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COCONUTS AND CORAL ISLANDS

By H. Ian Hogbin

With Illustrations from Photographs by the Author

AWAY in the western Pacific a cluster of coral islands around a blue lagoon forms one of the largest purely coral atolls in the world—a group called variously Ontong Java, Lord Howe Group, or Leuaniua.

To see Ontong Java, we left the busy Pacific port of Sydney, Australia, in a small steamer. It was bound for the British Solomons (see map, page 268). Putting out every six weeks, this steamer maintains the only regular service between those islands and the rest of the world. It takes out a multifarious cargo of every conceivable commodity, from tobacco to preserved meats, and it brings back to Sydney a cargo made up chiefly of the products of the Solomons—copra, trochus shell, bêche de mer, ivory nuts, and timber (see text, page 267).

A voyage of little more than a week brought us to Tulagi, one of the tiniest capitals in the British Empire. On this small island are the Government offices, built of timber painted white, with red iron roofs.

The harbor shelters the smaller island of Makambo, the headquarters of the most important trading company in the group, and Gavutu, the property of a soap firm, lies three miles away. Tulagi is hot and malarial, but its harbor is extraordinarily beautiful, though, I was told, too deep to be ideal for shipping.

Steamer day is an exciting event when letters are received only once in six weeks, and the ship was soon boarded by islanders eager to receive the news of the world.

There we left our glorified cargo-boat "liner" and awaited the first opportunity to go out to Ontong Java. Sometimes this stop-over involves a wait of three months or longer; this time the island steamer was leaving at once. The ship is actually a tramp, with no passenger accommodation, but we were able to get a passage out and a berth in the mess room.

Although the direct distance is only 200 miles, our voyage took about a week, for we called at several plantations on the way to pick up copra.

The *Malanta* was obviously unfit for service anywhere else; however, she took us to Leuaniua, the chief island at Ontong Java.

WARDING OFF THE EVIL SPIRITS

The palm trees leaped up over the horizon ahead of the ship, and soon we were going through a narrow passage between two islands. We followed down a channel through walls of coral and finally dropped anchor off Leuaniua. Immediately a canoe came out from shore bearing an old man and two younger ones. The old man carried a green coconut; one of his companions bore a palm leaf, the other a coconut shell full of ashes.

The three visitors climbed over the bow of the ship and proceeded slowly aft—the ash-bearer ahead, scattering ashes in all directions; the man with the leaf next, swaying and brandishing the leaf; and the old fellow with the coconut last, sprinkling the ship everywhere with the

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WITH HIS TEETH HE KILLS HIS FRESH FISH

Some South Sea islanders, after biting netted fish on the back of the neck, immediately eat them raw. This toothsome specimen thrives in the warm, transparent waters along the coral reefs of Ontong Java. The fisherman suspends from his neck a good-luck piece.

coconut "milk," which he shook from a hole he had pounded in the shell.

When they reached the stern, they tied up the leaf just above the rudder, thus announcing that the vessel was freed from the tabu. We could now go ashore, and the islanders could come off to us. Without the ceremony, the natives believe the evil spirits from the other places where the *Malanta* had called would have brought sickness to all the people of Ontong Java.

The evil ones were driven overboard, we were told, presumably to drown, since no spirit could swim after ashes had been thrown over it. The coconut milk made the ship pure and clean again—free from the defilement which the evil ones had put upon it.

Since we were to spend some months at Leuaniua, we went ashore to arrange with the native king to have a house built for us. He agreed to have a dwelling ready for occupancy in about two days. This arrangement suited us nicely, for the *Malanta* was remaining two days to pick up copra and shell, and we could sleep aboard meantime and watch the building operations.

When we went ashore, the first thing that struck us was the lack of variety in the flora. There seemed to be nothing but coconut palms, with here and there a pandanus palm, conspicuous because of its difference. When we became more familiar with the place, we found that there were a few other varieties of trees, such as casuarinas and mangroves.

THE ISLANDS ADHERE TO A COCONUT STANDARD

Coconuts are the wealth of the islanders (see text, page 277). There are two trading stations at Leuaniua, which sell to the natives such things as tobacco, pipes, matches, canvas, calico, rice, flour, canned meats, biscuits, fish lines, fish hooks, beads, and perfumes—the last mentioned a very important item. Copra serves as currency, five sticks of trade tobacco representing one hundred copra, a bolt of calico a number of thousand copra according to its quality, and so on.

What exactly is copra?

The growing coconuts on the palms are spoken of as "green," although they may be either green or yellow in color. At this stage they are full of the delicious sweet milk, thirst-quenching as lemonade, and the flesh they contain is very thin.

When the nuts are ripe, the flesh is of maximum thickness, and they fall to the ground. Then they are gathered and the thick husks are removed, the nuts emerging as they are sold in European and American shops. They are split in halves, the milk being now more or less sour, and are placed open end downward on the drying frame, a stand supported on legs about four feet high.

Mats are put over the nuts, and a fire lighted beneath the frame is allowed to burn for about 12 hours. The dried flesh then is readily removed from the shell with the aid of a porpoise bone or sharpened stick. This operation over, the dried flesh, or copra, as it is called, is taken to the trading station in baskets and exchanged for goods. When the *Malanta* calls, the copra is put into bags and weighed and then carried by natives into flat-bottomed punts, which are towed off to the ship by a motor launch.

The copra goes to Tulagi, where it is transshipped to Sydney. The oil extracted from copra is used in making soaps, candles, and butter substitutes; the pulp becomes cattle feed.

THE GENESIS OF "PEARL" BUTTONS

The other and far less important item of exchange at Ontong Java is trochus shell. This shell, like the copra, is shipped. It usually finds its way to Japan or Belgium, where it is cut and polished into "pearl" buttons. The cone-shaped, reddish shell (sometimes the red shows outside if the button has been imperfectly cut) is washed up into the shallow water of the reefs where it is collected by the natives, who dive for it if necessary.

The lagoon abounds with bêche de mer, the trepang or sea slug, a culinary delicacy of the East. It is collected by Japanese, who come out from Tulagi in special luggers. From dinghies they look out for the slugs below. When a suitable specimen is sighted, the diver goes over the side, sinks about a fathom, then transfixes his prey with the end of a sort of weighted harpoon, which he might be said to let fall upon it.

The slugs are cleaned, boiled, and dried. A full cargo for a lugger, about five tons, usually takes three months to collect. Although, of course, the price varies, it is normally $4,000 to $5,000.

Ivory nuts, the products of a graceful palm, are used chiefly for making buttons,

Drawn by Newman Bumstead

NEARLY 6,000 MILES SOUTHWEST OF SAN FRANCISCO LIES ONTONG JAVA

This group of palm-clothed coral islands, home of a light-skinned, friendly people, nestles in a sequestered corner of the Pacific at the northeast edge of the British Solomon Islands Protectorate. The author journeyed there from Sydney, Australia, by way of Tulagi, on Florida Island, in the Solomons. The Ontong Java group was so named by the seventeenth-century Dutch navigator, Tasman, because of a resemblance to a small island near Batavia, then known as Oentoeng Java, but now called Amsterdam Island.

knife handles, and similar articles. The nuts are crushed and the objects molded from the paste made from them.

A RAINPROOF ROOF OF LEAVES

At the end of two days the *Malanta* left us and we were all alone with 500 natives on an island less than a square mile in area. Only a very few of the islanders can speak even a few words of pidgin English.

Our house by this time was finished. Rectangular, like the houses in the village, it had a framework of poles, tied in position with rope made from the fiber of the coconut husk. No nails are used. The peaked roof was thatched with pandanus-palm leaf, the leaves bent over and made fast to a stick about four or five feet long. These sticks, tied to the roof poles so that they overlapped, made a virtually rainproof roof.

The walls of the house were mats of plaited coconut leaf tied to the upright sticks. The floor was also covered with these mats. In a native house, which up to this point is but a larger edition of our house, these alone serve as beds. Other mats are used for blankets, and pieces of wood as pillows.

In the native house, one end serves as the kitchen and storeroom. In the middle of the floor is the hearth, actually a hole

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NO NAILS ARE REQUIRED FOR A HOUSE OF STICKS AND LEAVES

The timber framework is tied in place with strong cords of coconut husk fiber. Mats of plaited coconut leaf are lashed on to form the walls. The roof of fibrous, sword-shaped pandanus leaves is watertight (see text, opposite page).

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THIS HOUSEWIFE ADOPTED THE AUTHOR AS HER SON

Throughout his stay in the islands, she insisted on keeping him supplied with coconuts and welcomed him to share fish at her fireside. Making thatch with nimble fingers, she bends strips of dried pandanus leaf over a stick and secures them in position with the central rib of a coconut leaf. At the right are finished, leaf-wrapped sticks to be tied to the roof poles in overlapping position.

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WHEN STORMS KEEP THE CANOES AT HOME THE ISLANDERS FISH ON FOOT

Rough weather drives the fish inshore. The men, armed with two hand nets apiece, wade out on the reef, form a half circle, and move shoreward. As the fish dart for deeper water, the natives catch them with quick ambidextrous sweeps.

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EQUIPPED WITH PADDLES, SPEARS, AND DIP NETS, FISHERMEN OF ONTONG JAVA SET OUT TO SEA

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"ON THE MARK" FOR AN EXCITING RACE TO THE FISHING GROUNDS

The goal in this case is a school of fish, which are surrounded and captured with nets and spears (see illustration, page 274, and text, page 280). Along the shore a magnificent grove of coconut palms rears feathery fronds against the sky.

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THE PAINS OF SOUTH SEA FATHERHOOD

Because the young man has become a parent he is entitled to have a hole cut in each nostril to hold turtle shell ornaments. The rings of coconut shell, whose severed ends are held apart with small wooden props, are the piercing instruments. Here the props are being pushed out and the points of the rings allowed to bite into the flesh, which they will pierce in two or three days (see text, page 292).

butter. For the house-building, we paid each workman several plugs of black trade tobacco and a meal of rice and canned meat.

The natives are a clean, friendly, and altogether charming people. Fond of swimming, they always bathe at least once a day. They are well built and handsome, many reaching 5 feet 6 inches in height and some 6 feet or more. Their complexion, of a light coffee color, is similar to that of the Hawaiians.

THE BIOGRAPHY OF A HAIR CUT

Boys, from about 14 years of age to 20, wear their hair cut fairly close. From then until they are married men with small families, they allow it to grow long. They resume hair-cutting at the beginning of middle age and continue the practice till they are old. For mature men, custom favors a rather close crop over most of the head, with a bushy tuft left at each side (see illustration, opposite page). There are, however, many exceptions to this rule.

Girls wear their hair in the two tufts until they become mothers, and from then on keep their heads fairly closely shaved—a style discouraging to lice. The hair is usually black, though at the ends it may bleach to a reddish brown, and it may be straight, wavy, or, in a few cases, distinctly woolly.

Hands and feet of both men and women are frequently small and often delicately shaped, but the instep is rarely high and some natives are almost flat-footed. However, the legs are straight and beautiful,

in the ground with piles of coral stones alongside. Around the walls are piled, in separate places, the fuel of coconut husks and shells, the nets, lines, and other fishing tackle, coconuts to be used later for food, and other odds and ends. Hanging from the wall are a wooden dish and a pestle used in the preparation of food. There is also a stool carved from a solid log.

Our own house was soon ready, our camp bed rigged, and our foodstuffs unpacked. We had mostly preserved foods—meat, fish, vegetables, fruit, biscuits, and

and many of the men have a grace and beauty that might be the envy of an ancient Greek.

Virtually every woman wears as a skirt a fathom of canvas, kept in place by a belt of woven pandanus leaf or plaited human hair. The upper part of the body is left bare. For a man's attire a strip of calico passing around the waist and between the legs and tied back and front suffices. Children of both sexes go naked till they are about 11 or 12.

In former days the skirts and *malos* (men's garments) were mats of beautiful workmanship, woven on native looms from banana fiber or the bark of certain trees. These have been discarded since the calico of the white man can be bought in the store—a pity, I think.

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A NOSE PENDANT GRATIFIES PARENTAL PRIDE

A handsome father wears the large turtle shell *asanga* with a dignity befitting his new station in life, but its weight makes him knit his brows. The shell is taken from a living turtle, which then grows a new one (see text, page 280). This pendant resembles a New Zealand Maori decoration intended to represent a human embryo and to give women fertility.

Both men and women are tattooed. The decoration is begun in early childhood with the forehead and nose. The forehead pattern resembles an open book. At the age of 12 or so, when the girls first wear skirts permanently, they receive suits of tattooing from waist to knee that look from a distance like close-fitting, figured black bloomers. Only on close inspection can the actual pattern be discerned.

FISH MOTIFS FASHIONABLE IN TATTOOING

The pattern is made up of fish and geometrical designs. As the girl grows older, fish are added around the hips and on the stomach. Later still, when she becomes pregnant for the first time, the tattooing is finished by the covering of the breasts, chest, back, arms, and even the cheeks and chin lines of the face with fish designs.

Upon first acquaintance, the tattooing makes all the women look alike and all seem equally hideous; but soon one fails to notice it at all, despite the fact that the markings are a deep, greeny black. One soon learns to distinguish individuals. I became so accustomed to seeing tattooing that when I visited Pelau, at the other end of the lagoon (see text, page 298), where the practice is being discontinued, the unmarked women seemed to me peculiarly conspicuous and unclothed.

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NATIVES WITH SPEARS AND DIP NETS ATTACK THE IMPRISONED FISH

A school is quickly surrounded by joining together long nets, one of which is carried in each canoe. Sometimes the fish are hauled helpless onto the shore. The men in the foreground handle the encircling seines. In the distance are the canoes in which the men raced to the scene (see illustration, page 271).

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A COCONUT GATHERING CONTEST EXCITES FAST ACTION

On special occasions each man is allowed to gather as many green coconuts for drinking as he can in a given time. They are piled in heaps and the larger the heap the more it is admired by all. Here the competition is about over and the puffing natives are looking around to see how their work compares with that of their rivals before the nuts are carried off to the various houses (see text, page 298).

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NATIVES MAKE COPRA IN THE OLDEST AND EASIEST WAY

They spread the split ripe coconuts on the ground and let the tropic sun do the work or else dry them over a fire (see text, page 267). Dried kernel, called "copra," from the Malayan word *kopperah*, meaning coconut, is exported in large quantities. Coconut oil and cattle feed principally are made from it. The little boy munches a piece of coconut while his elders work.

The men have far less tattoo than the women. Except on the forehead and nose, they have none until they are about 20 years of age. Then two broad bands are added, extending from the shoulder around the back to the thighs and in front terminating in two arrows on the chest. The arm is tattooed either with fish or a geometrical design. A row of dots just below the eye gives exactly the effect that a woman seeks when she darkens her lids; it makes the eyes stand out and appear to be much larger than they are. When a man is the father of a family, he may have a few fish added on his back and hips and thighs; but many forego this right.

PAIN IS THE PRICE OF BEAUTY

Tattooing is performed by a specialist, a woman, with dye made from the ash of burnt nuts. The operating tool is a small stick to which is fastened, at right angles, a frigate-bird bone, sharpened into a number of needlelike prongs. After sketching on a design with a straw, the artist dips the points of her instrument into the dye, holds them firmly against her subject's skin, and drives them home with a smart stroke of a small hammer stick.

Repeatedly dipping the tool in the dye, the operator goes over and over the design, wiping away the blood from time to time with a damp sponge. Naturally, the operation is painful, and the patient is held down by relatives to prevent his moving and so spoiling the pattern. Sometimes, if he persists in flinching, he will be bound tight to a post.

The tattooing is performed in periods of two days, so that every third day is a "holiday." Sometimes nasty sores develop, which may leave permanent scars. I know of at least four cases of blood poisoning, one of which was fatal.

The village stands at the sides of a large square, the Malae, where two similar cleared strips intersect at right angles. Here the island is about 300 yards in width. The longitudinal clearing, some 25 yards wide for most of its length, but opening out considerably at the halfway point to form the square, cuts through the

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BUSHELS OF TARO HELP MAKE A YOUNG BRIDE'S DOWRY

A huge pudding will be concocted from the roots and presented to the parents of the bridegroom. Even more munificent gifts are given to the bride's family in return (see text, page 289). Women prepare and cook the taro, and also cultivate it and carry these heavy baskets from the garden. A young banana tree grows in the right background.

forest for about a half mile. The transverse strip, of course, is shorter.

Though the clearings resemble wide roads, they are rarely used for that purpose. They are more important as meeting places, dancing areas, and scenes of ceremonial proceedings (see text, page 296).

On each side of the Malae runs a street, with houses on both sides opening to the road. The community well, an uncovered hole ten feet deep, from which all the drinking water is taken, is at one end of the village. Brought up in tins at the end of long sticks, the water is tipped into bottles made of glazed coconut shells.

COCONUT PALM SERVES MANY NEEDS

It would, I think, be impossible to find any other single tree which serves such a variety of ends as the coconut palm. It gives food and drink—the latter particularly important on smaller islands where there are no water holes. On several occasions I have gone for 10 days with nothing to drink but coconut milk. Also, it furnishes, besides the copra of commerce, a strongly alcoholic toddy and a sticky syrup resembling treacle.

The husks and shells provide fuel, and the dried spathe is excellent tinder. The shells serve as plates, spoons, and water bottles. Mats made from the leaves are used for walls and for beds; the dried leaves, tied into bundles, give light as torches and flares. The spines of the leaves are made into brooms, and the central stalk provides a weak timber which is put to a number of uses. The outer skin of this stalk is useful where a strong, tough rope is required, as in lashing the gunwale of the canoe to the dugout log.

The rope made from the husk fiber serves all general purposes from house-ties to fish line. A coarse covering at the base of the leaf, which at a first glance looks like a roughly woven fabric, is made into strainers and sieves.

The actual trunk of the palm, although not very durable, is made into spears and walking sticks, or cut into logs for sitting platforms.

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ONTONG JAVA HAS NO CHILD LABOR LAWS

Girls fill and carry home in plaited fiber the coconut water bottles every evening, mind the baby, wash the cooking utensils in the sea, and bury the sweepings from the floor. Boys husk coconuts, catch small fish, hunt for edible seaweed, and make thatch. Both sexes go unclothed until about 11 or 12.

Even with all these uses, the value of the palm is not exhausted. The white, unbroken leaves, favorite ornaments among the islanders, serve many magical purposes in ceremonies.

Mingling with the coconuts around the houses are to be seen a few bananas. These can be grown only with careful cultivation, for throughout the island there is no soil beyond coral sand mixed with decaying vegetable matter. Farther north, where the island broadens slightly, there is a swamp in which grows swamp taro, the only root crop the natives have—a plant in appearance like the arum lily, with a coarse-flavored, fibrous root. It is cultivated, with some difficulty, by the women (see text, page 280).

Native diet, therefore, is extremely limited, the staff of life being coconuts combined with taro, fish, and a few fruits as delicacies.

THE TRAGEDY OF THE ISLAND

In our walk around the village we could not help noticing everywhere cleared patches and ruined houses, witnesses of the tragedy of Ontong Java. The population of the group in 1907 was estimated at more than 5,000; now it is about 750. The natives fell easy prey to malaria, tuberculosis, influenza, and other diseases.

The white men tried to root out the old customs instead of allowing them to die gradually; and they were only partly successful. The old color and ritual have gone, leaving in their place monotony of life and a more or less sordid outlook.

To find what the old time was like, we had to go to the older men of the village—a procedure far less satisfactory to scientists than actual observation.

CANOES MADE FROM DRIFTWOOD

Fishing is the main occupation of the men. Before they can fish, however, they must have canoes, and before canoes are made there must be tools. Since there are no metallic ores, and the soft coral is unsuitable for stone implements, tools formerly were made from clamshells, which are heavy and capable of being polished. Many of these shells are more than two feet

across. They were ground with pumice washed up by the tide.

Because there are so few trees on the islands, not nearly enough to provide boats for a quarter of the present population, canoes usually are made from driftwood, especially plentiful after the northwest gales to which the group is liable from November to March. I saw one log of beautifully trimmed reddish wood that had possibly drifted half around the world before it came to rest on the beach.

The logs are towed to the workshop where all canoes on Leuaniua are made. The village magician is then summoned to strike the first blow and thus charm away evil spirits, so that the wood can be shaped with impunity. Nowadays it takes two men, working about six hours a day, two months to make a canoe, or even longer if the canoe be a large one. The largest I have seen was 34 feet 6 inches long. Before steel tools were used, the work must have taken much longer.

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WOMEN ACT AS COCONUT PORTERS

Twenty or more of the coconuts can be lugged home at once by suspending a nut necklace from the shoulder. This woman has torn strips of husk loose with her teeth and tied the nuts together. Her dress is simple—a fathom of canvas wound round the waist. The shaven head stamps her a wife and mother and gives her face a masculine appearance.

The log is first shaped on the outside; next, the inside is roughly chipped out, and from then on the outside and the inside are chipped alternately until the shell of the hull is of desired thinness. A strake is lashed on with tough fiber and the space calked with coconut husks. The whole canoe is rubbed over with a coarse seaweed resembling lime; this not only seals up any cracks, but serves as a coating of white paint (see page 297).

The outrigger booms are added—from three to nine, according to the size of the canoe—and to these is attached the outrigger float. Detachable peaks are made for the bows and the stern to deflect the waves. Then, after being charmed once more by the magician, the canoe is ready for the water.

Three-cornered sails, formerly made from pandanus leaves, are cut now from light canvas or calico. The canoe is always sailed so that the wind strikes it on the side of the outrigger; otherwise it would capsize. It cannot sail against the wind. Though the canoes are not very seaworthy and are liable to be swamped, they have carried passengers on many long voyages (see page 292).

Almost all the men go out daily in the canoes to catch fish, and they come home laden. If it is too stormy to use the canoes, a crowd goes to the lee side of the island to fish on the reef. Each man carries two nets, tied to two sticks in such a way as to form triangular bags. After advancing in line along the reef for some distance, the men form a semicircle, with the shore as a diameter. They close in slowly, and, when they are all close together, rush forward with a shout to catch the surrounded fish.

The children wait on the shore with baskets, into which the hauls are thrown. Again and again the process is repeated, till each man thinks he has caught enough.

A shoal of fish offshore may be surrounded in much the same way, the fishermen going in canoes, each canoe provided with a long net. The nets are joined together, the shoal is surrounded, and the fish are driven ashore, caught in hand nets, or speared (see pages 270-1 and 274).

Some kinds of fish, such as the shark and the bonito, may be caught only by specialists. For the shark wooden hooks are used. The bonito falls victim to a turtle-shell hook attached to a shell lure which is trailed from sticks behind the moving canoe. With both of these fish magic ceremonies have to be performed before they can be hooked or brought ashore.

Turtles are still caught and removed alive from the shell. Thus stripped, they are kept in a specially constructed pool to grow new shells. This process may be repeated as many as three times.

Women take complete charge of the gardens, and it is their business to clear them of weeds and manure them. On the days when they go to the gardens—it is only on certain days that they are allowed to go, for fear that thefts might result from too great casualness—they dig the taro, cut off the shoots, and reset them to grow; gather some of the large, heart-shaped leaves for use in cooking; pile the lot into a basket, and carry it on their backs to the house. It is no mean load, either.

A NATIVE FIRELESS COOKER

Taro is either cooked plain or made into puddings, a mixture of grated taro and coconut oil. The mess is well pounded in the food bowl and spread on leaves before it is set to cook (see text, page 278).

Upon a roaring fire, made in the hole in the floor, coral stones are piled, and more fuel is heaped on top of them. When the fire has burnt out, the hot stones are removed, and the ash is scraped away. Half the stones are put back and covered with a layer of taro leaves, on which the food is placed. More leaves, the remaining hot stones, and either a quantity of earth or another fire complete the cooker.

The time of cooking varies with the food, taro requiring a comparatively short time, turtle and shark about 12 hours. If palatable in the first place, food cooked in this way is delicious. I have never tried shark—the smell is enough to keep most people away from it—but taro is good.

For trips around the lagoon we used one of the cutters belonging to the trading stations. These cutters, of which there are ten, ply among the islands and carry coconuts from outlying places to the central depots. Each boat is capable of holding 3,000 uncooked nuts. Our first trip was to Keila, an island about 20 miles down the lagoon.

AN ISLAND OF SEVEN HOUSES

On Keila, one of the largest islands, there are now only seven houses, although I counted the ruins of 75. The owners having died, there was nobody to rebuild the houses and nobody to live in them if they were rebuilt. Formerly at least eight other islands besides Leuaniua had comparatively large populations. To-day most of their people have drifted either to Leuaniua or to Pelau, the headquarters of an independent tribe at the other end of the lagoon.

Every man of these outlying islands, except members of the Pelau tribe, had a share in the land on the central island of Leuaniua, and either a house of his own there or a home with relatives to which he might return. Residence on the main island went by regular yearly rotation. Some of the villages were ruled by sacred kings or priests, but one of these leaders always resided at Leuaniua as head of the tribe.

Powerful families owned some of the islands, and not many years ago one of them took all the secular power from the priest then residing at Leuaniua. This family established its head man as king. His descendant, Mekaike, became king of the Leuaniua tribe. After the *coup d'état* the priests continued to exert a degree of authority on their own islands, but outside of the ceremonies they had little power at Leuaniua. The last of them died several years ago.

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Finlay Photograph by Amos Burg

A NATIVE LIVES IN THE SOUTH SEA EQUIVALENT OF A PENTHOUSE

A coconut plantation laborer on Espiritu Santo Island in the New Hebrides group built this rickety abode in the branches of a grotesque tree. Having taken a dislike to the commonplace plantation huts (see Color Plates II and V), he decided to construct one to suit his fancy. The corrugated iron walls give a modern touch.

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Finlay Photograph by Amos Burg

GRACEFUL COCONUT PALMS HAVE PUT THE SOUTH SEAS ON THE WORLD'S TRADE MAP

The stately trees thrive in the rich volcanic soil of the New Hebrides and are grown in orderly rows in this typical copra plantation at Hog Harbor on Espíritu Santo Island. Huts of the native workers are walled with palm matting, but roofed with corrugated metal painted red.

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HIS CHRISTMAS APPAREL MUST BE COOL

In observance of the day, a New Britain native wears a necklace of pigs' teeth, woven rattan bracelets, a sketchy breech clout of British cotton cloth—and little else. Atop his mop of hair, rusty from application of lime to kill parasites, bristle white cockatoo feathers.

Finlay Photographs by Amos Burg

FIJI BELLES LIKE THEIR CALICO BRIGHT

Two members of the former royal household on the island of Bau smile a welcome to the one-time "Cannibal Isles." They wear flowers in their long, frizzled, and bushy hair. In the Fiji Islands the dark-skinned Melanesian and the light Polynesian races meet.

THE PAPUAN DUGOUT CRAMPS THE LEGS

The canoe is so narrow that it ships little water even in a rough sea. The outrigger keeps it from upsetting. In their crudely decorated craft the whole family goes fishing with spears, a bow, and many-pronged arrows. One tot gnaws a chunk of sago.

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Finlay Photographs by Amos Burg

WILD-LOOKING NATIVES CROWD ALONGSIDE TO TRADE

Friendly but too changeable to be trusted were these Papuans of Hollandia Bay, Netherland New Guinea. One bears on his head a battle scar. His gourd contains a stick which serves as a spoon, and lime to chew with betel nut. The lips of the native at the right are stained red from the chewing.

PLANTATION "MARYS" EAT PALM NUTS AND GOSSIP

The men, recruited from neighboring islands for work on Espiritu Santo, usually exchange their earnings for pork on the hoof, but the women prefer cloth and gewgaws in return for their work. "Mary" is the equivalent of "woman" in South Sea pidgin English.

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POLYNESIAN WOMEN SMOKE AS THEY WORK

Cigarettes, match box, scissors, and imported cotton dresses contrast with native-made head-bands of fiber covered with small shells. These buxom mothers are making fine necklaces of shells collected on the coral atolls of Rangiroa in the Tuamotu Archipelago.

BORN SONS OF THE SEA ARE THE POLYNESIANS

Outrigger fishing canoes roosting above the tide at Papeete on the island of Tahiti symbolize the far-away origin of this race of navigators who in the dim past probably migrated from Asia. Even in the modern lines of his boats the native has copied the white man.

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A TAHITIAN PREPARES HIS FISH-CAR FOR LAUNCHING

In these cages of split bamboo, fish are kept alive until they can be eaten. When the fishermen return from distant fishing grounds, the cars are towed behind the canoes. This islander is tying on one of two pieces of koa wood which serve as floats to keep the door always at the surface.

A BARRIER OF LOGS KEEPS OUT THE PIGS

The bush native's hut in the Solomons has no front door. One or more families dwell in each of these houses, which are crudely built with poles and thatched with palm. The fuzzy-headed warrior is ready with his bow and arrows for a hunting trip inland from Teop Harbor on Bougainville Island.

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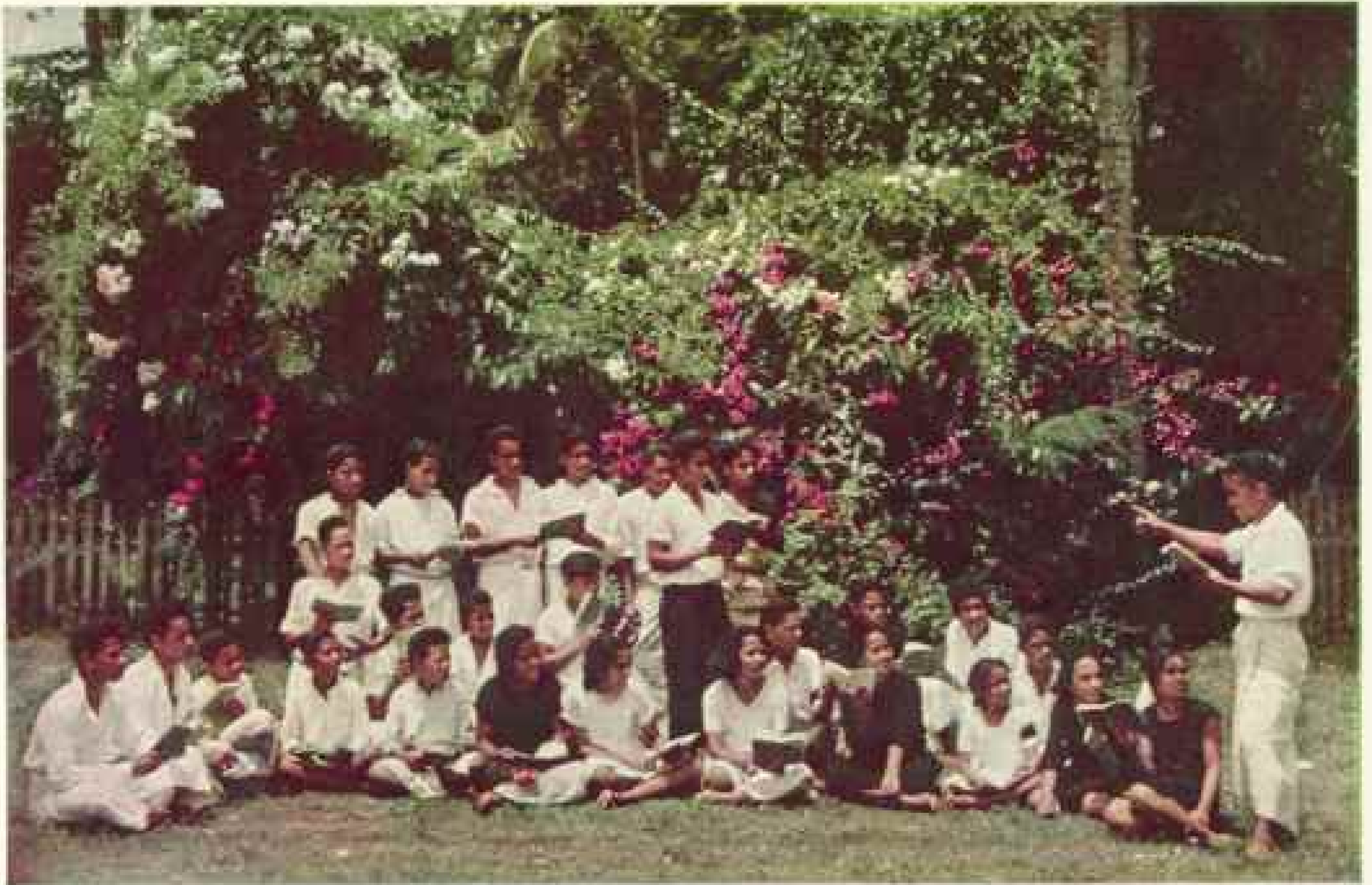
TAHITI IS A GARDEN LOVER'S PARADISE

"It seems a fairy world, all fresh and blooming from the hand of the Creator," wrote Herman Melville in *Omoo*. Roses, frangipani, canna, hibiscus, and other flowers of flaming color flourish on this island of the Society Group. The house, a white man's dwelling, is built high to assure dryness.



THE TONGAS ARE STILL THE FRIENDLY ISLES

The gaiety which suggested the name for the islands to the explorer, Captain James Cook, brightens the faces of young natives as they sing hymns at a mission school in Nukualofa on Tongatabu.

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Finlay Photographs by Amos Burg

THE "CAMARGO" RESTS ON AN AZURE SEA AT VAVAU IN THE TONGAS

The island, with its bold headlands and surf-lined coasts, consists of coral rock elevated by upheaval of the ocean bed. Vavau and its neighbors thus differ from the low-lying coral islands to the south and the high volcanic members of the group. Through the courtesy of Mr. Julius Fleischmann, Amos Burg traveled on the white yacht when making these direct-color photographs.

Keila is a pleasant spot. Walking among its palms, one is reminded of a gigantic Karnak with gray-brown pillars and a green roof. Like the other islands, it has the shallow water of the lagoon on one side, with a shelving sandy beach. On the ocean side the stony reef suddenly gives way to deep water without any sand or beach.

Here we first saw men picking up coconuts by means of long knives which they thrust into the husks. Without stooping, they pitched the nuts into piles of convenient size for carrying to the shore.

The husks, save for a small portion on each nut, are removed with the aid of a stick made fast in the ground. This done, strips of the remaining bits of husk are torn partly free with the teeth, and with these strips long strings of nuts are tied together. At high tide the strings are towed down to the village and loaded into the cutters. This floating saves an enormous amount of labor.

The worst coconut pest is rats, with which the outlying islands and Leuaniua, too, are overrun. They are able to climb any palm that has even the slightest slope in the trunk. Nibbling around a nut till it falls, they soon have a feast.

STAKES WITH COCONUT LEAVES ARE BATTLE MONUMENTS

Returning from Keila, we broke our journey at a tiny settlement where there now remain only six houses. Here one of the last battles took place, apparently between 1865 and 1870. It was an encounter between the reigning king and his relatives on one side and the supporters of two men who had murdered his son on the other.

For every man killed a memorial stake was driven into the ground at the scene of the battle. These have been renewed from time to time and are still visible. They are ornamented with white coconut leaf on certain occasions. Every year four coconuts are placed in front of each stake by the descendants of the fallen warriors.

The weapons used in the battle were coconut-wood spears some 9 or 10 feet long, and throwing clubs weighted in the middle and sharpened at either end. The foes did not hurl the spears, but used them as lances in sharp rushes (see page 291).

Boys and girls are betrothed at an early age. If, when older, they wish to cancel the agreement, they may, but to do so is very unusual. Girls are usually married when they are about 18 and men between 20 and 25.

Efforts of powerful families to make good matches lead to much interchange of gifts. After such a marriage had been arranged recently, the family of the girl gave the boy's parents two huge taro puddings, each about four feet square and five inches thick. They were distributed among the relatives of the boy (see page 277).

To the girl's parents were given, in return, 10 baskets of dried fish, 10,000 ripe coconuts, and 6,000 green ones. The boy's family, of course, gave more than the girl's, because they were not only returning the gift but also buying the wife.

This couple was divorced a month later. Before I left the island, the girl had divorced a second husband and married a third.

At Leuaniua wealth is power, but it is useless if not spent. The richer the man the higher the prices he pays, unless he is dealing with white men.

When the parents of the girl consider her old enough for marriage, they decorate her with favorite orange and yellow dyes made from turmeric roots. After smearing her first with coconut oil, they rub on the two shades of the dye in stripes and patterns, using the more expensive orange more sparingly than the cheaper yellow. A circlet of sharks' teeth is placed upon her head, and large turtle-shell ornaments are suspended from the pierced lobes of her ears (see page 296).

THE PARADE OF THE BRIDE

In her babyhood holes have been cut in the two alæ of the nose and in the septum. A small shell ornament dangles from the septum, and feathers of the tropic bird adorn the nostrils and the hair. The girl wears a necklace of human hair, a belt and bracelets of white coconut leaves, and a bright-yellow skirt. Thus attired, she is paraded about the village between her father and another senior relative. By these signs the husband knows that it is time to go to his wife. That night he visits her house.

The young wife remains with her parents, and her husband visits at their house, though he keeps all his fishing lines and other personal belongings in the house of his father. He must provide his wife with a certain amount of raw food, and she gives

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HEADSTONES WEAR PROTECTIVE JACKETS

The soft coral grave markers weather rapidly, so mats of pandanus leaves are tied over the more elaborate ones. Surviving relatives keep the graves scrupulously clean. This man with his light whisk broom of coconut leaf stems sweeps off leaves and other litter.

the priest's house until the umbilical cord dropped off, and not until then was the child named.

All these customs are still followed, except that they take place in an ordinary house.

As soon as the cord is bitten through, the mother-in-law strikes a wooden pillow. This is the signal for everyone in the house to make a noise by beating on anything available. The din is kept up for 48 hours without ceasing. It is the expression of joy that a new life has been added to the community.

THE BIRTH SONG FOR THE FIRST CHILD

On this and the subsequent evening the relatives of the young mother and father assemble outside the house in semifestal dress—that is to say, oiled and adorned with sweet-smelling herbs and flowers. They sing the birth song; then march around the streets, singing at every corner.

him cooked food and taro; but many of his meals he will still take in his father's house.

When priests were in power, the mother, at the birth of the first-born child, went to the house of one of them to preserve both herself and the child from evil influences. She was, and still is, assisted by her mother, mother-in-law, and a midwife. The husband was present until the child was actually born, but then he had to leave the house and remain away for about a year.

The midwife took the child, tied the umbilical cord, and bit it through. The baby was washed in warm water in a food bowl. The mother and child remained in

The first-born is always named for a dead priest, but subsequent children receive names of ancestors.

The ceremonies described are performed only for the first-born; other children come into the world almost without ceremony, except that the mother must remain within doors for about two months after the birth. When the child is a first-born the mother must remain within the house for the next year and must keep the child with her during this period. The husband may not visit his wife all this time, and consequently he does not see his child until it has its first birthday. No written record of a person's age is kept.

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FIGHTING SPEARS LOOK AWKWARD, BUT IN EXPERT HANDS THEY ARE DEADLY

The many-pointed weapons, resembling hatracks, are made from the hard outer wood of the coconut tree. In the past, warriors attacked individually in quick rushes, each attempting to break his opponent's spear. A youth was instructed in the art by his father or other male relative. For many years there has been no organized fighting in peaceful Ontong Java.

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TOMBSTONES ARE CUT FROM THE SOFT CORAL ROCK

Some of the men prying out this stone are wearing hats as a sign of mourning. Visitors to these islands since early times have remarked at the deep reverence shown to the dead.

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PRINTED CALICO, FADED AND PATCHED, PROPELS A NATIVE DUGOUT

A pole supports the flimsy mast and the outrigger serves as stabilizer for the canoe. In the long basket bait for fishing is carried. Although speedy and graceful before the wind, these craft cannot sail against it. Polynesian peoples of the past built more seaworthy boats.

The young father, while he is excluded from his wife, has two holes cut in the alæ of the nose, each about half an inch long. This is an extremely painful process, but most men are willing to submit to it because it is a sign that they are now fathers and therefore men of some standing (p. 272).

Pieces of coconut shell are cut into rings about one inch across and one-fifth of an inch wide. A cut is made through the ring, and the two ends are forced apart by means of a small stick placed diametrically across. Four of the rings are fitted on each side of the nose and tied into place. The pieces of stick are then knocked out. The result is that the two ends of the ring bite into the flesh of the nose, and in two or three days a hole has been cut through the flesh.

The rings are left in for about ten days. They are then removed and the holes are stuffed with folded coconut leaf to prevent them from closing up. On special occasions ornaments of turtle shell are hung in the holes.

After marriage and birth the most important customs relate to death. There are elaborate funeral rites and ceremonies, which are practically identical for both men and women.

WAILING FOR THE DEAD

As soon as the dying person's heart ceases to beat, the mother, wife, daughters, and other female relatives give way to long-drawn-out wails at the top of their voices. The wails never cease, except in pauses for breath, until the corpse is under ground. The louder the wails, the more the other relatives are pleased. Indeed, if the ululations are not loud enough, neighbors and villagers are noisily critical and foretell that the ghost of the dead man will be annoyed and send sickness.

Leuaniua natives do not conceive of any causes of illness except the supernatural. All diseases and deaths are caused by the evil intervention of the spirits of those already dead.

The corpse is taken into the road in front of the house and washed. It is then returned inside, the hair is cut, and the body is rubbed thoroughly with coconut oil. Turtle-shell ornaments are put in the ears and, if the dead person is a man, larger

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THE PARADE OF THE VIRGINS IS AN ANNUAL EVENT

Unmarried girls, naked except for a necklace and the customary string of beads around the hips, walk two by two down the village streets between piles of coconuts. This event is the culmination of a traditional festival at Ontong Java (see text, page 298).

specimens of these ornaments are hung from the holes in the alæ of the nose. In the case of a woman, a small shell ornament is hung from the hole in the septum. Garlands are hung around the neck and bound on the brow.

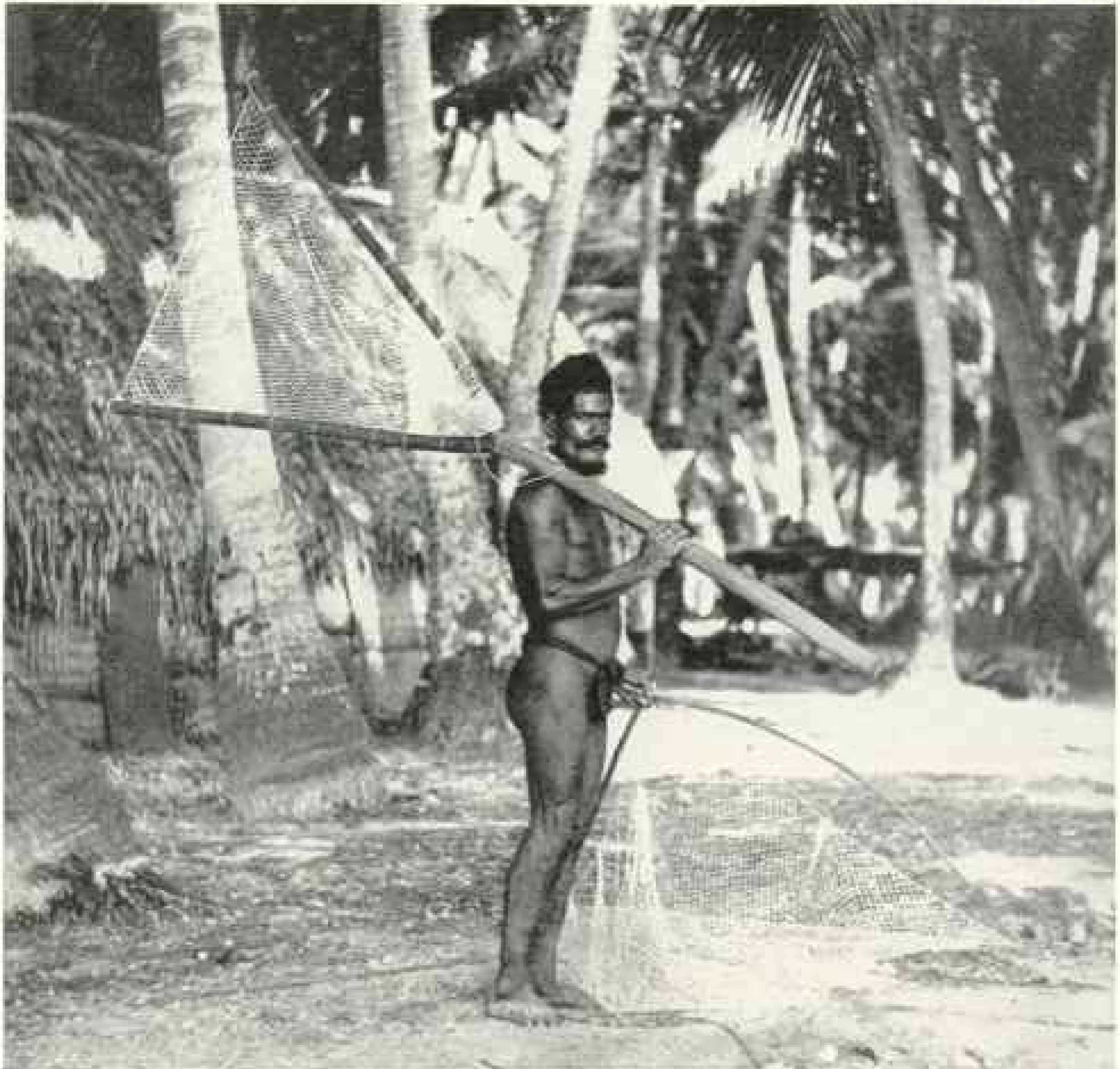
As soon as a person is seriously ill, all his relatives are summoned to be present for these preparations. Curious neighbors peep in to criticize arrangements that are not being carried out with due decorum. After such a visit the neighbors are careful each to take a mouthful of water from bottles hung for this purpose close to the door. They spit the water into their hands and throw it over themselves to remove the contagion which contact with the corpse has laid upon them.

The sons- and daughters-in-law of the dead person, be it man or woman, collect dry coconut leaves and bind them into flares, which are carried to the house where the body lies. They then put on complete festal array, decorating themselves with turmeric and garlands of leaves. The women also wear their circlets of sharks' teeth.

After the evening meal, which is taken about 7 p. m. or slightly later, the mourning ceremony begins. The corpse is laid on a new mat in the center of the house. At its feet, with their backs to it and their faces to the fire, sit the sons- and daughters-in-law. It is the duty of the eldest of these to see that a flaming fire is kept burning all night, so that the whole place is brilliantly illuminated. The others sit motionless, with their fans before their faces, all through the night, without speaking.

The rest of the house is filled with the other relatives of the dead person. If he was a man of wealth and importance, as many of the villagers as can possibly squeeze in will do so and many others crowd around the doors. In a climate like that of Leuaniua, which is only five degrees south of the Equator, a small house containing a corpse and a huge fire and packed with people, and with all the normal ventilation blocked by others, the atmosphere soon becomes almost intolerable.

The relatives and friends—except the closer female relatives, who continue weeping aloud, frequently drowning the other



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THE FISHERMEN OF ONTONG JAVA MUST BE AMBIDEXTROUS

Wielding two of these nets, one in each hand, the islanders form a half circle on the reef. Then, advancing side by side, they scoop up the fish as they attempt to escape (see illustration, page 270).

voices—sing dirges all through the night. The latter embrace the corpse and at intervals rub it with oil. In the course of the wake the family of the dead man gives tobacco to all and sundry. Almost everyone in the village will come to the wake held for a wealthy man, sure of getting a few free sticks of tobacco for a dirge.

With the dawn all save the immediate relatives depart. Preparations are then made for burial. The body is wrapped in fine mats, tied up, and placed on a bier made specially for the occasion. After a short interval the laden bier is lifted and carried along the beach to the cemetery. It is forbidden to carry a dead body through the village streets, lest sickness should come to the people whose houses it would pass.

There are five cemeteries at Leuaniua and at least one on almost every one of the other larger islands.

FEET OF THE DEAD POINTED TOWARD SETTING SUN

When I saw these cemeteries for the first time, I could have forgotten momentarily that I was in a native community, so close is their resemblance to an English churchyard. Moldering headstones stand in rows running roughly north-south, for the feet of the corpse must always be toward the setting sun.

The headstones are from four to eight feet high. Some are carved with representations of fish, turtles, etc. Cut out of soft coral rock from the reef, they are, therefore, subject to weathering. On this account the newer and the more elaborate stones are covered with mats of pandanus leaf to preserve them. The whole of the cemetery, covered with clean white sand, is kept clean by mourners (see page 290).

Each family has its own ground. Because of the large number of deaths recently, many of the graves have more than one occupant. Indeed, gravediggers, with their canoe-paddle shovels, not infrequently disturb as many as three skeletons to make a resting place for a corpse.

When the cortège proceeds to the cemetery, one of the women goes before the bier and the relatives follow. The woman leader points out to two of the folk in the burial ground where the grave is to be dug. They set to work at once.

The corpse is deposited on the ground and the mats are removed, so that the widow can have a final weep while the last sleeping place is being prepared. The body, after being well oiled once again, is smeared with turmeric. Each mourner embraces the corpse, generally throwing the shroud over himself as he does so. Then the wrappings are again replaced and the bundle is lowered into the grave with ropes.

The men retire and allow the women to fill in the hole, the closest relatives actually standing inside it and beating the earth flat with their open palms. Then they all wade into the sea and bathe.

All the mourners, except the widow or widower and the mother and father of the dead man, return to their homes. The "full mourners" retire to a couple of special houses close to the cemetery. There custom decrees that they live for from one to five years. They actually sleep on the grave itself every night for about six months, no matter what the weather, and they must stay four hours a day on the grave, sweeping and cleaning it.

During this period these mourners are wrapped in mats and wear hats, which are seldom worn at any other time, so that they are scarcely recognizable. If necessity compels a visit to the village, they must go by back ways and muffle themselves up even more than ever, so that only their eyes are visible.

The funeral ceremonies of a chief are much the same as those of one of his people, except that they are more elaborate. For a priest the body was kept for four days and most elaborate ceremonies were held, including one in which the body was decorated with a white cowrie shell and the feathers of the frigate bird, and dragged backward and forward across the Malae.

The temple in which the sacred images of the tribe stood was on the Malae. This has now fallen and the figures have decayed, but by questioning I obtained a fair idea of what the building had been like.

HOW LEUANIUA WAS SETTLED

The natives say the home of the race was the island of Niua. There, in days long ago, the inhabitants feared their children and grandchildren would not have enough to eat, so rapidly was the population growing.

The more adventurous ones decided to find a new island. A canoe came back with a story that in a northwesterly direction lay a sand bank which had no vegetation, but would, if planted, make an excellent place to live.

A canoe load of people set out, among them Keluahinge and her husband, with a cargo of coconuts and taro. They found the new home and called it Leuaniua (*i. e.*, Niua Number Two, or New Niua), although it was only just above sea level and they were afraid that a storm might wash it away.

They found a hole in the ground and in it human hair. Digging around the hair, they uncovered a man. They pulled him out with extreme difficulty, because he was so fat, and gave him a coconut to drink; whereupon he began to vomit sand. Before long there was so much sand that there was no longer any fear that the place would be washed away.

Keluahinge's husband returned to Niua to bring over some more people, but while he was gone his wife was unfaithful and became the spouse of 'Olalo, the man from the sand. These two planted the place with coconuts. The first husband eventually returned with the woman's father, Luaku, who first pushed up the sky from the earth, and her son, Kemangea, who understood how to make the sun move.

There are several islands in the Pacific the names of which bear a resemblance to

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SHE DONS HER BEST FOR THE BRIDAL PROMENADE

Etiquette prescribes that a young girl deemed old enough for marriage must be paraded by her father through the village. Her fiancé then claims his bride that night (see text, page 289). She wears a small shell ornament in the septum of her nose, turtle shell pendants in her ear lobes, and necklaces of seeds and shell, human hair, and white coconut leaves.

this name, including, of course, Niue, or Savage Island (see map, page 268). It is impossible to say which is meant, but it is probably one of those central South Pacific islands round about Samoa and Tonga. Other myths refer to visits from people of Tokelau, or Union Islands, north of Samoa, which may very well be the group which bears this name to-day.

The statues of the founders of the race stood in the temple on the Malae. The temple was apparently a large edifice built after the style of the houses in which the natives live, but much more elaborate in that it was decorated with carved figures of birds, fish, and turtles. The roof and posts were hung with ornamental leaves and on the beams were tied choice coconuts.

The figures of the founders of the race were more than life size and rudely carved from logs. Every day a fire was lit before these images and a prayer recited, begging their spirits to preserve the people from sickness, to send plenty of fish, and otherwise to look after their descendants.

During each year a month was devoted to a big festival in which these ancestors and their living representatives, the priests, were honored. The figures were decorated with garlands and borne through the streets. After this they were carefully cleaned and set up on the Malae.

For part of the day it was forbidden to pass in front of them and the road near by was blocked by strings of plaited leaves. At noon a conch shell was blown by the chief priest and a dance performed by certain men, a hollowed log being used as a drum. The faces of the figures were then covered and the road was reopened to traffic.

DANCES TO THE CLAPPING OF HANDS

This festival was also a time for gaiety. Many ritual dances were performed by both men and women, although the two sexes never danced at the same time.

The dances are all very similar, except that those of the men require more vigor. The dances consist of rhythmic motions of the arms in time to hops and jumps; they generally culminate in a quick forward shuffle. Rarely are there figures in the

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PERSPIRATION AND PATIENCE GO INTO THE MAKING OF A DUGOUT

The two men at the left, even though they used steel tools, worked six hours a day for two months to transform this driftwood log into a canoe. The outside of the craft has been roughly shaped and the hollowing-out process begun (see text, page 279).

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SAILMAKING FASCINATES THE YOUNGER GENERATION

Three pegs driven in the ground outline a triangular sail. The white man's canvas or cotton cloth is then cut to fit, instead of the pandanus-leaf matting of earlier times. Fathers of Ontong Java like to play with their babies and carry them around, as the man at the right is doing.

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HIS MARKSMANSHIP MAY MEAN HIS DINNER

Perhaps for that reason a native rarely misses his target. This solitary fisherman, body relaxed but pronged spear poised and ready, stands like a statue in a quiet shallow. Given a split-second glimpse of his quarry, he will launch his weapon instantly with unerring aim.

dances. Singers who clap the hands to accentuate the rhythm provide music.

The festival proceeds in a general gathering of coconuts and digging of taro (see illustration, page 275). In addition, there are foot races and canoe races.

The culmination of the festival is a parade by all the unmarried girls, who walk naked two by two past the men and women. Of the old festival this last event is one of the few parts remaining (p. 293).

In former times the Pelau tribe was a worthy rival of the Leuaniuans, but nowadays there is scarcely a Pelau tribe at all, for the whole island contains fewer than 150 people. Their village is a disappointment after the clean appearance of Leuaniua.

At the Pelau end of the lagoon the mosquitoes are particularly bad, a torment to natives and to white visitors. Smoke fires have to be kept burning night and day. The people frequently have to take to canoes and anchor them half a mile from the island to get any sleep. If the insects get too bad—the natives had only reached the sleeping-at-sea stage when I visited Pelau—the whole population shifts to the sandy promontory of an island some miles away, where there are no trees to obstruct the wind. Here they remain till the plague is slightly abated.

At Pelau the copra was not cooked, but sun-dried. The nuts are split and laid upward in the sun for a couple of days, until the flesh shrinks and will drop out.

What is to be the future of Leuaniua? For the native, stagnation has set in. The population is still shrinking and will probably continue to do so, though possibly a little more slowly from now on.

BIRDS THAT CRUISE THE COAST AND INLAND WATERS

By T. Gilbert Pearson

President of the National Association of Audubon Societies

With Paintings from Life by Maj. Allan Brooks

The Geographic *presents in this issue the sixth of a series of paintings descriptive of all important families of birds in North America. The first (Humming Birds, Swifts, and Goatsuckers) appeared in July, 1932; the second (Ibises, Herons, and Flamingos) in October, 1932; the third (Crows, Magpies, and Jays) in January, 1933; the fourth (Woodpeckers) in April, 1933, and the fifth (Eagles, Hawks, and Vultures) in July, 1933. The seventh of this series will be published in a later number of the* National Geographic Magazine.—Editor.

THE warden patrol boat, *Royal Tern*, had come to anchor for the night in the shelter of the Chandeleurs, against whose outer beaches the waves were pounding in from the Gulf of Mexico. Off to leeward a long, undulating line, like a many-humped caterpillar, moved slowly to the southward. It looked like the movement of some gigantic sea serpent.

Early explorers told of such monsters disporting themselves along the surface of the sea. In fancy this was what I saw, but my notebook merely records that forty-eight brown pelicans passed in single file. They were returning from a fishing excursion and were headed for the little Louisiana possession known as Isle Grandgosier (Errol), where numerous hungry young awaited them.

HABITS OF THE BROWN PELICAN

At various places that day we saw pelicans catching their prey. Flying above the surface of the water, usually at a distance of from 30 to 60 feet, a bird would abruptly plunge with a mighty splash into the sea. Often it would turn as it descended, to get the wind at its back, but it would always rise from the water with head toward the wind (see page 301).

The bill of a brown pelican is from 9 to 13 inches in length, and beneath it is a pouch capable of great distention. Once, while a man held a dead pelican, I poured three and one-half gallons of water into the pouch before any of it spilled over the sides of the bill.

This pouch is used, not as a carrier of food but as a dip net or scoop with which to capture fish. When, after a plunge, the bird rights itself on the water, it slowly raises its head. From between the mandibles the water streams out as the pouch contracts. Then the bill is pointed upward, the fish is swallowed, and the bird is ready to fly in quest of another quarry.

Once I cruised with a naturalist who collected a number of brown pelicans for his museum. We weighed all the specimens and found that they varied from seven and one-half to eleven and one-half pounds. I have measured many of these birds and have noted that their length runs more than four feet and that the wing-spread of some individuals is nearly seven feet.

The pelican belongs to a suborder of birds known as Pelecani, which includes also the cormorants and darters, to be referred to later. One peculiarity they possess in common is the form of the foot. The web extends to all four of the toes.

The force with which a diving brown pelican strikes the sea is amazing. The fact that these repeated percussions do not injure or disable the bird may be due to the mass of air sacs beneath the skin, which form, it would seem, an effective pneumatic cushion.

Brown pelicans accumulate in colonies to breed on small, isolated islands in the sea, never far from the mainland. The nests are of twigs, among which leaves and weeds sometimes are mingled. They are built on the ground or in mangrove trees. The eggs are white, usually three in number, and incubation of about one month's duration is required.

The largest breeding assemblage of these birds on the Atlantic coast of the United States is on an island in the southern end

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"SAILING, SAILING, OVER THE BOUNDING MAIN"

Resembling a monster pterodactyl in miniature, the brown pelican of our eastern seaboard fishes for its meals as much as fifty miles from home (see text, page 299). It alternately flaps its wings, and sails, glider fashion, usually from 30 to 60 feet above the water, diving for menhaden when it sights a school of these fish.

Photograph by George Shiras, 3d

LIKE A SEAPLANE, THE BROWN PELICAN TAKES OFF AGAINST THE WIND

It dives for fish with the breeze at its back, whirls while under the water, and rises headed into the wind. The group to which it belongs is peculiar to the New World; Old World forms are more like our white pelicans (see Color Plate I and text, page 299).

of Mosquito Lagoon, Florida. Formerly this colony occupied Pelican Island, in Indian River, near Sebastian, but the encroachments of civilization caused the birds to seek other quarters and they moved to their present nesting site.

A much smaller colony often collects to breed on an island in Bull Bay, South Carolina, but high tides frequently sweep away the eggs. A few years ago some of them nested on Royal Shoal, near Ocracoke, North Carolina, but the experiment has not been repeated.

There are no other nesting places of these birds along our Atlantic coast, although there are numbers of them along the Gulf coast between Key West and the Mexican border.

WAR ON THE BROWN PELICAN

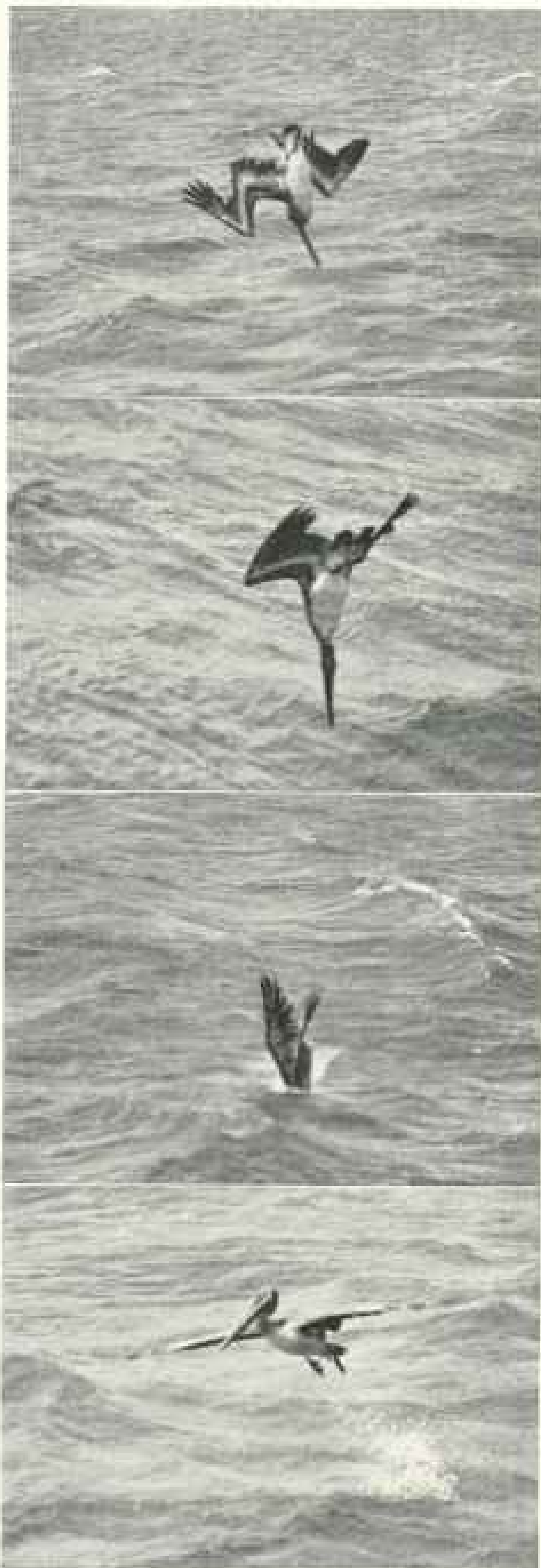
In 1918 the States bordering on the Gulf were swept by hysterical denunciations of the brown pelican. Our country was at war, food was growing scarce, Herbert Hoover, directing the Food Administration, was calling upon the people to eat fish, and fish dealers were complaining that the fish supply was diminishing because of depredations of the brown pelican.

From Texas came reports from officials that there were thousands of pelicans along the shores, and that "every day they consume more food fish than the people of Texas get in a year."

A Florida observer declared that his investigation had revealed a million pelicans along the Florida coast, and that they ate nine hundred and fifty thousand dollars' worth of food fish every day. Certain newspapers joined in the clamor and denounced the Federal Government and the Audubon Societies for having created reservations for these birds.

On the night of May 10, 1918, men landed on Pelican Island Government Bird Reservation in Indian River and, while the warden slept, clubbed to death 400 young pelicans in their nests.

So many complaints reached the Federal Food Administration that investigation was deemed necessary, and the writer was asked to ascertain if the estimate of



Photograph by Hugo H. Schroder

A BULL'S EYE AT FIFTY FEET

Dropping like a plummet, a brown pelican strikes the water with a splash and deftly captures a fish in its scooplike pouch. Taking off, it scatters spray like the wash from an amphibian's propeller.

5,000,000 pelicans for the Gulf coast was correct, and if the birds were destroying the fishing industry. I undertook this work in June, 1918, when the pelicans were gathered on their nesting islands, all of which were situated in Texas, Louisiana, and Florida.

The interest of those States was such that I readily obtained State coöperation and was able to make my cruises on State patrol boats. By the simple method of counting two old birds for each nest and adding 30 per cent of this count for non-breeding birds, I found that there were about 65,000 in the 1,500-mile stretch of coast between Key West and the mouth of the Rio Grande, on the Mexican border.

Both young and old pelicans disgorged quantities of fish as we walked about the rookeries. In Texas and Louisiana every fish disgorged by a pelican, or found in or about the nests, was the Gulf menhaden, an oily fish never used for human consumption. On the Florida coast we collected 3,428 fish which we saw pelicans disgorge, and only 27 were species used for food by mankind—mullet, pigfish, pinfish, and crevalle. No high-priced, valuable forms, such as mackerel, pompano, or trout, were found. Identifications were made by the United States Bureau of Fisheries in Washington, where I shipped various tanks of formaldehyde containing fish collected in the breeding colonies. In every case a State representative was present when these collections were made.

Basing its decision on these findings, the Federal Food Administration ruled adversely on requests to destroy the pelicans as a war measure; so the Audubon Association and the Biological Survey went on with their work of protecting them.

THE GREAT WHITE PELICAN

The pelican family (Pelecanidae) numbers eight species and four additional races, distributed throughout the warmer parts of the world. Three are found in North America. Of these the white pelican is one of the largest of all North American water birds. It has a wing expanse of from 8 to 10 feet, and adults vary in weight from 15 to 20 pounds. A battalion of these immense birds, soaring in the sky above one of our western lakes, presents a picture not easily forgotten, and a flock at rest is a most conspicuous object, which may be seen from afar.

Photograph by W. L. Finley and H. T. Bohlman

THEY SMILE FOR THEIR PORTRAITS

Before learning to fly, white pelicans waddle about the nesting grounds in groups, perhaps hoping to inveigle parent birds into feeding them.

Photograph by A. A. Allen

A BABY HELL DIVER LAZILY EXTENDS A LOBED FOOT

Instead of having a webbed foot, the toes of the grebe are bordered with broad flaps. When swimming the bird brings its feet forward with the lobes folded against the toes, and on the backward stroke it extends them. Young grebes can leave home as soon as their down is dry. Within a few hours after birth, they swim and dive (see Color Plate III and text, page 311).

Photograph by R. H. Cock

WHITE PELICANS FLOCK LIKE DOMESTIC GEESE

Seen from a distance through the shimmering haze of marshlands adjacent to Upper Klamath Lake, Oregon, they resemble lingering patches of snow, or billowing sheets of Monday's wash. Fresh water attracts them in summer, though in winter they prefer southern coastal regions.

The methods which this bird employs in fishing are strikingly different from those of its smaller relatives, the brown pelicans, one form of which lives along our Pacific coast. Whereas the brown pelican secures its prey by plunging from aloft, the former scoops its food into its capacious mouth as it swims majestically along the surface of the water. Now and then it feeds while wading in the shallows.

Lower Klamath Lake, which formerly stretched across the boundary of Oregon and California, constituted an excellent area for studying the habits of this bird. Here some years ago I observed a scene which my companions told me was a good example of the fishing methods at times employed by the white pelican.

PELICANS STAGE A FISH DRIVE

Perhaps 150 of these birds were engaged in what, to all appearances, was a communal undertaking. They had formed a semicircle and were all swimming toward the shore. Many flapped their wings at intervals, evidently to beat the water and create a commotion. The fish were being driven in from all sides. Frequently birds struck with their 12-inch beaks, and their subsequent actions indicated that their fishing enterprise was being attended with marked success.

© J. and R. H. Cook

"LOOK OUT BELOW, YOU POOR FISH!"

Frequently companies of white pelicans beat their wings on the water, herd their victims in front and scoop them up (see text, opposite page). Unlike their brown brothers, they do not dive for food. These birds are flying over Williamson River, a popular feeding ground near Klamath Falls, Oregon.

We noted that other eyes than ours were watching the fish drive, and that their owners understood what was going on. From three directions Farallon cormorants hastened up eagerly. Passing over the line of pelicans, they alighted in the water and instantly dived beneath the surface. Such an opportunity to be in the midst of an abundant food supply was not to be overlooked by the hungry and sagacious cormorants.

At this time white pelicans to the number of fully 5,000 to 6,000 were breeding on Lower Klamath Lake. In at least 20 places colonies had been established, these ranging from 50 to about 600 inhabitants. The birds had built their nests on the numerous floating islands of massed tule reeds, which were extremely abundant in and about the lake. This is the only place that I have ever seen white pelicans nesting in such a situation. Elsewhere they have built on the earth, gravel, or rocks. I have never seen a white pelican nest in a tree; islands in all cases are used by these birds. With a single exception, they have never been known to breed any place other than on lakes in the interior.

Lower Klamath Lake is no longer the nesting haunt of the myriads of water birds of numerous species that once frequented its broad expanse. The water is all but

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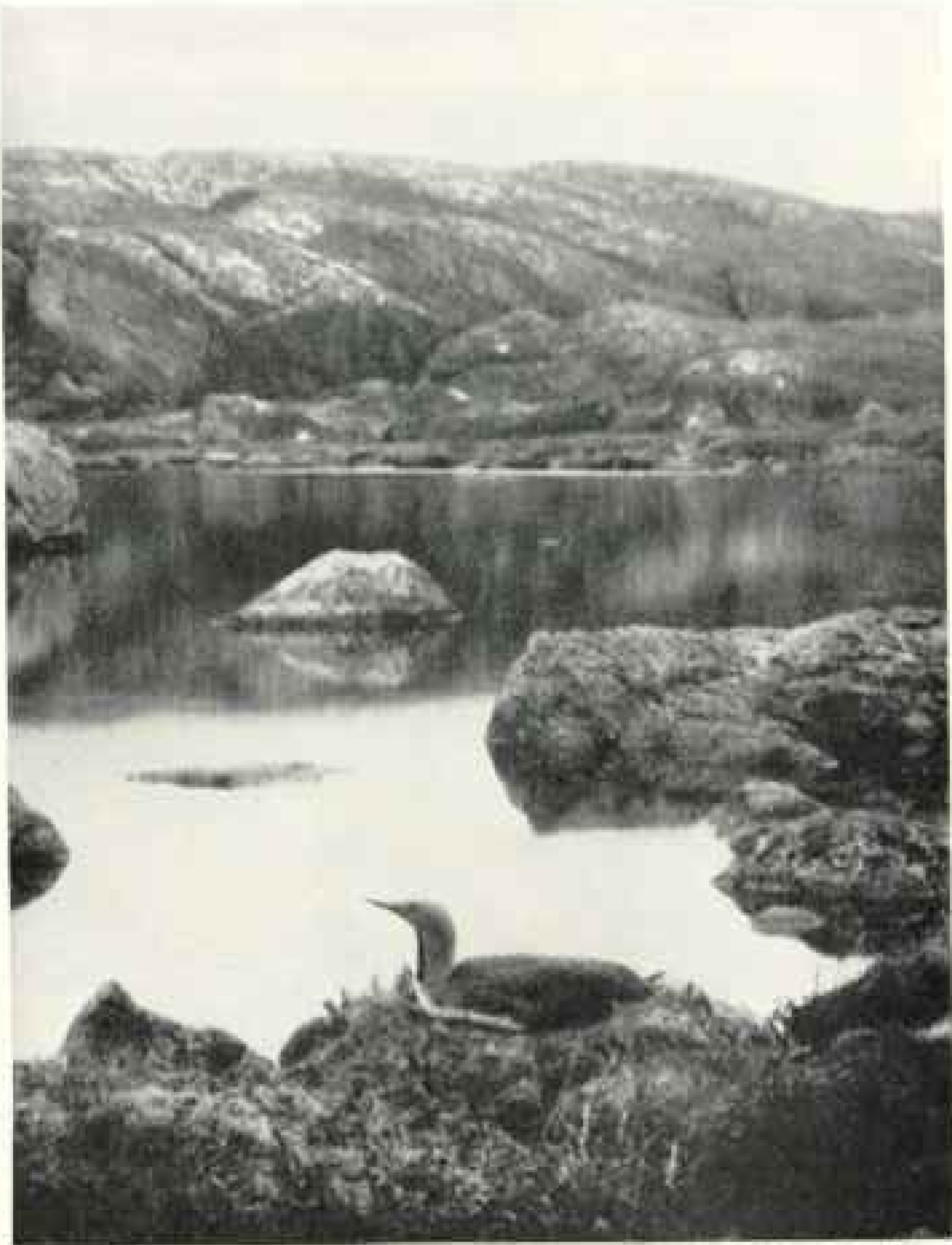
"SAY IT WITH FISH" FOR THE BEGGARS

So tame and unsuspicious do eastern brown pelicans become near Florida seaside resorts that visitors are amused by throwing them small fry. The absurd antics of these awkward-looking birds as they fight for such titbits resemble the splashing sport of the brown-skinned boys who dive for copper coins in Caribbean ports.

Photograph by W. L. Finley and H. T. Bohlman

"HOME, SWEET HOME," AMONG THE RUSHES

Graceful western grebes, the "swan necks" (see Plate II), build mound-like nests of water-soaked vegetation so close to the surface that the eggs lie just above the water. Like other grebes, they eat their own feathers, which perhaps act as strainers for fishbones or other hard substances.



Photograph by A. A. Allen

A RED-THROATED LOON GOES HOUSE HUNTING

From its winter home in the United States this bird flew to the coast of Labrador, thence inland, when the snow melted, and built a nest on the edge of a fresh-water pond. John James Audubon, the famous naturalist, studied these birds during his summer visit to Labrador in 1833.

Photograph by W. Robert Moore

THE NIGHT SHIFT TONES UP WITH A MORNING SPLASH

The Japanese, with the aid of trained wild cormorants (compare opposite page), usually fish in the dark, using flaming torches as lures. Each angler manipulates a flock of a dozen birds by means of collar-attached reins held in his left hand and untangled skillfully with his right. With full gullets the live "dip nets" are pulled aboard and forced to disgorge. Undaunted, they then dive back into the water for more. Distinguished visitors often come in boats, such as those in the background, to watch the sport.

gone and the former lake bed is now an area of weeds and alkali dust, with here and there a ranch of limited productivity. This change was deliberately brought about by man in the relentless march of civilization.

In Oregon is the Malheur Lake Bird Refuge. Both Malheur and its sister lake, Harney, are shallow bodies of water and undergo extreme changes in area from season to season. Both are practically dry during the nesting season. From September 1 to December 1 Malheur's water area is about 3,000 acres, and Harney is dry, except for a 500-acre expanse on the west side. There is no pelican colony in the refuge, but some 200 pelicans arrived in the spring of 1932, and occasionally 40 or 50 visit the refuge during the summer.

Complaint has arisen that white pelicans are destructive to game fish, and that their numbers should be reduced. It is true that they eat trout, but they consume also species of fish not used by man. In any event, their numbers are not so large as to constitute any serious danger to the game fish of America. As far as we have been able to learn, there were in 1933 about thirty breeding colonies of white pelicans. The total population to-day may be anywhere from 30,000 to 60,000. The birds are so conspicuous that they attract attention whenever seen and their numbers are constantly overestimated by untrained observers. Flocks of thousands are often reported, which, upon investigation, prove to contain only a few hundred individuals.

Photograph by J. C. Dowling

CHINESE USE DOMESTICATED CORMORANTS INSTEAD OF ROD AND REEL

Fishermen deploy their boats in line or crescent formation and, advancing, drive their flocks before them upon a school of fish. Each man recognizes his own birds, and each bird knows its boat and even its particular station on board. If a fish proves too large for one to handle, others will come to its aid. Some firms breed and train cormorants commercially.

Photograph by W. L. Finley and H. T. Bohlman

FARALLON CORMORANTS TAKE TO THE SEA ON A FISHING EXPEDITION

They breed in vast numbers on San Martin Island, Baja California. On a visit to this island in 1913, an observer estimated that there were more than 300,000 nests.

Photograph by A. A. Allen

"AND WHAT I DIDN'T SAY TO HIM!"

This colony of European and double-crested cormorants clings to a guano-covered cliff on the Labrador coast. Sometimes the latter species decorates its basket nests, two feet across and often a foot high, with sprigs of evergreens, gulls' feathers, and dead crabs; also with pipes, combs, pocket knives, or other salvage from wrecks.

The largest breeding colonies of white pelicans in the United States are those in Great Salt Lake, Utah; Pyramid Lake, Nevada; Clear Lake, California, and Chase Lake, North Dakota. These, together with the colony in Yellowstone Lake, are under the care of State or Federal guardians and at the present time appear to be in a flourishing condition.

THE COMMON LOON

Another large waterfowl is the common loon—a heavy, stocky bird with thick neck and strong, sharp beak. The first living specimen I saw was brought to me in North Carolina many years ago. It was nearly three feet in length. A man had picked it up in his dooryard one foggy morning. So far as we could discover, it was uninjured. Probably it had become bewildered during migration, and, tired out, had at length made a forced landing. It flopped its wings and dragged itself along the ground, but seemed totally incapable of taking flight. Only upon being liberated on a pond was it able to mount aloft after much flapping and splashing along the surface, to acquire the necessary momentum.

The summer range of the common loon extends throughout the Northern States and much of Canada. In many regions there is scarcely a sequestered lake not inhabited by one or more pairs of this splendid bird. Its loud, far-carrying cries have suggested to many the demoniacal laughter of a madman; hence the expression, "crazy as a loon."

The novice who thinks this saying refers to the mentality of the bird soon learns his mistake when he attempts to catch one of them. In summer the birds are seen usually singly or in pairs. If one is approached it will dive before the canoeist has arrived within shotgun range. There is no way of predicting accurately at what point of the compass it will come to the surface. One thing is certain, however: it will appear at a spot much farther away. Paddle toward it and it will again disappear.

A man may thus follow a loon for half a day if he wishes, but will find himself at the end not one bit closer to the object of his quest.

Loons pass the winter in open waters throughout much of the United States.

They occur in the Great Lakes, in broad rivers, and in large ponds, and are especially common on the coastal waters of the South Atlantic and Gulf States. In spring migration they often move north in scattered flocks, many passing over a given point in the course of a day or night.

In traveling along the coast they do not always follow closely the curvatures of the shoreline, but often cross over the capes or headlands. Many fly this way every year over the outer sand banks along the North Carolina coast. Some years ago it was the custom to shoot them from the dunes near Cape Lookout, where men gathered in the spring for that purpose. "War loon" is the name by which it is known to the people of that region.

There are four species of loons, with four geographical races, all belonging to the family Gaviidae. The group is circumpolar in distribution, six of the known forms occurring in North America.

Photograph by A. A. Allen

"SAY AAH, MOTHER!"

This European cormorant is feeding its young by regurgitation in a nest on the Labrador coast. The baby at first sips half-liquid food from its parent's bill. Later it thrusts its head and neck far down the feeder's throat for the predigested food. When the youngster is old enough to "eat what is on the table," the parent birds bring him whole fish.

Closely related to the loons are the grebes (family Colymbidae). Their distribution is world-wide. Six of the 39 known forms inhabit North America. Like the loons, they are proficient divers. Casual observers sometimes mistake them for ducks, but the superficial resemblance vanishes when one is taken in the hand or observed closely with a field glass.

THE GREBES ARE WIDELY KNOWN

The grebe which is probably better known to more people of the Western Hemisphere than is any other member of the family is the pied-billed, locally known by various names, as "dabchick," "didapper," "water witch," and "hell diver." It breeds locally from British Columbia and Nova Scotia south to Florida and Mexico. In winter it remains throughout much of its summer range, if the lakes do not freeze, although many move southward, some going to Cuba.

When I was a boy in Florida a Negro told me that he had seen an alligator's nest at the side of one of the reedy ponds on Kanapaha Prairie, so I went to look for it. I found that it would be a much nearer way to reach the designated spot if I waded my horse across an arm of shallow water. There, amid a scattered growth of small reeds, I noticed a little raft of decayed water plants anchored to a few stout reed

stalks. Dismounting in the shallow water, I found on this raft five dull white eggs covered with some of the nesting material. It was the nest of a pied-billed grebe.

Leaving the structure as I found it, I proceeded about 40 yards and found the eggs of the alligator. After tying the horse in the woods, I returned, sat down on the alligator's nest, the only dry spot in the vicinity, and awaited the return of the grebe. About every five minutes I arose cautiously, to look over the intervening reeds.

I must have been there an hour when suddenly I saw the bird sitting on her eggs. It discovered me at about the same moment. Rising instantly, it gave two or three swift pecks at the nest, slid into the water, and disappeared from view. Wading out to the nest, I found that at the moment of leaving the bird had completely covered its eggs. They were left safe from the searching eyes of the egg-eating fish crows, ever seeking food about the ponds and lakes.

So quickly can the grebe disappear when alarmed that it occasions comment wherever the bird is known. It is a common remark among country boys that no one can shoot a didapper when it is watching. The bird will dive at the flash of the gun and be safely beneath the surface when the shot arrives.

This grebe haunts especially the reedy shallows of ponds, lakes, and quiet backwaters of rivers. Though it is often seen swimming about in open water, much after the manner of ducks, I have seldom observed it in swift-running streams. There are comparatively few suitable regions in most of the Eastern States where it may not be seen. The whitish beak, crossed by a dark bar near the tip, is a mark which readily distinguishes it from other grebes. It is fairly safe to assume that any grebe seen in the Eastern or Southern States in summer is a pied-billed.

Among other members of this family, the large western grebe is one of the most interesting. In a sheltered bay of a California lake I came upon a colony containing at least thirty nests. The antics of the birds, as they bowed to each other or chased their mates or rivals over the water, were different from those of any other species of which I have knowledge. I have seen them going about their daily activities in many places, such as Klamath and Malheur Lakes, the Carson Sink country of Nevada, and in the vast marshes at the mouth of Bear River, in Utah.

The young frequently clamber upon the backs of their parents, where they may rest and doze in safety. If startled, the old birds, of course, dive and swim away beneath the surface, often taking the young with them. Soon, however, the little ones appear, bobbing up one at a time, like small animated balls of gray and white cotton.

THE WATER TURKEY, OR SNAKEBIRD

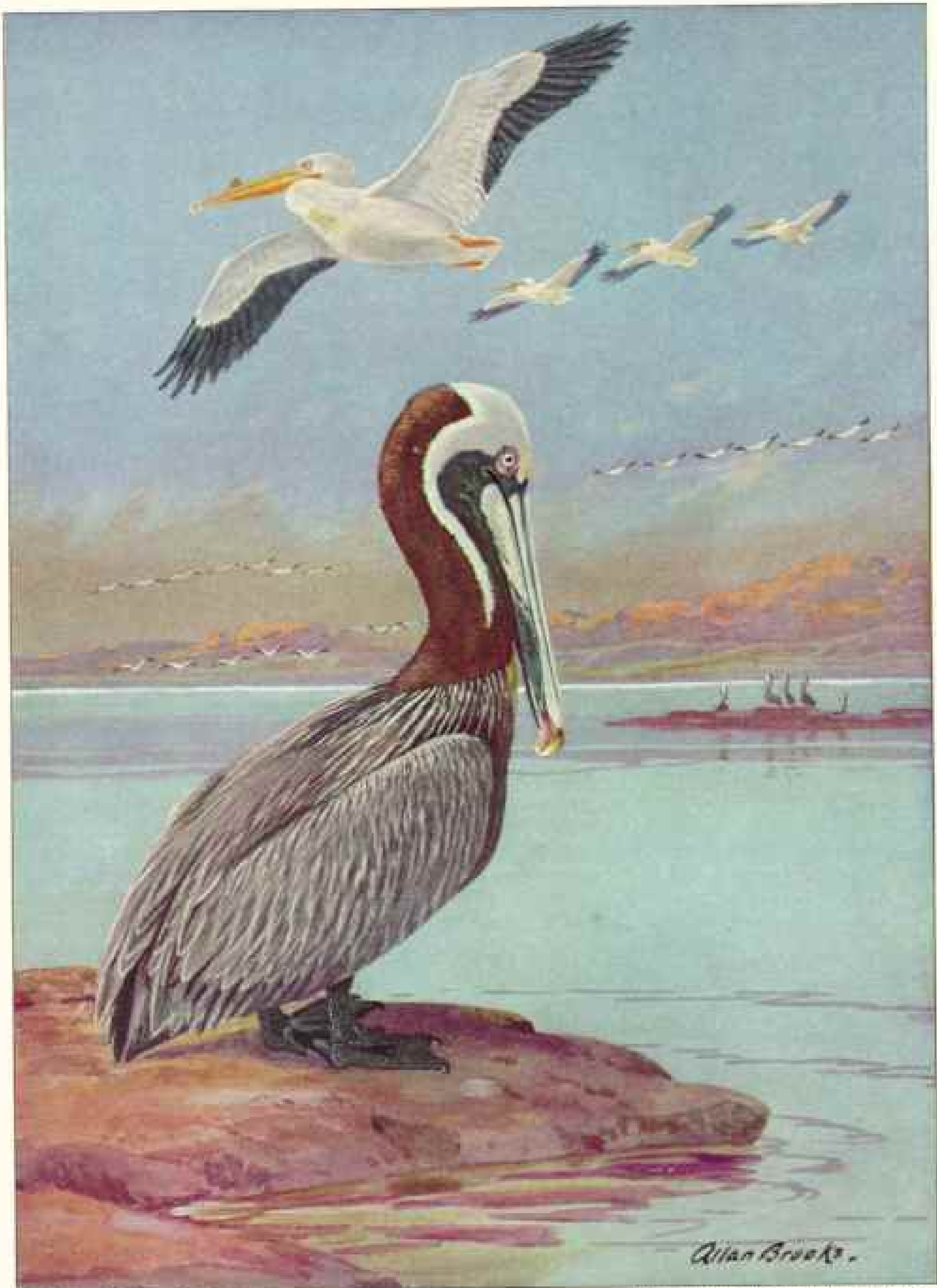
Inhabiting the lakes and swamplands from North Carolina and Arkansas southward through tropical America, we may find that peculiar bird, the water turkey. It belongs to the family Anhingidae, or Darters. There are only four species of this group, one of each being found in Africa, Australia, southern Asia, and the warmer parts of America. The African species has three geographic races, one of which extends to Mesopotamia. Water turkeys are silent birds, capturing their prey while swimming beneath the water, and are fond of spreading their wings in the sunshine to dry after each submarine voyage.

Often they swim with bodies submerged and with only their small heads and long necks protruding. Thus the bird has in some regions acquired the name "snakebird."

The water turkey builds a substantial nest of sticks and twigs, often with green leaves attached, in stout bushes and trees. I have visited at least a hundred of their nesting colonies, and the largest number of nests I have counted in any one place was seventy-five, although I was sure that some colonies contained many more.

This was in a swamp perhaps twenty miles south of Natchez, Mississippi, and known as "The Burn." I had finished my observations in a flourishing colony of egrets and other herons, and with the guide was making my way out of the swamp, when unexpectedly we came upon the water turkeys. Their nests were on the horizontal limbs of fairly large cypress trees which surrounded an opening of about an acre in extent. It was quiet in this sultry, sequestered spot, that day in May, 1920. Only now and then a few sounds reached us from some nest, as a parent returned with food for its young.

The birds were not greatly alarmed by our presence. As a rule, they did not fly away, but thrust out their necks curiously at different angles to look down at us, as we sat in our frail pirogue, viewing the daily life of a water-turkey settlement.



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Approximately one-seventh natural size

A QUEER LOOKING BIRD IS THE PELICAN

Florida visitors marvel at this ungainly inhabitant, the eastern brown pelican. Soaring above it are white pelicans flying in line formation like airplanes. These snowy-plumaged heavyweights, one of the largest of the North American water birds, summer in our western lakes and winter in coastal waters of the South and West.

WHITE PELICAN

(Pelecanus erythrorhynchos)

The settlement of the country has driven the white pelican from many of its former dwelling places. As nesting birds, they have deserted the lakes they once occupied in Minnesota, Wisconsin, Colorado, and elsewhere, although they frequently are seen as nonbreeders in these regions. When a nesting colony is disturbed by visitors, the old birds desert their eggs and young without the slightest protest. If alarmed too often, they have been known to leave the region and select a nesting place in another part of the country.

In 1920 the writer discovered that a small colony had established itself on an island in Laguna Madre, on the lower Texas coast, and he photographed the birds, together with their eggs and young. The colony thrived and was probably joined by others migrating from their former haunts, for ten years later J. J. Carroll visited the island and estimated the colony at 5,000 birds. They were disturbed frequently by visitors, and trips to the island of late years have revealed the fact that the birds have gone away.

NEIGHBOR COLONY MILES AWAY

There were two interesting facts about this Texas group. The nearest neighboring colony is in Utah, 1,400 miles away, and it is the only case where the white pelican has been known to breed on an island surrounded by the waters of the sea.

The present breeding territory covers several of the Far Western States and extends north in the Canadian provinces to central British Columbia and the Great Slave Lake. In autumn white pelicans move south and pass the winter from California to Panama and along the Gulf coast of the United States and Mexico. It is not uncommon in summer to find flocks of unmated birds far to the east and south of their present breeding range.

The sexes are alike in appearance, and in the spring both carry on the upper bill a curious horny disk, which later falls away. The whitish eggs are three or four in number and are covered with a chalky deposit. This heavy bird rises laboriously from the ground, but once in the air it sails with apparent ease and dignity. Often a flock will circle upward until it is no longer visible to the watcher below.

EASTERN BROWN PELICAN

(Pelecanus occidentalis occidentalis)

Brown pelicans feed entirely upon fish. In taking food to the young the parent does not carry it in the great pouch beneath its bill, but in its stomach. Small semi-digested particles are regurgitated into the pouch and run down to a point near the tip of the bill. The recently hatched young thrust in their bills and secure the nourishment. Later, whole fish are handled in much the same way.

When partly grown pelicans are disturbed, they usually disgorge their last meal. I have examined many hundreds of fish thus placed within my reach, which were in as perfect a condition as when swallowed. Fish that had been in the stomachs of the young for some time showed that digestion began at the nose of the fish and proceeded gradually toward the tail.

I have visited all the breeding colonies of these pelicans along the South Atlantic and Gulf coasts, several of them more than once, and have never known the adult birds to show the intense fear of man exhibited by white pelicans. One day I sat on a drift log for a little time holding one beside me. When liberated it waddled away a few feet and deliberately picked its feathers several times before taking leisurely flight.

The eastern brown pelican nests from South Carolina and Texas to Brazil, and is found also in the Galápagos Islands and on the coasts of Colombia and Ecuador.

CALIFORNIA BROWN PELICAN

(Pelecanus occidentalis californicus)

The western form of the brown pelican inhabits the Pacific coast as a summer bird from San Francisco Bay to Cape San Lucas, in Baja California. In winter it wanders far, having been recorded at this season as far north as British Columbia and southward to Central America.

These birds breed on steep hillsides on various islands from the Santa Barbara Islands southward. The nests are usually built on the ground, but on some occasions trees are used. Mr. A. B. Howell writes:

"They are noisy little fellows, clucking to themselves continuously and with a flirt of the wings at each cluck. In spite of their tender age, they are very pugnacious, . . . even though this does not do them much good when the western gulls take a notion to peck out their brains."

(See Color Plate I)

HOLBOELL'S GREBE

(Colymbus grisegena holboelli)

In the estuary of the Neuse River where it flows into Pamlico Sound, North Carolina, I have watched in winter the Holboell's grebe sink slowly from sight until only the head was visible. Again, when frightened, they would plunge forward and downward, disappearing with amazing swiftness. As they swam along with heads held in a horizontal position, they resembled the loons, which frequent these waters at this season of the year. Their smaller size, however, usually renders it an easy matter to distinguish between the two species.

Here, as well as at points as far north as Cape Cod, they were feeding probably on fish and crustaceans. In the lakes and reedy marshes of their summer homes in the Far North their food consists in the main of fish, crayfish, other crustaceans, and insects.

ONE OF THE SHYEST GREBES LIVES IN A FLOATING NEST

They are unusually wary birds. The only case that has come to my attention in which any of them overcame their fear of human beings was in Long Island Sound. Here a man who lived alone on an anchored boat was considerably entertained by a number of them which daily fed near by, coming sometimes within six feet of his vessel. Even in summer, on their breeding grounds, they are extremely shy, and ornithologists have reported that it was an easier task to find the nest than the bird itself.

The nest is a floating mass of decaying reeds and other vegetation. The eggs, generally three to five in number, are bluish white. About twenty-three days are required for them to hatch.

All grebes produce peculiar sounds, heard chiefly during the nesting season. The cries of the Holboell's grebe are loonlike in their long-drawn wailing.

This bird breeds from Hudson Strait westward through Ungava, northern Mackenzie, northwestern Alaska, and northeastern Siberia, and southward to northern Washington, North Dakota, and New Brunswick. It passes the winter mainly in the coastal waters of the Atlantic and the Pacific to southern California and North Carolina. It is also found in limited numbers in the Central States as far south as Tennessee.

WESTERN GREBE

(Aechmophorus occidentalis)

A young western grebe escapes from the shell in which it has developed by pecking a ring, which causes the end of the shell to drop off like an unattached cap. With the other little grebes, which have appeared in the nest at about the same time, it seeks a resting place on the back of its father or mother, and so is borne away among the channels of the reedy lake so loved by these birds. The parent covers the young with its inner wing feathers. Often the head protrudes, as the swanlike grebe sails along with its tender burden. Food is picked up here and there and it is a simple matter for the parent to turn its head and feed its offspring.

Mr. William L. Finley, who has studied the nesting habits of this species more than any other man of whom I have knowledge, tells us of watching young grebes slide from the back of one parent and board the back of the other. The second old bird, upon being approached by its tiny young, "lowered his body slightly in the water and the youngster floated aboard."

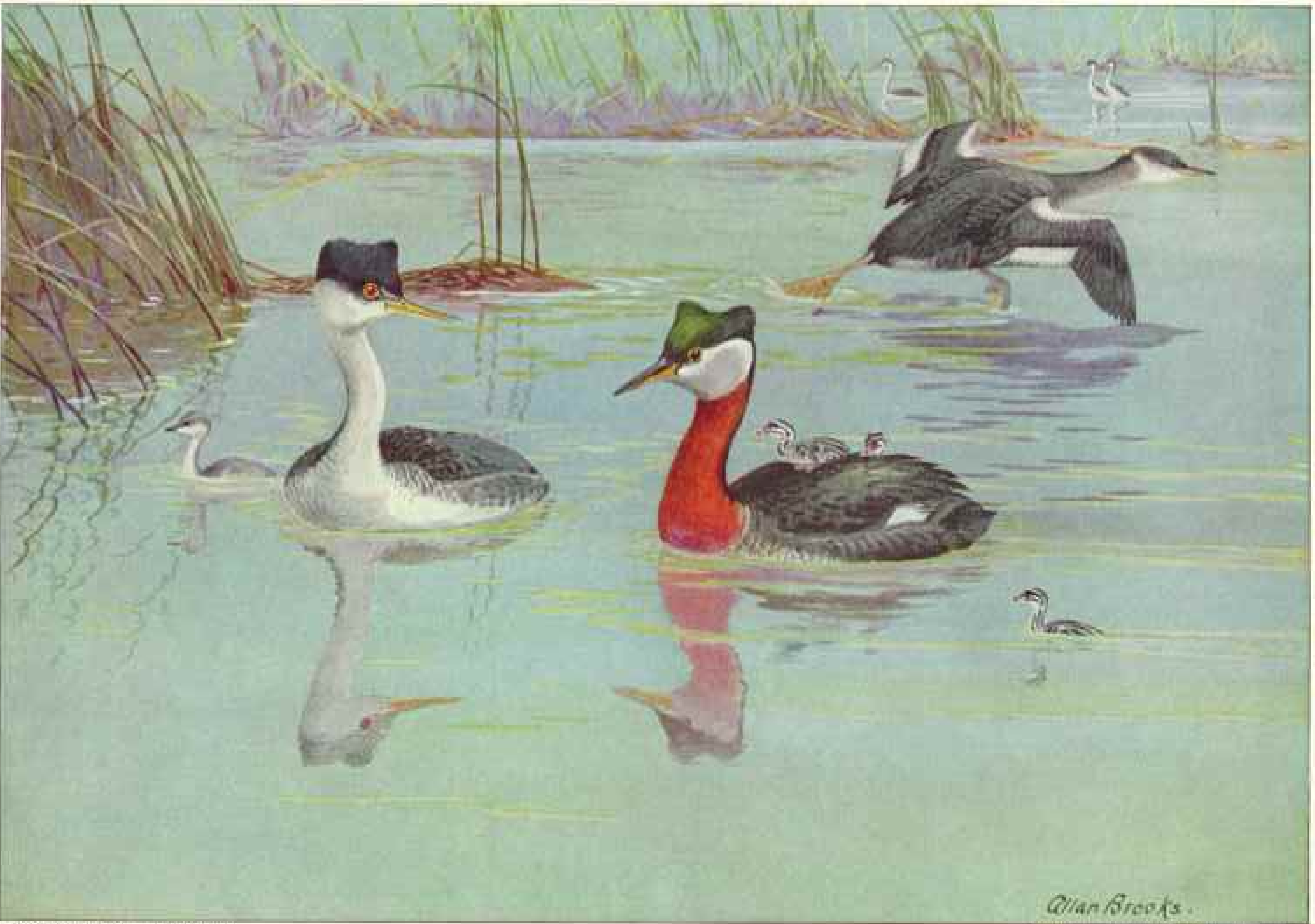
During the days when fashion demanded feathers of birds as millinery decorations, the western grebes suffered greatly from plume hunters. Upon killing the birds, it was customary to remove the head, wings, and feet, and then, after slitting the skin at one end, to pull this back over the body, as one removes a glove. The skin, thus turned inside out, quickly dried and was ready for shipment to market. The hunter received about twenty cents for each "grebe breast."

AMERICA'S LARGEST GREBE

The National Association of Audubon Societies secured laws prohibiting the killing of these birds, got their largest breeding colonies established as Government bird reservations, helped provide funds for wardens to guard them, and thus saved the birds in important sections of their range.

This species is the largest of our grebes, measuring about 26 inches in length. In characteristic grebe fashion it builds a floating nest of stems and leaves of aquatic plants, and many are often found in close proximity. It breeds from British Columbia and Manitoba to northern California and North Dakota. In winter many migrate as far south as central Mexico.

(See Color Plate II)



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Approximately one-fourth natural size

STRIPED CHICKS EXPLORE THE CHANNELS OF REEDY LAKES ON THE BACKS OF EITHER PARENT

Holboell's grebe (center) has a chestnut-red neck during the nesting season, but in winter this plumage turns to brown or ashy (flying at upper right). A black-capped head tops the swanlike neck of the graceful western grebe (left), largest of the family, but not its grayish chick.

© National Geographic Society

Approximately one-fourth natural size

"HELL DIVERS" AND "WATER WITCHES" ARE DIVING CHAMPIONS OF THE BIRD WORLD

In diving, grebes spring partly from the water to plunge head first, or sink back silently, leaving scarcely a ripple. In summer regalia are: Pied-bill (lower left), which especially has earned these popular names, and a downy striped chick; the American eared grebe (center); and the horned grebe (lower right). Winter garb is portrayed by the horned grebe in gray and white plumage at the upper right, and the pied-bill above at the left.

PIED-BILLED GREBE

(Podilymbus podiceps podiceps)

The "water witch," to use one of its local names, inhabits a range the extent of which is exceeded by that of few American birds. In summer breeding pairs may be found throughout all the southern provinces of Canada and southward over the continent generally into Florida and Mexico. It is not found in winter in the extreme northern part of its range. Many go south as far as Cuba and lower Mexico.

The call notes of this grebe are difficult to describe, but are easily remembered if once heard and identified. In sluggish and stagnant ponds the bird is much at home. If its mind is at rest it swims buoyantly, but may submerge its body gradually until only the head is visible. On land it is very awkward and usually propels itself by flapping its wings and striking with its feet in the way it usually progresses when swimming beneath the surface of the water. This grebe is thirteen and one-half inches in length.

The nest is a floating mass of decaying vegetation, such as reeds, grass, and whatever other water plants are easily available. It is from one foot to a foot and a half in diameter and is several inches in thickness. Generally it is anchored among reeds and is usually in water from one to three feet in depth. The eggs number from 5 to 8, rarely 10, and are about one inch and three-quarters long and a little more than an inch in thickness.

EARED GREBE

(Colymbus nigricollis californicus)

Although allied races of this species are scattered widely in Europe, Asia, and Africa, the American form is confined to a range that may be roughly described as the western half of the North American Continent from British Columbia and Manitoba to the Mexican border.

In general habits it is not greatly unlike the pied-billed grebe, but its nesting is in one respect quite different. I have watched these handsome birds on various lakes from North Dakota westward, but have never had an opportunity to observe one of their nesting colonies. I shall, therefore, quote a paragraph from the account given by B. F. Goss. Speaking of one of their nesting communities, he said:

"The nests were built on floating débris about 15 rods from shore, where the water was perhaps three feet deep. Old flags, rushes, reeds, etc., had been driven by the wind into a point of a bay, forming a mass two or three inches deep and several rods in extent. This mass was firm enough to hold up the birds in most places, but was full of holes where they could dive through. There were at least 25 nests on an area of 10 by 20 feet. They were made of partly decayed moss and reeds brought up from the bottom and were small, not more than a handful of material to a nest."

HORNED GREBE

(Colymbus auritus)

The summer range of the horned grebe extends from Maine, Minnesota, and northern Nebraska to Iceland, the Arctic coast of Canada, and Siberia.

Its winter range is amazing. At this season of the year it occurs not only over nearly all of the territory of the United States, but inhabits also southern Europe, northern Africa, and regions of the coasts of Japan and China.

In the United States most observers are familiar with this grebe only in its gray and white winter plumage. Occasionally, in late spring, I have seen it in the bright summer plumage, especially in North Carolina and Georgia.

In flocks ranging from a dozen to two hundred or more, or singly, they feed on our lakes, estuaries, and along the coast just outside the breakers. The food of the birds consists of small fish, shrimps, other crustaceans, beetles, and various insects. Mr. W. L. McAtee reports finding large quantities of feathers in the stomachs he has examined for the Bureau of Biological Survey.

Although this species flies more readily than other grebes, sometimes it shows the usual grebe reluctance to fly when approached. I have rowed a boat directly toward a flock scattered about the water and have not been able to get one of them to take wing. They have preferred to seek safety by submerging and swimming away under the water.

Although strongly inclined to be gregarious in winter, these birds appear never to colonize in summer like the eared grebe. They seek such privacy as may be furnished by the numerous ponds and sloughs of their summer habitat.

(See Color Plate III)

DOUBLE-CRESTED CORMORANT

(Phalacrocorax auritus)

In the sounds and shallow bays dotting the southern coast of the United States, the channels are marked with many stakes and buoys, and these are popular perching places for the double-crested cormorant. When a boat approaches, the big black bird leans forward, raises his wings, then hesitates as if loath to leave his comfortable position. When finally he launches forth in a clumsy, awkward fashion, he seems unable to keep from striking the water before he can get well under way. With heavily pounding wings he departs to seek another perch, or perhaps comes to rest at a distant point on the surface of the bay.

Sometimes cormorants take food fish from nets, but their usual diet consists of fish of no known value to man. On various occasions I have collected sculpins and other nonedible varieties which excited cormorants have disgorged in my presence.

For many years fishing clubs situated along streams flowing into the Gulf of St. Lawrence offered a standing bounty of 25 cents a head for every cormorant brought to them. Clubmen and their guides contended that the birds were destroying salmon. At length the Geological Survey of Canada secured the services of one of the Dominion's ablest ornithologists to study the food of cormorants in these waters. Numbers of them were killed and the contents of their stomachs examined. Not a single bird was found to have eaten a salmon. Instead, many sculpins, "a few herrings, one capelin, an eel, and some tomcod were brought to light"; so the bounty offers were withdrawn.

When flying, the cormorant's neck is stretched to its fullest extent and its feet point out straight behind. While swimming on the surface, the large, webbed feet paddle alternately, but when pursuing prey under water both of the feet strike backward at the same time. As with all cormorants and pelicans, the feet of this bird have all four toes united by a web. The crests on the side of the head, which give this species its name, disappear soon after the nesting season begins, and on many of the birds they are never very conspicuous.

While I was visiting a colony of cormorants in North Carolina, a downy young bird fell from a cypress limb along which it was clambering. With waving wings it struck the water lightly and began swimming away. An alligator gave chase, and twice I thought the bird had been caught; but, by diving, it had in both cases escaped the enemy's jaws. We replaced the bird among the limbs of its cypress tree.

This species is divided into four subspecies, as follows: double-crested cormorant *(Phalacrocorax auritus auritus)*, Florida cormorant *(P. a. floridanus)*, white-crested cormorant *(P. a. cincinatus)*, and the Farallon cormorant *(P. a. albociliatus)*. The combined geographic territory frequented by these four varieties gives to the species a range extending from Alaska, James Bay, and Newfoundland to Florida and Mexico.

In many places the birds build their nests on the ground or on rocky cliffs, but in Maine, as well as in North Carolina, Florida, and other Southern States, trees are selected for this purpose.

EUROPEAN CORMORANT

(Phalacrocorax carbo carbo)

The European cormorant is seen in the United States in winter, but even during that season one may expect to find it only along the Atlantic coast north of New York. It is casual south to South Carolina. Once known as the "common cormorant," it is no longer common on the Atlantic coast.

Although the bird at one time probably bred as far south as Maine, the most southern colony known today is on an island off Great Bras d'Or, Cape Breton Island, Nova Scotia. In company with Dr. Gilbert Grosvenor, in the summer of 1930, I examined this assemblage of one hundred or more birds and photographed them on their nests at close range. They inhabited a high, rocky cliff and their nests were placed on the narrow ledges. They kept careful watch of their eggs, for there was a pair of great black-backed gulls in the neighborhood, to which fact the breeding terns of the island from time to time gave vociferous testimony. The colony is now protected and is increasing.

Other races of this cormorant occur in Europe, Asia, Africa, and Australia. I found these cormorants common on the Farne Islands, off the east coast of England, in 1922, and, two years later, along the Scottish coast. Their croaking notes and their nesting and feeding habits do not differ materially from those of other cormorants.

(See Color Plate IV)

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Approximately one-seventh natural size

MAN HAS ENLISTED THE CORMORANT'S AID IN FISHING

The Japanese and Chinese put a cord, ring, or strap on the neck of each bird to keep it from swallowing the fish. The two head tufts of the adult double-crested cormorant (right) disappear in winter, and are not present on the immature bird (upper left). The handsome European cormorant shown in breeding dress (lower left) nests in Greenland and Europe.

© National Geographic Society

Approximately one-sixth natural size

HE MIMICS THE SNAKE WHEN FRIGHTENED

If alarmed while swimming, the water turkey, or darter (center right, and flying), frequently will submerge backward, leaving only his snaky head and neck protruding. The "snakebird," as he is popularly called, is strong and graceful in the air. The Mexican cormorant (lower) is a relative of both species shown in Plate IV. The Mexican grebe (left) is North America's smallest grebe.

MEXICAN CORMORANT

(Phalacrocorax olivaceus mexicanus)

On the prairie of Cameron Parish, Louisiana, there is an area of many acres where trees grow in shallow water. This place, known as "Bird Island," is a nesting haunt of roseate spoonbills and many herons. Here, too, accumulate several hundred cormorants about equally divided in numbers between two species, the Florida and Mexican.

The latter is slightly the smaller bird, being three or four inches shorter than the former; also, in the breeding plumage, it shows a white U-shaped line running under the throat.

The nests of the two species are very similar, being composed of twigs and sticks and placed on horizontal limbs from 20 to 40 feet from the ground. When, in May, 1930, I last visited this place, I was greeted with many guttural grunting sounds made by the birds as they alighted at their nests, took flight, or sparred among themselves.

Near Brownsville, Texas, I fought my way through tangled, thorny bushes and waded for a mile in a brush-grown shallow lake, hunting for a colony of Mexican cormorants of which a trapper had told me. Many birds were seen, but I had to content myself with examining the nests from photographs made by my guide the following week. In this colony all the nests were in low trees, hardly more than bushes, scattered at intervals of several yards apart.

The Mexican cormorant is a little more than two feet in length. Its hooked beak is nearly two inches long and its wing-spread is about three feet four inches.

This form nests from southern Louisiana to Cuba, the Bahamas, and Nicaragua.

WATER TURKEY

(Anhinga anhinga)

Of all the nests that one may find in the populous water-bird colonies of the Southern States, those built by the water turkeys are pretty sure to be the most substantial. In cypress trees, large or small, or in stout buttonwood bushes, or perhaps in scraggy old willows, they construct cradles for their young that are so bulky as readily to be noticed among the other nests of the rookery. Often one may count the blue eggs in a heron's nest by looking through the twigs from below, but the white eggs of the water turkey are not so exposed. Sticks and twigs, often with leaves attached, are used in abundance. Usually green, freshly picked leaves are used for lining the cavity where the eggs and young are to rest.

When hatched, the young birds are naked, but gradually they become covered with buff-colored down. Bills and feet are used to climb about the limbs. They do not leave the immediate vicinity of the nest until they are able to fly.

DOES NOT INJURE MAN

Audubon, writing in 1840, speaks of finding in the stomachs of these birds such food as leeches, shrimps, tadpoles, insects, fish, and young alligators. Evidently they are of no special economic value to mankind, nor are they in any way injurious to his interests, if one is to judge them by their food habits.

The most northern record of this bird, breeding in eastern United States, was made June 7, 1898, when the writer found a nest with four eggs in Brunswick County, North Carolina. It was thirty-four years before a second nest of this species was found in that State. This second nest was in a small cypress tree growing in the same lake where the first one had been discovered.

The water turkey is 34 inches in length and has a wing-spread of nearly four feet.

The anhinga is found from Texas, Arkansas, and North Carolina to northern Argentina. In winter it is found in the lower Colorado River region of California and Arizona.

MEXICAN GREBE

(Colymbus dominicus brachypterus)

The bird is about nine and one-half inches in length, which makes it by far the smallest of all our North American grebes.

It is known to occur in the United States only in southern Texas. Breeding birds have been found in the San Antonio and Brownsville sections. It inhabits also the region of southern Baja California and from Texas southward to Panama.

Like the pied-billed grebe, this species lives in quiet ponds and slow-moving, fresh-water streams and builds a floating nest of decaying vegetation. Mud is often used in nest construction. Closely allied forms are found in the West Indies and South America. Less is known of the general habits and activities of this bird than of any other member of the grebe family.

(See Color Plate V)

RED-THROATED LOON

(Gavia stellata)

As a breeding bird, the red-throated loon is an Arctic and subarctic species throughout Europe, Asia, and America. In the Western Hemisphere its summer range extends from the coast and islands of the Arctic Sea, including Alaska and Greenland, southward into British Columbia, Manitoba, and Quebec. In autumn it migrates southward and may be found along the Pacific coast from the Aleutian Islands to Baja California, and in the waters of and near the Atlantic from the Gulf of St. Lawrence to Florida. At this season it also inhabits the Great Lakes and occasionally lakes and rivers of some Midwest States.

Various ornithologists, including Audubon, have studied this loon in its summer habitat. It reaches the coast of Labrador in spring, before the snows have disappeared. When the snow melts, innumerable ponds and small lakes are formed and the permanent lakes lose their ice. The red-throated loons which have been gathering in the open coastal waters and the adjacent sea take possession of these quiet fresh-water areas, and the birds, already mated, begin to build their nests. At this period they are extremely active and their flights, splashings, and various call notes are among the most animated sights and sounds of the Arctic waste.

On the numerous pools and shallow sloughs of the Alaskan tundra these loons are among the first birds to appear, and they are much in evidence until the return of cold weather causes them to move far to the southward.

Many descriptions of their notes have been given. Bent speaks of the "harsh, gooselike honking calls or the weird, shrill cries." Macgillivray wrote: "On being deprived of their eggs, they may be heard for several evenings lamenting their loss with loud, melancholy cries." Nelson gave us this description: "Their arrival (in spring) is at once announced by the hoarse, grating cries which the birds utter as they fly from place to place or float upon the water."

One writer has made a record of the method employed by this bird to preserve its young: "When danger threatens, the old bird sinks her body below the surface, with only the head and neck stretched up above it; the young bird climbs upon her back, and she swims away with him to safety."

PACIFIC LOON

(Gavia arctica pacifica)

During the colder period of the year nearly all of the individuals of this species are found in the Pacific Ocean, along the North American coast. Its name, therefore, is very appropriate. It is abundant in many sections along the coast of southern California and Baja California. During migration the birds sometimes stream northward past a given point for hours, not in compact flocks, but singly, as a rule. While such flights are in progress there may be scarcely a minute when at least one of the birds is not in sight.

When swimming under water they move with swiftness. Not only do they use their feet to propel their bodies, but their half-folded wings also are continually in action as auxiliary means of locomotion. When these actions become observable, because by chance a watcher is favorably situated for the purpose, one gets the impression that the loon is actually flying through the water.

The birds breed in the region of Hudson Bay and along the Arctic coast westward to Point Barrow, Alaska, and southward to Great Slave Lake and the Alaska Peninsula. The nests are built on islands and on the shores of sloughs and ponds. As a rule, they are substantial structures of water plants and rushes, available in the immediate vicinity. The eggs, two in number, are covered with spots and blotches of various shades of drab, brown, and lavender.

The parents visit the seacoast to secure fish for their young. This prey is carried crosswise in their beaks, as they fly swiftly over the intervening miles. When the young are old enough to accompany their parents to the coast, the birds become a common sight in the shallow bays along the shores. In September they commence moving southward, and when the Arctic winter settles down the regions that so recently resounded with the cries of loons become the great "white silence" of the North.

The smoky gray markings of the head, the glossy, greenish black of the throat, and the white bars of the back disappear with the approach of autumn, and therefore the bird is of much less striking appearance at this season, when it journeys down the Pacific coast to its winter feeding grounds.

From end of bill to end of tail the Pacific loon measures 24 inches.

(See Color Plate VI)

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Slightly more than one-sixth natural size

LOONS RIVAL THE GREBES AS CHAMPION SWIMMERS AND DIVERS

They are clumsy on land, and use bill and wings to assist them in walking. The red-throated loon (left) bears his red triangular throat mark only in summer. The Pacific loon (right) loses his handsome black and white summer markings when he flies south along the coast in autumn.

© National Geographic Society

Approximately one-fifth natural size

THE PIERCING SCREAMS OF THESE BIRDS JUSTIFY THE SAYING, "CRAZY AS A LOON"

The adult common loon (left) wears his summer suit of black-and-white checks, stripes, and spots, but his chick is somber. The immature bird (upper right) is similar to the adult in winter.

COMMON LOON

(Gavia immer)

To one whose duties or pleasures have taken him into the northern wilderness, the sound of the word "loon" brings to memory visions of quiet lakes, with shores bordered by firs, spruces, and the gleaming white trunks of clustered birch trees.

To the voyager in these regions, whether in quest of trout or salmon or merely seeking the enjoyment of being where Nature has been unmarred by man, the weird, mournful cry of the loon is an inseparable part of the world about him. The far-reaching, trembling wail comes across the lake with a quality of unutterable melancholy. One may hear it at dawn, at evening, at almost any hour, day or night, and rare is the person who does not pause to listen when this cry comes down the wind.

I never tire of watching loons. Sometimes a pair swims close to camp on the lake side, where they move back and forth, turning their heads from side to side and peering around with evident curiosity. From the porch of a little camp on Lake Champlain I have watched them day by day swimming slowly about, diving and coming up, and now and then sparring mildly with each other.

It seems that sometimes they lose all desire for motion and exhibit a feeling of indolence by lying on their sides, thus exposing one foot, which occasionally moves in a feeble manner. At such times the white breast is revealed so extensively that one might readily suppose that the bird is floating flat on its back.

Loons were common summer birds in many of our Northern States a hundred years ago, but people would not leave them alone. The nests were robbed of their eggs, either to be taken home to be boiled or to be set under hens, or maybe they were picked up just to be thrown far out into the lake as a test of somebody's prowess.

Often the birds were considered good moving targets for rifle practice. A man once told me that he had shot them all his life, but had never eaten one. When I asked why he did this, his only reply was, "Why not? They are no good for anything." Since the Audubon laws have been enacted to protect them, and civilized man has acquired more interest in the living bird, the loons have not been persecuted so extensively as formerly.

The loon lays two eggs, usually in a substantial nest constructed of grasses and rushes. A favorite location for the nest is a tiny island. In all cases it is very close to the water, for the loon is no pedestrian and can only crawl or flop along in a most laborious manner.

The young when hatched are completely covered with down, as is the case with many water birds. They are, therefore, ready to begin cruising very soon after the sun has dried their brownish-black down, although they may linger in or about the nest for a day or two. At this stage they get about on the land better than their parents, progressing by little jumps or leaps.

YOUNGSTERS SWIM UNDER WATER

If the family is approached, the young dive and make short trips under the water. Upon rising they again disappear in the same manner. In the meantime the parents, in alarm, flop about in the water, showing distress and making obvious efforts to lure the intruder away from the direction taken by their young.

Late in August or September the old ones spend much time upon the wing, calling as they circle about the lake where they have passed the summer. Perhaps this is to encourage the young to acquire strength in flying. The time for migration to the southward is approaching, and soon the young must be led away to the open waters of the sea, where they will have to shift for themselves.

In coloration the sexes are indistinguishable, and in the winter plumage the adults and the young of the year are almost identical. During migration, loons sometimes strike against lighthouses in foggy weather. In the tower of Cape Hatteras Light I was shown a lens from which a piece had been broken by a loon which one night crashed through the outer window.

The common loon breeds from Labrador and Nova Scotia south to northern New York and in Iceland. It is found in winter from the Great Lakes to the Gulf coast and on the eastern side of the Atlantic to the Mediterranean and Black Seas.

A related race *(Gavia i. elasson)* nests from northern California and northern Wisconsin to British Columbia and is found in winter on the coast of California.

(See Color Plate VII)

BRANDT'S CORMORANT

(Phalacrocorax penicillatus)

Cormorants inhabit the coastal waters of nearly all countries of the world and are found also about many of the lakes and larger rivers of the interior. They usually gather in flocks to roost and nearly always nest in colonies, often in association with other species of water birds. They swim beneath the surface to secure their prey. Thirty species are known, six of which inhabit North America.

Amid the teeming bird life that gathers to breed on various rocky islands along the Pacific coast from Alaska to Baja California, the big Brandt's cormorant occupies a conspicuous place. Many a high rocky ledge shows white sides and crest due to guano deposits made by the roosting cormorants. At times large rafts of them accumulate in bays or in the open sea to feed where the running tides have brought in schools of fish. The bird is maritime, loving the salt sea and its rocky shores and its fish. One need not expect to find it about the tranquil shorelines of quiet lakes.

In seeking their food these birds do not hesitate to dive to great depths.

On the sloping sides of rocky islands they gather in numerous colonies to rear their young. At times the nests are placed very close to each other. Seaweeds and moss are generally used as nesting material and make substantial cradles for the blind, black, naked young soon to appear. Nests, as a rule, are nearly two feet wide, with a circular hollow about ten inches across. The whitish eggs number from three to six.

PIRATE GULLS RAID CORMORANT NESTS

Western gulls prey upon the helpless young and eat quantities of eggs. Some observers have wondered how it is possible for the cormorants in certain localities to rear any young, so constantly are their nests rifled by the fierce and audacious gulls. However, when parent cormorants are robbed of their eggs or young, they philosophically construct another nest and try again.

Among the important nesting places of this species may be mentioned Point Carmel and Seal Rocks near Monterey and the Santa Barbara Islands of the California coast.

Brandt's cormorant is 35 inches in length.

PELAGIC CORMORANT

(Phalacrocorax pelagicus pelagicus)

This bird, formerly called the "violet-green cormorant," is an inhabitant of the Arctic and subarctic regions. It breeds locally along the coast and on the islands of Bering Sea, in Siberia, and in the Kurile Islands of Japan. Along the Aleutian Islands it is found also, as well as down toward southern Alaska. It winters from the Pribilof Islands to Puget Sound, on the American side of the Pacific, and as far south as China, on the Asiatic coast.

Its southern range in America blends into that of an almost indistinguishable form known as Baird's cormorant, which breeds from British Columbia to Baja California. A description of the appearance and general habits of one serves very well for both. From the other cormorants of the northern Pacific there are two characteristics which distinguish them. One is their small size; the other is the large patch of white feathers on the flank.

AN ALOOF BREEDER

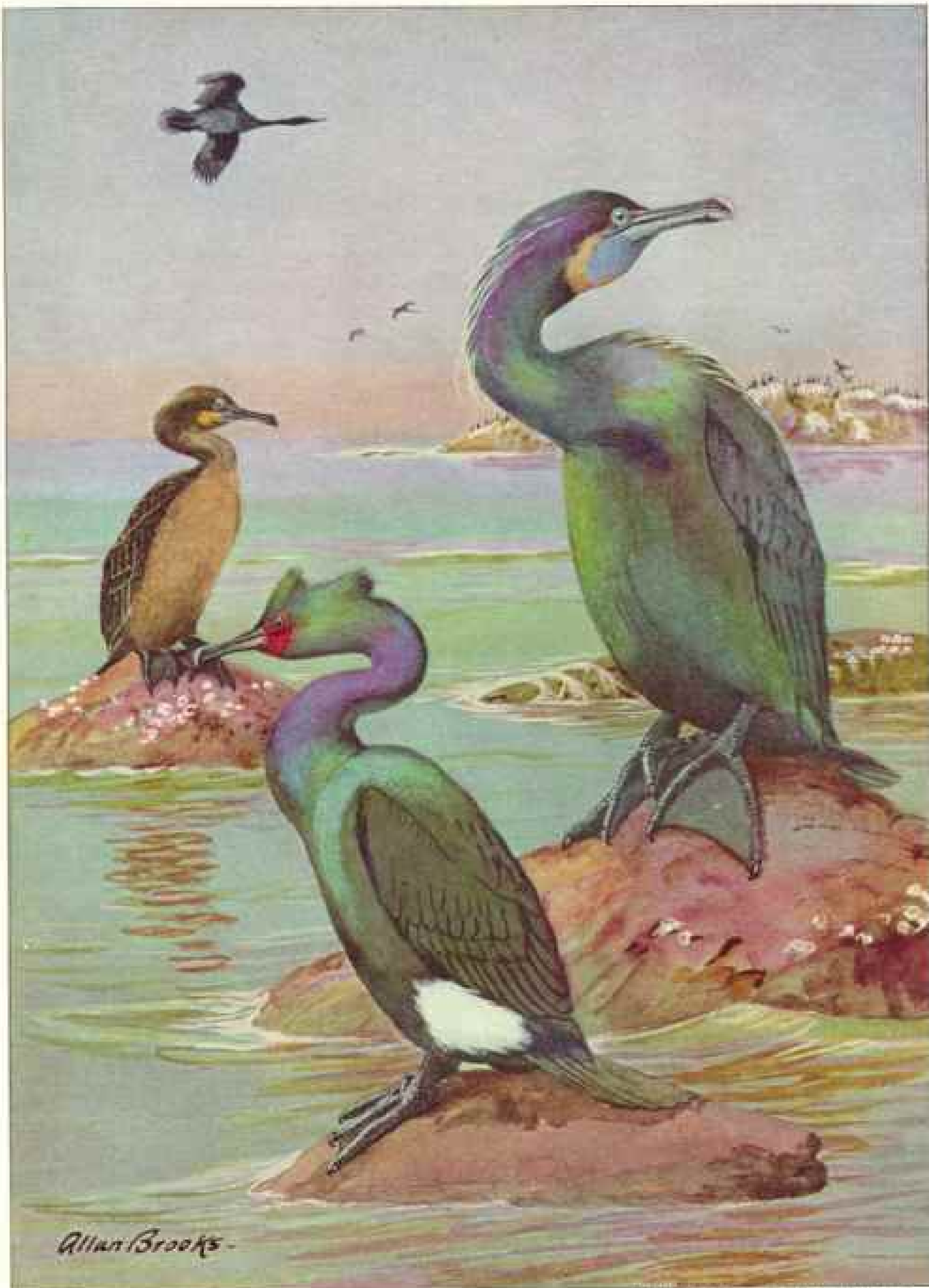
I found the Baird's cormorant on one of the Three Arch Rocks lying off the coast of Tillamook County, Oregon. Up the steep, rocky cliffs we climbed, disturbing murres by hundreds. Looking around a projecting cliff, we saw a cormorant climb awkwardly to a slightly higher elevation. As it moved its wings the white of the flanks was visible.

No others were seen near by, and, since this species is not inclined to breed in closely associated groups, we suspected that this solitary bird had just arisen from its nest. However, no creature without wings could reach the cranny from which it had come, so I was unable to discover whether or not there was a nest there.

The violet-green cormorant is wise to begin sitting as soon as the first egg is laid, for if it is left uncovered, even for a short time, it may be pierced by one of the ever-hungry gulls which keep watch from the air or from near-by crags. The breeding season begins in May, and eggs are found as late as July 15. The number varies from two to six, three or four being the usual complement. The shells are bluish white and are covered with a chalky deposit, often found discolored by the nesting material on which they rest.

The violet-green cormorants vary in length from 20 to 28 inches.

(See Color Plate VIII)



© National Geographic Society

Slightly less than one-fifth natural size

BEAU BRUMMELS OF OUR PACIFIC WATERS

Brandt's cormorant when immature wears dull brown (left), but when full-grown dons a resplendent summer coat of greenish black (right). The bulky birds perch lazily on rocks or piles and, when fishing is good, congregate in huge flocks on the water. The pelagic, or violet-green cormorant (adult in summer plumage, center), is a showy bird when he circles around a boat.

VIGNETTES OF GUADALAJARA

By Frederick Simpich

Author of "North America's Oldest Metropolis (Mexico City)," "A Mexican Land of Canaan," "Along Our Side of the Mexican Border," "So Big Texas," etc., etc., in the National Geographic Magazine

At crack of dawn came the clang and peal of countless bells. The din was startling in its unexpectedness. It sounded like a battle call—or an alarm that Guadalajara was burning.

Hurriedly I got up and went out on the hotel balcony.

"All these churches," said a voice at my elbow, "and every bell with a different tone." It was the man from the room next to mine, a Spanish friend from the sugar plantations, in pajamas and straw sandals.

"I first came here more than 40 years ago, from Spain," he added. "We made the last stretch in a four-mule stagecoach on leather springs, after a night battle with bandits. We got in just at dawn, with these same bells ringing. Nothing here has changed much—the same people, habits, churches, and bells. Even the bats are still here. Read at night, and your light draws the moths; turn out the light, and bats fly in to eat the moths. But they don't eat their wings—next morning moth wings are all over your floor!"

In the street below now black-garbed women, their heads covered, were walking quietly to Mass—women of all classes, peon and aristocrat, but hardly any men. Rattling heavily, a water cart turned the corner, sprinkling the streets and raising that ammonia smell of old adobe towns where humans and beasts have long crowded the absorbent soil too closely. You meet that same smell, mixed with the scent of roasting coffee, when at early morning men wet the dusty streets of Aden or Baghdad.

THE MILKMAN AND THE TURKEY MAN

"Ice!" "Bread!" "Morning paper!" All voices of the awakening city as truly as cackles, crows, grunts, and squeals are the alarm clocks of the farmer. Before the doorway halted an old man on a mule, carrying two big cans. A sleepy girl, with a clay jar, came out and bought some milk. And the man rode on, calling his singsong "*Leche, leche,*" milk, milk, in a despairing wail, more like a cry of pain than an invitation to buy.

Now a country boy in a ragged straw hat comes driving a flock of turkeys. He carries a long stick, with a whiplike piece of string on one end, for flicking any errant turkey on the neck. He urges them on by hissing sounds, his tongue against his upper teeth, in the familiar Indian warning. They market thousands of turkeys on foot here, as in parts of Texas, the inquisitive, shapely birds marching with quick, graceful strides, necks jerking sharply with each step. One strutting gobbler, with pendent red wattles long as a prophet's beard, ruffled his bronze plumage and dragged his wings till we could hear them scrape (see page 337).

"Imitation of a general," chuckled the old Spaniard. "*Pavo* is the true Spanish word for turkey, but here they use the Aztec word *guajolote*. Aztec names are used for other birds, too. Owl is *tecolote;* raven, *cacalote;* buzzard, *zopilote*, and so forth."

By the time we had dressed, clapped our hands for coffee, and read a Mexican paper still damp and smelling of fresh ink, all Guadalajara was swarming. Tramcars were crowded; so were the busses.

Bobbed-haired señoritas, in bright organdie, silk hose, and high heels, chattered and giggled their cheerful way to work in stores, beauty and curio shops, at switchboards or typewriters. Many were pure Andalusian types, with blue eyes and blond hair, small, shapely hands and feet. The ease and joy with which man may look upon womankind in Guadalajara are proverbial. "In all Mexico, no others are so fair." . . . "Surely St. Peter must have opened the gates of heaven to let down such a beautiful damsel," Mexicans say when a maid of pulchritude is passing.

Along with the crowd, ogling the girls, came sleek young bank clerks, bookkeepers in the brewery, the factories, motorcar and other agencies, spick and span in flannels of Hollywood cut, carrying sticks, smoking pungent native cigarettes.

The sidewalks of Guadalajara! Walk them at this hour and you see the city eye-high and close up. With the old Spaniard I went exploring.

Workmen idly dug up the pavements, as always; traffic police in white gloves blew whistles and waved cars to stop. And they do stop; for one dispute with an alert

Photograph by Rantt

AN OXCART FLOAT LADEN WITH GREEN CORN IN A SPRING FESTIVAL

Peasants carrying baskets of plants and flowers, and wearing giant straw hats like chariot wheels, march in this street procession, which is symbolic of Nature's reward for man's toil.

Drawn by H. E. Holdstock

THE STATE OF JALISCO, WITH MORE THAN A MILLION PEOPLE LIES IN THE VAST CENTRAL PLATEAU OF MEXICO

The western part of the State slopes away to the Pacific Ocean, which it borders for some 300 miles. With mountains, valleys, and hot coast lands, it enjoys a variety of climate, and is rich in mines and plantations which grow sugar, fruit, coffee, vanilla, and tobacco. Southeast of Guadalajara lies Lake Chapala, Mexico's largest body of fresh water.

Guadalajara traffic cop and the big jail yawns for you. On an open space soldiers were drilling and women waited before the colossal prison to get in at visiting hours. "They built the jail big enough to hold everybody in town, as a warning," is a local saying.

Through the suburbs we met more groups coming to work. In a flower garden a sandal-footed man was setting out young plants to make a fancy pattern of birds and flags.

IF YOU LIKE INDIAN POTTERY

From the tail of his big black dog, asleep beside him, an old Indian artist plucked a few hairs, twisted them deftly into his tiny, frayed brush, and resumed painting eyebrows on a clay head of Pancho Villa, master outlaw.

Other heads, new and shiny, stood on a board: Obregon, Carranza, George Washington, Henry Ford—and an American Shriner in a red fez.

Pose for your own bust, if you like, and watch your nose and ears form swiftly from the mud. In half an hour old Panduro (Hard Bread), famed Indian sculptor, makes a fair likeness (see Color Plate VII).

"This Guadalajara clay art is fragile and hard to ship," says a buyer from the States. "But it sells well. Not the busts so much, but these urns, vases, and water bottles, in old Aztec patterns. These dancing girls are good, too, in their wide skirts and big sombreros."

Around Tonalá village and the suburb of San Pedro Tlaquepaque, Indians have worked in clay from time immemorial. The Spaniards found them at it, making dishes for domestic uses, making idols, images, and figurines of men and beasts. Peons still cook in clay pots (see Color Plate VI).

Untaught, and working far from the patter of studios and talks on art, these Indians produce excellent sculpture. Tiny pack mules, street hawkers, market women with chickens and baskets of fruit, *vaqueros* on rearing horses—all are formed and painted with fidelity to life. Sophisticated and erotic pieces also appear, with miniatures, ornaments, and vessels carrying a raised fretwork of deer, rabbits, ferns, or palms. A fat clay pig, hollow, with a slit in his back through which coins can pass, is much sold as a child's savings bank. Happily for the child, these figures break easily; all you have to do is drop them.

Photograph from Anita Brenner

LOOK UPON THIS STATUE AND BE SAFE FOR ANOTHER DAY!

The figure of San Cristobal holding up a child is set on an outside corner of Santa Monica Church. There is a tradition that whoever looks upon it will be free from harm for 24 hours.

San Pedro Tlaquepaque, once the retreat of Spanish wealth and fashion, is linked with the city proper by tram, through an old customs gateway. Country people taking things into town to sell had to pay a tax in the old days to pass this gate. We rode the slow trams back to the main plaza. Like Times Square in New York, its scenes are forever shifting.

A tiny, bright-eyed nurse girl, certainly not more than ten, comes by, carrying a big fat baby. You feel the baby should get down, for a change, and carry the tired little girl. On the curb's edge, three soldiers are playing cards with a greasy deck. One man deals, calling "*Ocho de espadas*," eight of spades, and other faces as they turn up.

Gambling is not thought a vice. Men accost you, holding up yard-long strips of colored lottery tickets. You can buy a whole or part ticket. Such peddlers work on a commission for the official lottery, which holds regular drawings, is run in a strictly business manner, and devotes net profits to charities.

FIGHTING WITH THE KNIFE

Police appear dragging two disorderly men, one badly cut in a street fight. Certain knives here are made to fight with. Any battle-scarred mining or cow-ranch veteran will tell you he'd rather face a gun fighter than a Mexican trained with the knife. This business of knife fighting is full of fancy tricks. One is to throw the knife; another is suddenly to hit your opponent in the face with your hat, and then stick him while he's off guard. Defense work is equally skillful. The trained fighter wraps his serape around his left arm, or even grasps his big hat by the inside of the crown, using serape or hat as a shield, while thrusting with the knife. In "Old Mother Mexico," Harry Carr tells of a Mexican knife battle, fought to a draw, in which the heavy wool serapes were cut to shreds, but neither man hurt!

After the knifemen comes a boy leading a very skinny horse. "Play us a tune on your harp," shouts a clerk, a Mexican witticism implying that the horse is so bony his ribs look like harp strings!

Up the street past our hotel, late one night, came a squealing orchestra, preceded by three young men. One of this trio was celebrating his birthday. Hiring musicians to play in one's own honor is good form, in

Photograph by L. Pérez Parra

CHURCH STEEPLES AND BELFRIES PIERCE THE SKYLINE OF GUADALAJARA

The voice of the city is the clamor of its many bells. In the background rise the 200-feet-high twin pyramidal Byzantine towers of the Cathedral, begun in 1571.

keeping with established social practice. If you write a poem, win a horse race, or vanquish a rival, it is customary to hire a band and stroll from one *cantina*, or saloon, to another, or past the homes of your friends, with the music playing. Next day's papers may say, "Last night the orchestra of Juan de la Cruz played in honor of Señor Enrique Iturbe."

HAND-ORGAN MUSIC SUBSIDIZED

Here music seldom ceases, and most of it is good. This made me wonder how the many organ-grinders earn a living, till a missionary teacher explained: "They are subsidized by a fund willed to the city to insure free hand-organ music in perpetuity."

Mexican humor is grim. Late one afternoon, when a rain had made the streets slippery, I saw a dashing horseman in *charro* costume (see Color Plate I) exhibiting his equestrian skill before a saloon. He would ride a few paces up the street, then wheel his horse and dash back at full speed, suddenly jerking his curb bit so that his mount reared back on its haunches. In one such maneuver the animal fell over backward and badly crushed its rider. He had to be hauled off in a carriage, but loafers before the saloon laughed and *cheered the horse!*

Into the plaza one morning came an Indian boy with a vicious bobcat in a flimsy wooden cage, set on a cart. He wanted to sell the snarling cat, which growled, spat, and bit at sticks poked at it by bootblacks. Several girls, on their way to work, stopped to watch. Then along came a dandy, in patent-leather shoes and white-duck pants, fragrant with perfume.

"Nothing but a short-tailed cat!" he announced boldly, showing off before the señoritas, who kept back from the cage. "What are you afraid of?" And he made a gesture as if to slap a paw that protruded through the bars. Quick as lightning the cat slapped back, its sharp claws laying his finger open in a deep, long cut. He stared foolishly at the gushing wound, then sat down on the pavement and fainted. Everybody laughed and called the cat brave. Finally an old woman who peddled flowers roused the fallen "lion tamer," as the crowd now dubbed him, and wrapped up his finger.

Photograph by L. Pérez Parra

PUBLIC LETTER-WRITERS AT THEIR OPEN-AIR STAND BEFORE THE GUADALAJARA POST OFFICE

Leaning over the table a countryman is signing a letter to his family, just prepared by the professional letter-writer, who furnishes paper and stamps, and charges a small fee (see opposite page).

Photograph by Clifton Adams

A SKIN PEDDLER PUTS OUT HIS LIVE DECOY

Every Guadalajara visitor is struck by the number of street fakirs and the variety of odd and interesting things they sell. This captive wild animal is the *tlacuache*, a nocturnal, fox-faced, opossum-bodied creature. It uses its toes as workmen use pincers.

In the open street, not far from the big post office, a man sat writing, his typewriter balanced on a wooden box. Around him a few men and a woman stood watching.

THE PUBLIC SCRIBE USES A TYPEWRITER

"That is a public scribe," said my companion. "If you can't write, but would like to collect a bad debt by mail, or ask for a job in another town, you go to this man. He is like a public stenographer in the States, except that he composes everything he writes; then reads it back to you. He even makes love for you by mail, in prose or poetry" (see opposite page).

Think of a poor girl reading with bated breath a tender message from a gallant lover—a message whose emotional phrases are all synthetic, merely run-of-the-mill sentiments from a professional writer of love letters—at a penny a line!

Photograph by Luis Márquez

DON'T MISTAKE THIS HUICHOL BRAVE FOR A WOMAN

Often seen in Guadalajara on market days, primitive Huichol Indians, dark brown, not red, come from the wild hill regions of the adjacent State of Nayarit. They still use bows and arrows, and trap deer with nets. They play flutes ornamented like a rattlesnake's tail, make drums of hollow logs, and carry eagle feathers to ward off evil.

Poetry-making is prodigious. An old saying is that you can't throw a rock in Guadalajara without hitting an artist, and that there aren't enough rocks with which to hit all the poets.

I recall riding in a day coach from Irapuato into Guadalajara when an Indian boy with a guitar sang and resang one song, about a white dove, for almost *the whole afternoon*. It had more verses than "Frankie and Johnnie." About dark, passing a village, somebody fired several shots at us, smashing car windows and scattering glass. We all ducked to the floor.

"They missed the Indian Caruso," moaned an American soap salesman in mock regret, as he rose, brushing car-floor dust from his blue suit.

Wearily, as if at a daily task that bored him, the porter came with broom and dustpan and swept up the broken window glass. Again the *tequila* bottle was passed, music-loving travelers resumed their group about the Indian boy, and the refrain, "Paloma Blanca—Blanca Paloma," the white dove, was sung all the way in to Guadalajara!

One blind man in the plaza played a clumsy harp, plainly a home-made affair. His repertoire seemed infinite—everything from such popular Mexican songs as "Cielita Linda" and "La Golondrina" to

Photograph by L. Pérez Parra

TONALÁ, WHERE DE GUZMÁN'S ARMY WAS TREACHEROUSLY ATTACKED BY WARRIORS OF THE NATIVE QUEEN DURING A BANQUET OF WELCOME

This plaza, faced by the church and set with a bandstand and shade trees, is typical of all Mexican villages where people gather for recreation. In the foreground a sandal-footed peon drives his firewood-laden burros, the common carrier of the country (see text, page 344).

long ballads about train wrecks, bullfighters, strikes in the mines, cane-field fires, "Farewell to Zapata," and one rousing song about Pancho Villa, called "Adelita," which reminded me of the old Missouri themes on Jesse James.

"PLAYING THE BEAR" SURVIVES

Everybody who works at a trade may be called a "maestro"; even the tailors and carpenters are "masters." So, of course, is the composer of ballads. Yet the printed music of even the better-known ballads is often hard to find. "We haven't got it; but we can have it copied for you," says the shopkeeper.

Despite the many ghost writers of love letters and all the poets' amorous versifying, love-making itself is a very involved technique in Guadalajara.

One young lady, says a Guadalajara story, lived on a second floor. To facilitate his long-distance wooing, her gallant sent her a portable telephone. As he appeared each evening, she let one end of the wire down to him. This worked at first. Then, one fatal night, the lover appeared only to find a rival on his end of the wire!

Shop windows full of roller skates and bicycles, footballs, boxing gloves, baseballs, tennis, and other sporting goods tell their own story. Out at the golf course, laid out on the army aviation field, girls may play when guarded by duennas or chaperons. Boys on the tennis courts or the baseball diamond shout and "root" in Spanish, but use English terminology to call the scores and the plays. Guadalajara likes to play; and the halcyon days of ease, when young men were content to stroll through the parks at band-concert time and flirt with the girls, or spend their Sunday afternoons at the bull ring, are passing fast.

The bull ring is here, of course; but such sports as boxing, football, and baseball have robbed it of old-time popularity.

FLICKING HIS TURKEYS ON THE NECK WITH A LIGHT LASH, THE BOY HERDS THEM THROUGH THE STREETS

Photographs by L. Pérez Parra

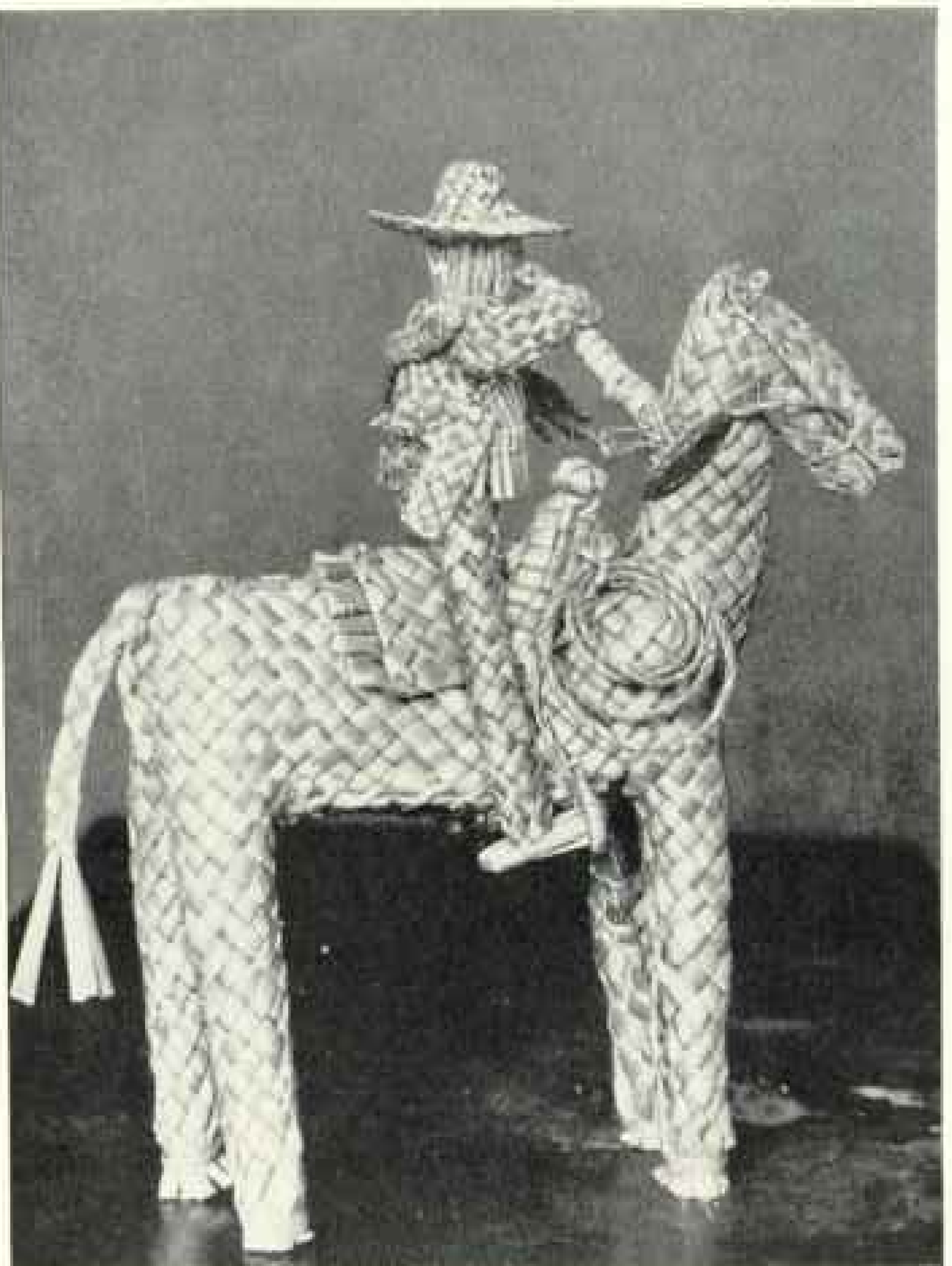
PAPER, NOT MACARONI OR THE FAMILY WASH, FESTOONS THE STREETS

The gala dress is in preparation for religious celebrations held each December. Well-swept, sprinkled streets are characteristic of Guadalajara, known as the cleanest city in Mexico.

Photograph by L. Pérez Parra

AN INDIAN WOMAN PREPARES RUSHES FOR WEAVING A MAT

Since Aztec times Mexico has used the straw mat, or *petate*, most common of all household objects. From the cradle to the grave, even in folklore and proverbs, it figures in the daily life of every peon (see text, page 355).



Photograph by International News

WEEDS AND STRAW WERE USED TO CREATE THIS HORSEMAN

Though Mexican peons may not have heard of modernistic art, the crude toys they make are widely popular among children below the Rio Grande. This realistic rider, with his lasso and holster, is blowing a bugle.

Photograph by L. Pérez Parra

NETS ARE STRUNG UP, LIKE CHICKEN-WIRE FENCE, TO DRY BESIDE LAKE CHAPALA

Crudely made, open wooden boats have mat awnings to protect their cargoes of fresh fish from the sun. Since Aztec times fish have been taken from Chapala, Mexico's largest fresh-water lake. About its shores are many pleasure resorts and villas, built by wealthy citizens of Guadalajara and Mexico City (see text, page 353).

Photograph by O. B. Hachenberger

MEXICANS FLOCK TO THEIR NIAGARA, SCENIC JUANACATLÁN FALLS

Here, on the Santiago River, a hydroelectric plant provides Guadalajara with light, heat, and power, and also supplies many near-by towns and mining camps. The falls attract numerous sight-seers and picnic parties (see text, page 353).

Photograph by L. Pérez Parra

USING A KANAKA-LIKE HAND NET, WEIGHTED WITH LEAD, A FISHERMAN CASTS FOR SMALL "CHARAL" FISH

Years ago a well-meaning man placed water hyacinths in Lake Chapala. They have become so thick that they clog launch propellers and resist all plans for their extermination. Corn, coffee, grain, fruit, and live stock are raised on haciendas along the lake shore.

Photograph by L. Pérez Parra

TONALÁ HOUSEWIVES BUY THEIR DRINKING WATER FROM THIS PEDDLER

The carrier's iron-tired cart, rattling over the cobblestones, is fitted with an old metal drum for holding the water. Underneath the axle hangs the jar with which water is measured out to customers.

Despite its continuous appeal to the peon, who glories in its cruel, gory combats, and the survival of a few other habitués, bull-fighting as a business is on the decline.

Bulls from Spain are still sent to Mexico City, where tourists help support the arena, and some fighting animals are still raised on the West Coast ranches for Guadalajara. One of these is the old Rancho San José de Condé, in Nayarit, which dates from 1550. It is one of America's oldest ranches. Its output of small, black, savage bulls went on for generations. To perpetuate the fighting instinct, the rule on this ranch was "Kill every bull calf that does not seem to hate men." Such a plan insures a bull ferocious as any wild animal. One young bull on this ranch chased a vaquero up a tree and kept him treed till he nearly died of thirst.

SHOOTING JUDAS IN EFFIGY

A dummy man, in top hat and morning coat, in a general's uniform or merely in rags, may hang from any telephone wire, as you walk the streets at Easter time. Suddenly the effigy explodes, from a small bomb hidden within, and bursts into flame. Then the street crowd laughs and yells, and maybe even shoots at the effigy, which is supposed to represent Judas. Burning him in effigy, at this time, is a Mexican practice. Sometimes "Judas" is stuffed with bananas or candy which fall out when he blows up, and street urchins scramble for the treat.

"Buy your dead man's bread here," a baker's sign may read around All Souls' Day. At that time, some Mexicans believe, the spirits of departed relatives return to dine with their families. The dining table becomes an altar, and some foods are served in strange shapes, such as candy skulls, big and little, with cherries for eyes, ribs and leg bones made of chocolate, or cakes baked in the form of coffins.

Many churches in Mexico were built on the sites of ancient Aztec temples, the heads of whose idols were cut off by zealous Spaniards. In some churches fragments of heathen idols are built into the walls. After the conquest, Spain built literally thousands of Mexican churches. They dominate Gua-

Photograph from Aztec Art S. A.

WITH SLENDER, SUPPLE FINGERS AN ARTIST SHAPES A VASE UPON HIS WHIRLING POTTER'S WHEEL

Guadalajara's famous pottery is made in the suburb of San Pedro Tlaquepaque. Indian artists who design it all come from the near-by ancient village of Tonalá (see Color Plate VI).

dalajara. From here the padres marched, building missions all the way to California.

The chief edifice here is the Cathedral; its twin towers rise over the city, visible for miles. On feast days long strings of lights illuminate the towers, and at Easter the Bishop washes the feet of twelve old men, chosen at random from street crowds.

Horses and rebels were housed in some of these churches, with priests and nuns deported during the revolutions. I saw one string of cattle cars reach the American border with priests standing in the cars. But the faithful carried on. Pious peons came for miles on their knees to the churches. Old women, shouting the chants and litanies or counting their beads, crawled to the altars on stiff old knees. Girls knelt with crowns of thorns on their brows, and small boys clutched at the crucifixes.

From Guadalajara out to the suburban church of Zapopan is but a short trip by tramcar; but during an August feast peons hobble out to it on their knees, taking all day. When prayers are over they stage a costume play depicting the Spanish conquest of Jalisco. Then Indian players dress and act the parts of Spanish knights and the local Indian characters of that conflict (see Color Plate IV). In recent years education has been taken away from the Church, and the new generation tends to abandon these mimetic dances and dramatic rituals.

Rushing to aid the King of Spain in the Peninsular War went many men of Guadalajara. Legend says money was sent, too, raised by melting gold and silver plate and candlesticks from the Cathedral. In gratitude the King gave this church Murillo's great painting, "The Assumption of the Virgin," still here in the Cathedral, though many attempts have been made to buy or purloin it.

SCIENCE TEXTS AND MUSTY MANUSCRIPTS

The public library, housed in one church, has stacks of huge leather-bound books, ancient manuscript histories of Mexican exploration, books on the arts and sciences, and copies of the classics, often in several languages.

"What are all these men and boys read-

Photograph by O. B. Hachenberger

THIS "MIRACLE PAINTING" COMMEMORATES ITS OWNER'S ESCAPE FROM THE FIRING SQUAD

The inscription says, "On October 24, 1929, prisoner Juan Cabrera was under sentence to be shot. Because he was recommended to Our Lady of Guadalupe, the last of February he was liberated. In memory of such a manifest miracle his brother dedicates this altar piece" (see text below).

ing?" I asked the librarian. "Fiction, poetry, or what?"

"Mostly about electricity and gas engines," she said, "or some such modern theme."

Dialogue among those who lounge on plaza benches is spiced with life's problems. I talked with one ex-circus man who said he was unemployed because of the movies. "The pictures ruined my family," he sighed. "We worked together as a troupe, playing the fairs and *fiestas*. I walked the tightrope and threw knives at my wife. Now the crowds prefer the cinema."

Carrying paint box and brushes, a long-haired youth in flowing tie halted near us for a shoe shine. "He's a miracle painter," said my companion. "His is an odd calling. If, for example, you are saved, in a way that seems miraculous, from death in a train wreck, an earthquake, or at the hands of assassins, you call in a miracle painter. You describe your peril and deliverance to him, and he paints a picture of the scene in all its details."

Wounded in the battle of Celaya, General Obregon, later President, had to have an arm amputated. He was photographed on the operating table, and in a book he wrote afterward the picture was reproduced. Photographs of funeral processions and even of dead children are not uncommon.

The arcades that shade the sidewalks before stores facing the plaza shelter many street venders. A hat peddler walks majestically along, with 15 or 20 hats for sale, stacked on his own head, one atop the other, like a pagoda. Another carries a long string of sandals. Some are of straw, others of rawhide, and a few made from old automobile tires cut into soles. Country peons usually wear baggy white drawers; but custom now decrees that this badge of rural servitude shall not be worn in Guadalajara streets. So, at the edge of the city, "Pants Shops" are open where trousers may be rented. Just check your drawers there and rent a pair of pants, as impecunious American students may rent evening clothes for a party! Changing sartorial

standards, however, are destroying this simple industry.

One Indian arrives with a basket of assorted fruits, guavas, gourds, tiny lemons, cactus pears and mangoes. On the pavement he arranges little piles—one kind of fruit here, another there; then he squats down, silently awaiting buyers. If you want fruit, buy it, but don't ask questions.

Toys, candies, soft drinks, post cards, newspapers, pottery, medallions of the saints, small green melons white on one side like a fish's belly—everything from mule gear and old tools to carved-wood sticks ending in ornate filigree balls for stirring chocolate—are spread out for sale on the sidewalk.

Inside the large stores, of course, is modern merchandise. Some American women, wise in local ways, say that if the stores don't carry the particular hat or gown they wish, clever native women soon make them—copying, if need be, from no more than a picture from an American fashion journal. Most lingerie, dress goods, millinery, soaps, perfume, and jewelry are sold by French merchants. Machinery, hardware, and such heavy goods are usually handled by Germans.

Few Americans are found in retail trade; they, with the British, are more interested in mines, ranches, power plants, railways, or banks.

GUADALAJARA IS A MOORISH NAME

If you buy any sizable article in a store, the merchant whistles up a street porter to carry it home for you. Persons of position would lose caste carrying a big parcel through the streets. Porters even carry big bags of silver coin to and from the banks—and for some reason are seldom molested.

When Cortez conquered Montezuma and founded "New Spain," he had with him one Don Nuño de Guzmán, who soon rose to power and grew jealous of his chief. Eager to gain more honors and riches for himself, De Guzmán, in 1529, quit the Aztec capital, with picked Spanish troops and many Tlaxcaltecan Indian allies, to explore the unknown regions farther west and north.

Nearing Lake Chapala, De Guzmán met and killed the powerful King Caltzontzin, robbed his subjects of much gold, and then pressed on toward where Guadalajara now stands. Near here a romantic native queen, impressed by her first sight of white men, horses, and the sound of cannon, wined and dined the Spaniards, giving them, among other products of the country, rabbits, venison, turkey, quail, honey, and fruits. She even sent forth her fairest handmaidens, decked in flowers and colored feathers, to sing and dance; but soon this reception, too, ended in battle, begun by jealous Indian warriors.

NEARLY A CENTURY BEFORE JAMESTOWN

This was the Kingdom of Tonalá, still the name of a small town near Guadalajara. Exploring farther, De Guzmán and his lieutenant, Cristóbal de Oñate, came upon a huge Indian stronghold, Nochistlan. Fighting ensued, and near by the Spaniards built their camp, a cluster of huts. Though moved about later to various neighboring sites, a town was laid out about 1530. It was named for De Guzmán's home town in Spain, Guadalajara, from the Moorish Wad-al-hajarah, meaning River of Rocks. From the King of Spain the new town got its coat of arms in 1539; so it was really a white settlement nearly a century before the English landed at Jamestown.

For decades warlike Indians harassed the white settlers, even as did their red brothers from Massachusetts to Arizona. Alvarado, another famous officer of the Cortez legions, died here from Indian wounds. By 1560 Guadalajara had become important. Its chief activity was Indian slave hunting, and the driving of these to work in the gold and silver mines. Vast fortunes were thus amassed, luxurious homes were built; and New Galicia, of which Guadalajara was the capital, then included not only the present State of Jalisco, but much of what is now five or six other Mexican States, reaching up to Sinaloa.

Army officers, bishops, and priests were supreme. One curious scruple of early days made it illegal for any man to hold office who was a heretic, had Moorish blood, or who had been found guilty by the Inquisition.

When the English took Havana, in 1762, Guadalajara sent many troops to help hold Spain's New World colonies. Only a few decades later this same colonial seat of power was to raise its own regiments, go afield against Spain, and help win Mexican independence in 1821.

Visit certain old Guadalajara family homes now and you are astonished at the

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Natural Color Photograph by L. Pérez Parra

THESE FANCY COSTUMES ARE MUCH WORN ON MEXICAN HOLIDAYS

The man wears the Mexican costume of gentlemen riders, known as the *charro*. In wide-brimmed sombreros, sashes, and skirts of ornate pattern, the girls are clad in the fancy dress popularly associated with riding; but in actual practice few of the women are equestriennes.

NO MODERN MACHINE METHODS MENACE THIS FARMER WITH A SURPLUS CROP!

The peon holds his crude plow in one hand, and wields his ox goad with the other, on a farm between Lake Chapala and Guadalajara. Many large haciendas use tractors, steam plows, and other modern implements.

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Natural Color Photographs by L. Pérez Parra

THIS COW'S HIND LEGS ARE TIED TOGETHER SO SHE CAN'T KICK THE MILKER, WHO IS ON THE "WRONG" SIDE!

Wild range cattle are descended from Spanish cattle imported generations ago. This dairy herd is half-breed, obtained by crossing range cows with bulls from the United States.

PALMS LINE THE PARK OF A NEW SUBURB TO OLD GUADALAJARA

The Modern Colony is a handsome residential district. Wealthy Mexicans, and some foreigners, are settled here, but many conservative old families still cling to their huge, barred houses and high-walled courts in the city.

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Natural Color Photographs by L. Pérez Parra

LOCAL INDIANS WERE MAKING CLAY UTENSILS LIKE THESE WHEN CORTEZ'S MEN FIRST EXPLORED JALISCO

Housewives and servants come here to buy kitchen utensils, bowls, ollas, flowerpots, and other pottery ware. The building in the background is one of the Guadalajara public markets.

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BURROS PACKED THESE MANGOES 30 MILES TO MARKET

Mangoes ordinarily grow to the size of a large pear. When ripe they are a rich yellow color mottled with red. The mango grows abundantly in this latitude and is much relished.

Natural Color Photographs by L. Pérez Parra

A FIESTA REËNACTS SCENES FROM THE DAYS OF THE CONQUEST

Staged annually before the Zapopan church, near Guadalajara, dancers dress as did Indian allies of the Spaniards who conquered this region. Participants prolong this ceremony till they frequently fall exhausted.

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THIS ARISTOCRAT OWNS A PLANTATION NEAR LAKE CHAPALA

Riding a big-horned Mexican saddle, and in typical Jalisco gentleman rider's dress, the caballero is off to inspect his cornfields and cattle ranges.

Natural Color Photographs by L. Pérez Parra

HIS BLANKET AND BIG STRAW HAT MARK HIM AS A PEON

Peons are plantation, mine, and cattle-ranch workers. Though Spanish is Mexico's common language, many of her Indians have not yet learned it.

© National Geographic Society Natural Color Photograph by Aztec Art, S. A.

TONALTECAN INDIANS PAINT POTTERY IN OLD AZTEC DESIGNS

These Indian artists come from Tonalá, whose queen entertained the Conquistadores. Their studio, however, and most of the pottery shops are at the Guadalajara suburb of San Pedro Tlaquepaque.

© National Geographic Society Natural Color Photograph by L. Pérez Parra

DECORATING LEATHER-COVERED CHAIRS AND TABLES

These sun-parlor or corridor sets of four chairs and a table are made of split saplings covered with pigskin. When new they smell of green leather, and white ants often attack the wood, but the chairs are springy and comfortable. The artist is painting the Aztec calendar on the table top.

© National Geographic Society — Natural Color Photograph by Charles Martin

A MINIATURE ZOO BLOWN IN COLORED GLASS

The manufacture of tiny and fantastic glass creatures has become a lively young industry. The size of these figures, posed about the saxophone player as if listening, is indicated by the pencils.

© National Geographic Society — Natural Color Photograph by L. Pérez Parra

THIS INTERESTING COMPANY WAS MADE OF CLAY

Prominent Mexican and foreign characters appear here. The Panduro family of Indian artists, working at San Pedro Tlaquepaque (see Color Plate VI), is famous for its skill in this caricature. At Señor Obregon's right is Uncle Sam. Henry Ford, carrying a cane, is at the far right of the picture.

GIRLS OF GUADALAJARA MAKING MATS FROM MAGUEY FIBER

More skilled workers prepare the fiber from maguey, often called "century plant." Demand is brisk, and mat-weaving flourishes. For centuries the maguey plant has figured locally in various industries.

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Natural Color Photographs by L. Pérez Parra

BREAD MADE FROM CORN IS THE COMMON FOOD OF MOST MEXICANS

This girl of the working class is baking tortillas. She first shucked the corn, then ground it fine on her flat stone and mixed it with water. The sound of women patting the tortilla, or corn cake, is the most familiar of all Mexican domestic sounds.

wealth and beauty of heirlooms from colonial days. Hand-made silverware, even table services of gold, heavy Spanish chests bound in leather and copper, miniatures, jewelry, crucifixes and old paintings, guitars inlaid with pearl, historic weapons, hand-carved tables, and other furniture so heavy that it can be moved only with difficulty.

On some bedroom walls may hang the painting of a large eye, representing the all-seeing eye of God, to keep minds pure and conduct correct. The old hand-made locks on front doors are often so massive that the key itself may be as big and heavy as a common hatchet, say a foot long.

GUADALAJARA SWIMS IN LAKE CHAPALA

By motorcar or bus, week-end pleasure-seekers quit the city for Lake Chapala, 23 miles south. Fed by the Rio Lerma, this 70-mile-long fresh-water lake is Mexico's largest. Ruins like bits of Pompeii fringe it, and among them Indians of to-day raise their crude shelters. Here are villas of the rich, too, and scenic lakeside hamlets where artists and poets, including Americans, like to loiter (see page 339).

"But look out for scorpions," warned my host. "They always crawl out on a rainy night. Shake out your clothes and shoes before you put them on in the morning."

Though Lake Chapala swarms with pleasure craft, fishing boats, and Indian canoes, its navigation is often impeded by floating hyacinths. Some well-intentioned person planted these wandering flowers in the lake; now they have become a nuisance. They clog up launch propellers and spoil the bathing. In vain men fight this pest, raking tons of it out on the beaches to be burned.

Indians, half nude, wade into the shallows, casting their nets for the tiny but delicious *charal* fish (see page 340). Many other kinds abound. From Canada and the States, too, in autumn, myriad geese, duck, snipe, and other waterfowl gather on Lake Chapala. The Indians say these birds "come to get cool," because they reach here in the Mexican winter.

Dry, gloomy Mezcala Island, once a military prison, holds the mystery of Chapala. Mexican writers believe that long ago it was an Aztec stronghold. Native patriots held it, through a siege by Spaniards, in the fight for Mexican independence. Away down at San Blas, on the Pacific, Spaniards built portable gunboats and packed them up steep slopes to the lake for use against the island stronghold. Failing in this, royalists starved out the defenders by laying waste the adjacent lake shore and shutting off all food.

In the long ago, for some reason, many small Aztec idols were thrown into this lake, from whose shallows they are constantly being recovered and sold to tourists. Some of these "accidental" finds are suspiciously new.

Out from the lake flows the Rio Santiago, passing near Guadalajara, where famous Juanacatlán Falls furnish power and light for the city. "Mexico's Niagara," these beautiful falls are styled. In the narrow valley of the deep canyon below, 2,000 feet lower than the city, tropical fruits grow in abundance. Picnic parties go there to bathe and romp, and pigs dive like tapirs to feed on the roots of river plants.

Winding down through scenic *barrancas*, or canyons, the Rio Santiago reaches the Pacific at San Blas, of whose bells Longfellow wrote. From here, in old days, a paved Spanish road, now in ruins, ran across Mexico to Veracruz. Philippine galleons landed here, and mules carried rich cargoes overland, dodging bandits—for banditry is Mexico's original sin.

WHERE MANY BELLS OF CALIFORNIA MISSIONS WERE CAST

Such historic explorers as Portolá and Father Junipero Serra passed this way for California, and many of the old bells in California missions were cast at San Blas. Not far from here Cabeza de Vaca met the Spaniards, after his seven years of wandering across country.

Ride out any country trail and you meet big-hatted men driving herds of cattle to market. They carry cigarettes and matches tucked in the rolled rims of these huge hats. (Guadalajara's hat rims once got to be so wide that men wearing them in crowds hit others in the eye or nose, and police had to limit the diameter.)

To the city also come long files of burros carrying live poultry, fruit, pottery, or firewood. Some burros are loaded so high with bulky fodder that they look like walking haycocks. Others drag long timbers, one on each side. Who called them the "short and simple animals of the poor"?

Fields of corn, vast as those in Kansas, dot this part of Mexico; yet in bad years

Photograph by Rautt

JALISCO PEONS FILL BIG-MOUTHED BASKETS WITH RIPE CORN

United States farmers straddle one corn row with a wagon and "jerk" five rows at a time. Here no wagon is used, and for his work the peon receives a small share of each basketful brought in.

corn must be imported from the United States, since it is the people's chief item of food.

FEUDAL ESTATES AND SMALL FARMS

Fortlike ranch houses, with adobe walls, corrals, servants' quarters, outbuildings, blacksmith shops, self-contained units on a feudal scale, are aspects of Jalisco. These are the haciendas. As in Sinaloa and Puebla, some have been in the same families for generations.

In contrast, a few miles below Guadalajara you come upon one of Mexico's agrarian experiments, where a large tract of once privately owned land has been cut into model small farms.

In one cornfield, so large we couldn't see the end of it, men were walking through, picking the ripe ears and carrying them in hampers lashed on their backs. To help balance the load, each peon had a strap tied around the heavy basket and across his forehead.

Peon women grind corn meal, using a flat slab of rock on which they lay the corn and then roll or mash it with another smooth stone. From this meal they make tamales and the dough for tortillas, and that peppery corn cake, covered with grated cheese, onions, and hot sauce, called the *enchilada*.

Mexico's most familiar sound is that made by peon women patting tortillas from corn-meal dough, flattening it into a cake for baking (see Color Plate VIII). In many places, however, this corn dough, or *masa*, is made by machinery and sold ready-mixed; and even ready-baked tortillas can be bought.

Their other steady job is washing. "They have two dresses," the saying is, "one to wear while they wash the other." Washerwomen beside a stream were slapping wet clothes on the rocks to clean them. On serapes, in the shade, lay their babies. This serape is a blanket with a long slit in it. Put your head through the slit and the serape falls about you like a cape. I have seen soldiers on the march use the serape in turn as saddle, coat, and covering at night. City peons sometimes pawn their serapes in the morning and then buy them back at night, when they get their daily wage. Red and gray, many serape patterns show a sunset or an Aztec god.

Photograph by L. Pérez Parra

PACK ANIMALS PLOD OVER HILLSIDE TRAILS HEWN CENTURIES AGO

These burros are loaded with "barrel" cactus, from which a "cactus candy" is made by boiling in sugar, much as preserves are made in the United States from watermelon rind.

Crosses raised beside piles of loose rock mark the wayside graves of those who die by violence—so many do—and reverent peons, walking by, stop and say a prayer and add another stone to the pile. But the peon is not always so reverent. Once a troop train pulled into a Sonora station with a dead man sitting grotesquely on the engine's cowcatcher, tied there as a grim joke by the soldiers who had shot him.

Saturday sees a constant stream of peasants city-bound. Some walk, some ride burros. Those who have the cash take the bouncing busses, piled high also with home-made wares for markets, such as sandals, straw hats, *petates*, or reed mats, bridles and riatas, and hatbands of woven horsehair. This petate is a thing of universal possession and the Indian's basis of wealth. Though cheap and common, it is Mexico's oldest household object. Aztecs used it, made exactly as now. It is at once a thing to sit on, sleep on, be born on, and die on. Woven from the fragrant tule reed, it is yellowish in color when new and clean, and feels smooth and cool to bare feet on hot days.

"Whoever was born on a petate carries its smell to his grave," says a proverb. It figures in many other homely sayings. When peons move they wrap up their few goods in it. Small boys roll it into the shape of a bull's head and slip it on to play at bullfighting. The last guest to leave is "the man who stays to pick up the petate," says Anita Brenner in her book, "Idols Behind Altars." Much ado about nothing is "a shake of the petate," and bad times are when "there isn't a petate to fall dead on."

On her petate, in the shadow of the exclusive Casino, an Indian woman may nurse her brown baby without even a glance at the bankers and traders in linen suits and Panama hats strolling there for noonday cognac and gossip.

One night I stood before the huge theater watching the crowd enter, with beautiful women in evening wraps and silver slippers. Wrapped ear-high in serapes came a silent group of peons, or "sandal foots," walking out in the street, not on the sidewalk. Quietly they slipped by the gay, chattering throng, seemingly oblivious of it.

Wide now as ever is the gulf between the stolid, inscrutable Indian peon on one side

Photograph by L. Pérez Parra

LIKE THE MYTHICAL BRIDGE OF SAN LUIS REY, TRAGEDY AND DEATH HAVE HAUNTED THIS STRUCTURE

Before any bridge spanned the Santiago here, baskets on cables carried people across the river. Sometimes passengers were left suspended in mid-air. Rebels partially burned the bridge in 1928, paralyzing traffic. Porters carrying accumulated freight across the charred skeleton fell into the river and perished. During floods the Santiago rises to the bridge's floor.

and the Spaniards and town-dwelling *mestizos* on the other.

Social cleavage is distinct among all national groups. Americans have their own little club. They work and play together, mingling mostly with each other and the British.

Americans built a railroad down the west coast and up the famous *barrancas*, or almost insuperable ravines, from Nogales, on the Arizona border; now Southern Pacific sleepers may run from Los Angeles through to Guadalajara. Rails also link the city with the sea at Manzanillo; still another system ties it with Mexico City, with the Gulf of Mexico, and the Texas border. These railways, with the Nation's steadily growing net of motor highways, make Guadalajara an active distribution center. Here cheap electric power, ample labor, and abundant raw materials stimulated various industries. These include spinning and knitting mills, candy and cracker works, and shops famous for their beautiful tiles and mosaics.

A mile above the sea, fragrant with orange blossoms and swept by cool, tonic breezes, Guadalajara might well be a prize tourist town of Mexico. But it isn't. Aloof and conservative, it goes its aristocratic way, stiff and formal. Not even a baby skyscraper yet dares lift its head above old churches, convents, and parrot-haunted patios. Architecturally and culturally, here is loyalty to cherished Spanish patterns of long ago.

VAGABONDING IN ENGLAND

A Young American Works His Way Around the British Isles and Sees Sights from an Unusual Point of View

By John McWilliams

About midnight I stepped out into the almost empty streets of Bloomsbury, strode down to Hyde Park Corner, and joined a lively crowd at a coffee-stall—one of those red-painted shops on wheels that attract with their cheerful hospitality all classes in London.

While sipping my coffee I surveyed the group around me. The young man-about-town at my elbow, carrying just enough liquor to make him forget all about being reserved, was eating a snack in friendly companionship with a shabbily dressed new acquaintance he had stood to sandwiches and coffee.

HEIGHT CALLS TO HEIGHT

On my other side was a member of the Guards, so tall that he did not have to raise his eyes to look into mine. It was not long before we struck up a conversation.

"You're not an Englishman, are you?" he began.

"No," I replied. "Why?"

"Oh, I could tell that; you talk so much slower. You're Irish or Scotch. Which?"

"Neither; I'm an American!"

"An American!" he exclaimed, laughing. "That's where they grow dollars, isn't it?"

"It may be," I replied, "but I'm still waiting for mine to sprout!"

"Get out! If you hadn't a lot of money, how could you take a trip like this?"

"Oh, that's easy; worked my way across. I expect to walk up to Scotland and back, earning my expenses."

"Great; but how are you going to get work with jobs so scarce?"

"Trust to luck," I said nonchalantly.

"Well," doubtfully, "I shouldn't want to risk it in these times."

"It does seem a long chance," I agreed. "I'm walking over London to-night. Want to come along?"

"By Jove, that's an idea!"

Gulping down the last of a second cup of coffee, we started off. His strides were a good match for mine, and to my delight I did not have to hold my long legs in check.

We soon traversed the distance to the Embankment, the clatter of our heels on the pavements echoing through the dark streets (see illustration, page 362).

Save for a jolly bobby or two, whom we readily convinced we were not "smash-grab" burglars, we passed virtually no one. A woman, snoring audibly, made a black heap in a doorway and at the car shelter a little farther along a late tram was taking on a muttering, drunken rascal.

Near the Westminster Bridge a man limped up. "'Ave ye got a cigarette?" he asked hesitatingly.

I pulled out a pack and he took one.

"My rheumatism's bad," he went on, his face twitching. "Could ye lads stan' me ta a bed?"

"What's a bed cost?" I asked.

"Eight pence," he replied.

Before I could get out my money, my friend dropped a shilling into the old chap's hand, with the caution, "Mind you don't spend it for whisky."

From Westminster Bridge we gazed upon the shadowy Thames, its moonlit surface rippled only occasionally by a dimly lighted barge or tugboat. How different from the day! Gone were the endless noises and the rumbling of heavy traffic.

FREE BEDS ON THE EMBANKMENT

On the Lambeth side each bench held a sleeper. A policeman, arousing them, came our way and glared at us as he passed. Most of the unfortunates lay down again as soon as the bobby's back was turned, but a few got up and walked aimlessly up and down the Embankment till he was out of sight. Though it was early June, the air was damp and biting with cold.

It was so dark that we almost sat down on a small form huddled in a corner of a seat. It was an old woman, asleep, her frail shoulders wrapped in a woolen shawl and her white, straggly hair barely visible beneath a battered hat.

As we got up she moved slightly and laboriously turned over. Tired eyes peered up at us, as if in fright at beholding something utterly unreal.

Photograph by Burton Holmes from Galloway

FOOT TRAFFIC ON TOWER BRIDGE IS NEVER HALTED

When the central span is open, pedestrians may ascend the Gothic towers in elevators and cross on the covered walks, 142 feet above the Thames. This view was taken from the Wharf between the bridge and the Tower of London. From such a vantage point the author and a companion philosophized as they watched barges and tugboats pass up and down the Thames (see text, page 357).

Drawn by A. E. Holdstock

A VAGABOND'S TRAIL THROUGH BRITAIN

From bustling London the author's wanderings took him through scenic and historic western England, over the hills of Wales and northward by way of the Lake District and Carlisle to stately Edinburgh.

"There's nothing to be afraid of," I said softly. "Let us take you to a place where you can get a decent bed." I handed her a florin—two shillings.

At sight of the "white money" her face brightened. "Faith," she said, "an' I thought I was seein' things. Bless you, my boys, but I know where I ken get a bed, an' this'll keep me for two days."

Getting to her feet, she drew the shawl snugly about her and shuffled off, leaving before our eyes a mist no fog can cause.

Summer dawn breaks early upon London. Though it was now only 3:30, vehicles laden with vegetables crossing Westminster Bridge reminded us of Covent Garden. We started off after them.

PAST PARLIAMENT TO COVENT GARDEN

The Parliament buildings, strung out along the shore, were wrapped in blue-gray light, with Victoria Tower and Big Ben etched against the sky. A night's sleep is a small price to pay for such a sight.

© Photopress

"BUTTON, BUTTON, WHO'S GOT THE BUTTON?"

A button king of London and his son "all sewed up" for a Sunday christening at St. John's Church, Walham Green. The father's suit is decorated with some 22,000 buttons.

The odor of roses came to our nostrils, as around a bend rumbled a van loaded down with the fragrant flowers. We were in Covent Garden, London's spacious glass-topped palace of fruits, vegetables, and flowers.*

At once the dull, gray streets brightened with a breath-taking display of color. All was activity. Busy porters were unloading huge vans from which came luscious strawberries that made our mouths water, hot-house tomatoes, peas in light-green shells, bundles of delicate asparagus packed in soft straw, spring onions, tender pink rhubarb, and watercress. The sight so sharpened our appetites that we descended upon a fruit stall and bought some oranges and apples.

Uneasily we watched a brawny fellow hoist six bushel baskets of vegetables to his head—we fully expected them to topple over—and proceed unconcernedly toward a stall. All went well until there appeared in his path a man about half his size. The little chap became so nervous on seeing the huge basketed figure bearing down upon him that he darted this way and that.

Blustering with rage, the porter halted and roared, "Get outta my blawsted room!"

* See "London from a Bus Top," by Herbert Corey, and "Some Forgotten Corners of London," by Harold Donaldson Eberlein, in the NATIONAL GEOGRAPHIC MAGAZINE for May, 1926, and February, 1932, respectively.

and in a flash the little man disappeared within the doorway of a public house.

Flowers were next to claim our attention; and what flowers they were! All our favorites were there: boxes of pansies and gayly colored candytuft, banks of roses and delicate buds, armfuls of scarlet carnations, sheaves of white hydrangeas, and bunches and bunches of purple and yellow iris! What a mingling of scents! Reluctantly we came away and, with a bouquet of iris for the manageress, rode "home" to breakfast just as the sun was showing his face.

HEY FOR THE OPEN ROAD

I was becoming rather fed up with the eternal bustle and tenseness of London life, and felt the urge to get out into the country, where life is real. Not only this; I must either obtain work at once in London or try my luck on the road. All the money I had left was 20 shillings—about $5, not half enough to last another week in London.

I chose the highroad, and the next morning got up early and made ready to be off. Over a navy-blue slip-on sweater I put on a roomy khaki shirt, leaving the collar open; got into rough, brown tweed trousers, and pulled on an old brown snap-brim hat. Into a small haversack went a change of underwear, a couple of pairs of socks, a few handkerchiefs, and some toilet articles. Then I packed all of my other belongings and left them in the care of a storage company.

With my haversack thrown over one shoulder, I swung out along the busy London streets. There was much craning of necks and some laughter. I suppose I did make an eyeful, for no Englishman dresses as I was clad. With no thought of trying to make myself conspicuous, for my height saw to that, no matter what I wore, I had rigged myself out with apparel that was to play a big part in the adventures to follow (see illustration, page 367).

I thought I should be forever in getting out of London. To appreciate its magnitude, one has only to walk across it. I had hopes that at the city limits I should come to stretches of open country. But no, almost half the distance to Oxford seemed one vast metropolis, not unlike the area around Chicago, with its numerous business communities. Not till I passed High Wycombe did I come upon the glorious, early summer countryside of England.

The warm, moist air was filled with the mingling scents of countless flowers. Wild roses were trailing over old moss-covered stone fences along the roadside. Some of the fields were white with the feathery blossoms of Queen Anne's lace, others sparkling with buttercups. I felt vigorously alive and free, as if nothing mattered but to enjoy this paradise, let the morrow bring what it might.

It was commencement time when I arrived in Oxford, and I remained there for two days; then set out for Stratford-on-Avon.

The skies were gray and rain threatened before I reached Shakespeare's town. But if rain had overtaken me, I should not have been caught unprepared. I had managed to find room in my small haversack for a light raincoat. Luckily the rain kept off, and as twilight began to gather I came dry-clad to Clopton Bridge, which led me over the Avon into the town of Stratford.

Stratford has caught the fancy of Americans, and their interest has helped to restore the places so dear to the heart of every lover of Shakespeare. In summer and early fall an avalanche of visitors sweeps down upon the town, making it next to impossible to get any thrill out of visiting the Shakespeare shrines.

But I got the start on the crowd! I fell into a piece of luck in engaging a room at the very first try, in a private home, and was abroad in the morning long before most of those staying at the hotels were out of bed.

A PEEP INTO SHAKESPEARE'S GARDEN

Down a narrow, empty lane I sought out the place in Henley Street which most people believe to be the Bard's birthplace. Let scholars bicker; it was enough for me. At the rear of the half-timbered, gable-roofed house, with its quaint mullioned windows, I found a spacious garden. The trees were glistening with young leaves, and beds of lovely flowers bordered the walk leading to the house.

A high stone wall surrounded this idyllic spot, but screened none of the beauty from my gaze. I could look right over and enjoy the scene to my heart's content without having to pay for the privilege! There is real advantage at times in being tall.

From Henley Street I tramped out to the edge of town, past a long row of prim

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AT THE CURVING VICTORIA EMBANKMENT, ALONG THE THAMES, THE AUTHOR BEGAN HIS VAGABONDING

Like Washington's Potomac Park, this riverside area was formerly a marsh. The tall monolith, known as Cleopatra's Needle, once stood in Heliopolis, Egypt, and dates from 1500 B. C. Encased in an iron cylinder, it was brought from Egypt by Sir Erasmus Wilson and erected on this site in 1878. On September 4, 1917, the base of the monument was scarred by a German aërial bomb. A companion obelisk, also from Heliopolis, now stands in Central Park, New York.

Photograph by Ewing Galloway

"VICTORIA AND BIG BEN ETCHED AGAINST THE SKY"

The author, on his all-night rambles around London, discovered that a night's sleep is a small price to pay for the spectacle of summer dawn breaking over the Parliament buildings, still wrapped in blue-gray light. Although it was only 3:30 in the morning when he and a member of the Guards chanced to be in this vicinity, vehicles laden with vegetables were crossing Westminster Bridge, en route to Covent Garden (see text, page 359).

Photograph by Burton Holmes from Galloway

THIS BULLDOG NEVER GROWLS AT CHILDREN

Whether this is a cannon shaped like a dog or a dog shaped like a cannon has never been satisfactorily explained. It is an ornament in the Tower of London grounds.

cottages, each with an intriguing name on the gateway, and took a pathway through the woods to the village of Shottery, to see where Will Shakespeare used to call upon his fair Anne. The day was perfect, the sky cloudless—a novelty to me after the smoky haze that too often hangs over London.

At a clearing I came to a little woodland church, with its simple war memorial. How isolated it was, making me think of Friar Tuck and the chapel in the forest that Scott describes in "Ivanhoe." Such scenes can have changed little since Shakespeare's time. Few tourists walk the distance to Anne Hathaway's cottage; they have a bus to take them there. What a treat they miss! (See page 384.)

Near the edge of the woods I came unexpectedly upon Anne's pretty thatched cottage, not far from the Hathaway Farm, and it looked so well preserved that I could easily imagine I'd turned back the pages of time and was making an early morning call on the famous lady. Making inquiries, I learned that the farm was still cultivated, and that the owner lived about a mile down the road toward Alcester.

I now had only eight shillings and knew that I'd have to abandon the holiday-making and find work at once. Down the road to the owner's house I hurried to put my luck to a test.

JOB HUNTING PLEASANTER THAN THE JOB

I soon came to a private roadway which led me to the house, a typical home of the wealthy English farmer. It was set back about 200 feet from the highway, a large, rambling place with a spacious veranda, inclosed by an ivy-covered stone wall. Opening the gate, I startled into shrill outcry a handsome pheasant, which darted excitedly back and forth in its little house and runway and gave me a glimpse of its brilliant plumage, and in a corner of the yard a proud peacock strutted about between the beds of summer flowers.

The disturbance brought a maid to the door, and presently a white-haired, ruddy-faced, rather stout man came out to see me.

"Do you need any help?" I asked.

"I don't know; you'll have to ask my bailiff," he replied, pointing out the bailiff's cottage to me. "By Jove! Didn't I see

© Donald McLeish

CURB SERVICE FOR DOBBIN

Faithful dray and cab horses have not been crowded off London's streets by truck and taxi. Horsepower in the flesh is adapted to narrow lanes.

you at the Hathaway Farm?" he asked amiably.

"Perhaps you did."

"I thought so. My wife and I both saw you as we motored past."

I told him what I was up to, and he laughed heartily. "Well, well, that is doing it differently. Have you had lunch?"

"No," I replied.

Taking hold of my arm, he continued: "You come in and have lunch, and then you can go and see my bailiff."

His wife, a charming, well educated woman, and their son, a little older than I, welcomed me cordially. A courteous maid brought me a variety of tasty sandwiches and all the good cold beer I could drink. When I had finished, the son passed around the cigarettes, and I had my first good puff in days.

After leaving my hosts, I walked across the adjoining fields to the cottage of the bailiff, a young man of a very kindly sort. "Can you milk?" he asked, when he learned why I had come.

"Yes," I replied, knowing full well the only milking I had ever done was during a summer vacation five or six years ago.

"Well," he said, "we do need a man to milk and keep the cow barn clean; and I guess you'll do. The pay's 30 bob (shillings) a week, and probably I can find board for you for 17 bob with one of the tenants."

Well, being nursemaid for a lot of cows was not so attractive, but I decided to take the job, even though it would leave me a margin of only 13 shillings, and meant that I'd have to work for a month to save enough to last two weeks on the road.

I followed the bailiff across the highway and we stopped at one of the rude cottages of the tenants. In distinct contrast to the owner's home, or even the bailiff's, it was sadly in need of paint, but the windows were shining and the doorstep looked as if it had been freshly scrubbed.

A work-worn woman came out of the door as we approached, and the bailiff called to her. No, she hadn't a room, unless I'd sleep with her son, who also worked on the farm. I told her I didn't mind.

"Wal, if ya don't expect too much," she said, eyeing me questioningly, "I guess I can manage. It'll be 20 bob."

© Donald McLeish

"HELLO, PUNCH! HELLO, JUDY!"

Given in a high falsetto voice, the familiar themes of Punch and Judy shows never fail to attract an audience of laughing urchins of London's streets. The clever dog, Toby, takes a curtain call.

In town I found that clothes a good farmhand should wear would take all I could hope to save in three weeks. The discovery put a damper on any enthusiasm I had for the job. My employers probably would have advanced my first week's wages for equipment, but it would have taken two months for me to come out even 20 shillings ahead! By that time the summer would have been almost gone. Much as I liked the place, I told the bailiff I'd go on to Worcester, a much larger town than Stratford-on-Avon, where perhaps I'd have a better chance.

THE POOR HELP THE POOR

Late the following day, Sunday, as the last dazzling blaze of color was illuminating the clouds which shut off the blue, I reached Worcester. The town caught the gold of the heavens in myriad shining windows and rich colors of old brick houses. Narrow cobblestone lanes tumbled in and out of High Street. One led me down the hillside to the race track and the River Severn, from whence I looked up at the proud Cathedral rising out of the trees on high ground above the river.*

I was in the heart of the poor district. The twisting streets were alive with people, some chatting in little groups before open doorways. Children raced up and down, shouting and laughing, playing all sorts of games. Perambulators passed like canoes in a river, usually propelled by women, with young children at their heels, and

"But can't you do better than that?" I reasoned.

Hesitating a moment, she replied, "Wal, ya can pay me what my son does, 17 bob."

"All right; I'll be back in time for dinner."

" 'Ave you got any work clothes," asked the bailiff, as we walked back across the fields.

"No; but won't these I have on do?"

"Yes; but you'll ruin them in the cow barn."

"I suppose so," I agreed. "Have you got some I can borrow?"

"No, I 'aven't, but you can get some in town. I'd lend you a pair of shoes, but mine won't fit you."

* See "The Beauties of the Severn Valley," by Frank Wakeman, in the NATIONAL GEOGRAPHIC MAGAZINE for April, 1933.

youthful couples were making their way in the twilight to the race track.

Near the race track a stockily built young man asked me if I was looking for a room. He said his sister had one and he would take me to her house.

"Will you 'elp me hout?" he added. "I been outta work seven months, and there's my wife and kids," motioning to a woman sitting on a doorstep with an infant in her arms and poorly clad children playing near her.

"I'd like to help you," I said, "but I'm almost broke. How do you manage to exist?"

"Oh, I get a small dole from the Government."

The dole, or unemployment insurance, is created by the worker, the employer and the Government contributing. Roughly speaking, if a worker has made the required contributions to the fund, and then loses his job, he is eligible, under certain conditions, to receive a sum of money each week, large enough to buy only the barest necessities for a family.

I offered to stand my new acquaintance to a pint of beer, and we walked together to a "pub" (public house), a jolly place, crowded to the door by folk who had come to make merry and visit with their friends. Here again my height was useful, for had I been a little fellow I'd have had a long wait for my pint of beer. When I entered, all the men and women turned my way and many gave me a cheery word or a slap on the back.

My friend and I were soon at the rail, where a pretty barmaid drew us two "bitters." Then we joined in the singing and toasted the King, the Bishop, and our good health. One old woman, laughing gaily, had us drink to her "fatal beauty." People crowded close, somebody had an arm on my shoulder all the time, and we had many calls to " 'Ave another."

THE WANDERER BECOMES A "PAYING GUEST"

It was all very jolly, but my little companion soon showed signs of having more beer than was good for him. I kindly but firmly edged him outside, he protesting all the while.

Rounding a corner and trudging halfway up a hill, we turned into an alley so dark that I had to grope my way along. My

Photograph from John McWilliams

THE AUTHOR IN VAGABONDING GARB

Wherever he ventured his height attracted attention, and it proved to be an asset in singling him out from others when he sought manual work. But "altitude," he found, was a handicap when it came to sleeping in short beds!

companion walked as if he knew every stone. At the end we came to a street lined on both sides with two-story, red-brick houses, all alike. My friend opened the gate before one and we passed through a small flower garden to the house.

A knock brought a neat-appearing woman to the door. She greeted her brother cheerily: "Oh, hit's you, is it? We're just 'avin' 'igh tea; come on in. Who's this with you?"

" 'E wants a room and I thought maybe you'd 'ave one."

"Well," she retorted, "maybe I 'ave an' maybe not! Come in, won't you, an' sit down! You're so tall you make me nervous."

I sat down and stretched out my legs before the fire. Throwing up her hands, she exclaimed, "My, I 'ave no bed to fit you!"

"Let me see it," I said.

She led me up a steep flight of stairs to a clean, airy room. In it were two beds, one used by her younger brother, who worked in a near-by factory. She explained that she herself, her little girl, and her sister occupied the other bedroom.

© Donald McLeish

UNCEASING TRAFFIC OF LUDGATE HILL SURGES PAST THE PORTICO OF ST. PAUL'S

The massive Cathedral is so closely hemmed in that "St. Paul's Churchyard" exists to-day only in a street name. The present domed edifice replaces an even vaster structure destroyed in the Great Fire.

© Donald McLeish

A MONUMENT TO A PATIENT PATIENT

The inscription on this curious memorial in Bunhill Fields Cemetery, London, reads: "In 67 months she was tapd 66 times Had taken away 240 gallons of water without ever repining at her case or ever fearing the operation." The cemetery also contains the graves of John Bunyan, Daniel Defoe, Dr. Isaac Watts, and several descendants of Cromwell.

The bed was not half bad and I asked her how much she'd charge.

"Well, if you want to come 'ere, you can at four bob a day for bed and all meals."

The price was reasonable, and I was doubly grateful when she said nothing about payment in advance.

"Would you like a cup o' tea?" she asked, as we rejoined the others.

"Yes, if you have it made, but don't go to any trouble."

"It's no trouble to make tea. Do you like biscuits and cheese?"

"I certainly do," was my ready answer, and presently she brought in a plate of cheddar and English biscuits—crackers.

English folk serve three full meals a day—breakfast, lunch, and dinner—and supplement these with tea late in the afternoon and high tea at the usual visiting hour, about 8 in the evening.

In the morning I had the best breakfast thus far. As I left the house, I noticed the number was 58, a combination totaling 13, which heretofore had proved lucky for me. I struck out along Moor Street in high spirits, feeling sure that good luck was still following me about.

Coming to High Street, I pondered for a moment what to try first. I was at a disadvantage from the start, for I could not take just any job, with the clothes I wore. I must find some kind of heavy work or else a job where a uniform was furnished.

JOBS PROVE SCARCE

Seeing a few hotels close at hand, I called at all of them, but they needed no one to help with the baggage, and despite my commanding height they could not use me as a doorman.

At another small but exclusive hotel down a side street I tried again, putting my question to the proprietress. Her reply was so different from what I expected that for a moment I stood astonished.

Photograph from Wide World

AS THE "GRAF ZEPPELIN" SAW TRAFALGAR SQUARE ON A RECENT VISIT

To appreciate the magnitude of London one has only to walk across it, as the author did on his way to Oxford (see page 361). Radiating from Trafalgar Square are thoroughfares whose names are world famous, including Whitehall (bottom), and around the square, clockwise, the Mall, Cockspur Street, Pall Mall, Charing Cross Road, and the Strand.

"So you're looking for a job," she cried, between peals of laughter. "Why, you don't need a job! You're one of those crazy Americans, and I suppose you've made a wager that you could get one! Well, you won't find any help here," she added brusquely.

I was both amused and angered, but I thought I'd feel her out. "Really?" I said. "What if I told you I'm an Australian and earnestly looking for work?"

"Well," she replied, her voice softening a bit, "in that case it would be the same, for I don't need anybody."

"That's too bad," I said, trying to humor her, "because I think I'd like to work for you. I admit you did guess right; I am an American, but contrary to the general run of travelers with whom you come in contact, my pockets aren't bulging with gold. I'm walking over England and I mean to earn my expenses."

By now her whole attitude had changed. She had been prejudiced against Americans by those who stopped at her hotel, because of their apparent unlimited means and their opportunities for extensive traveling.

In a friendly manner she said, "Conditions are very bad here and you'll be fortunate if you find any kind of work. My advice to you is to give up the idea if you have no funds to draw on."

With this anything but encouraging picture, I tried at a number of other places, among them restaurants, public houses, and shops—all without success.

In the morning, undaunted, I started out afresh, going down by the river, stopping

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FORBIDDEN PLEASURES IN THE HUB OF LONDON

Sympathetic bobbies looked the other way when these street urchins took possession of the fountain basins at Trafalgar Square during an English heat wave. The fluted column commemorates Lord Nelson's victory and death at the Battle of Trafalgar. Many political demonstrations have been held under the very noses of the Landseer lions couched upon its pedestal.

at the lumber yards and factories. But here it was the same; for inexperienced jobs around a factory, even in good times, are scarce. The best I got were a few vague promises, "Come back in two weeks" or "in a few days," but these wouldn't pay the landlady, and I knew I'd have to settle with her at the end of the week or face embarrassment and possible trouble.

In hunting out the one in charge of employment at the Royal Porcelain Works, I saw expert workmen shaping bits of clay, with the aid of the wheel, into wonderful vases, and I watched them firing the china so famous all over the world. They did need a potter, but what good did that do me?

The next two days brought me no nearer my goal. The third morning rain was pouring down, and despite my raincoat it wasn't long before my clothes were sodden and my hat became a cold wet band around my head. Everywhere I was told people were being let out rather than employed. Perhaps I'd made a big mistake in not accepting the offer at the farm. "But that's over with," I said to myself. "Snap out of it."

AT LAST—A JOB!

A familiar red sign, "F. W. Woolworth & Company, Ltd.," brought up my ebbing enthusiasm and I ran forward. But I wasn't long discovering that the only American thing about the store was its name. Workmen were reconstructing the building, and with breathless anticipation I waited for the manager, my head almost

© Donald McLeish

"IT'S A NASTY TRADE"—OLIVER TWIST

But this smiling chimney sweep, with his circular broom and jointed handle, does not seem to think so. Brushes and other tools have replaced the small boy who in Dickens' time was sent up flues to clean them of soot.

touching the canvas covering stretched over the store, on which rain was peppering down.

Presently a quick little man came up. What he said was so good I could hardly believe my ears. "Yes, we need a laborer." I was somewhat taken aback, however, when he added, "But you don't look like one!"

"Perhaps I don't, but I'm sure I can do it. At least, you'll give me a chance, won't you?"

"Righto." It was the sweetest word I'd heard in days.

Pulling off my raincoat, I fell to with a will, helping the men tear down the ancient building. It had been put up in the time of Charles II, when massive oaken beams were used for girders. The timbers were still good, too, readily usable for carving. They were awkward things to move, and all of us had to put our shoulders to the task of dislodging one of them placed securely in position centuries before. All the work was done by hand, with the help of a few simple tools; no modern wrecking methods here.

What with carrying bricks, buckets of mortar, and heavy lumber, by 6 o'clock I was so tired I could hardly reach the landlady's home. But I was happy. I had a job! She was splendid to me, arranged her meals to suit my time, and even went so far as to have a hot breakfast waiting for me on the table when I got up at 5:30.

I had never done such strenuous work before, and the exertion kept me always hungry. One piece of luck was that the girls in the store brought me and some of the other young fellows tea and cakes from the lunchroom.

On Saturday I received three full days' pay, a little more than I would have made in a whole week on the farm. That was at the rate of 70 shillings a week, or $17.50, a sum out of which I could easily save enough to take to the highroad again. We laborers received about as much as the bricklayers; but, of course, we worked longer hours. We had to report at 7 a. m., more often at 6, and stopped at 6 p. m. or later. They began at 8 o'clock in the morning and quit at 5 p. m. For skilled labor 70 shillings is poor pay, even with reduced living costs.

Sunday morning the Cathedral bells brought me out for the service, and I ambled up High Street with the great central tower looming before me.

Walking around the Cathedral, I came to the Edgar Tower, a relic of early times, and through the archway proceeded along the gravel walk to the Cloisters, among the most beautiful in England. In the Nave I readily found a seat. Sunbeams, laddering through windows of exquisite coloring, cast an aura of light around the choir boys marching to their places. Notes from one of the finest organs in England echoed with the sweet voices of the children throughout the vast edifice.

In passing one of the memorials after service, I noticed something familiar and stopped for closer inspection. On a tablet was the coat of arms of the Washington family, two bars and three stars.

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"KITTY WANT A SAMPLE?"

London is one of the few cities where a special butcher purveys meat for feline pets. Generally the cat's meat man and his cart are followed by an expectant and meowing company.

Before the High Altar I came to the tomb of King John. His finely carved effigy, the earliest royal effigy in England, lies upon it. The signer of the Magna Charta, hoping to gain absolution, left elaborate instructions for his burial, even to having his head shaved, and his body placed near that of St. Wulstan. For years John had robbed the churches and taken away their lands. It is extraordinary that his will was carried out, when often that of more worthy kings was utterly disregarded.

I kept the job for two more weeks. By then my clothes were nearly ruined, but the landlady did wonderfully in cleaning them.

On the road again, I went to Leominster and remained there overnight. Then I began my long tramp through the wilds of Wales, not knowing that before my head touched a pillow again I'd have been through an unforgettable experience.

I was now rapidly leaving the foothills behind, coming to the real hills, some brown with heather, soon to blossom out with tiny red flowers which would transform them into huge mounds of ruddy color.

A shepherd with a flock of sheep passed me in the road, and in doing so directed my attention to a sea gull flying low over our heads. "A bad storm's comin'," he warned, pointing to the bird with his staff.

© Aerofilms

"'ORANGES AND LEMONS,' SAY THE BELLS OF ST. CLEMENT'S"

At the annual children's service on March 31, oranges and lemons are given to the youngsters by Danish residents of London. St. Clement Danes, like its companion, St. Mary-le-Strand, sits astride an "island" in the middle of the Strand.

"That's a sure sign. You'd better get under cover 'fore it hits you."

"I hope you're mistaken," I said, looking up anxiously at the huge banks of dark purple clouds, for I wanted to get as far as Rhayader that day.

A TRAMP THROUGH THE RAIN

There was scarcely any wind, and an almost uncanny stillness prevailed—the kind of phenomenon which sometimes precedes a storm. I hurried on at a fast clip, making my long legs do double duty, and reached Rhayader just as rain began to fall. A real storm seemed unlikely. The rain soon slackened into a warm drizzle, and with my trusty raincoat on call I saw no reason why I shouldn't venture out.

It was now about 4 o'clock. At tea I had been intrigued by the tale of a shopkeeper, who told me of the remarkable waterworks which serve the titan industrial city of Birmingham. These were located a short distance from the town, and I set out toward them.

I had never tramped for any long distance in the rain before, and was delighted with the invigorating experience. How clean and pure the air tasted! Spring lambs seemed not to like it, however. They were bleating plaintively and trying to gain shelter under the bushes. A farmer worked on heedlessly, hoeing a row of vegetables, as if he enjoyed the rain as much as I.

At the side of the road ran the Elan River, which furnishes the main water supply for the reservoirs. Usually it is a peaceful little stream, but the recent heavy rains had changed it into a lordly river. From a rustic bridge I looked down upon the raging white-maned waters as they rushed over rocks, dashed against a big bowlder here and there, shot spray high into the air, and brushed furiously past ferns lining the banks.

Following the road up the hillside, I presently came to the first reservoir, a vast stretch of crystal-clear water, hemmed in by beautiful wooded hills. Here I watched

Photograph by Ewing Galloway

"THE OLD LADY OF THREADNEEDLE STREET" HAS HAD HER FACE LIFTED

The Bank of England joined the modern loftier trend of London's buildings when recently this new façade, with sculptures by Charles Wheeler, was added above the original fortresslike structure. A corner of the Royal Exchange appears at the right.

a series of pretty waterfalls tumbling over the dam and joining the mad little river on its way through the lovely Elan Valley. Far down the valley lay a quiet little town beside the river, its few houses peeping out between the huge trees, with a tower of a stone church dominating it all.

JOY IN THE BUFFETS OF A STORM

A light mist, brought on by the fine rain, was gradually enveloping everything, leaving only faint purple outlines of the hills in the distance. Premature darkness came on, and, without warning, a sudden, startling peal of thunder echoed throughout the wilderness, as if it were a signal for the forces of Nature to begin their attack. Lightning cut through the angry clouds across the reservoirs, and the wind, stirring to wrath, whipped the trees. I looked about for shelter, but there was none except that offered by the wildly tossing trees.

Seeing that I had to make the best of it, I kept on. There's something inexplicably wonderful about a storm. I was not afraid; rather, I felt strengthened, knowing I was out there opposing the age-old, devastating forces of Nature.

Rain was still falling rapidly when I came to the last of the reservoirs, but the wind had almost died down and the mist had lifted. It was becoming light again, and I looked entranced over the beautiful man-made lake, dotted here and there with wooded islands, just large enough for a nymph's abode, and beyond at the picturesque green hills, dipped in valleys.

The flowers beside the road, the leaves on the trees and shrubs, all were glistening with raindrops. I longed for the sun to come out and make them sparkle like jewels, and warm me up a bit, for I was now very cold and my feet and legs, which no ready-made raincoat could protect, were sopping wet. On top of that I felt that it must have been ages since I had had anything to eat. The only house in sight was far over on the other side of the reservoir—a

© Capt. A. G. Buckham

LONDON, LIKE BROOKLYN, IS A CITY OF CHURCHES

A clear day reveals the heart of old London in all its beauty, with the majestic Tower Bridge guarding the entrance to the Pool, as the River Thames between the Tower and London Bridges is called. On the right rises the historic Tower of London and, above it, the Port of London Authority buildings. The long structure on the curving Thames bank is the Custom House, with the Billingsgate fish market beyond.

good five-mile walk which did not appeal to me.

During the whole twelve miles through the storm, not one automobile had passed me, but as I rounded a bend in the road I saw a small car filled with people coming my way. Waving them to stop, I asked one of the occupants if he could direct me to the main road.

"Keep on straight ahead," he said, "and you'll come to a farmhouse which faces the main road; but if you go across the hills you'll save a few miles."

LOST IN THE HILLS OF WALES

I decided on the latter course; for if I could save myself a few miles I was in favor of it. Up over the slippery, grassy hills I went. Presently the rain stopped and the wind began to dry the legs of my trousers. Around me, as far as I could see, was nothing but grassy, almost treeless hills and valleys. There was no sign of life except for a few sheep nibbling at tufts of grass near by. Almost in despair, I walked along mile after mile without coming to a road or within sight of a farmhouse, and it wasn't long before I realized I'd been misdirected and was as near lost as anyone could be.

As darkness came on, and just when I thought I could not propel my legs another step, I saw the faint outlines of a house in the distance. The very sight of it made me shout for joy. As if by magic my energy came back, and I ran at top speed toward this possible haven in so desolate a region. It was a rude stone hut, nestled between two hills.

In high glee I hastened forward; but as I drew closer my spirits fell. The house looked uninhabited. A little hopelessly I banged on the door, fully expecting no answer. But little Lady Luck had not forgotten me after all. The door swung open and there appeared before me a poorly but cleanly dressed, work-worn woman.

Seeing my huge form, she asked uneasily, "What do you want?"

"I'm lost," I replied. "Could you accommodate me for the night?"

"No, I cannot," she replied; "we're very crowded as it is."

"But won't you please serve me tea," I implored in my most persuasive manner.

"Yiss, but we are very poor and I can only give you plain tea."

"Oh," I exclaimed thankfully, "that'll be fine," and followed her inside. "Plain tea" usually consists of bread and butter, jam, and tea.

I made for the fireplace, stirred up the dying embers, and heaped on some pieces of wood. Soon I had a blazing fire, before which I proceeded to dry my shoes and trouser legs and get thawed out generally. While thus stretched out I was suddenly aroused by the sound of heavy, dragging footsteps of some one entering the room. Getting to my feet, I met the stern gaze of a tall, broad-shouldered shepherd. He was brown as a berry, and his gnarled hands looked formidable.

"Who's this?" he inquired of his wife in a gruff voice.

Nervously she told him what had taken place, and, apparently satisfied, he said to me, "You shore chose a bad day. We've only one more room, which is our daughter's, or you could stay here to-night, but there's a farmhouse a few miles down the road where I'm sure they'll take you in."

No dinner call will ever sound better to me than the good woman's announcement that tea was ready. The call brought in their daughter, who had been doing some chores at the back of the hut. Her face was well freckled and her hair was hanging in two braids down her back. She wore a cheap checkered dress and high top boots, and was in the "ugly duckling" stage, when arms and legs seem ever in the way. But we four were soon talking away like old friends. The food was simple—no flourishes, but there was plenty of good bread and butter, jam, and hot, refreshing tea. By the time I rose from the table, I felt like defying the night.

"How much do I owe you?" I asked.

"Oh, a shilling'll do," the housewife replied.

She handed the coin to her daughter, who received it with glowing eyes. I followed her husband to the door. Outside it was pitch dark, and a cold wind was blowing at a terrific rate. "Be careful of the marshes," he warned; "go slowly till you reach the road."

Groping in darkness made deeper by the heavy clouds, I made my way, cautiously testing each step until I thought I had passed the marshes. I saw at length a little river in the valley, and beyond it a faintly glimmering light. Throwing cau-

© Donald McLeish

TRY TO SLIP THIS NAUTICAL TIE-UP!

A professional knot slipper gives an exhibition of his skill at Hampstead Heath, London, on a Bank Holiday. On the left is the stage manager with a whip to keep back the crowd.

tion to the winds, I struck out in that direction.

CAUGHT IN A WELSH SWAMP

Not far from the bank of the river, I ran into some tall grass and, before I realized where my feet were falling, I felt an odd sensation, as if by some sinister means I was being engulfed by an unseen power. I wriggled loose, only to slip again at the next step into the clutches of the bog.

Helpless, I cried out; but to no avail. I was too far from assistance to be heard, and had I been in mid-ocean my chances of rescue could not have been slighter! Slowly but surely I was sinking. The mud was now to my hips, and my feet and legs had lost all feeling. The numbness was rising, gripping my back in an excruciating hold.

Was I suddenly to be snatched away by this monster and leave no trace? Frantic, I clutched at my oozing strength and fought like a madman, digging my nails into the slime, seeking a support. Somehow in the blackness I found one—and drew myself to safety.

Utterly exhausted, I slumped back, so far spent I could not move for minutes. But I was filled with grim satisfaction. I had cheated death!

Retracing my steps to firmer ground, I proceeded by a roundabout way to the river, which was little more than a brook at that point. There was no bridge, but a few large rocks promised safe passage across the 12-foot stream.

As might be expected, I slipped on one of the rocks and fell backward with one mighty splash into the water. My raincoat saved my upper body from being thoroughly drenched. As for my feet and legs, the marsh had made them as wet as possible, and there was actually some consolation in the plunge. The swiftly moving water washed away most of the mud from my trousers and shoes.

Jumping up, I walked the remainder of the distance through the water, not trusting the rocks any further, and ran up the side of a sloping hill to the house.

As I walked through the garden, I was greeted with the loud and savage barking of two huge dogs, which made vicious lunges at me. Fortunately, however, they were securely chained. The owner, dressed

in a nightshirt, a gun in one hand and a lantern in the other, came to the door and peered out at me, calling in a loud, annoyed voice, "What do you want?"

"I'm sorry to disturb you at this hour," I began, "but I've been lost in the marshes below here, and am very tired and hungry. Can you put me up for the night?"

"No, I can't," he replied gruffly, turning and closing the door after him before I could say more.

A bit disheartened, I trudged back to the river and got over it this time without a mishap. Then, believe it or not, after I'd dragged my weary feet up the hill, I found the road. It was then about 2 o'clock in the morning. I peered through the darkness, but no farmhouse was in sight.

Just as I was about to walk on, I thought I saw a large, shadowy object disappearing around a bend in the road, about a quarter of a mile away. I hurried to investigate. Sure enough, as I rounded the curve, I heard the sound of faint hoof beats and soon overtook a young man and woman, the one on horseback, the other driving a cart.

A WELCOME "LIFT"

Naturally they were much startled and a little suspicious when my towering form suddenly loomed before them, and I was so out of breath from running to catch them that it was several seconds before I could make myself understood. When I told them what had happened, however, they were quick to offer their aid. The young woman invited me to ride in the cart with her, and I gratefully accepted.

They were brother and sister, on their way home after selling some produce and attending a motion-picture show in Rhayader. They lived on a farm near Llangurig, about five miles away.

About 3 o'clock we reached their comfortable home, where their father was waiting up for them.

"I thought something had happened to you," he exclaimed, "and was getting uneasy. Why are you so late?"

"We just had to stop and see a picture," replied the girl, "and on our way back we met this young man who had lost his way. Will you let him stay with us to-night?"

"Of course," he agreed, unhesitatingly.

Placing his hand on my shoulder, he said in surprise, "How, lad, your clothes are damp! Slip in the marshes?"

Calling to his son, he had him fetch me some dry clothes. Then he turned to me, "You go right in the next room and change your clothes before you catch cold."

I needed no second invitation. When I came out, I met with outbursts of hearty laughter, and little wonder, for I must have looked like a circus clown. The trousers were miles too short, and the sleeves of the shirt reached only as far as my elbows. I joined wholeheartedly in the fun, while we sat around the table enjoying tea at a regular New York hour.

Afterward we all took lighted candles and trooped upstairs to our rooms. Between fresh, clean sheets and under soft wool blankets I dropped off almost at once into dreamless sleep, happy for having met such wonderful people.

A week later found me on the road to Liverpool, the second seaport in Britain, where I must make my next try for a job. Clipping off nearly five miles an hour, I arrived about 5 o'clock in the afternoon in Birkenhead, just across the broad Mersey River from Liverpool.

All along the way the weather had been threatening, and I had hardly boarded the ferry when the clouds weakened and it began to drizzle. On the other side of the harbor, Liverpool's impressive towers loomed up from the water's edge, and numberless lights glimmered through the early darkness, reminding me of New York's skyline.

As we made the shore, the rain was coming down in earnest. I got into my raincoat, dashed down the gangplank into the waiting street car, and inquired how I could get to the Y. M. C. A. Fortunately I had boarded the right car. The Y. M. C. A., a rather churchlike building, contained only club rooms, but the clerk gave me an address of a lodging house a little farther up on Mount Pleasant.

I found the house one of the usual homes of the poorer classes. It was in a little crescent-shaped street, bounding the high wall of an orphanage. The rain had stopped, and the children had come out to play. Sitting in the doorways of some of the houses were women, some talking with neighbors, others watching their children play, waiting for the men to come home from work.

Fate or blind chance, the number of the house was 13. My assault at the door brought no response, however, and I was

Photograph by Clifton Adams

CHRIST CHURCH IS OXFORD'S LARGEST COLLEGE

The booming voice of Big Tom, the 7-ton bell of Tom Tower (above), sounds the curfew for both town and gown each night at five minutes past nine, when all college gates are closed. Both faculty and undergraduates refer to this school as "The House," not as "Christ Church College."

his head in at the door and gave me an appraising glance. I could think of nothing I had slipped up on, but one can never be too sure, especially in a foreign country. For a moment I felt uneasy. As it turned out, I had no cause for alarm. The man was just my hostess's big, red-headed husband, home after directing traffic all day!

HUMBLE LODGINGS IN LIVERPOOL

Formalities over, I learned that the lodging-house keeper had returned. This time my knock brought a dumpy little woman to the door.

"The Y. M. C. A. sent me," I said. "Have you a room for a week or so?"

"Why, yes," she replied, her face lighting up; "come this way." The room was simply furnished, but everything was clean and orderly and the bed looked as if it were made for a tall man.

"How much do you ask for a week with full board?"

She hesitated for an instant and then replied, "Twenty shillings."

This was better than at Worcester, and I was jubilant at finding such a comfortable place at the rate.

beginning to think the number had lost its charm for me when a young woman in the doorway of the house adjoining spoke up, "Miss M—— has gone to the pictures, but she'll be back soon."

"Do you know if she has any rooms?" I asked.

"Yes, I'm sure she has. Won't you come in and have tea while you are waiting?"

With this hospitable housewife and her girl guest I enjoyed a pleasant chat. They kept telling me what a fine policeman I would make, but I did not catch the significance of their remarks until a bobby thrust

In the dining room I met a good-looking Scottish boy about my own age, who told me he had the room just back of mine. The landlady made her meager livelihood by keeping boarders, and this young man—the only one with her when I came—had been there about a year, ever since he had come from Scotland. He seemed well educated, and I thought it strange that he should be working as a common laborer—doing practically the same kind of work I'd been doing in Worcester. In the days that

followed he became very friendly and I learned the reason. He was an expert accountant and for months had searched for work, but had been unsuccessful in finding any kind of employment until two weeks before I came!

When I told him and the landlady what I intended to do they were very dubious, and I could see that the landlady was anxious about the money that would soon be due her.

The first two days found me down by the huge docks, trying to get on as a longshoreman, but there was a surplus of men everywhere I went, and employment offices were crowded to the doors.

During the next few days I did not get so much as a nibble, and my enthusiasm began to wane. I had spent my last shilling. The landlady became very solicitous about my success, and the day before the week was up she called me in. "How you makin' out?" she asked.

"There's nothing definite as yet, but I hope to find something tomorrow," I said, trying to put up a brave front.

"So do I. I can't be keeping you like I kept Will, and you'll have to pay up or I must have your room. What he gives me barely pays for food and coal."

She told how, weeks after the boy's money had given out, with no other roomers to help things along, and her savings gone, she had appealed to a charitable organization. After a long delay while her story was being investigated, they had provided her with a little money, but had taken even this pittance away when some gossip reported she was "keeping a man."

Photograph by Douglas J. McNeille

ENGLISH LITERATURE'S FOREMOST SHRINE

Flowers of many admirers bank the stone slab which marks the grave of William Shakespeare in Holy Trinity Church, Stratford-on-Avon. A bust of the poet is set in the wall, and the adjacent stained-glass window, representing the Seven Ages of Man, was erected by American friends in 1885.

Because I had received a little encouragement at one of the leading department stores, situated at the foot of Mount Pleasant, I went there first the following morning, determined to get work if there was any chance at all.

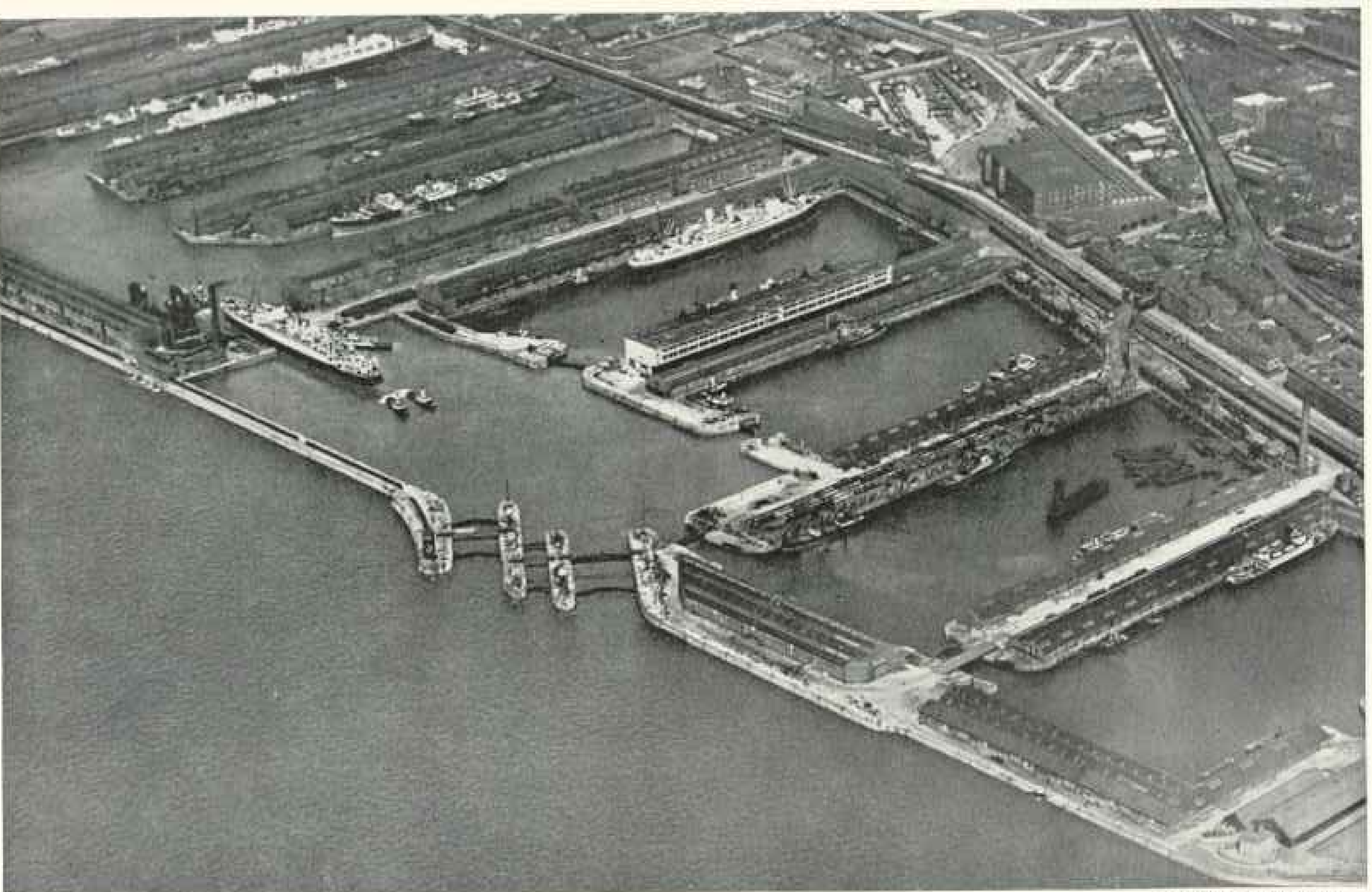
A JOB IN THE NICK OF TIME

I found the stairway leading up three flights to the staff office packed with anxious-faced men and women waiting their turn to see the manager. After three long, tedious hours, the slowly moving procession brought me inside the door and before a crisp, businesslike young man. It was

Photograph by W. A. Mansell and Co.

WORCESTER'S PROUD CATHEDRAL RISES AMID THE TREES

Sunday morning the sweet chimes of the 700-year-old church lured the author to services. Within the Cathedral he came upon the tomb of King John, signer of the Magna Charta, and a memorial tablet bearing the coat of arms of the Washington family (see text, page 373).



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VESTIBULES FOR LINERS FACILITATE UNLOADING AT LIVERPOOL

Because of the extreme variations in tide, some of the harbor quays are guarded by floodgates and intermediate pools. A liner from a distant port is being maneuvered from a "vestibule" basin into one of the unloading pools. The docks of Liverpool extend in an unbroken line for more than seven miles along the River Mersey.

Photograph by Ewing Galloway

KENILWORTH STILL WEAVES ITS SPELL

Eight centuries have left this magnificent stronghold near Warwick an empty shell, but its glorious past lives forever in Sir Walter Scott's novel, "Kenilworth." The meadow in the foreground was once the bed of an artificial lake.

Photograph by Douglas J. McNeille

WHERE SHAKESPEARE WOOED HIS FAIR ANNE

The author found the pathway from Stratford to the Hathaway cottage in Shottery a delightful approach, which is missed by the average traveler in a bus. Heavy timbers and leaded windows lend an air of time-mellowed antiquity to the quaint thatched dwelling.

© J. Dixon-Scott from Galloway

A RELIC OF THE DAYS OF CRUEL JUSTICE

Many vagrants, trespassers, poachers, and ne'er-do-wells have had their ankles pinioned in the pair of notched planks of the old village stocks (seen at right) at Albury, in Hertfordshire, only a few miles from London.

Photograph by Robert Reid

SHAGGY PONIES OF THE WILD WELSH HILLS

"Around me, as far as I could see, was nothing but grassy, almost treeless hills and valleys," the author writes of Wales. Like Exmoor and Dartmoor, certain districts are famous as breeding grounds for the sturdy pony that makes the Welsh seashore resorts popular with children.

Photograph by Ewing Galloway

STACKING HAY WHILE THE SUN SHINES IN LINCOLNSHIRE

Photograph by De Cou from Galloway

HOLLYWOOD COMES TO WALES

The village cinema in Conway, with its Gothic doorway, stone walls, and leaded glass windows, looks more like a small castle than a movie house. This little Carnarvonshire town is still surrounded by walls containing twenty-one drum towers and several Moorish-looking gates (page 388).

Photograph by Burton Holmes from Galloway

DOWN A STONE-WALLED LANE IN WESTMORLAND

Some of England's most enchanting scenery is to be found in the Lake District, beloved of Wordsworth, Ruskin, and Southey. This shepherd and his flock are off for the moors in the vicinity of Ambleside, near the head of sparkling Lake Windermere.

the Saturday before the big summer sale and he was employing hundreds. It was raining hard when I reached the store and I still had my raincoat buttoned up over my khaki shirt. He quickly sized me up and assigned me to the sales force.

Unbuttoning my coat and displaying what I had on, I said, "I'm sorry, but I haven't the clothes to do that!"

"Well, then, we can't use you!" he said brusquely, turning to the next person.

For a moment I was stumped. What was I to do? Behind me others, tired and impatient, were shoving me forward. Recklessly I broke in, "Can't you use me in the shipping room or the warehouse?"

Surprised and annoyed, he met my straight, unflinching gaze. Perhaps my height helped me, for he came out with, "Righto; report at the warehouse."

At the warehouse I was told I could go to lunch, and I almost ran up the hill to tell the glad news to the landlady. I found her on her hands and knees, scrubbing the doorstep—a daily task for her—making it look so clean I wanted to take off my shoes and leave them outside. She was all smiles when she learned of my success.

That night, out of the money advanced me, I paid her, and everybody was happy. To make things still brighter, the good woman got another roomer, filling her small house. She said I had brought her good luck. Now, out of the 60 shillings she received weekly, she could save a little, her rent being 17 shillings a week and food about 20.

Early Sunday morning I went out to see what I could of the city, first going to the Cathedral, not many blocks from where I was staying.

The noble edifice, which when completed will be the largest in England, has a commanding location. It will be readily visible from the harbor. I arrived hours before the service and found an old woman dusting. Darkened passages, between bare, unseasoned walls, led me into the Lady Chapel, where for a few moments I was lost in the contemplation of sheer beauty. Here in stained glass are commemorated many famous women.

When tourists arrive in Liverpool, they

Photograph by De Cou from Galloway

THE BOLD BATTLEMENTS OF CONWAY CASTLE HAVE WITHSTOOD MANY SIEGES

Built on a rock above the River Conway, North Wales, late in the 13th century, Conway Castle is a perfect picture of a medieval stronghold. It played an important part in the campaign of Edward I in Wales and in many subsequent disturbances. Only four of the eight circular towers remain.

seldom remain for long, so eager are they to be off for London. They look at the city just as a big shipping center with little to interest them. But in William Brown Street is a group of public buildings of which any city might be proud, and opposite them is St. George's Hall, in the form of a huge Grecian temple, one of the finest structures in Great Britain (see illustration, page 390). Atmospheric conditions have made the building a somber black, and it reminded me of the old Subtreasury in Wall Street.

At the Walker Art Gallery in the Brown Street group, I saw some of the originals of my favorite reproductions, among them Sir Edward Poynter's *Faithful unto Death; Dante's Dream*, by Rossetti; and the *Meeting of Dante and Beatrice*, by Holiday.

The next morning I was on the job at 8 o'clock and, climbing aboard the big freight "lift," rode to the second floor with a load of furniture, where I pitched in, helping remove it to the warerooms.

Stocking the new warehouse, we no more than finished with one consignment than another was ready. The furniture was all solid pieces of oak, walnut, and mahogany, and there was load after load of bed springs, each weighing a good 200 pounds. All the other workmen were short, and when the going got too hard for them, they'd slip out of sight behind one of the partitions and get their breath without being missed. Alas, the manager could not help spotting my every move. It was comical to watch smaller men try to juggle the springs, which were so large they nearly toppled over on

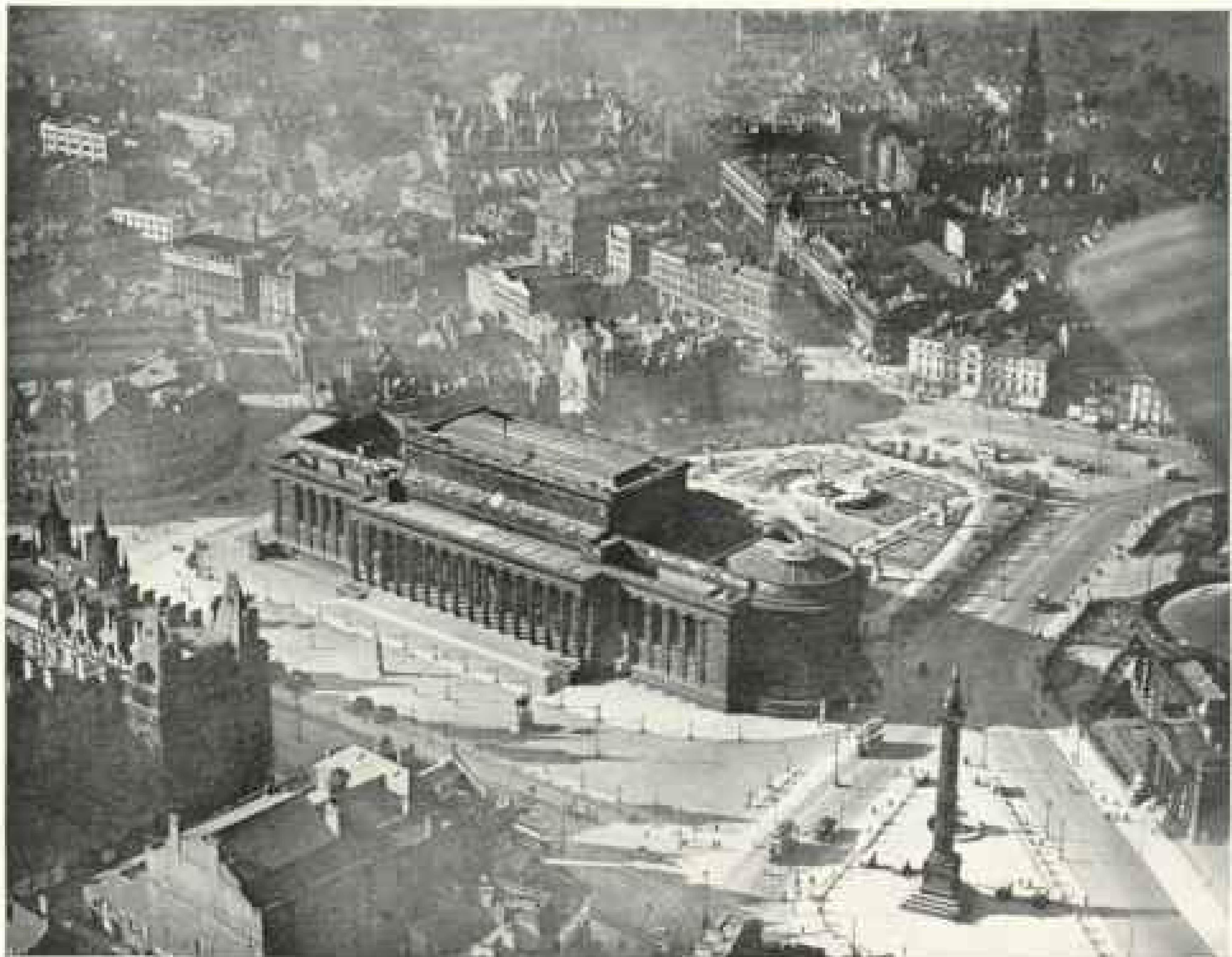
A COCKLE STRAINER MAKES A QUEER HAT

A scraper, a basket, and a wire sifter comprise the equipment of these Welsh fisherfolk, on their way to seek the succulent little bivalve in Burry Inlet, south Wales. The ribbed shell of the cockle is somewhat heart-shaped, and it is found in shallow beds along sandy estuaries.

Photographs by Robert Reid

WELSH COTTAGERS ARE HOSPITABLE

The night the author was lost in the hills of Wales he came upon a rude stone hut similar to this thatch-smothered farmhouse. Although the little home was too crowded to afford him shelter for the night, the family gladly allowed him to thaw out and offered him "plain tea," which includes bread, butter, and jam.



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LIVERPOOL IS MORE THAN A SHIPPING CENTER

St. George's Hall is considered the finest modern example of Hellenic design in England. At the lower right rises the shaft of the Wellington Monument. In Liverpool the writer was offered a permanent job, but the wonderlust in him said "no."

them. It fell to my lot to carry most of the cumbersome things. I was soon about played out, but luckily we had a 10-minute rest and tea about 11 o'clock.

MAKING GOOD ON THE JOB

On the second day one of the executives of the company came up and told me to come to his office. What did he want to see me about? Surely I had been doing my share of the work.

He said the executives had been watching me, and everyone in the store was talking about me!

Gad! Was it as bad as that? I was dressed entirely differently from the rest, but I hoped there had been no complaints. When I first walked into the big dining room for tea, which was served gratis at 4 o'clock, nearly everybody had turned my way and there had been not a few titters from the sales girls. I didn't mind being on parade, but sometimes I wished I were small and could go my way unmolested.

Fully expecting the worst, I was astounded when he offered me permanent work at nearly double the salary, with every opportunity to learn the department-store business. Relieved, I thanked him, explaining that I was over to see some of the Old World and didn't want to settle down until I had done so. To my surprise, he told me not to make up my mind at that time; to get my fill of traveling, and then, if within three years I wanted to come, he'd have a place for me! Although I did not accept his offer, it was a real opportunity and I was very grateful, for there were others who would have given anything for such a chance.

I often had talks with other workers in the warehouse. One noon, while eating my lunch with the foreman, I remarked that my Scottish friend and I were so tired at night that all we were fit for was to go right to bed after high tea. I asked him if our experience was general among those who did heavy work for long hours.

© Central Aërophoto Co.

LIVERPOOL'S DOCKS RISE AND FALL WITH THE TIDE

With myriad lights gleaming through the early darkness, the skyline suggests the skyscrapers of New York. Liverpool gained its name from a mythical fowl. Figures of this legendary "liver" bird, with wings outstretched, top the twin towers of the seventeen-story "skyscraper" (left center).

"Yes," he replied, "when I get home, I'm so tired I don't even feel like reading the paper, much less working a little in the garden, and I have to lie down and rest. Saturday night is the only night my wife and I can go anywhere."

Many stories have come from England and the Continent of the easy, unhurried manner of living; of the long rest periods at lunch time, during which a snooze of an hour is common practice; of the holiday from early Friday afternoon until late Monday morning. All of these reports are true of employers and upper assistants, but they do not apply to the average worker.

OFF FOR SCOTLAND

Two weeks later I made ready to be off for Scotland. On the morning I had planned to take to the highroad again, it occurred to me that the two months I had been permitted to reside in Great Britain would expire the following day. I went down to police headquarters and registered. I was told that I'd have to do likewise in every town I passed through during the remainder of my stay, unless I could get a responsible person to vouch for me. The American Consul came to my assistance.

It was early the next morning that I said good-bye to the little red house in Orphan Street. The day was clear and the sun shone radiantly. Liverpool was sending me on my way with fine weather, although it had rained nearly every day during my visit.

Down by the huge docks, laborers with slender, dirty mufflers wrapped around their necks in lieu of a collar and tie were loading a steamer. The weird sound of whistles drew my attention to two ocean liners, one being made fast in her dock, the other moving slowly out of the harbor.

About noon I left the last of the narrow, dirty, smoke-filled streets which cut

© Donald McLeish

FUTURE SAILORS AND FISHWIVES OF NEWHAVEN

The fishing port of Edinburgh is one of Scotland's most fascinating cities. Not only does the community smack strongly of the sea, but its inhabitants, probably of Dutch or Danish origin, have many quaint and distinctive customs and unusual styles of dress.

through the factory district and was out along the country road again, between fields fragrant with new-mown hay.

By the time I became hungry, I came to Ormskirk, "the gingerbread town." Not brown-colored houses but the real thing gave the place its nickname. The gingerbread was so good I made a lunch of it.

Afterward I took a look at an architectural monstrosity—a church with a tower and a spire. It would not be amusing if the tower had been erected at one end and the spire at the other, but they are built side by side! An architect I chanced to meet told me something of the story of the queer edifice. Two maiden sisters, by the name of Orme, desiring to donate funds for a superstructure, could not agree on the kind. After long argument, one built a tower and the other a spire.

Late the following afternoon I came to the town of Kendal, through which runs the River Kent. On the bank of the stream I sat down under the spreading branches of a gigantic elm and ate some sandwiches purchased at a store near by. The little money I had brought from Liverpool had dwindled to a few shillings.

Since I hoped to reach Edinburgh before I had to seek work again, I decided to camp right there. The night was warm, and I needed scarcely a thing over me, but I knew the morning dew would be heavy. Before I lay down, I spread out some newspapers and then pulled my raincoat over me.

As the first streaks of color began to illuminate the sky, I got up and washed my face in the icy river. Down the road I met a farmer returning home after milking and joined him at breakfast. Afterward I felt more like tackling the rugged hills just ahead. By noon I reached the big granite quarries at Shap, an interesting sight that reminded me of the excavation for a Broadway skyscraper.

Coming to the delightful farming community of Penrith, I decided to remain overnight. Down cobblestone lanes I sought lodgings unsuccessfully at several of the pretty houses set back of rock flower gardens, and at length found accommodations at a cost of only three shillings,

including tea. In the country towns, living expenses are low. A comfortable little house, with a garden plot, may be had for from 10 to 15 shillings a week. And food is cheap. Anyone with reasonable tastes could live well in a charming place such as this on 200 pounds, normally about $1,000, a year.

THE SCOTS ARE HOSPITABLE FOLK

About noon next day I reached the busy town of Carlisle, not far from the Scottish border. There I stopped only long enough to have a lunch of fish and "chips" and struck out on the road direct to Edinburgh.

I had not gone more than two miles when I discovered that the ball of my foot was scraped raw! Nails in one of my shoes had worked their way through. I tried to pound them down with a rock, but the points were so short I couldn't bend them. A little perturbed, I asked a man at the side of the road, who was cutting hay with a scythe—a custom still followed in England and Scotland—if this was the main road to Edinburgh.

"It's shor-rter-r, but na so gude," he replied. "Ne'r-r ever-rybody goes thr-rough Glasgow."

This wasn't good news, but I could not help being amused at the way he rolled his r's. He added there was a farmhouse two or three miles up the road, and with no other recourse, I started out in that direction, having bound up my foot with a handkerchief.

Presently I heard the roar of a motor and, looking back, saw a high-powered car coming over the brow of the hill. I waved my hat and the machine came to an abrupt stop. In the front seat were a man and a little boy, and in the rear a young woman.

"I hate to trouble you," I said, "but I've met with a slight accident, and I'll appreciate it if you'll take me to the next town."

"Of course," the man replied. "Get in the back seat with my wife."

She made room for me, and we were off. They had been on a vacation and were returning to Fife. When I told them what I was doing, the young woman spoke up, "Why don't you keep on with us to Edinburgh?"

This was just what I wanted to ask them, but I had hesitated because the extra space in their car was piled with luggage and I didn't want to prove a nuisance. Now I should reach Edinburgh that night, covering a distance that would have taken about three days had I walked it.

I had been very warm during the walk from Carlisle, but as we motored northward, over matchless hilly country, the air became cool and invigorating. Some of the road was soft red with crushed sandstone; and now and then a long avenue of trees met high over our heads, forming a vast natural cathedral. At one point, cows were wading in a shallow woodland stream, a famous painting come to life. And a little farther on we passed the ruins of a country church, its roof gone, its ivied walls crumbling away.

Near Galashiels we caught a glimpse of Sir Walter Scott's home, Abbotsford, nestled in a pretty valley, near hills of rare beauty. I could well appreciate one reason why the novelist wrote so tirelessly to save it from falling into other hands.

LOOKING FOR WORK IN EDINBURGH

In summer the days are long in Scotland. It is not far from the land of the midnight sun. Twilight was just beginning to form as we entered Edinburgh and passed down Princes Street, one of the most stately streets in the world. Along one side, a wide expanse of well-kept gardens extended to the bold, rocky hill on which stands Edinburgh's ancient fortress, its proud castle.* Near the splendid Gothic memorial to Sir Walter Scott we turned off into a side street, and my good companions left me in front of the Y. M. C. A.

After having my shoes repaired, I inquired at the Y. M. C. A. for a room. The rooms were all filled, however, and the clerk suggested the Salvation Army Hostel across the street. Here I engaged a small cubbyhole, more like a cell than a room—comfortable quarters for a midget but not for a six-footer. The bed was a joke; my feet stuck out a good foot or more between the posts, and the covers kept little more than half of me warm.

In the morning I paid a week's rent in advance, saving a few shillings thereby. I had only five shillings left, barely enough to provide food for two days. That meant I should have to use some quick action.

I began with the department stores, but was not so fortunate this time. The

* See "Edinburgh, Athens of the North," in the NATIONAL GEOGRAPHIC MAGAZINE for August, 1932.

© Donald McLeish

FROM EVERY POSITION EDINBURGH CASTLE DOMINATES THE CITY

Almost always this venerable stronghold is enveloped in a light mist, which at times appears iridescent. The Gothic Monument to Sir Walter Scott, from which the photograph was taken, is adorned with many statues of characters from the Waverley Novels. The National Gallery stands on the mound beneath the frowning turrets of the Castle.

Photograph from International News

FIVE SCOTTISH LASSIES STIR UP TROUBLE

summer sales had ended. At lunch time I bought some bread and cheese, which I made into sandwiches. I washed down three with tea, and saved the remaining two for supper.

For two days I made the rounds, calling everywhere I thought there was a chance. Being so tall, I drew the spotlight, and the quips from the inquisitive Scots gave me a violent attack of indigestion. I went back to my room, lay down, and tried to get back my first wind.

After a night's rest, my old snap returned and I started out again with fresh enthusiasm. I now had only a shilling. Something had to be done to-day—but what? Hungry as a bear, I pondered on what I could buy that would supply the most nourishment at the least cost! Chocolate won! In a sweets shop, I bought three penny bars for breakfast and, munching away, crossed the North Bridge. A number of fruit and vegetable markets on the other side had no work to offer.

Returning to the head of the bridge, I came to the fine old building housing the *Scotsman* and the *Evening Dispatch*, two of the most important newspapers in Scotland. Perhaps here was a chance; at least it was worth making a stab at! Inside I inquired of a pretty lass how much could be made by selling papers.

SELLING PAPERS IN EDINBURGH

"You can earn fourpence on 13 copies."

This was not much, but here was my 13 again. I decided to try it.

"Where can I buy some?" I asked.

"You want to sell papers!"

"Well, why not? I've got to do something!"

"You won't make much that way," she admonished. Then, pausing, she exclaimed, "Oh, I know what you want to do it for; you've made a wager!"

"No, you've guessed wrong; please tell me where to go for them."

She showed me the way and I ran down the stairs to the distributing room. Crowded before the counter in that small inclosure were ragged urchins, old men, young men, some carrying unpleasant reminders of the war—men who made a regular business of selling papers; also women of many types, one with faded blond hair, whose face still held a touch of beauty, her shoulders draped not ungracefully with a colorful woolen shawl.

© Donald McLeish

LIKE MOTHER, LIKE DAUGHTER

A Newhaven fishwife and her daughter both wear their old-time gay costumes, bolstered by many thick underskirts.

The prospects certainly weren't bright. I was sent on my way with laughter, everybody expecting me to come back in a few minutes and give up.

Wind whistled past me as I took my stand near the center of the bridge. Pulling down my hat, I began to call out, "*Dispatch!*" Many people, despite the blowing dust, stopped and stared at me, as if they did not know what to make of me. Some thought I was giving something away, and took the proffered paper and would have made off with it had I not quickly informed them.

"Selling papers!" one woman exclaimed. "And for a wager, I suppose. Well, I'll encourage no such foolishness! It's not even to-day's, is it?"

"Yes, ma'am, it's to-day's and the latest, and I'm not selling them for a wager."

By this time we had an audience, and many young lassies gave me the grand ha-ha. But the woman paid her copper and I laughed right back, and some of the laughers turned out to be good sports and bought papers, too.

They were suspicious, hostile, but I gave them a friendly smile and slapped down nine coppers at the window for 13 papers.

The man in charge was astonished when I told him what I intended to do. "You're foolish," he said; "all the corners worth having are held by these people."

"Is the North Bridge taken?" I asked.

"Na," spoke up some one near me, and I learned that it was the windiest place in the city, and that the news venders considered it the most undesirable! People had to clutch their hats and keep out of the way of whirling dust, and usually lost no time in getting to the other side; and, anyway, why should they stop to buy a paper when they could get one at either end?

THE SCOTS ARE SHREWD BUT GENEROUS

People kept eyeing me with skepticism. It seemed ages between sales, as with my best smiles I tried to win the confidence of buyers. The Scots are a shrewd lot. They have a quick sense of humor, and may poke fun at you, but they have the best hearts in the world.

When they saw I was really in earnest, the papers quickly disappeared, and I was on my way downstairs for another bunch, refueling on chocolate I'd bought with my

first profits. As time went on, I was able to buy larger quantities and didn't have to make such frequent trips for supplies. By 7 o'clock my two pockets were bulging with coppers and I found I'd made more than five shillings!

Although my legs were so stiff I felt as if I were walking on stilts, I sat down exultant to the first real meal in days—stewed rabbit, boiled potatoes and cabbage, Scotch shortbread and tea, and a glass of fragrant wine.

THE VAGRANT BECOMES A CELEBRITY

The next day I did much better and was one of the star news venders, earning more than eight shillings, this to the amazement of the others, who, to be sure, laughed at me no more. On the following day a reporter came to "write me up," and a photographer "shot me" a few times, and the next day a detailed article about me appeared with a two-column photograph. The news story proved a big help, and from then on the papers sold like hot cakes.

Photograph by Burton Holmes from Galloway

PIPING A MERRY AIR—FOR SCOTSMEN'S EARS!

A Scottish Highlander swings along, blowing his bagpipes beneath the walls of old Edinburgh Castle.

That night I was a bit of a celebrity. Every few feet I was stopped and given the glad hand. I received so many whacks on the back that my shoulders felt sore the next day, and for the rest of my stay I had practically no time to myself. Autograph hunters asked me to sign my name in books and on the papers I sold, or to inscribe verses in diaries.

Directly in front of me, from my place on the bridge, I could see the former Prison, its many castellated towers rising out of haze from the side of Calton Hill, looking like a fairy palace. So near does this immense structure fit the popular fancy of what a castle should be, it is often mistaken for Edinburgh's ancient fortress.

Atop the hill is Nelson's Monument, a lofty gray tower, and near it the unfinished memorial to the Scottish soldiers and sailors who fell in the Peninsular and Waterloo Campaigns. Only a few columns have been erected, and from the street it gives the impression of a Grecian ruin.

One morning I climbed the steep pathway to the top and looked out over the magic city of Edinburgh. Almost always it is enveloped in a light mist, and that morning it was iridescent. Below me stretched Princes Street and the lovely Gardens, barely visible, and upon the stern

hill in the distance, faintly etched against the sky, stood the Castle (see illustration, page 394). Near by many beautiful church spires pierced the morning mist.

That afternoon I saw two broad-shouldered men studying my actions a few feet away and they made me nervous. Presently they came up and, flashing their badges, told me to come to the police station.

Now what? The men would give me no inkling as to why they wanted me. At the station I was taken before the inspector. "Don't you know it's against the law for a foreigner to work without a permit?" he began.

"No," I replied.

At no time had I represented myself as other than an American, and I thought that if I had been doing something wrong, I should have heard about it long before.

"Let me see your passport," the inspector demanded.

I handed it to him and he went over it carefully and then told me to wait in an adjoining room. What would be the outcome? A period in a Scottish gaol would be a novelty, but it was one I did not crave. In a few minutes one of the detectives who had brought me there came out, and I could hardly believe my ears when he told me I could carry on as long as I liked!

What a relief! Out I tumbled and ran back to the bridge to sell the big bundle of papers under my arm before the news became stale. Papers unsold were just so much lost money.

SALE OF THE FIRST STORY

That night I got to work and dashed off an article giving my impressions of the city, and in the morning waited outside the editor's office and gave it to him with my own hands. He had often seen me on the bridge and was most cordial. Promising to read my manuscript, he asked me to come back late that afternoon. When on my return he said, "It's very good; we'll use it to-morrow," my happiness knew no bounds. I was paid a guinea—21 shillings—the first money I had earned with my pen.

The following day, Saturday, proved a gala occasion for me. It was my last day on the bridge, and I was showered with invitations to spend the week-end. One interesting woman, who had often stopped to chat with me, surprised me with a silver coin with my initials engraved upon it, and asked me up for Sunday, adding that, among other things, she'd have a real Scotch delicacy, sheepshead broth.

I was at a vantage point before which every type of person paraded, and I had an unusual opportunity to study them as they passed. Never before had I seen so many fine-looking, well-dressed people. To me the Scots have the best taste in the world; even the French or the English cannot be placed above them! They know how to combine colors and are shrewd buyers. The lassies are as beautiful and as graceful as the legends picture them. A Scot is said to be cold and suspicious of strangers, but, thank heaven, he doesn't utterly ignore one, like some all-too-reserved Englishmen. A stranger is soon labeled, and God help him if he cannot pass inspection!

Sunday afternoon I rode out to the Forth Bridge, that marvelous feat of engineering over the River Forth, built where it empties into the Firth of Forth. What a tribute to man's patience and skill it is! From a window of a stone cottage I looked out over the sea, beneath the huge spans, toward the pretty islands and the coast of Fife, recalling pleasant memories of the good Samaritans who had brought me to Edinburgh (see text, page 393).

After dinner I went to the Princes Street Gardens for one last concert before moving on. Not far from the Scott Monument, down a number of steps leading into the hollow where the band played, I happened upon an unusual sight. On the side of a gently sloping hill was a floral clock, made up of tiny plants. It was not only a thing of beauty, but told the correct time as well; for by some ingenious device, its flower-bedecked hands were elevated above the other plants and moved unhindered as each minute passed.

A little farther on I sat down on the grass near a group of people and listened to the music. How friendly everyone seemed, how at home I felt! I wished I might stay on.

Perhaps I shall come back; who can tell? If there is a place outside of the good old United States that could win me for life, it is Edinburgh.

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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.

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

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

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

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

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

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—Yet her dressing table is 20 miles away

One of the nicest satisfactions of traveling in a car with Body by Fisher is the calm confidence you have of being approved on arrival. You are ready for admiration, without slipping away somewhere to repair the damage done by rumpling winds or unkind drafts on the way. Yet Fisher No Draft Ventilation is only one satisfaction of owning a car with Body by Fisher, especially the newest models. For these have room—ample, spacious, luxurious, restful room—a degree of rare comfort and of substantial safety more pronounced than ever before. When you examine this year's Fisher improvements you will agree it is even more important for you to own a General Motors car, for these are the only cars with Body by Fisher.

Body by Fisher

on GENERAL MOTORS CARS ONLY. CHEVROLET • PONTIAC OLDSMOBILE • BUICK CADILLAC

I got my sea legs
BEFORE WE REACHED THE SEA

"Crossing to Europe via St. Lawrence Seaway attracted me."

"One third of the entire journey was in *smooth, sheltered* waters."

"Grand scenery all the first day. *Chateau Frontenac* at Québec."

"Comfort, privacy, luxury...even curling-irons and telephones."

"Smooth water let me get my sea legs and enjoy the meals."

"Second day and still speeding down the Seaway. Lots of fun."

"Then a lovely swim in the large pool before a nice luncheon."

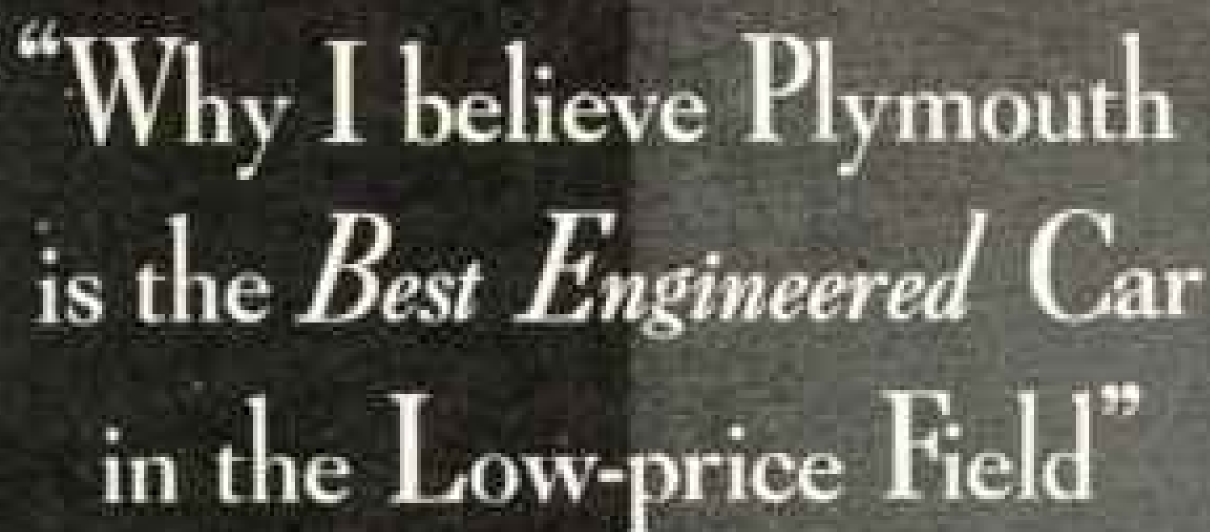
"I've so much confidence in all the Canadian Pacific officers."

"Third day, the Atlantic...only 3 to 4 days ocean to Europe."

ST. LAWRENCE SEAWAY TO EUROPE

Canadian Pacific

FREQUENT SAILINGS each week, beginning April, from Montreal and Québec (trains to ship-side at Québec). Get ships' plans, fare schedule... from any Canadian Pacific office... Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, Minneapolis, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Seattle, St. Louis, Washington, Montreal, Ottawa, Toronto, Vancouver, and 14 other cities in U. S. and Canada ... OR FROM YOUR LOCAL AGENT.



by WALTER P. CHRYSLER

"OUR BUSINESS has been very good. At this time, I believe people will be interested in knowing why. To put it as simply as I know how — our engineers have built into Plymouth the *things people want!*

"To make cars safer to drive and ride in, they developed hydraulic brakes and pioneered in the use of safety-steel bodies.

"Perhaps the biggest thing they achieved is patented Floating Power—which does away with vibration. This year, in addition, even the lowest priced Plymouth has individual wheel springing.

"These two features give you a more comfortable ride than ever.

"I've always believed that people wanted these things, not only in expensive cars but in cars workingmen could own. The public's response convinces me I was right.

"I credit our present position in the industry to these engineering achievements. I sincerely believe Plymouth is the best engineered car in the low-price field —because it is the only low-priced car that has all of them."

• • •

THE FEATURES Mr. Chrysler mentions here cannot *all* be found in any other low-priced car. Arrange to take a ride in a new Plymouth —and see how they add to your satisfaction in driving a car.

DE LUXE PLYMOUTH, America's biggest low-priced car.

S. S. LURLINE · S. S. MONTEREY · S. S. MARIPOSA · S. S. MALOLO

Hawaii

Swimming Pool, S. S. LURLINE

Smart assembly in a sun-tan setting of the South Seas aboard new Matson-Oceanic liners. A symphony of sun-bright days and star-decked nights + + of tropic languor spiced with lust of living. Hauntingly beautiful as the intangibles that make of life aboard these distinguished liners + + and in Hawaii + + a delectable unbroken feast of the senses, *emphasized by low cost.*

SOUTH SEAS · NEW ZEALAND
AUSTRALIA *via Hawaii, Samoa, Fiji*

A menu of tempting travel, garnished with pungent sauces of primitive life in island Edens, and refreshing draughts offered by vigorous new nations. New Zealand + + a brisk sail of fifteen days. Australia + + but three days more. Fares and inexpensive All-Cost tours set new lows.

Big cut in rail fares, Pullman surcharge dropped: two savings on tickets to California and Hawaii, New Zealand, Australia

Frequent sailings from both San Francisco and Los Angeles . . . . beautifully illustrated literature, at your travel agent's or

Matson Line · Oceanic Line

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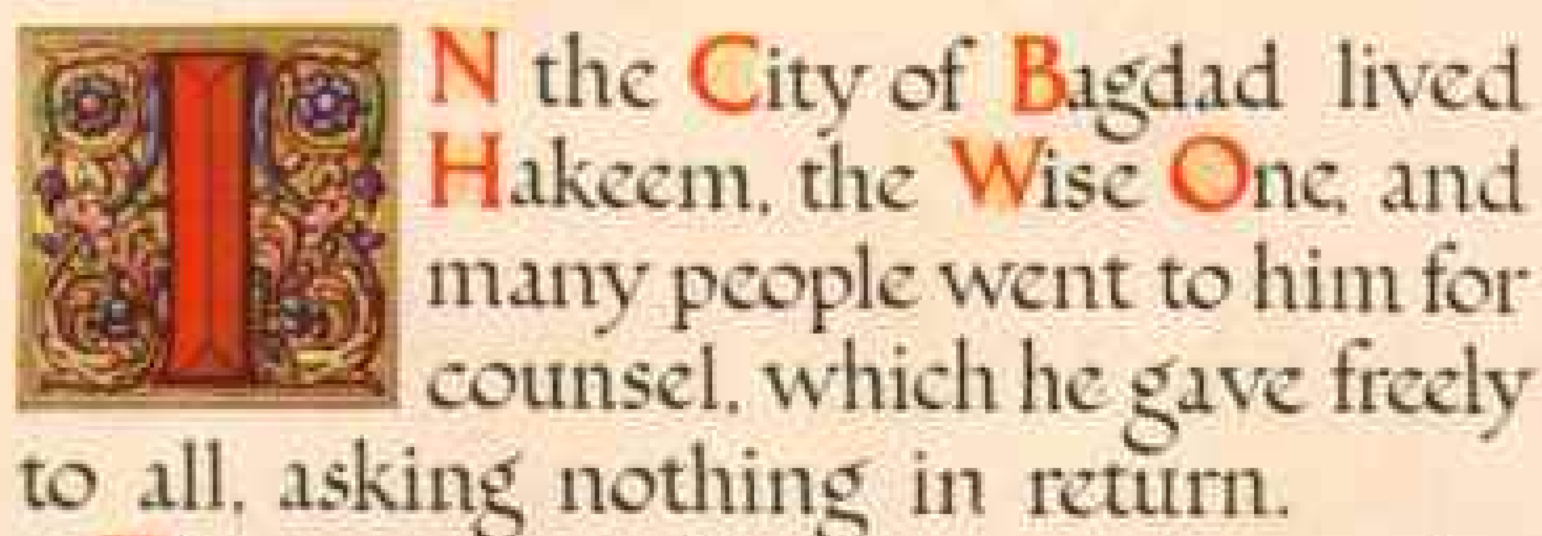
'ROUND THE WORLD VIA AUSTRALIA · NEW SHIPS, INTERESTING FARES, VARIED ROUTES



IN the City of Bagdad lived Hakeem, the Wise One, and many people went to him for counsel, which he gave freely to all, asking nothing in return.

There came to him a young man, who had spent much but got little, and said: "Tell me, Wise One, what shall I do to receive the most for that which I spend?"

Hakeem answered, "A thing that is bought or sold has no value unless it contains that which cannot be bought or sold. Look for the Priceless Ingredient".

"But, what is this Priceless Ingredient?" asked the young man.

Spoke then the Wise One: "My son, the Priceless Ingredient of every product in the market-place is the Honor and Integrity of him who makes it. Consider his name before you buy."

E·R·SQUIBB & SONS, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

This "old" story was written twelve years ago as an expression of the ideals which have inspired and directed the work of E. R. Squibb & Sons for more than three-quarters of a century. As we go forward into a new era, we shall hold fast to the ideals on which this business was founded and to which we attribute its growth.

Eyes Right, Eyes Left

–ALL TURNED ON NASH!

★ Eyes instantly pick out a 1934 Nash anywhere, and focus on it with a lingering look that says as plainly as words, *"There's a beautiful motor car!"* ¶ Without and within, all is distinction, all is luxury. There never was a handsomer instrument panel. There never were more comfortable cushions. In all your born days, you've never known more thrilling power! ¶ Even the *lowest-priced* new 1934 Nash models have a Twin Ignition valve-in-head motor. ¶ Other developments include built-in clear-vision ventilation; a coincidental starter; and individually-sprung front wheels—optional at slight extra cost. See and drive—just see if this isn't exactly the car you want to own.

Individually-Sprung Front Wheels Optional on All Models

1934 TWIN IGNITION VALVE-IN-HEAD NASH

BIG SIX
116" Wheelbase • 88 Horsepower • $775 to $865

ADVANCED EIGHT
121" Wheelbase • 100 Horsepower • $1065 to $1145

AMBASSADOR EIGHT
133" Wheelbase • 125 Horsepower • $1575 to $1625

AMBASSADOR EIGHT
142" Wheelbase • 125 Horsepower • $1820 to $2055

(All Prices f. o. b. Kenosha, Wis.—Special Equipment Extra)

A house worth calling

'HOME'

is worth protecting with Dutch Boy

The well-loved home deserves the best you can give it, even in paint.

"Cheap" paint, false in promise and poor in performance, isn't appropriate for a house worth calling "Home". Dutch Boy, on the other hand, provides just the beauty and protection that your home deserves.

At the left, see how Dutch Boy stands up without cracking and scaling. It resists the weather... wears down stubbornly by gradual chalking which leaves a smooth, perfect surface for new paint. No expense for burning and scraping at repaint time.

If *your* home needs painting, entrust the job to a Dutch Boy painter. He studies your house, mixes Dutch Boy to meet the requirements of your particular job and tints it to the color you specify. No one knows paint like a painter.

DUTCH BOY

After 3 years. Locality same as "cheap" paint job. Cost $172, or $57 per year. Paint still good. Won't need burning off at repaint time.

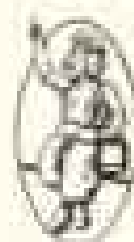
"CHEAP" PAINT

After 1½ years. First cost $160. Burning off $75. Total $235, or $156 per year. New priming coat will be needed; still more cost.

NATIONAL LEAD COMPANY

111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 659 Freeman Ave., Cincinnati; 820 West Superior Ave., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Pa., 316 4th Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Philadelphia.

Send for "The House We Live In", *a free booklet which tells how to buy a paint job. Address Dept. 150, nearest branch.*



DUTCH BOY WHITE-LEAD

Good Paint's Other Name

Join the parade to Quality

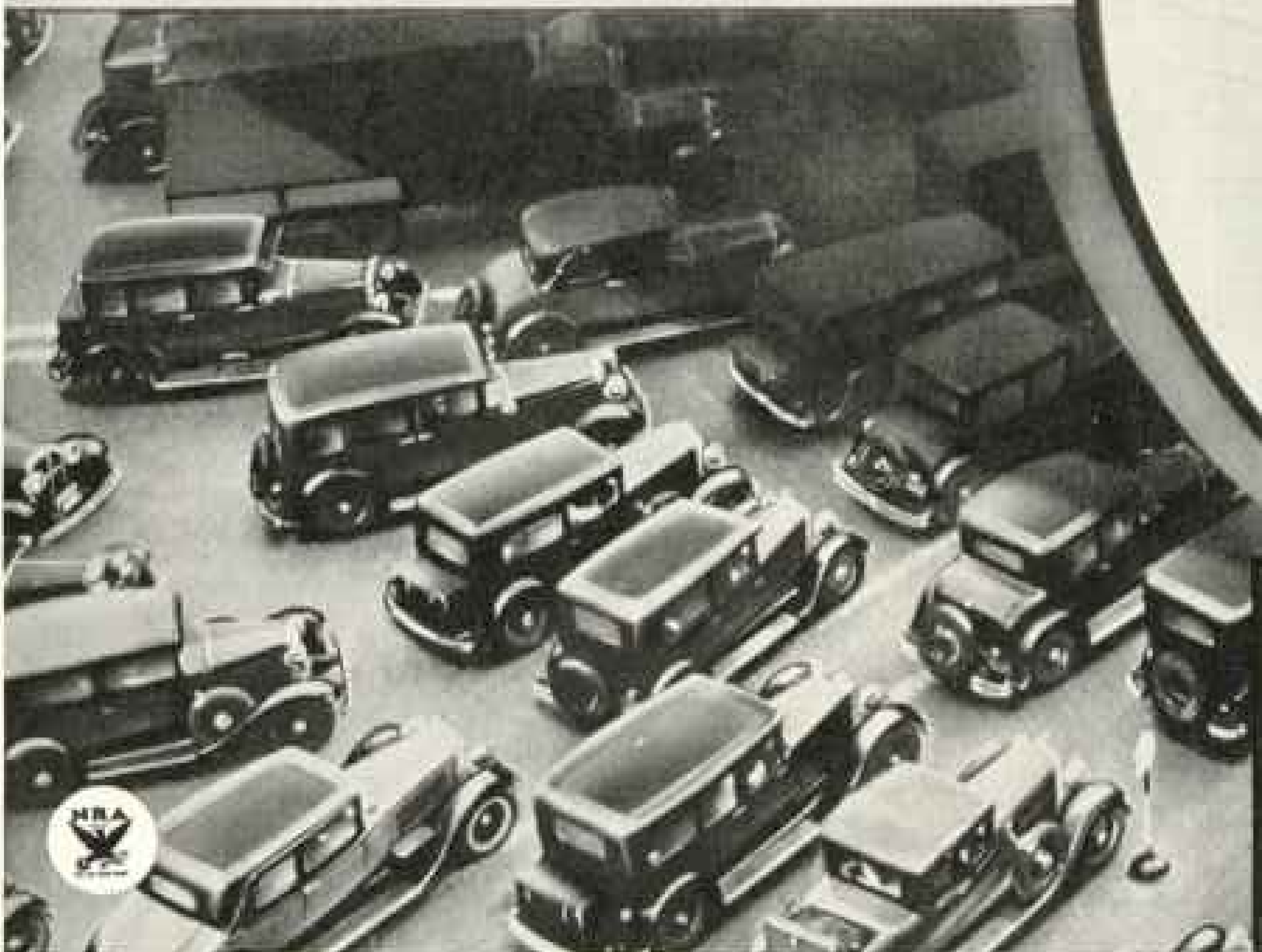
WITH

ETHYL

(TRADE MARK)
REG. U.S. PATENT OFF.

BRAND OF
ANTI-KNOCK
COMPOUND

ETHYL GASOLINE
CORPORATION



We are marching back to Quality—in gasoline as in everything else. Join the parade to the Ethyl pump. The anti-knock rating of Ethyl is the world's highest, yet its price is now only 2¢ a gallon over regular. Less, on the average, than a dollar a month to make the most of your car investment! . . . . **NEXT TIME GET ETHYL**

Ethyl contains sufficient lead (tetraethyl) to make it the world's quality motor fuel.

The Airflow CHRYSLER *Brings a New Form of Travel*

★ ★ ★ ★ ★ ★ ★ ★ ★

IN ONE master stroke of engineering, the new Airflow* Chrysler brings to the motor car the spacious comfort of the drawing room . . . a brilliant new functional beauty . . . a new conception of strength and safety . . . and a silent floating ease of motion that surpasses any known form of travel on land or sea or air.

There is an entirely new system of weight distribution. The engine is over the front axle. The rear seat is 20 inches forward of the rear axle. The passengers ride at the center of balance . . . cradled between the two axles. The periodicity—or rate of spring action—has been greatly slowed down. The motion of the car becomes a long easy glide . . . like riding on a cushion of air.

In appearance . . . in speed . . . in efficiency . . . in roominess and riding comfort . . . the new Airflow Chrysler opens whole new horizons of motoring. When you see it and ride in it, you will know for yourself that it brings an entirely new and infinitely finer form of travel.

FLOATING RIDE BOOKLET FREE—Write for the interesting booklet which describes the romantic development of Floating Ride. Address the Chrysler Sales Corporation, 12211 East Jefferson Ave., Detroit, Mich.

Four Distinctive 1934 Models Chrysler Airflow Eight . . . 122 horsepower and 123-inch wheelbase. Six-pass. Sedan, Brougham and Town Sedan, five-pass. Coupe. All body types, $1245. Chrysler Airflow Imperial . . . 130 horsepower . . . 128-inch wheelbase. Six-pass. Sedan and Town Sedan, five-pass. Coupe. All body types, $1495. Airflow Custom Imperial . . . 150 horsepower . . . 146-inch wheelbase . . . magnificently-styled, individualized body types. 1934 Chrysler Six . . . *With independently sprung front wheels* . . . for a levelized, cushioned ride . . . 93 horsepower, 7 body types on 118-inch and 121-inch wheelbase. Priced from $725 up. Four-door Sedan, $795. *All Prices F. O. B. Factory, Detroit.*

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The New American Embassy in Paris

A THREE-WEEK TRIP VIA FRANCE-AFLOAT COSTS NO MORE THAN A HOLIDAY AT HOME

THIS is, perhaps, the first year in many that you've felt you could afford a real vacation.

Europe? An idea! Why not? *There* is an investment, in happy experience, which can never depreciate in value. Surprisingly enough, it need cost no more than going to the seashore or the mountains!

A three-week trip, via French Line Cabin ships, brings Europe within reach of even the moderate income.

And think of what you get! Those extra days of France aboard France-Afloat . . . where the atmosphere is so definitely Continental. The delicious food (rich or plain; and if you like, non-fattening) that has made French Line cuisine world-famous. The service . . . perfect, English-speaking of course. The modern comforts and conveniences. Then there's always a congenial company on the Cabin liners . . . plus deck-sports, games, movies, entertainment!

Across-and-back on a French Line ship is a pleasant introduction and climax to Europe. And throughout the voyage there is the security afforded by staunch Breton seamanship, renowned for centuries.

Consult your travel agent now, about a trip on France-Afloat this summer. He will be glad to make all the arrangements, help plan your itinerary, without charging you for his services. . . . French Line, 19 State Street, New York City.

● ILE DE FRANCE, March 24, April 14, May 5 and 26 • PARIS, March 17, April 7 and 28, May 19 CHAMPLAIN, March 3, April 3 and 21, May 12 • LAFAYETTE, March 10, May 16

French Line

Round America roundtrip, $255

No other way to California is so much fun as this way—via Havana and the Panama Canal on a famous President Liner . . . *And the cost is very little!*

The President Liner that you may board any Thursday in New York will be either a regular Round the World or Trans-Pacific liner bound out for faraway fascinating places, and your two weeks to California will be filled with real adventure. Sunny, luxurious days, and nights of tropic loveliness . . . The adventure of new friends—from the world's four corners.

If you choose, you may stopover in Havana or at the Panama Canal. Then continue your trip on the next or another President Liner . . . with every stateroom outside, charming public rooms and ample decks, outdoor swimming pool . . . and menus that list the best of the good things from all the countries these world-cruising liners touch.

Fares are from $165 First Class on Round the World ships, and from $200 First Class and $120 Tourist on the Trans-Pacific vessels. Complete Round America roundtrips: one way by President Liner, one way by rail, are from $255 First Class *hometown to hometown.* If you would like to go West by train and return from California by President Liner, there is an Eastbound sailing every other week.

Orient • Round the World

President Liners offer you a choice of routes to Japan, China and the Philippines—the incomparable Orient. You may sail any week from New York or California via Hawaii and the Sunshine Route, or you may follow the fast Short Route from Seattle straight to Yokohama.

Special summer roundtrip fares make an Orient trip a real travel opportunity this year . . . And if you would like to go beyond you may sail Round the World by President Liner for only $654 First Class, visiting 21 ports in 14 countries! Stopover as you like, of course. Continue on the next or another of these liners that sail so frequently.

Get all details from your nearest travel agent or from one of our own offices.

604 Fifth Ave., New York. Statler Bldg., Boston. Transportation Bldg., Washington, D. C. Union Trust Bldg., Cleveland. 110 S. Dearborn St., Chicago. 159 Bay St., Toronto. 465 Howe St., Vancouver, B. C. Fourth at University, Seattle. 634 S. W. Broadway, Portland, Oregon. 311 California St., San Francisco. 514 W. Sixth St., Los Angeles. Broadway Pier, San Diego.

DOLLAR
Steamship Lines and
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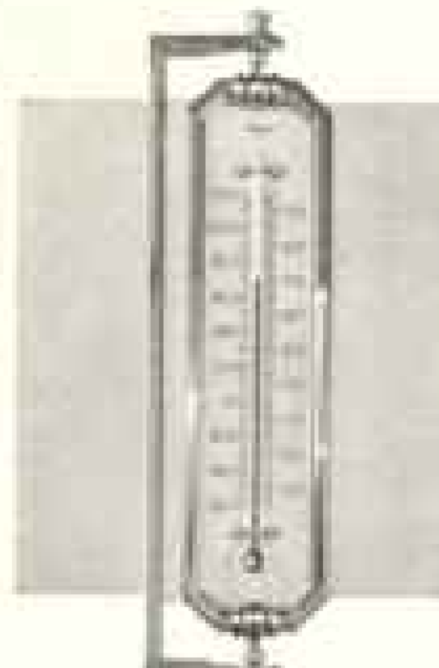
Mail Line

A Sailing Every Week from New York to California, the Orient and Round the World. Fortnightly from Seattle to the Orient, and from California to New York.

WILL IT KEEP ON BLOWING LIKE THIS?

ASK ME . . . . .
I'LL TELL YOU

TAYLOR STORMOGUIDE. Fairfax Model . . . Satin black case, aluminum dial and chrome trim. Size 5" x 5". No. 2457. Price $10.00.



TAYLOR WINDOW THERMOMETER. 11 inches overall, black figures on white vitreous enameled scale, chrome bracket and frame adjustable. Weather resistant, outdoor range. Red Permacolor tube. No. 5300. Price $3.50 each.

Prices slightly higher in Canada and west of Mississippi.

TRADITIONAL March winds . . . blowing a gale . . . stinging with a cold sharp fury. How long will *this* last? What will the weather be like hours from now? Colder? Windier? Or clear and balmy? A Taylor Stormoguide tells you. Tells you what to expect. Keeps you from having your plans upset.

A Taylor Stormoguide is as simple to read and operate as a clock. It's made by Taylor, who supply weather and meteorological instruments for great expeditions. You'll find the same Taylor accuracy in Taylor outdoor and indoor thermometers, fever thermometers and cooking thermometers. Write for unusual booklet giving many interesting facts about the weather . . . free if you address Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

IN INDUSTRY, other types for indicating, recording and controlling temperature, pressure and humidity.

"... AND I THOUGHT I WAS DUE FOR A *Breakdown*"

Part of the U. S. Fleet at anchor off Long Beach. (Visitors welcomed aboard every Saturday, Sunday and holiday.)

"FIRST I started worrying about business . . . then about my health . . . finally went to my doctor, thinking I must have something radically wrong with me.

"He said there was nothing the matter except prolonged nerve strain. Called it 'depression-shock,' a common thing, nowadays. He said I needed more rest than mere sleep could provide. In other words, a real vacation . . . change of scene, new environment, new interests. So I tried Southern California.

"The minute I got out of town I felt better. I've been here a week now and I tell you I'm a new man already. It's this getting *clear away* that's done it. And I'm not spending any more than I would have at home, anyway."

You need a real vacation this summer, away from routine scenes and experiences. By train (fares cut again) from most points in the country, even a 2-weeks vacation gives you at least 11 days actually here. And costs are amazingly low.

Come on out and enjoy broad, sandy seashore, pleasure-isles, mile-high mountain lakes, the foreign-land atmosphere of palms, Spanish Missions and nearby Mexico, gay Hollywood's night life, every sport you can think of, and storied places like Pasadena, Long Beach, Malibu, Santa Monica, Beverly Hills, Glendale, Pomona . . . centered by big, cosmopolitan Los Angeles. On your way, sights like famed Boulder Dam. Summer nights are cool, days rainless, and no other single spot, visitors tell us, offers *so many different ways to have a good time!*

FREE—New Vacation Fact-Book

Send now for 72-page Southern California vacation fact-book, most complete ever published. Nearly 150 photos, details of everything to see and do here, itemized costs, time required, maps and detailed routing from your home city—*all free.* Just mark and mail the coupon.

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Come to California for a glorious vacation. Advise anyone not to come seeking employment, lest he be disappointed; but for the tourist, attractions are unlimited.

SOUTHERN CALIFORNIA

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All-Year Club of Southern California, Ltd., Dept. E-3, 1151 So. Broadway, Los Angeles, Calif.

Send me *free* book with complete details (including costs) of a Southern California vacation. Also send free routing by ☐ auto, ☐ rail, ☐ plane, ☐ bus, ☐ steamship. Also send free booklets about counties checked below:

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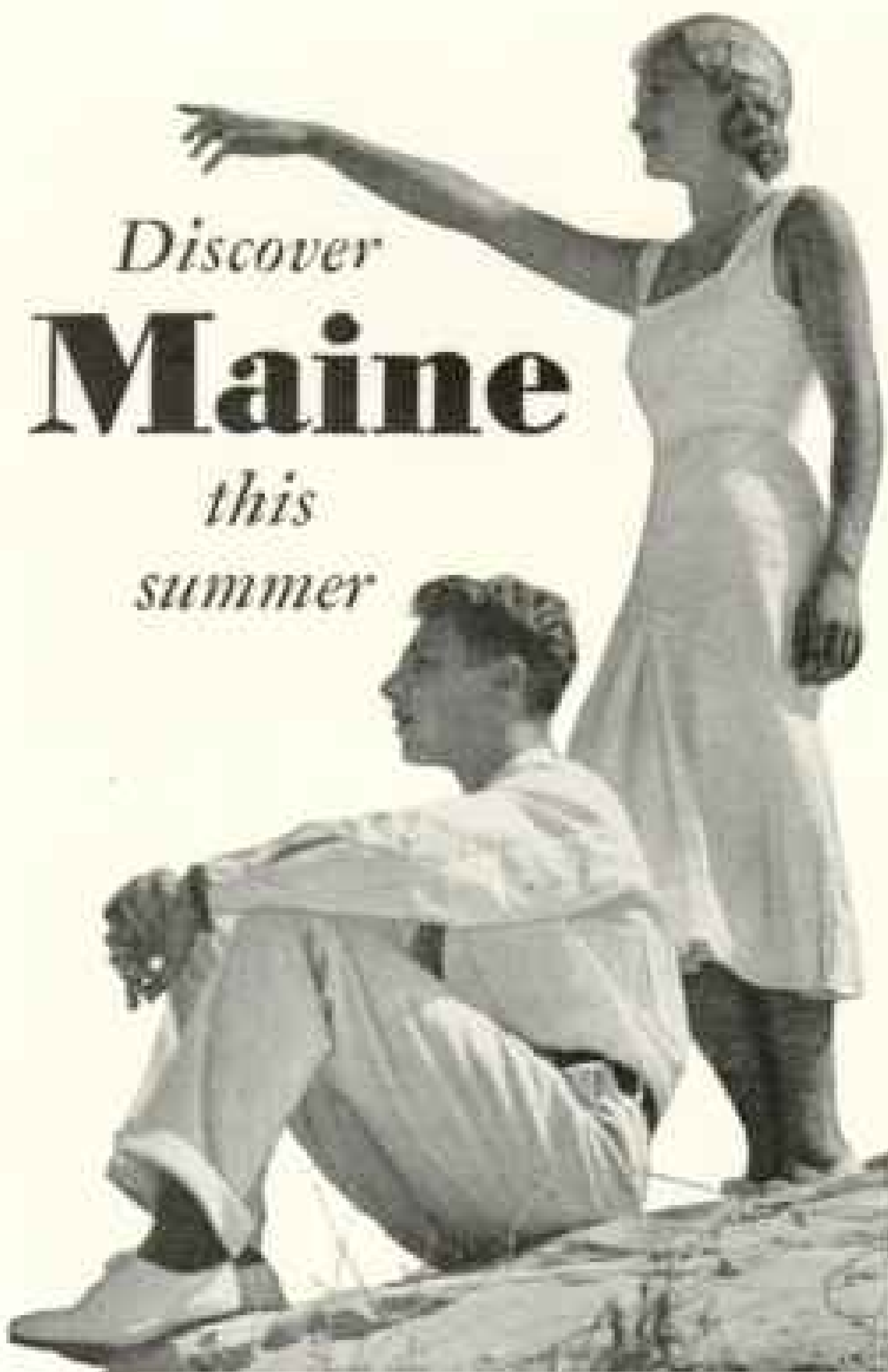
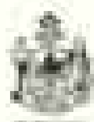


Discover Maine's wide, sandy beaches under a warm Maine sun. Discover the thrill of a voyage along Maine's "hundred harbored" coast—a canoe trip in the land of sky-blue waters and peaceful woods. Discover Maine's friendly hills, tumbling brooks, quiet ponds. Discover Maine's historic landmarks. Discover the pleasant adventure of a Maine motor trip. Swim, loaf, relax. Discover how delicious Maine lobsters and clams can be, cooked the Maine way. Discover Maine this summer.

Fill in the coupon today and let us help you find your summer home in Maine that fits your vacation budget.



MAINE DEVELOPMENT COMMISSION

Maine Publicity Bureau
70 Longfellow Square, Portland, Maine

Please send free copy of Official State Pamphlet giving all information on Maine vacations.

Name..

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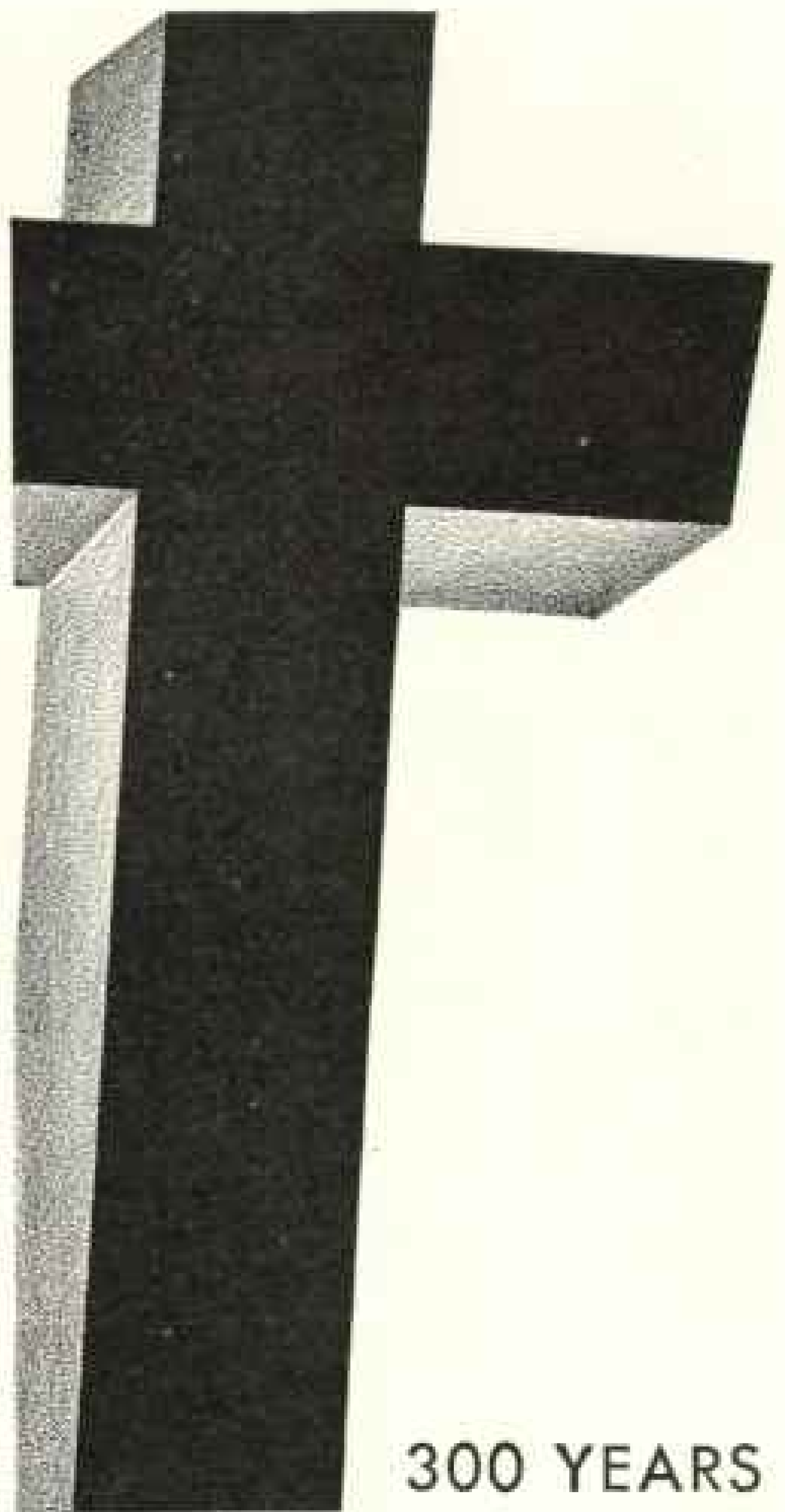


OBERAMMERGAU

Supreme expression of sacred drama in a tremendous setting of lofty mountains and dreaming valleys. 300th Anniversary series of the Passion Play with 28 performances from May through September. A huge open air stage with 18 acts and 1,000 players.

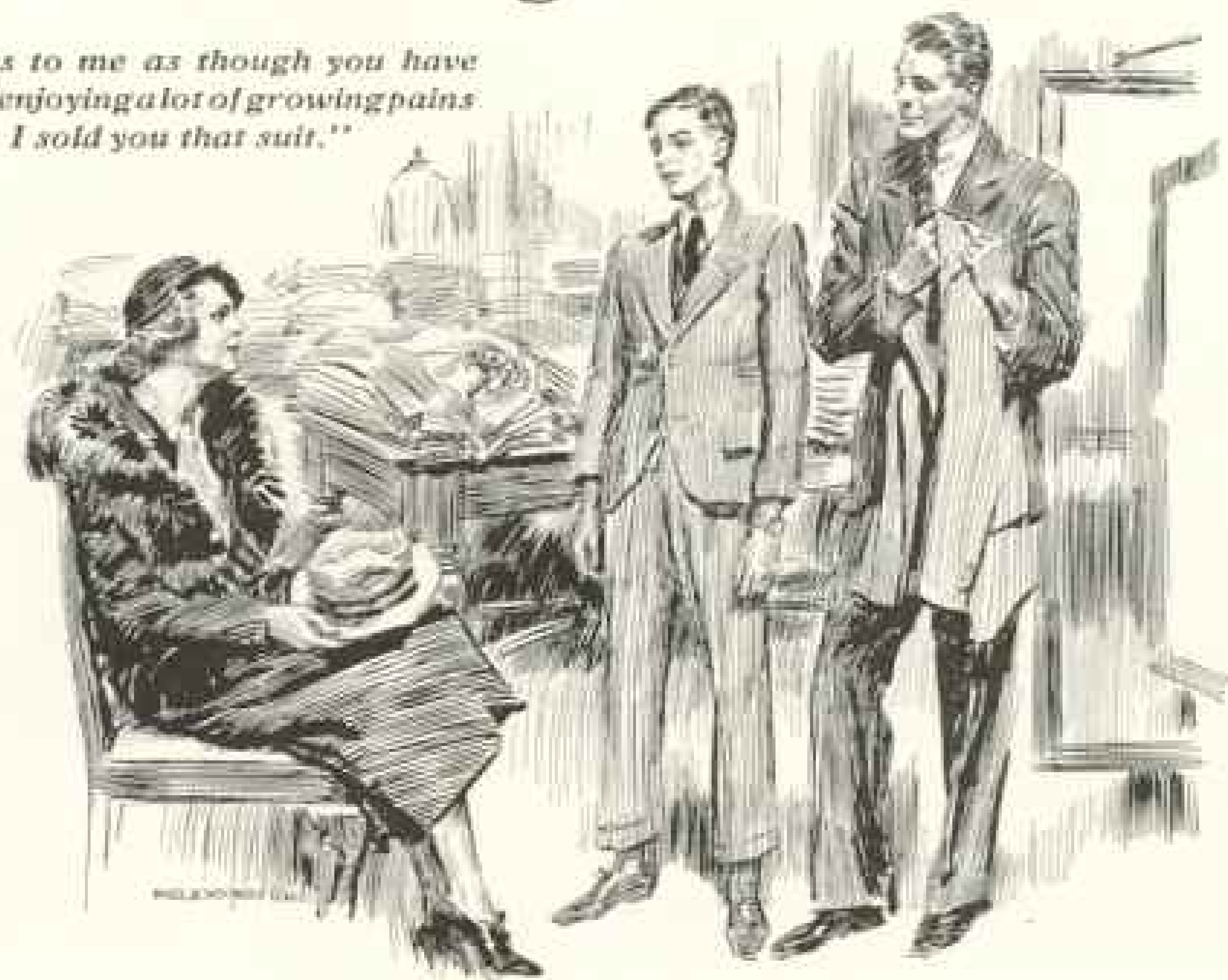
Surpassing climax of your travels through Beautiful Germany with its castles, walled towns, great modern cities, Music Festivals at Bayreuth and Munich, honest prices and courtesy. Write for Booklet No. 19.

GERMAN TOURIST INFORMATION OFFICE

665 Fifth Avenue
New York City

The "Growing Pains" Delusion

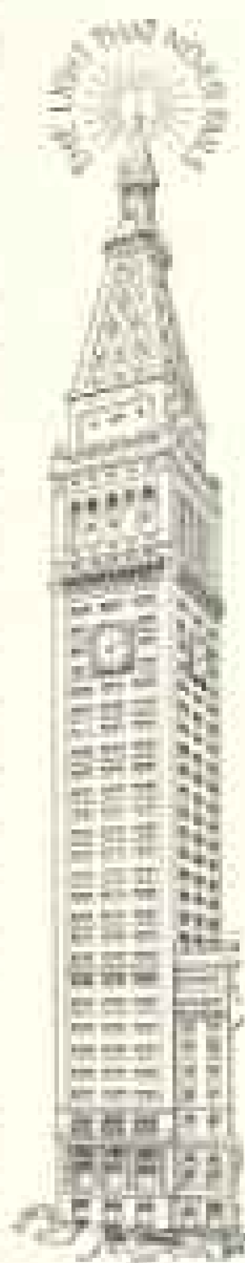
"Looks to me as though you have been enjoying a lot of growing pains since I sold you that suit."



CONTRARY to widespread belief, children do not suffer pain just because Nature is making their bones longer and their muscles stronger. It does not hurt to grow.

Whenever a child suffers from so-called "growing pains," a thorough investigation should be made by a physician. "Growing pains" come from definite causes. Among them are improper nourishment, muscular fatigue following over-exertion, exposure to cold or inclement weather when not suitably clothed, improper posture which may induce flat feet, round shoulders, round back, flat chest, pot-belly, curvature of the spine. Tuberculosis of the joints is a rare cause.

One of the most serious causes of "growing pains" in childhood is rheumatic infection. Indeed, if disregarded, it may lead to permanent damage to the heart.



The onset of rheumatic infection is often so insidious that its danger to the heart may be unsuspected. This infection may cause a sore throat, as well as pains in the legs, arms or elsewhere; occasionally St. Vitus' dance. Sometimes it is accompanied by a steady, low fever. A child with rheumatic infection may look anemic, may be listless and may have no desire to romp and play. He may have little appetite and may lose weight.

While sunshine, rest, fresh air and nourishing food often help Nature to effect a cure if the disease has not progressed too far, do not delay having a needed medical examination if your child has "growing pains." He may be in great danger—the danger of permanent heart trouble.

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT — ONE MADISON AVE., NEW YORK, N. Y.

© [illegible] M. L. I. Co.

BUICK ◆ ◆ ◆ ◆ ◆

—with Knee-Action Wheels

This new era of gracious living suggests a gracious car

Men and women are living splendidly once more . . . seeking the tasteful and the beautiful in all things . . . and, naturally, this new era of gracious living suggests the ownership of a gracious motor car. We give you Buick for 1934 as the car which mirrors this new mode of life. It is beautiful, with the tasteful beauty you expect of Buick. Its new Bodies by Fisher are spacious . . . luxuriously appointed . . . and comfortable in the extreme. To ride in it is to know relaxed ease such as you have never known before . . . because Buick alone combines Knee-Action Wheels, Balanced Weight and Springing, The Ride Stabilizer and Air-Cushion Tires—the four factors which produce the *gliding ride* as Buick gives it. It is attuned to this new day also in convenience of control—in smooth performance—and in the safety of its Vacuum-Power Brakes. May we suggest that you *ride* in the 1934 Buick at your earliest convenience—and prove to yourself that *again* there is a better automobile, and *again* Buick is building it.

WHEN · BETTER · AUTOMOBILES · ARE · BUILT · BUICK · WILL · BUILD · THEM

"Boy! . . he must be using Fire-Chief!"

No use in chasing *that* one! The young man is right. *Fire-Chief* is in the tank. And that car is going places!

Greater Fire-Chief was developed for cars that must start instantly and get there fast! In fire engines, in police cars, wherever quick, unfailing action is absolutely essential, there you will find *Greater Fire-Chief* on the job.

In your car it gives you the same trigger-quick starts—the same thrust of extra power—the same space-eating speed that it *has to deliver* to be an "emergency" gasoline. And for good measure you get anti-knock smoothness that will please you.

How much extra does it cost? Not a penny! *Greater Fire-Chief* is yours at any Texaco Station in the country at the price of ordinary gasolines. Try a tankful and enjoy the "feel" of a smoother, livelier engine.

THE TEXAS COMPANY • *Texaco Petroleum Products*

What is an Emergency Gasoline?

The U. S. Government specifies for its emergency use:—". . . a grade of motor fuel which is suitable for ambulances, fire engines, military and naval equipment, and for other emergency vehicles under adverse conditions of starting and acceleration—"
(excerpt from U. S. Gov't. pamphlet VV-M-571)

***Greater Fire-Chief* exceeds these specifications**

Tune in on ED WYNN, the Fire-Chief, Tuesday Evenings, N. B. C.

a greater

TEXACO FIRE-CHIEF GASOLINE

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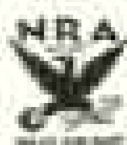
PEA SOUP

that reveals the perfect hostess!

When you entertain, every detail must be *comme il faut*. The selection of Campbell's Pea Soup harmonizes perfectly with the finest in living. Consciously or unconsciously, you select it because you know it is blended by chefs who lead the world in soup-making — in kitchens which set the vogue in all that pertains to correct soups. Whether you serve it as Pea Soup or Cream of Pea, as the label directs, this soup is a satisfaction equally to the pride and the appetite!

EAT SOUP AND KEEP WELL



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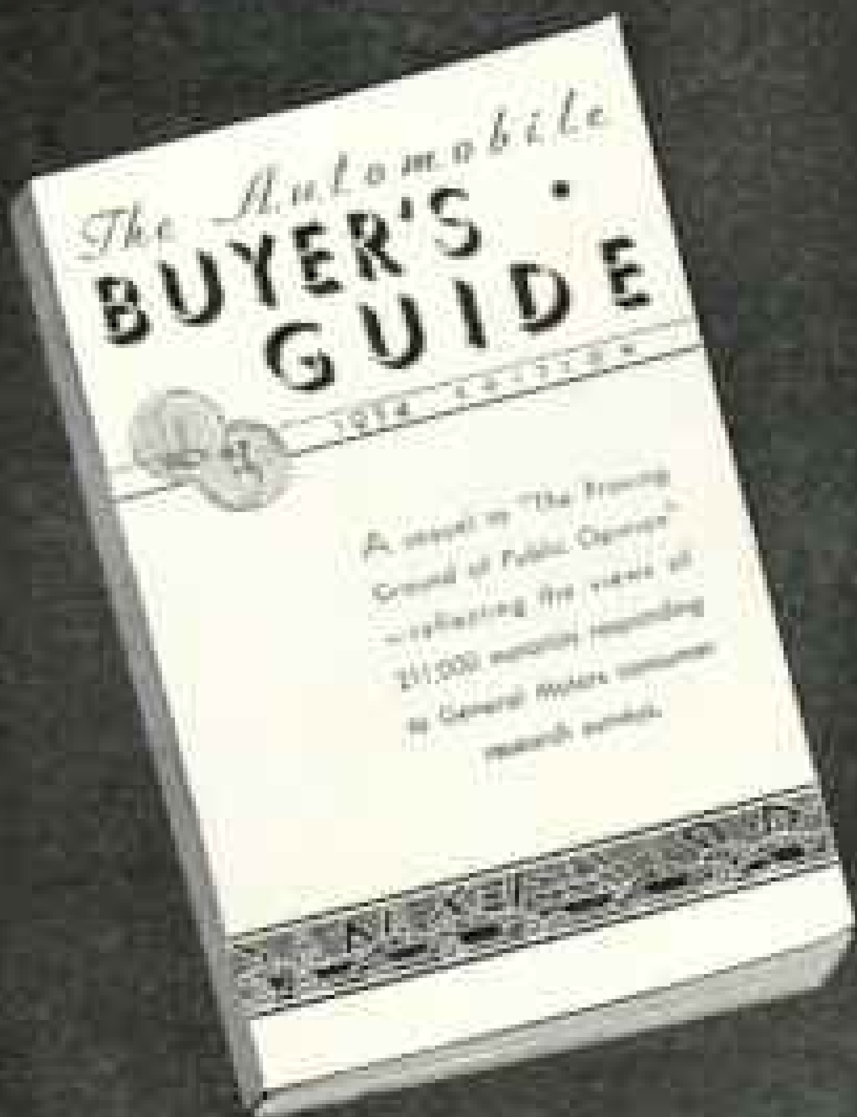

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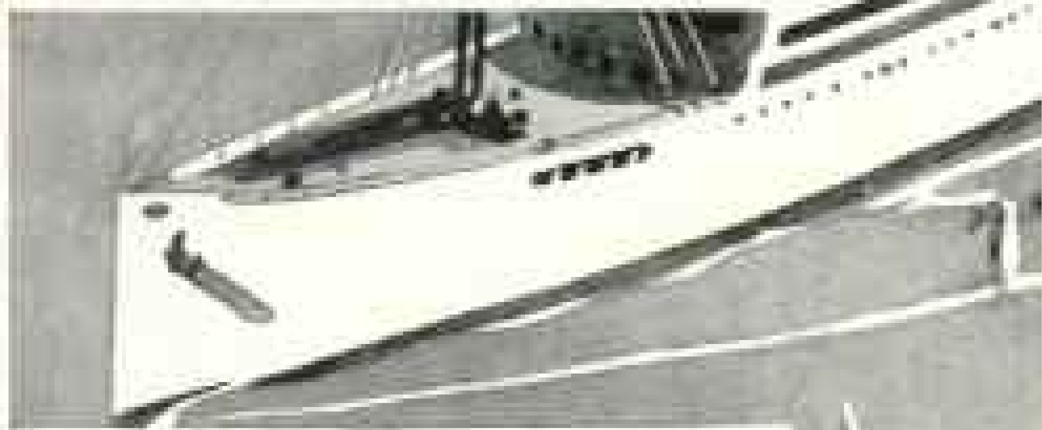

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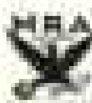

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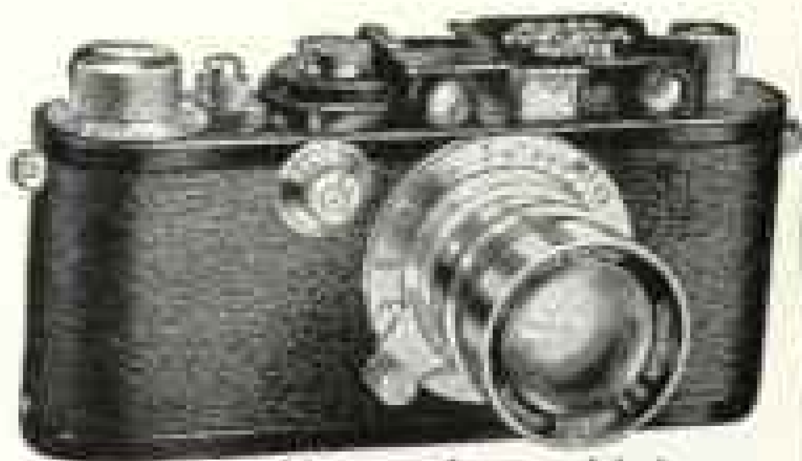

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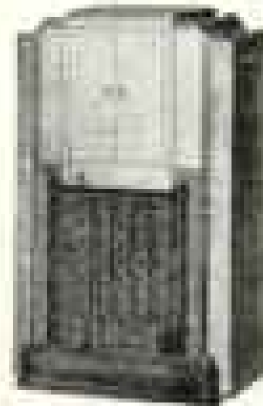

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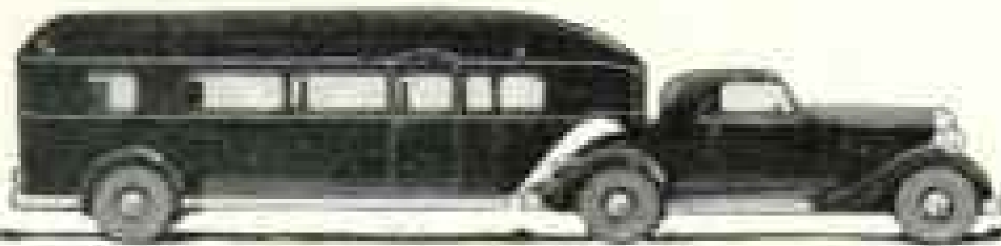

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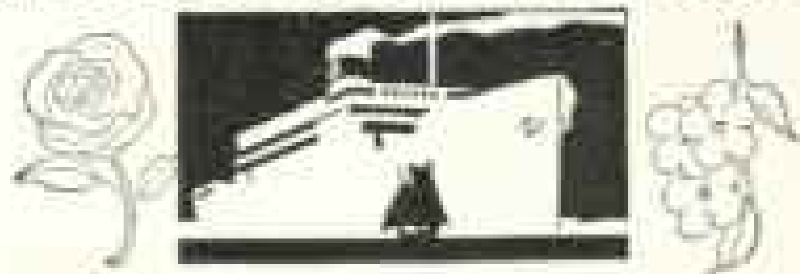

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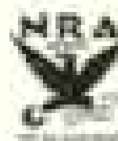

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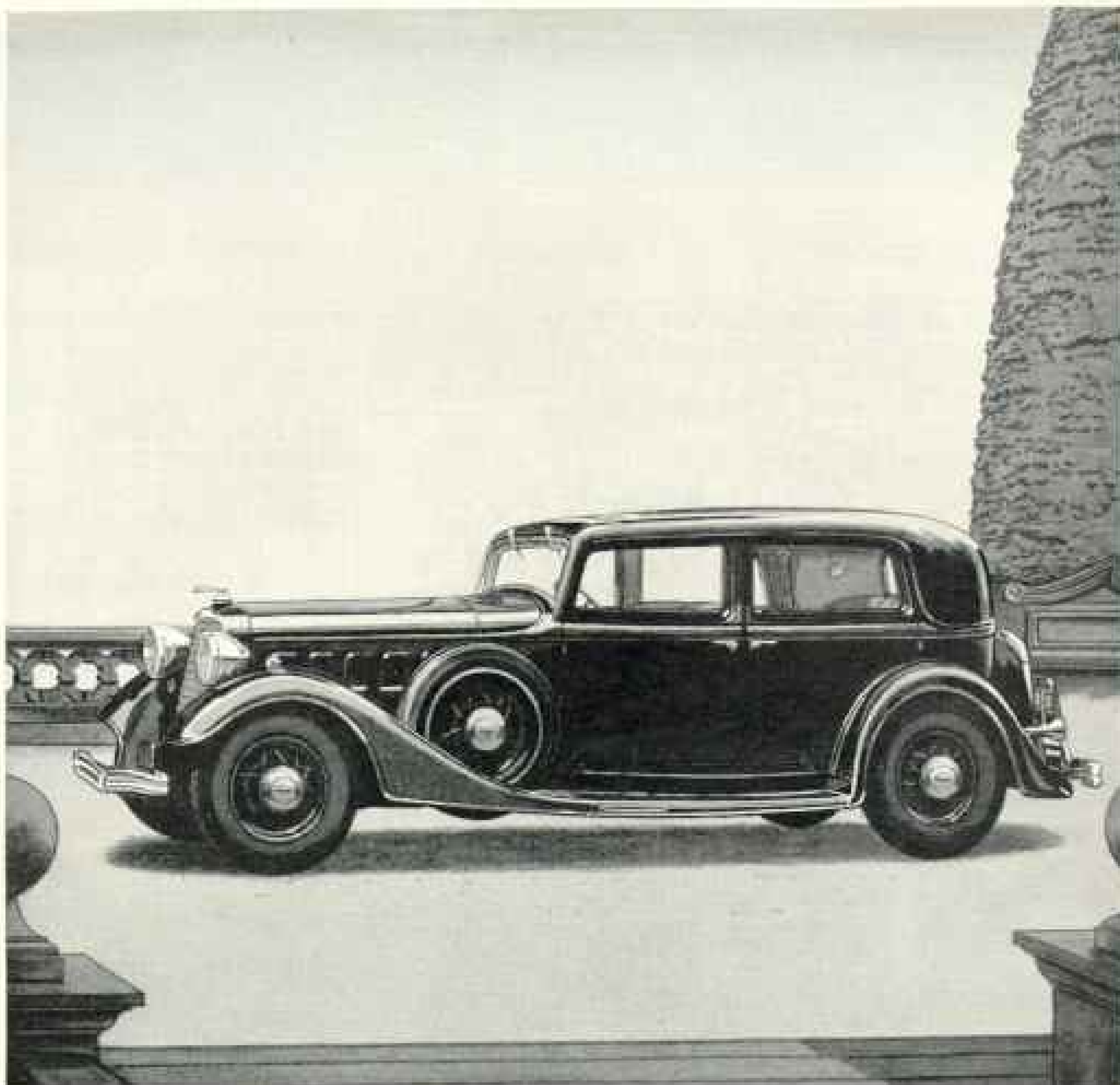

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