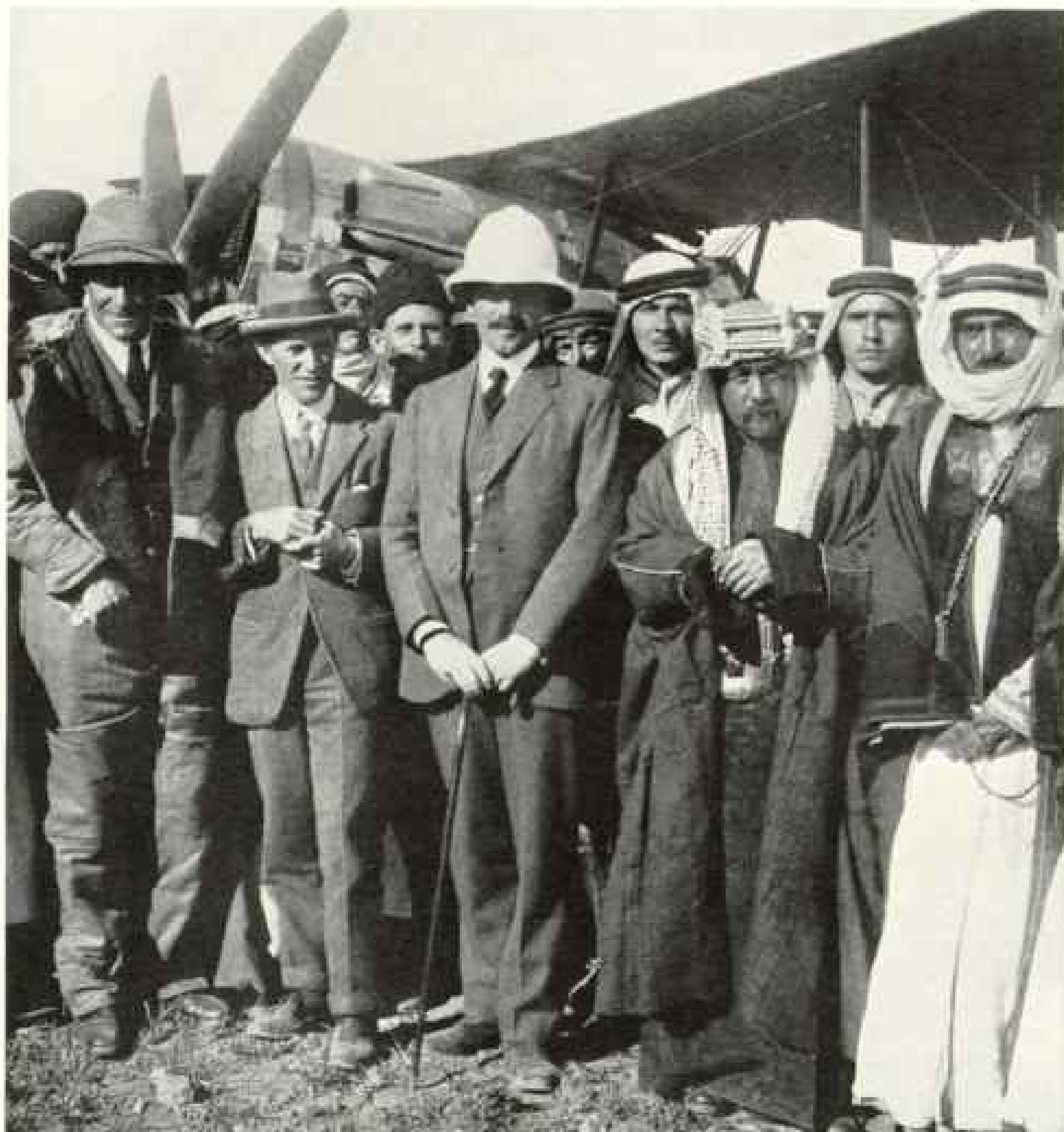
There are no rivers. The Bedouin gets his water from ancient rock-cut water cisterns, from pools that collect in the wadi beds in winter, or from deep wells.

After winters of abundant rains and snows, the valleys and wadies may be lush with vegetation and aglow with wild flowers. In summer the whole desert is parched and dry. Scorching hot during the day, it is often bitterly cold at night.

Camel herders and shepherds who pass the night in the open, with only an old coat to sleep in, complain of the temperature changes. So did Jacob when he said, "In the day the drought consumed me, and the frost by night" (Genesis 31:40).

NOMADS LOOK DOWN ON FARMERS

The Bedouin inhabitants of Trans-Jordan are divided into three classes: the peasant farmers who live in villages and cultivate the soil, the seminomads who live in tents and have flocks and farm lands, and, lastly, the true Bedouin nomads, who live off their flocks and herds and migrate



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THE "GEORGE WASHINGTON OF ARABIA" AT AMMAN IN TRANS-JORDAN

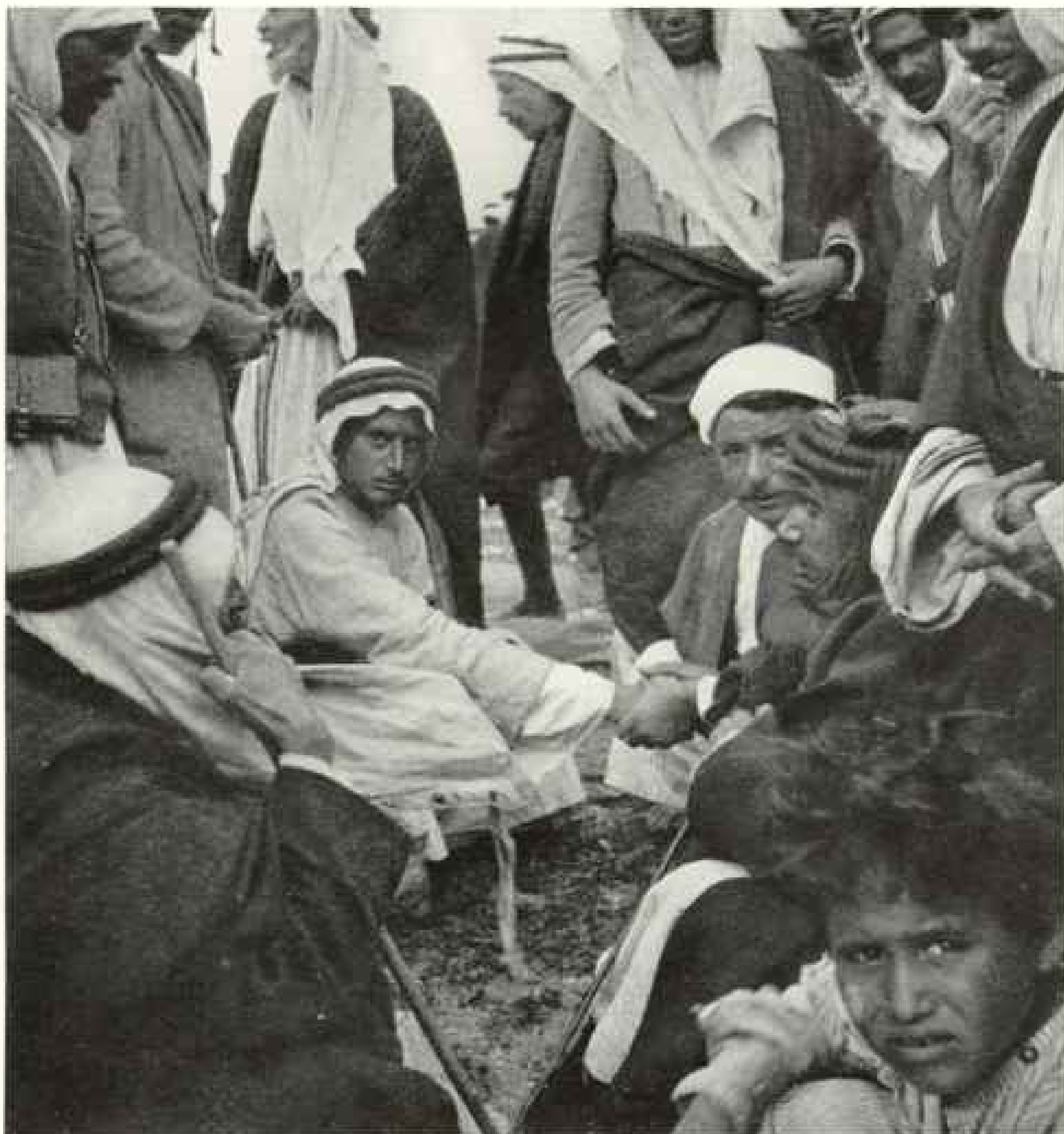
The late Col. T. E. Lawrence (second from the left) paid his last visit to his Bedouin friends in 1923 during a celebration of Great Britain's recognition of the independence of Trans-Jordan under the rule of His Highness the Emir Abdullah (second from the right, in front). Colonel Lawrence was known only as an archeologist and classical scholar until he embarked upon his "one-man expedition" to inspire King Hussein and his four sons in their revolt against the old Ottoman Empire (page 59). In 1927 he changed his name to T. E. Shaw and so signed his own translation of the "Odyssey" of Homer. In the center, with the cane, stands Sir Herbert Samuel, then High Commissioner for Palestine. At the extreme right is the Sheik Majid Pasha el Adwan (pages 69 and 81).

over long distances, even into the depths of Arabia proper.

All three classes look like true Bedouins and speak the same dialects, wear the same style of clothing, eat the same food, and share the same traditions. But the nomad Bedouins look down on the other classes and call them *fellahin* (farmers). It is this wandering tribe I tell about here.

Most vital in a desert country is the preservation of water sources. Wells are prized possessions. None but the owner tribe may draw water from them. Disputes over the use of wells have led to many a tribal war.

When Abraham's wells were seized by enemies, he had to protect himself with a covenant of possession. "And Abraham re-



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A CAMEL CHOSEN, BUYER AND SELLER SET DOWN TO DISCUSS THE PRICE

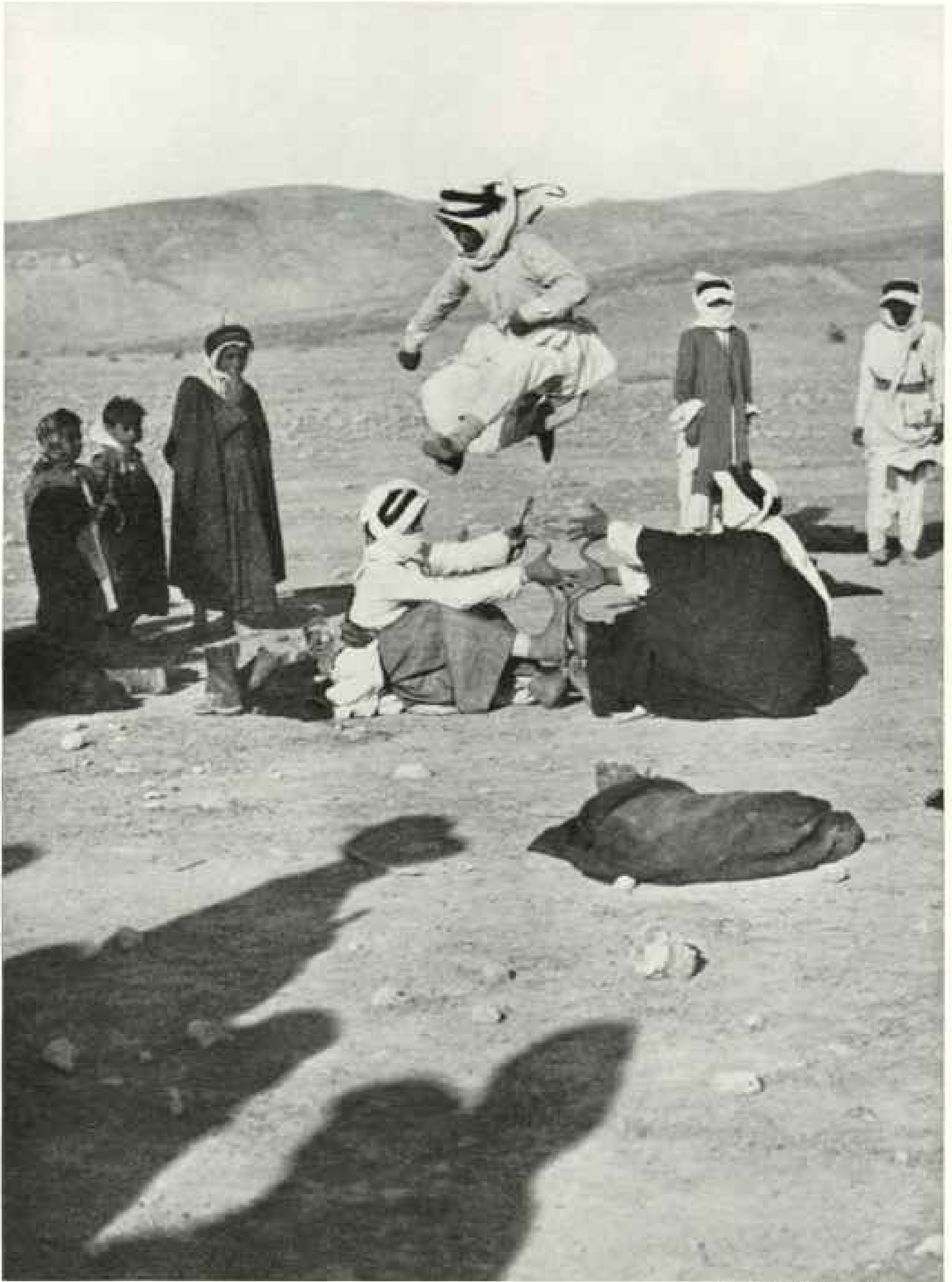
In the market at Beersheba, the broker (white turban) persuades buyer (white *keffiyeh*) and seller (black headgear) to clasp hands. The prospective purchaser suggests a price; the seller says "God forbid." Another offer, and the reply is, "Your face is more generous." The broker names a sum and the purchaser says, "You have burned it." Reply by the broker: "Trust Allah, the camel is beautiful." The vendor is emphatic: "Not on the life of Mohammed, to whom be all praise"—and so on until an agreement is reached, or the principals part in disgust. The proceedings attract an interested audience.

proved Abimelech because of a well of water, which Abimelech's servants had violently taken away" (Genesis 21:25).

Around the wells at watering times scenes are enacted which take one back thousands of years to the life of Bible days. Youths and men lead up their herds of camels. Sometimes hundreds of animals that have gone without water for days will be waiting in line for a drink.

With leather buckets and long ropes, two almost naked men draw water, chanting their weird, monotonous melodies and calling to the camels to drink. Herders keep the animals back, allowing only one or two at a trough at a time.

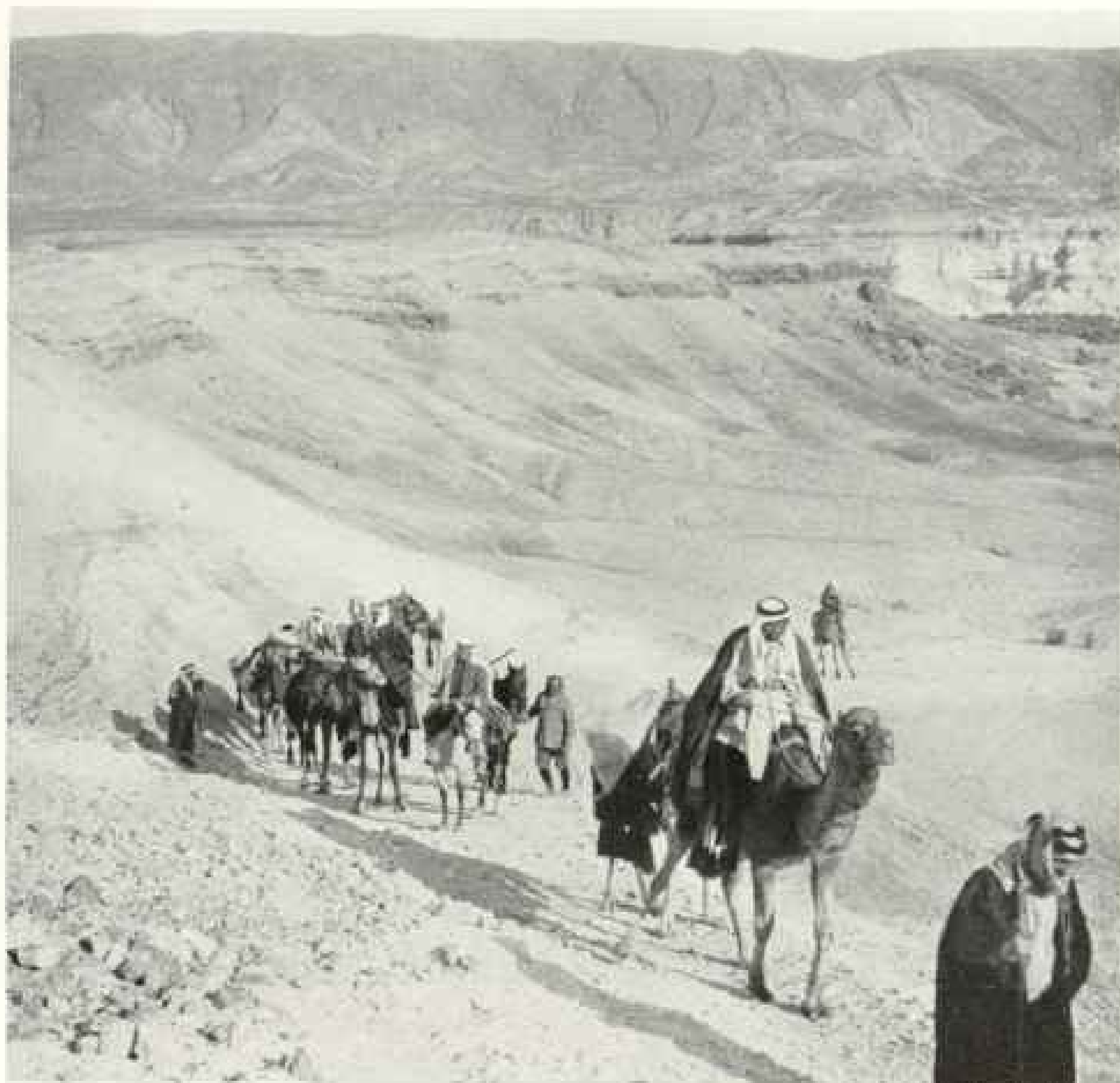
In these deserts where camels are the chief wealth, girls tend the goats. Shepherdesses often have a hard time watering their flocks. Camels are always favored.



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AN ARAB HURDLER HAS TO HOLD UP HIS "SKIRT"

Hindered by the long *kibr*, the heavily swathed athlete clears a height of "two feet and two hands" with plenty to spare. All but the children wear the *keffiyeh* headdress bound with the goat's hair *agal* (see page 78). Five of the figures wear the black *aba*, while the others have nothing over the belted white *kibr*. The stony, barren landscape is typical of Bedouin lands.



© John D. Whiting

THROUGH DESOLATE WADI EL ARABA WINDS THE AUTHOR'S CARAVAN

The author's camel follows that of the leader of the caravan, Sheik Jadduh el Asam, paramount chief of the Tayaha tribe. The Arab's flowing garments, often as light and sheer as chiffon, protect him from sun and blowing sand (page 77).

And when the camel herders come in from their waterless five-day grazing periods, the girls and their flocks get particularly inconsiderate treatment.

Moses befriended the daughters of Jethro when they were fighting for a chance to water their flocks. One of the girls was subsequently given him for a wife (Exodus 2:15-21).

At Beersheba, in my boyhood days, there were several old wells in a vast plain. They marked the gathering places of the clans. Deep furrows in the hard limestone copings around the wells had been cut by sliding ropes that, over a period of many decades, must have drawn millions of buckets of water.

These were not the same wells that Abraham dug, but the life around them was probably much the same in his day. Today, Beersheba is a small town. The ancient wells have been modernized and their air of antiquity has vanished.

A CAMEL HELPS DIG A WELL

Passing through the desert not long ago, I observed an unusual event—the digging of a new well. I greeted the patriarch who was supervising the work with "Gowak" (the Bedouin salutation befitting such an occasion), which means "Strength may Allah give thee."

"Gweet," was the prompt reply, meaning, "Strong have I become."



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SALIM DRINKS DOWNSTREAM FROM HIS CAMEL!

The author had dismounted and his guide, Salim Abu Misimir (Peace the Father of Nails), led the animal to water. Somehow the water "makes the grade" uphill from the camel's mouth to its stomach.

Two stout youths were digging in the well bottom, which was not yet very deep. They kept filling a basket with the dirt they excavated. A camel, hitched to a rope and pulley and driven by a frail, overgrown boy, pulled the basket out of the wellhole. Each time a load of dirt reached the top, the old man seized it, swung it to the surface, and dumped it, while the camel walked back for another haul.

Work ceased while we stopped to chat. Bedouins never hurry. With pride the old man surveyed his three sons and the new wellhole. They "dugged the well only that man and beast might drink."

By our standards, they were poor people. Nightly their meal was little else than a cake of barley bread. But the old man's bearing and expression were those of a prince content with his lot.

I asked whether he would charge for the right of watering to repay him for his labors. His slight form unbent. Lifting his head, he pointed to his sons with a majestic sweep of his hand.

He said, "Allah has requited me mercifully. In addition to these, I have other children and from His bounty we have yearly a sufficiency in our tents, besides flocks and camels. Should I pile up gold like yonder hill? What would it satisfy? Better we leave behind something whereby our fellows are benefited."

I hoped he would find abundant water. Surely he deserved a reward for his generosity.

THE HAIR TENT AN ALL-PURPOSE ABODE

The black goat's-hair tent is the Bedouin's home, but he never speaks of it as



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PALMS AND CAMELS FRAME A DESERT GREETING

"Putting heads together" in Arab lands does not imply gossip, but the ritual of correct salutation. This desert meeting occurred in an oasis of the Sinai Peninsula, south of the region described in the article.

a tent. To him, it is the *beit sha'ar* (house of hair). Most flexible of all abodes, it keeps out sun, sands, and winter winds. During hot days the sides can be lifted or removed at will. Then the tent is little more than a sunshade. In winter the coarse, heavy fabric cuts off icy blasts.

With few exceptions, the goats of these lands are black. From their shearings the Bedouin makes his tents. Thousands of years have brought little change in their construction.

SOLOMON SANG OF THE BEDOUINS

Solomon, the Poet King of Zion, sang, "I am black, but comely, O ye daughters of Jerusalem, as the tents of Kedar, as the curtains of Solomon" (Song of Solomon 1:5). Kedar was a Bible name for the Bedouins.

The house of hair is oblong and has a long pitched roof with drooping ends. The smallest tents have nine poles altogether, with a row running lengthwise down the center, and shorter, lighter rows in front and back. Guy ropes extend outward from both sides and from the center of each end.

Detachable goat's-hair curtains form the sides and ends of the tent. They are fastened to the edge of the roof with wooden pins and fixed to the ground with pegs driven through rope loops (page 68).

The tent is pitched with its back to prevailing winds and storms. A curtain at the central pole usually divides it into two parts. One end is called the *mahram* section (belonging to the harem). Here lives the family, and here are stored bedding, rugs, copper cooking pots, and saddlery.



© John D. Whiting

ARAB "BLUE BLOODS" MAKE UP THE DESERT PATROL.

This aristocratic corps of the Trans-Jordan Arab Legion is recruited from the best Bedouin blood. Col. T. E. Lawrence's devoted followers were largely men of this class (page 69). Supercilious, tassel-bedecked camels are types bred for endurance and speed.

The other end, usually left more open, is called *es-shigg* and is the guest section where male visitors are received (p. 69).

Saha is the name of the dividing curtain (page 68). Elaborate geometric patterns of brown camel down and gray and black goat's hair are woven in the curtains on a background of white wool. Women weave the *sahas* from memory or imagination; patterns are unknown.

GUEST IN A 10-SECTION TENT

The average Bedouin tent is 8 or 10 yards long and half as wide. But there is extreme variation in size. Poor herdsmen's tents are frequently much smaller, while those of sheiks and richer tribesmen may be as much as 100 or 120 feet long.

In more elaborate tents, additional tent poles support the center. These tents are referred to by the number of central (or *wasit*) poles. A 4-, 6-, or 10-*wasit* house of hair means the same to a Bedouin as a 4-, 6-, or 10-room house to us.

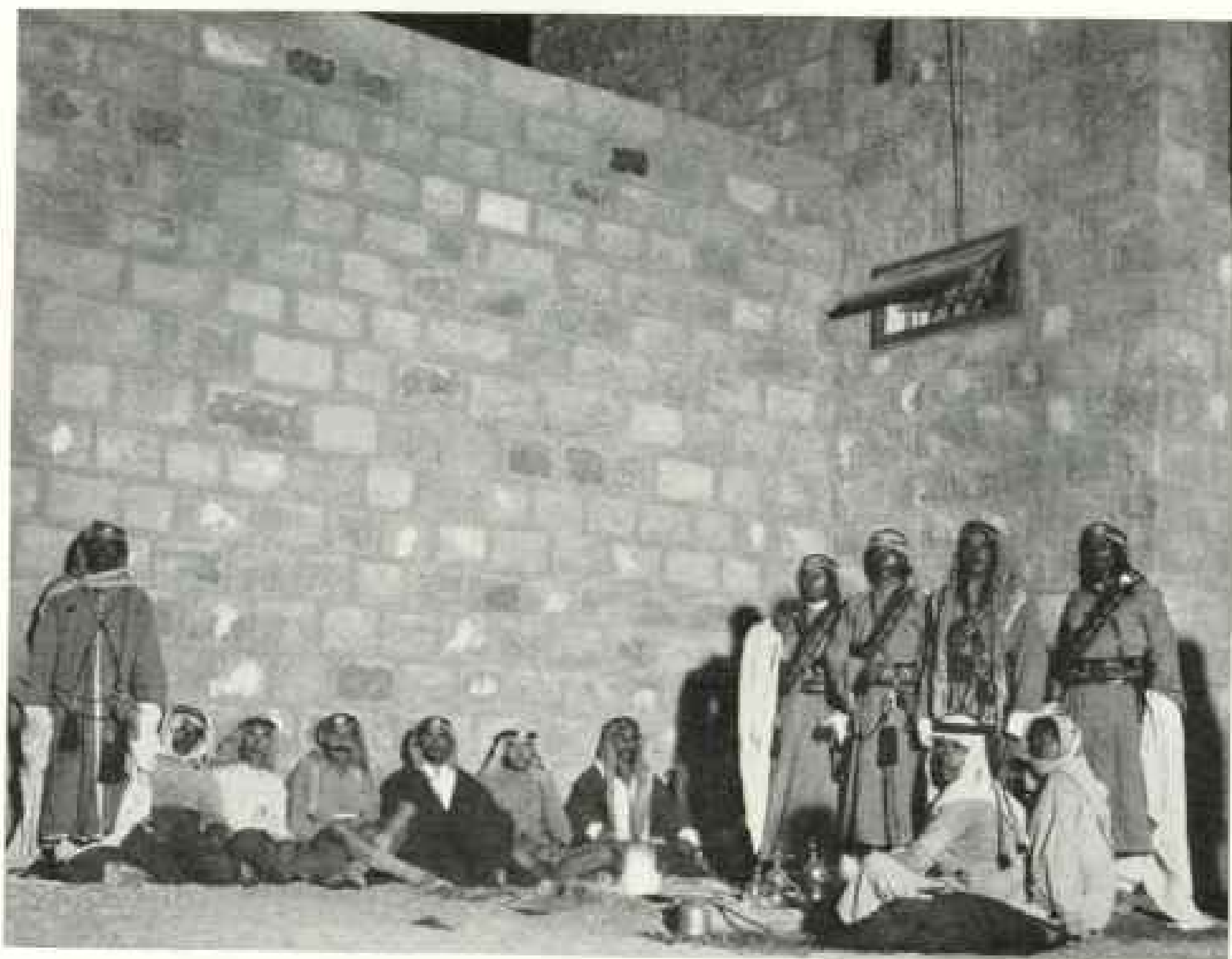
I have been a guest in a sheik's tent that had nine *wasits*, or ten sections. Three sections at one end were curtained off with *sahas* for three wives and their families.

The chief wife had a double section to herself. But her apartment was also the storehouse for rugs, bedding, and food supplies for guests. Half the tent formed the *shigg*, or guest section.

In the shade at the open end of the *shigg* were tethered the sheik's graceful Arab mares.

Fourteen stout camels were required to move this home from place to place. The top alone being too heavy for a single camel, it was divided into two sections and provided with lacings to fasten the two pieces together. The tent ropes, particularly long and heavy, were borne by one camel, which carried nothing else. Larger tents are often equipped with a few long iron pegs to hold the main guy ropes.

If a Bedouin keeps no goats, he buys his goat's-hair cloth. But most families



© John D. Whitina

BEDOUIN LEGIONNAIRES GATHER IN A MILITARY POST

The coffee ceremony enlivens a night vigil in an isolated fort southeast of Petra. Few have visited this district, famous for lofty mountain walls of brilliant sandstone. Long white sleeves show that the weavers seem to labor with their hands (page 78).

can provide their own goat's hair, and the women spin the yarn, weave the cloth, and sew the tent together. Pitching and striking the tents are also women's work.

A HOUSE OF HAIR HAS MANY PATCHES

The only time a new tent is made is when a youth leaves his parents' home and sets up housekeeping by himself, usually with a wife or two to do the work.

The accumulated goat clippings of a year or two are sufficient to make a new strip with which to repair an old tent. Women rip out the most worn section of the roof and replace it with the new cloth. The old piece is kept in service as a replacement for a riddled, stringy side curtain.

Thus, year after year, new strips take the place of old top pieces. The house of hair passes from father to son, never completely new nor yet entirely old.

The sackcloth of the Bible is the same coarse goat's-hair material that goes into the Bedouin tents. Describing darkness,

St. John said, "The sun became black like sackcloth of hair" (Revelation 6:12).

In Bible days sackcloth was worn to show sorrow, repentance, or humility. Westerners think of the sackcloth as jute or hemp burlap sacking. But our burlap is silky compared to the prickly coarseness of goat's hair sackcloth.

On the slopes of Moab, not far from Mount Pisgah, where Moses was buried in an unknown grave, lies the lonely tomb of a late medieval sheik. His 8-foot cenotaph, mortared together from small, well-dressed stones, overlooks the Promised Land.

One day I paused to examine this unusual tomb. It was evidently the grave of a very important man, for the roaming Bedouin is rather casual about disposing of his dead. Sides and ends of the tomb were covered with crude carvings of Bedouin coffeepots, coffee trays, tiny cups, grinding mortars, and roasting spoons.

While I was studying the decorations,



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GOAT'S HAIR "ON THE HOOP" AND IN THE CLOTH

Clippings from the flock of goats in the foreground may eventually be woven into the tent beside them (page 64). The large "house of hair" in the background, to the right of the author's white tent, was that of the late Sheikh Soud. Solomon sang, "I am black, but comely . . . as the tents of Kedar." Kedar was a Bible name for the Bedouin. The Poet King also likened the eyes of his beloved to the fish pools in Heshbon, the oasis which supplied this camp with water. Bedouin encampments of this size are rarer today than formerly.



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"LAWRENCE OF ARABIA" REVIEWS PART OF HIS ARAB ARMY FOR THE LAST TIME, ON A VISIT TO TRANS-JORDAN IN 1914



Photograph by G. Erick Matson

VISITORS OF A POWERFUL SHEIK ASSEMBLE IN THE GUEST SECTION OF THEIR HOST'S TENT

Only men are received in the *shigg*. Detachable curtains, forming sides and ends of the tents, are removed on hot days for "air conditioning" (page 65).



© John D. Whiting

PULVERIZING DESERT COFFEE SUGGESTS AN AMERICAN DRUGGIST MIXING
A PRESCRIPTION

The beans are crushed in a wooden mortar with a long wooden pestle. The tribesman pounds in rhythm, "to the accompaniment of a droll song—so many downward strokes and so many taps on the sides of the mortar" (page 72). At his elbow stand large coffeepots.

a boy told me that the tomb was that of one of the "great sheiks of times long ago," whose descendants still rule the surrounding region. I asked why the grave of so great a man should be besmeared with likenesses of kitchen implements.

CARVINGS PROVE GENEROSITY

The boy showed a haughty disdain for my ignorance. "These are not 'tools of the kitchen,' " he said, "but emblems of generosity. They mean that his coffeepot never stopped boiling, his dagger always dripped with the blood of fatlings, his meat dish was nightly surrounded by guests."

There are no inns or even fixed abodes in these Bedouin deserts. Yet hospitality toward the wayfarer is traditional. It works two ways.

The wayfarer finds water, food, lodging, and protection. The clans, in turn, are diverted from the monotony of their everyday lives.

Recently I arrived at a camp of Trans-Jordan Bedouins after a very hard day's journey. The sun had set and the western sky was stained with pastel pinks and purples. Welcome indeed was the sight of the Arabs' black tents nestled together in a rocky hollow.

Youths rushed from here and there to meet us. One seized my horse's head, another the stirrup to steady my saddle as I dismounted. I asked to be conducted to the guest section of the sheik's tent.

In a large camp, lesser chiefs sometimes contend with the sheik for the right of entertaining the guest. In such a case it is a desert law that the guest's choice of a host is final.

DESERT WELCOME FOLLOWS A RITUAL

As I approached the tent, the sheik came to meet me, bowing many times. Part of the exchange of greetings is a very definite etiquette of posture and movement.



© John D. Whiting

A SHEIK POURS FOR A THIRSTY CLANSMAN

Coffee is the symbol of Bedouin hospitality. It is boiled perfectly clear and its bitterness often is relieved with aromatic carlander seed. It is redistilled until so strong that only a few drops are served at a time (page 73). Crossed shoulder straps binding the chief's *kibr* are more ornate than those of the tribesman.

The sheik and I were old friends: therefore, I was treated as a person of distinction.

Each time my host bowed, he dropped his hand to the ground (an expression of humility and inferiority), then touched his heart (a manifestation of affection), and his head (indicating appreciation of my wisdom). As we met, I clasped his right hand, not shaking it as we do. Maintaining the grasp, we embraced by placing left hands on each other's shoulders and drawing together (page 65).

The sheik placed his head over my shoulder, first on one side and then on the other. While we pressed cheeks together, we moved our lips as if kissing the air. Very intimate friends actually kiss each other's cheeks.

Jacob, in fear and trembling when he met Esau, "bowed himself to the ground seven times, until he came near to his brother. And Esau ran to meet him . . .

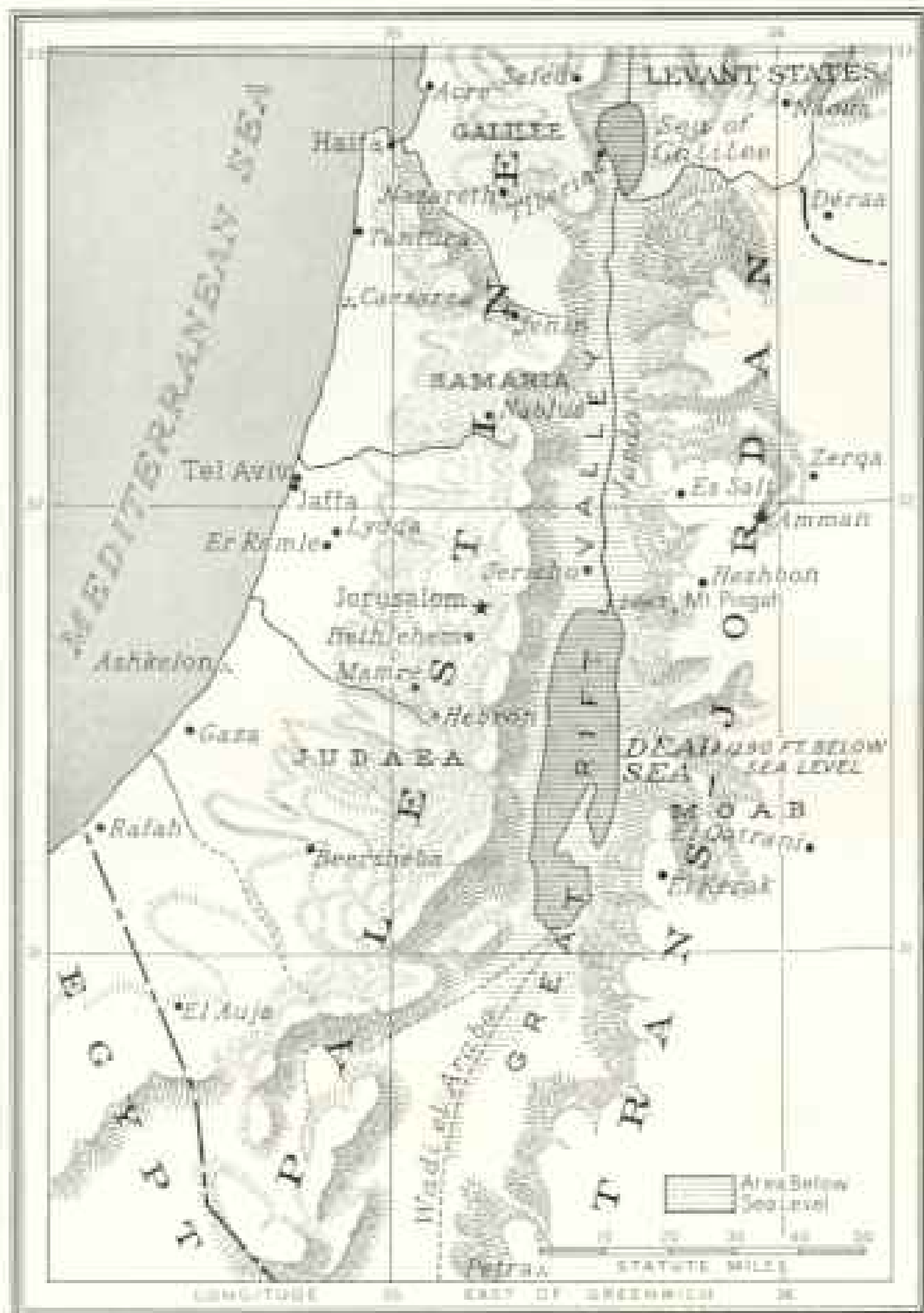
and fell on his neck, and kissed him" (Genesis 33:3-4).

Had I been a stranger, my host would simply have walked out to meet me, clasped my hand, and guided me to the guest section.

CUSHIONS ARE SPREAD FOR THE GUEST

As our horses were being led away and tethered before the guest tent, other youths within spread rugs on the ground. Mattresses were laid end to end on the rugs and covered with finer rugs. Now three or four overlapping cushions for us to lean against were placed between the ends of the mattresses.

This ceremony of laying rugs and mattresses is called "spreading for the guests." Because I was an honored guest, my place was spread at the inner end of the shigg against the saha curtain. Two long rows of lesser rugs ran out as arms of a U, of which my mattress formed the base. When



Drawn by Newman Rimstead.

THE WORLD'S DEEPEST LAND DEPRESSION SEPARATES
PALESTINE FROM TRANS-JORDAN

From an administrative seat in Jerusalem, holy city of three religions, British officials seek accord between Arab and Jew, both historic claimants, while beyond the valley of the Jordan nomad Bedouin life continues virtually without change since Bible times. The shaded area including the Sea of Galilee, the Jordan River, and the Dead Sea is a portion of the Great Rift Valley. The surface of the Dead Sea is 1,290 feet below sea level.

the tribesmen flocked in later to take part in the entertainment, they sat down cross-legged in these inferior positions.

During the confusion that attended this spreading for the guests I met many of the tribesmen. The proper Bedouin salutation follows a strict ritual of etiquette.

"Salam alakum" (Peace be on you) was the first greeting I received. My reply was, "Wa alakum es-salam" (And on you peace). Jesus said to the Disciples, "Into whatsoever house ye enter, first say, 'Peace

be to this house' " (Luke 10:5).

Likewise, when I left the camp the following morning, I was careful to say, "With your permission," and the sheik replied, "Depart in peace."

My arrival in the guest tent was the signal for all the men in the camp to assemble. I was hardly seated when a fire was started in a depression in the ground at the farther end of the tent.

Near the fire stood many large and small coffeepots of burnished brass and copper, with long bill-like spouts, all hand-hammered from a single sheet of metal.

The number and size of a sheik's coffeepots indicate his prestige and often the extent of his tents and tribes.

COFFEE MAKING NEVER
ENDS

Among the Bedouins, making the coffee is not a cook's job in the kitchen. It is a ceremony in itself. Before our last greetings had been exchanged, the roasting of the coffee beans had begun.

I watched the men heat the cold coffee while they roasted a fresh lot of berries in a huge wrought-iron spoon, stirring them

constantly with an iron rod (page 74).

After the beans were roasted a deep brown, the men poured them into a wooden mortar and pounded them to the finest powder with a long wooden pestle. They pounded the coffee in rhythm, to the accompaniment of a droll song—so many downward strokes and so many taps on the sides of the mortar (page 70).

After it was pulverized, the coffee was dumped into the biggest pot, mixed with water and the remnants of the last brew.



© John D. Whiting

MOURNERS' FEAST FROM THE HUGE GUEST DISH

A whole ox, mixed with rice and bread, was served to hundreds of friends gathered to condole with Sheik Majid over the death of his aged father, their late chief.

When it had boiled up in the big pot, my host poured out the clear coffee into the next pot. It was boiled again, allowed to settle, and then drained into the third pot, and so on down to the smallest.

It was flavored with coriander seed and served to us in tiny cups of thick porcelain without handles, really like miniature bowls. This *gabwa*, or bitter coffee, is perfectly clear and very strong. Only a few drops were poured into our bowls.

The sheik (who always pours out the first cup for the principal guest) clicked a cup against the spout of the pot. With

his other hand drawn back, he offered it to me, pointing to his heart.

Far into the evening the coffee was poured at intervals, three rounds at a time. The Arabs' coffee is very delicious and thirst-quenching.

FACES ARE SUNBURNED BLACK

The pure type of Bedouin is of medium-to-small stature, with a lean body, oval face, large eyes, thin lips, sparse beard, and aquiline nose. Generations of exposure to the fierce desert sun have given him a complexion like dark varnish. I have known



© John D. Whiting

"GIVE US THIS DAY OUR DAILY BREAD"

A swamp Arab woman bakes on a concave sheet of iron. After kneading the dough in the big copper pan, she pats the loaf thin on a board and then throws it on the domed oven. At the left are some finished loaves. She bakes outdoors because her home is made of inflammable mats.



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BY THE NUMBER AND SIZE OF A SHEIK'S COFFEEPOTS HIS PRESTIGE IS KNOWN

Bedouin utensils are hand-hammered from a single sheet of burnished brass or copper. The Arab roasts coffee beans in a large iron spoon over a camel-dung fire (page 72). Coffee is served unsweetened. The tray of sugar was for American guests.



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THE NATIONAL GEOGRAPHIC SOCIETY'S VICE PRESIDENT IS HONORED BY A
BEDOUIN PRINCE

Dr. John Oliver LaGorce (third from the left, sitting) and Col. Gene Tunney (fourth from left) were guests of Sheik Majid Pasha el Adwan on a visit to Trans-Jordan. The huge banquet dish, almost six feet across, contained the meat of five sheep and quantities of rice and gravy. It took ten men to carry in this huge kettle, from which guests and tribesmen in strict order of precedence sat down to dine. Nowhere could there be found a finer example of hospitality and decorum than at this desert feast (page 79).

Bedouins who were almost black, though they had not a trace of Negro blood.

Bedouin women are plump and walk with an upright, queenly carriage. They grow thin as they age. I have never seen a corpulent old woman.

Tattooing is prevalent among both young men and girls. Some girls seem to be wearing lace stockings, so elaborate is the tattooing on their legs. The most popular design for the men is four small dots on the face—one each on the nose, the chin, and the cheeks. They also prick designs of lions, swords, and daggers on the arms.

As a cure for a sprained wrist or ankle, rows of dots are sometimes tattooed along the injured joint.

To do fitting honor to a guest, Arab custom demands that he be served freshly killed meat. The sheik greets his visitor and at once dispatches a servant to the flocks to bring in a lamb or kid for the evening meal.

The chosen lamb is led past the shigg so

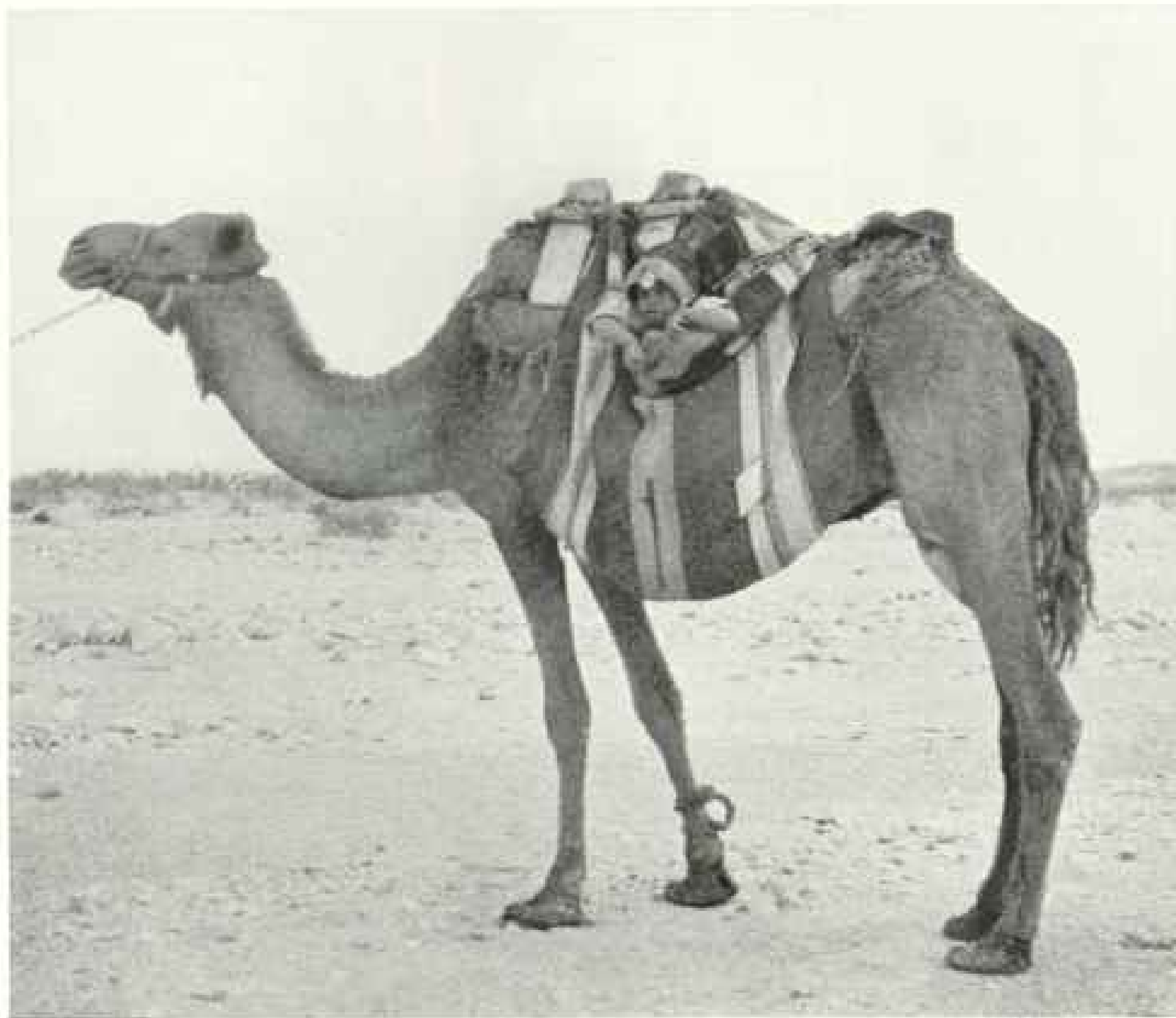
that the guest may see what an excellent fattening it is. Then it is taken away and killed in front of the women's quarters.

A chief who is entertaining a famous guest may order his whole flock led past the shigg. As the sheep trot by, the sheik runs out, draws his dagger, and slits the throats of as many as he can until the guest, seeing the honor being bestowed on him, stays the host's hand and begs that he "sacrifice" no more.

Occasionally I have arrived at a camp when my host's flocks were not at hand. When this has happened, I have often ridden forth with the chief when he took a *dabeha* (sacrificial animal) from the first flock we came on, whether it belonged to him or not.

BIBLE LAWS STILL UPHOLD

This is a privilege protected by the strictest rules. It is an unwritten law that the animal must be replaced. And neither the ram, the ewe heavy with young, the bell



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ROCK-A-BYE BABY, ON A CAMEL'S HUMP

Lean, tough, tireless, the faithful dromedary carries tents, cooking utensils, robes, curtains, the owner himself, or his offspring. The youngster, with a talisman hung at her forehead, looks out over the desert from the swaying vantage of a capacious striped saddlebag on a winter march in Wadi el Araba.

sheep, nor the lamb that is habitually kept in the camp as the children's pet may be taken.

These ancient tribal laws, millenniums old, were the source of the parable Nathan used in chiding David. He said, "There were two men in one city: the one rich and the other poor. . . . The poor man had nothing, save one little ewe lamb, which . . . grew up together with him, and with his children. . . . And there came a traveler unto the rich man, and he spared to take of his own flock . . . but took the poor man's lamb, and dressed it" (II Samuel 12: 1-4).

Servants dress the meat and the women cook it. Meanwhile, the sheik's wife herself, or a maid servant, bakes the loaves of thin bread on a concave disk of sheet iron heated by a fire of sticks, thorn, or brush.

When the meal is cooked, the host himself oversees the serving.

The thin loaves of bread are shredded in large copper dishes. Over this is piled rice, soaked with butter and garnished with pieces of meat.

When there are many guests, there are many such dishes. Each huge dish is carried in between two or more men. The sheik leads the procession and directs the men as they set the dishes in a row down the center of the shigg.

As the guests draw up to the banquet, the most important are placed around the choicest dish.

It is amusing to watch the Bedouins gobble their food. They make great balls of the rice or bread soaked in gravy and pop them into their mouths one after the other. As each man is satisfied, he rises,



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NOW IT'S YOUR MOVE!

Two cronies meet over a game of *mankalik*. Like chess, it demands much concentration, calculation, and forethought. Savage tribes of Africa play a similar game (see "Kbooo, a Liberian Game," NATIONAL GEOGRAPHIC MAGAZINE for November, 1910). These players belong to a negroid tribe of Arabs found around the Sea of Galilee.

mutter "Praise be to Allah," and makes room for another hungry Arab.

The host himself never eats during a meal. He stays on his feet throughout, inviting first one guest and then another to partake of the feast, until all have eaten. With a large ladle, he keeps adding fresh supplies of the meat broth or melted butter. No matter how lowly a guest, he is always served before a man of the clan.

Such a tent feast reminds the visitor of the banquet at which Abraham entertained the guests of Mamre (Genesis 18:1-8).

CLIMATE DICTATES COSTUME

The costumes of the purest blooded Bedouins are rather somber, blending with their arid desert background. Every man of every class wears the *tob*, a white cotton shirt reaching to the ankles. Over this goes

a white or striped silk or cotton *kibr*. This is a sort of tight-fitting gaberdine, open down the front and bound snugly to the body by a leather belt, sometimes with crossed shoulder straps.

Most important garment is the sleeveless coat, or *aba*. It is at once the Bedouin's coat, overcoat, raincoat, and blanket. He wraps himself in it at night when he is away from camp.

The *aba* is woven of camel's hair or wool. It may be black, brown, orange, or cream-colored. Sometimes it is so flimsy as to be semitransparent, and in summer hangs loosely over the shoulders. Again, it may be heavy enough to resist the roughest cold and rainy weather, when it is wrapped tightly around the body. Bedouins exposed to severe winter cold may wear lambskin coats.



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BEADS, COINS, AND CHAINS MASK A LADY OF SINAI

Her hair is braided and knotted on the forehead, horn fashion. A mass of silver ornaments and glass beads adorns her chest. The wearing of numerous bracelets suggests a recent fad among American girls.

A Bedouin's head is always covered with a *keffiyeh*, a square cloth folded into a triangle and bound to the head with an *agal*, or double coil, usually of goat's hair. The cloth protects the tribesman's head from sun, sand, and cold.

A simple sandal, often of colored leather, is the usual footwear. Sheiks and horsemen wear a top boot of red "Morocco" leather with pointed, upturned toe, wrought-iron heel, and a long blue tassel hanging down in front. Unfortunately, these are fast disappearing.

The Bedouin's loose garments, trailing the men like skirts, may seem cumbersome

to us, but to the tribesman they are the ideal of comfort and elegance. White cotton reflects the heat of the sun. Dark wool holds in the body warmth during the bitter winter nights. The man's apparel can be bound loosely to permit maximum ventilation, or tightly to prevent it (opposite page).

Unmistakable is the artistic merit of the Arab costume. From the emirs, in their spotless white, striped silks and fine camel's-hair garments, to the bedraggled and disheveled clansmen, all have a proud bearing and a bold stride that bespeak the freedom of the limitless desert.

MANUAL LABOR
IS TABU

Innate in the Bedouin is the feeling that work

with the hands is degrading. From the highest to the lowest, each class has its unwritten code of labors that are below their dignity. Those who do no manual labor show it by wearing a *tob*, or shirt, with a *redan*, which has kimono-shaped sleeves so wide that they drag on the ground (p. 67).

The woman's complete costume is even more somber than the man's, but just as striking and dignified. The *tob*, or dress, is dyed the deepest indigo. Its monotony may be relieved by bands of lighter blue about the lower edge and the seams may be worked over in colored silks.

Differences in headgear distinguish the

married woman from the virgin. The maiden ties up her head in a large square *hatta* of the cheapest cotton or of the finest hand-woven silk designed with silver threads. Usually dark maroon or black, it resembles the men's keffiyeh.

The married woman simply folds the square cloth into a band and binds it around her head and forehead. The young bride's heavy red silk fillet is often worth the price of a camel.

Jezebel "tired her head" like this before looking out of her tower window to see if Jehu was coming (II Kings 9:30).

An ample supply of silver bracelets, finger rings, neckbands, and jingling silver ornaments braided into the ends of the hair plaits completes the woman's "at home" costume. In cold or rainy weather, or when traveling, she throws an *aba* over her shoulders or drapes it from her head.

Each sex is particularly careful not to ape the other. I recall searching for a Bedouin guide on the desolate eastern shores of the Dead Sea. The bark of a dog led me into a marsh, where I found a youth hiding. He was ashamed because he had donned a woman's *tob* to do some rough work.

Reluctantly he consented to accompany us. All day long he led us over ibex paths



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"THE GREATEST FIGHTING MAN IN NORTH ARABIA."

Such was Lawrence's characterization of the late Sheik Auda Abu Tayi, paramount chief of the eastern Huweitat tribe, who brought more recruits and victories to the English leader than any other warrior prince. His fine costume is complete—*tob*, *kibr*, *aba*, *keffiyeh*, and *agal* (page 77).

so steep that I was utterly exhausted. And when we finally came within sight of a Bedouin camp, he walked on to his still distant tent rather than be seen by fellow Bedouins in a woman's dress.

Since we met him, he had not drunk a drop of water to slake his parched throat nor eaten a bite of bread.

FIVE SHEEP MAKE A MEAL

Once I traveled beyond the Jordan and to ancient Petra with Col. Gene Tunney, Dr. La Gorce, and their wives. We were fortunate enough to meet Sheik Majid



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A PATTED KID FOR SUPPER—AND THE BOY SMILES

"And Abraham ran unto the herd, and fetcht a calf tender and good, and gave it unto a young man; and he hasted to dress it" (Genesis 18:7).



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NOT KNITTING, BUT WEAVING HOUSES KEEPS THE ARAB WOMAN'S HANDS BUSY

She strings the loom with rope twisted from swamp papyrus fiber. Into this warp she weaves the split stalks of papyrus that grow from 10 to 16 feet tall.



© John D. Whiting

TWO DRESSES MAKE A BIG WASH!

The almost sleeveless *tob*, hung to dry at the left, belongs to a young girl, while the other is that of a woman. So long are these dresses that a girdle is worn about the waist and the garment is pulled up and doubled over, producing a three-fold skirt that just touches the ground.

Pasha el Adwan, one of the most hospitable of Arab chieftains. Understanding that Colonel Tunney was a "great American sheik," he invited us to a meal and some entertainment in his camp (pages 60 and 75).

We enjoyed the coffee ceremony, the curvetting, the horse racing, the dancing, the singing, and the reed-pipe music. A bard accompanied his recitations with weird strains from his *rababe*, a primitive one-stringed instrument.

But it was the banquet itself that astonished us. The main course consisted of five sheep served with quantities of rice and gravy in a single dish almost six feet in diameter. It took ten men to carry in this *pièce de résistance*!

Our host stood throughout the whole meal, serving all who partook. As honored guests, we received first attention.

Then other guests, down the whole line of prestige, had their turn. A wandering dervish beggar was the last visitor fed.

Next followed the princes and men of the sheik's tribe, down to the Negro slaves and their children. I counted 300 who ate from the giant dish. Yet when it was carried out it was still far from empty.

After the meal, more coffee was served. While the guests remained, the sheik ate nothing. Bedouin chiefs take pride in serving well their guests and inferiors.

Hospitality among the poorer Bedouins is just as genuine, if less lavish.

ON THE MOUNTAINS OF MOAB

We once climbed the mountains of Moab, between sunrise and sunset, from 1,300 feet below to about 2,500 feet above sea level. The heat was terrible and the way lay over wild-goat paths. Early in the day we had drunk all our water and so were parched and all done in when we finally espied a small, scattered Bedouin camp.

Reaching a tent, we found only the wife at home. We had hardly greeted her before she began to spread rugs and bolsters for



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A NEGRO BARD CHANTS AGE-OLD WAR SONGS

He accompanies himself on a primitive one-stringed fiddle. The performer has only four full notes at his disposal, but he may divide these into quarter tones. Time and rhythm make up somewhat for the limited scale and doleful strains. Negro slaves are common in Bedouin lands.

us. She saw that we were exhausted and invited us to recline and rest.

We asked for water, but she was wiser and filled a bowl with milk that had been clabbered. This is a somewhat acid drink and especially thirst-quenching for that reason. Nothing could have been more welcome.

YOUR HOST IS YOUR SERVANT

We had been resting a short time when the husband arrived. After greeting us, he asked if we had been properly served and if there was anything else we wanted. When we insisted that we had to press on, he directed us to the tent of the chief near by.

The chief also spread rugs and beds for us. It was springtime, the flocks were giving abundant milk, and the women were very busy with butter making. Yet we were served with coffee and clabbered milk in the prescribed Bedouin manner.

Knowing that we needed rest more than

food, our host ordered a light repast. He called to his women to bake fresh bread. This he served with a round pile of fresh butter in an engraved copper dish. After we had dipped our bread and eaten it, we were ready for sleep.

An aba was laid over each of us for a coverlet and our host bade us have perfect peace until morning. Next day, we ran out in time to see a brilliant desert sunrise.

How similar was our experience to that of Sisera, the Canaanite captain! Fleeing in rout, he sought hospitality in the tent of Heber the Kenite, who was a Bedouin (Judges 4). "He asked water, and she gave him milk; she brought forth butter in a lordly dish" (Judges 5: 25). "And when he had turned in unto her into the tent, she covered him with a mantle" (Judges 4: 18).

Certainly, I know of no Bedouin custom that would have justified Jael in driving a tent peg through the temples of her sleeping guest.



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HERE COMES THE BRIDE, A BEDOUIN, AND HER ATTENDANTS

Second from the left, the bride is easily distinguished by her silk and silver headband, worth the price of a camel. Over her voluminous dress she wears a jacket and a sleeveless coat. The attendant maidens wear large square headcloths of cotton or silk (page 79).

There was a vow of peace between them which should have been complete protection (Judges 4:17). Among the desert peoples verbal oaths are as binding and inviolate as written pledges.

The simplicity of the Bedouin's life reflects the silent dignity of his deserts. Frugality of resources in the deserts and oases finds a counterpart in his way of living. It is a constant struggle to provide essentials like food, water, and protection from winds and sun.

Myriads of glittering wild flowers blooming in the spring, autumn sandstorms, and

winter snows enliven the monotony of the barren background. The Bedouin, learning from Nature, brightens his life with the ceremonious entertainment of guests, colorful woven curtains, garments, and rugs, with camel racing, dog coursing, and an occasional war.

If the Bedouin survives the pressure of modern civilization, he may still return to pitch his tents among the ruins of our cities. He has weathered many previous threats to his culture.

Who knows but that his may still be the race immortal?

INDEX FOR JULY-DECEMBER, 1936, VOLUME READY

Index for Volume LXX (July-December, 1936) of the NATIONAL GEOGRAPHIC MAGAZINE will be mailed upon request to members who bind their copies as works of reference.



"FETCH!"

At the word of command the retriever is off, with a leap from bank to water. This is Chesacraft Peter, owned by Anthony A. Bliss, in action in the annual trials of the American Chesapeake Club on Long Island. A real sea dog, the Chesapeake is a descendant of a pair of canine sailors shipwrecked off Maryland in 1807. (Plate IV and pages 91 and 102).



Photographs by Edwin Levick

A CHESAPEAKE BAY RETRIEVER DELIVERS THE GOODS.

Through the icy water comes C. Arthur Smith's Flood Tide Pete, carrying a duck brought down in the Long Island water trials. These hardy dogs are well armored against the cold and often come out festooned with icicles (page 90). Those strangely tame "ducks" in the background are wooden decoys.

FIELD DOGS IN ACTION

BY FREEMAN LLOYD

HOW helpless the human hunter would be without the aid of his dog! True, man can learn the habits of game, but can he catch the faint scent borne through the air from the bodies of birds 20 yards away, and know that a covey of quail lies hidden in a corner of the old rail fence? For that kind of magic he must depend upon his four-footed hunting companion.

Certain breeds, including the setters and pointers, the spaniels, and the retrievers, have been hunting allies of men through the centuries.*

Early forbears of modern bird dogs spread to England and other countries from Spain, and the word "spaniel" is derived from this ancestry. Old English prints of two and more centuries ago picture hunting dogs almost identical with our modern setters, pointers, and spaniels.

Pointers and setters were used to "point" the presence of quail and partridges so that nets might be dropped over the birds. Springer spaniels were trained to flush or "spring" game birds for the hawks in the royal sport of falconry.†

EACH DOG TYPE A SPECIALIST

Each type of dog has its own particular method of working, its specialty, carefully developed through generations of dogs by generations of trainers and breeders.

Pointers and setters, often known as "bird dogs," work mostly with the nose in the air. They rely on the body scent that drifts to them on the vagrant breeze from a game bird 20 or more yards away.

Watch a fine pointer or setter in action and you will see animal intelligence and training at their acme. Yonder he comes, across that weedy pasture, a big handsome fellow intent on the business in hand. Systematically he quarters the ground, ranging back and forth, but bearing stead-

ily upwind. With delicate nostrils he sifts the telltale air.

Suddenly he snaps into a perfect point, with his nose pointing true, tail rigid, one fore-paw upraised in mid-step (Plates I and II).

But he does not hold the point. It is only a meadowlark—not fair game. He walks ahead, the lark flies out, and the search continues.

Along the far side of the field he goes—busy, active, eager, questing. Then all of a sudden he becomes a statue, a dog of stone. Hot and strong from the weeds along the fence has been wafted the scent of quail (pages 87 and 94).

Steadily he holds his point, while his master hurries up. The fast-going dog has outdistanced him. The man steps ahead, flushes the covey, and fires. The dog relaxes, but does not flinch or run forward. He is "steady to wing and shot."

TEAMWORK IN PAIRS

Instead of a single dog, sportsmen often use a brace of setters or pointers. Then, if one dog locates a covey, the second dog must immediately "back" the point by coming to a stop and looking or pointing in the same direction. To rush in and usurp his rival's game would be a cardinal sin in bird dogdom. Instead, he shows a wholesome respect for the accomplishment of the other fellow. Good manners and fair play are unforgettable parts of his training and heritage.

It always seems rather remarkable to me how quickly a good field dog learns which creatures are fair game and which ones are protected by the laws and customs of man. To find a seasoned setter pointing a songbird would be unthinkable. Out of all the scents that assail his nostrils he singles those of the game his master seeks.

Once in Africa I found a dog of mine pointing strange game. A fast little female setter, she had galloped far ahead and had not come back, so I had set out in search of her. At last I found her, frozen in a point at a ringhals, a deadly spitting cobra, coiled for action in the grass a few feet away. The dog was apparently hypnotized.

I fired, and the shot, killing the snake, broke the spell. I shall never forget how

* This is the second in a series of articles on the dogs of the world, with illustrations from paintings by Edward Herbert Miner. The first, in *THE NATIONAL GEOGRAPHIC MAGAZINE* for February, 1936, depicted the terriers. The third, to appear in an early number, will deal with the hounds.

† See "Falconry, the Sport of Kings," by Louis Agassiz Fuertes, *NATIONAL GEOGRAPHIC MAGAZINE*, December, 1920; and "Eagles, Hawks, and Vultures," with 48 portraits in color from paintings by Maj. Allan Brooks, July, 1933.

the dog danced around me and barked, full of gratitude for her release.

The question of how long a dog will hold a point is one which cannot be answered categorically. It depends on the dog. I myself have seen a setter hold its motionless pose for 15 minutes or more. One account tells of a pair of English Pointers which held a point for an hour and a quarter. Sometimes at field trials competing dogs are lost and are found afterward a long distance away, pointing game.

The bird, too, often remains still, relying upon its protective coloration. A classic story in this connection is the yarn of the man who missed his pointer and found it on the moors months later, a skeleton dog pointing a skeleton bird!

FIELD TRIALS HAVE WIDE APPEAL

The field trials for pointers and setters—supreme tests of bird-dog ability—appeal not only to the hunter and sportsman but to the lover of animals and student of Nature. Not a bird is shot. The only shooting is done with a pistol loaded with blank cartridges. This is fired after a bird has been flushed, to demonstrate that the dog is not gun-shy.

Excitement and tension run high as these splendid animals compete against a background of brilliant autumn foliage. Any one of a dozen mistakes may disqualify a contestant, including the premature flushing of the quarry by a highly strung dog, a sudden dash forward after the bird rather than a steady point.

The excitement communicates itself to the dogs and sometimes they break under the strain. I remember one such episode during field trials at the Duke of Portland's estate in England.

A fine Pointer, Champion Saddleback (so called because of the saddle-shaped, liver-colored marking on his back) had been kept in an old-fashioned hansom cab all day awaiting his turn. For hours he had heard the men and the guns, and the air must have been full of scent.

When at last Saddleback was "put down," a hare got up in front of him. Now in no case may a Pointer chase a hare, and the sight of one so far forgetting himself is enough to raise every eyebrow in the county. But as soon as Saddleback saw that hare, off he went as hard as he could run, disturbing game all over the place and finishing the trials for that day. The as-

sembled sportsmen commiserated the owner as solemnly as if he had just had a death in the family.

From September 19 to December 14, 1936—roughly three months—129 field-trial meetings for pointers and setters alone were held in the United States and Canada, most of them in this country.

Usually, at the big trials in the eastern United States, the quarry is quail, but there are other events at which the dogs are run on pheasants and ruffed grouse. In the West the game may include prairie chickens and the European, or Hungarian, partridge.*

The gallery at a field trial is a gathering of sportsmen who delight in the fresh, crisp air of autumn, with its glories of crimson, russet, and gold against the dark green of the conifers. All or nearly all are not only dog lovers but dog owners. Nowadays the assembled company usually includes a number of women and girls.

In the woods and fields the young game birds have attained their full plumage. Throughout the summer they have feasted well, grown strong in body and power of wing. They are huntable game, wary, cunning, able to look after themselves.

With some formality the name of the stake is stated and the names of the dogs entered are drawn from a hat or box. Suppose the first ticket reads "Mr. Jones's Ponto" and the second reads "Mr. Brown's Peter." Then they will be the first competitors "put down" for that stake. If, on the other hand, the two dogs drawn are owned by the same person, one is "guarded" and another dog of different ownership is substituted.

In Europe the judges and handlers walk after the dogs; in the United States, where the areas to be covered are comparatively large and game is often scarce, they are mounted.

OFF LIKE A FLASH!

When all is ready, the judges give the order for the first brace of dogs to be cast off, and each handler releases his charge. Off they go like a flash, the first ranging the field ahead on the left, the other on the right. Each dog keeps to his territory.

Eventually, if game be there, it is found and pointed. If the birds are not "wild,"

* See "Game Birds of Prairie, Forest, and Tundra," by Alexander Wetmore, NATIONAL GEOGRAPHIC MAGAZINE, October, 1936.



Photograph by Edwin Levick

"WHOA, GIRLIE, WHOA!"

With the scent of game birds hot in her nostrils, this fine English Setter has snapped into a point. Now her handler, with gentle words, holds her steady while with upraised hand he calls the attention of the judges and spectators to the correct actions of the dog (Plate I and pages 85 and 91).

they remain as a bevy or covey on the ground. The other dog, when he sees his rival on point, is expected to stop immediately and back the point. The game is flushed by the handler, who fires a small pistol, while both dogs remain steady to wing and shot.

After the first round of competition, the judges call for the dogs they have selected to run in the second round, and so on until the two best dogs compete in the final.

A COSTLY CANINE MISTAKE

A single mistake at the last minute may disqualify a dog that had seemed a certain winner. Take, for instance, the celebrated black Pointer, Tap, owned by the late William Arkwright, of England, author of that mammoth work, "The Pointer."

Beginning as a puppy in 1892, Tap ran with notable success every year until 1896, when he very nearly won the principal stake at the International Field Trials at Bala, northern Wales. One mistake at the end spoiled his record.

Tap had drawn up on point when a young grouse fluttered above the heather right under his nose. The temptation was too much for the old dog, which went in and gave the bird a nip. It cost him the championship.

The beauty of a dog is not considered in field trials. Performance is all that counts. Sometimes the midget, the smallest of all the competitors, wins the stake. A good example was the female Irish Setter, Coleraine Diamond, bred and owned by the late Rev. Robert O'Callaghan, "son of the last Irish gentleman who fought a duel on Irish soil."

The little red creature was not only faster but steadier in her points than the other setters of various breeds. I saw her run at the English Kennel Club field trials in the early nineties of the last century. A month afterward the gallant little lady was on the sea and bound for the United States, a country always on the lookout for the best of the sporting-dog breeds.

For quail, ruffed grouse, and the European partridge, nothing can beat a good setter or pointer. They can gallop faster and cover more ground than any other gun dog.

For pheasants a comparative newcomer to the United States has sprung into wide use. This is the English Springer Spaniel, an old breed long known in Europe as a pheasant hunter, but not introduced to this country in numbers until about a dozen years ago (Plate VI and page 103).

A smaller dog than the setter, to which it is related, the spaniel can easily penetrate the dense thickets and patches of brambles where pheasants or rabbits find refuge.

HOW A SPANIEL WORKS

The spaniel's job is entirely different from that of the pointer and setter. He is not supposed to point, but to spring, or flush, the game. He works with his nose to the ground, hunting for foot scent. Into every clump of bushes, every brier patch, he pokes his inquiring nose. He squeezes through tangled undergrowth. He keeps eternally busy, until at last, with a dash, he flushes a pheasant and the startled bird flies out with a whirl of wings.

Without warning the hunter must raise his gun and fire. In shooting over spaniels the tension never relaxes.

As these dogs work only about 20 to 40 yards ahead, they are always in sight. The owner can see everything that is going on: the small birds that fly out of the undergrowth and perch overhead, the blacksnake that slithers away through the grass.

Nature lovers, incidentally, will find an intelligent bird dog or spaniel a valuable ally. A painting of John James Audubon shows the noted American naturalist-artist with his dog, a setter with a somewhat spaniel-like head.

At spaniel field trials—unlike those for pointers and setters—the game is shot and retrieved. As a dog flushes a pheasant and the shot rings out, he is supposed to "drop," or sit on his haunches, awaiting orders. If

the bird falls he may be ordered to retrieve it to his handler, the faster and more gently mouthed the better.

The annual trials held on Fishers Island, in Long Island Sound, are the best known in America for this type of dog. There usually is an abundance of pheasants and rabbits, and the cover is ideal for the work of spaniels. Everybody walks at spaniel trials and even the gallery is close enough to see the dogs in action.

"THE INJUSTICE OF IT ALL"

Sometimes the judges prescribe a stern test. The dog on the left has just flushed a pheasant and the gun has brought it down in a patch of bushes a short distance away. Now he sits on his haunches, awaiting the word to go out and bring in the fruits of his labor. But the judge ignores him. Instead he turns to the rival dog and gives him the coveted assignment.

You can imagine what is running through that first dog's head. He is strongly tempted to throw his training to the winds and rush off to get the bird. After all, it belongs to him, doesn't it? Didn't he sniff it out and flush that bird? What right has that other fellow to touch his pheasant?

But the true champion will resist that powerful temptation, holding his ground and swallowing his hurt pride with a self-discipline and a strength of character that few men could muster.

Although wild game generally is becoming scarcer in this country, pheasants are growing more and more plentiful because of the tens of thousands of them hatched every year under domestic hens and subsequently liberated. As they increase, I believe that more and more Springer Spaniels will come into use throughout the United States.

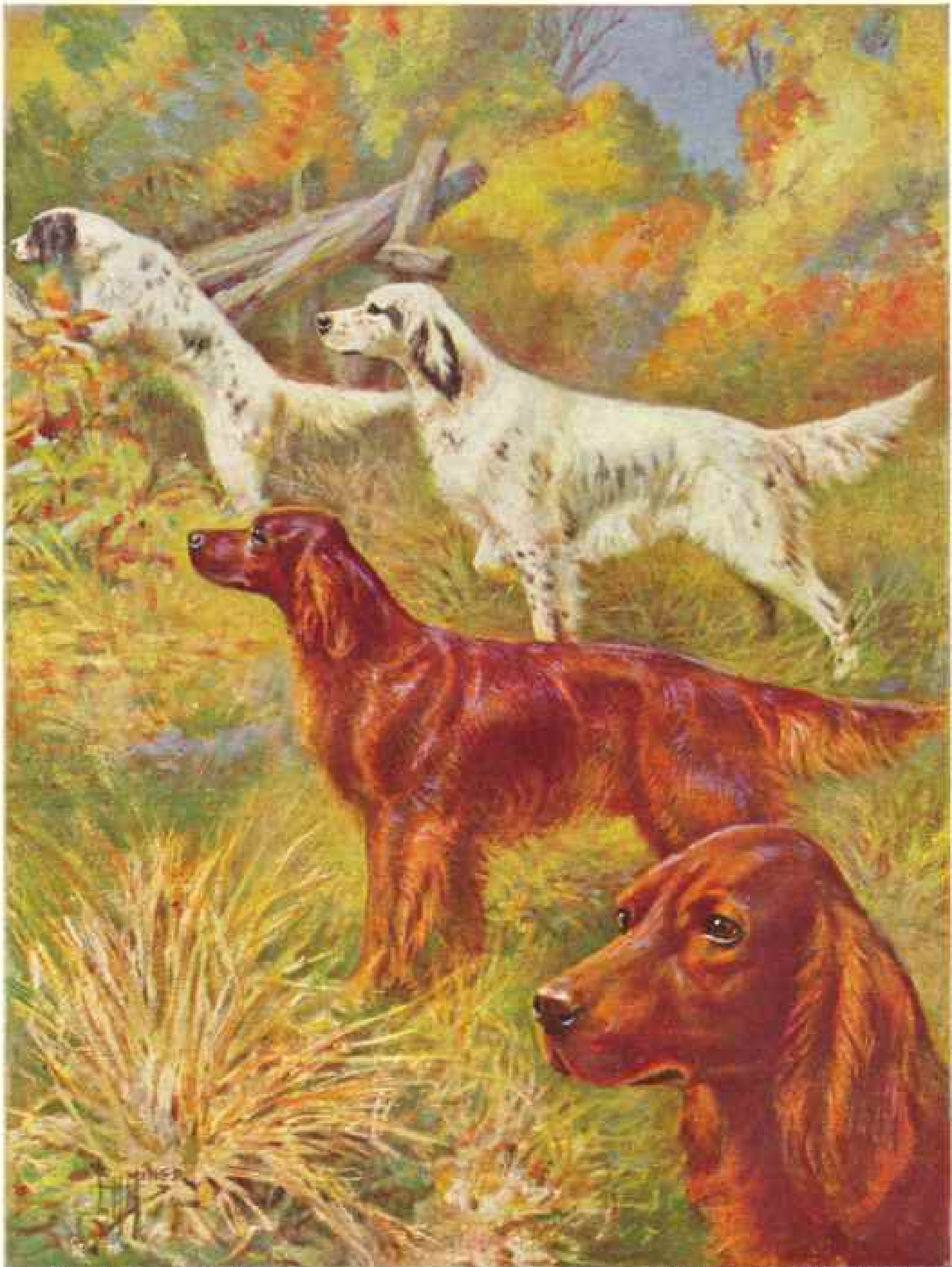
COCKER SPANIEL LEADS REGISTRATIONS

As this is written, the most popular of all breeds of dogs—as determined by the number of registrations received at the American Kennel Club—is the Cocker Spaniel (Plate III and page 99).

Though many are kept simply as pets, the Cocker is also trained to hunt and take part in field trials. It is best adapted for hunting woodcock, from which it takes its name.

In this country the pointer and setter, like the spaniel, are often taught to retrieve, but in field trials it is not expected of them.

MAN'S HUNTING PARTNER, THE FIELD DOG



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Painting by Edward Herbert Miner

BEAUTY AND BRAINS MARK THE IRISH AND ENGLISH SETTERS

Originally, setters were trained to crouch or set on discovering game, while hunters drew nets over the quarry. Now they "freeze" in an upright position and point, like the IRISH RED SETTER (center) and the ENGLISH SETTER with uplifted paw, waiting for their masters to shoot. The dashing Irishman is among the most loyal and affectionate of pets. The mahogany red coat is a result of years of selective breeding. Formerly it was red and white. An aristocrat of dogdom, the ENGLISH SETTER is known to have been used as a bird dog for at least 400 years.



Photograph from the *Kansas City Star*

NINE LITTLE IRISHMEN, BUT ONLY EIGHT ARE IN SIGHT

"Patsy's Valentines," these puppies were dubbed, as they were born on St. Valentine's Day, 1936, to Patsy, an Irish Setter owned by a Kansas City resident. This breed is so everlastingly active that the photographer, though he tried for hours, was never able to get the whole litter in view at the same time above the top of their packing-box bed.

and is supposed to make them less steady on the point.

Specialists in this work of delivering the goods on both land and water are the retrievers (Plates IV, V, VII). Their place is not ahead, but at the heel of their master.

All have large, sensible, and sagacious heads and possess what might be called a kindly expression. The brain box and the seat of the powers of scent are well developed. They have wonderful noses. A Labrador Retriever, for instance, will run on the line of a "winged" pheasant over all kinds of land, even over rocks or pavement.

The "marking" faculty also is highly developed. This is the ability to note the exact spot where a bird has fallen. A good retriever may be kept "down" for some time after a bird has been shot, but he will carry that location in his doggy brain and go there without hesitation when the command "Fetch!" is given. If two birds have fallen, he will remember both, getting first one, then the other.

For duck shooting a retriever or a water

spaniel is almost indispensable. It is wonderful the amount of cold they can stand. I have seen retrievers coming out of the water in near-zero weather, their coats festooned with icicles.

My companions and I were all muffled up, with fur caps on our heads, flaps over our ears, and our hands in thick fur gloves. Yet those dogs would go in again and again, breaking the thin ice along the edge and swimming out through the black, icy water. After bringing in a bird, they would shake themselves and be ready for another adventure.

A heavy supply of oil in the skin protects these dogs from the cold. You can readily smell it when your retriever is drying before the fire.

RETRIEVERS HAVE WEBBED FEET

Strangely enough, some of these retrievers—water dogs for untold generations—have developed a suggestion of webbed feet. Between the toes is a bit of membrane, a partial webbing, which undoubtedly helps them in their life work.

The sight of a good retriever in action is a splendid example of teamwork between man and animal. A charge of shot has dropped a big drake out of a leaden sky and it floats on the dark water, almost out of sight.

"Fetch!" says the duck shooter to the dull-colored dog which has been lying for hours beside the blind, and the retriever leaps to obey (page 84).

Since his head is almost level with the water, he cannot see the distant duck, so he takes directions from his master on the bank, who signals with waves of his hand—left, right, ahead, back. They thoroughly understand one another. Sometimes, to guide the dog, the man throws a stone as near as possible to the fallen bird.

As he nears the spot the retriever's eyes and nose are busy, and in the dark he picks up the scent which actually floats on the water. If the duck has been wounded and is swimming away, off he goes on that watery trail, until at last he overtakes it among the reeds. But the capture is not a scene of tragedy. Almost as gently as a mother carries her babe, he bears the bird back to his waiting master. A "hard mouth" is one of the deadly sins.

English Setter

The English Setter is looked upon as one of the world's most beautiful purebred dogs, but its beauty is much more than skin-deep. From the finely chiseled head to the tip of the "feathered" tail, every line reflects grace and intelligence. Its gentle dignity bears witness to a lovable disposition and aristocratic lineage (Plate I and pages 87 and 107).

For hundreds of years such dogs have been valuable hunting companions of men. Long before the time of the shotgun, the ancestors of our modern English Setters were locating game birds for hunters equipped with nets. The dogs were taught to approach quietly and then to "set"—sit or crouch—while the net was dropped over the birds. Later they were trained to "point" in an upright pose as they do today.

A born hunter, the English Setter is used by sportsmen all over the world as a dependable shooting dog under all conditions of terrain and climate, though in very hot climes a shorter-coated dog might be preferred. In bird-dog field trials the English Setters are always among the most numerous and popular of entrants.

Two men were chiefly instrumental in bringing the English Setter to the height of its beauty and shooting-dog worth. One was Edward Laverack, an Englishman who died in 1877. The other was his friend, R. L. Purcell-Llewellyn, of Tregwynt, Pembrokeshire, southwestern Wales, who made outcrosses of other English Setter strains with those of Laverack.

Broadly speaking, the pure Laverack type is preferred for the exhibition judging ring, while the lighter-built and racier Llewellyn is looked upon as having more speed in the field, where fast-goers are favored.

For show purposes the male English Setter should be about 23 to 25 inches in height at the shoulder and weigh from 55 to 70 pounds; females less.

The body ground color is white with markings of black, lemon, liver, or tricolor (black, white, and tan) distributed in flecks. For show purposes, heavy markings are not considered desirable.

Irish Red Setter

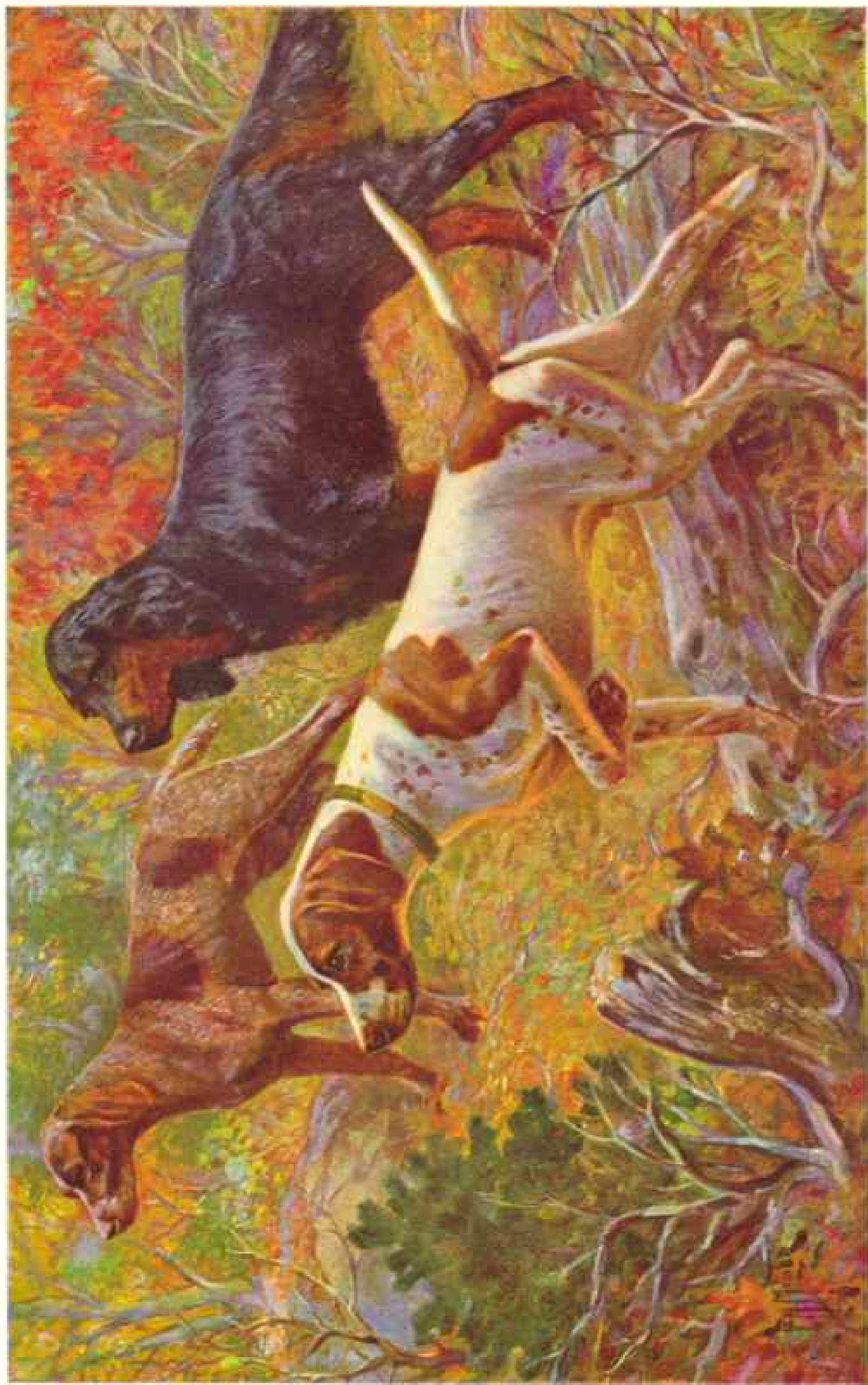
This handsome, dashing Irishman is wholly red, a rich shade that may be likened to that of the ripe chestnut fresh from the bur (Plate I and opposite page).

At shows in the United States and the British Isles, many of the leading Irish Setters are exhibited by women, who apparently are attracted by the richness and the shining glory of this dog's coat.

The Irish Setter is usually a higher dog at the shoulder than the English Setter or its Scottish relative, the Gordon Setter (Plates I and II). Slim and fast, the Irish is longer in leg and has the sloping shoulders of the thoroughbred race horse.

As Irish Setters are high-strung and often temperamental, they develop more slowly and require more patient training than do some of the other breeds. Nevertheless, they are natural-born field dogs and are found wherever the shotgun is carried. Of old, they were known as "red spaniels," or in Gaelic as *madradh ruadh* (red dog).

One of the leading dogs of the present day is an Irish Setter. Time and again he has won in the best-in-show division at the foremost events in America. When paraded at Madison Square Garden, New York, no dog is received with more acclaim by the vast audiences than Champion Milson O'Boy.

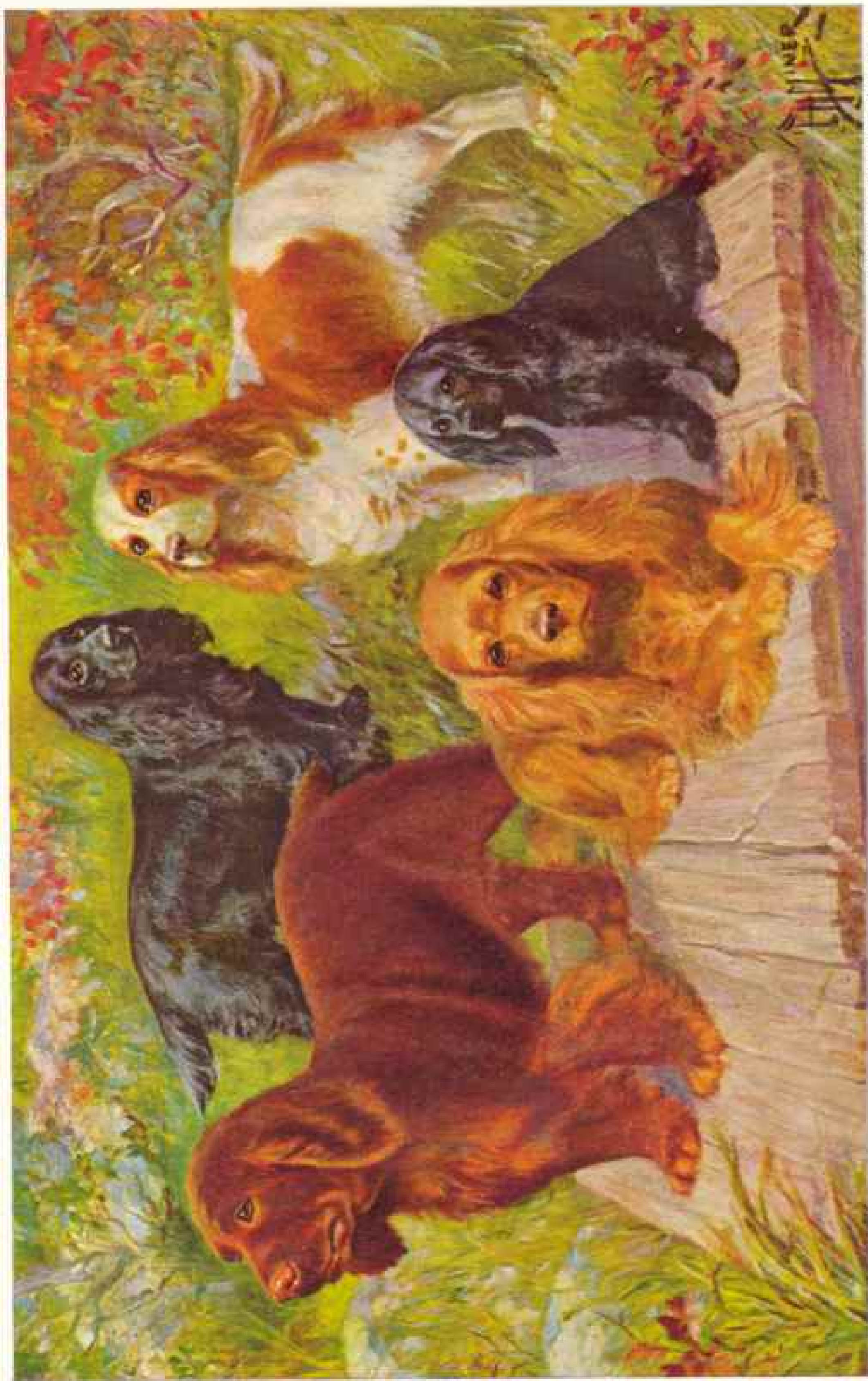


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SEE HOW THE WELL-TAUGHT POINTER LEADS THE WAY" (John Gar, 1913), WITH A GERMAN SHORT-HAIRED POINTER AND GORDON SETTER

A favorite among gun dogs is England's Pointer (with paw drawn up). Foxhound, greyhound, and possibly bloodhound and spaniel blood are included in its lineage. Germans bred their Short-haired Pointer (left) as hunter and retriever on land or in water. A Scot is the Gordon Setter (right), named after a duke of Gordon. Many American specimens came from Scandinavia, where these one-man dogs have long been popular.

Painting by Edward Herbert Miner



Painting by Edward Herbert Miner

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SPANIELS WERE TRAINED FOR HUNTING IN FRANCE AND ENGLAND MORE THAN 550 YEARS AGO

Though named after Spain, their origin is uncertain. "They love well their master," wrote Count Gaston de Foix, more than a century before America's discovery. The palemn puppy (right), the dog lying down, and the one standing (right) are COCKER SPANIELS, so called because of their use in woodcock shooting. The Sussex Spaniel (left) has a keen nose. The Field Spaniel (upper left) is an intelligent, hard-working sportsman.



Photograph by H. Armstrong Roberts

"ON POINT" AT THE SUDDEN SCENT OF QUAIL.

Ranging the rough cover near Mount Holly, New Jersey, the Pointer, Buck, gets word through his private wireless system that birds lie hidden a few feet away and instantly he freezes in a point (Plate II and pages 85 and 95). This is one of the best-known dogs in America; his pictures have been widely used in national advertising.

This enthusiasm probably is not aroused by his near perfection in show "points" so much as by the way the red-coat strides around the great arena. Boy steps out like a major, carries his head high, and actually pulls his handler along. The public likes to look upon action and invariably observes it when an Irish Setter is on the move.

Happy-go-lucky, loyal, and likable, the red Irishman is blessed with a winning personality as well as good looks and abounding vitality. In the field, where

his job often demands toughness, durability, and courage, he is not found wanting, yet he makes the most gentle and affectionate of companions. He lives to a ripe old age.

Many Irish Setters of olden times were not red, but white with red markings. Prizes still are offered in Ireland for white and red-marked Irish Setters, but such dogs are few. On the other hand, the all-red setters are among the most popular dogs of the day.

The male Irish Setter should stand about 24 to 26 inches at the shoulder and weigh from 50 to 65 pounds. The color should be a rich golden chestnut, with no trace whatever of black. White on chest, throat, or toes, or a small star on the fore-

head, or a narrow streak or blaze on the nose or face should not disqualify.

Gordon Setter

The Gordon Setter, a native Scot, is an uncommonly handsome dog, as useful as he is good-looking (Plate II).

Tradition says that more than a century ago one of the Dukes of Gordon heard of a neighboring Highland shepherd's dog which was remarkably successful in locating game. He crossed this black-and-tan collie with the setters at Gordon Castle,

thus establishing the foundation of the breed, if this story is to be credited.

Certain it is that Rake and Rachel, Gordon Setters bred by the Duke of Gordon in or about the year 1842 and brought to America by George W. Blunt, were white with black-and-tan markings, in contrast to those of the present day, which are coal black marked with tan.

Mr. Blunt gave Rachel to his friend Daniel Webster and presented one of the puppies bred from the pair to Henry Clay. The acceptance of the latter offer was written from Washington, D. C., April 30, 1844. Clay wrote in part:

"I have no great attachment for dogs, because they kill sheep, but some of my family like them better, and I sometimes overcome my repugnance to them, and get attracted by their fidelity. If it should be convenient to send the one you offer me to William A. Bradley, Esq., of this city, I will carry her with pleasure to Ashland, and thank you for her. If convenient she ought to be here by this day week. I am truly and faithfully yours, H. Clay."

This white, black-and-tan-marked Gordon Setter evidently became a favorite. She or a setter very much like her appears in a portrait of Mr. Clay.

In the middle eighties a lighter, more finely built type of Gordon Setter arrived in the United States. These dogs, principally from Scotland, were owned and kenneled in the Kentucky Blue Grass country. Much more active than the older and heavier style of Gordon, they proved excellent shooting as well as show dogs.

Hunting slowly but very surely, the Gordon is especially liked as a ruffed grouse dog and is also good on woodcock. He has nose, brains, and a suitable temperament for training and is easily broken to retrieve.

A full-grown dog should stand about 22 to 25 inches and weigh up to 68 pounds. The tan markings should be over the eyes, on the sides of the muzzle, on the throat and chest, on the inner side of the hind legs and thighs, showing down the front of the stifle and broadening out to the outer side of the hind legs from the hock to the toes; on the forelegs from the knees, or a little above, downward to the toes; and around the vent.

A small white spot on the chest is allowed. The tan is a mahogany red, the main color a shining black.

Pointer

A first-rate bird dog, the Pointer is built on lines that suggest its speed and staying powers (Plate II and page 94).

Among the ancestors of this breed was the old Spanish Pointer, introduced into England early in the 18th century when the new practice of "shooting flying" with small leaden pellets was coming into vogue.

Old paintings indicate that the Spanish Pointer was a noble, sturdy, steady dog, but it did not prove fast enough for the game-shooters of England. They wanted a gun dog not so much given to "pottering," or delay on the ground where game had been. So why not use the blood of a faster dog—aye, even the greyhound? Sure enough, with crosses of English Foxhound and greyhound blood there was brought forth a pointing dog that carried his head higher; he sought game scent from the atmosphere as well as from the soil.

The English Pointer was the result, and world-wide is his fame. We find him in all countries, hot, cold, and temperate. So widely distributed is the breed that the "English" has been dropped and the dogs are known simply as "Pointers." In the America of our own day, in competition at field trials, the Pointer has made an excellent record.

The Westminster Kennel Club, which sponsors the annual dog show at Madison Square Garden in New York, accomplished much for the benefit of breeders and users of Pointers in America, and a portrait of the Pointer, *Sensation*, remains the emblem of the club.

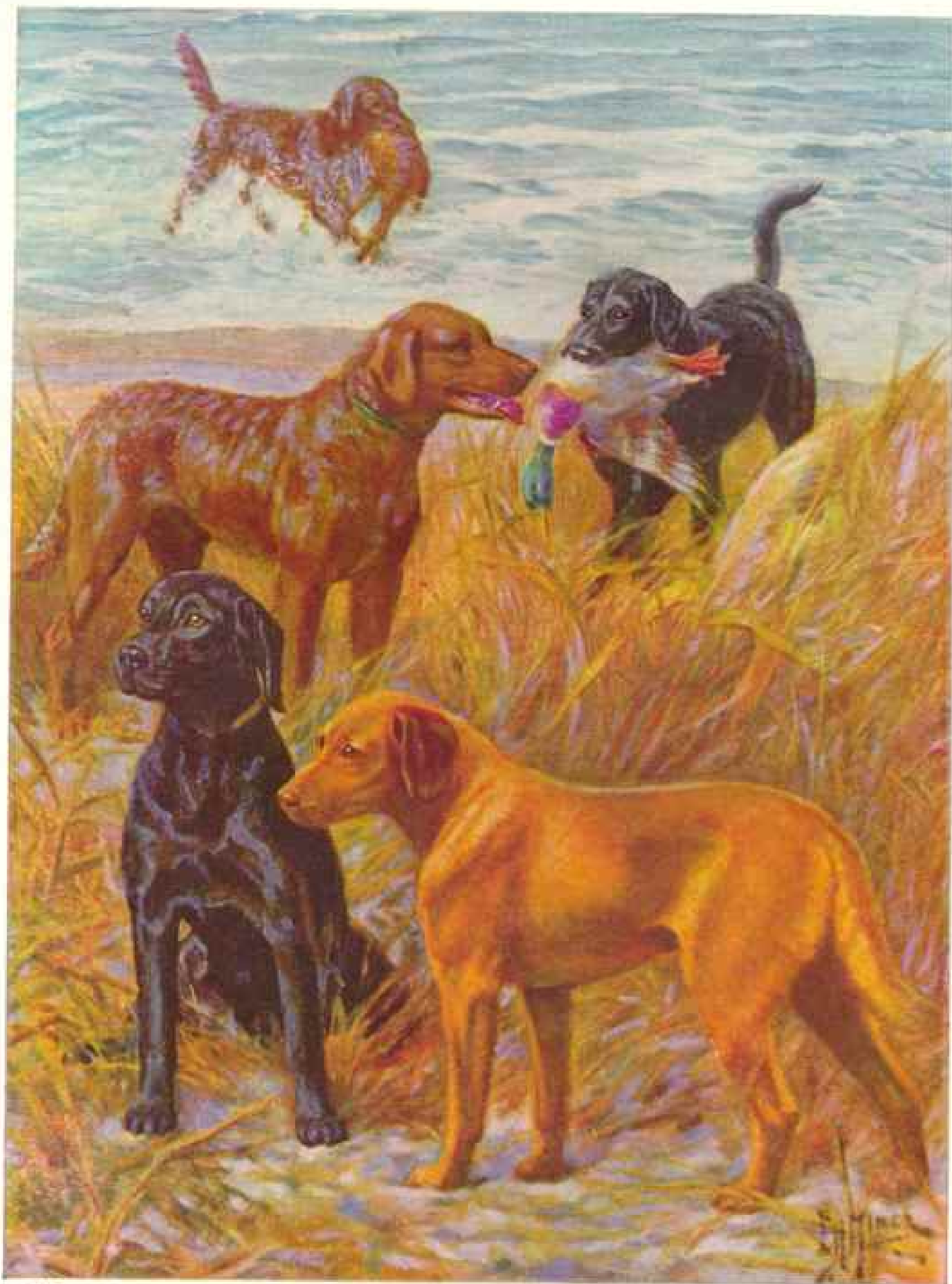
The best colors of Pointers are white and liver, white and lemon, and white and black, the white being the main or body color. The white not only gives a gay and aristocratic appearance, but is useful in the field, as it enables a hunter to see his dog some distance away.

Pointers vary in heights and weights, but the standard for a male is 50 to 55 pounds and 24½ to 25 inches, shoulder height.

German Short-haired Pointer

The German Short-haired Pointer of the present day in America is a particularly attractive, common-sense type of gun dog which promises to become more and more popular (Plate II).

Extremely useful and versatile, this breed



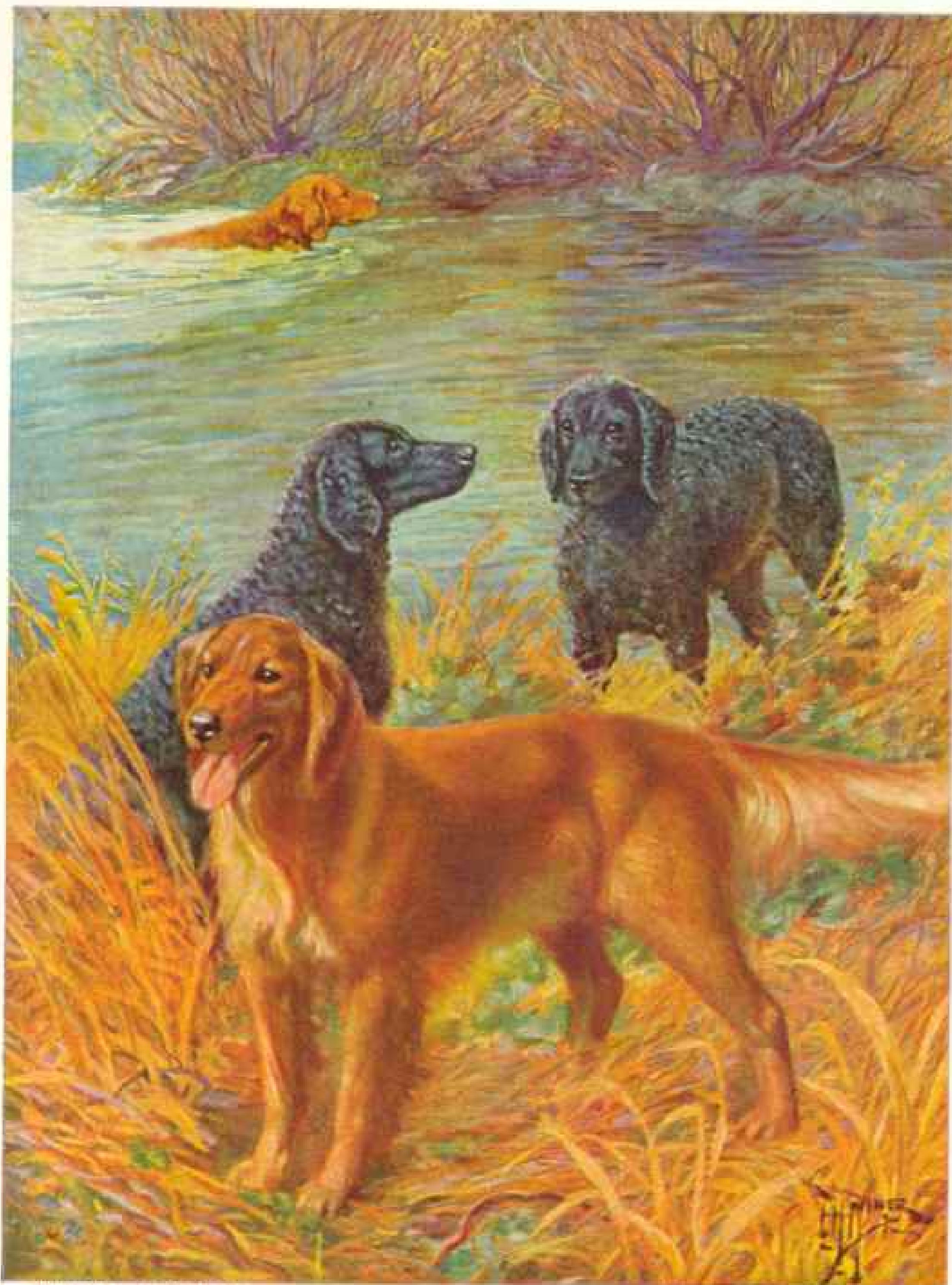
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Painting by Edward Herbert Miner

"AMPHIBIOUS" RETRIEVERS FETCH GAME THEIR MASTERS SHOOT OVER WATER

A duck in its mouth, a LABRADOR RETRIEVER trots up the beach, while another sits near a yellow specimen of this breed, introduced into England by fishermen from Newfoundland. The CHESAPEAKE BAY RETRIEVER (left center and wading) is a native American. Its ancestors were two Newfoundland puppies, landed in Maryland from a wrecked English brig in 1807 and bred to local nondescript retrievers. These water dogs brave rough, icy waters, their coats resisting moisture like a duck's feathers.

MAN'S HUNTING PARTNER, THE FIELD DOG.



© National Geographic Society

Painting by Edward Herbert Miner

GOLDEN RETRIEVERS CAME FROM RUSSIA; THE CURLY-COATED ARE NATIVE ENGLISHMEN

A troupe of Russian circus dogs, performing in England in 1860, were bought by Sir Dudley Marjoribanks, who later crossed them with the bloodhound and established the GOLDEN RETRIEVER breed (foreground and swimming). In Asiatic Russia, such dogs were often left all winter in sole charge of sheep. The "Curly" (center pair), of obscure ancestry, is probably the oldest of all recognized retriever breeds. Its affectionate nature, muscular body, and crisp, weather-resisting curls have endeared it to generations of wild-fowlers.



© Stanley M. Bullance

PRIDE OF THE KING'S KENNELS AT SANDRINGHAM

A splendid specimen of the Labrador Retriever was the late King George V's prize-winning Sandringham Snow, here displayed by the monarch's head kennelman. The royal dog's shining black coat proclaims his excellent health and condition. On occasion it serves as a natural raincoat, allowing drops to run off without wetting the skin (Plate IV and page 102).

not only is highly proficient at locating and pointing game birds, but can trail animals at night like a hound and retrieve from land or water. It has been developed in relatively recent times from the old or home-bred German Pointer and the faster type owned in the United States.

The old German Pointer came from the Spanish Pointers imported into Germany and crossed with home-bred bloodhounds. The English had crossed their Spanish dogs with foxhound and even greyhound blood (page 95). But the Germans desired dogs

which would not only point game birds in the daytime, but run on the scent of an animal at night. They sought keen scenting powers rather than speed.

About 50 years ago, when field trials became popular in America, Germans and other Continental European sportsmen residing in this country soon became interested in the greater speed of the American-bred Pointer, mostly of English origin, which was able to run rings around the heavier, pure-bred German Pointer.

Why not cross the German Pointer with the English Pointer, they mused, and in that way bring about the production of a faster dog for game-bird shooting purposes, and one whose sensitiveness of nose would not be seri-

ously harmed? The new variety would still retain not only its great olfactory powers but a good deal of the hound voice or tongue for night hunting.

The experiment was tried and the resulting "bird dog by day and houn' dog by night" has become popular, especially in the Middle West.

In the now well-established and recognized breed there is a double cross of old Spanish Pointer with 25 per cent English Foxhound and 25 per cent bloodhound. Can there be any wonder that the German

Short-hair has exceptionally good scenting powers?

However, it is recommended that this dog be broken to point birds before he is taken out on night hunting, because it is very likely that one possessed of so much hound blood would rather hunt animals than birds. He prefers the stronger scent on the ground.

The color that predominates in this dog is liver or brown. He may be solid liver; liver and white spotted; liver and white spotted and ticked; or liver and white ticked. Any colors other than liver and white are not recognized. The tail is docked and the coat is short, flat, and firm. A male may stand 23 to 25 inches and weigh 55 to 70 pounds. Females, of course, are smaller.

Cocker Spaniel

The Cocker, smallest of the sporting spaniels, is an exceptionally lovable dog with a nature as kindly as its countenance (Plate III).

A native of Britain, it was given its name because of its excellence for use in woodcock shooting. Today it is widely popular both as a sportsman's dog for the outdoors and as a pet for the children at home. No dog, I believe, has a temperament more equable and affectionate.

Of all the shooting dogs none is so widely distributed the world over. There are more Cocker Spaniels registered in the kennel clubs of all countries than any other sporting kind—proof of the enormous popularity they enjoy among dog lovers of all nations.

Many Cockers are black, and on delving into the long lines of ancestry one finds that these have descended from the larger black Field Spaniel (Plate III). The large puppies of a Field Spaniel litter were called "field," while the small ones were designated "cocker" because they were not expected to retrieve anything larger than a woodcock.

Nowadays the Cockers used for sporting purposes are being bred longer in leg and more powerful in jaw, for at field trials they are called upon to retrieve all sorts of game birds.

The future probably will see considerable crossing of the stronger, leggier English-bred Cocker with the superlatively beautiful American-bred Cocker, usually of less weight, height, and consequent power. The progeny should prove entirely satisfactory as sporting Cocker Spaniels.

American-bred Cockers are portrayed in Mr. Miner's painting (Plate III).

The Cocker Spaniel may be self-colored—black, liver, or red; or parti-colored, including combinations of blue-roan, liver-roan, lemon-roan, red-roan, black and white, liver and white, lemon and white, black, tan, and white. The American-bred Cocker weighs from 18 to 24 pounds, the English-bred 25 to 30 pounds.

Field Spaniel

A well-made dog is the present-day Field Spaniel, another of the varieties produced in Britain. He is a good hunting comrade as well as a handsome fellow, usually ideal in disposition and a capable retriever from land or water (Plate III).

As a show dog during the late Victorian period, the Field Spaniel, like the Sussex Spaniel, was bred so that its body might be long and its legs short. High prices were paid for specimens of exaggerated length and lowness.

But with the coming of field trials for spaniels, the comparative uselessness of the extremely low-set working dogs was apparent to all. The style in breeding underwent a decided change and the "fields" became longer in leg and more compact in body. They are usually black.

The show male Field Spaniel of today stands about 18 inches at the shoulder and scales around 35 to 50 pounds.

Sussex Spaniel

The Sussex Spaniel is named for the County of Sussex, in the southeast of England, where it was used for hunting pheasants and other game in a terrain of field, farm, and woodland (Plate III).

In common with the Field Spaniels and even the Cocker Spaniels of the time, the Sussex of the late Victorian era was bred very long in the body and very short in the leg—a build altogether unsuitable for the activity and lasting powers a working spaniel must possess.

Today the Sussex is produced with longer legs while the length of the body has been shortened. It has a tractable disposition and makes a sensible, hard-working pheasant, woodcock, ruffed grouse, and rabbit-shooting dog. In America this breed is seldom seen.

The rich golden-liver coat marks the purity of the Sussex Spaniel's blood. He should weigh from 35 to 45 pounds.



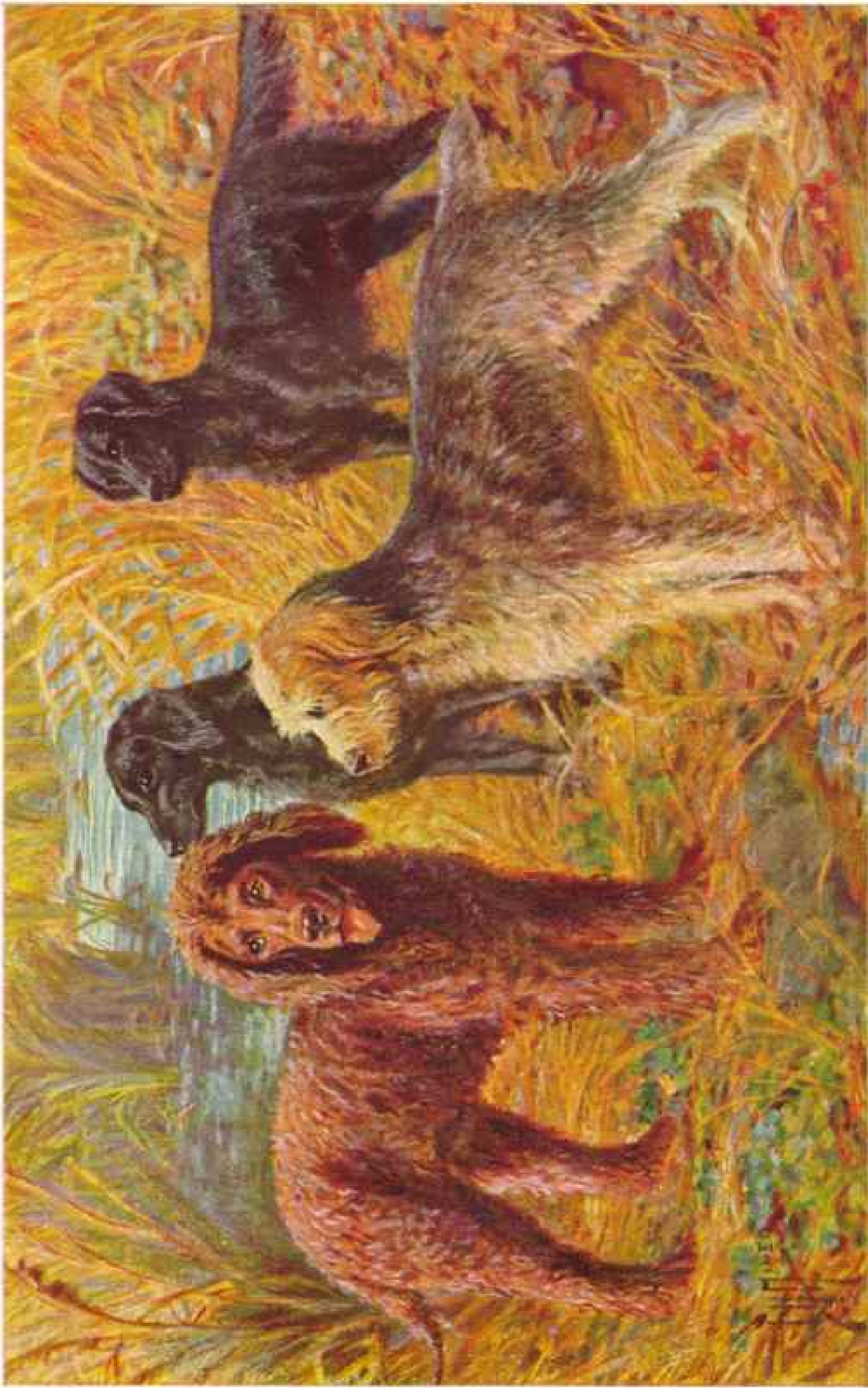
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ENGLISH SPRINGER SPANIELS ARE NAMED FOR THEIR OCCUPATION; CLUMBER SPANIELS FOR AN ESTATE OF THE DUKES OF NEWCASTLE

Instead of pointing, the "springing spaniels" (pair with dark markings) flush or spring their game, startling it into sudden flight so hunters may shoot. Increased pheasant breeding in America stimulates demand for these efficient dogs. Heavier, more sedate CLUMBER SPANIELS, white with lemon or pale-orange markings on head and ears, are well liked because they hunt without barking. Here one bears a dead rabbit to its master.

Painting by Edward Herbert Miner

MINER



© National Geographic Society

WATER DOGS ALL ARE THE IRISH WATER SPANIEL, WIRE-HAIRED POINTING GRIFFON, AND FLAT-COATED RETRIEVERS

Clown of the spaniel family in appearance, the topkotted son of Erin (left) was developed in the 19th century, mainly by Justin McCarthy, whose breeding methods remain a secret. E. K. Korthals, a Netherlander, began to breed the WIRE-HAIRED POINTING GRIFFON (right foreground) about 1874. Though now rare in this country, FLAT-COATED RETRIEVERS (pair in background) are descended from two North American breeds, the Labrador Retriever (Plate IV) and the St. John's Newfoundland.

Painting by Edward Herbert Muir

Chesapeake Bay Retriever

In 1807 a vessel flying the British flag was wrecked off the coast of Maryland. The crew was rescued by the American ship *Canton* and among the refugees were two puppies from Newfoundland. The male—destined to be the Adam of a new breed—was a light liver or dingy red in color; the female, black.

The young dogs were presented by the master of the abandoned brig to his new American friends. When the puppies grew older they were found to be very tractable and good retrievers—just the sort of dogs required for duck shooting along the shores of Chesapeake Bay.

These newcomers probably had been bred in Newfoundland of a stock introduced by early English, French, and Basque fishermen and other sailormen. A ship's dog in those days had to be a powerful fellow, an able-bodied canine sailor not afraid of the roughest and coldest seas. The rocket apparatus then was unknown and the ship's dog was the ship's swimmer. In case of a wreck he was often called upon to swim ashore with a light line, for he might survive where no small boat could live amid the breakers and rocks.

From such sturdy stock, then, came Sailor and Canton, as the rescued puppies were called. Bred with the local Maryland dogs and perhaps with each other, they produced a mighty and exceedingly useful race of wild fowl and game retrievers, fearless of winds and waters—the Chesapeake Bay Retriever (Plate IV and page 84).

Today this American breed is not only rightfully popular and much prized among duck hunters throughout the United States and Canada, but also has improved in appearance and recently has been introduced into the home of dog shows—England.

Furthermore, the Chesapeake is proving its worth as a retriever not only of water fowl but of upland game as well.

With its naturally well-oiled and thick hide, hard, weather-resisting coat, and woolly or furlike under-coat, the Chesapeake Bay dog can defy the most extreme conditions of winter weather.

As the duck-shooter's dog must not be readily visible to the ever-wary wild fowl, the color of the Chesapeake is considered of the utmost importance. It varies from a dark brown to a faded tan or dead-grass shade. A little white is allowed on the chest, the less the better.

Males should stand 23 to 26 inches and weigh from 65 to 75 pounds; females 21 to 24 inches and 55 to 65 pounds in weight.

Labrador Retriever

The ancestors of the present-day Labrador Retriever came not from Labrador but from Newfoundland. They were generally known as St. John's dogs and were highly valued for sporting purposes (Plate IV and page 98).

"Their sense of smelling is scarcely to be credited," wrote Colonel Hawker, an English sportsman author, in 1830, "and their discrimination of scent in following a wounded pheasant through a whole covert full of game, or a pinioned wildfowl through a furze brake or a warren of rabbits, appears almost impossible."

In this respect the Labrador has changed not a bit. His scenting powers are as phenomenal today as they were a century ago. In England a pointer cross was used.

In the ever-increasing number of field and water trials held in the United States and Europe, the Labrador has more than ever proved himself a highly reliable dog for pheasant and duck shooting.

In most instances the Labrador is kept only for retrieving, as he is considered too high at the shoulder and too bulky in body to enter readily the dense coverts or thickets that a spaniel would penetrate with ease. Labradors are used as rough all-round shooting dogs, however, when a pointer, setter, or spaniel is not available.

Hunters usually take a Labrador along while marsh shooting and in some cases where there are plenty of rabbits. His nose, steadiness, and sagacity make him easy to handle in the field. He is the hunter's friend and also a handy watchdog.

The color is usually black, free from rustiness and white markings, except perhaps a small spot on the chest. Other whole colors are permissible, and yellow is becoming increasingly popular. The blacks have dark eyes.

The coat is short, dense, thick, and fairly hard to the touch, without wave. The tail, known as an "otter tail," is distinctive. It should be straight and not carried over the back.

The Labrador's height at the shoulder is about 21 to 22 inches. Males weigh from 60 to 65 pounds, females around 55 pounds.

Curly-coated Retriever

Curly-coated Retrievers were exhibited at Birmingham, England, as long ago as 1860, and to this day they remain among the most useful and well-made of the gun dogs employed for field and water work (Plate V).

The "Curly" fully deserves his name, as the entire body is covered with close, crisp curls of hair which probably protect the hide from the rigors of cold and water.

From whence came this very old breed of retriever? Possibly from some kind of a curly-haired spaniel and a pointer of black or liver color. It has sometimes been thought to have some Irish Water Spaniel blood, but I believe that the Curly-coated Retriever was in existence before the Irish Water Spaniel in its purity as we know it now was known anywhere (page 106).

The color of this dog is wholly black or liver, but a few white hairs are allowable in the chest. The coat should be a mass of crisp curls. A feature of this breed is the moderately short tail, carried fairly straight, slightly tapering toward the point and covered with curls.

Recently the Curly-coated Retriever was reintroduced into the United States for shooting and field-trial purposes. The male should stand about 24 inches and weigh around 65 to 75 pounds.

Golden Retriever

About the time of the American Civil War, a traveling showman in Russia was struck by the intelligence and impressive appearance of the massive cream or biscuit-colored dogs of the Caucasus which were chiefly used for guarding sheep. He tried training some of them and produced a striking troupe of performing dogs.

When they appeared at a circus at Brighton, England, shortly afterward, the splendid animals caught the eye of the late Lord Tweedmouth—Sir Dudley Marjoribanks—who persuaded the proprietor to sell him the lot. From such ancestry comes one of the handsomest, most sagacious, and amicable of dogs—the modern Golden Retriever (Plate V).

The Golden Retriever was first seen at dog shows about 1908, and at field trials in 1910 and 1911. Since then he has become more and more popular in America as well as in Europe. Some of the earlier specimens were imported by a resident of Winnipeg, Canada, and were satisfactorily tried

as duck dogs under the most severe winter conditions. The Golden proved themselves as hardy as any of the other retrievers and large spaniels.

The coat is flat or wavy, with a good under-coat, and both are water-resisting. Light-colored eyes are considered objectionable; black or brown ones are preferred. The skull is broad, the muzzle powerful, the teeth strong.

The very appearance of this dog gives one the impression of kindness, understanding, and faithfulness; it is a dog for the country house as well as the field.

The male is about 24 inches in height and weighs around 68 pounds; females less.

English Springer Spaniel

This dog, the largest of the land spaniels, was given its name because it springs or drives out its game, generally pheasants, ruffed grouse, woodcock, or rabbits, that find shelter in patches of cover (Plate VI).

The English Springer, which "jumps" its game, and the English Setter (Plate I), which quietly points toward it, had a common origin. But the spaniel is allowed to follow its natural bent, while the setter must restrain itself from running in, or "chasing." The setter is better fitted for speed than the spaniel, which is built on more cloddy lines.

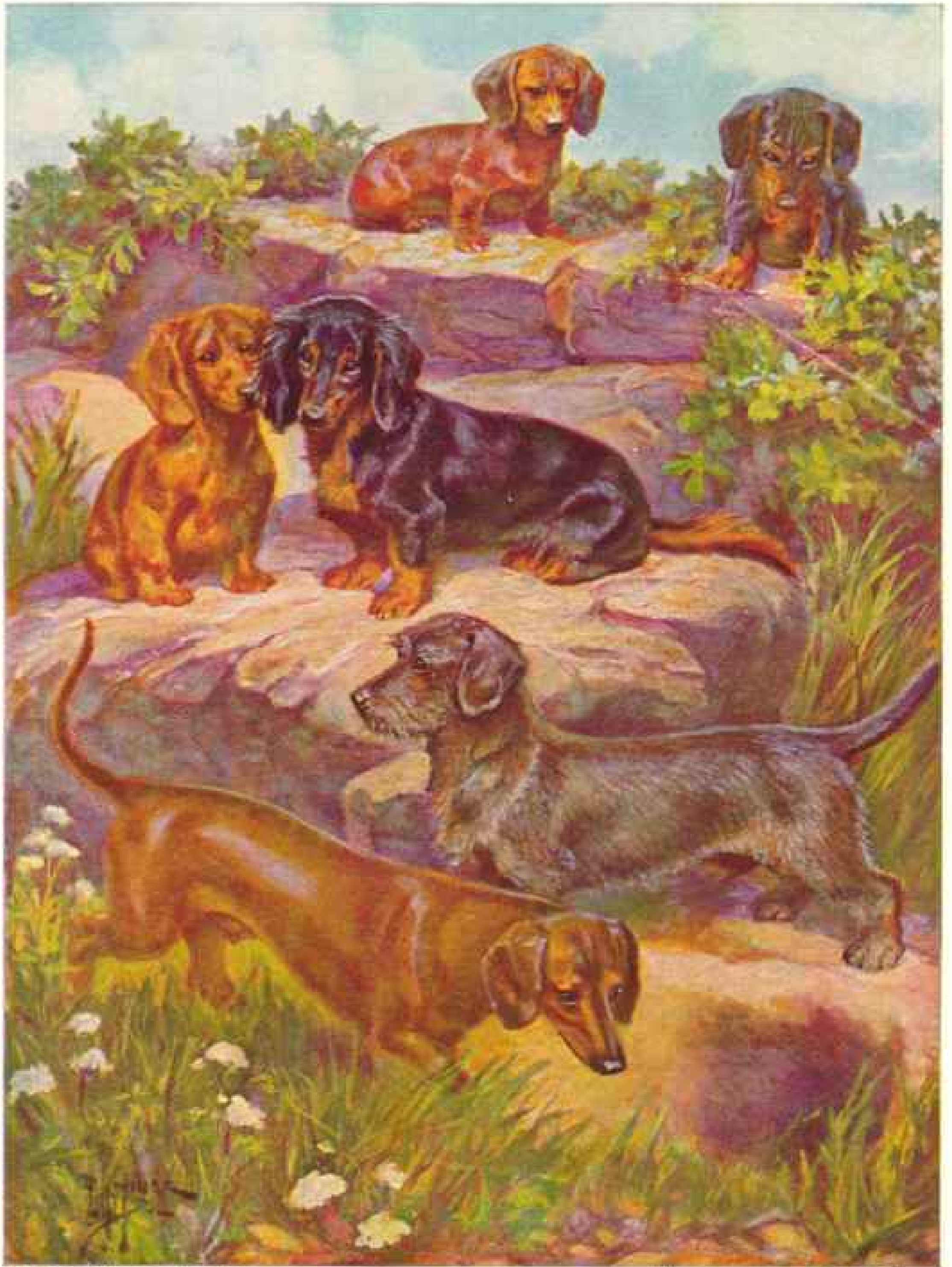
The springer spaniel is one of the earliest, if not the very oldest, of the spaniel varieties. Barlow's print (A.D. 1686) presents springer spaniels which have just sprung winged game—apparently pheasants—that are being shot at by gentlemen mounted on horses. The English Springer, in appearance and use, has not changed for at least 250 years.

Hardy and possessed of a natural desire for hunting, the springer is also a capital water dog and retriever.

My own English Springer Spaniel, Roger, is 15 years old; his hearing has gone and his eyesight is affected, but any man—even a stranger—has only to show his gun to the dog and Roger's old hunting enthusiasm is at once aroused.

Since 1922 springer spaniels have become highly popular as working spaniels in the United States and Canada. Attractive in appearance and gentle in disposition, they are also recommended as house dogs.

English Springers usually have white as



© National Geographic Society

Painting by Edward Herbert Minor

ELONGATED DACHSHUNDE ARE "THE DOGS SOLD BY THE YARD"

Sturdy DACHSHUNDE (from *dachs*, badger, and *hund*, dog) have long been used in their native Germany for hunting badgers, foxes, and other ground animals. With short and strong forelegs to facilitate burrowing, the courageous little dogs follow game underground and bark to tell the hunters where to dig. Alert, companionable pets, they are among the most popular breeds in America. Here two smooth-haired pups (at top) gaze down on a long-haired pair (center), a smooth dog (lower left), and a wire-haired specimen (lower right).

the predominating color, with markings of liver, black, liver and tan, tan, or roan.

Males should weigh about 45 pounds and should not exceed 50 pounds; females about 42 pounds, and not over 47. (These figures are those approved by the English Springer Spaniel Field Trial Association of America.) Americans like their springers about 18½ inches at the shoulder, while the English do not object to a 20-inch standard and a weight of 50 pounds.

Clumber Spaniel

Sometimes known as "the aristocrat of the spaniel family," this dog takes its name from Clumber Park, a country seat of the Dukes of Newcastle, near Worksop, England (Plate VI).

Originally the Clumber was a French spaniel brought to a high state of hunting perfection by the Duc de Noailles, in France, but about the middle of the 18th century he presented several of his dogs to the then Duke of Newcastle.

Easily trained and possessed of keen scenting powers, they were and are silent or mute hunters—they spring or push out their game without giving tongue. Thus, whatever game may be ahead of the shooting party is not unduly disturbed until the arrival of the dogs and guns.

In due course the strain from Clumber became sparsely distributed about the British countrysides. But generally the Clumber was looked upon as one of the appurtenances of the larger kennels and pheasant-shooting estates owned by persons of the highest rank, including the reigning monarch and his nobles; hence its aristocratic reputation. Even today the Clumber Spaniel is regarded as a sort of royal dog and one to be worked in a team rather than singly.

A team of ten or more Clumbers working abreast, like an advancing line of soldiers, is a sight to behold. They are steady and not too fast for the following guns. Every head of individual game—leather or fur—is found; and all the dogs are broken to drop to wing or shot. The nearest Clumber to the fallen game retrieves it and thereupon the field moves on. The method is complete, almost military.

For at least three reigns, Clumber Spaniels have been popular at Sandringham, the English country seat of the Kings of England. The Sandringham Clumbers have been the pride of Edward VII,

George V, and the present monarch. It was Queen Alexandra, as Princess of Wales, who made them known to the general public by sending them to the leading shows all over the country.

The earliest of the Clumbers to arrive on the American Continent belonged to officers attached to British regiments in the Maritime Provinces. Today there are few of the breed in the Dominion.

The Clumber is usually a long-bodied dog with shorter and stronger legs than those of the springer. He is heavy and for his size unusually full of movement, with the swaying hindquarters and merry tail carriage of the good-tempered dog.

The color is plain white with lemon-colored markings about the head, this shade being preferred to orange. The head markings are slight and the muzzle is freckled with lemon tickings. A male may weigh as much as 65 pounds and a female 55 pounds.

Flat-coated Retriever

This is another of the valuable retriever breeds developed from the water dogs brought to Britain from Newfoundland (Plate VII).

In the making of the Flat-coated Retriever, setter blood was crossed with the imported stock, while in the development of the Labrador (Plate IV) a pointer cross was used instead. The two breeds are used by sportsmen for almost identical purposes, but the Labrador is far more numerous and popular. In fact, the flat-coated kind is seldom seen in America at present. One of the chief supporters of the breed in this country was the late Mr. George Jay Gould.

In England the Flat- or Wavy-coated Retrievers, as they were then known, were first presented for public view at the show held at Birmingham in 1860. They were much larger and coarser than those exhibited a few years later.

The Flat-coated Retriever flourished as a show dog in the late eighties and early nineties and a subsequent decline in its popularity has been attributed by some to the introduction of Russian Wolfhound blood by certain breeders. This was done in an effort to produce a longer jaw better fitted for carrying a hare or pheasant, but the result was a long, narrow, coffinlike head.

In recent years this effect has been eliminated and these handsome, intelligent, and affectionate dogs have regained some of their old-time favor in England.

The standard calls for dogs of 60 to 70 pounds. The color is black or liver.

Wire-haired Pointing Griffon

The Wire-haired Pointing Griffon, an extremely useful gun dog, was developed by a wealthy Netherland banker's son, E. K. Korthals, who deliberately set out in 1874 to produce a new sporting breed (Plate VII).

It proved to be an excellent pointer and retriever possessed of a first-class nose. This is not surprising, since the breed is believed to include the blood of the otter-hound and setter; also, very likely, that of the pointer and some of the larger land spaniels.

The wire-haired and sometimes rougher-coated sporting griffons have been used considerably as pheasant and other upland game shooting dogs in this country. The largest kennels were jointly maintained by Mr. Louis Thebaud, of Morristown, New Jersey, and the late Mr. Erastus T. Tefft, M.F.H., Brewster, New York.

The close and wirelike coat of the griffon is ample protection against the rigors of an exacting winter climate. Therefore, as a duck-hunting dog the griffon is particularly well-equipped for retrieving from the water. As a wide-ranging dog for quail, Hungarian partridge, and other outlying game, he will not be found so fast afoot as the pointer or setter. He may be described as slow but sure.

The coat of the Wire-haired Griffon has been officially described as harsh "like the bristles of a wild boar" and his appearance, notwithstanding his short coat, is as unkempt as that of the long-haired griffon. However, he has a very intelligent air.

The color is steel-gray with chestnut patches, gray-white with chestnut splashes, chestnut, dirty white mixed with chestnut—never black. The nose is always brown. Males stand from 21½ to 23½ inches and females 19½ to 21½ inches. Full weight: about 50 pounds. The tail is generally cut to a third of its length.

Irish Water Spaniel

A first-class water dog developed in Ireland, this spaniel looks as if it had borrowed spare parts from several breeds (Plate VII).

Up to about the middle of the last century, there were two varieties of the water spaniel in Ireland. Those of the north had

considerable white mixed with the liver shade. In the south a wholly liver-colored race was developed by Mr. Justin McCarthy, and this is the variety that has grown into the fully recognized and highly characteristic shooting and show dog of our times.

The breeds used in its making were not divulged, but this dog had the ears of the spaniel or large poodle, the curled or half-fluffed-out coat of the Old English water dog or wild fowl retriever (a breed now extinct), clean cheeks and muzzle, and the three-quarter stinglike tail of the English Pointer.

No one could fail to recognize the Irish Water Spaniel. He stands alone, a unique breed. Where else can you find a very heavily coated dog with the face and lips covered with short hair and a tail that grows no feather underneath?

In the roughest and coldest of salt or fresh waters the Irish Water Spaniel is in his element. As a duck-shooter's dog he is used in this country from the Atlantic to the Pacific. There are some who employ him as a land spaniel; but here his size is a handicap to rapid progress through dense covert and thicket. As a marsh dog he is excellent.

McCarthy liked the males from 21 to 22½ inches high; the head rather capacious; forehead prominent; face from eyes down perfectly smooth, and the ears from 24 to 26 inches from point to point.

"The head," he wrote, "should be crowned with a well-defined topknot, not straggling across like that of the common rough water dog, but coming down in a peak on the forehead. The body should be covered with small, crisp curls which often become clogged in the moulting season. The tail should be round without feather underneath, rather short, and as stiff as a ramrod; the color, a pure puce liver without any white.

"They will not stand a cross with any other breed," he added, apparently feeling that they had already acquired enough assorted characteristics.

Dachshund

One of the most popular of all the European breeds is that distinctive little German, the Dachshund (Plate VIII).

In English its name means "badger dog," as this exaggeratedly low, short-legged breed was particularly suitable for



Photograph by H. Armstrong Roberts

WHEN A FOUR-FOOTED FELLER NEEDS A FRIEND

Charlie Mink, professional shot and dog trainer, stops to remove a sandbur from an English Setter's paw while shooting near Williamstown, New Jersey. At his feet rest two other setters, one English, one Irish (Plate I). In places where burrs are particularly bothersome, bird dogs are sometimes equipped with lace-up boots of soft leather to protect their feet.

invading the badger's "sett" or "earth," as their burrows are called. It was not expected to nip the quarry, however, but merely to hold the formidable, hard-bitten creature at bay and bark so that men could dig him out.

In Germany years ago I saw Dachshund trials in which a badger was released in a maze of artificial burrows—tunnels roofed with boards. When one of the dogs set up a barking below, the board above him was raised and the judges could see whether he was telling the truth or giving a false alarm.

In addition, the Dachshund has been used

for "going to earth" after foxes and has served many generations of German sportsmen as a general hunting dog for driving rabbits or other game from cover. It combines, in a measure, the work of the hound, the terrier, and perhaps the spaniel. While running on the scent of a badger, rabbit, or other animal, the Dachshund gives tongue.

Some believe that the Dachshund was known in the East long before the Christian Era. Egyptian and Assyrian sculptures, some of them before 2000 B.C., depict a dog much after the Dachshund's make and shape. At the court of King



Photograph by H. Armstrong Roberts

A CASE OF MISTAKEN IDENTITY

No wonder the Dachshund puppy looks sad! His eyes told him he had found a new playmate and now his unerring nose brings word that it was all a mistake and the thing is just a lifeless toy.

Thothmes III such a dog was favored, but whether he was used as a hunting dog or for turning the roasting spits of those times is not known.

One of the chief patrons of the breed is the former Emperor of Germany, who several years ago presented a representative team of smooth-hairs to the then King of Siam.

Today the three varieties—the smooth, long-haired, and wire-haired—are among the most sought-after bench-show dogs in the United States. Rabbit-hunting field trials for the breed are now held in New York, New Jersey, and elsewhere.

Less than three decades ago a large number of show Dachshunde had crooked fore-legs; today only the straight-legged seemingly are desired.

The coat of the smooth variety should be short, dense, and smooth. In wire-hairs the whole body is covered with an even, short, rough coat, but with finer, shorter hairs distributed between the coarser ones. The long-haired variety has a soft and straight or slightly waved shining coat.

Weights vary from 5 to 35 pounds. The English standard does not exceed 25 pounds. The German standard is in three

classes: 15½ to 16½ pounds; over 16½ to 22 pounds; and over 22 pounds. The maximum weight of the dwarf variety is 8½ pounds. Color: black, gray, red, or yellow, in good harmony; much white is objectionable.

NOTE—THE NATIONAL GEOGRAPHIC MAGAZINE wishes to acknowledge the kind cooperation of those persons who have made available their splendid dogs as models for Mr. Miner's paintings, notably the following: Mr. Anthony Bliss and his Superintendent, Mr. Arthur Buchan, for models and information in connection with the Chesapeake Bay Retrievers; Miss Priscilla St. George, whose champion English Setter was the model; Dr. Murray Maxwell for the excellent specimen of the Irish Water Spaniel, and Mrs. F. J. Spruyt for models of the somewhat rare Wire-haired Pointing Griffon; Miss Joan Hollins for her blue-ribbon Golden Retriever, and Mrs. Herbert L. Bodman for her yellow Labrador of Mr. Marshall Field's breeding; Mr. John Littlejohn for the perfectly marked Gordon Setter; Mr. George Bancroft for the specimen of the German Short-haired Pointer. Our main figure of the Labrador is the international champion owned by Mr. Jay F. Carlisle. The artist himself owns the Irish Setters. "For these models," he says, "we just whistled."

UGANDA, "LAND OF SOMETHING NEW"

Equatorial African Area Reveals Snow-crowned Peaks, Crater Lakes, Jungle-story Beasts, Human Giants, and Forest Pygmies

BY JAY MARSTON

THE huge silver air liner circled above the shore of Lake Victoria, banked for a turn, seemed to glide down an invisible chute to the tufty grass of the Entebbe airdrome, and taxied bumpily to the concrete stand opposite the resthouse.

A score or so of passengers—business men bound for the Cape, one or two Government officials returning from home leave, a coffee planter, an English peer going to his estates in Kenya, some sight-seers, a female lepidopterist, and the members of a Commission to inquire into something or other—climbed down the ladder, glanced cursorily at the blue lake and the grassy plain about them, and made for luncheon.

AIRPLANES SUPPLANT CANOES AND DHOWS

So simplified has travel become nowadays that they had no particular sense of wonder at having reached, in five days from London, a country which only a few decades ago no European had traversed.

Uganda made a tardy appearance on the map of what used to be called the "Dark Continent." Indeed, authentic records of its history began only when J. H. Speke, with his companion, J. A. Grant, reached the court of Mutesa, the Kabaka of Buganda, in 1862. Later in the same year Speke discovered Ripon Falls, source of the River Nile, on Lake Victoria (page 120). Previously, Arab traders and slavers had penetrated as far as Uganda in their raids from the east coast.

When the first missionaries, in response to Henry M. Stanley's famous appeal in the *Daily Telegraph*,* came to the shores of the "Great Lake" some sixty years ago, the journey took all of six months. They walked up from the coast, with their food and kits borne on the woolly heads of Swahili or Wanyamwezi porters, or on the backs of Isabella-colored pack donkeys.

* See "Great African Lake (Victoria)," by Sir Henry M. Stanley, NATIONAL GEOGRAPHIC MAGAZINE, May, 1902.

The crossing of the vast and perilous waters in those days was made in canoes of sewn planks, sketchily equipped with broad-bladed paddles, some gourds for baling, and propitiation to the gods in the form of a few fluttering rags or plantain leaves at the prow (page 117).

Small dhows of the Arab pattern also were used.

These early arrivals in Uganda had faced, in their journey inland, all sorts of perils—drought and torrential rains, fevers, and man-eating lions that prowled by night round their camp, hostile tribes, and lake storms of extraordinary violence.

Nowadays, visitors to Uganda descend from the twice-weekly air liner, which has carried them swiftly southward over the spacious desert and swamp and forest of Egypt and the Sudan, just as nonchalantly as they might from the Blue Train on the Riviera.

They spend a few weeks, perhaps, in seeing the little Protectorate of some 94,000 square miles that lies southwest of Ethiopia, wedged between the Belgian Congo, the Anglo-Egyptian Sudan, Tanganyika, and Kenya. Lake Victoria is to the south, the Nile to the north, and the Ruwenzori with their eternal snows to the west.*

They go hither and thither in automobiles, stopping to photograph the beauties of its tropical richness, the wonders of its wild life, its interesting brown peoples, and noticing the marks civilization has made upon it in half a century.

HUMAN "HOME PLANTS, BEDDED IN A TROPICAL GARDEN"

There are rather fewer than 2,000 European residents—Government officials, planters, professional and commercial men, mining prospectors, and their wives and children—living in Uganda, and most of these look to the time when they will return to their own country.

* See map, page 113, and Special Map Supplement of Africa, NATIONAL GEOGRAPHIC MAGAZINE, June, 1935.



A. T. Schofield

TOM-TOMS BEAT A WEIRD TATTOO TO HONOR THE MUKAMA

At the courts of Toro, Buganda, and Bunyoro, musicians herald every activity and ceremony with rapid tappings on the taut oxhide drums, and by screeching refrains on horns. Native affairs are regulated by the kings and their councils, but serious matters and trials involving foreigners are handled by British courts.

They are home plants, bedded out for a time in a tropical garden. They know that they are aliens in a smiling but strange land; and that no amount of roads and railways and airways, of telegraphs and mines and public works, will ever really make of Uganda a white man's country.

I saw things I shall never forget all my life: jungle-story beasts, elephants, hippos, rhinos, giraffes, and crocodiles;* pygmies from the primeval forest: slim giants nearly seven feet tall, with profiles like those on Egyptian frescoes. I recall lovely silver lakes and giant volcanoes; deep crater lakes, green and mysterious; old Nile flowing placidly, or hurling itself headlong over magnificent falls; snow on the Equator; grass that grows high above your head; rustling bamboo forests.

In a visit of two or three weeks, Uganda can show all these. There are good hard roads, albeit narrow and twisting in parts, all over the land, even up among the bam-

* See "Where Roosevelt Will Hunt," by Sir Harry Johnston, NATIONAL GEOGRAPHIC MAGAZINE, March, 1909, and "Wild Man and Wild Beast in Africa," by Theodore Roosevelt, January, 1911.

boo forests and volcanoes. There are comfortable lake steamers (page 122).

In October, during the season of the short rains, the whole country is as green as if it had been drenched in *crème de menthe*.

Entebbe, seat of government, lies curled round the lake shore in a green amphitheater shaded with huge old trees, domed mangoes, and flame-flowered tulip trees (we call them flame of the forest), scarlet flamboyant, blue jacaranda, incense and fig trees, and that fine timber tree, the tall *musuli*, or "African teak."

Above Government House, a hybrid piece of architecture which stands hidden amid lovely trees on the crest of a hill, the Union Jack flutters bravely from daybreak to sundown.

A BRAVE SHOW OF BIRDS

The peninsula on which Entebbe stands is a favorite resting place for migrating birds. Probably no other spot in the Protectorate has such a brave show of birds, swooping and fluttering from tree to tree—yellow weaver birds, shrikes, scarlet and black honeysuckers, flashing blue king-



Photograph by St. Bernard Bourdillon

SWIFT AND DEADLY IS THE RHINO'S CHARGE

Surprisingly active despite their bulky bodies, rhinoceroses sometimes rush from ambush to attack both white hunters and natives. The animals use the horns, which may grow three feet long, as battering rams in battle and for digging out edible roots. Many live in the thornbush along the Nile north of Lake Albert.

fishers, starlings, jays, swallows, wagtails, and chats.

A full chorus of twittering and song heralds the dawn here; and the honking of golden-crested cranes, flying to their roosting place in some tall *muvuli* tree, breaks the quiet of evening. Crows in clerical black and white squawk in the gardens, gray herons and white fish eagles brood at the lake's edge, and hawks wheel and hover all day against the milky blue of the sky.

Entebbe, with its golf course and club, its bungalows and offices hidden among trees and shrouded in flaming bougainvillea and golden shower, its Secretariat where the Governor and his Legislative and Executive Councils meet, is a charming dead-end. A faintly holy calm broods over the town; and there is only one road out of it—the road to Kampala, the bustling commercial capital (page 113).

A CROCODILE FILM STAR

This good red *murrum* (lateritic ironstone) highway was broad, and bordered with wild date palms, fruit-laden mango

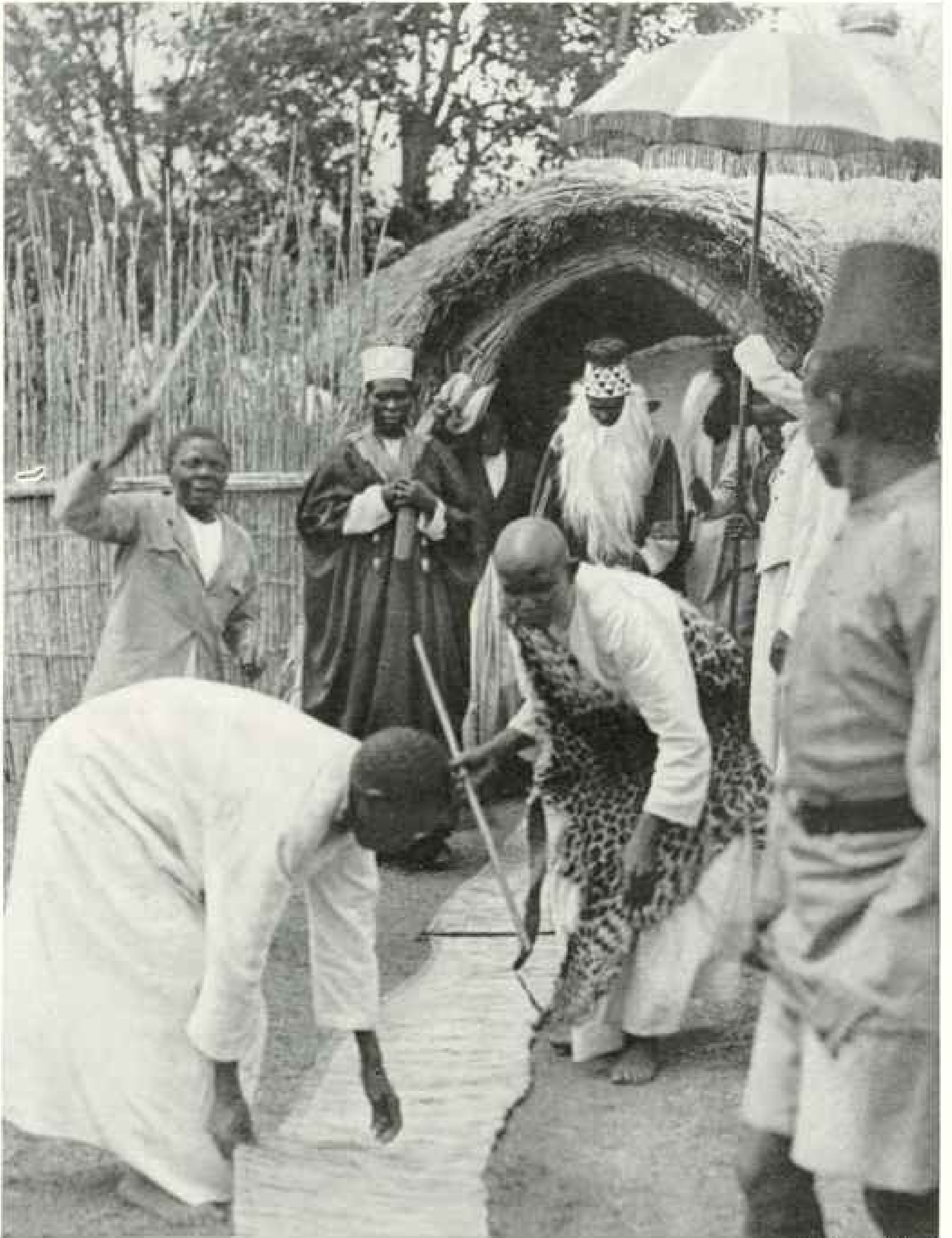
and wild fig trees, emerald grass 14 feet high, flame trees, raphia palms, occasional rubber and coffee plantations, cotton and mealie and *muhogo* patches, and the ubiquitous banana groves which provide the people of Buganda with their staple food, *mtoki*, or plantain.

At a spot called Mile 13, the lake came to view again, sapphire set in the emerald of papyrus swamp and forest. A rough road turns off to a village on the lake shore.

Here lives the famous crocodile, Lutembe, who has starred in a Cherry Kear-ton film, answers to her name, has been photographed about as often as Greta Garbo, and has only once in her life harmed a human being, a native woman whose arm she took off (page 116).

That regrettable incident the primitive people regarded with complete approval, as they had brought the woman to Lutembe to be judged on a charge of theft.

Nobody knows Lutembe's age. The native ancients will mutter of fifty or a hundred years; but it was only a few years ago that her strange friendliness became generally known and she developed into a



© A. T. Schellfield

MAKE WAY FOR HIS HIGHNESS, THE KING OF TORO!

Court aids lay down a matting carpet for the Mukama, or native ruler, who wears a long ceremonial beard of colobus-monkey hair and walks beneath the royal parasol. He must pass through seven huts in this ceremony when he is crowned anew each February. Even in the milking of his cattle a special ritual is observed (pages 125 and 127). Although the Mukama follows traditional rites, he is a progressive monarch who once served as an officer in the King's African Rifles.



Drawn by C. E. Riddiard

UGANDA BORDERS THE LARGEST FRESH-WATER LAKE IN THE OLD WORLD AND CONTAINS THE SOURCE OF THE NILE

"Pearl of Africa," the famous explorer Sir Henry M. Stanley called this Protectorate astride the Equator, alongside Kenya Colony in British East Africa. Of its more than three and a half million population, only about 2,000 are European. From Lake Victoria's north shore at Jinja pours the Nile, Egypt's life stream. Prosperous Uganda's chief export is cotton, but sugar, coffee, ivory, and tin ore also are sent overseas.

mine of riches for the villagers who had fed her with fish for years.

It is amazing to see them wading into the water beside her, and coaxing her to come waddling ashore and catch a piece of putrid mudfish (which they have sold to some incredulous visitor for two shillings) with a stupendous clap of her frightful jaws.

Since her stardom, the astute villagers have blossomed out into new huts, bicycles, European hats, coats, and boots. They look upon Lutembe as their village deity.

One or two nasty brutes that lurk with

sinister patience round the shore are said to be her offspring; but the natives do not credit them with their mother's manners, though they are said to be attempting to train one of them to take her place in the event of her demise. In the spring, Lutembe goes off to mate, but she never fails to return.

Thirteen miles beyond the village we ran through spinneys of eucalyptus gum, planted for anti-malarial purposes, into Kampala, past the station of the Kenya and Uganda Railway, through the squalid



Photograph by Alice Schalek

REED FENCES AROUND THE KING'S PALACE ARE NOT FOR PROTECTION BUT
INDICATE ROYALTY

Sir Daudi Chwa's new home crowns Mengo hill, one of Kampala's eminences, and is built in European style. Many ancestors of the present Kabaka have ruled here. Most famous of them was Mutesa, who held sway when the first explorers arrived. His tomb near by is still watched over by female descendants (page 116).

Indian bazaar, and into the main streets.

These are a strange mixture of the squalid and the smart. Barclay's beautiful white bank is cheek-by-jowl with the tin-roofed *dukas* of Indian shopkeepers, who sit in their doorways chewing betel nut and spitting a circle of crimson around them. The handsome High Courts of Justice look over more of these tin-roofed atrocities.

Shining cars glide along the roads, dodging pedestrians and cyclists; a hamali cart, loaded with timber or junk, is pulled along by half a dozen natives who chant and sweat as they haul and shove. A native chief passes in a shining saloon

(English for sedan); three half-naked porters from Ruanda, Belgian Congo, casual laborers, wander along gaping vaguely, with their belongings on their heads and their knobbed sticks held aloft like spears.

A town of anomalies, Kampala!

All about it are flat-topped green ridges. On one hill is the palace of the native king, His Highness the Kabaka, Sir Daudi Chwa, K. C. M. G. (p. 118). He is the grandson of that famous Mutesa who received the first missionaries (p. 109).

A native monarchy, with a feudal system of government, existed long before the white man came.



Photograph by Sir Bernard Bourdillon

JUMBO HAS A FRIENDLY GROOM TO SCRATCH HIS HEAD

While the old tusker takes a noonday siesta in the shade, the bird picks insects from his thick, wrinkled hide. The Bunyoro and Gulu Game Reserve, northeast of Lake Albert and embracing Murchison Falls (page 124), is a living natural history museum, so numerous are the wild animals within its boundaries.

Mwanga, who succeeded Mutesa, was a cruel and vacillating ruler. He found himself involved in the struggle for supremacy of Anglican, Catholic, and Mohammedan, and allied himself with his hereditary enemy, the Mukama of the neighboring State of Bunyoro.

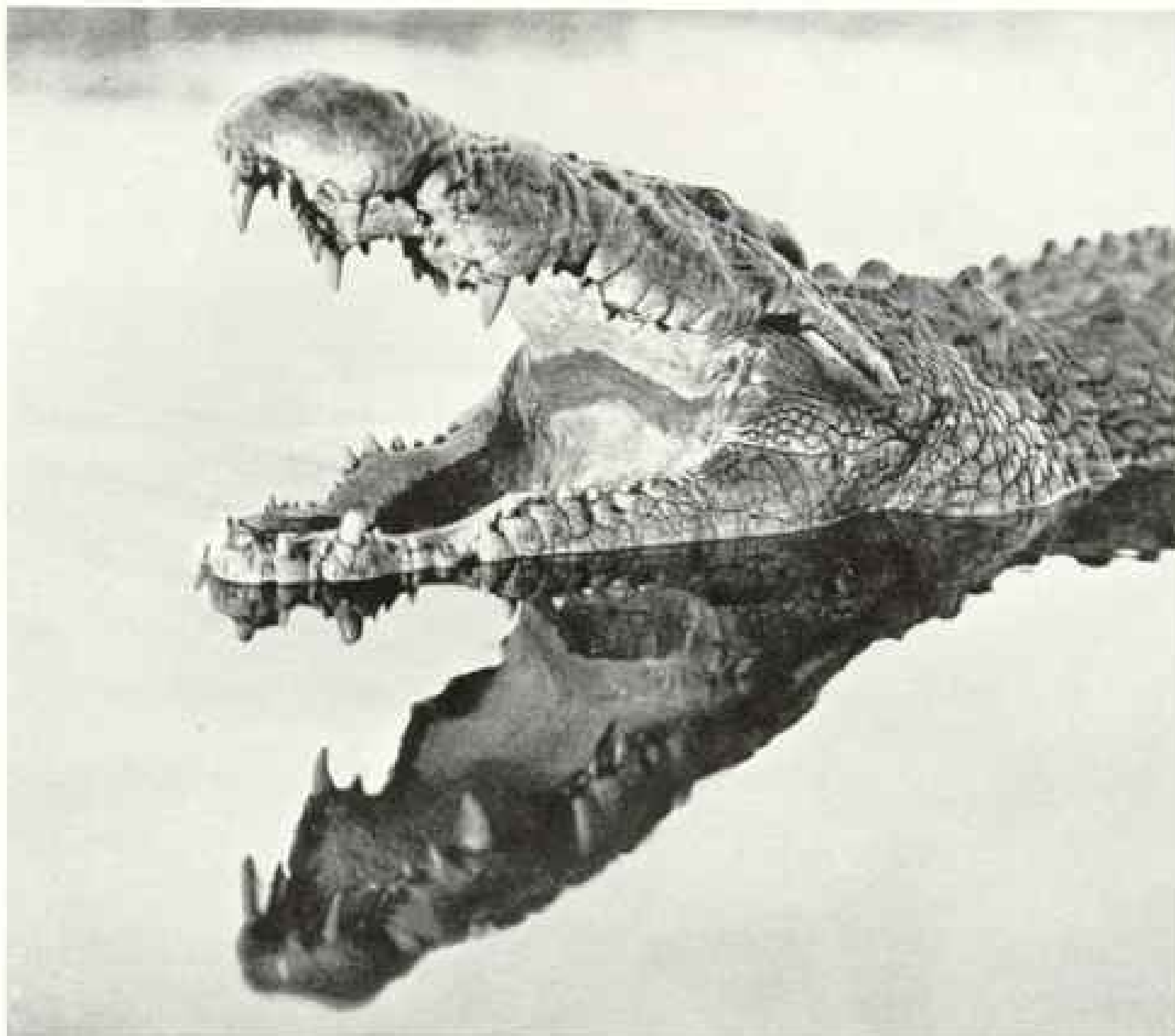
In 1890 he made a treaty with Captain (now Lord) Lugard, representative of the Imperial British East Africa Company of traders. However, such was his treachery that the latter was forced to defend his life in the fort on the old Kampala hill, where the British flag was first planted.

In 1894 part of present-day Uganda was declared a British Protectorate; by 1902 a

railway reached from the east coast to the lake shore; and in 1900, after the Kabaka Mwanga had been captured and a mutiny of the Sudanese troops suppressed, Sir Harry Johnston drew up the Uganda Agreement.

Buganda still is recognized as a native kingdom, and the Kabaka, with his Prime Minister, Chief Justice, Treasurer, and his Lukiko, or Council, rules it under British supervision.

In the other provinces there are paramount chiefs, who enjoy almost the prestige of kingship, and have their Lukikos, too. But they act only in an advisory capacity to the British administration, though they



Photograph by A. T. Schofield

LUTEMBE, POPULAR MOVIE STAR, BEGS FOR A TIDBIT IN EXCHANGE FOR A "SMILE"

The strange friendliness of this crocodile, living on the shores of Lake Victoria between Entebbe and Kampala, has brought prosperity to the villagers. Visitors come from far and near for the privilege of feeding two shillings' worth of fish to the "troc." Motion picture men have expended as much film footage on her as on many cinema stars. Lutembe returns to the same haunt each year after mating and is considered a village deity because she once punished a woman robber by snatching off her arm (page 111).

have their own native courts under the British courts.

Near the Kabaka's palace is the Lukiko Hall. Here, in October, the big chiefs from all over Buganda come to discuss laws and finance.

CHIEFS MEET AMID EERIE TUMULT
OF HORN AND DRUM

I was present at a recent opening and saw the Kabaka on his throne, his feet on the royal leopard skin.

The chiefs, some of them aged and gray-haired, wore their ceremonial robes, and the Kabaka's musicians heralded every move in the proceedings with wild outbursts of drumming and weird strains played on horns.

The tomb of old Mutesa, a beautifully reeded hut in a big bare compound surrounded by the huts of his wives and female descendants, stands a mile or two away on a knoll.

The "widows" guard it night and day, and sometimes, when you enter the dim interior, you will be startled by an eldritch shriek and a fierce pounding upon one of the royal drums. These, of taut oxhide, are housed in a separate hut.

On another hill is the Mengo Medical Mission, founded by the medical missionaries. Here also is a maternity training school, where native women are trained in midwifery, and where much has been done to decrease the appalling mortality among native infants.



Photograph by E. Gladwin

LIKE ESKIMO KAYAKS, UGANDA CANOES ARE SEWN TOGETHER

A long tree trunk is hollowed by burning or hewing to make the keel. Side planks are fastened by sewing them with thongs usually of palm but sometimes of animal tendon. The hull is covered with grease to fill the chinks and finally plastered with a coat of red clay. Natives propel their craft with heart-shaped paddles; sails are never set.



Photograph by Sir Bernard Bourdillon

THOUGH SMALL IN STATURE, PYGMIES MAKE BRAVE HUNTERS

A normal-sized soldier of the King's African Rifles towers like a giant above these tiny inhabitants of the Ituri Forest, on the northwestern side of the Ruwenzori Range. They are examples of Uganda's contrasting peoples.



© A. T. Schofield

HIS HIGHNESS SIR DAUDI CHWA IS OF LORDLY STATURE

Standing beside the Kabaka is his brother, Prince Suna, an officer in the King's African Rifles. Although Buganda is under British supervision, the ruler enjoys the rights of kingship. They stand in the doorway of Lukiko (Council) Hall, in Kampala, where the chiefs gather every October to discuss laws and finance (page 116).

Near the mission is the large Anglican Cathedral of Namirembe, and on a hill opposite stands the mission and cathedral of Rubaga, built by the White Fathers and their lay brethren and converts. One chief gave three forests to provide timber for its beautifully carved woodwork.

On other hills are the European residential quarter, the college which seems destined to become a native university, the hospital which was first started as the headquarters of a campaign against venereal diseases which were ravaging the

tribes, the reservoir, the Indian schools, and the Mill Hill Mission.

On the outskirts of Kampala, a fine 18-hole golf course occupies the valley of the Kitante River, once a noisome swamp thickly clothed in elephant grass, reeds, and wild date palms; and all around the town are the huts and the banana, sweet potato, cotton, and muhogo patches of the Baganda.

At sunset, when the shrilling of cicadas and grasshoppers, the hammering of fruit bats, the clamor of frogs, and the basso profundo of bullfrogs began to tune up for their nightly orchestral performance, the smoke of native fires curled thinly about the hillsides and mingled with the mist that was spilled in milky

pools in the valleys. The sounds of native voices, softened by distance, drifted on the evening air.

The nights, in spite of that persistent undercurrent of noise—the voices of all the night creatures—are very peaceful in Kampala.

By day, Kampala, with its stores and garages and its two hotels, is busy and noisy enough; and in January, when the cotton-buying season opens, its streets are crowded with lorries, cars, and native buses, and its bazaar hums with trade.

A journey through forest and banana groves, past innumerable cotton patches and wide cane fields, took us across the Nile bridge to Jinja, now the commercial and administrative center for Eastern Province, which grows more cotton than any other. The town is built on the edge of a peaceful bay.

HIPPOS GRAZE ON A GOLF COURSE

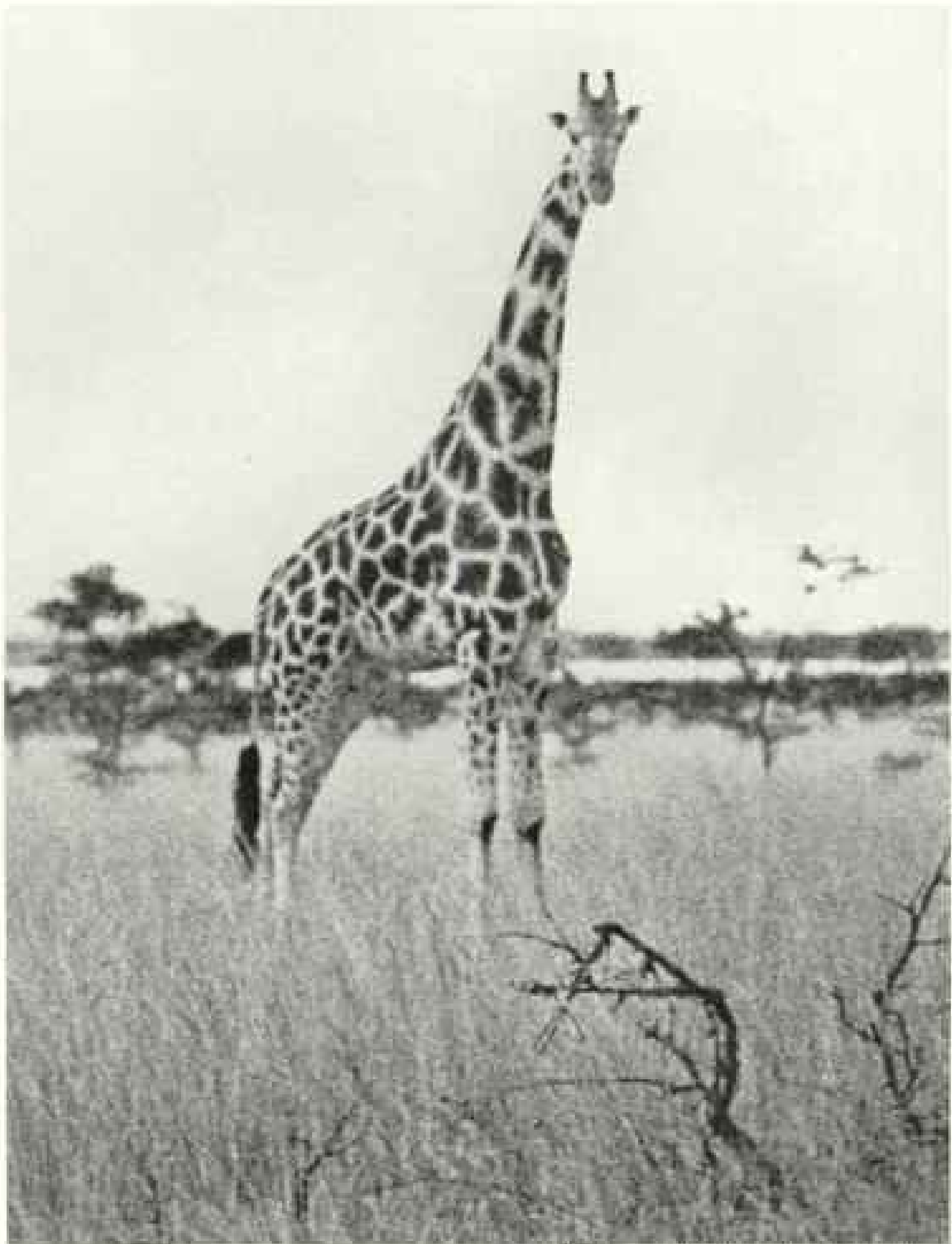
Here the lake empties itself over Ripon Falls and becomes the Victoria Nile.* Here crocodiles lurk, and hippos disport themselves, coming out at night to explore the township and graze on the golf course; and here, near the falls, the local angler finds good sport.

The country of the Basoga beyond Jinja is not very lovely. Sparse thorn

trees gradually displace the fine muvulis and yellow-flowered nsambya, and the distances are flat, the land given over to endless corn and cotton patches.

Here and there, as at Tororo, strange, vast rocks tower in gloomy isolation. Mount Elgon rises in a series of forest-clothed ridges to its extinct crater and on its slopes the Bagishu are being taught to grow arabica coffee.

* See "World's Great Waterfalls," by Theodore W. Noyes, NATIONAL GEOGRAPHIC MAGAZINE, July, 1926.



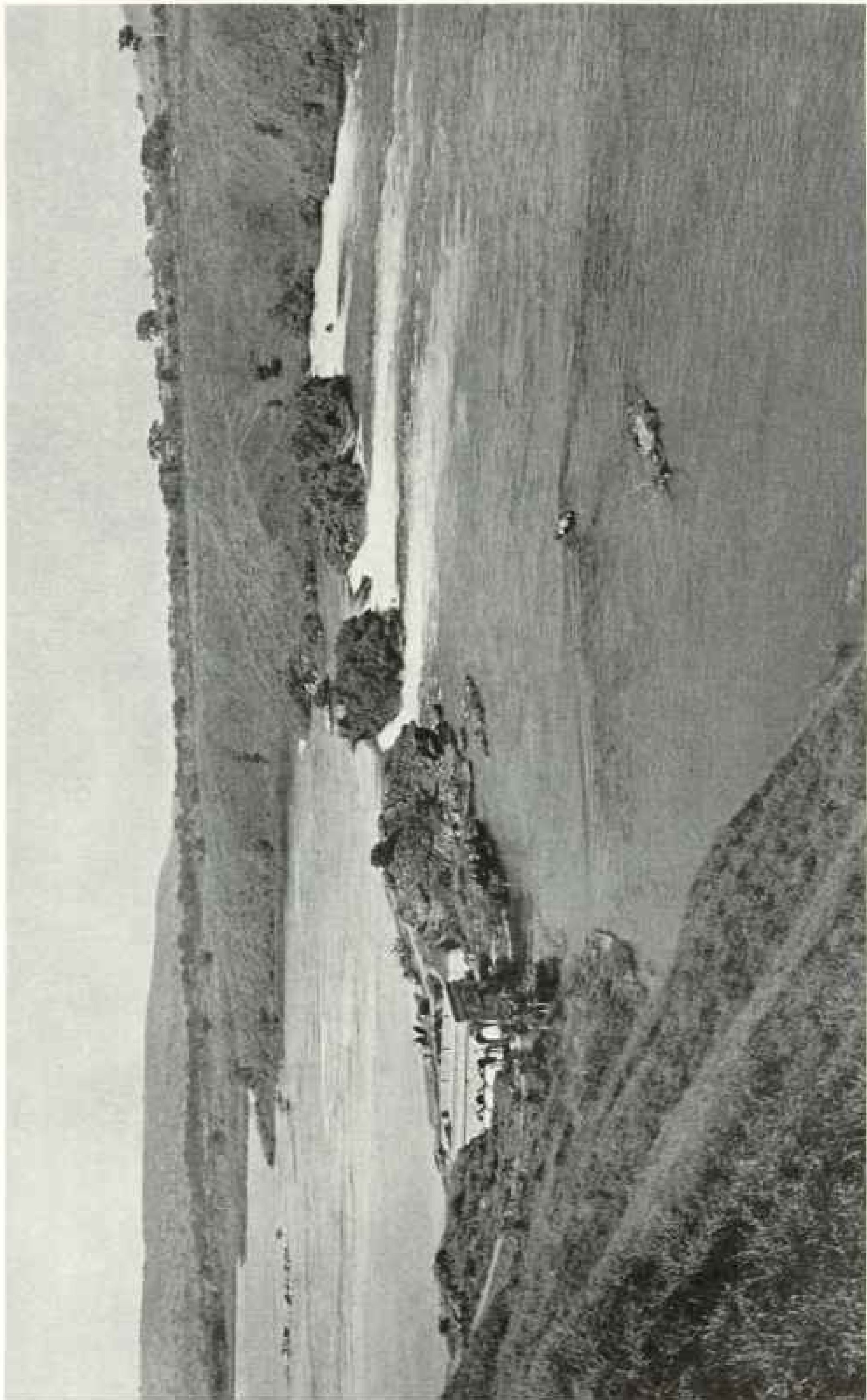
Photograph by Sir Bernard Bourdillon.

THE SKYSCRAPER AMONG ANIMALS SELDOM TRAVELS ALONE

Giraffes browse in brushy plains, usually in herds numbering from five to forty. With long, tapering tongues they reach among the branches of acacia and other thorny trees to eat leaves at second-story heights. Knobs between the ears are bonus covered with skin and bristly hair. Though usually shy and inoffensive, they can beat off a charging lion with their stout rear legs.

Farther north is the country of the Karamojong and the Turkana, wild nomadic hunters, tall and thin as are all Nilotics, near-naked, with clay-adorned hair, and spears in their hands. Once their country was the happy hunting ground of the ivory traders and raiders. Men went armed to the teeth there, with large caravans, and carried their lives in their hands.

Now all that land as far as the Ethiopian border is patrolled by the King's African Rifles. There are blockhouses and signal stations, and patrols move about in



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DISCOVERY OF RIPON FALLS, IN 1862, SOLVED AN AGE-OLD MYSTERY--THE SOURCE OF THE MIGHTY NILE

Inbedded in one of the huge rocks is a bronze tablet in memory of the dauntless explorer, J. H. Speke, who, after a long journey inland from Zanzibar, here answered the question, "Where rises the Nile?" Lake Victoria empties its waters at this spot, giving birth to the Victoria Nile. The water station on the tongue of land supplies the town of Jinja.



© A. T. Schofield

PERHAPS THE NOTE EVOKED HER COY GLANCE

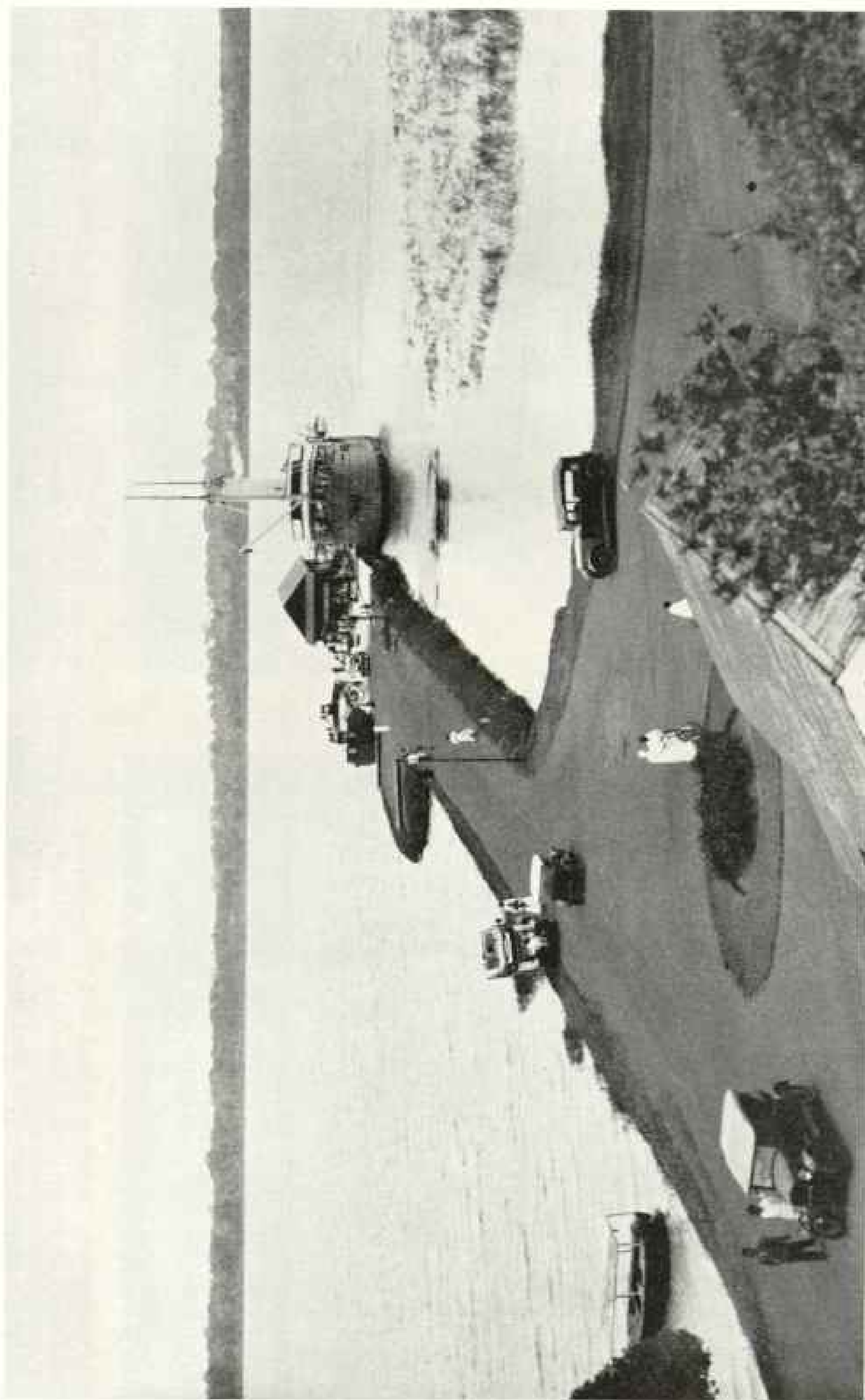
This Muhima girl of Ankole displays a wraith of shells fastened in her hair. When courting, a Muhima man takes a pot of native drink, a cow, and a calf to the home of his sweetheart. If the father drinks the "beet," and the girl partakes of a fresh bowl of milk, the betrothal is announced.



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A 6-FOOT 5-INCH CHIEF SMOKES A PIPE OF PEACE

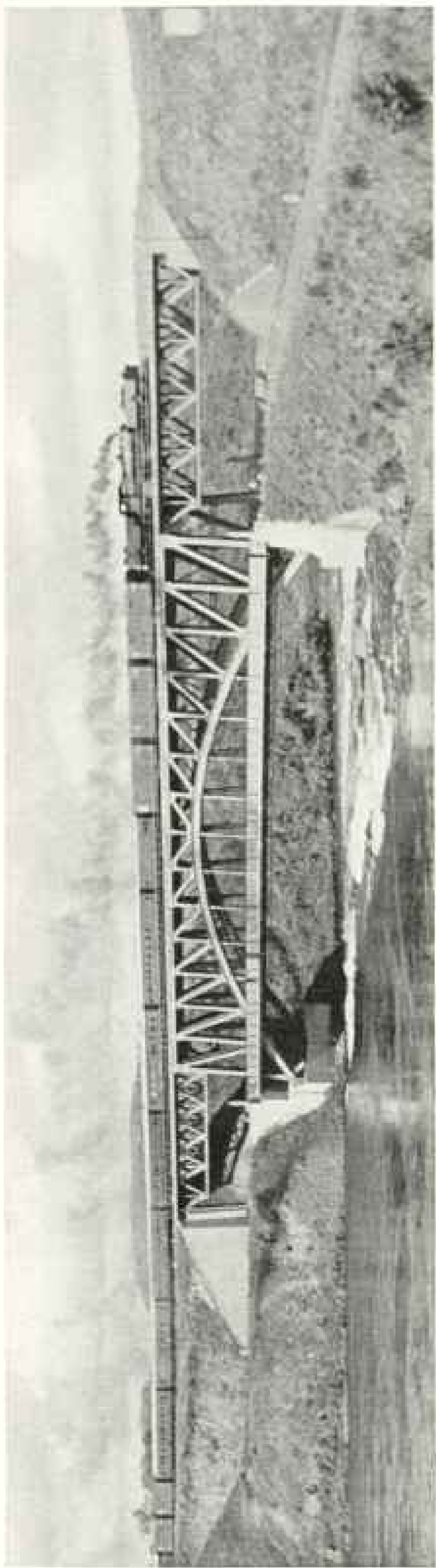
Watussl men sometimes attain seven feet and accentuate their stature by arranging their hair in two upstanding crescents. Agile in athletics, especially the high jump, these natives have an aristocratic bearing and surfs do much of their work. This dignitary's home is in the Kigezi District, southwest Uganda.



Photograph by Alice Schmitt

THE "CLEMENT HILL," A KNOCKDOWN STEAMER, DOCKS IN THE HARBOR OF ENTebbe, SEAT OF THE BRITISH GOVERNMENT IN UGANDA

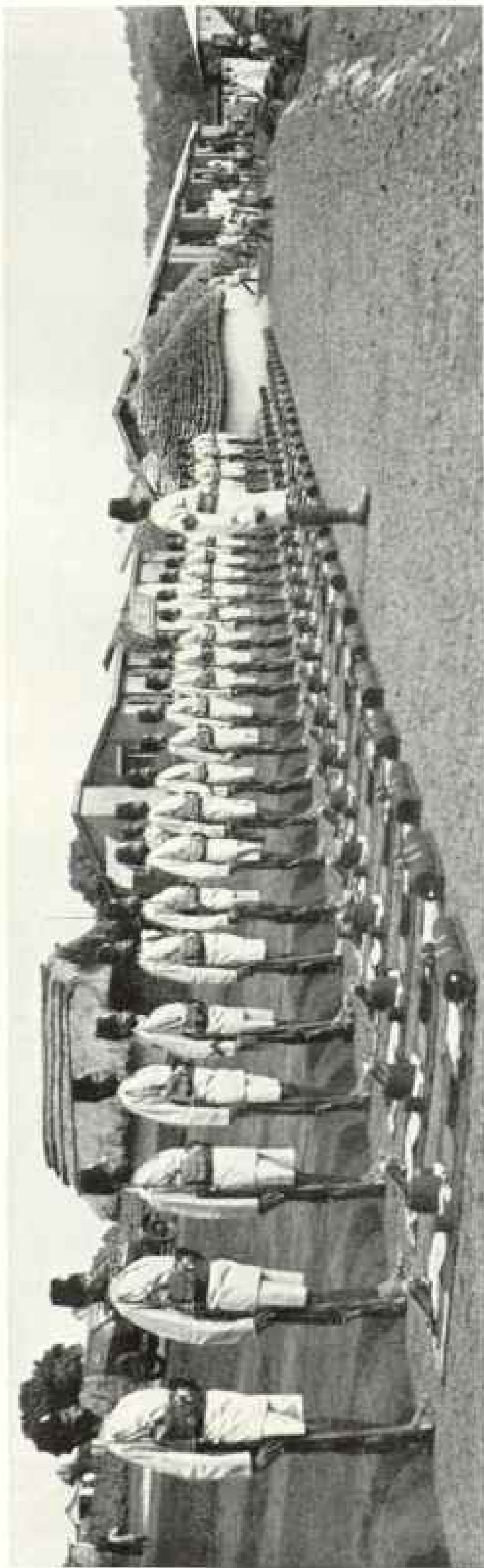
This vessel and others that ply Lake Victoria were built in England, shipped in parts to Uganda, and then set up and launched on the lake. Boats steaming across Victoria's often troubled waters sometimes mistake thick clouds of kungu flies for waterpuffs or the smoke of a steamer, hull down. The insects form in such dense masses that when a ship passes through them the skipper slows his vessel because of the "fly fog." Entebbe, a "garden city," is perched on a promontory overlooking the lake. Flowers and shrubs, tree-lined roads, and green lawns about numerous bungalows give it a parklike appearance.



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THE MAIL TRAIN OF THE KENYA AND UGANDA RAILWAY SPEEDS ACROSS THE NILE AT JENJA

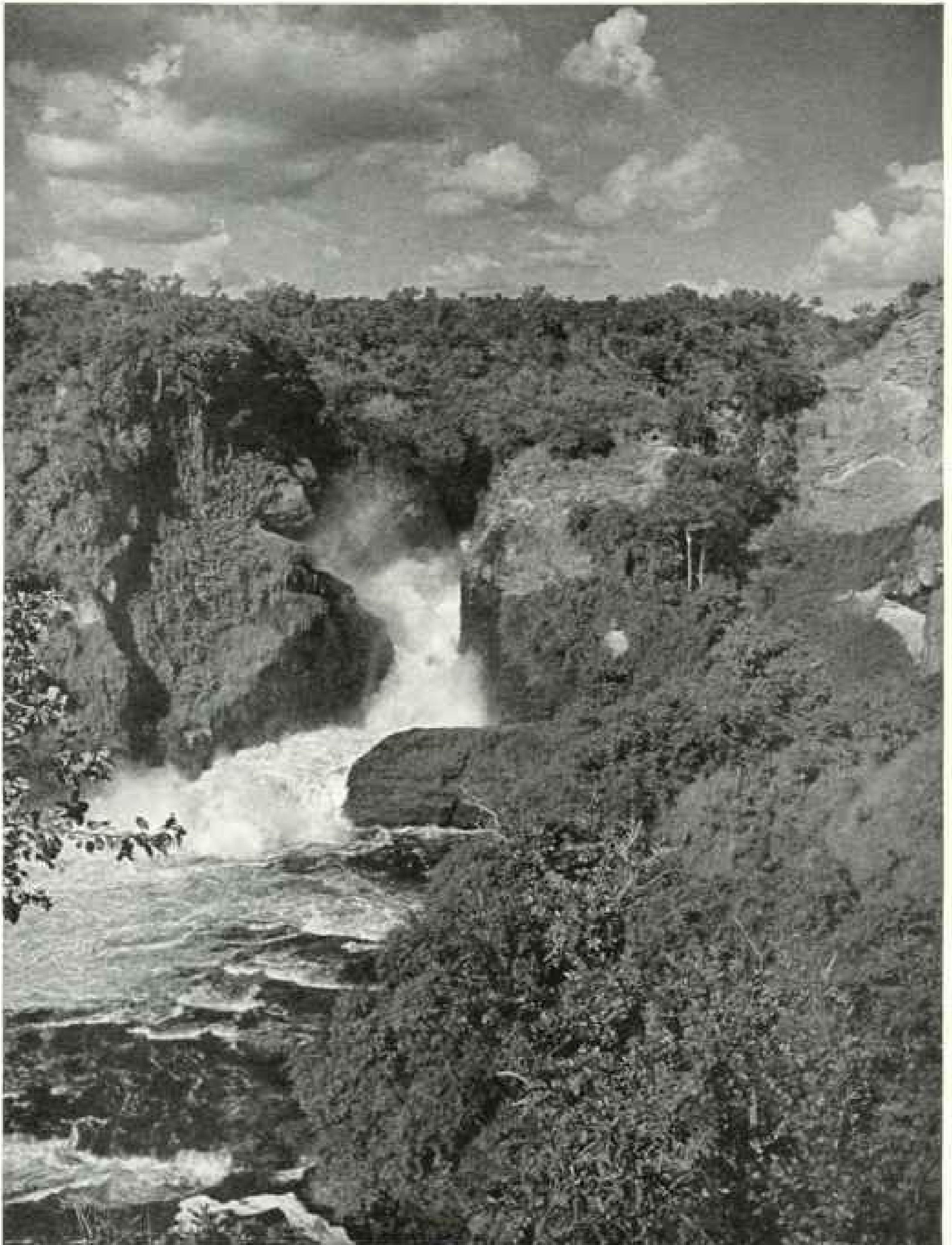
A new steel bridge spans the river at Rippon Falls. Excellent grounds for anglers are these waters. The railway now extends from Mombasa on the east coast of Africa to Kampala, chief commercial city of Uganda, and to Port Bell on Lake Victoria.



Photograph by Alice Schalek

"TEN-TION," AND THE KING'S AFRICAN RIFLES LINE UP SMARTLY FOR INSPECTION

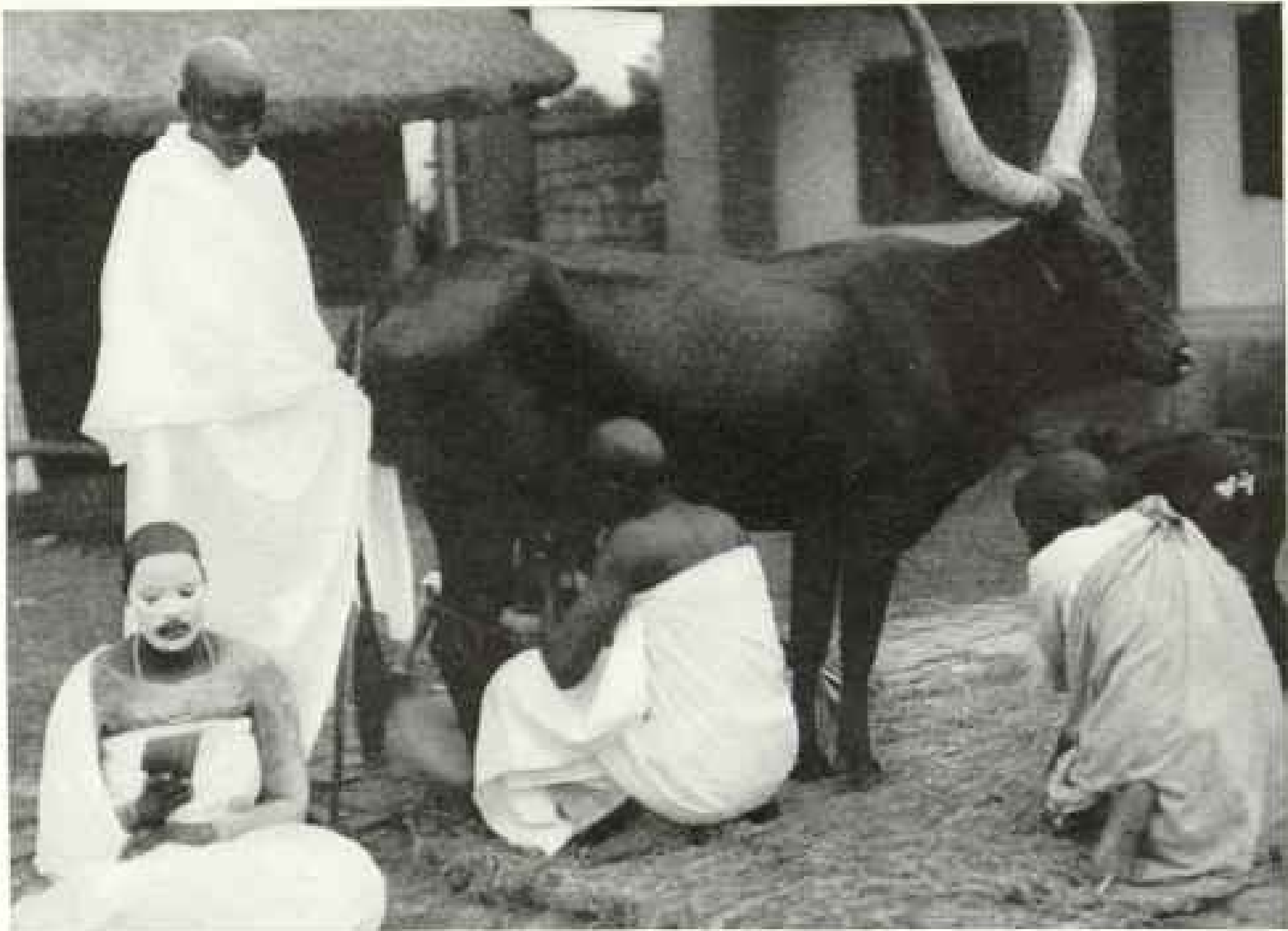
Baganda are tall and husky, and have proved splendid troopers. During the World War the Askaris, as they are usually called, acquitted themselves well.



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THROUGH A NARROW CLEFT THE NILE RUSHES TO MAKE THUNDERING MURCHISON FALLS

Between Lake Victoria, its source, and these falls near Lake Albert, the infant river flows through such canyonlike walls, but below here it is a winding, lazy stream. The constant supply of water tapped from the great Lakes Victoria, Albert, and Edward forms a nucleus that keeps green the Nile's lower valley in the Sudan and Egypt. During the rainy season, mountain tributaries empty torrents into the Nile, spreading a rich coating of silt over farm lands. Vast new dams now impound much of this flood water and hoard it for irrigation.



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CLOWN'S MAKE-UP AND WHITE ROBE PROVIDE THE UNIFORM FOR THE ROYAL MILKMAID OF TORO

Women attend to the cattle possessed by the Mukama, or king, in the district north of Lake George. The milk is borne to the royal house in a plaited vessel, used especially for the ceremony (page 117).

six-wheel lorries. So His Majesty's peace is kept in what still is one of the wildest parts of Africa.

The Karamojong are fine dancers, and on ceremonial occasions adorn themselves with paint and feathers and make a brave show. Their women wear innumerable neck, arm, and ankle rings of metal, and ornaments which pierce the lower lip.

But this wild country was closed to the visitor, so we returned to Kampala, our central point. The road between the two towns was full of traffic, and driving required some care. Buses, filled with natives and loaded on the roof with a heterogeneous assortment of bicycles and bunches of plantain, scraggy native fowls, and other produce, hurtled recklessly along.

Dozens of cyclists, often with girl friends on the carriers, wobbled in erratic fashion; pedestrians straggled from side to side; fowls scuttled squawking under our wheels; grazing goats and furtive native dogs leaped down from the grass banks.

Cattle with enormous horns massed in

the roadway, while their herders flipped them ineffectually with sticks. Huts and villages dotted the green landscape.

The Baganda are a pleasant and courteous people, and quick to emulate the white man in clothing and ways of living. They train easily, whether as domestic servants, boy scouts, or seamstresses. Their women, with their cropped pepper-corn hair, beautiful bare shoulders, and long swathed garments, are not unattractive.

They walk well, with their babies on their backs, often covering the infants with a gourd for shade. Neither they nor the men bear the tribal cuts and raised patterns on their faces and bodies which disfigure so many native peoples.

The men's garments vary from the white Arab *kanzu*, like a long nightdress, to a strip of bark cloth, a sack with holes cut for head and arms, or European remnants that ill become them.

The Kabaka looks splendid in his royal robes, and has a fine arrogant bearing (page 118). He speaks English perfectly,



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SALT WORKING AT KIBIRO IS A FEMININE MONOPOLY

Here women are the hereditary land holders, and each plot is marked off with rows of stones. Salt from the brackish waters of Lake Albert entrusts the sand. Laborers heap the earth in piles and wash out the saline deposits with water from a stream. After the liquid evaporates, workers wrap the salt in banana-leaf bundles (page 129).

though his queen, the Lady Irene, knows no word of it.

A COLORFUL RIDE TO LAKE ALBERT

Traveling northward from Kampala, a run of five or six hours through papyrus swamps and forests and rolling hills led to the shores of Lake Albert.

In the liana-hung forest many of the trees are draped with white curtains of old man's beard; pinkish masses of wild bougainvillea clamber over others; starry white clusters of wild jasmine scent the air. The swamps are thick with tall purple orchids; tree heathers exhibit a mass of mauve spikes; the pink of wild peach blossom glimmers palely, and the scarlet brushes of the kirikiti tree strike a bold note against the prevailing lush greenness.

The cotton was not yet ripe, but there were little plots wherever there were huts. Guinea fowl scuttled off the road into the grass, doves fluttered out of the trees, and coveys of francolins rose with a whirring of wings as the car passed.

Natives on the road, mostly pedestrians, often bore their loads on their heads. Many of them were walking into Buganda to find work.

We were in the Kingdom of Bunyoro now—a pleasant and fertile land where much tobacco is grown by the natives, and where a number of European coffee planters have settled.

A steep escarpment overhangs Lake Albert, and at its base are green flats, where game roams, and across the water the mountains of the Belgian Congo show blue and misty.

There is a strange village on the shore called Kihiro, where the women are the hereditary landholders and own the primitive salt workings which are the wealth of the community (page 126).

MOONLIGHT—AND MURCHISON FALLS

At Butiaba, the little port, there was a flat-bottomed steamer, which at midnight started off northward for Murchison Falls. A full moon, dramatically huge and brilliant, silvered the calm surface of the water and eclipsed all but the bravest stars. The boat anchored at the mouth of the Victoria Nile to await the dawn.

The banks were fringed now with papyrus, now with low, thick forest, now with open glades of grass between clumps of low bush.

Antelopes of various kinds grazed here, or posed, like natural history museum groups, on sun-warmed slabs of rock. Crocodiles in incredible numbers basked, open-mouthed, on sandy banks by the water's edge, slithering in as the boat drew near them.

Hippos, literally by the hundreds, splashed and dived and yawned cavernously in the shallow bays, their wet, red-brown hides and enormous horse-heads glistening. Troops of monkeys played in the trees. Once our native helmsman, steering by what the Goan captain admitted to be instinct, gravely considering a compass which he could not read, murmured "Tamba," and pointed to a herd of elephants moving in the bush on the right bank.

Just before noon a steady booming roar broke upon our ears. We rounded a bend, and there, at the end of a reach, were Murchison Falls, where old Nile hurls himself through a 19-foot fissure—a vision of dazzling spray and delicate foam that conceals an irresistible force (page 124).

The climb by a bush path to the top was a grueling one. We might have met elephants in our track, as did a previous party, and have been obliged to flee. Even lions have been encountered there.

A cross-country road, passing through wild and often uninhabited country, brought us to the one running to the Ruwenzori Range,* the romantically named "Mountains of the Moon." The country changed as we neared them, and we ran

through miles of luxuriant tropical forest, with huge trees and dense undergrowth.

The Mpanga River crosses under a bridge, and round about here these days elephants and hippos and even those most dangerous beasts, buffaloes, may appear on the road, especially after dark. A few miles farther on is the little station of Fort Portal, the administrative center for Western Province, which includes the old kingdoms of Toro and Ankole. A number of coffee and tea planters live in Toro.

On a hill lives the Mukama and his court. Every February he is crowned anew, an elaborate ceremony of donning a crown and a beard of colobus-monkey hair (in which his chiefs imitate him), of passing through seven huts, and of entertaining guests, white and native (page 112).

Special ceremonies attend the milking of the cattle belonging to this king, and these are seldom viewed by white men. The milkmaids wear clean robes and have whitened faces (page 125). The milk is borne in a special, beautifully plaited vessel.

All too often the vast peaks of the Ruwenzori are swathed in cloud and mist. In the morning, however, every fold and ridge is clearly defined, and on the topmost peaks is a glimmering line of snow.

A road runs southward along the foothills, and one side of it is a game reserve, where the buck and the elephant and the giant forest hog are always seen. I sat in a Ford, with the engine running, while four elephants grazed not 80 yards away.

Mountain Bwamba women carrying loads slung across their brows by straps, Bakonjo clad only in monkey skins, passed. They came from the forests on the other side of the range and many of them carried loads of salt from Katwe on Lake Edward, the salt lake at the southern end of the mountains. Seventy miles from Fort Portal we had to cross, by a comic ferry, a channel between Lakes George and Edward.

To me the loveliest part of Uganda is the District of Kigezi. Kabale is its chief town, and here there are rushing rivers in deep valleys, steep hills marked to their very tops with squares of cultivation—blue-green patches of peas and beans, the darker green of bananas—and dotted with little groups of huts and granaries and cattle

* See "Amid the Snow Peaks of the Equator," by A. F. R. Wollaston, NATIONAL GEOGRAPHIC MAGAZINE, March, 1909.



THEIR HUSBANDS BEAR ARMS FOR THE HOUSE OF WINDSOR

Native police, trained by the British, live with their families in these round huts at Kampala. Although Baganda men once had several wives, only one apiece now is permitted officially. Light dresses, draped on one side, are usually of vivid colors. Mothers carry their babies pickabuck and frequently protect them from the sun by large gourds (second from the left).



Photographs by Alice Schalek

PAY LOADS, NOT TIMETABLES, REGULATE UGANDA BUS DEPARTURES

Lucky the passenger who arrives at the last minute, for he will not have to wait for vacant seats to fill. Several motor roads, radiating from Kampala, thread the hills and valleys of Uganda. A fleet of Government vans also operates on the same highways.



Photograph by Alice Schalek

A SALT EXPRESS STOPS ON THE ROAD NEAR FORT PORTAL

Bakenjo porters of Toro carry the product of their wives' "salt factories" in long banana-leaf rolls. Salt for the people of western Uganda is obtained from workings at the little village of Kibiro on Lake Albert (page 126). Burdens that weigh 150 pounds may not net more than 50 cents at market.

bomas. A magnificent road has been completed over the steep, bamboo-clad ridges into Ruanda, Belgian Congo, leading to that jewel of African lakes, Kivu.

ROAD REPLACES SAFARI TRAIL

Once, in the days before this road existed, I walked, with a long line of Bakiga porters balancing my kit on their woolly heads and jogging along at a curious bent-kneed lope, to the shores of Lake Bunyoni. There I embarked in a crazy dugout canoe for Bufundi, a camp on a peninsula that juts out from the western shore of the lake.

Visitors now motor there to bathe in waters crisply cold, green, clear as crystal; to see, and if lucky in avoiding the closed season, to shoot wild ducks, flotillas of which cross and recross the still water; to

watch sleek otters diving, and cormorants rising, showering spray; to paddle among vast stretches of pink and blue lotus lilies; to stalk the sitatunga antelope in the swamp of the upper reaches; to buy a sheep for three shillings, and chickens, vegetables, milk, even strawberries, for a few cents.

Thence, if they can face an arduous four-hour climb, they may march up and up the steep hills to the level of the bamboo forests.

Crossing a swamp of brownish reeds, "red-hot poker," and muddy water holes, they see herds of forest elephants, small, with very long tusks of the so-called "rose-colored" ivory. They may meet the animals face to face on the narrow track, but a shout or a blast on a whistle will usually disperse the creatures.

Finally the climbers emerge above the forest on the plateau of Behungi, a camp perched at some 8,000 feet.

JEWEL LAKES IN A VOLCANO SETTING

The panorama from this camp, looking down on the lava plain and across to the Virunga (Mufumbiro) volcanoes, seems as if a vast green sea of ridged billows had solidified. Crater after crater has been upflung there, and towering over all are eight vast volcanoes, two of them active still, with a perpetual pillar of cloud by day and fire by night.

Between the craters lie lovely lakes, gleaming like metal. The volcanoes are stupendous, and Muhavura, a perfect cone, is the legendary home of the local gods; while when Niamlagira bursts into eruption, it is a sign that their wrath is being wreaked upon men.

The people of the forests and the immensely fertile lava plain range from semi-pygmy to seven-foot giants, and from red-brown and light copper to almost black.

The tall ones are the lordly Watussi,* of Hamitic stock, who are a sort of feudal aristocracy, with serfs—the Bahutu, a squat and unprepossessing tribe—to till their soil and tend their fat cattle on the flowery plains which, like English pasture land, are thick with large clumps of thistle, forget-me-not, buttercups, and ragwort.

The Watussi are attractive, with long, fine hands and feet, and handsome profiles (page 121).

They are amusingly vain, and the sight of a camera poised ready for action brings them hastening, to stand about hopefully, in their long togalike robes of scarlet-patterned white, with their slim ankles crossed. Leisurely by nature, they have a charming courtesy. They seem born to be "lilies of the field."

* See "Land of Giants and Pygmies," by Duke Adolphus Frederick of Mecklenburg, NATIONAL GEOGRAPHIC MAGAZINE, April, 1912.

Their women live in seclusion. I met one once walking on the road with two attendants. A metal fillet with hornlike decorations on her brows gave her a regal air, but her walk was ungainly, hampered by the masses of fiber rings that encased her legs from knees to ankles.

The semi-pygmy, or Batwa, are reddish-colored men, with puckered faces and wide round eyes. They are skilled trackers and hunters, intrepid in chasing elephants and the gorillas which live high up on the volcanoes, Mikeno and Sabinio.

They wield the fire stick cleverly, are all armed with a bow and arrows, and move their villages from place to place as they hunt. They will sometimes dance, and their dances take the form of mock battles.

The young Watussi braves dance too, wonderfully, leaping up high and coming down with ringing stamps. Their Sultan has a special band of dancers. They can also jump over a bar to heights sometimes exceeding the world's official high jump record.

To these people the mountains are gods, which is not surprising, for the massive bulk of the range dominates the country and the lives of those under its shadow.

A good road leads back through Kabale to Mbarara, where the country reminds one, with its plains and bare ridge after ridge of hills, of a Zane Grey novel. Thence it goes to Masaka, where charming Lake Nabugabo makes a week-end picnic place for the town-weary. And so to Kampala again, and on to the airdrome, where planes leave for London and home.

The Kenya and Uganda Railway will bring the visitor, if he likes. But somehow it seems fitting that he should drop, as it were, clean from the skies into this little world that is so different from anything else; and that he should leave it in the same way.

Out of Africa there is always something new. One finds that something in Uganda.



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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 coöperated with Dr. William Beebe in a deep-sea exploration of undersea life off Bermuda, during which a world record depth of 3,028 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 \$75,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees in the Giant Forest of Sequoia National Park of California were thereby saved for the American people.

The Society's notable expeditions to New Mexico have pushed back the historic horizons of the southwestern United States to a period barely 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 archaeological survey of Venezuela.

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



Lani's suite, S. S. Lurline, Natural color photo.

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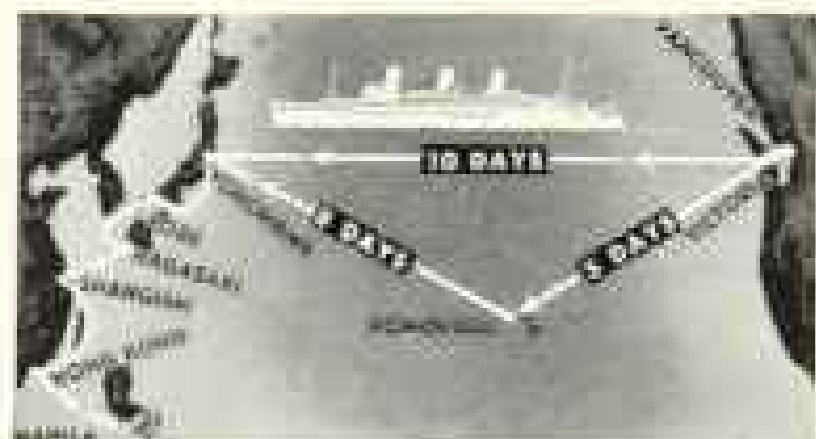
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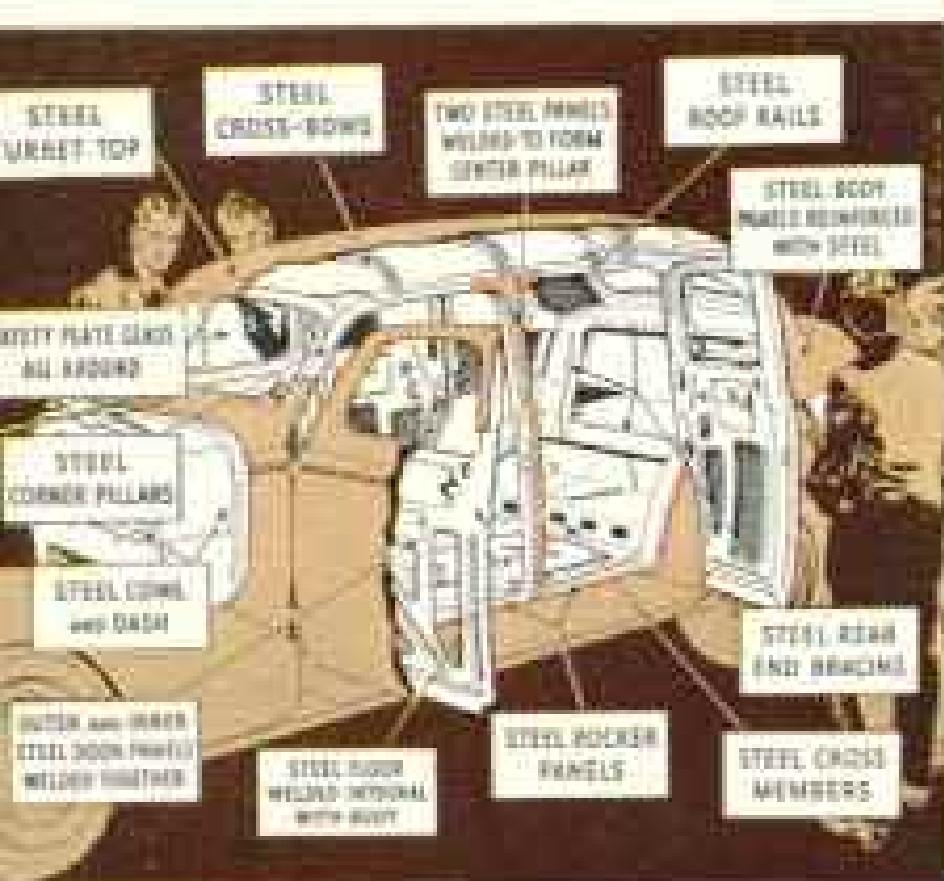
For rates and sailings see YOUR TRAVEL AGENT or Canadian Pacific: New York, Chicago, Boston, St. Louis, San Francisco, 36 other cities in U. S. and Canada.



*Abat-basket in
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The Fleets' in!



The inside story of Unisteel construction

There's plenty worth saluting as the six new cars of the 1937 General Motors fleet pass in review... On each of them, you now see the glorification of the steel body—the new Unisteel Turret Top Body by Fisher... And what a far cry it is from the steel bodies of the past—in all things—in comfort, luxury and safety. For it is fused into one solid steel unit—with all the steel panels so insulated against heat, cold and noise that you ride in comfort and silence never before enjoyed in even costly custom-built bodies. But remember, the new Unisteel Turret Top Body by Fisher is available *only* on General Motors cars.



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Four attractive cruises of varied length

January 27 to February 15 (18 days) \$220 up

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A midwinter cruise—visiting in 12 days Havana, Panama, Jamaica and Nassau.

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Four 28-day railroad trips that will travel through Mexico by their own air-conditioned, special cars. With 9 days in Mexico City and vicinity, and visits to Mazatlan, Guadalajara, Patzcuaro, Guanajuato and other places. Jan. 14; Feb. 4; Feb. 25; March 18. Rates, \$495 up, from New York.

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The annual Raymond-Whitcomb summer cruise to Iceland, Norway, Sweden, Denmark, Finland, Danzig and Russia. To sail June 26, 1937, in the Cunard White Star liner "Franconia."

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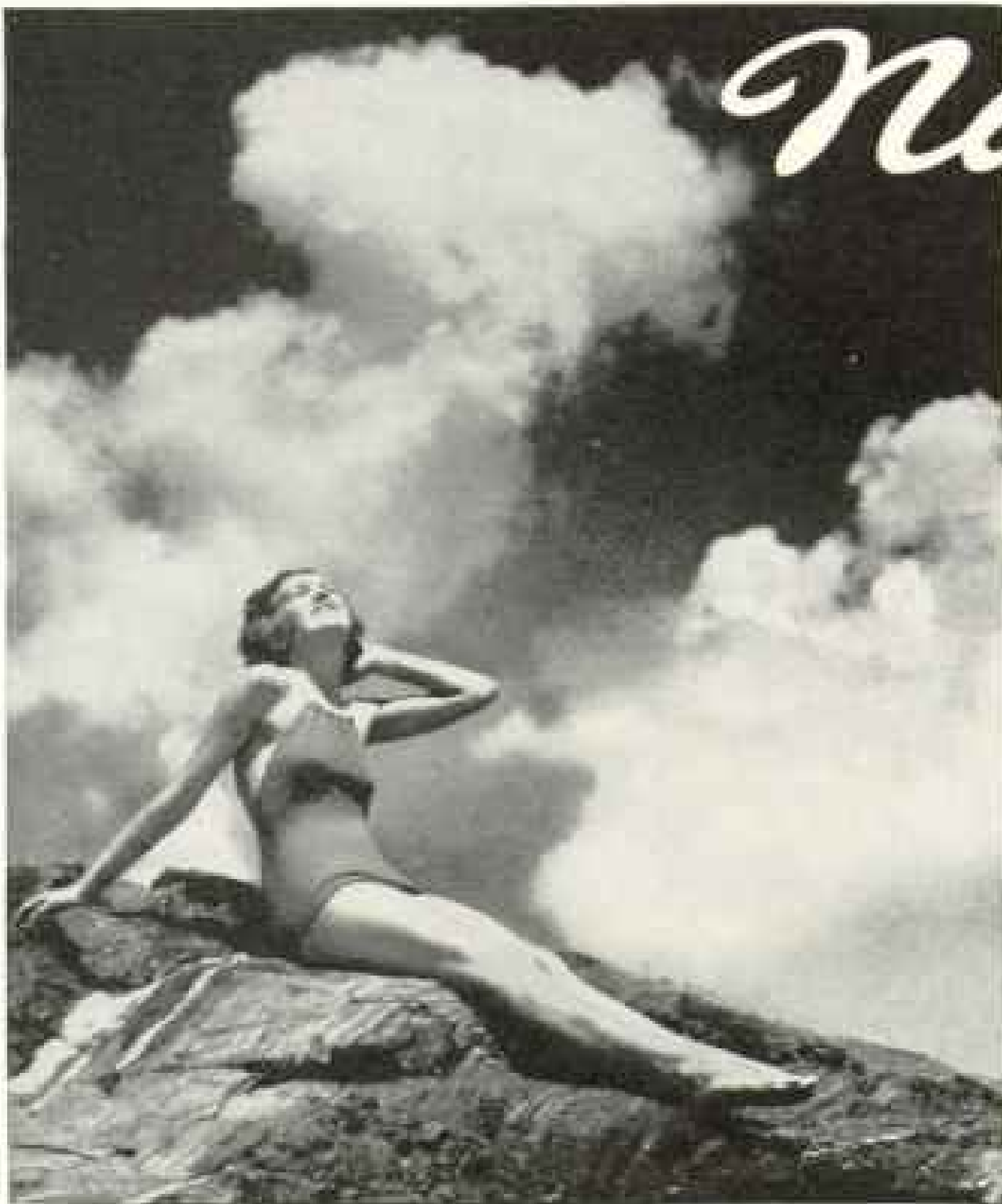
For particulars see your local travel agent . . . or

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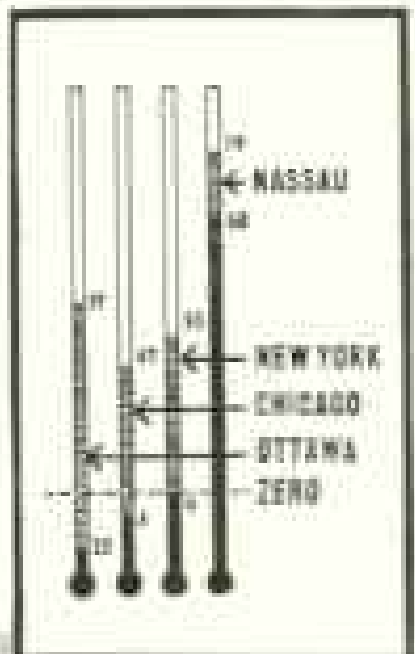
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"Carinthia" SAILS EVERY SATURDAY

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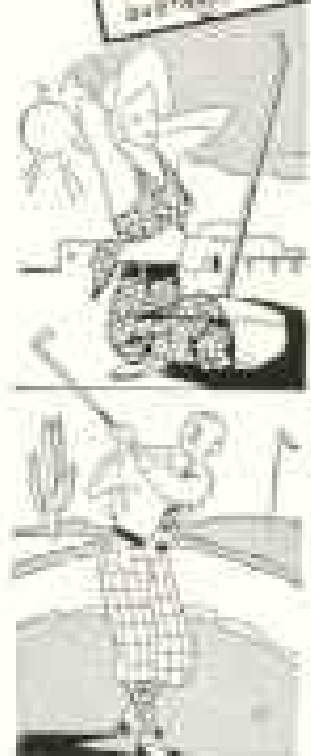
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CLIMATOLOGICAL DATA (Continued from U.S. Weather Bureau Report)												
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
TEMPERATURE Mean monthly 100-year average	49	52	57	63	71	77	82	79	73	68	61	55
BAINFALL (in inches— 100-year average)	8.95	8.8	3.2	1.4	2.3	2.4	2.6	1.0	6	7.6	10.9	15.7
HUMIDITY Monthly 100-year average	61	58	48	40	28	29	35	47	46	57	74	85



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SEVEN PILLARS OF WISDOM

By T. E. LAWRENCE



THE SEVEN PILLARS OF WISDOM for years has partaken of the sensational and legendary which surrounded everything that Lawrence did. Lawrence finished it during six months of writing at the Peace Conference in Paris. Close to 250,000 words had been written. Then one day while he was changing trains at Reading Station near London, he left this manuscript unguarded and it disappeared. It has never been recovered.

Within a few months he rewrote a second draft in 400,000 words; but his style was careless and realizing he would never be satisfied with it, a year later characteristically he burned the entire manuscript. The third text was begun at once and was composed with great care. It is the present one. It was privately printed in London and fabulous sums were said to have been paid for the few copies sold in England. Twenty copies were printed for America, to retain copyright here, and the price of these was set at \$20,000 apiece. Upon his death, last year, the unexpurgated text was given to the world.

"Lawrence was not writing a history in this book. . . . The stream of explanation and narrative is made up of many elements. There are studies of Arab history and Arab character, the latter brilliant in the extreme, and pen portraits of Arabs, Turks, French and British leaders of extraordinary wit, shrewdness and power, and these and much else are foisted on a narrative of adventures that are terrible, humorous, exciting to a degree unequalled in our time, enriched by descriptions of the desert, of Arab life, of the backgrounds of critical action, many of which are beautiful in a high degree, real masterpieces of English prose. . . .

"But this is only one strand of this great book. . . . The other is philosophical, but in no abstract sense. It is the meditation, often agonized, sometimes profound and occasionally penitent and despairing, of a leader torn between duty to his conscience and duty to his cause, of a Hamlet uncertain of the words of his every action. . . . This is the memoir of a genius recording what he believed to be his failure as well as what he knew to be his triumph. It is an inextinguishable mixture of a human document, pure literature, philosophy, adventure, a history and a confession."



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"These bonds will be registered in your name. Ten years from now your first bond will mature for \$100, and one will mature each month thereafter for as many months as we bought bonds, provided all are held to maturity."



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Free From Price Fluctuation. The fixed cash redemption values, which increase less

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Ownership. They may be registered in the name of an individual, a trustee, a corporation, or any other legal entity.

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Amount you invest each month for 120 months	Maturity Value in 120 months	Payable each month for 120 months starting in 10 years
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75.00	12,000	100 " "
93.75	15,000	125 " "
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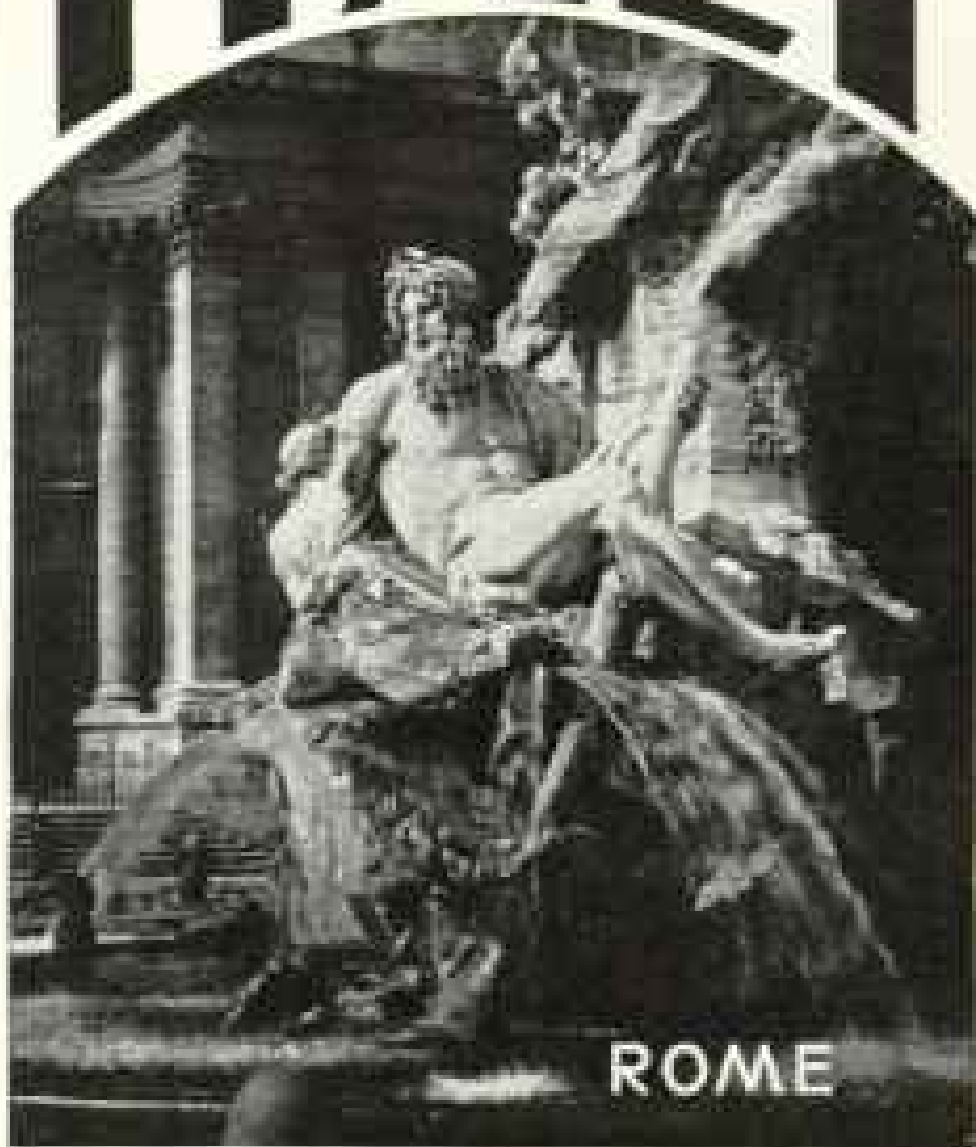
Send me the following bonds for which I enclose check, draft, or money order.

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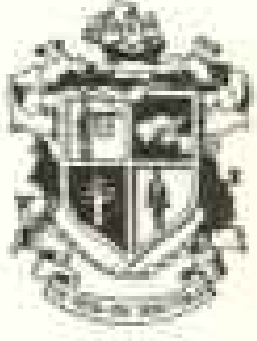
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"—that the coordination between railroads is so nearly perfect that each of these cars moves under constant supervision and control from origin to destination, moving freely and interchangeably in any train, pulled by any engine, or if necessary repaired anywhere en route with standard parts at standard cost!


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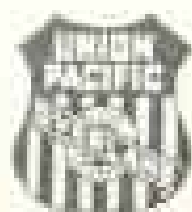
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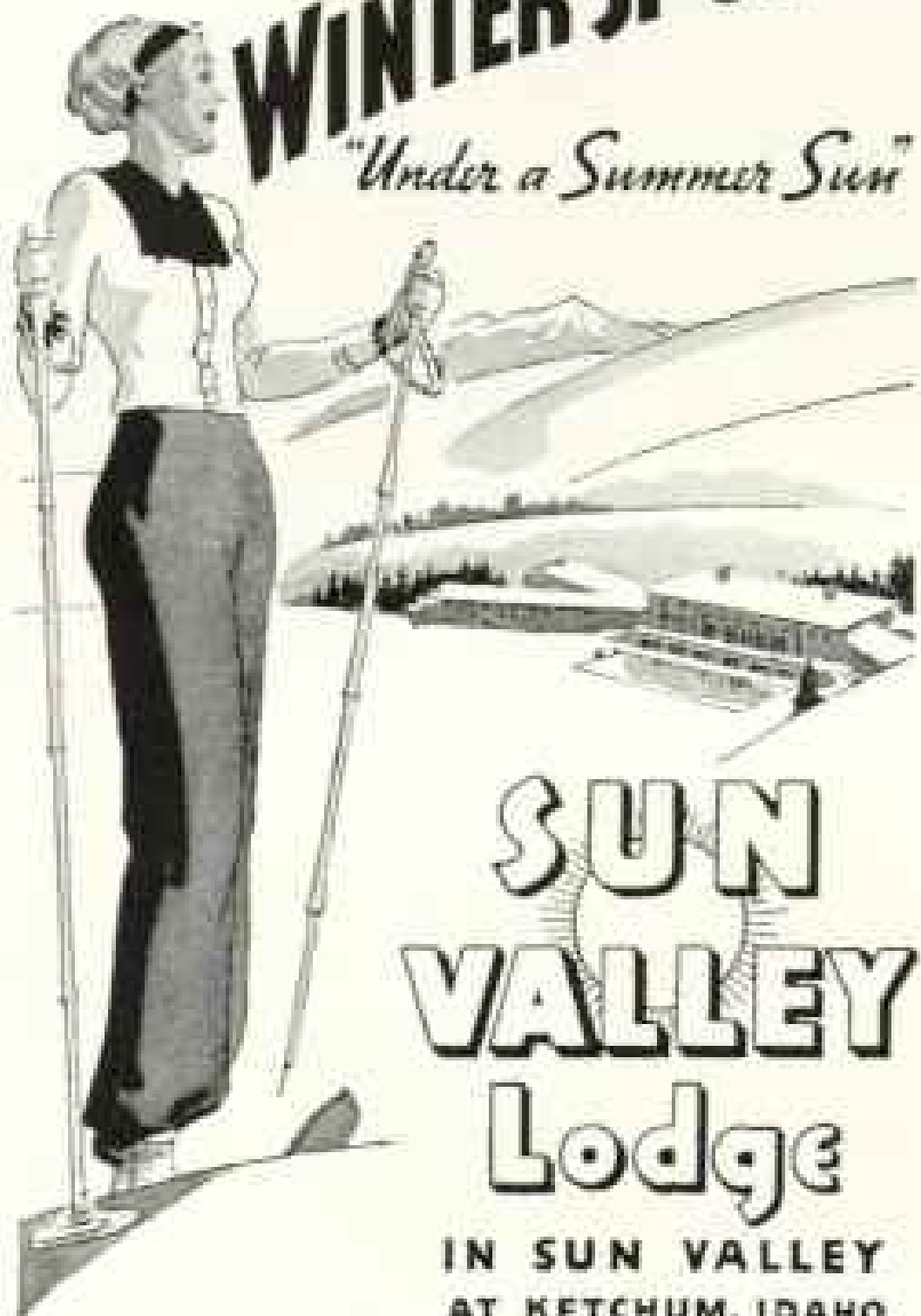


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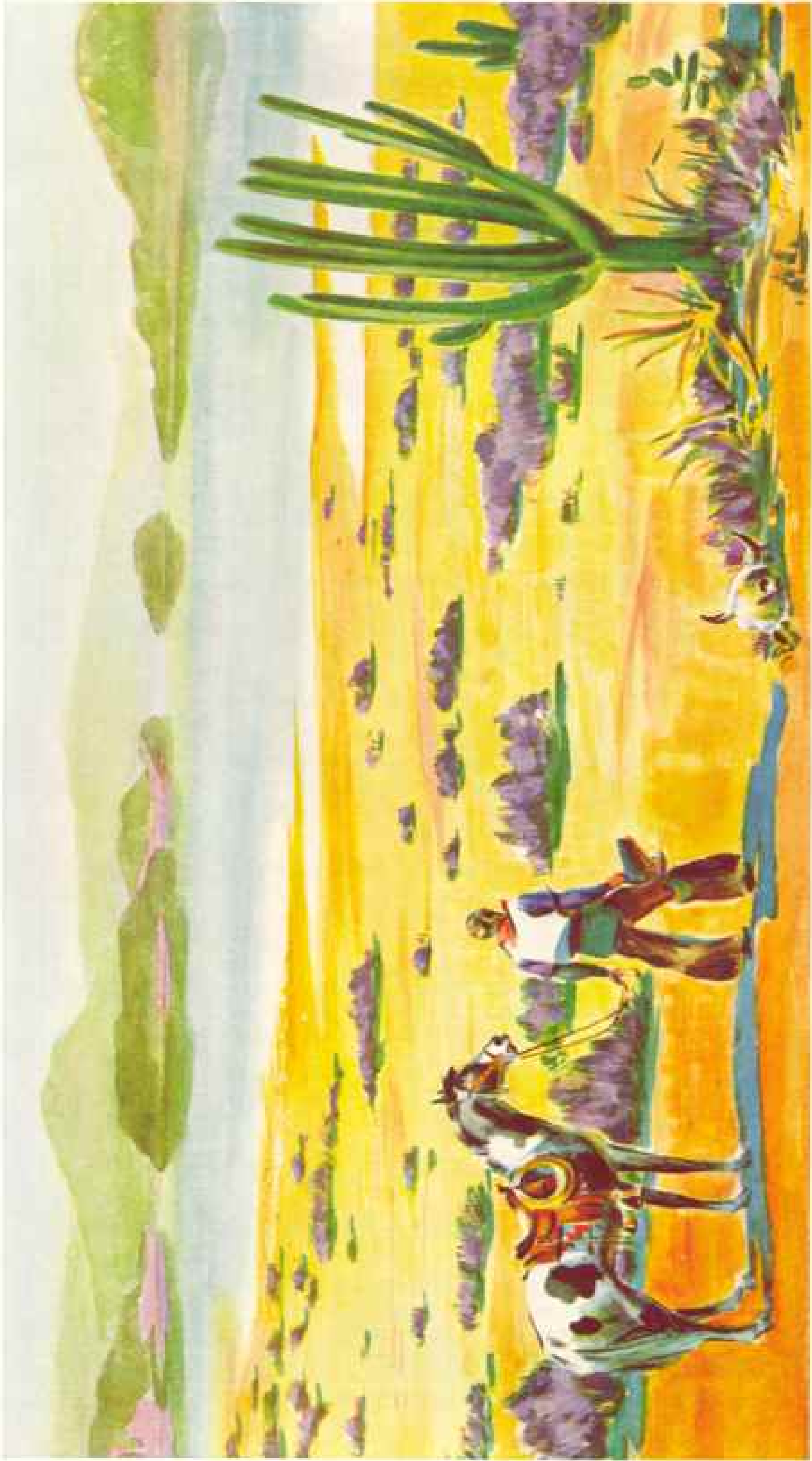
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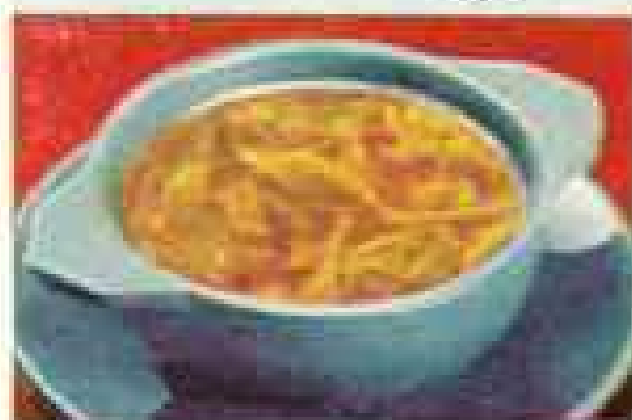
* More than half of each can is real beef stock.



HORMEL
VEGETABLE SOUP



Color Photograph by Evelyn Harris

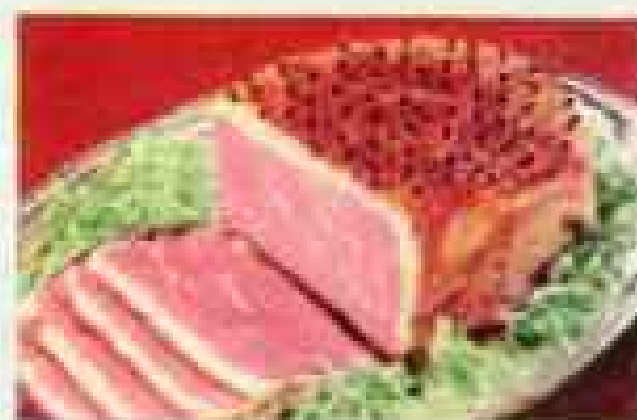


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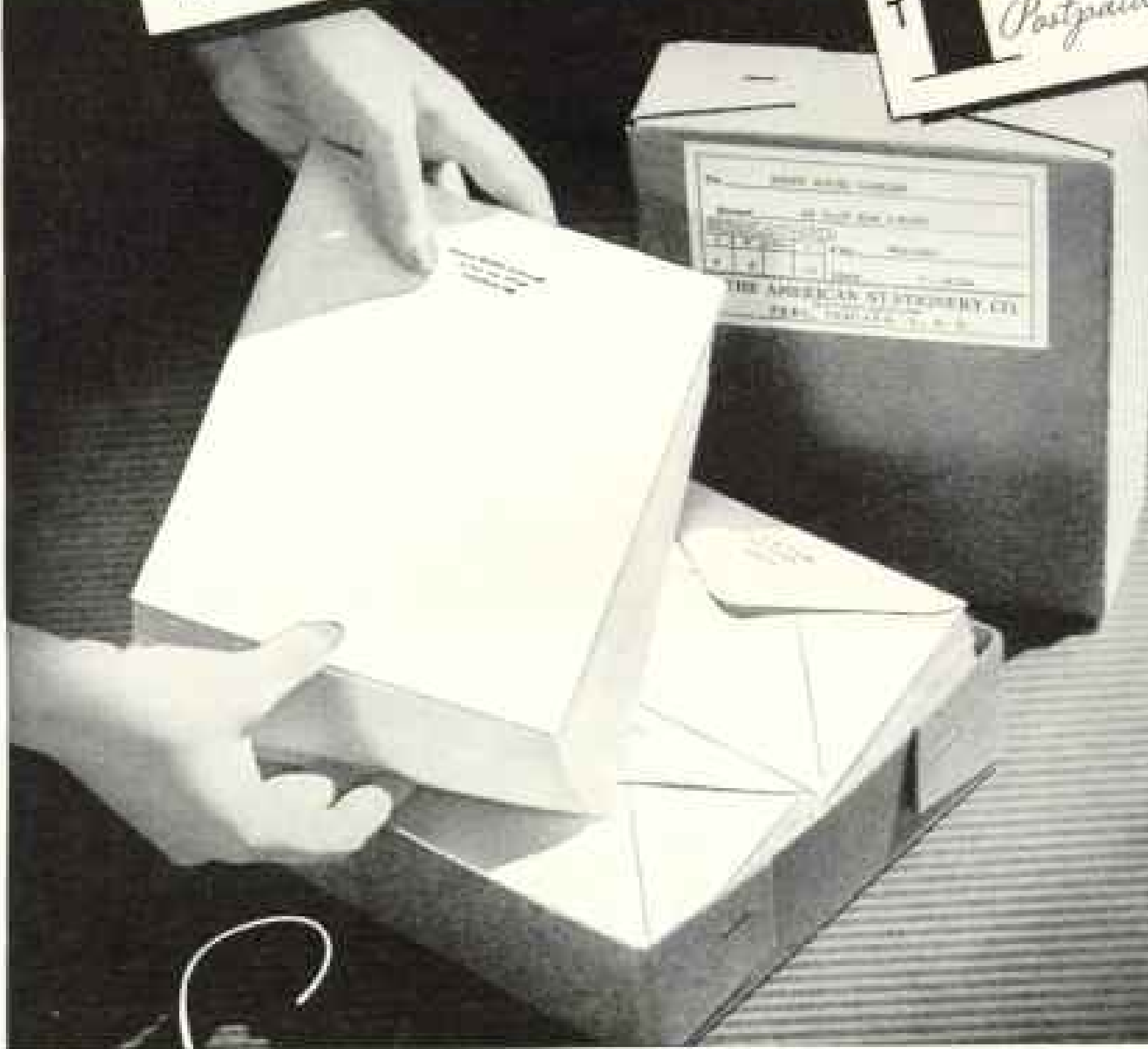
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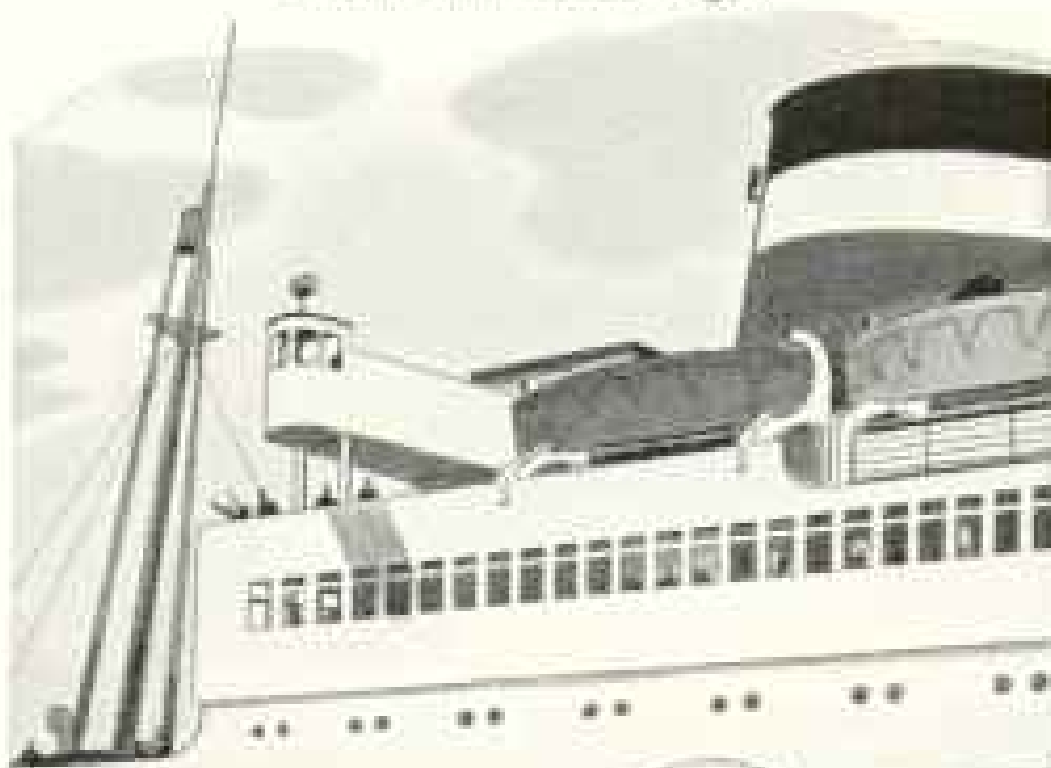
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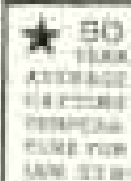
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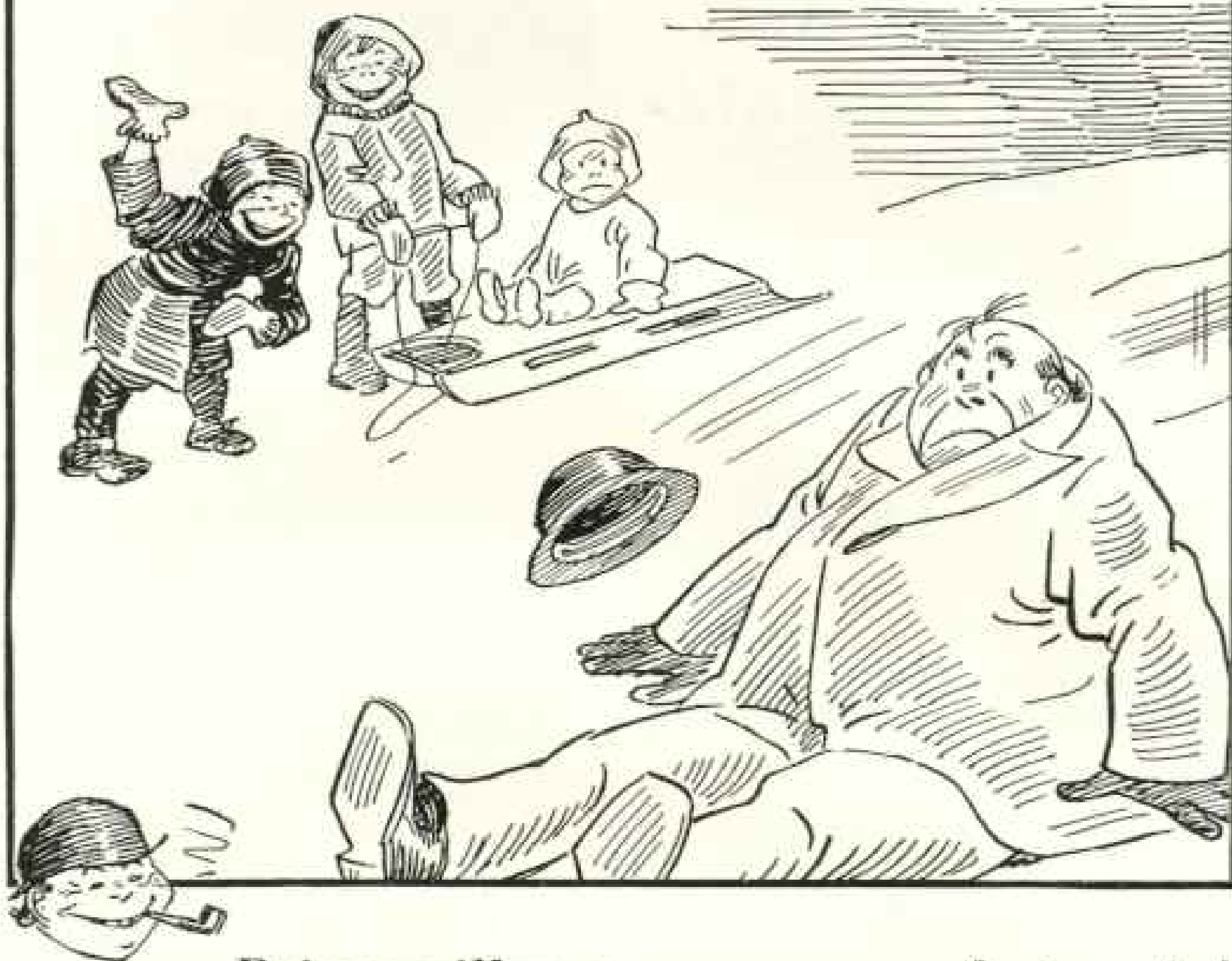
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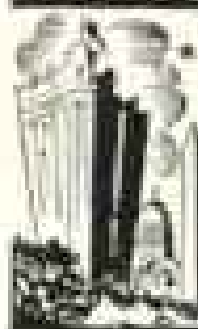
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A Happy New Year for

Kathryn

Dear Walter:
You can toss away
the memorandum of that other
phone number now as we have
one of our own! And if you
don't think I feel sweet about
it, you're not the smart brother
I think you are. I get a
kick every time I pass that
telephone in the living room.

Kathryn

The number is Exchange 2376.



THAT'S a real letter—written by a real Kathryn—to her brother. You can read her happiness in every line. She's mighty glad to have the telephone back.

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That means more than just having a telephone within reach. It means keeping the family circle unbroken—

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The Bell System employs more men and women than any other business organization in the United States. The total is now close to 300,000. Good business for the telephone company is a sign of good business throughout the country.

BELL TELEPHONE SYSTEM





OUR OWN SALESMEN

may not like this advertisement

THIS IS perhaps the most unusual advertisement which will appear in National Geographic Magazine this year. It is intended to emphasize the fact, not commonly recognized,

that the metal which is our sole livelihood, may be obtained, and is, in fact, regularly purchased from many sources other than ourselves and our distributors.

This is not intended as an advertisement for these

other suppliers of aluminum. It is, instead, a simple statement of fact about the aluminum business which has been too long misunderstood.

It is a matter of record that, during 1934 (the last year for which complete figures are available) the purchasers of aluminum ingot in the United States bought nearly twice as much from other sources as they bought from us.

In that year, out of every 100 pounds of aluminum ingot purchased in this country, 64.4 pounds was bought from foreign producers, or reclaimed from scrap.

The scrap originated from aluminum articles which had already served one useful life, and from the shops of thousands of



manufacturers using aluminum in their products.

As a result of this competition, Aluminum Company of America sold only 35.6%, or slightly more than one-third, of all the aluminum ingot purchased in the United States in 1934.

These facts are not evidence that our salesmen are failing to do a good selling job. On the contrary, by being good salesmen yesterday they actually created today's competition. Much of the aluminum which is sold by this Company is in the course of time reclaimed and remelted by others, and resold by them in active competition with our salesmen.

By this simple economic process aluminum became, many years ago, a freely-traded-in commodity, reaching inevitably the natural price level brought about by the forces of competition.



It is natural, then, that this Company should direct its activities to those fields in which virgin aluminum, or aluminum in the form of alloys with specific physical characteristics, will do the best job. They are the fields in which really tough requirements are laid down. In such, the experience gained in fifty years of research, and the "know-how" acquired in handling aluminum in all its forms, are of greatest benefit to our customers.

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