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## COUNTRY-HOUSE LIFE IN SWEDEN

In Castle and Cottage the Landed Gentry Gallantly  
Keep the Old Traditions

BY AMELIE POSSE-BRÁZDOVÁ

*AUTHOR OF "SARDANIAN SEQUESTER" AND "ROMAN ROUNDABOUT"*

I THINK one could search all over the globe without finding anything equal to the genuine homeliness and sincerity of the Swedish country gentlefolk, such beautiful and noble traditions, or such stubborn adherence to the things and customs inherited from their ancestors.

It is not so easy to know the Swedes well, especially the dwellers in the country, who for the most part stay at home on their property. Foreigners are often led to think that they are stiff and reserved, sometimes a little sullen or even haughty. But this should be interpreted rather as a sign of their northern awkwardness and shyness. They are in reality full of fun and of warm feelings; but, when it is a question of showing the latter, their shrinking from impulsive gestures and emotional or grandiloquent language is both comic and touching.

### SWEDES AS RESERVED AS THE ENGLISH

This is one aspect in which the relationship with the English is most clearly visible.

Certainly the fetters are loosened somewhat when they are in a festive mood and have drunk a little wine. But it is not then that one gets closest to them. To know and value them fully, one must observe them within their own four walls, in their daily life and activities. Only in intimacy, free from alien, disturbing elements, does their charming individuality come to full

flowering. Swedish home life is a cult and a culture unlike anything else, the product of centuries of tender polishing and refining. And nowhere has it attained such perfection as in the old country houses.

Though I am a Swede by birth and was brought up in Sweden, I have lived abroad for most of the last 22 years; so that I have had ample opportunity of comparing the conditions I describe with those of other races and social classes. Last autumn and winter, after an absence of nine years, I again spent five months in my native country. I revisited many of the old places I had known, and was everywhere welcomed by relatives and friends of my childhood.

When I began to travel around from one house to another, I had at first an almost alarming impression that everything was strangely as it always had been—that life was jogging on in the same old ruts I remembered from my youth, and had to a great extent been unchanged for generations past.

But when I had looked a little more closely, I noted that even if the war had passed the Swedes by, the crisis had certainly not done so. Only the frame and certain outward forms had remained untouched.

There still were families which could maintain to some degree their former luxurious standard of living. Some had the good



Photograph by C. G. Rosenberg

## FIT PLACE FOR A HAMLET'S BROODINGS IS GRIM MARSVINSHOLM

Due to insidious fevers from the stagnant waters of the lake or to the tragic fates which for three generations pursued the family that owned the castle until 1912, folklore says ghosts walk there. The author, in her childhood and youth, experienced the oppressive atmosphere that enfolds the brick walls and copper-capped towers built on piles in the lake.



Photograph from Amelle Pense-Brändova.

**KING GUSTAF V (LEFT) OFF FOR A SHOOT AT SKABERSJÖ, SKÅNE**

Third from the left is Count Stig Thott, whose family have been masters of the castle since 1600. Baron Carl Gotthard Bonde, of Eriksberg Castle, a friend of the King and brother-in-law of the Count, walks at the extreme right (see text, page 44, and illustration, page 15).

fortune, or the prudence, not to invest their fortunes in the securities which had later been affected by the crisis and the Kreuger crash. Others had all their land leased on old and profitable contracts, so long as the tenants could keep up their payments. But these were comparatively few and privileged exceptions.

**FARM PROBLEM ACUTE IN SWEDEN**

If the situation is serious for nearly every one nowadays, it is often catastrophic for the great landowners and territorial magnates. Not a month passes but some of them have to leave home and property.

And where they stick to their old estates despite all their difficulties, they often do so less for their own sake, but more in order not to abandon their retainers to unemployment. In the case of entailed estates there are of course no bankruptcies and forced sales, but it is not much more pleasant to be placed under the management of banks and creditors.

For Swedish agriculture can no longer pay its way. There is the same conflict between agriculture and industry as in most

other countries; and it looks as if the former were getting the worst of it.

A series of relief schemes has been started to try to aid agriculture in Sweden, as elsewhere. But there has been no visible result thus far. An intensive educational campaign has been set on foot; state advisers and controllers have been provided for every branch of forestry and agriculture.

There are such things as the milk dues, which are intended to make up the difference in price of the butter which is sold at home and that which is exported at unduly cheap rates. It is hoped by such measures to keep the price of the former somewhat above production costs. Such is also the aim of the new milling laws, according to which no mill may grind foreign grain without mixing with it a high percentage of native grain.

An active agitation is carried on for "buying Swedish" and for burning Swedish wood in the heating apparatus of public institutions to reduce the importation of coal.

To me the Castle of Läckö, on an island in Lake Vänern, is the essence of Sweden's ancient grandeur (see pages 6-9).





Photograph by G. Beurlin

DAUGHTERS OF DALARNA POSE BESIDE THE BIRCHES

In some Swedish provinces caps and dresses not only provide a gazetteer of the parishes to which the women belong, but frequently indicate whether they are married or not (see Color Plate III). White caps are worn if they are married; if not, red is the requisite color.

It was there I obtained the first decisive impress of its spirit. Many of the most delightful memories of my childhood and girlhood are of Läckö—not because my father's mother was a scion of Magnus Gabriel de la Gardie (the mightiest noble of Sweden's "grand-siècle," who had rebuilt it to make a worthy home for his wife, a princess of the royal blood), but because Läckö was bestowed in 1808 on a general who served in the war against Russia. And the last of his descendants was my grand-uncle.

He lived on the pleasant old "King's farm," a short way from the castle. The castle itself was at that time quite unin-

habitable and in very bad repair. But its gloomy dungeons and secret passages, its 250 rooms and halls, were the most marvelous, thrilling resort for a band of adventurous, imaginative cousins.

When a little older, we were most fascinated by the room in which Magnus Gabriel's mother had lived—the beautiful Ebba Brabe, celebrated in legend, who was the beloved of Gustavus Adolphus' youth.

Or we would clamber over the walls into the romantic, neglected little castle garden; that was the most splendid place for solitary dreams and meditations on the future and on days long past. The castle now belongs to the State and has recently been restored.

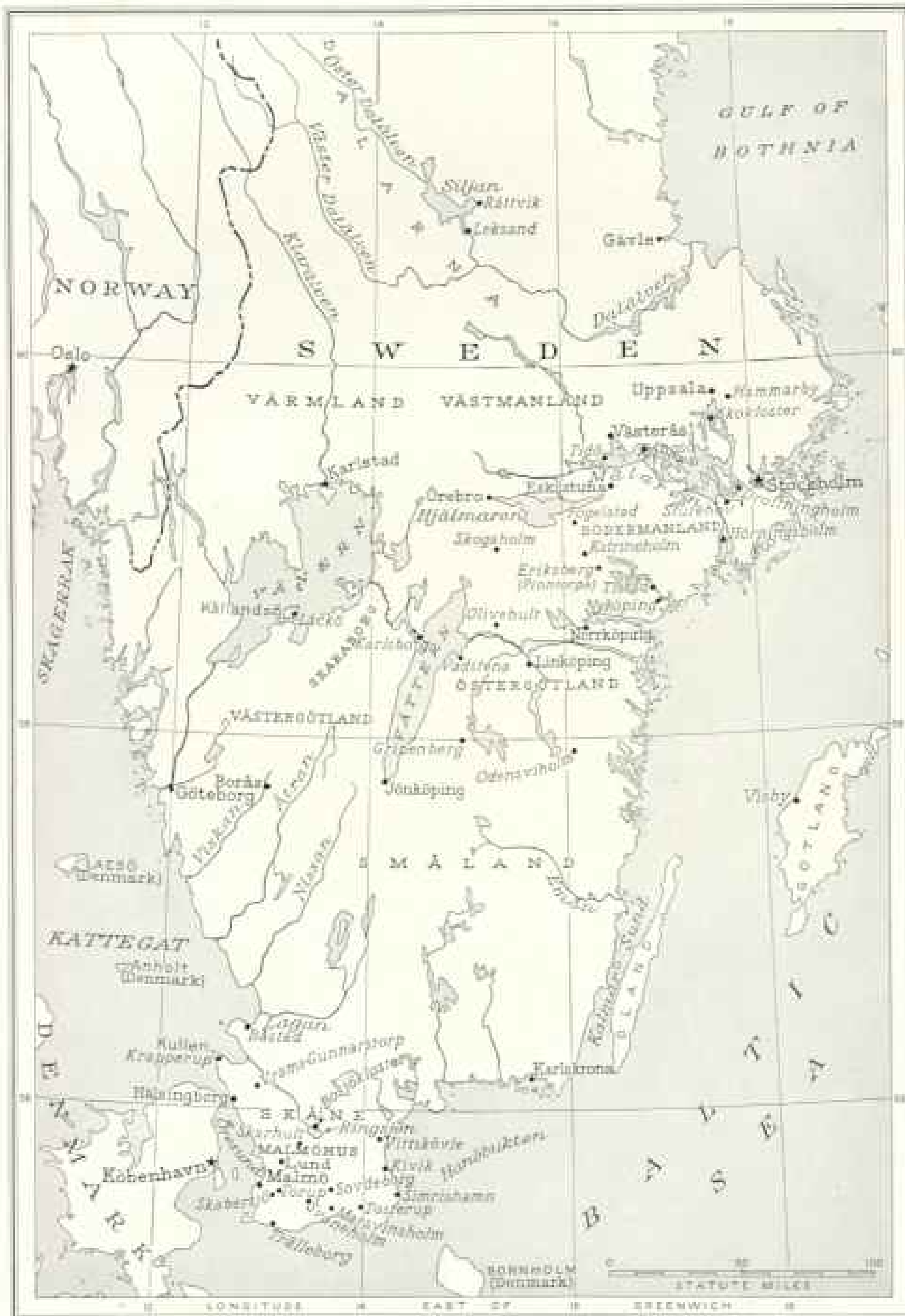
GREAT HOUSES WERE  
ONCE FORTS

Most of the medieval castles in Sweden are, like Läckö, situated on heights surrounded by water or in otherwise inaccessible places. Such placement, needless to say, was not due

to any considerations for natural beauty, but because it afforded the most advantageous defense.

For these strong stone houses had developed direct from the prehistoric fortifications whose foundations are still found here and there.

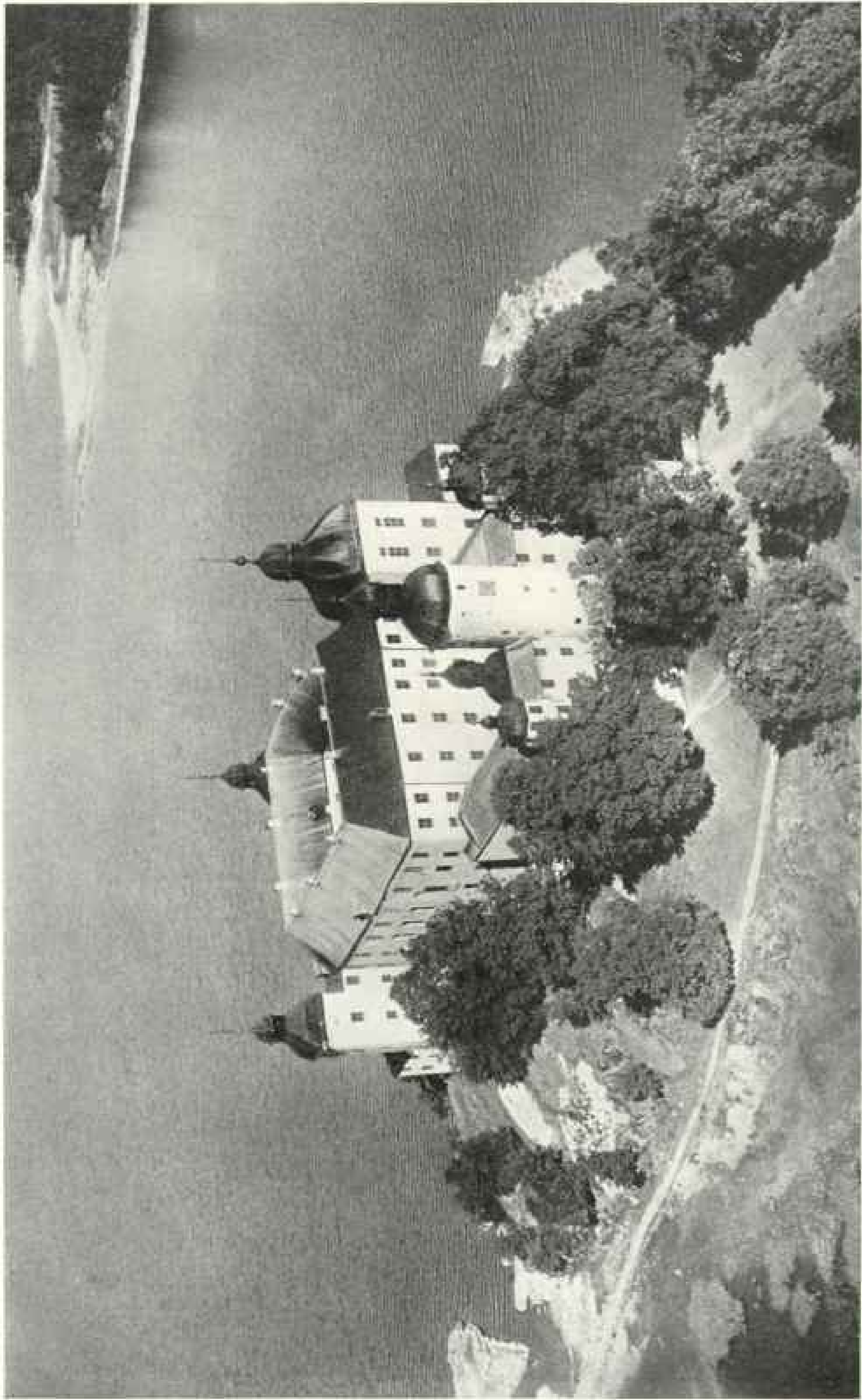
When Sweden, in the 16th century, ceased to be disturbed by civil war, the gloomy and inhospitable fortresses were gradually converted into dwelling houses. As time passed these grew more and more comfortable, and esthetic considerations became more decisive. Many of our most beautiful castles date from this interesting transition period. From the beginning of the 17th



Drawn by Newman Dumstred

HISTORIC COUNTRY ESTATES DOT THE MAP OF SWEDEN

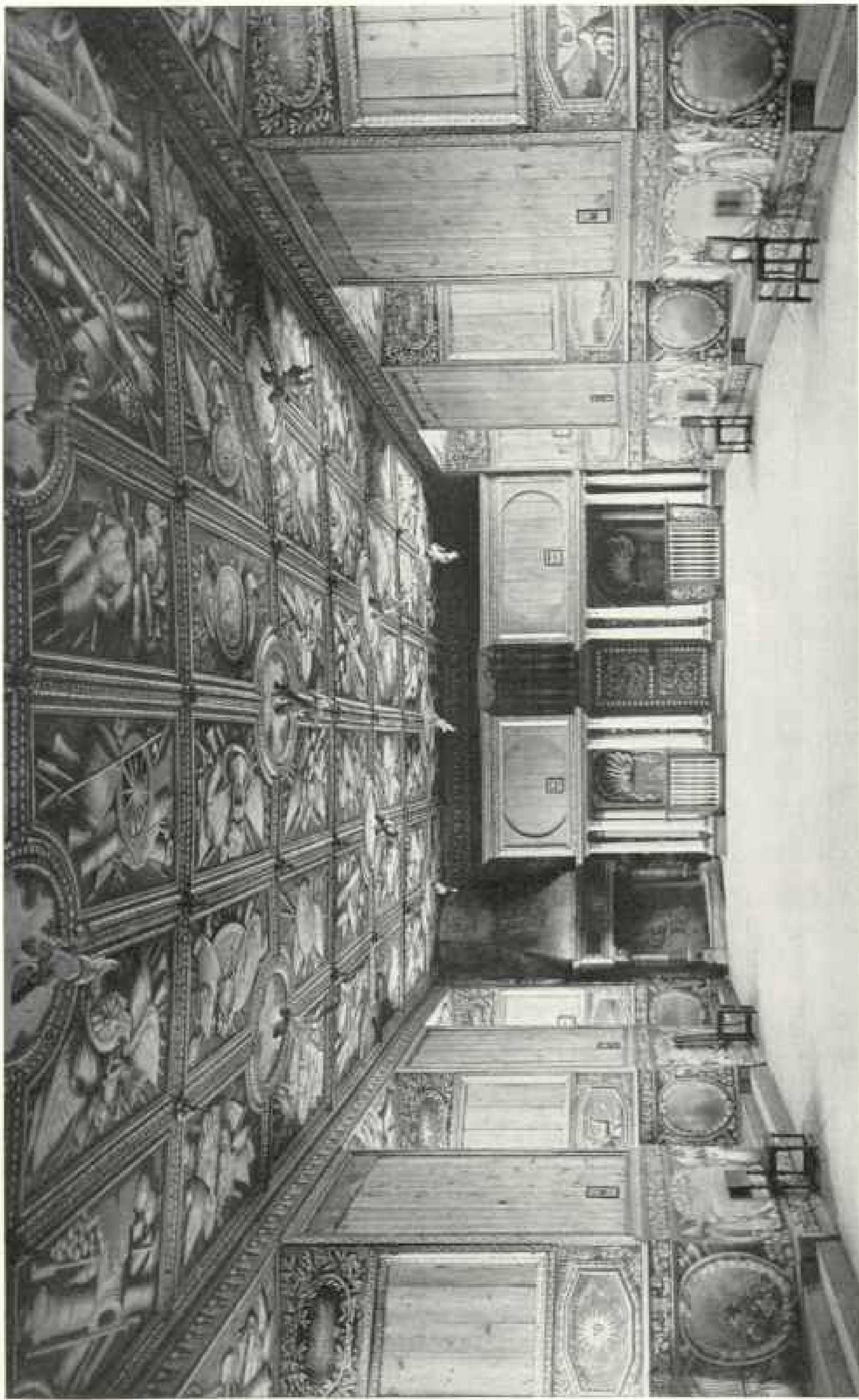
Most of the magnificent castles and manor houses are concentrated in Skåne, to the south, and in the central provinces which border lovely Lake Mälaren. Within the ancient walls of these fine homes owners and their families live in the cultured and aristocratic atmosphere of long ago.



© Arto Maturiel A. B.

**"THE CASTLE OF LÄCKÖ, ON AN ISLAND IN LAKE VÄNERN, IS THE ESSENCE OF SWEDEN'S ANCIENT GRANDEUR!"**

Formerly a medieval fortress, it was converted into a stately chateau by Count Magnus Gabriel de la Gardie, brother-in-law of King Charles X. During the author's youth the place was uninhabitable, but its 250 rooms, halls, and gloomy dungeons were thrilling play resorts for her and her imaginative cousins (see text, page 3). The place now belongs to the State and has recently been restored.



Photograph by C. G. Rosenberg

ONCE THE ARMOR AND GUN CARRIAGES OF LÄCKÖ'S CEILING GAZED DOWN UPON HEROIC BATTLE SCENES

The elaborate paintings which formerly adorned the bare walls of this Hall of Knights have been transferred to the Military School at Karlsborg. Beneath the gorgeous ceiling and wall decorations, which Magnus Gabriel de la Gardie had executed in wood by the German masters Werner and Hammer, are old frescoes





Photograph by C. G. Rosenberg

LÄCKÖ'S EMPTY COURTYARD FORMERLY ECHOED WITH BATTLING ARMS

Like nearly all of the castles in Sweden, this place was first built as a fortress, and was converted to a dwelling after the country ceased to be rocked by civil wars. It is surpassed in size only by the Royal Palace in Stockholm.

century Sweden was a great power, and remained one till Charles XII's unlucky campaigns impoverished the country and put an end to its domination in the Baltic.

Among the medieval Swedish castles touching the early Renaissance style, Skarhult, Vittskövle, and Torup are the most characteristic and best preserved. They are in Skåne, and were rebuilt in the 16th century (see Color Plates I, IV, and V).

MOATS OF OLDEN TIMES

Vittskövle (page 17) and Torup are laid out on a similar plan, with four wings round a courtyard, towers at diagonally opposite corners, stepped gables and firing passages;

and both were surrounded for defense purposes by moats, over which drawbridges were lowered in olden times.

At Torup these moats have been filled since the 18th century along two of the façades, and replaced by gardens laid out in the old style with sculptures, rose pergolas, and box hedges. But the charmingly weathered brick walls are still reflected in quiet waters, among waterlilies and proud swans.

The courtyard at Torup, with its Gothic cloister and pointed arches, is one of the most remarkable in our country from the standpoint of art and history. A stone tablet is set into the wall over its gateway. Its



Photograph by G. Hearlin

THE "SUNDAY BEST" OF RÄTTVIK AFFORDS A PAGEANT OF HISTORY

The author found that at her aunt's house custom decreed the wearing of sober garments when the family went on an errand of piety (see text, page 26).



Photograph by Knud Sorensen

THIS CHAPEL WAS NONE TOO LARGE FOR OCCUPANTS OF LÄCKÖ AND THEIR RETINUE.

"Kingdoms in miniature" were the large country estates of Sweden. With private chapels, tenants' dwellings, fowl runs, dairies, looms, and gardens, they were sufficient unto themselves. Now the old order is passing.

Latin inscription is dated 1632 and was composed by the owner of the property at that time, Sigvard Grubbe, a scholar and a friend of the King. He calls upon his successors, "whoever they may be," to do all in their power, as he did, to preserve and beautify the ancient building they have inherited.

#### TORUP THE MECCA OF CELEBRITIES

Probably none of them has been better equipped to carry out this injunction than its present owner, Baroness Henriette Coyet. On terms of close friendship with most of the members of the Royal Family, she loves to surround herself with eminent personalities in various branches of art and science, and she is a comprehending friend to them (see illustration, page 12).

Nobel prize-winners and other foreign celebrities are received at Torup when they visit Sweden. The Swedes in general, the people of Skåne in particular, have felt themselves secure in the knowledge that no one could represent them more worthily than this lively, highly cultured lady.

Of course, so energetic a person does not content herself merely with social life and the management of her great house. Her keenness for the promotion of local home industry and the preservation of local treasures has benefited the whole province. The same may be said of her experience and taste in all that concerns gardening and the cultivation of flowers. The extensive park of Torup, surrounded by luxuriant beech woods, the different beds, with old-fashioned roseries and herb gardens, are favorite goals of specialists and laymen for purposes of study.

There all kinds of herbs, and medicinal plants, now as good as forgotten, are still to be found. She takes a pride in continually increasing the collection. When Howard Carter was at Torup she inquired whether he had discovered any protecting herbs in Tutankhamen's coffin. He replied that he had, and that among them he had found the root of an *alruna*—the only time he had seen this legendary, mysterious plant. And then his hostess had the satisfaction of being able to show him a specimen in full and luxuriant growth in her own herb garden.

Since my mother was a relative and intimate friend of the mistress of Torup, I had in my teens spent most of my holidays at

that delightful spot; but when I went back last autumn half a lifetime had passed since I had last been there. It was, too, the first day of my stay in Sweden after nine years of absence, and in the drizzly September rain everything seemed to me as dreamlike, romantic, and unreal as a scene from some Maeterlinck drama.

To complete the illusion, the fairy prince of my youth was there, too, the painter who is the King's brother. He has produced many of his best landscapes just at that place, and some are included in the Torup gallery.

In the ancient guardroom, where in old times the garrison of the castle sat by the loopholes and guarded the drawbridge, there now hangs a remarkably fine collection of modern paintings. They sparkle and blossom on the whitewashed walls, and bear eloquent witness to the new times in which the chatelaine takes such a keen and vital interest. She has not only collected, preserved, and faithfully restored all the old possessions which have fallen into her hands, but she has also wished to give a place to new ones which in art express our time and its fermenting youth.

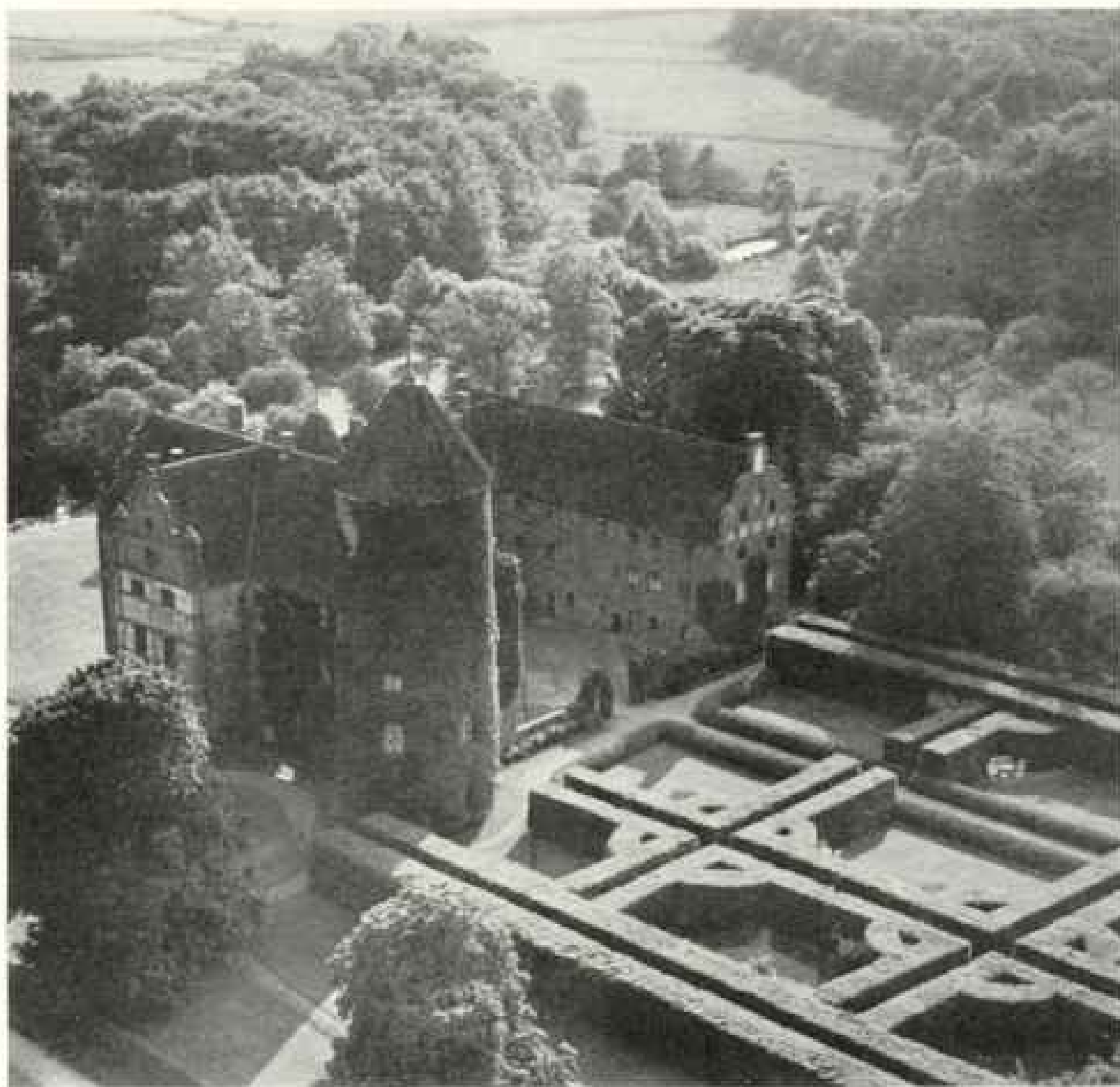
#### PAST WISDOM MEETS THE PRESENT

When one sits in her great dining hall, against whose dark, shimmering, gilt-leather tapestries every one looks like an old portrait, and listens to her talk of the present and future, one is surprised by the sensibility and acuteness of hearing with which she catches what is happening outside in our unquiet world. It is not often that one finds a person in her position so untrammelled in the search for understanding and courageous in taking up a position.

And one sees why she has had these words cut over the hall mantelpiece: "Houses and families have stood long enough; if they stand still they fall with honor."

Skåne is commonly called "the granary of Sweden"; and we who come from this, the most southerly and most blessed province, are intensely proud of it. Bordered by the sea on three sides, it lies there with its fertile fields and leafy beech woods, dotted with smiling country mansions and stately castles. Nowhere else are the gardens so rich and full of color, nowhere else is the prosperity so marked.

The people are masterful and rather self-confident, quietly good-humored and fond



© Afro Material A. B.

## TO SKARHULT'S TOWERS CLING ROMANCE AND IVY

In parts of this great house, built long before Plymouth was settled, the windows remain at an angle as they originally were placed to facilitate shooting from them. The farm buildings and gardens, with their geometrical box hedges, are among the finest in Sweden. The present young owner has become an expert in the history of art, and has specialized in research on country houses (see Color Plate V, lower).

of a joke, sunnier and with more savor than the rest of the Swedes. But they are able and brave, too—Charles Lindbergh's family came from that province.

Big country houses lie all along the sea-coasts of southern Sweden, and still thicker in Västergötland, so rich in ancient memorials, south of Lake Vänern. On the northern side of the lake is Värmland, whose old family legends and traditions have been made known far outside the boundaries of Sweden by Selma Lagerlöf's poetical descriptions (see Color Plate VIII).

But most of the great country houses of central Sweden, and the finest, are to be

found in the provinces which abut on long Lake Mälaren, at whose exit to the sea Stockholm lies.\*

It was there especially that the primeval people of Svea lived; thence sprang Rurik, who laid the foundations of Russia, and the Vikings who ravaged the Mediterranean coasts; and it was there that Christianity was first introduced into Sweden.

Foundations and a few massive stone houses still survive from this long-vanished time, and in certain cases the same family

\* See "The Granite City of the North (Stockholm)," by Ralph A. Graves, in the NATIONAL GEOGRAPHIC MAGAZINE, October, 1923.





Photograph by Otto Ohm

#### MANY CELEBRITIES ARE ENTERTAINED AT TORUP

The talented chatelaine, Baronesse Henriette Coyet, is showing her herb garden to her friend, the world-renowned author, Dr. Selma Lagerlöf. Winners of the Nobel prizes (awards that are granted for outstanding work in chemistry, physics, medicine, literature, and peace, through the generosity of the will of the Swedish chemist and engineer, Alfred Nobel) and other distinguished visitors to Sweden usually are entertained at this medieval castle (see text, page 10, and Color Plate IV).

has lived on the same property for three or four centuries. There are estates which for 500, or even 600 years, have been handed down from one generation to another without ever being sold, though these, of course, are rare exceptions.

#### LIFE ON A SMÅLAND ESTATE

Many lie far from the towns, so that none of the modern thirst for superficial, exciting pleasures has yet found its way to them; that is why the old Swedish traditions in all classes of society are more firmly rooted there than anywhere else.

I will give an example of what life can be like in one of these old Småland properties by describing my aunt's house, Odensviholm, where I passed several weeks last autumn.

In her house everything is still done in the old style, just as in her late husband's time (see opposite page). There has never yet been a strike or a trades-unionist on her estate, and the only Communist in the parish complains loudly that the workmen are so satisfied that the most ferocious Soviet propaganda has no effect upon them.

Although the communal almshouse is extraordinarily pleasant and comfortable, and its standard of living fully meets the exacting requirements of the Swedish working class, none of my aunt's retainers will go there. Widows and feeble old men refuse to give up their work so long as there is any possibility of their continuing it. They regard it as their absolute right to avoid being pensioned off, and prefer to earn a coin now and again in addition to their ample

revenue in kind. It is, more than anything, their homes that they are reluctant to leave.

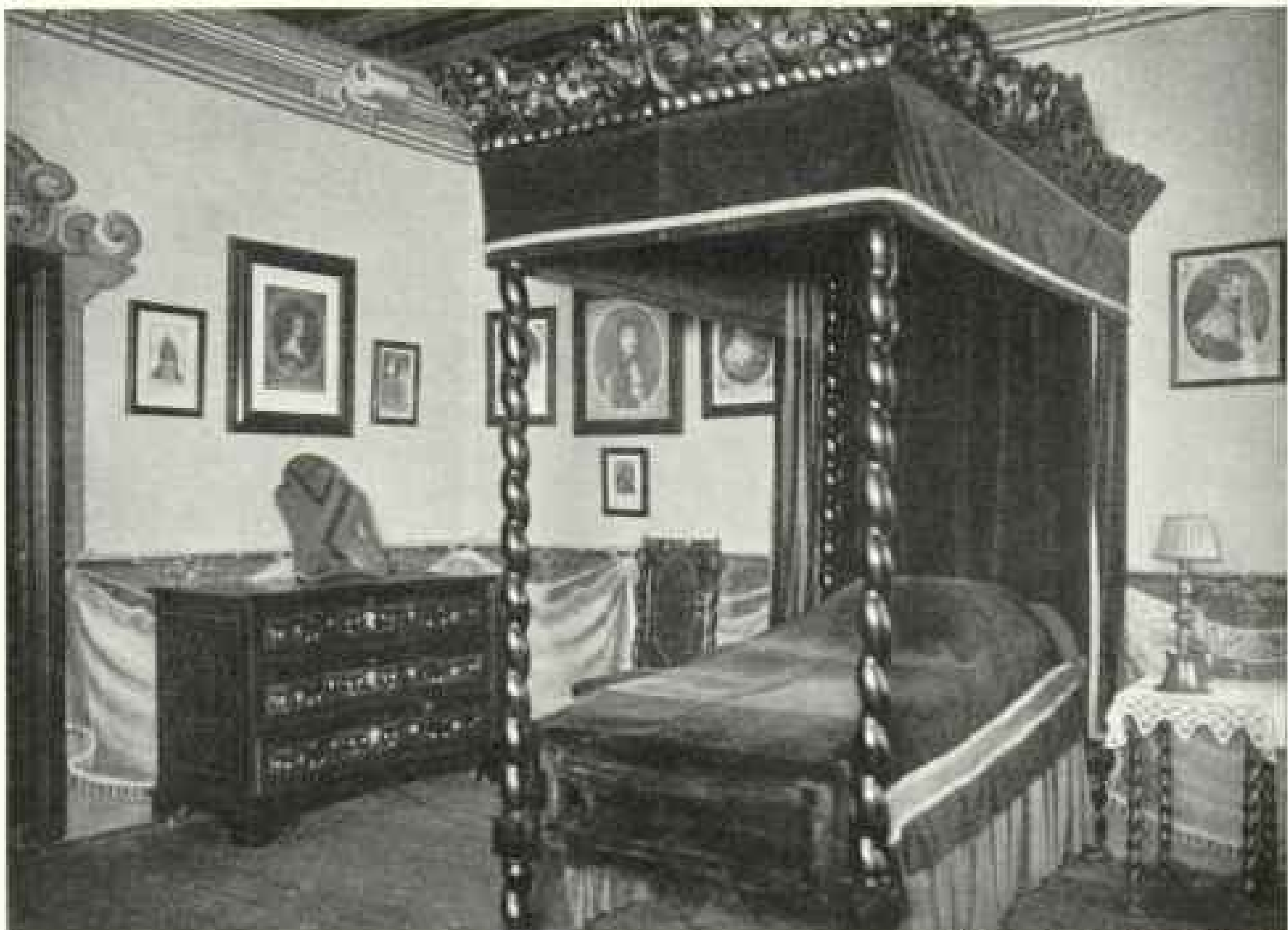
Their attitude is more than understandable when one sees their well-built, comfortable cottages, painted red with white corners, window frames, and verandas.

Each has its well-kept garden plot full of vegetables, fruit trees, and all kinds of ornamental old-fashioned flowers; and they stand in the most picturesque situations, on the shores of the lake and clearings in the woods. Even the laboring class in Sweden has an unusually well-developed feeling for natural beauty.



FOR TWO CENTURIES LIFE HERE HAS KEPT THE EVEN TENOR OF MEDIEVAL WAYS

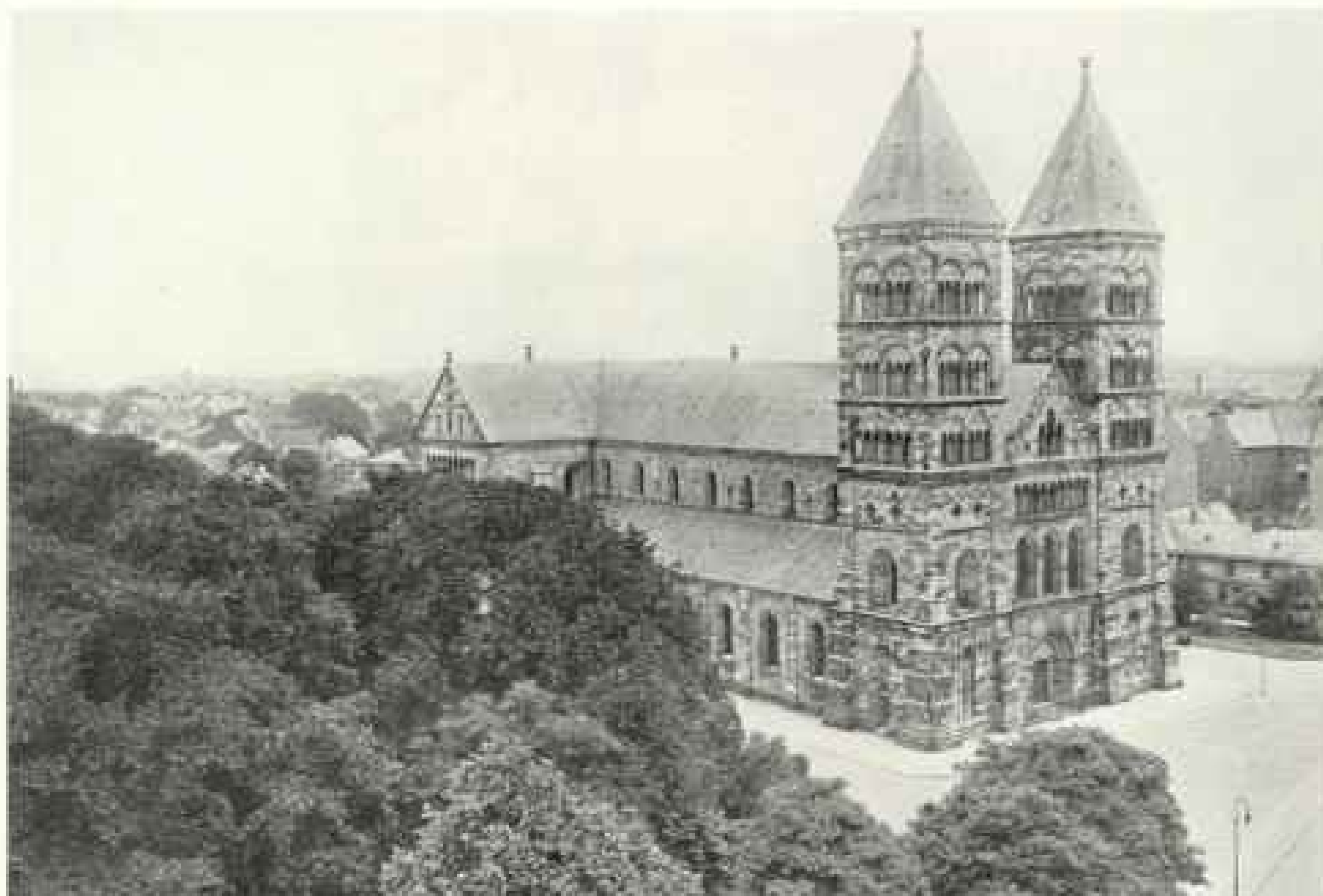
The mistress of this country house at Odensviholm, Småland, is the author's aunt. After every meal she would personally put away the sugar and cakes in the larder, lock the door, and then hang the key on a nail close by! (see text, opposite page). On each side of the broad courtyard is a long, low visitors' wing and a few huge limes. On the other side of the large building a well-kept garden runs down to the lake.



Photographs © by E. Lundquist

DIGNITY MARKS QUEEN CHRISTINA'S BEDROOM AT TIDÖ

The castle, overlooking the waters of Lake Mälaren, is preserved to-day essentially as it was when it was a seat of the Chancellor Oxenstierna. Only six years old when her royal father, Gustavus Adolphus, was killed, Christina was educated in boyish pursuits principally by Johannes Matthias, while the Chancellor tutored her in politics. She came to the Swedish throne in her eighteenth year, but abdicated ten years later in favor of her cousin Charles, whom she had refused to marry (see illustration, page 58).



Photograph by G. Hearlin

LIKE "THE MIGHTY FORTRESS" OF LUTHER'S HYMN IS LUND CATHEDRAL

Parts of this building date to the early years of the Reformation. Then the city was the seat of the Archbishop of all Sweden. Before that, until 1658, Lund was a Danish town. The interior has a richly ornamented pulpit of the 16th century, carved choir stalls, and many early paintings.

Of course, it is hard to run and finance a large agricultural estate when scruples forbid one to get rid of all these old people, who are getting slower and slower on their feet, though naturally only younger labor does the heavier work, particularly the exhausting toil of tree felling.

NEW TREES PLANTED FOR THOSE CUT DOWN

Of the 12,000 acres in the estate the larger part is forest, and this is kept in exemplary order, despite the bad times, although for the moment it does not pay. The orders of the forestry board, that "every one who cuts down a tree must see that it is replaced by a new one," are literally obeyed.

This excellent and powerful board, which has existed for 28 years, is probably the principal reason why Sweden has such excellent and efficiently managed forests. They cover a total area of 58,000,000 acres, or nearly 60 per cent of the whole soil\* (see illustration, page 16).

\* See "Sweden, Land of White Birch and White Coal," by Alma Lulse Olson, in the NATIONAL GEOGRAPHIC MAGAZINE, October, 1928.

As first-class as her management and preservation of the forests, and as good examples to the whole district, are my aunt's orchards, piggeries, and fowl houses. She is also honorary president of many pomological and ornithological societies, and she initiated a large coöperative egg-exporting association.

Formerly cheese and butter, too, were produced on the estate on a large scale, but now the landowners and farmers of the district have joined forces and set up a large joint dairy. Despite the 21 miles to the nearest small town, the dairy is tiptop, with modern machinery and all the most elaborate refinements of the day.

"TIME IS MONEY"—BUT NOT TO MY AUNT!

On such an estate, old and new are mingled in the funniest way. It amused me to watch my aunt, after every meal, march into the larder with sugar bowls and cake dishes of the heaviest, handsomest family silver.

When she had put aside what was wanted for the next "snack"—they are always drinking coffee at my aunt's—she carefully



Photograph by Ragnar Küller

SKABERSJÖ'S MANY CHIMNEYS ATTEST THE SWEDISH AVERSION TO CENTRAL HEATING

The fireside is the heart of the large country home (see illustration, page 3). In the château where the author stayed a rosy-cheeked country girl, in blue dress and white apron, would call mornings, curtsy, light a fire of birch wood, and close the windows (see text, page 18).

and ceremoniously deposited each of the numerous varieties of cake and biscuit in pewter boxes divided into compartments intended to contain them. I assume that this habit was a survival from a time when sugar was a rare and valuable import article and servants not so austere as they are now.

That the rite was not due to the faintest shadow of suspicion of the staff was clearly shown by the fact that after the larder door had been most carefully locked, my aunt hung the key on a nail close by, as visible and accessible to possible pilferers as could be desired!

The locking of that door, by the way, was something exceptional; for, although the house lies right on the highroad, the entrance door is not shut all day long.

The feeling of security, even nowadays, is so great in the Swedish countryside that on my last visit I slept everywhere with wide-open windows on the ground floor, without ever having the slightest feeling of discomfort or insecurity—and this even in cases where the house was peculiarly lonely and quite close to the highroad.

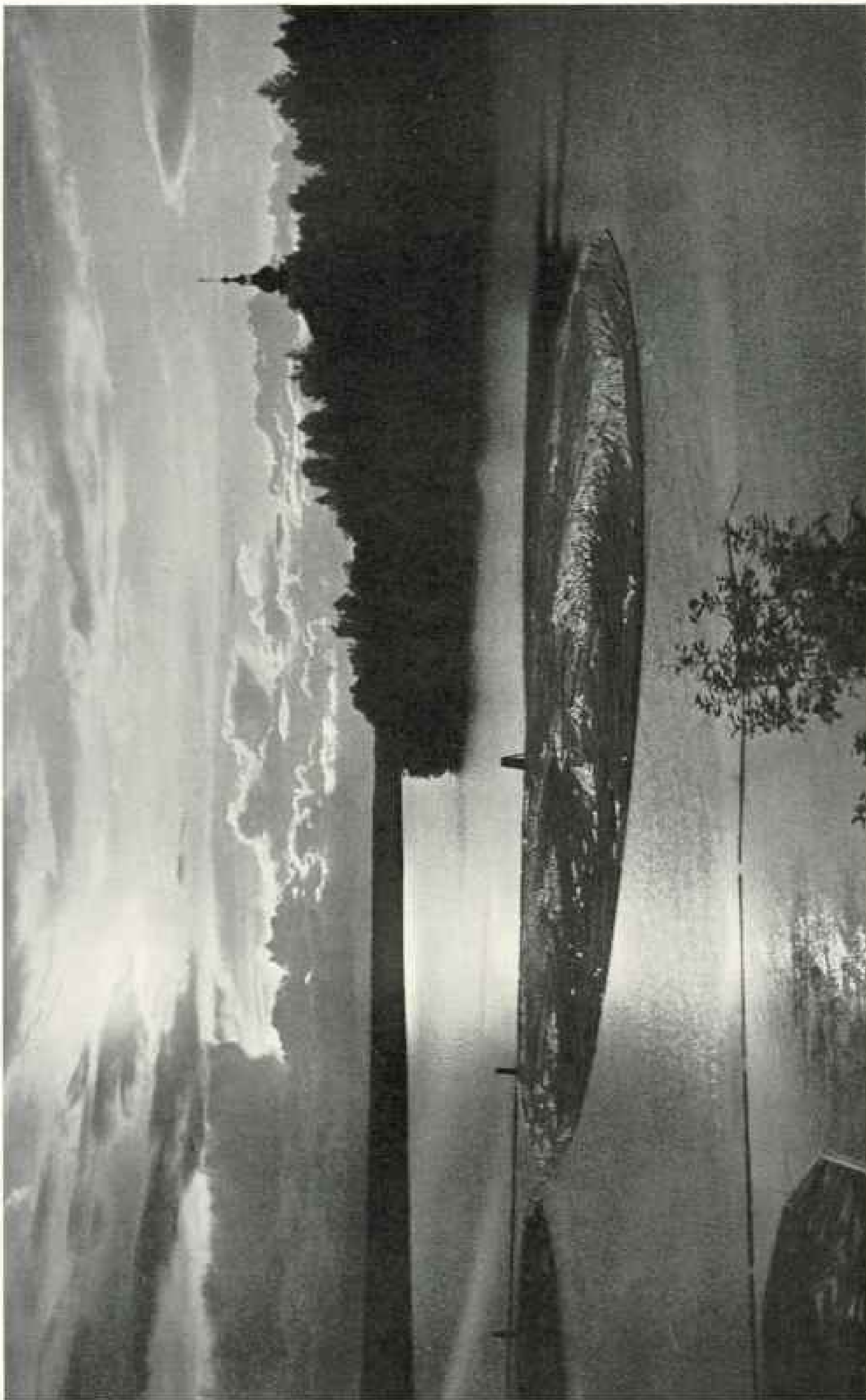
In one place I observed that the 19-year-old daughter of the house had taken up her abode in the guests' wing. During the long periods when no visitors were present she slept there alone, without a bell or any means of making herself heard in the main house if anything should happen—and this on an estate only three miles from the nearest industrial center, where unemployment was causing much disturbance and mischief!

She laughingly explained that in her home illness and thieves were not things one took into account, and that she was much too comfortable in her lovely little maiden chamber to abandon it out of cowardice.

A DINNER FOR SIXTY

But, to keep to my aunt's home, it bears in the main, like the majority of the Småland country houses, the imprint of 18th-century taste, with a touch of Empire and "Biedermeier" here and there. On the ground floor are some visitors' rooms and the dining room, the latter in white with lacquer-red walls above the paneling, against which a fine collection of old pewter shows

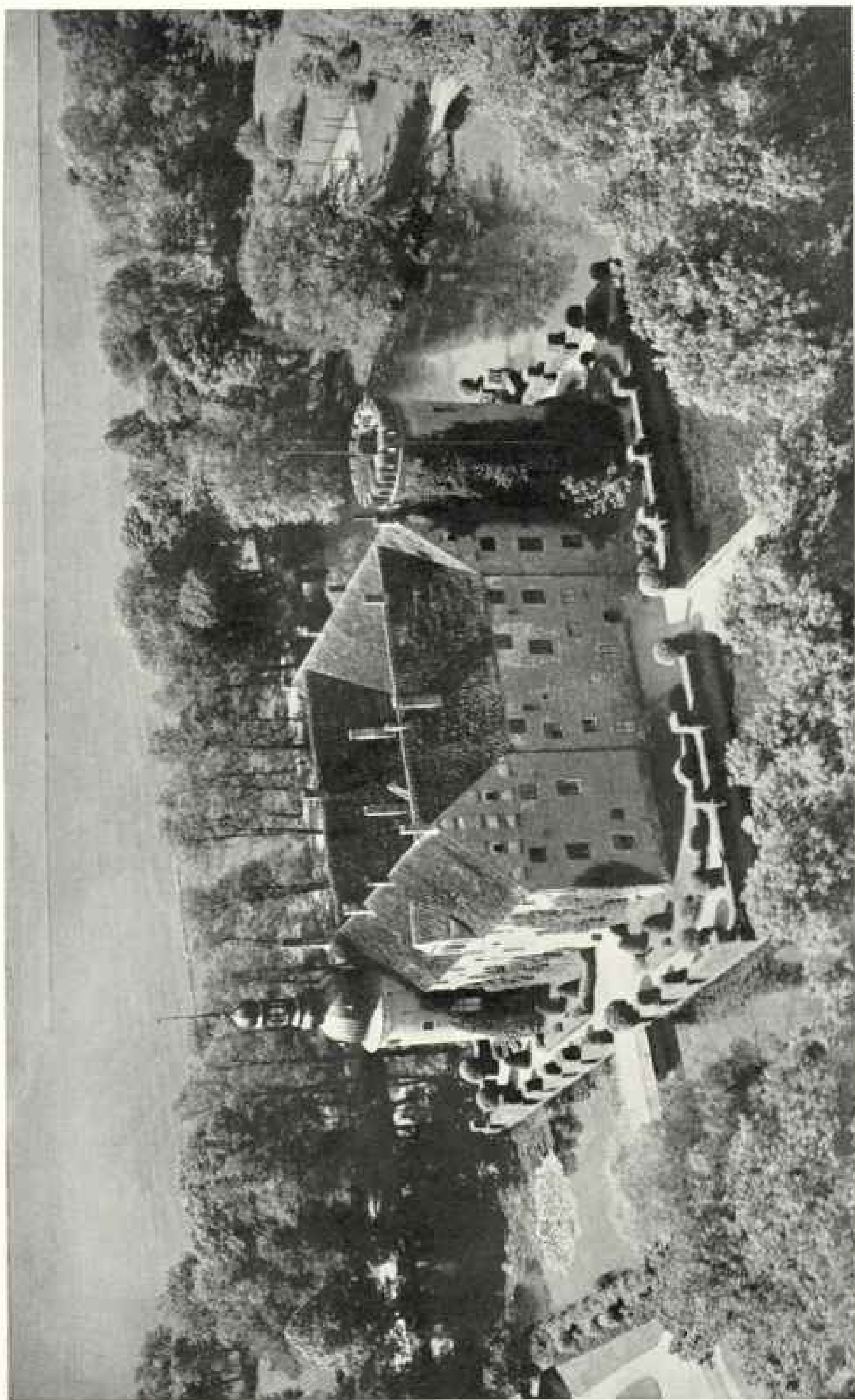




Photograph by G. Hamelin

#### EVENING GILDS THE WATERS OF LAKE SILJAN.

Noted for its scenic beauty, this lake has been given the delightful title, "The Eye of Dalarna." Logs, made into large rafts, such as those seen in the foreground, are floated through the lake and down river to sawmills. Because the forestry board of Sweden decreed that "everyone who cuts down a tree must see that it is replaced by a new one," the country's forests cover 58,000,000 acres, or nearly 60 per cent of the whole soil (see text, page 14).



© Arvo Materiel A. B.

FROM THE DAYS WHEN KNIGHTS WERE BOLD AND GUARDED STOUT CASTLES, WITH WIDE MOATS AND FROWNING TOWERS, DATES VITTSKÖVLE

This imposing 16th-century stronghold was built by the illustrious Brahe family of soldiers, and, like most of the other country houses, contains many paintings that have been acquired through the centuries by its wealthy masters (see Color Plate I).

up admirably. We have dined as many as 60 there in former days, before the crisis and restrictions put a check on the old, well-known hospitality.

Next to the dining room is the library, where the family is accustomed to gather by the fire. Not only are there many books in handsome old bindings, but also a large number of real Chippendale chairs. I remember how we sought them in attics and servants' rooms when my aunt and uncle moved into the main building after their predecessor's death.

On the first floor is a suite of sunny sitting rooms with beautiful stoves, doors, and lintels. The walls are divided into panels painted in different light colors and hung with good pictures and, of course, the usual family portraits. There are thin white curtains in front of the high windows, and among the furniture and ornaments are many valuable pieces from past centuries.

But all the floors are made of painted or unvarnished fir beams, the latter scrubbed with soap and bass brushes. Most of them are covered with narrow mats woven at home from left-over cotton rags; they have a bright and cozy appearance, typically Swedish in their cleanliness and simplicity.

Of course, there are neither motorcars nor electric light at a place of such conservative traditions, but carriage horses and honest old paraffin lamps, besides candles in wall scones and candelabra. Central heating is an unknown abomination, which is considered good enough only for the smaller domestic animals or the town dwellers! In this respect most Swedish country houses are alike; the owners prefer to heat with their own wood in large open fireplaces and old porcelain stoves with pure lines and tasteful ornamentation.

#### THE FIRESIDE IS THE HEART OF HOME

The fire plays a prominent part in Swedish home life. Around it the family assembles of an evening, whether it lives in a luxurious flat with central heating or in a single room in the city, in a ready-made suburban villa, or in castle or cottage in the country.

A moment when the atmosphere of a Swedish country house is especially concentrated and full of charm is when one awakens in a big white guest-room bed of elegant 18th-century proportions. It is just as exquisite, whether a pale autumn sun is shining into the room through the

small-paned windows or the snow is falling silent and thick out in the winter dawn.

A rosy-cheeked country girl in the traditional light-blue cotton dress and white apron comes in, curtsies, and wishes one good morning; then she skillfully lays and lights a big fire of birch wood and shuts the window. While the room is growing warm, one lies in bed relaxing, listening half in a doze to the cheerful noise of the fire as it crackles and throws off sparks, and blinking at its reflections on the flowered wall paper and old engravings.

#### THE SECOND GONG SOUNDS!

There are modernized houses where a sybaritic breakfast tray is carried in to one in bed by a housemaid, or is actually pushed in on a vehicle by a correct manservant; but somehow there is not then quite the same pleasure and the same traditional atmosphere as when one has to hurry to be ready by the time the second gong sounds.

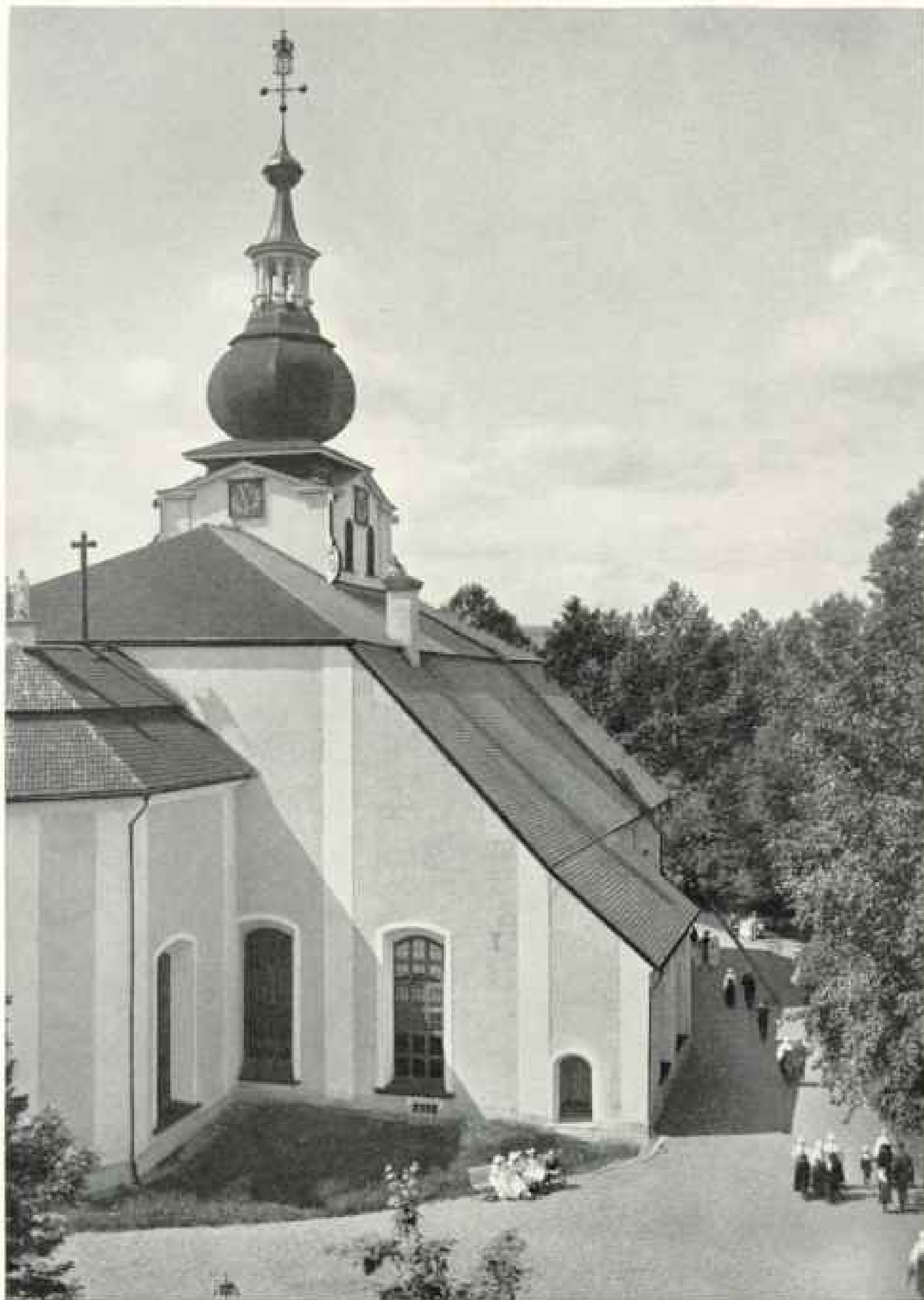
Then one remembers one's youth, and the breathless rushes across the courtyard outside the visitors' wing, and the looks of disapproval and annoyance that met the poor sinner who happened to be even a minute late when the family stood behind their chairs with folded hands and said their grace.

To be late was an especial sin on Sunday morning, when there was not only a sermon, but also a thick, freshly baked pancake with jam to eat with the coffee, instead of the monotonous porridge and ham and eggs (or herring and potatoes) of ordinary days. But it was not so easy to be punctual, I assure you, after the singing games the evening before, and the early night's fun or reverie under loaded fruit trees.

Oh, *hampusar* and transparent *astrakaner* of my youth—how incomparable you tasted on such a moonlit evening! You were no longer Swedish apples, but the most wonderful sherbet, the lordliest Moselle wine—flowing nectar and ambrosia.

And, oh, my youth's dear kinsfolk of the older generation, how much more colorful and thrilling life was when we still had your prohibitions to defy and evade—when, with a delicious shudder at our own daring, we risked a grand-paternal thunderstorm and felt that it was worth it!

Many youthful memories streamed back into my mind at the dear old place. There were, too, a variety of things which had formerly made no impression upon me

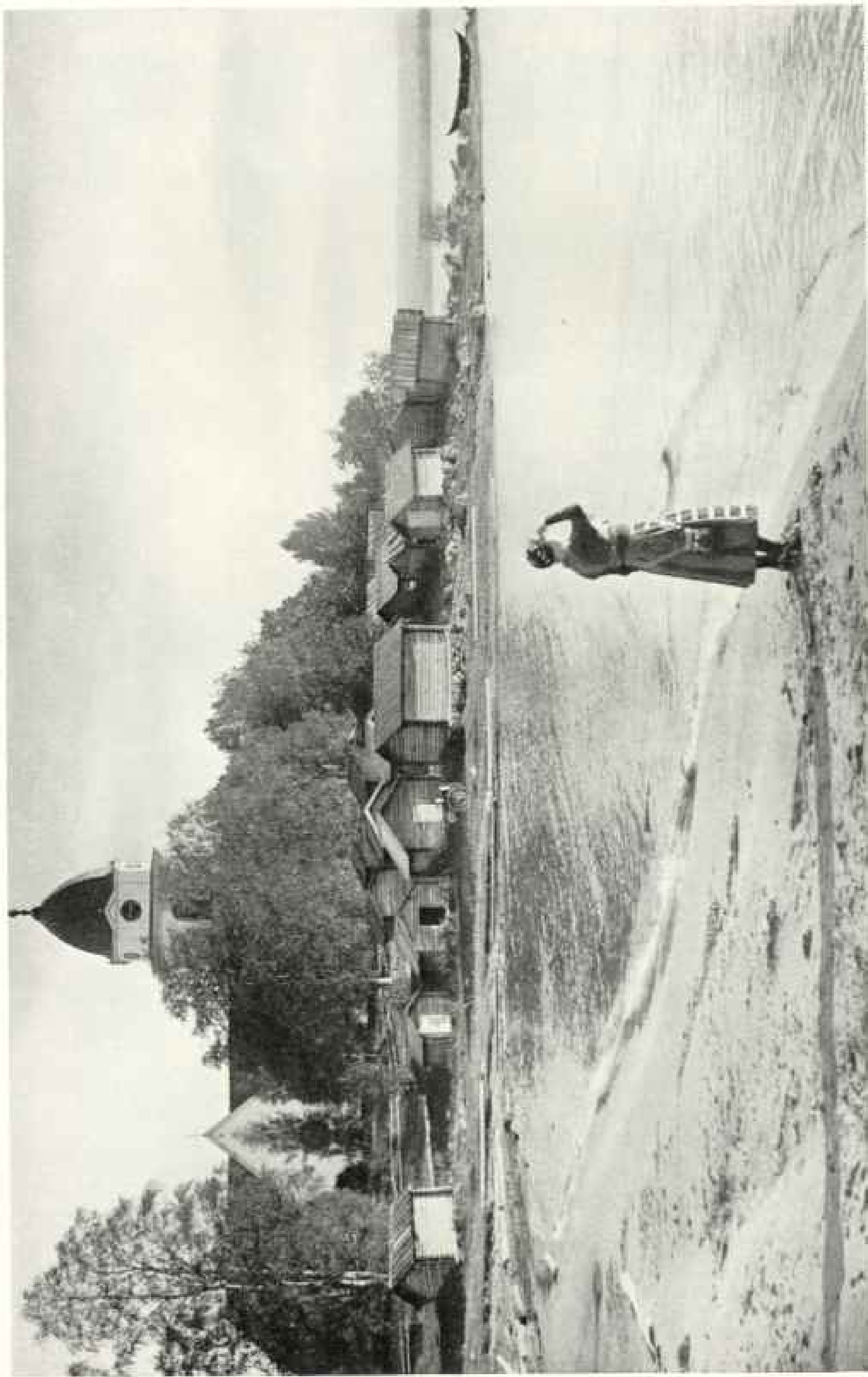


Photograph by G. Heurlin

LEKSAND'S BULBOUS DOME SUGGESTS THE RUSSIAN INFLUENCE.

Lars Siljeström, who served as military chaplain with Charles XII when that Swedish warrior-king was beating down the coalition of Denmark, Poland, and Russia in the Great Northern War, directed the building of the church and gave it this distinctive tower. Some of Sweden's older religious edifices have a separate bell tower which stands apart from the main building (see page 52).

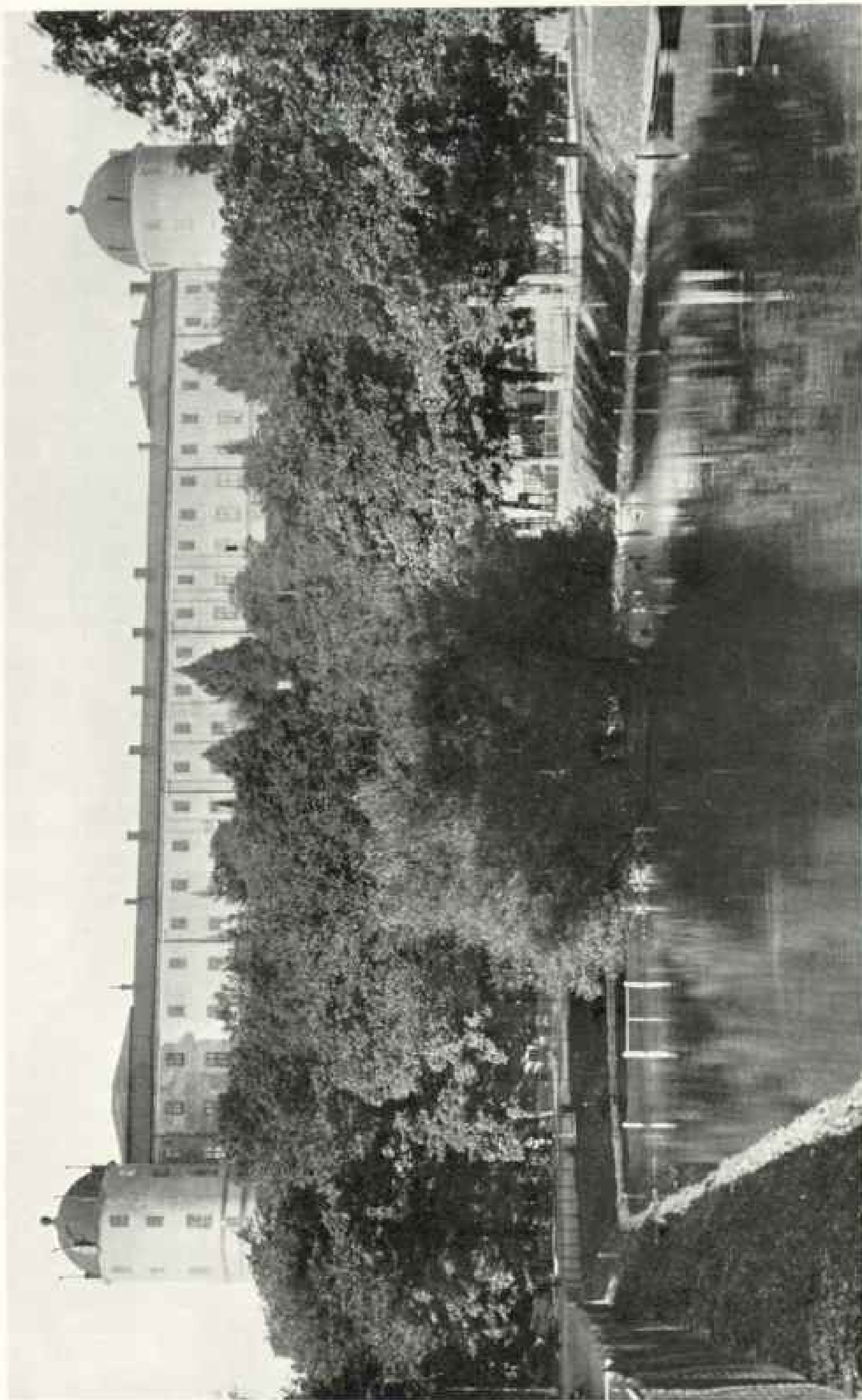




Photograph by Donald McLeish

**A PLEASANT VIEW OF LAKE SILJAN AND HISTORIC MEMORIES ARE RÄTTVIK'S HERITAGE**

On the site of the old church Gustavus Vasa first summoned the inhabitants of the district to battle for Sweden's independence from Norway and Denmark. On Sundays the women still appear in their brightly colored costumes, distinctive of the district (see Color Plate III). In the numerous wooden huts at the water's edge are sheltered the horses during divine services.



Photograph by Donald McLeish.

FOR NEARLY FOUR CENTURIES THIS CASTLE HAS DOMINATED UPPSALA, THE OXFORD OF SWEDEN

In the mighty structure founded by Gustavus Vasa many incidents in the nation's history have been enacted. Here Erik XIV brought death to Count Sture before he was deposed, and here the celebrated Queen Christina abdicated (see illustration, page 13). The building is now used as the residence of the Governor of the province and partly as an arsenal. Uppsala is the seat of the famous university of that name, which opened its doors before Columbus sailed to the New World.



Photograph by Nördiska Museet.

#### ABOUT HÖRNINGSHOLM'S WINDOWS HANGS AN INTERESTING TALE

In an earlier building occupying this site, the future general, Jan Baner, was born, and, as a child, fell from a third-floor window without injuring himself. The Thirty Years' War might have had a very different outcome if this mighty soldier-to-be had not been "borne up by angels' hands." The château, rebuilt after having been burned by the Russians in 1719, stands on a steep cliff in Södermanland, overlooking the Baltic.

whatever, but which now caused me a quite new and peculiar emotion; for example, when my aunt showed me her spacious linen room with the cupboards ranged against the walls. When she opened them, I saw the shelves filled from floor to ceiling with lovely lavender-scented piles of linen. Between the different kinds of cloth unvarnished wooden pegs were inserted, and from each hung another narrow strip of wood.

#### TABLECLOTHS HAVE STATELY NAMES

When I looked more closely at them, I saw a roster of names: the old baroness, the bishop's wife, her ladyship from some distant estate, and so on. My aunt explained that the names were those of ladies, now long dead, from whom the patterns had originally been obtained, and that these patterns had been perpetuated.

The names of the ladies had gradually been transferred to the cloths themselves, so that nowadays the maids received orders to lay the Sunday dinner on Countess Rudenskjöld, and to serve the afternoon coffee on the dean's widow Liedholm.

There were fine damasks of silky sheen and graceful, old-fashioned design, and frankly coarse, rough-surfaced huckabacks of homely rectilinear pattern, the newest still unbleached and a lovely golden gray.

But when on a shelf, right at the bottom, I discovered the word "Stockholm," my dear aunt blushed as if she had been caught in some disgraceful act, and said, "Oh, no; never mind those; they are *bought* cloths!"

The tone of her voice was delicious to hear, full of disgust and shame at such parvenus having insinuated themselves among her jealously guarded treasures.

When I saw all this, I understood better a conversation we had a short time before. She had spoken of the bad times, and how she, like every one else, had been forced to cut down expenditures—on servants, among other things. Formerly the household had kept eleven women servants, including the housekeeper; now she had only six maids, and she felt the difference.

I thought six ought to be enough—at any rate in winter, when there were no visitors



Photograph by Nordiska Museet

#### SKOGAHOLM CHÂTEAU NOW STANDS IN SKANSEN PARK

In 1891, Dr. Arthur Hazelius founded an open-air museum, called Skansen, in Stockholm, where the natural history, ethnography, and architecture of Sweden could be graphically illustrated. In a 70-acre enclosure are presented the highlights of the country. The removal of this mansion to the grounds was a recent phase of the enterprise. The ceiling and walls of this bedroom are distempered in amber and black on a gray background. The bed is covered with a green mosquito net.

except at Christmas; but she reminded me of all the work there was to be done. There was the great autumn cleaning, when double windows had to be put into all the rooms and pasted up, to be taken out again in the spring with equal labor! There was the slaughtering and preserving and jam-making on a large scale; the married children must have all they needed from home.

#### WASHING 800 PAIRS OF SHEETS!

And, beside ordinary laundry work, there was the great wash twice a year, when all her cloths and 800 pairs of sheets had to be washed in due order, whether used or not, so that they might not turn yellow.

But, above all, there was the weaving of curtains, cowhair and rag mats, and all the linen. The four looms had to be at work the whole winter if they were to get through the year's flax harvest which the old women of the estate had spun.

When I saw what masses there were already, I could not help expressing a little blasphemous wonder whether in our days it could really be considered so absolutely

necessary thus rigidly to follow the well-worn ruts of ancient usage.

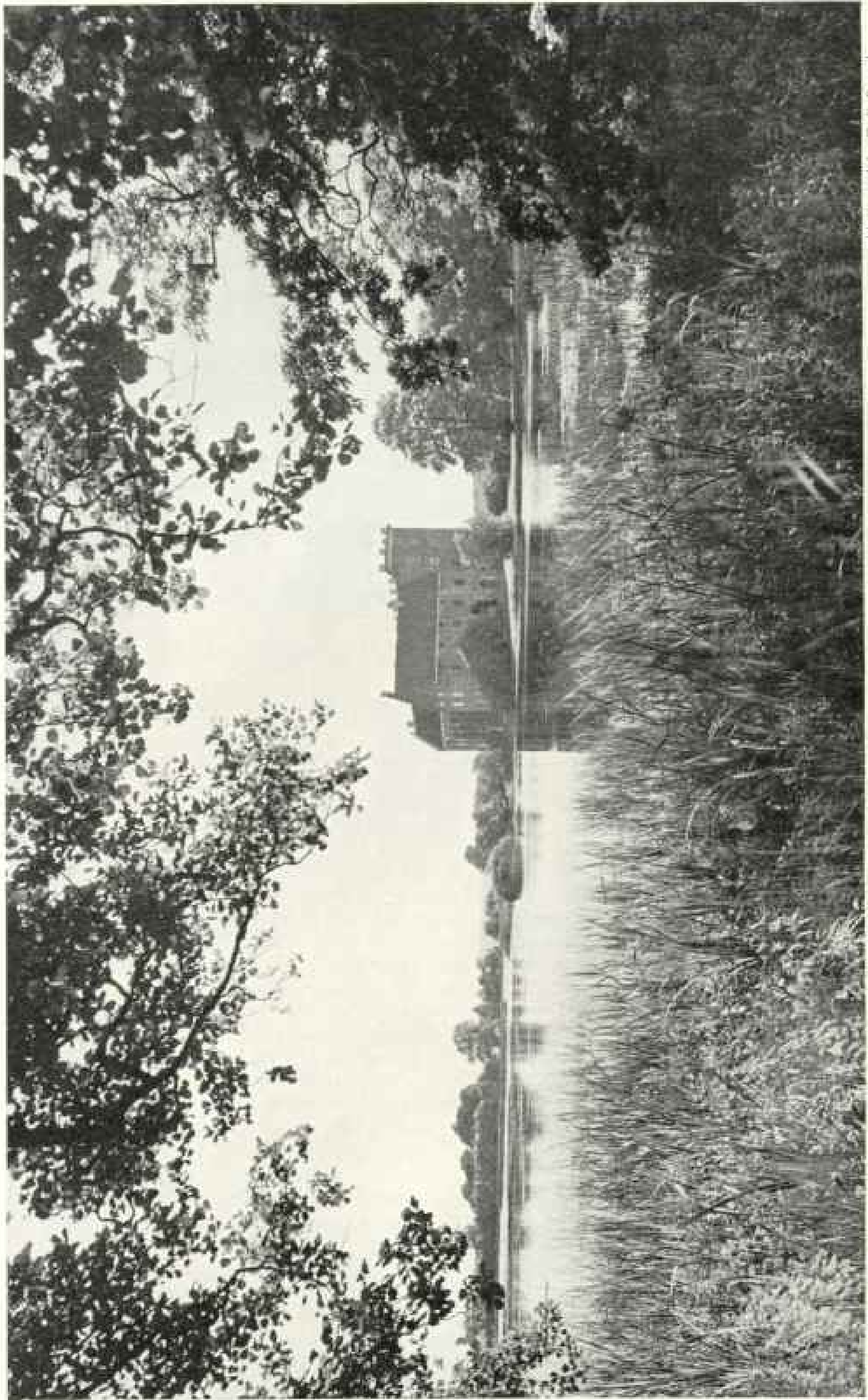
But I was checked by her reproachful look. She raised her head with a beautiful dignity, and said that ever since the place had existed its mistresses had not only kept intact the store of linen they had inherited, but had done their best to increase it, so that all the children had been satisfied when it was divided after their parents' death.

Even if she did not succeed in riding out the storm, even if she were to be the last of the long line of house-mothers, she would not on that account fall short of her predecessors, but would conscientiously and honestly execute her task for so long as it might still be entrusted to her.

As she said this, she seemed to grow in stature; a waft of predestined greatness swept over her figure as she stood there in the cool, bright linen room.

It is not in material things alone that she has handed on to the younger generation a precious heirloom. From her father, Gunnar Wennerberg, whose songs are still loved and sung wherever Swedes are

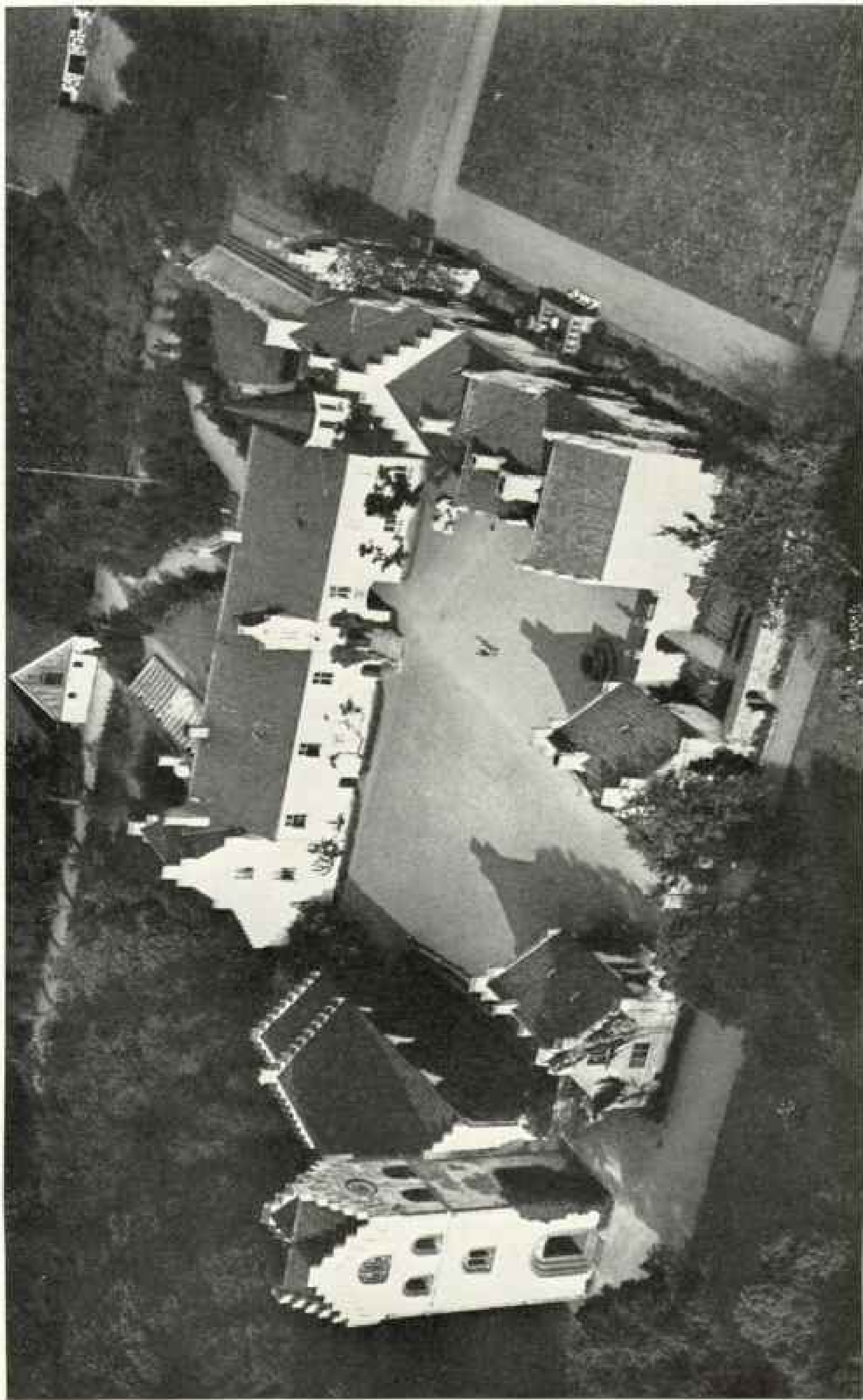




Photograph by C. G. Rosenberg

**FIVE-STORY SVANENHOLM IS THE "SKYSCRAPER" AMONG SWEDISH CASTLES**

As originally built in the 16th century, it had only three floors; the other two were added later by Axel Gyllenstjerna. Surrounding the lake are beech trees, and in the park of the estate are hoary oaks 800 to 900 years old.



© Åsro Materfel A. B.

STEPPED GABLES CHARACTERIZE MEDIEVAL MONASTIC ARCHITECTURE IN SKÅNE

Bosjökloster was a 12th-century Benedictine convent, which, when the Reformation brought Protestantism to the country, became a present to the Archbishop of Lund (see Color Plate IV). Later it became hereditary in the Ulfsund, Beck-Frils, and other families. The interiors are richly furnished, with open hearths and painted hangings.

gathered together in the Old World and the New, music came into her blood and that of us all. She is an amateur singer of note, all her children were born musical, and two of them have trained to become professional musicians.

#### HOME FIRST, CAREER FORGOTTEN!

The youngest of them was already well on the road to make a name for himself as a pianist in some European countries and farther afield. But then the brother who was managing the estate died, and when it became clear that they had to choose between sacrificing the family property and abandoning music, it was the latter that had to go to the wall.

Now the singer goes about the fields, stables and cow house from morning till night, or she sits and plugs at figures in the office and makes superhuman exertions to balance expenditure and revenue.

The pianist goes through the woods, his head, too, full of figures. He supervises felling and planting, and does not let himself be distracted by the song of the birds and the rustle of the wind in the firs. Not till the two come home in the evening, tired out by the day's long toil, do they allow themselves an hour's music at the big piano; but then the music is of the highest quality.

It still happened sometimes that their mother joined in and sang second when one of her favorite songs was struck up. Neither age nor cares nor sorrows have conquered the good old-style training and the noble ring of her deep contralto.

Over at the great table sat another of my mother's sisters, 76 years old—ethereal, spiritualized, and evergreen. She was either working at her latest book or reading the proofs of her son's. She follows with never-failing interest the questions and spiritual movements of the day; and the books and magazines which are read aloud of an evening in this remote corner of "darkest Småland" are on an astonishingly high level.

Those people have not forgotten their ancient mission as pioneers of culture and spreaders of enlightenment; they remember that amid all the cares and worries of daily life there is "one thing which is necessary."

On Saturday afternoons "the baroness's church carriage" was driven up to the door. It was of peculiar and rather comical structure, low and wide; it had been built for

my aunt at a time when, owing to an injury to her foot which lasted a considerable time, she could not climb up into the high family barouche. Custom demanded that the driver of the "church carriage" leave off livery, and that he use two of the heavy cart horses; and, equally, that the passengers should be clad in their simplest and most unfashionable outer garments—perhaps as an unconscious sign that they were on an errand of piety and introspection (see illustration, page 9).

The carriage was filled with wreaths and bouquets of flowers which all had passed the morning picking and tying up, to be laid on the many graves of our family. The ceremonial was no mechanical rite, but something demanding loving consideration; the dead had each of them to have the kind of flowers they liked, or which resembled them externally or inwardly.

It was a long time before my aunt was satisfied with the result; she took her task with the utmost seriousness. Some of her children and grandchildren helped her, and while she went to and fro, and with her own hands tended the graves where rested her parents, her brothers and sisters, her husband and sons, and so many of her other relatives, once more she seemed to me to grow beyond the personal and incidental, and become a kind of living symbol of fidelity and remembrance.

#### CHURCH BELLS AND AUTUMN FLOWERS

In her warm heart these departed all tarried, as alive as when they still walked the earth. As long as she was still there, none of them should be really dead and gone, none faded into oblivion.

Just then the bells began to ring in the whitewashed tower of the old country church. Their sound was wafted out over the wood-encircled lake, which lay there so still and shining and reflected the little red cottages and the great pale-hued mansion.

Everything was clear and clean—the autumn flowers gleamed bright against the rust-red timbers of the rectory, and among the crab apples and white-birch trunks in the paddock a gentle old man walked hand in hand with a couple of flaxen-haired, blue-eyed little girls dressed in light-check cotton frocks.

I drank it all in with greedy eyes and I felt with a sting in my heart that this was Sweden in essence, the land of my childhood and youth.



Photograph by Alfred B. Nilson

#### SUNDAY MORNING GREETINGS OUTSIDE THE CHURCH

At this little seaport town of Simrishamn, Skåne, as elsewhere in Sweden, the people often don their traditional costumes for religious services and on holidays. The stair-stepped gables, which give the tower such a modernistic appearance, are features of the church architecture in southern Sweden.

When I turned my head I saw my aunt, too, standing there with folded hands listening to the bells. In her face was the same indescribable peace that lay over the whole landscape, bathed in evening sunshine, and in its lines the same silent grandeur.

#### ODD OLD CUSTOMS STRANGELY SURVIVE

I found an echo of the Sabbath eve bells in the clear, melancholy gaze with which, after a well-spent working day, she looked out over her broad possessions.

As far as possible she had done her duty, discharged the task laid upon her, faithful to the last, however uncertain the future toward which her retainers and descendants were marching.

One of the things which always struck me afresh on my visits to big Swedish country houses was the peculiar duality that prevailed there—on the one side, the modern spirit of progress and exploitation of all the latest technical inventions; on the other, so stubborn an adherence to ancient customs and traditions.

In my childhood bathrooms were still rather uncommon, and, where they existed, remarkably primitive, with clumsy bathtubs of wood or sheet-iron. But now, of course, it is quite different. The change came during the first ten years of this century.

But, as the result of inadequate sanitary arrangements, there are still many places



Photograph by J. Stenhardt

## THE BREAD BOX IN THIS PANTRY HANGS FROM THE CEILING

The coarse, home-baked *tunnbröd*, impaled on a pole, is thicker and softer than *knäckebröd*, described by the author (see page 30). Old copper molds and pewter services cover the side walls, and on the floor are large vessels in which wines are made from berries and fruit. An array of objects, similar to this at Ollvehult, is found in many Swedish country houses (see illustration, page 45).



where certain other conveniences are installed in some natty little summer house out in the grounds. These are usually round or octagonal, divided in the middle by a partition wall, and provided with two entrances at opposite ends—one for ladies, one for gentlemen. They are as agreeably inviting as they are spacious in their dimensions. They often have muslin blinds in front of the windows, old-fashioned rosy wall paper, and comfortable seating accommodation for four or five persons.

When I refused to take part in the usual mass processions to these places, one of the girl friends of my youth grew quite indignant, and said it was sad to see how corrupted and perverse I had become from living so long abroad. She, thank Heaven, had learned from her childhood up that *naturalia non sunt turpia*—and on the staircase of her ancestral castle the good, honest old convenience for two persons still survived unchanged.

She used to visit it with her husband, and these confidential little chats over a cigarette often proved so pleasant that they took their time over them. And then it happened that her old father and mother had to stand outside waiting impatiently till their turn should come.

I do not mean to say that this kind of thing is frequent, but to this friend of mine it was as natural and as much a matter of course as having a bath in her husband's company.

If one looks at the phenomenon from a historical standpoint one quickly comes to a clearer understanding. We are not compelled to go back to the Middle Ages to find a parallel. As late as the times of Louis XIV and even Louis XVI such unvarnished habits were generally accepted, and no one was surprised at them. And these, like so many other old customs and traditions, have happened to survive at some places in the Swedish countryside.

They are, for that matter, only a minute detail in the mass of other more important things. Every season has its feasts and holidays, which are faithfully observed and celebrated with ancient ceremonial. There are still isolated estates and villages in Skåne where "the cat is knocked out of the cask" by costumed lads on horseback, or where the boys go from house to house and "sing in May," while they decorate the house doors with beech boughs in new leaf.

Easter is celebrated throughout the country with eggs painted or bearing verses, and on St. Walpurgis' Eve (the night of April 30) great fires are lighted on the hills and the boys and girls sing round them at the tops of their voices till the sun rises. It is their way of welcoming the spring and driving away the long, dark winter.

#### RANK FORGOTTEN ON MIDSUMMER EVE

Midsummer Eve is another vigil. Then maypoles decked with green leaves and garlands of flowers are set up on every estate, and squires' daughters dance with agricultural laborers, factory hands with farmers' wives, and servant girls with schoolmasters, inspectors, and the Lord of the Hall. On that night there are no differences of class or opinion, and the old bonds that unite master and tenant are closer than ever.

Not even the crisis can kill the rejoicing, when violins and concertinas make hearts beat quicker and set the feet going. And there seems to be good reason for the fact that so large a percentage of the country population of Sweden have their birthdays in the last week of March.

In August come the harvest festivals, with dancing and eating and drinking on the threshing floor, and the characteristically Swedish crayfish-catching, followed by cheery *al fresco* suppers, with singing and fireworks, or at least colored lamps. Perhaps the Swedes "let themselves go" more on these occasions than at any other time. That mingling of dill-scented, fiery-red crustacean, ice-cold brandy and Moselle, August moonlight and natural beauty has been, ever since the poet Bellman's days, singularly potent in evoking the Dionysian side latent in these people, somewhat stiff and heavy in daily intercourse.

We had a king who went to sue for the hand of Queen Elizabeth of England. He was rejected, but he brought with him the first crayfish which were released in Swedish fresh water; and many a sigh of gratitude have the Swedes uttered since then at thought of what might have happened if he had brought home the troublesome lady instead!

In the autumn comes the shooting of different game. The four days in particular on which elk shooting is allowed are a great and solemn occasion, eagerly celebrated all over the country.

But to get a real idea of Swedish country life, its delights and its peculiar charm, one



Photograph by Alnberg and Preinita

NOT UNTIL THE HOLLYWOOD PERIOD DID SUCH ORNATE  
BATHROOMS REAPPEAR

Italian stuccoes and sculptures adorn the lavatory in Eriksberg Castle, with its two finely chiseled copper baths. These, apparently, provided facilities for several members of the family at one time (see text, page 50).

must have spent Christmas in one of the old houses.

The preparations have been in hand since the middle of November; an ox, several calves, and a number of pigs have been slaughtered, cut up, and stored away, along with the game, in an old-fashioned ice house or modern refrigerator. (Both ice and electric power are obtained free from the estate.)

Countless preserves and sausages are prepared; salting and smoking are done in special houses, the most important feature being the hams and the whole pigs' heads, which later, attractively decorated, are to adorn the Christmas table.

And then there is the *lutfsk* (dried cod) to be cured for three weeks, and the Christmas beer to be brewed, sweet and strong and powerful. Every self-respecting family has its own hereditary recipe, and if possible a jar of yeast which has been renewed and diluted for 150 years and, in some cases, even much longer.

ST. LUCY SPONSORS  
YULETIDE BAKING

On St. Lucy's Day, December 13, one is awakened early by a girl, one with long, fair hair if possible, wearing a white nightgown and a wreath of fir twigs round her head, from which seven lighted candles shine out in the dark winter morning. She serves coffee from a three-legged copper bowl and *lussekattor*. These are somewhat round, swastikalike saffron buns with raisins in them, and date much further back than St. Lucy herself. Similar pastries, as hard as stone, have been found in our Viking graves and prehistoric barrows.

From St. Lucy's Day the Christmas baking begins in full earnest. Much could be said of all the different kinds of *knäckebröd*, spiced bread, buns, and cakes which are made; their history, too, goes often far back. But it would take too long.

Every corner must be made bright and clean, all the white wooden floors scrubbed, all the copper and silver polished till it shines like the sun. So when the morning of Christmas Eve comes, a real festival spirit prevails throughout the house and estate.

A cow and two pigs have already been distributed among the people on the property; the beasts, too, get an extra ration, the

game in the woods as well, and corn sheaves with scraps of lard are put out in the snow for the small birds which have not migrated.

In the old family mansion I specially have in mind, 150 children from the estate are invited to drink coffee in the dining room at lunch time. Each has a high "Christmas pile" in front of his plate—clothes, toys, tasty bits of Christmas sausage and cake, crowned with a huge gingerbread figure cut to the shape of a goat, known as *julbock*. In the middle of the table is the children's own tree, which they are allowed to plunder afterward.

In the afternoon several members of the family drive round with Christmas baskets for old or sick dependents. Others go to the churchyard with fir wreaths and little Christmas trees covered with candles, while some stay at home and seal up the last parcels, or write verses on them. The entire house is filled with a sweet and promising smell of sealing wax.

At 6 o'clock, dressed in festal attire, we go down into the large Old World kitchen. It is gaily decorated with paper garlands and chandeliers of fir twigs and red ribbons, with mistletoe and burning candles in every corner.

When we have drunk the brandy and sung to it, we dip in the pot. This is a solemn ceremony. Each person, in order of age, advances to the kitchen hearth and, uttering a good wish, dips an enormous slice of wort bread, spicy and treacle-brown, in the house's largest copper pot. There the rich soup is bubbling in which the Christmas ham has been cooked, and we fish up steam-



Photograph by O. Borberg

"BE CAREFUL! IT IS 600 YEARS OLD!"

This gilded silver "Angsö" goblet is covered with engravings and four coats of arms depicting a red boat on a golden field. The girl is the youngest member of the family which has owned Angsö Castle since 1710.

ing potatoes and pieces of sausage as well as the broth.

#### ON CHRISTMAS EVE MASTER WAITS ON SERVANT

When all have helped themselves, we sit down round the Christmas table, which is decked with three-armed wax candles and red tulips. On this day the servants sit at the table and the family wait and change the plates.

After the dipping the lutisk and rice porridge are eaten (whoever gets the bean will be married before next Christmas!), and finally *klenor*, cakes of a peculiar shape, cooked in deep fat. In Skåne, where culinary possibilities are unlimited,

a roast goose with apples and prunes is also served.

Throughout the dinner absent friends and relatives are toasted—the living humorously, the dead with due solemnity. The first toast is that of "auld lang syne" and is drunk in foaming Christmas beer from a large silver cup dating from the 17th century and bearing the family crest. It goes round the table and everyone present drinks from it—in accordance with ancient custom.

#### A TREE OF 200 CANDLES

After dinner the company assembles in the largest drawing room round a giant Christmas tree decked with home-made sweets, gingerbread pigs, ornaments, and 200 candles. On the harmonium an altar has been arranged, with yellow tulips and wax tapers, round a picture of the birth of Christ which has been brought out every Christmas for several generations.

Then the head of the family reads the Christmas gospel, all sing the beautiful old Christmas carols and anthems in parts, and tears form in the older people's eyes, while the eyes of the youngest shine with impatient anticipation.

At last their turn comes, too. The whole household take hands and, singing as they go, dance a long and enthusiastic "Christmas polka" all over the house—upstairs, downstairs, through cellars, visitors' rooms, and attics. Not a room may be forgotten; everywhere is brightness, warmth, gaiety.

When the merry band returns to the Christmas tree, panting for breath, the largest family washing baskets are brought in, brimful of mysterious Christmas parcels. It is late at night before all the verses and jolly absurdities have been read aloud; yet nearly everybody crawls out of bed for the Christmas early service, which begins at 6 in the morning.

It is several miles to church, and we drive there, wrapped in thick wolfskin furs, in open sleighs, by torchlight. The snow lies thick on pines and firs; it muffles the trampling of hoofs and the grinding of runners. The only sound to be heard in the stillness is the rhythmic tinkle of sleigh bells near and far. There is no cottager so poor but he has placed a lighted tree or a few candles in his windows to guide and greet the drivers.

The frontages of the great houses are radiant with lights in every window; the little trees on the graves in the churchyard

are aglow; but all these are nothing to the flood of light which meets the worshipers inside the church.

Although the masters, all the year round, mingle democratically with their retainers in the body of the church, on this day only they resume their old places up in the choir, under their ancestors' sculptured and painted epitaphs and coats of arms.

The great moment comes when the whole congregation rises and "*Var hälsad sköna morgonstund*" is poured out yet again under the vaulted roof, mightier and more stirring than ever. It is soon followed by other dear old Christmas hymns. The silver-haired rural dean keeps his sermon short. He knows his congregation, and that what their brimming hearts most need at that moment is not words but song.

Since it is not light till nearly 9, the return journey also takes place by torchlight. And the copious breakfast which then is laid ready for the churchgoers is one of the year's most glorious experiences.

At dinner ham is eaten—in remembrance of the midwinter feast of the oldest inhabitants of Svea. The more English turkey does not come till next day, with "waits" and the carol of St. Stephen. During the next two weeks there is a steady stream of neighbors and guests from a long distance.

Even in homes which have been forced to economize all the year round, the reckless old Swedish hospitality blazes up again. Discarded games and singing dances come into honor again instead of jazz and rumba. Children are at all the parties; it is they who receive first thought at this time.

#### HARDY SWEDES INURED TO COLD

I spent the Christmas season with different relatives in the country. At one large estate the house was of a modest and peculiarly homelike and pleasant type. In the middle was a small, low, two-storied building dating from the end of the 16th century, and on each side of the courtyard were long wings of one story, built in the 18th century.

I observed with envious astonishment how hardened the members of the family were, and how, in the middle of a freezing cold winter, they ran to and fro from house to house without any kind of overcoat—the women, indeed, in thin evening dresses.

In every country house there is one evening rite which is never left to the



THE COLOR AND CUSTOMS OF SWEDEN'S CHATEAU COUNTRY



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Natural Color Photograph by Gustav Heurlin

STILL WATERS OF A MOAT REFLECT THE POWER OF OLD DENMARK

Hoary castles, once the seats of powerful nobles, abound in Skåne, Sweden's farthest south. Some, such as Vittskövle (see pages 8 and 17), were built by the Danes when this rich and fertile province, "the granary of Sweden," was under their rule.





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KING GUSTAVUS III ACTED ON A PRIVATE STAGE IN DROTTNINGHOLM PALACE

He wrote plays and gave sumptuous banquets and entertainments in this castle on the shores of Lake Mälaren, near Stockholm. Costumes, scenery and "props" used in his performances are still exhibited in the theater. Even to-day the royal family like to sojourn here, especially at Christmas.

Natural Color Photograph by Gontay Herflin



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..... "GOOD DAY! THANKS FOR OUR LAST MEETING!"

Thus a young lad of Skåne greets his sweetheart as he calls to escort her to church. Many villages in Sweden had forgotten their traditional costumes; now they are wearing them again, after retrieving the designs from the Northern Museum in Stockholm.



Natural Color Photographs by Gustav Heurth.

BY THEIR APRON STRIPES, THEIR PARISHES ARE KNOWN

Broad, horizontal bands of black, white, dark green and red indicate that the seated young lady hails from Rättvik, on the shores of silvery Lake Siljan. Her apron is sewn to a dark blue skirt. The friend is from Leksand, nearby, where the girls favor loose-hanging aprons with narrow, vertical stripes.



**BOŠJÖKLÖSTER BEGAN LIFE AS A CONVENT THREE CENTURIES BEFORE COLUMBUS**

Isolated on a peninsula jutting out into the Ringsjön, its buildings are as much off the beaten highways to-day as they were when the site was chosen as a retreat for Benedictine nuns. The stepped-gable roof (right) is a heritage from Denmark (see illustration, page 25).



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Natural Color Photographs by Gustav Houtlin

**WHERE BATTLE MOATS WERE TURNED TO ROSE GARDENS**

As the need for them lessened, the owners of Torup castle filled in two of its deep ditches and replaced them with gardens, which even to-day naturalists and laymen from the world over come to view (see text, page 8).

THE COLOR AND CUSTOMS OF SWEDEN'S CHATEAU COUNTRY



IVY MASKS THE ORNATE FACADE OF VRAMS-GUNNARSTORP

Built shortly after the Pilgrim Fathers landed at Plymouth, this castle in Skåne indicates the early trend toward German and Dutch architecture during the era of Sweden's political greatness. Later, nobles preferred the elaborate French and Italian styles (see illustration, page 43).



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Natural Color Photographs by Gustav Hearnin

SKARHULT IS ONE OF SWEDEN'S BEST PRESERVED CASTLES

A wide moat once surrounded its walls which even protected the extensive farm buildings. The huge pile, a relic of Danish days, was strongly fortified and dominated one of the few fords across a nearby river (see illustration, page 11).





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INBORN IN THE SWEDISH PEOPLE IS A LOVE OF FLOWERS AND GARDENS

Even the humblest apartment in Stockholm has its showy window-box, and each room is served regularly by flower vendors. The Norrviken gardens near Båstad are a veritable floral exposition where examples of plants and garden architecture from many periods and lands are displayed.

Natural Color Photograph by Gustav Hourlin





Natural Colour Photographs by Gustav Hertzlin

A FASHION PLATE OF IVGONE SKANE

Her bodice is held together by shining buttons and a chain of heavy silver. The flower design is embroidered, but that on the belt is woven. Details of some Swedish costumes vary with the parish and indicate whether the wearers are married or single.



© National Geographic Society

COLONEL LINDBERGH'S ANCESTORS DRESSED LIKE THIS

The distinguished aviator's family originally came from Skåne. Men wore embroidered shirts, often made by their fiancées. The Colonel's paternal grandfather, Ola Manson, was a member of the Swedish Parliament, and when he emigrated to the United States, changed his name to Lindbergh.



YOUNG SWEDEN PERPETUATES VILLAGE FOLK DANCES

To tunes of fiddle music, young people don festive garb and rehearse complicated steps at Skansen, the open air museum and park near Sweden's capital. Each province once had its own dance, representing work or play—weaving, sowing, reaping, and making love.



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Natural Color Photographs by Gustav Hentlin

THESE SIGHT-SEEKS PLANNED THEIR TRIP MONTHS IN ADVANCE

Because of the convenient size of their native land, most Swedish youngsters learn their history and geography at first hand. Special rates by railroads and inns bring such "pilgrimages" within the purse of students and teachers. For the trek to Stockholm, these pupils wore their Värmland attire.

servants; it is the same everywhere, although different names are used. In some places it is called "looking at the stars"; at others "going out to bark." At my cousin's it was bluntly called "watering the dogs," and the young people took the opportunity to indulge in wild races around the garden. But I have seen uncles of 80, too, going out into the frosty night with their favorite dogs, without thinking of putting on an effeminate overcoat; they have kept their ancestors' toughness and hardihood.

This was in every way a cheery family, and it did one good, in the depths of the crisis, to see their comforting optimism and unflinching industry. My cousin and his wife were untiringly in harness from early in the morning; but, however busy they were, they always found time for sport with their four sturdy children.

He declared that it was "his damned duty" to keep himself in good fettle and condition, so that his eldest son might have to pay the succession duties as late as possible. Early deaths were a luxury which the owners of entailed property could no longer afford.

When he had figured out that it did not pay to rear cattle, he took to breeding horses and sheep. And when the forests were no longer worth selling on account of Russian dumping and other unfortunate circumstances, he resolutely changed his course and immediately began to build shooting-boxes and week-end cottages, which now earn him and his workmen a living.

Talented in several branches of art, he himself draws up all the plans and designs. The cottages are so pleasant and original that they made a hit at once.

His pious uncle had erected a hall for religious meetings, but these in recent times had eked out a precarious existence, with only a few old workhouse people and women squatters as congregation. Now my cousin has turned the meetings into musical evenings, at which he and his retainers practice old and new songs with such vigor and verve that the noise is heard far away across the fields.

The evenings often end in his being asked to sing a few solos. He has a good voice and an unassuming, attractive style, which make it a pleasure to listen to his singing.

It sometimes happens that a chance scientific or literary guest gives an address

or reads aloud something written by himself, and it is a real delight to see the live, keen interest with which these agricultural laborers and their wives and children follow and appreciate what they hear.

The majority of them are naturally members of the district trades-unions; and the proximity of Västerås and its world-famed Asea (General Swedish Electric Company) factories means that they are filled with rather extreme radical opinions.

But this does not prevent them from discussing all kinds of topics and making music with their employer in the most unconcerned manner. Some of them asked me if I knew that it was he who had "hand-painted" the pictures which adorn the walls of the hall. They are evidently not a little proud of their energetic young count.

On my cousin's estate patriarchal tradition and the advancing flood of new ideas, and all they stand for, are about equally balanced.

#### WOMEN TRAINED IN POLITICS

But there is another place whose owner has flung the doors wide open to the new spirit and bidden it welcome. This property is called Fogelstad, and is owned by Miss Elizabeth Tamm, a member of Parliament, and one of the ablest and most conspicuous of our advanced women. Thanks to her extraordinary powers of organization and practical wisdom, she has been able to bring her own estate successfully through the crisis, and also to work as an agricultural politician and reformer.

Her departures in this line are most remarkable, and so is the political school for women she has established on her property, with Miss Honorine Hermelin as principal. Its object is to train women in social questions, to teach them to administer a commune and a parliament, with all the meetings and committees.

Courses are arranged, too, in psychology and history. The women learn to read the newspapers in a new way and see historical events in their proper connection, and to understand the political movements which are sweeping over the world at the moment. No party politics are carried on in that school; all individuals and opinions are studied with vivid interest.

Lecturers come to the school full of their experiences, straight from slave-trade commissions in the East or from acting as

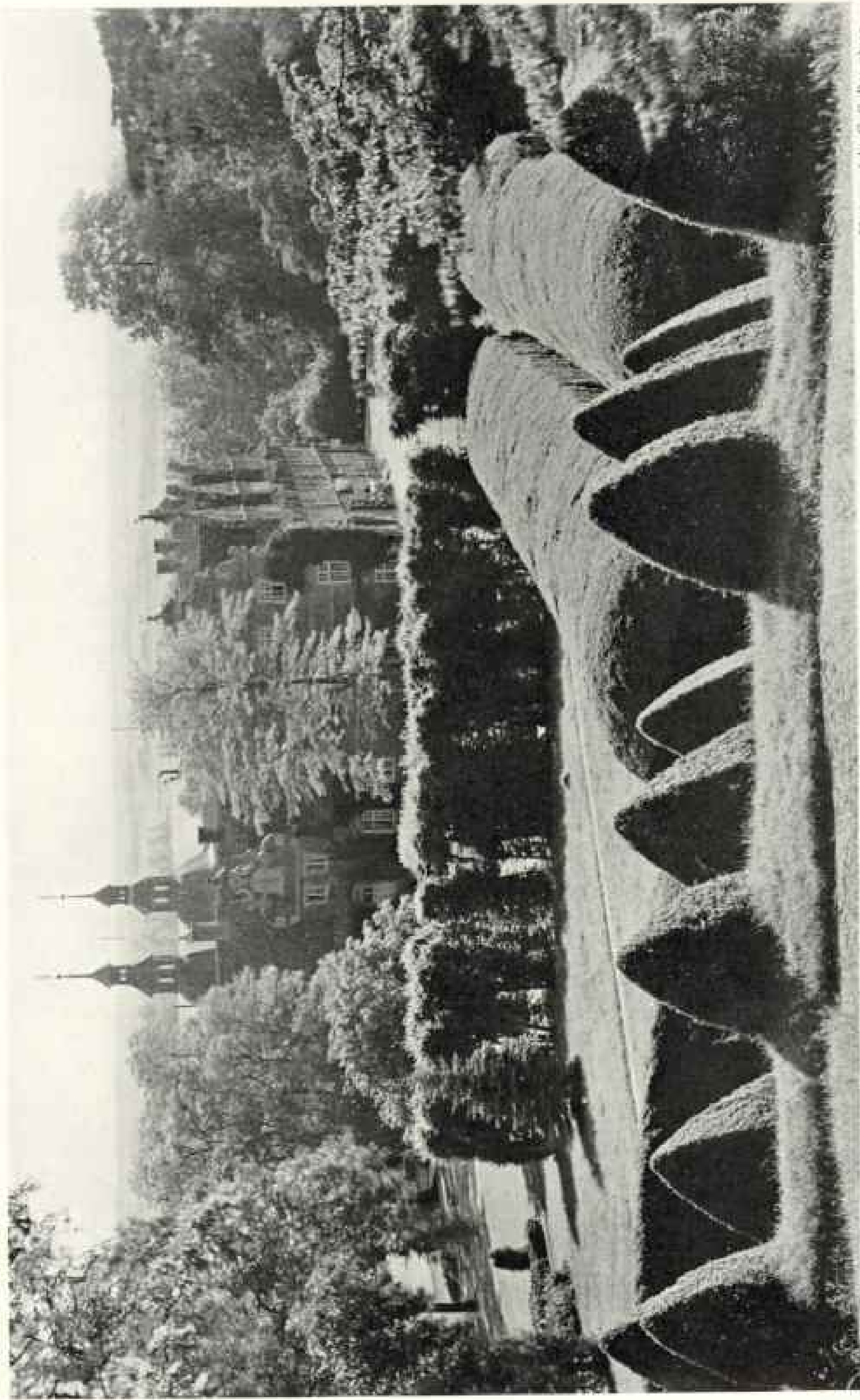


Photograph by G. Beafilm

**GUSTAVUS VASA, FATHER OF SWEDISH INDEPENDENCE, BUILT VADSTENA CASTLE**

Surrounded by a wide, deep moat, and protected on all sides by ramparts and round bastions, this old fortress on Lake Vättern was designed to check attacks from the south, territory then under Danish control. It is a fine example of a fortress of a dramatic period in Swedish history.





Photograph by C. G. Rossmberg

GROTESQUE BOX HEDGES STAND LIKE GRIM SENTINELS GUARDING VRAME-GUNNARSTOEP.

The Sound, which separates Denmark from Sweden, and the wooded hills provide a delightful setting for the castle, a vestige of Danish rule in Skåne. The box in the gardens, surrounding the dressed-stone-and-brick buildings of 17th-century Dutch Renaissance style, are the highest north of the Alps, with the exception of those at Nymphenburg, Munich (see Color Plate V).





Photograph from *The Owner of Tosterup*.

THE TOWER AT TOSTERUP WAS DESIGNED FOR STAR-GAZING

It was oriented under the direction of Tycho Brahe, Sweden's 16th-century Galileo, and is out of alignment with the rest of the castle. Later this old estate came into the possession of the eminent admiral, writer, and critic, Count C. A. Ehrensvärd. The library is full of his deep and witty manuscripts on politics and art and his brilliant letters and drawings. Now graceful swans float in the broad moat.

delegates at Geneva. Much attention is given to current events.

The old pupils have formed an association which every midsummer reassembles at Fogelstad for a few days' refreshing and inspiring companionship. Women from the most diverse spheres meet there—factory girls, students, farmers' wives, women lawyers and social workers, landowners' wives of noble family, and other employers. The contact between them is not the least fruitful result.

The women who attend the school are mostly Scandinavian, but now and again

come visitors from far away, even from India. This enterprising and progressive little cultural center has in the eight years of its existence become known far beyond the boundaries of Sweden.

Its two founders set before them as their aim, "to make women more courageous." Their interpretation of *noblesse oblige* is, in any case, a new and living one.

ERIKSBERG CASTLE  
AND A SHOOT

Last on my list of samples of Swedish country seats, I will deal with one of the greatest and most magnificent, Eriksberg Castle in Södermanland (see pages 62-3).

The first day I was there a big shooting party was in progress, so that I had at once a real quintessence of the country-house atmosphere as it is when it most resembles the care-free days of long ago.

This atmosphere met me on the way, when the white-haired, be-medaled coachman confided to me how low he felt he had sunk

since he had been compelled to drive one of the motorcars. Soon, he was sure, his thoroughbred carriage horses would be as useless as the gilded baroque and rococo state carriages which stood in the coach houses as relics of ancestral times. Ah, things had been different indeed in the old baron's time!

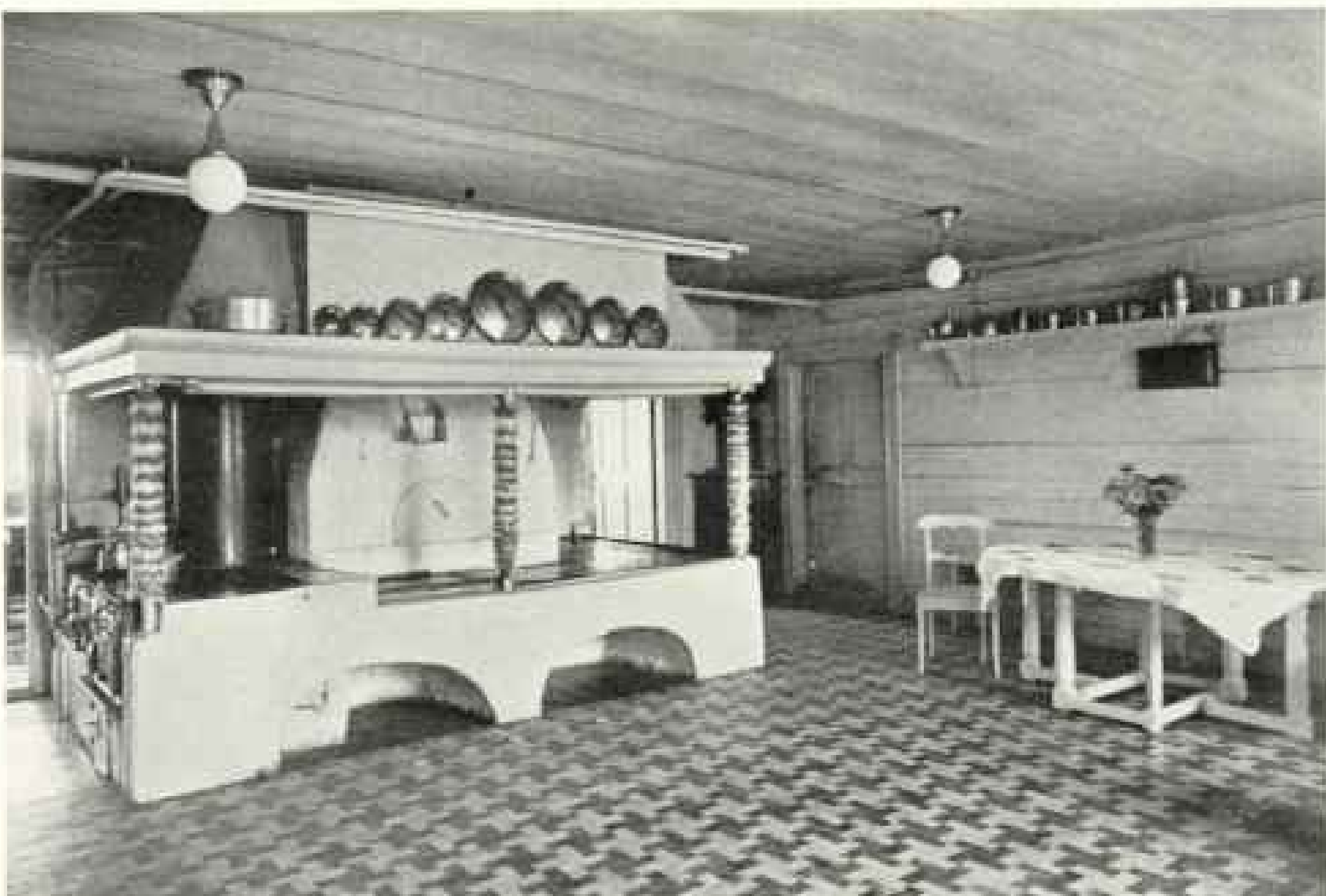
We drove past first-class outbuildings, fowl runs, and orangeries, and came to the lake, on the other side of which the château stands in a high, open position. An avenue of tall trees runs to it as straight as a rule, with water on both sides; and the



© Lund-Molle

WHITEWASH STARS FROM THE FAMILY COAT OF ARMS ADORN ITS WALLS

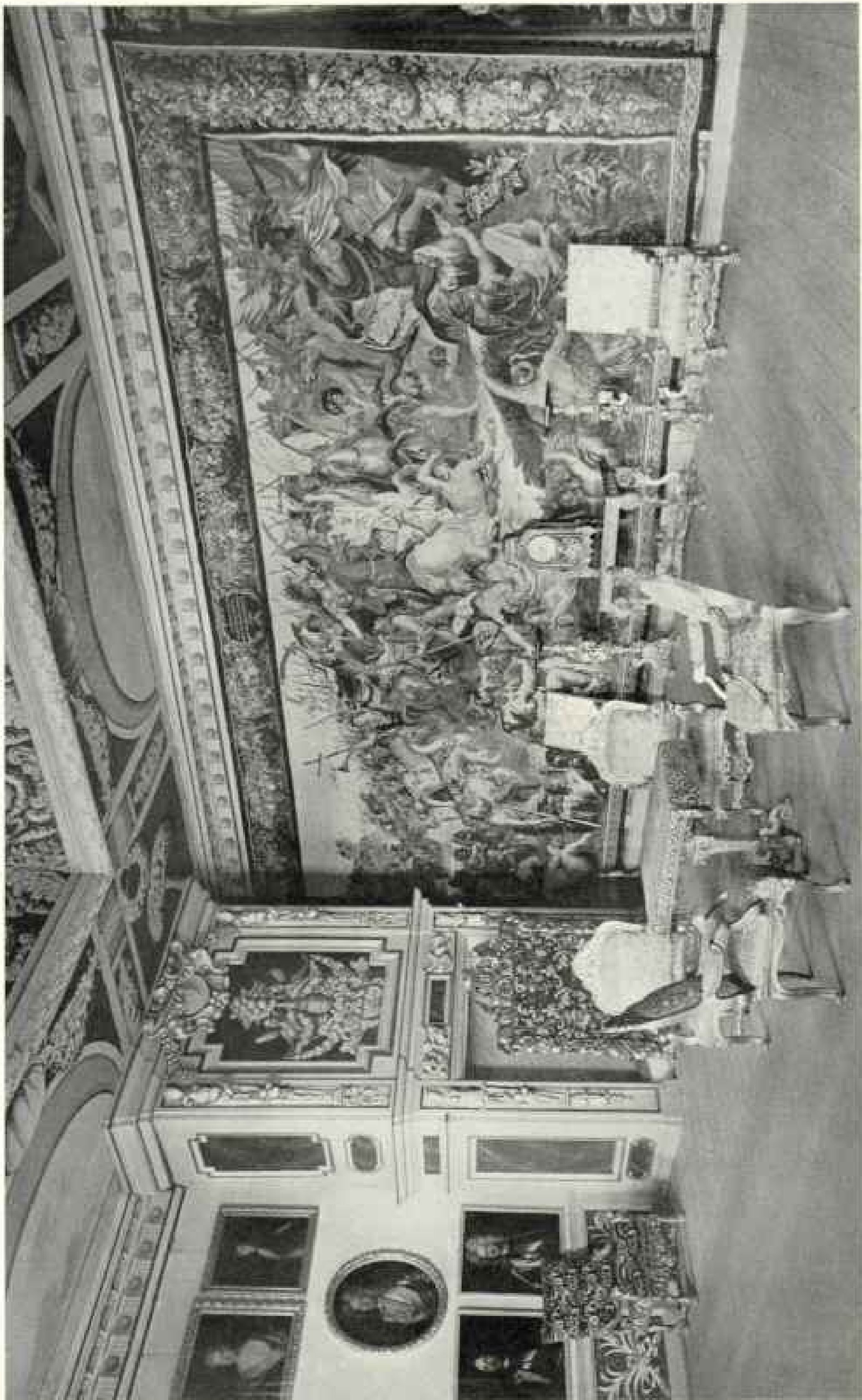
Kräpperup Castle is now owned by the Gyllenstjerna family, whose name occurs in Hamlet as "Guildenstern." This remodeled 16th-century home is situated on the rocky headland of Kullen, northwest Skåne, one of the oldest estates in Sweden. The interior is filled with many art treasures.



Photograph by J. Stenhaml.

THE 20TH CENTURY HAS QUIETLY PENETRATED THIS KITCHEN

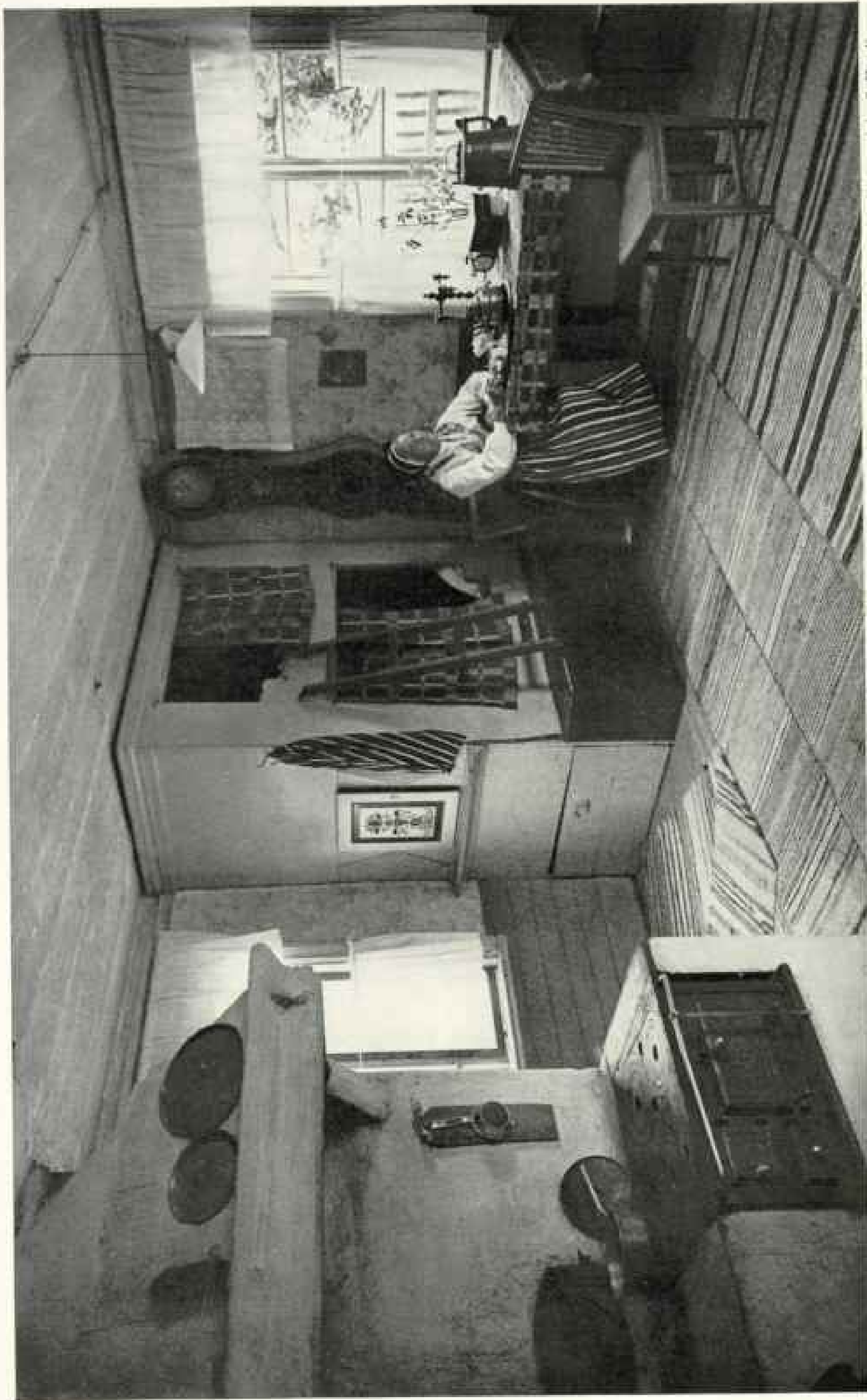
Less conspicuous than the ceiling lights, however, are the linoleum floor covering and cooking range, which has been fitted on to the old-style oven. This cookroom at Olivehult, with its gleaming copper utensils and whitewashed, horizontally timbered walls, is quite typical of the Swedish country houses (see illustration, page 28).



© The Count of Skokloster.

A BATTLE SCENE ON THE TAPESTRIED GUARDROOM WALLS OF SKOKLOSTER

This is one of the celebrated Alexander tapestries, designed by Le Brun and woven and signed by Van den Hecke. The countle was so grand that Charles XI stayed in it for several days with a suite of 400 (see illustrations, pages 50, 51, and 59).



Photograph by G. Bourlin

LIVING ROOM, BEDROOM, KITCHEN—ALL IN ONE

Except for the electric light, modernism is a thing apart from this home. In the corner are the cupboardlike beds, requiring a ladder to reach the upper berth. A parlor, frequently located in another building, is reserved for entertainments and weddings. These older-type houses are numerous in Daharna. Serene old age is a reward for the placid flow of country life.



© Allen and Akerlind

ANCESTRAL PORTRAITS ON TISTAD'S WALLS DATE FROM THE ERA OF QUEEN CHRISTINA

During her recent visit to Sweden, Greta Garbo visited this stately chateau. Its owners are her close friends and its seclusion by woodlands afforded her a restful retreat.

steep drive up to the house is flanked by four separate annexes.

At the top of the flight of steps the cheerful, friendly hostess, the only person who had not gone out shooting, stood to receive me.

When I came from the morning fogs and November damp into the sitting room across the hall, it was as if I had walked straight into another season. The tables in the three deep window niches were full of hot-house flowers, which recalled the sunshine and southern latitude; there were flowers all over the room; and on the hearth crackled great logs, which thawed me pleasantly after my drive.

As we sat before the fire and revived old memories of our childhood and youth, my eyes flew with delighted recognition round the large rectangular room. With its heavy 17th-century furniture (in part trophies the ancestors had laid their hands on in the Thirty Years' War), it is one of the most attractive rooms I know. On one long wall hang the big portraits of the "Lady of Pinntorpa" and her husband, Baron Erik Gyllenstjerna. It was she who rebuilt the house nearly 300 years ago and gave it its present imposing aspect.

All kinds of stories are told of her stern régime, and it is declared that she still shows an interest in her life's work by putting in an appearance now and again as the castle ghost.

Between the windows are several excellent family portraits by our great 18th-century painter, Breda, and over the piano one of Rembrandt's many likenesses of Saskia. On the other walls—

and, for that matter, pretty well everywhere throughout Eriksberg—hangs a really fine collection of old Italian, German, and Flemish masters—Titian, Salvator Rosa, Holbein, Breughel, Jordaens, Wouwerman, to mention a few names from among the many. An Albrecht Dürer recently "crossed the ditch," but since the others belong to the entailed property, it is hoped that they will be allowed to remain in Sweden.

ROUGH CLOTHES FOR THE SHOOTING

The time passed quickly in those pleasant surroundings; before we knew where we were it was lunch time, and the hall was filled with snorting, loud-voiced sportsmen



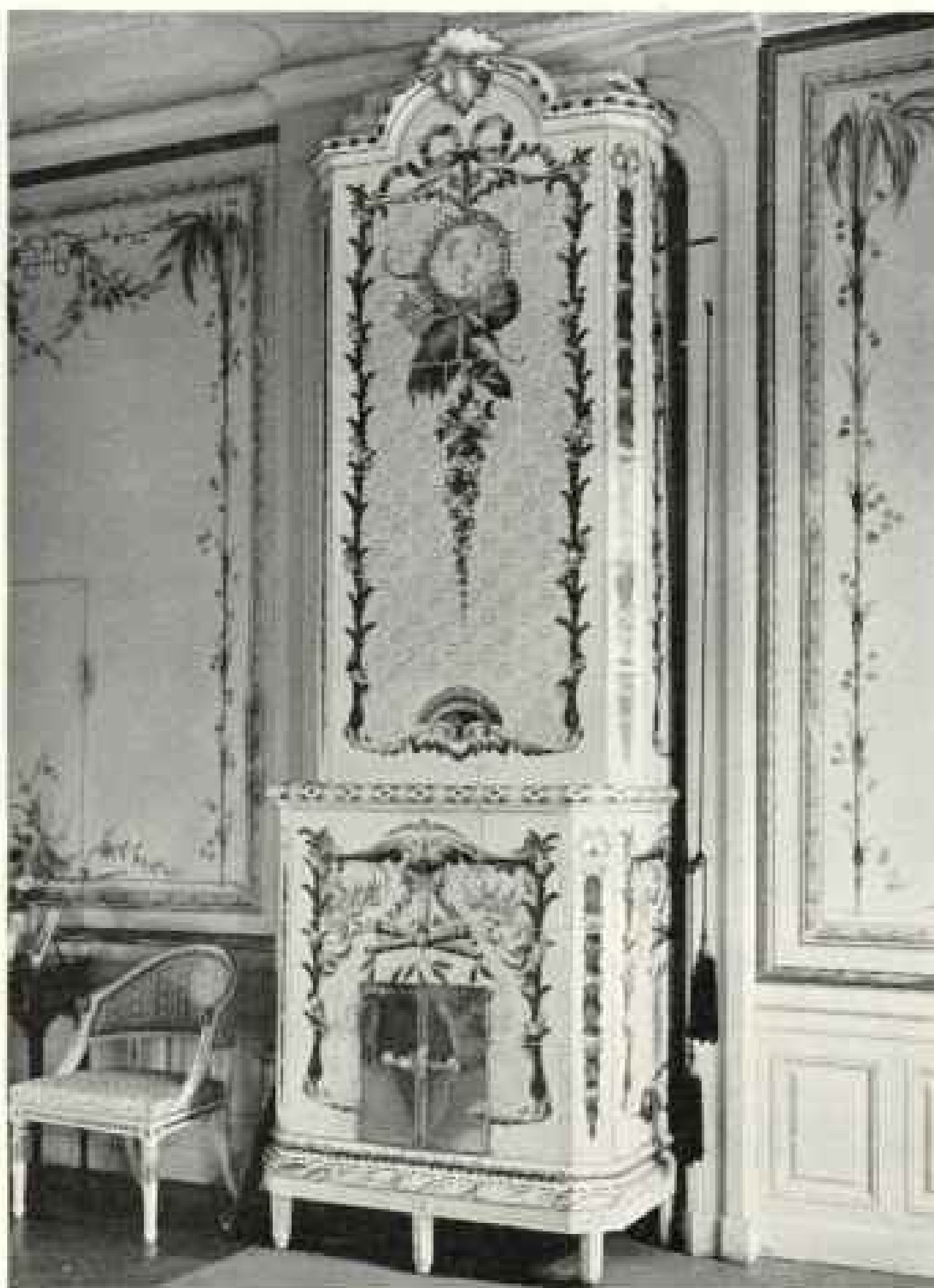
with red cheeks and noses. Their wet clothes had a masculine smell of powder and game, of pine woods and moss, and the older and more absurd the garments were, the more highly their owner seemed to value them.

Merry Countess X, from one of the neighboring estates, had a woolen jacket and shooting hat which had faithfully served her in rain and storm since the beginning of the century. I doubt whether any of her kitchen maids, or the poorest women on the estate, would have been willing to show herself in public in them; but she enjoyed wearing her good old togs. She was, moreover, one of the best shots in the district, so the men told me with reverently lowered voices.

To be strictly truthful, I must admit that some members of the party wore stylish and picturesque shooting kits from London's smartest tailors. Nevertheless, the old proverb, "A man is known by his clothes," counts for uncommonly little in these circles. Not even fame or money play any considerable rôle there; people are judged and esteemed by quite other standards.

As usual in the country in Sweden, a buffet lunch was eaten without servants. Every one helped himself from the large central table, where spirit lamps kept the dishes hot, and then sat down at the small tables scattered about the big dining room.

The food, too, had a masculine smack: every imaginable kind of herring and smoked fish, fillets and mincemeat of elk done up in cabbage, sharp ginger pears and



Photograph by Nordiska Museet.

THIS IS NOT A PERIOD RADIO, BUT AN ARTISTIC STOVE

The tile heater at Sturehov is an 18th-century design from the Rörstrand and Marieberg factories near Stockholm, and is more elaborately decorated than those in general use. Birch wood is used as fuel, and the heat circulates through channels in the tiles, heating the entire stove. Open grates are used in some of the country houses, where central heating is regarded as an effete luxury of city folk (see text, page 18).

still sharper cheese, home-made knäckebröd as thin as paper, and black spiced bread, strong brandy, and the thin light beer which is all the regulations allow in Sweden.

The whole meal was disposed of with energy and speed; and when the leader of the party blew his horn, the cheery company tumbled downstairs again and went off to the woods in a long procession of motorcars.

Only the hostess and I remained behind to go over the house. We first looked at the Flemish still-life pictures and robust 17th-century family portraits in the dining



© Aero Materiel A. B.

#### ONCE A NUNNERY, SKOKLOSTER BECAME A GIFT TO A WAR HERO

Herman Wrangel, field marshal of the Thirty Years' War, was the recipient, but the present building was erected by his son, the even more famous field marshal, Karl Gustavus von Wrangel. Among its priceless collections, the author was attracted by many parchment-bound volumes which the Swedish army took as booty from Prague, and then used to pave the miry roads on their journey home. The mud stains and impressions of the cannon wheels are still visible on them (see opposite page; also, pages 46 and 59).

room; at the view down into the chapel from the organ window, and all the magnificent antique glass, china, and jeweled caskets which filled the cases along the walls.

Although many of these were historical curiosities and regular museum exhibits, none of them so strongly impressed my imagination as did a little dark, shrunken object, as hard as a stone, which lay upon a yellowed scrap of paper. On this was noted, in a graceful Old World handwriting, that it was the skin of an orange which had crowned the wedding cake at some marriage in the family in 1621. It was prettily cut in the shape of a crown, and is known to have been the first "golden apple" of the kind ever seen in our northern land.

#### THE FIRST BATHROOM IN SWEDEN

The first real bathroom in Sweden, too, is at Eriksberg, though our peasants have had their steam bathhouses from time immemorial. This bathroom is adorned with rich Italian stucco and sculpture of 1670. In each corner stands a finely chiseled cop-

per bath, and in the middle is a basin with a balustrade around it. The place seems to have been designed for families of some size at a time when baths were still taken in company (see illustration, page 30).

There are heavy, ornate baroque ceilings with decoration in high relief in most of the rooms at Eriksberg, not only in the state apartments, but also the smaller bedrooms and guest rooms. And painted ceilings, too, by Ehrenstrål and other Swedish masters of the 17th and 18th centuries.

The reception rooms are equipped with a quantity of old furniture and works of art, historical and cultural souvenirs and rarities. There are a tapestry and a wooden dinner service of the 16th century, Sèvres china, a complete series of portraits of the Swedish kings from Gustavus Vasa downward, several hundred exquisite old watches, and one of the most remarkable collections of coins in the North.

Perhaps the best thing of all at Eriksberg is the library on the second floor, whose rooms contain 60,000 volumes. Among its



Photograph from Amelie Fosse-Brändöck

**A MASSIVE CASTLE IS BUILT OF WOOD**

Gripenberg was erected for Field Marshal Karl Gustavus von Wrangel, after a design of Nicodemus Tessin the Elder, the Christopher Wren of Sweden, who planned many of the country's chief buildings. The turretlike towers are reminiscent of the days when every home was fortified.



© The Owner of Skokloster

**HERE SLEPT THE MASTER OF SKOKLOSTER WHEN HOME FROM THE WARS**

Karl Gustavus von Wrangel, who led the Swedish armies through many campaigns in the Thirty Years' War, built the extensive chateau and filled it with spoils from his conquests. The walls of the bedroom are covered with tapestries woven in Holland, signed Schaeep, 1634-47. Carefully preserved are the Count's bed with a red velvet baldachin, his ornamental watch, and an ebony case full of rare Swedish, Bohemian, and Venetian fancy glass, centuries old.



Photograph by Donald McLeish

A REMBRANDT MIGHT HAVE CONCEIVED THIS LIGHTING IN LEKSAND CHURCH

This largest country church in Sweden, with a seating capacity as great as a modern motion-picture theater—it will accommodate 5,000 worshipers—was built by Swedish soldiers after their return from captivity in Russia more than two centuries ago. The altar rail, where this girl is kneeling, ordinarily is used only at communions and marriages in the Swedish Lutheran churches (page 19).

treasures are some of the rarest printed works of the 15th, 16th, and 17th centuries—several unique specimens.

Among the chairs of the Gustavian and Caroline periods a kind of high-backed "Savonarola chair" stands conspicuous, with head-rests and stamped leather. It belonged to Charles VIII Knutsson Bonde, one of the ancestors of the family, who was King of Sweden in the 15th century—three different times into the bargain.

#### THE KING A FREQUENT GUEST

The present owner of Eriksberg, Baron Carl Gotthard Bonde, is a highly cultured and considerate man (see illustration, page 3). He contents himself with being the King's First Master of the Buck Hounds. But he is his friend at the same time. His Majesty has his own rooms at Eriksberg; it is one of the places to which he most likes to retire to shoot, play cards, and find recreation in happy family life (and in his little private hobby—embroidery).

The lady of the house is one of those people who understand how to make others happy by herself having a thoroughly good time and strenuously enjoying the blessings of this life so long as they last. Her robust and sunny personality, with its invincible aplomb and inherited authority, which some call despotism, is singularly well adapted to her 17th-century environment. One can hardly imagine any one better suited to be mistress of this, the largest estate in Sweden—60,000 acres, including tenants' holdings.

She is as expert in the musical as in the culinary field, and knows as much about flowers as about delicate hothouse fruit and breeds of poultry.

But, then, she has material of which to make something, both in and out of doors. The exterior of Eriksberg is as grand as the interior. The straw-yellow castle with its white stucco decorations and pilasters is built in the form of the letter H, with a low tower at each corner and a steeply curved roof.

The park on the southern side recalls Versailles; with its fountains, statues, clipped hedges, and cypresses, it is one of the most beautiful in Sweden. And the mistress of the house has skillfully extended it by adding flower beds in the modern style, bulb gardens, and basins in no way inferior to their older rivals.

To return to that first day of my visit to Eriksberg, the entire afternoon was not spent in going over the house. There were other things, too: a drive in the woods, where the pheasants were being killed in hundreds, and tea in the hall, where dripping-wet sportsmen moved about softly in felt slippers or simply in stocking feet, and all talked at the same time of their exploits and remarkable shots.

Then the great house became quiet for a few hours. Not a sound was heard but an occasional distant snore or a little giggling from the young people's quarters. Later began the running of water from the bath taps on various floors.

#### FINERY RESERVED FOR DINNER

When the dinner gong sounded for the second time at 8 a brilliant sight met the eye. All the people who in the morning had wrapped themselves up in severely practical old garments of wool, tweed, and leather, had now burst, like butterflies, from their chrysalises. I rubbed my eyes; I had some difficulty in recognizing the dazzling apparitions. Such a gathering of virile, well-groomed men and beautifully dressed, charmingly fresh and natural women it would be very hard to find outside Sweden.

The traditional *smörgås-bord* (*hors-d'œuvres*) was served in a refined and sublimated form in the upper hall, and then we went two by two into the dining room and sat down around the long table, which sparkled with blinding white damask and giant chrysanthemums in the colors of the dawn. The glass cases now had to yield up their oldest silver and most valuable china; there was, indeed, no stint.

The soup itself gave an impression of what was to come: a bouillon of all kinds of birds, but with elk's meat as deep bass in the symphony. The only spoonful I dared to taste intoxicated me like old port; I was not accustomed to such marrowy essences.

The dishes that followed worthily upheld the traditions of the place, which are as glorious in the gastronomic as in other fields of art. The green sauce with the fish and the golden one with the pheasants racked the brains of ambitious housewives and elderly gourmets. Nobody has yet succeeded in discovering their secrets, and when the cooks grow old they stay on at





Photograph by Donald McLeod

#### LEKSAND GIRLS LEARN EARLY HOW TO USE SPINDLE AND REEL

From the making of the thread to the last embroidered stitch on the collar, Dalarna costumes are the products of home industry. The region around Lake Siljan is the only part of Sweden where these old folk dresses are now worn regularly (see Color Plate III). The women of the district excel in lace designs and fine linen embroidery.

Eriksberg on a pension; treasured recipes are not to be circulated unnecessarily.

A vegetable was served which grows nowhere else in Sweden but at that one place. The knowledge of this made us consume this simple open-air product with greater reverence than all the early fruit and lettuces raised by the new method, with electric current in the soil.

#### GASTRONOMIC MARVELS EXCITE AWE

The ice-pudding was made of the thickest unwhipped cream and a mash of wild strawberries which had been stirred with sugar for four hours, and which can then be kept raw for an indefinite period. When I

expressed my astonishment that modern servants could be induced to show such endurance, my hostess said that was nothing; I ought to see the Christmas porridge. In their family it had, from time immemorial, been made not of rice, but of barley, in a gigantic copper washtub. And several women, two by two, took turns in stirring it with a wooden stick for no less than ten hours on end. It was continuously diluted with rich milk, and it finally turned out a marvel, strong, rose red, and caramel scented.

I was able to confirm this on my next visit, at the New Year. For this historic porridge is somehow preserved by the long



Photograph by P. Bagge

AS ELABORATE AS A DRESDEN DRAWING ROOM IS THIS SOVDEBORG PARLOR

The intricate carved-wood baroque ceiling dates from the 17th-century days, when architects followed the German style. Later, France, Italy, and the Netherlands left their mark on Swedish country estates. Even with the widespread use of electricity, candles for such chandeliers are still made at home.

process of boiling, so that it reappears in the dining room and in the servants' hall on the eve of every feast until Canute's Day, January 13, when Christmas ends. It is served before the lutfisk instead of soup, with sugar and cream; and not only its quality, but the quantity the aristocratically slim members of the family are able to consume would astonish foreigners.

Although I have devoted some space to the pleasures of the table, it must not be thought that the material side of that shooting party was the most important. On the contrary, the tone of the company was bright and animated from the very beginning, and the longer the gathering lasted

the livelier it became—as easily happens when, as in this case, every one feels in his own native element and no outsiders are present to compel reserve and reticence.

SKÅL!

As usual in Sweden, the master of the house bade the company welcome in a few cordial words, and then the host and hostess gradually drank with all the guests in turn. The guests drink with each other, too, but it would be regarded as a deadly sin if one of them should attempt to drink with his host or hostess. The custom is said to be a survival from the time when it was considered discourteous to drink the host under



Photograph by Donald McLeish

THIS FAIR MAID TAKES "TIME OUT" FOR THE PHOTOGRAPHER

Her costume is the *skedevi*, a variation of the traditional folk dress of the province of Östergötland. Near her home on Lake Vättern is the historic Vadstena Castle (see illustration, page 42).

the table; it became only the guests to befuddle themselves.

This health-drinking is a profoundly serious ceremony, however one may smile and joke the moment before and after. The men raise their glasses to the pearl button of the dress shirt, bow without rising, and stare the person they are toasting straight in the eyes; the ladies may allow themselves a vague smile as they graciously incline their heads.

Speeches are also made if there is any special occasion; though, generally speaking, this makes little appeal to the not very expansive Swedish character. As a rule, all that is done is that the man who takes

the hostess in (the place of honor in Sweden is on her left) returns thanks for hospitality received in the name of all the guests. On this special occasion a member of the Royal Family was present, so it was natural that this task should fall to his lot.

When dinner is over and the liveried footmen have drawn back the chairs, the company march back two by two in a long procession through a suite of rooms to the farthest and largest drawing room, where the hostess is standing before the fire to receive thanks and have her hand kissed by the men.

In Sweden the latter do not remain in the dining room, although it may happen that a few of them steal off afterwards to some distant room to enjoy their liqueurs, brandy, and anecdotes without the fetters imposed by the presence of ladies. Our men certainly cannot be said to be great flirts or adorers of women, though they

are real good fellows, excellent husbands, and reliable comrades for life.

That evening after the shoot, at any rate, there were a considerable number who did not disappear to play cards in the smoking rooms, but preferred to remain and listen to, or even take part in, the keen debate which quickly sprang up on the chance the entailed estates, and the nobility in general, had of holding out in the struggle.

A DISAPPEARING GENUS

In a book of mine just published, I had dared to question their right to existence and compared their refined species with the dinosaurs, which were condemned



SWEDEN PRESERVES THE HOME OF HER ILLUSTRIOUS NATURALIST

Carl Linnæus for more than 30 years occupied the chair of botany at Uppsala University. He built this little two-story house in 1762. In the adjacent summer building, which also served as his museum, he lectured to students and colleagues from far and near.

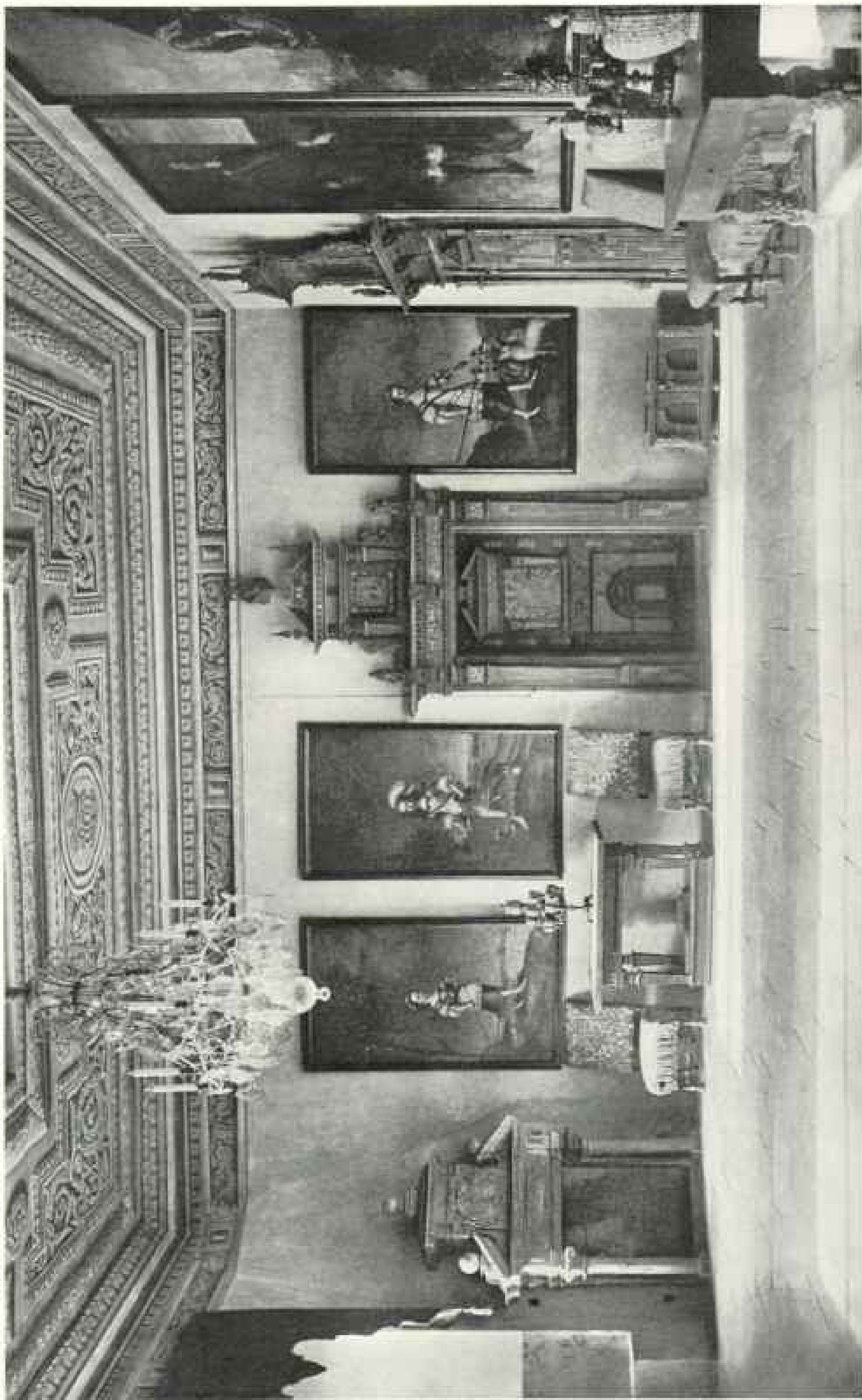


Photographs by Nordiska Museet

THIS ROOM IS A SHRINE TO THE BIRTH OF MODERN BOTANY

The walls of this upper-floor sitting room of Linnæus, at Hammarby, are papered with colored engravings and the original plant pictures painted by the noted botanist and his pupils. In the monumental volumes from the pen of this great scholar there appeared, for the first time, the uniform use of specific names of the different plant species.

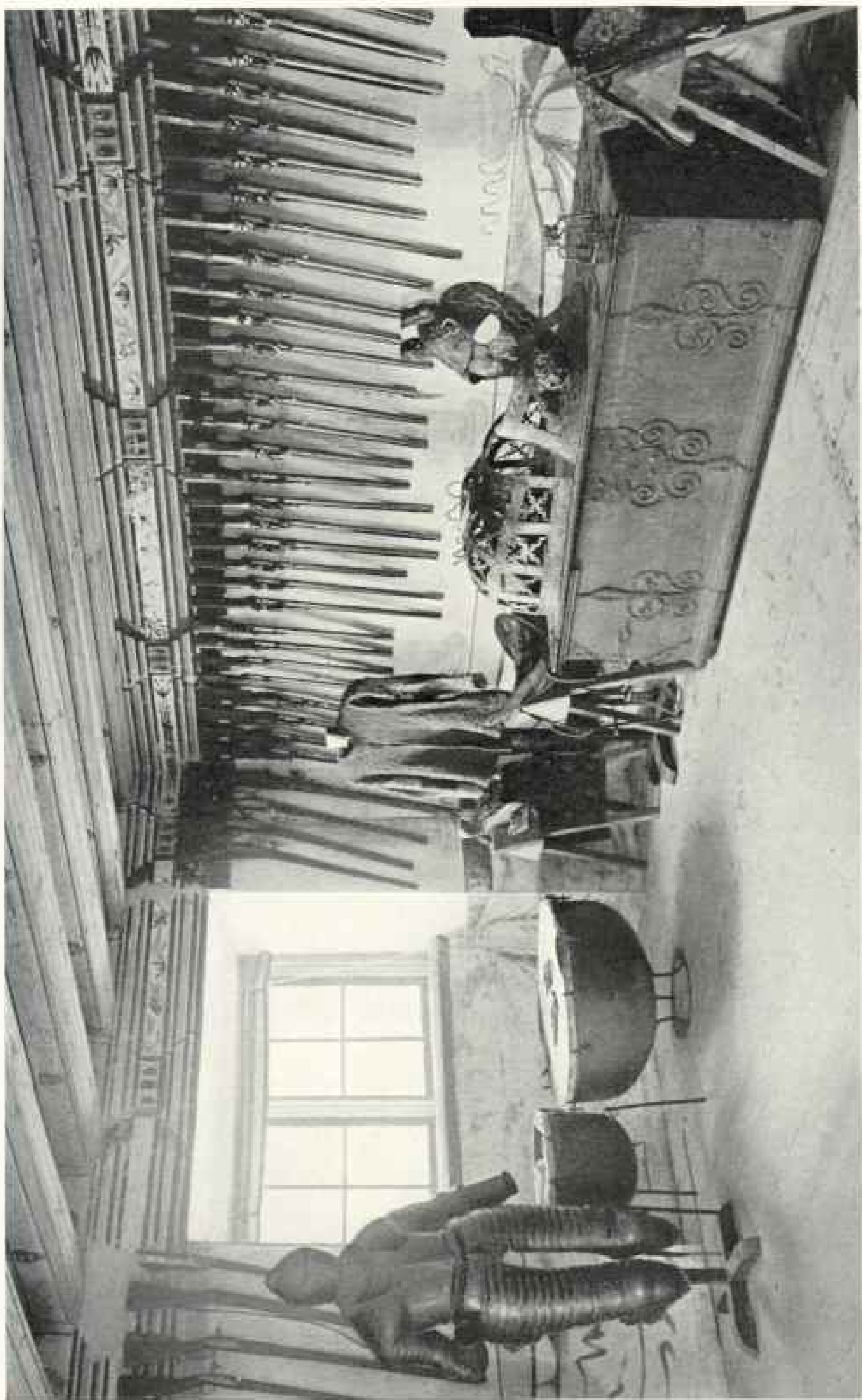




Photograph by Atelier Juegert

#### KNIGHTS AND FAIR LADIES STILL WALK IN THE HALLS OF TIDÖ CASTLE

The century of Sweden's political greatness, the seventeenth, also was the golden age of large country houses. Generals returning from the wars vied with each other in the magnificence of the castles they built. The elaborately carved doorways and doors seen here are excellent examples of Swedish art. They and the fireplace (left) bear the owner's initials and various dates, 1626 to 1652. The mantel, erected last, has different lettering, because the master had been made a count (see page 13).



© The Queen of Skokloster

HERE THE GHOSTS OF THE HEROES OF 1618 MIGHT ARM THEMSELVES

In the armory at Skokloster are about 1,200 guns of various types, and also swords, saddles, armored jerkins, cannon, and other military equipment of the Thirty Years' War, which were assembled by Karl Gustavus von Wrangel. The large drums are said to have been used as altars in the field during that prolonged struggle. The metal trappings for a horse lie on the top of the chest. Scholars from all over the world have come to study the historic and cultural treasures of the castle (see pages 46, 50, and 51).

by the laws of Nature to be exterminated to make way for other, fitter forms of life. "With heads waving high over the tree tops, kind and gentle, without weapons to defend themselves; when the new, aggressive, stronger, though smaller, beasts began to gnaw at their feet."

I now continued in the same strain, and the discussion came to turn on whether we can really allow ourselves the luxury of maintaining such an antediluvian caste, which still sits on its old seats and represents a form of life that of course appeals to our imagination and poetical feeling, but which is out of harmony with the time in which we live.

We certainly improve the breed of horses and dogs without our social conscience being offended, but the cultivation on the same principle of individual human beings is a matter in which we are nowadays easily attacked by scruples and sentimental appeals to our sense of justice. In this question it is considerably more difficult to maintain either the rational eugenic or the esthetic-historical standpoint.

Several of my contemporaries and the older people assailed me with vigor, holding me for a traitor to the class and race in which I had been born and brought up. And I found it really interesting and instructive to hear all the arguments they put forward to prove that the existence of their caste was justified, to explain its important functions in a modern community, and the possibility of development it could, according to them, still be considered to possess.

But many of the younger generation took my side, tacitly or with open applause. It was easy to see that these questions had already been discussed and followed with the closest attention by young people of a reflective turn of mind; it availed little to shut them up behind thick castle walls and high park railings.

#### AN ADVENTURE OUT OF THE PAST

On my next visit to Eriksberg I was obliged to avoid stairs as far as possible for reasons of health. As all the visitors' rooms were on the second and third floors, they had fitted out for me one of the tower rooms on the ground floor. It was, in fact, an archive room, with bookcases of massive oak fixed to the walls, though for the time it had been arranged as a cozy bedroom.

For the first day or two I did not look very closely at the backs of the volumes inside the glass cases; I took for granted that they were old deeds and other business documents relating to the property, the sort of thing which is usually kept in estate archives.

But one evening, as I sat at the dressing table, I suddenly thought that, in the flickering light of the tall candles, I could make out a name in the mirror, hand printed on one of the file covers that stood in the case behind me.

I jumped up and turned on the electric light. Was it not, in very truth, the name of Magnus Stenbock which was written there, one of our most famous generals at the end of the 17th and the beginning of the 18th century? Not till then had I discovered that there were keys in the doors of most of the cases; now my hand was drawn instinctively and irresistibly toward the lock and I opened the door.

A moment later I was sitting with the portfolio before me, taking out one epistle after another. Letters written by Stenbock as a young fiancé, burning, for all their ornamental grace; curt tidings of victory, sent during all those years in which the warrior was roaming about Europe at the head of a great army and sending private couriers to his "dearest wife and countess," who sat at home and governed their children, estate, and numerous retainers. Truly moving, magnificent in their simplicity, were the letters he wrote from captivity in Denmark, where, at last, he died. But for a few old-fashioned expressions they could just as well have been written during the World War; they gave one a strong impression of how little men have changed since his day.

As I studied those letters, I forgot both time and space—I was so absorbed in them. But I was fearfully careful to put every single sheet neatly back in its place before I took out a new one. I felt, with reverent awe, that these human and historical documents were of inestimable value, indeed irreplaceable.

When I put the portfolio back in the row, I got hold of another with Catherine the Great's name on it. I opened it and the first thing that fell into my hands was a letter in which the mighty Autocrat of All the Russians impatiently reproached



Photograph by Alfred E. Nilson.

#### OFF TO CHURCH

On week days one would find this girl dressed in quite a different costume and working hard in the little fishing village of Kivik, Skåne, which looks out on the waters of the Baltic. The timbered brick houses with thatched roofs are distinctive of this locality.





ERIKSBERG CASTLE IS A MORE AUSTERE VERSAILLES OF SWEDEN

The estate, including tenants' holdings, comprises 60,000 acres. From the chateau extends a sylvan park, with fountains, statues, clipped hedges, cypresses, and flower beds (see text, page 53).



Photographs by Almlberg and Preinitz

SWEDEN'S RULER OFTEN OCCUPIES THIS ROOM

The present owner of the country seat, in Södermanland, is the King's First Master of the Buck Hounds and also his personal friend. Eriksberg Castle is one of the favorite places where the King retires to shoot, play cards, find recreation in happy family life, and indulge in his little hobby—embroidery (see text, page 53).



Photograph by Alnberg and Preinitz

#### ERIKSBERG'S SIXTY THOUSAND VOLUMES AFFORD A HISTORY OF SWEDEN

These rare printed works, which date from the eras of Gustavus Adolphus, of Shakespeare, and of George Washington, are in the main library on the second floor. The author found in the archive cases around the walls of her bedroom on the ground floor portfolios containing letters and manuscripts from the pens of early military heroes, intellectual grandees, and nearly all of the Swedish kings (see text, page 60).

our King Gustavus III for having recalled a certain envoy who had won her favor and inclination in a high degree. To judge from her peevish tone, the fellow must have been a regular *charmeur*.

There were also polished epistles from the last king of Poland, Poniatowski (Stanislaus II Augustus). And when I began to look around the shelves, I found so many names of kings and intellectual grandees from different lands and centuries that my cheeks began to glow.

Certainly, I had often heard the collections of documents at Eriksberg praised as unique. But I had taken for granted that they were kept in the well-secured library bookcases on the second floor. It had not occurred to me for a moment that I had been sleeping here right in the very thick of world history. Now, all of a sudden, it seemed to me impossible to go to bed and fall asleep and forget it all.

When I had looked at historical documents of this kind through a cold sheet of glass in public libraries and museums, they

had generally left me rather indifferent and unmoved. But it was quite another thing to come into personal contact with them in this way—to get a glimpse into the most intimate destinies of these men and women while sitting in my own temporary bedroom and every now and again giving my hair an absent-minded brush.

#### GHOSTS IN BOOKS BANISH SLEEP

In the case between the windows practically the whole of the Swedish line of kings was represented. Gustavus Adolphus' clear, sober hand formed a characteristic contrast to the vigorous writing of Charles XII, full of willfulness and despotism. Even his crooked, ink-blurred scrawls at the age of four or five betrayed his devouring interest in military matters, both in the text and drawings.

With a little shiver I touched Gustavus Vasa's handwriting (pages 21, 42), though I could no more read his 16th-century calligraphy than the still earlier documents which I carefully extracted from the covers.

In that hour I cursed all the unnecessary things I had learned instead of that.

The hours sped by. I rose from time to time to put more wood in the stove. It grew bitterly cold towards dawn. I heard, at regular intervals, the night watchman's steps out in the courtyard and the distant striking of a clock; but I could not tear myself from the enchantment; the past had completely fascinated me.

I wandered from one bookcase to another; I felt I must get through everything in this one precious night. Perhaps this opportunity would never return; perhaps the keys would have been taken away next day and I should not make up my mind to ask for them. There seemed to be no limit to the discoveries I might make. I felt like the boy in the fairy story, who has got into the treasure chamber and cannot decide what to choose among all the golden ducats and shining jewels.

#### THE OLD LORDS DEFEND THEMSELVES

As I sat there, endeavoring to spell my way through ever older and more venerable manuscripts, the present gradually ceased to exist and time unrolled itself backward in an endless vista.

Some of the letter writers were my own ancestors. I remembered their faces from my grandfather's portrait gallery. Others I knew from history; but now they suddenly became close to me and warm-blooded as never before.

I saw their faces and eyes around me. My silent tower chamber was peopled with men and women long in their graves; they assembled there in Renaissance dresses of stiffest brocade, with long wigs, pigtails, and gold-laced magnificence.

And, as I watched them, it seemed to me that these imposing ladies and gentlemen began vehemently to attack and condemn our generation for the way in which their degenerate descendants had managed the

good they had acquired and left behind them.

How many, in these last few years, had fallen away from their traditions and allowed mercenary-minded strangers to dismember the old estates where their fathers had lived and died! What seemed to anger them more than anything was our feeble want of conviction of our inherited right to own, to command, and to direct the destiny of our country. In this paralyzing poison they seemed to see the root and origin of all evil.

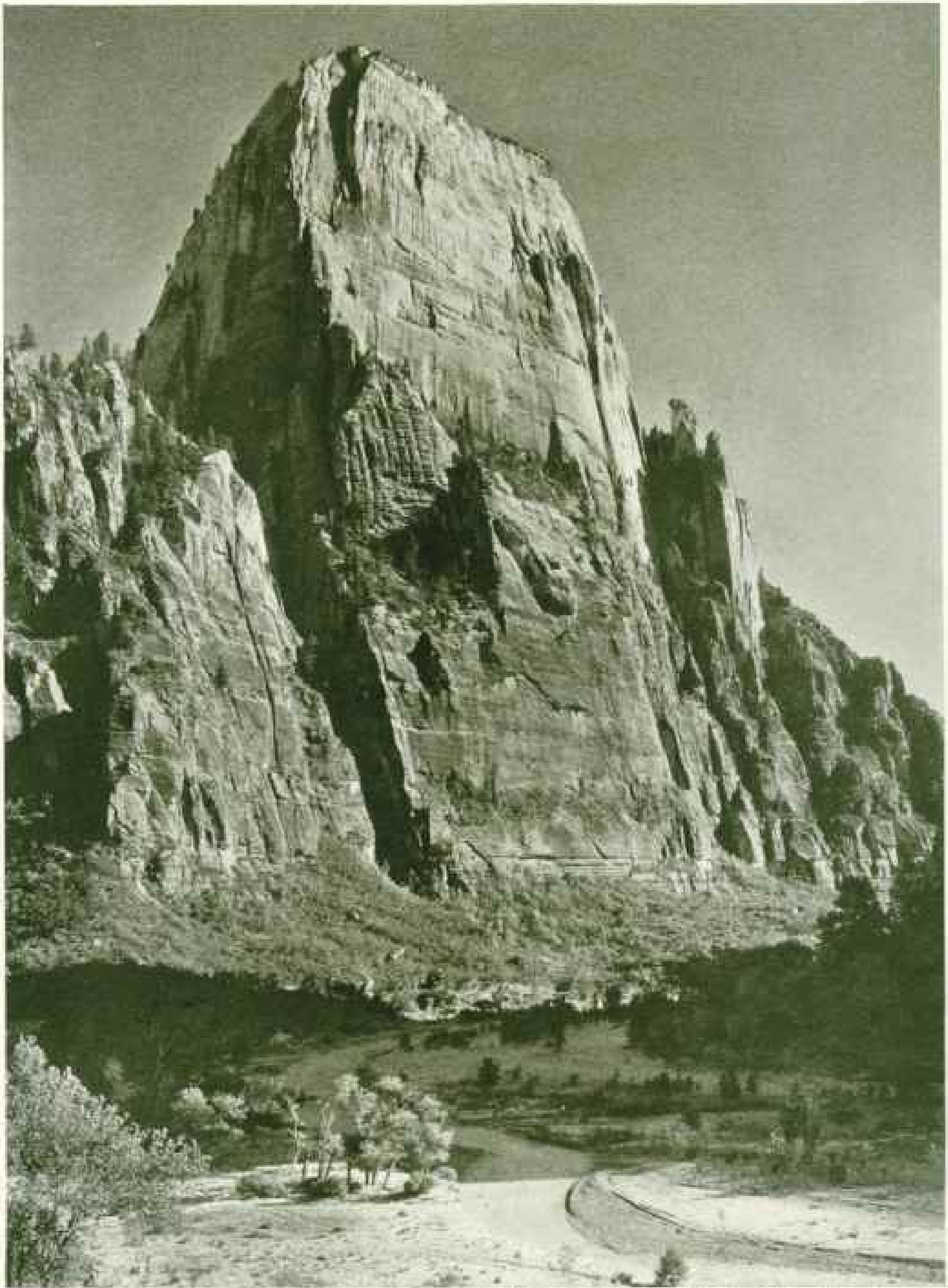
It was useless for me to defend our discredited time and explain its leveling process and various social phenomena. That was only to pour oil on the fire; and the longer it lasted, the spicier and stronger grew the formidable old fellows' words, the more violent and angry their voices. This impassioned chorus rose in a vehement crescendo and swelled into a most terrifying noise, so that at last it seemed to be the ringing of the bells in the Kingdom of Death, calling them back to the world of shadows whence they had come to visit me.

Suddenly my bewildered brain realized that it was nothing else than the first breakfast gong I had heard, and I found myself half lying on the bed with a thick portfolio in my hands. I felt miserable after a bare hour's sleep; but, nevertheless, I would not for anything have missed that vigil.

It had enabled me to learn, more palpably and vividly than by years spent in the study of stout volumes, some very essential things about the old Swedish temperament and substance, and of the predispositions and limitations from which our landed gentry had developed. And it seemed to me then that, taken all in all, there might perhaps still be room in our Lord's garden for all kinds of creatures, even for those saurians which have survived their epoch.

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



Photograph by G. A. Grant, courtesy National Park Service

PURPLE SHADOWS FROM A LOW SUN PAINT MAXFIELD PARRISH SCENES IN ZION CANYON

The stupendous sandstone tower, once known as *El Gobernador*, rechristened The Great White Throne by the Mormons who settled Utah, shades from red-brown at the base to soft ivory at the summit. It rises 2,447 feet above the floor of the deep cleft cut by a river in the Kolob Plateau. Halfway up its face cottonwoods and mesquite, growing in soil lodged in a deep niche, form a green seat cushion for the chair of a Titan. A few trees bravely wave leafy banners from crannies near the top.

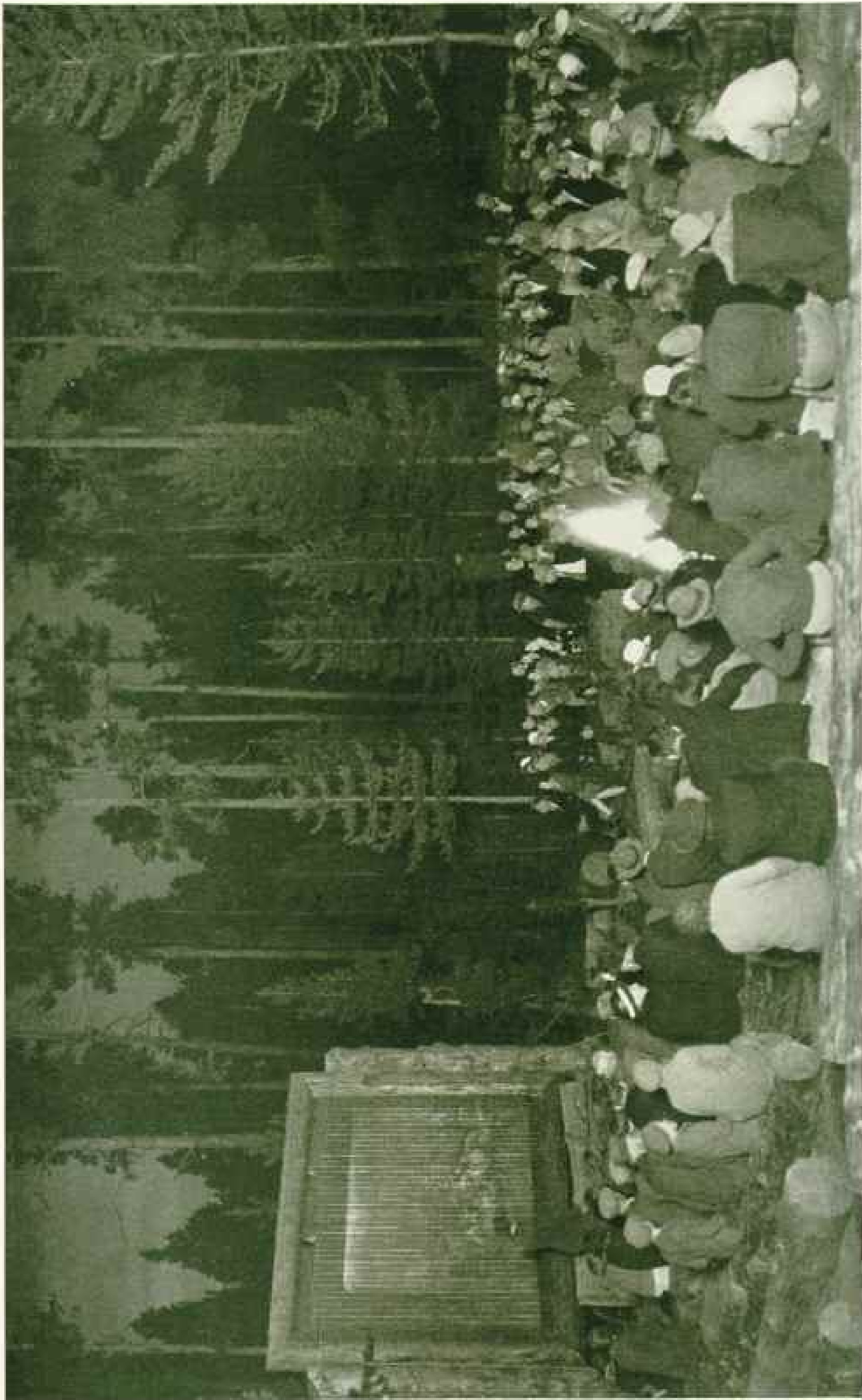




Photograph by G. A. Ornt, courtesy National Park Service

FROM A LEVEL PLAIN THE TETONS LEAP SKYWARD

The traveler who "picks in" and camps at night along the Snake River, in the Jackson Hole country of Wyoming, wakes next morning to a scene of amazing grandeur. Grand Teton, 13,747 feet; its sister peaks to the left, Middle Teton and South Teton, slightly lower; and Mount Owen, 11,910 feet, just beyond it, thrust up abruptly through the valley floor like the jagged points of spears hurled by demons from the underworld. Across the cleft to the right towers Mount St. John. The mighty range, splendid climax of Grand Teton National Park, is built of granite shaped by glaciers.



Photograph by G. A. Grant, courtesy National Park Service

WHERE STATELY PINE TREES RUSTLE, ENTERTAINING SPEAKERS EXPLAIN TO VISITORS THE WONDERS OF YELLOWSTONE PARK

Log seats in the new amphitheater at Fishing Bridge accommodate audiences for park travel talks illustrated by motion pictures. At this place, beside Yellowstone Lake, there is a fine museum devoted mostly to birds of the area. A collection of historical relics makes up the display at Mammoth Hot Springs, and an exhibit for the study of hot springs and geysers attracts interest at Old Faithful.



Photograph by G. A. Grant, courtesy National Park Service

IN GLACIER NATIONAL PARK 27 ICE-CUT VALLEYS DEEPLY SCORE THE ROCKIES

MIle-high cliffs are common; it is as if some prehistoric monster with cruel talons had chewed the stone of the mountains. For visitors who have time, a long horseback trip to this point, Boulder Pass, near the Canadian line, offers real adventure. The canyon yawning at the left is a 2,000-foot gash leading down to Bowman Lake.

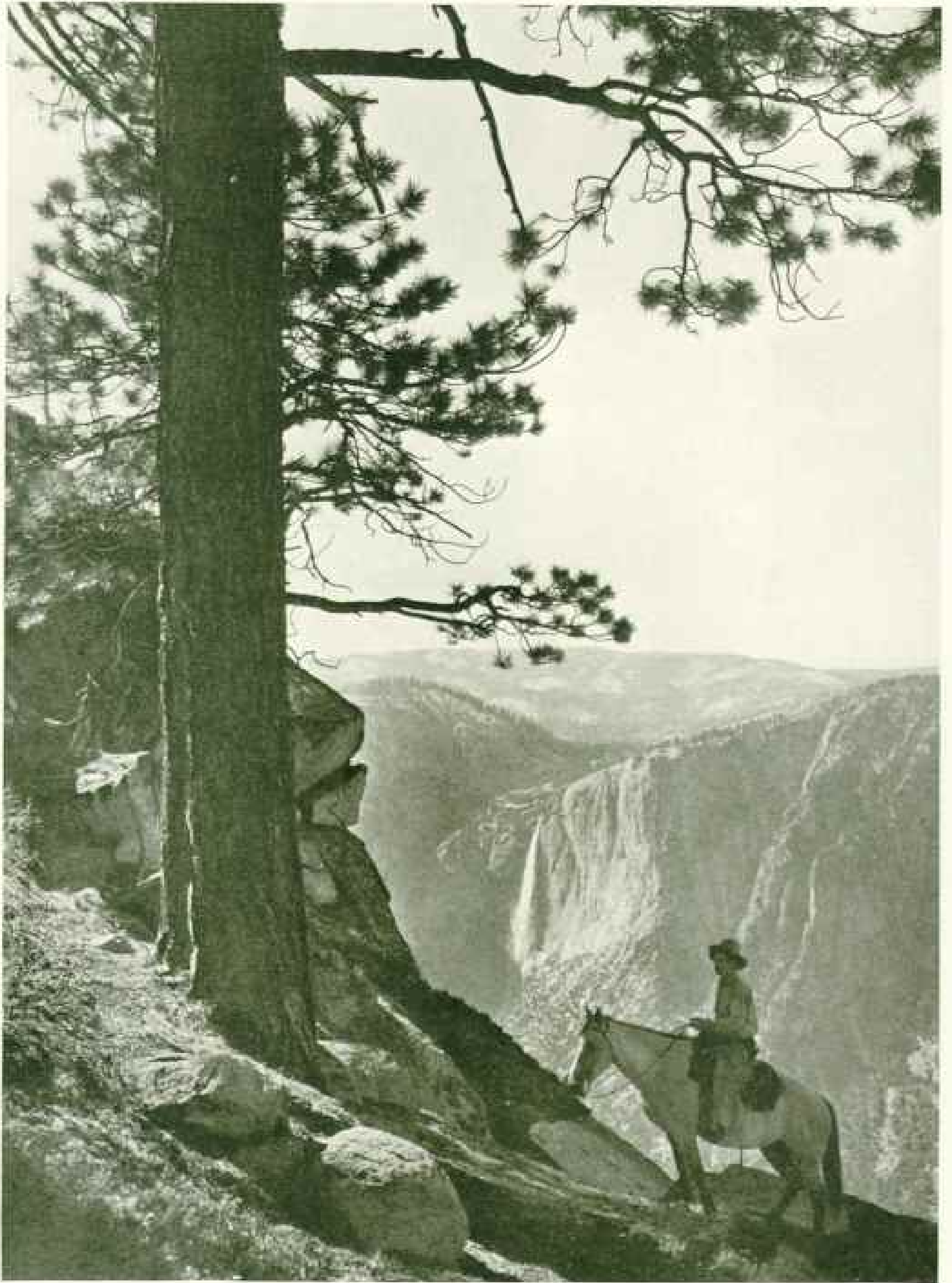


Photograph by G. A. Grant, courtesy National Park Service

**THOUGH OLD FAITHFUL HAS BEEN SLOWED SOMEWHAT BY AGE, WATCHES MAY STILL BE SET BY ITS ERUPTIONS**

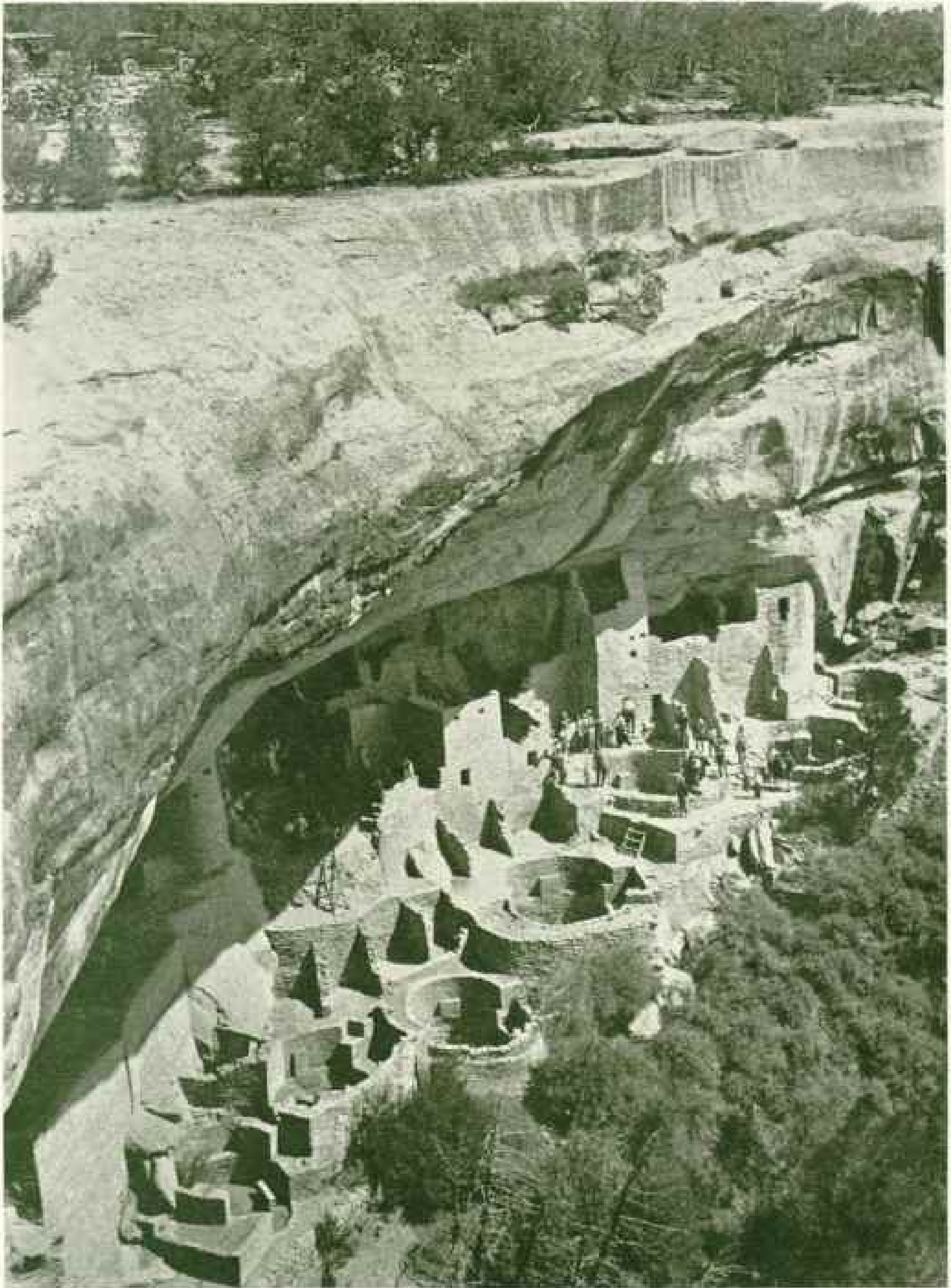
The most famous geyser in Yellowstone Park used to spout boiling water and steam every 55 minutes, but of late the vent has become enlarged, so that the intervals between displays have increased to 63 minutes. There is no diminution of fury, however; the column of hot vapor still rises 155 feet. It is well to keep to windward when the giant puffs.





YOSEMITE FALLS SEEM A SCARFLIKE WISP TO THE RIDER ON THE GLACIER POINT TRAIL

From the rim to the meadows of the valley is a sheer drop of nearly three-quarters of a mile. The highest leaping fall in the world takes a first plunge of 1,430 feet, then tumbles in an 815-foot cascade, and finally foams over the lower fall, 320 feet. The light buff colors of the granite walls, the forested heights, and rainbow spray make a fantastic scene.



Photograph by G. A. Grant, courtesy National Park Service

UNDER PRECIPICES OF MESA VERDE ANCIENT INDIANS TOILED AT MASONRY

The circular enclosures, or *kivas*, are believed to have been ceremonial halls. Dr. A. E. Douglass, leader of the National Geographic Society Tree-Ring expeditions, proved that the construction of this Cliff Palace, near Mancos, in southwestern Colorado, dates from 1073 A. D. (see "The Secret of the Southwest Solved by Talkative Tree Rings," in the NATIONAL GEOGRAPHIC MAGAZINE for December, 1929).



Photograph by G. A. Grant, courtesy National Park Service

WHAT A BACKGROUND FOR A SNAPSHOT—YELLOWSTONE CANYON, PLAYGROUND OF RAINBOWS!

A horseback ride along the rim to Artist Point discloses a bird's-eye view of one of the most exquisite scenes in the Yellowstone National Park. The groom of lodgepole pines makes a setting for cliffs of decomposed volcanic rock, shading in hue from deep vermilion through a bewildering array of pinks to brilliant orange. The roaring river drops 303 feet in its lower fall, casting a spray that glistens with color. From the edge of the road where the rider is posing, the bottom of the gorge is 1,350 feet—straight down.



Photograph by G. A. Grant, courtesy National Park Service

#### THE COLORADO RIVER HAS CUT THROUGH ROCKS OF THREE GEOLOGIC AGES.

Rising from the swirling stream to the left is the steep gorge of the earliest, or Archaean, period of the earth's making, barren of any remnants of animal life. Above it lie the tooming chapters of the Paleozoic era of "old life," of which a poet wrote "When you were a tadpole and I was a fish." The geologist would describe it under such prosaic headings as the Tonzo Platform, the slopes of shale, the red walls and terraces, the white sandstone and the buff cliffs of Kaibab limestone forming the surface binding of this rocky volume of terrestrial history. Between the vast span of the Archaean and the Paleozoic lie Algonkian strata, which do not appear in this view.

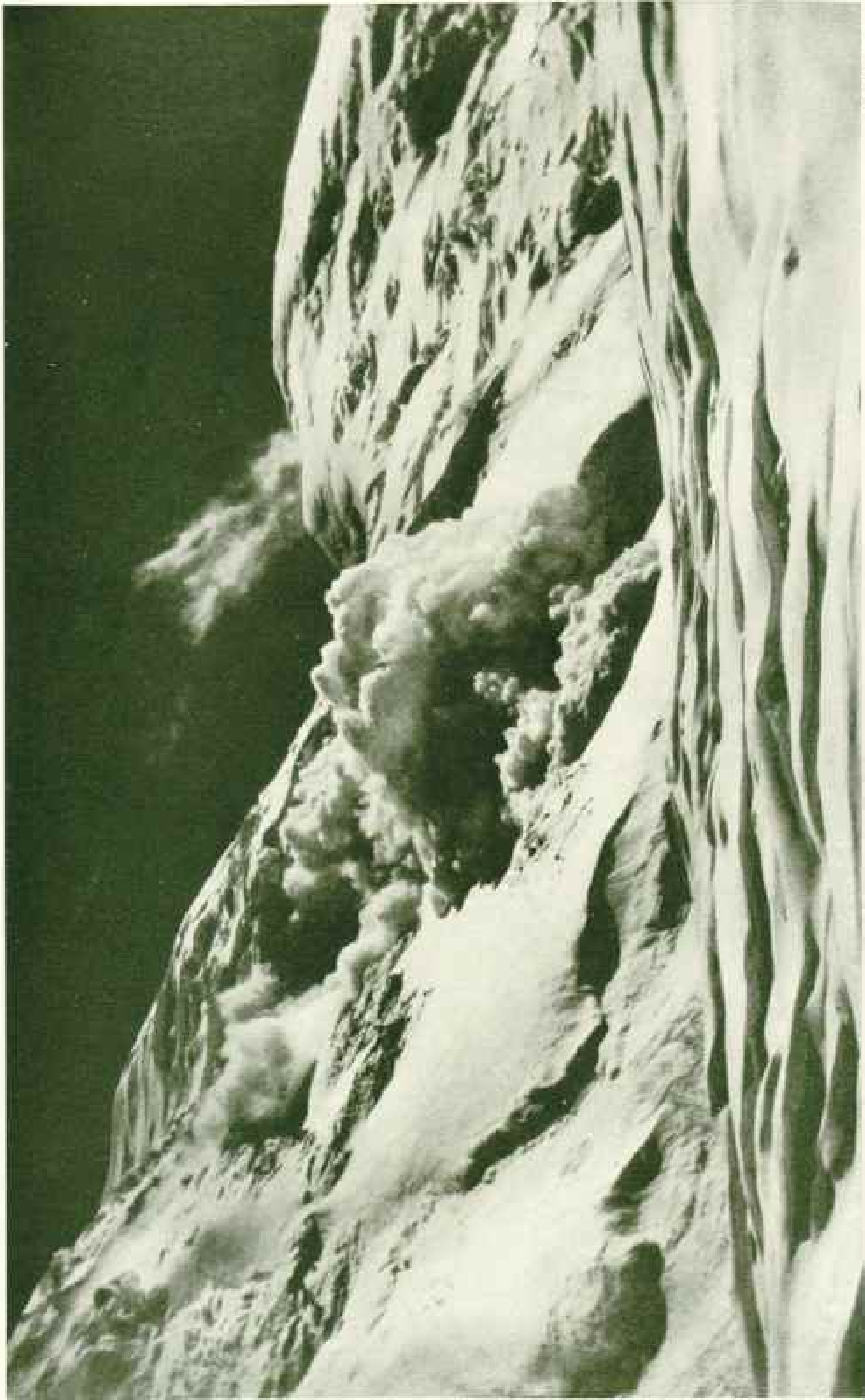




Photograph by G. A. Grant, courtesy National Park Service

**DEVIL'S TOWER, IN NORTHEAST WYOMING, WILL RING UNDER A HAMMER LIKE THE BELL IT RESEMBLES**

Phenolite, geologists call the hexagonal rock pillars of which this 1,200-foot column is composed; for they resound with clear tones when struck with a hard object, and ingenious persons have played tunes on them. This natural wonder in the Black Hills area has been designated a national monument.



© Mel La Voy

A MIGHTY AVALANCHE OF SNOW AND ICE ROARS DOWN MOUNT MCKINLEY

It may have been a small shifting of a drift when it began, near the summit of the highest peak (20,270 feet) in North America, but it gathers weight and momentum as it plunges onward, flinging clouds of snow hundreds of feet into the air. Dramatic scenes like this are not rare in Mount McKinley National Park, Alaska; yet few have been photographed. Of course, any climbing party that chanced into the path of such a monster would be obliterated.



Photograph by G. A. Grant, courtesy National Park Service

ELEVEN MILES AWAY THE "MOUNTAIN THAT WAS GOD'S" GLEAMS IN ETHEREAL SPLENDOR

Mount Rainier National Park, known to millions who have visited the Paradise area, offers new thrills on its rather recently developed Sunrise area, where from a 6,500-foot-high plateau motorists look out over the kingdom of the peaks. On a clear day five extinct volcanoes of the Pacific Northwest—Mount Rainier, St. Helens, Adams, Baker, and Hood—are visible from this eyrie.

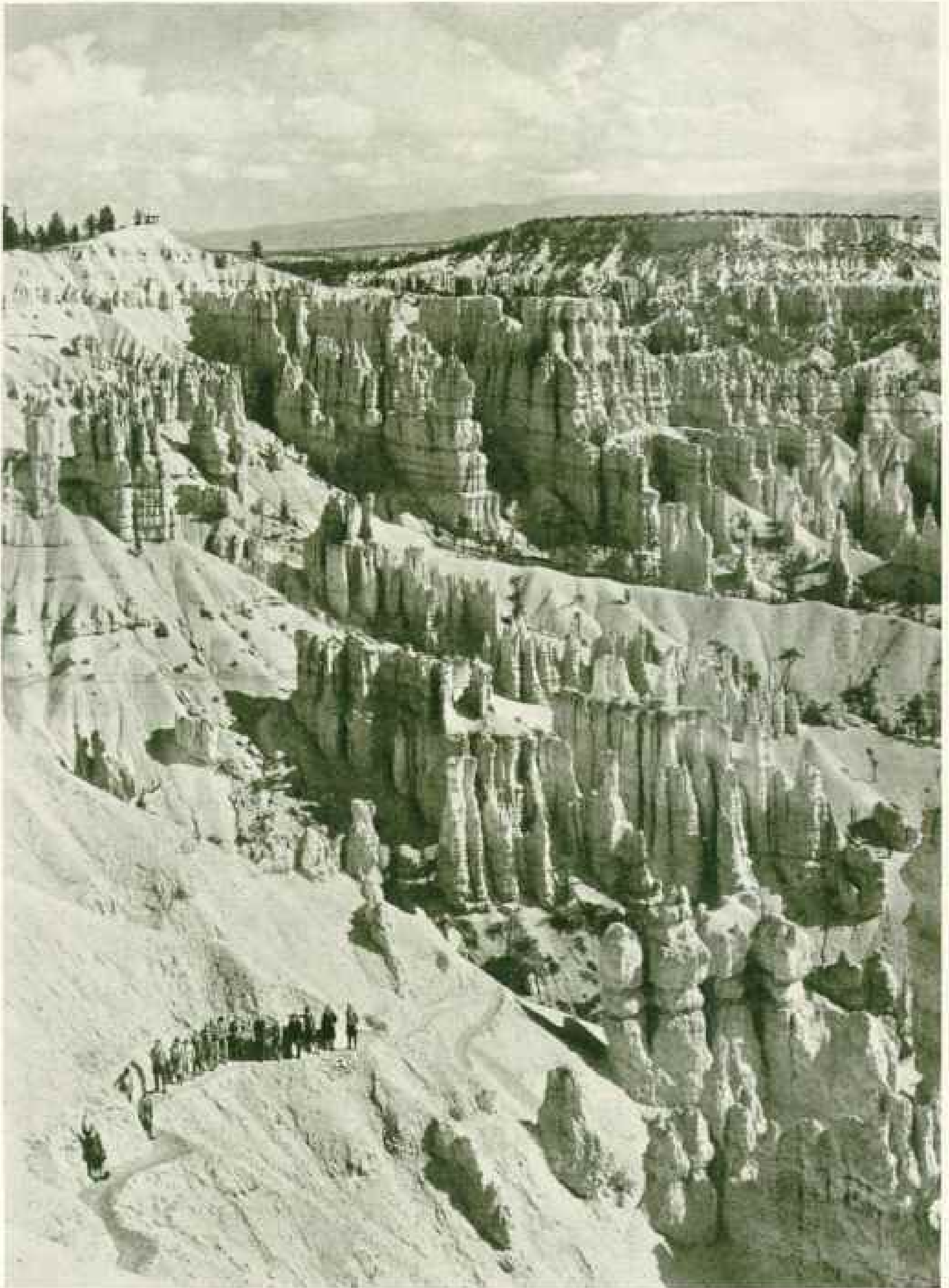


Photograph by W. M. Reath

AS IN PIONEER DAYS, WILD BUFFALOES ROAM IN YELLOWSTONE NATIONAL PARK

Here, near Junction Butte, hay ranches are maintained for feeding them. The herd usually numbers about 1,000; it would be difficult to handle more than that number. Once a year the animals are rounded up in a manner reminiscent of the annual hunts by which the Indians once stocked their herds with meat for "jerking."





Photograph by G. A. Grant, courtesy National Park Service

**A MUTE NATURAL CATHEDRAL REARS A THOUSAND GAUDY STEEPLES IN BRYCE CANYON**

Through the ages, erosion has carved this limestone of the Utah wonderland into myriad towers, turrets, and spires as fantastic as the witch's hut of sweetmeats in the fairy tale of Hansel and Gretel. The general color is salmon pink, but it shades to reds and deep vermilion. Beyond the travelers, on the trail below Sunrise Point, are Queen's Garden and Queen's Castle.



Photograph by G. A. Grant, courtesy National Park Service

SCARRED TO THE HEART BY FIRE, THE "BIG TREE" YET LIVES

Such examples as this near the Pillars of Hercules are numerous in Sequoia National Park, far up in the Sierra Nevada. Though the inside of the trunk has been entirely eaten out by flames, the forest giant continues to bear branches and foliage and to show every sign of normal, vigorous life. It is unusual to see a photograph showing the conical tip of one of these giants and the base of another.



Photograph by W. M. Rush

**WHOEVER APPROACHES THE GRIZZLY MOTHER AND CUB DOES SO AT HIS PERIL.**

At the feeding grounds near the Grand Canyon of the Yellowstone, these huge bears may often be seen. Even the most fearless wild-life enthusiasts let them alone. Some individuals weigh 1,000 pounds or more, though the average is considerably less.



Photograph by J. S. Dixon, courtesy National Park Service

**ROCKY MOUNTAIN MULE DEER HAVE BIG EARS FOR NEWS**

The animals are plentiful in Yellowstone National Park, where, of course, they are not molested by Nimrods. They attain greater stature than most other American species, an individual often weighing 300 pounds or more.

# MADEIRA THE FLORESCENT

BY HARRIET CHALMERS ADAMS

AUTHOR OF "AN ALTITUDINAL JOURNEY THROUGH PORTUGAL," "BARCELONA, PRIDE OF THE CATALANS," "MARRIED OUT-OF-DOORS," ETC., IN THE NATIONAL GEOGRAPHIC MAGAZINE

IT WAS in midsummer that I first visited Madeira, the beautiful Portuguese island on the fringe of the eastern Atlantic. Its velvety green mountains cleft by deep ravines, its terraced hillsides brilliant with flowers and flowering vines made a lasting impression. Coming again in midwinter, it is amazing to find the same verdure, the same wealth of flora, the same warmth when the sun shines.

In December the peaks of the towering mountains, which rise like an amphitheater back of Funchal, chief city of Madeira, are, now and then, tipped with snow; but all else is vividly green, with a riot of multi-colored blossoms on every terrace of this quaint old town, which climbs the hills above a sapphire sea.

Gardens are the striking feature of the Madeiran capital. Here the entire town—street, sidewalk, and garden path—is compactly paved with small, dark, basaltic stones, in greater part washed up by the restless sea. In the neatly swept gardens, hanging like balconies one above the other, the stones are laid in geometrical designs, the glistening surface of the pebbled pavement forming an effective setting for the radiant flowers of many climes which bloom here in profusion all year round (page 86).

## FLORAL IMMIGRANTS THRIVE

Stiff Brazilian araucaria pines, tall Australian eucalyptus, and leafy Asiatic mango nod to palm, mimosa, and magnolia. Here the Indian fig, with its wide-spreading branches, grows beside the flamboyant of Madagascar, the coraltree of the West Indies, and the camphor-tree of Japan. A list of these floral immigrants would fill pages. They are intermingled with splendid forest trees indigenous to the island. The weird dragon-tree, once abundant here, still rears its ancient head.

Most effective in winter are the flowering creepers: the deep-magenta and brick-red bougainvilleas and the blazing orange bignonia, which form solid masses of color on the high walls. The flaming poinsettias and the red, pink, and white camellias grow as tall as trees. Clinging to the sheer face of the cliffs which border many of the gar-

dens is a variety of aloe which thrusts out startling scarlet flower spikes above the blue sea.

To the gorgeous hues of the flowers add the gray and black of the rock-strewn shore, lapped by white sea foam; the deep terra cotta of the soil in the ravines which intercept the town; the pink, buff, and cream of the houses, with their green shutters and red-tiled roofs; the brilliant chrome-green of banana and sugar cane which grow in nearly every garden, and you have the "natural color picture" of Funchal.

The city presents a continuous floral show. When certain varieties cease to bloom, others burst into flower. In spring the Brazilian jacaranda proudly spreads its purplish-blue clusters above the Avenida, the giant wisteria drips lavender as it twists from tree to tree, the Pride-of-Madeira flaunts its blue beauty along the sea cliffs, and the gay azalea, dearest of all, perhaps, to the people of Funchal, blooms in many a garden.

## VISITORS MOST VALUABLE "CROP"

Besides the regular liners which touch at this "flower garden of the Atlantic," many cruising ships make Madeira a port of call, bringing troops of visitors for a day ashore.

"The visitors are our most valuable crop," I heard an old resident say.

This crop is the result of intensive cultivation. Possessing a favorable location, great scenic beauty, and a remarkably equable climate, the island has much to offer (see map, page 85).

Some of its inhabitants have developed marked ability in collecting tribute from the visitor. Before boarding the launch which will convey him from ship to pier, the incoming traveler is given his first opportunity to part with his money by small merchant craft hurrying out from the shore. These boats come laden with native wares, manufactured chiefly to attract the foreigner.

The famed Madeira hand embroideries, wickerware, inlaid woodwork, walking sticks, jewelry, and feather flowers are offered for sale. There are cages filled with





© Publishers' Photo Service

#### ALL ABOARD FOR A PLUNGE OF 3,000 FEET!

A broad "armchair on runners" tugs at the leash. In a moment the two attendants leap on the back and they're off down the slippery, serpentine path from Terreiro da Lucta to the capital (see text, opposite page, and illustrations, pages 85 and 106). Sight-seers hold their breath and hang on. Away goes dignity—and maybe a hat!

wild native canaries of greenish hue (see page 99). The parrots, monkeys, and coconuts hail from Portuguese Africa.

With the little boats come the diving boys, who beg the traveler to toss a coin into the sea (see illustration, page 84).

"A shilling, Mister! Please, a shilling!"

And down into the blue a lithe brown body follows the gleam of silver.

It is always a shilling they ask for, no matter what the ship's flag. British money is as acceptable as Portuguese, and has a fixed value on this island which owes so much to British patronage.

"OXEY-CAB, SIR?"

Once on terra firma, the newcomer is met by a throng of chauffeurs singing the praises of various motor trips, and shawled

countrywomen offer for sale violets, roses, and camellias.

Automobiles, motor busses, and trucks now crowd Funchal's narrow streets, but it is the native *carro*, or sledge, drawn by a pair of patient oxen, which catches the eye (see Color Plate III, and illustration, page 87).

In one of these two-seated, curtained and canopied "oxey-cabs," which resemble big baskets on runners, he glides along the smooth, polished cobbles to the cog railway, which carries him up a steep incline to pine-clad heights 3,300 feet above the sea. At one of the mountain restaurants he lunches on a terrace overlooking the villa-strewn Funchal valley, the red-roofed town, and the scintillating expanse of ocean beyond.



Photograph by Wilhelm Tobien

#### FULL OF NEW WINE—THE SKINS, NOT THE MEN

Naked feet have crushed the ripe grapes, and now the must, packed in goatskins, is carried down from the hills to be poured into casks to ferment. Often the porters sing as they march in single file. Beside them troop boys bearing baskets of lunch.

A feature of the ascent is the shower of flowers tossed by blossom-laden children, who scamper after sledge and slow-moving funicular. This graceful act, unfortunately, is marred by the insistent clamor: "One penny! One penny!"

#### COASTING IN AN ARMCHAIR ON RUNNERS

The descent from the mountain can be made in a toboggan sledge, which offers an exciting ride. The speed of the passenger and cargo sledge is slow, but the downhill "running carro" provides real thrills (see illustration, opposite page).

This broad armchair on runners is used in descending selected routes of tilted streets. Two men hold the sledge in leash by guide ropes; as it starts down the slippery stone path they hop on to the back platform and the slide begins!

Then come dramatic flashes of rare panoramic views of town and sea, glimpses of gaudy-hued blossoms draping high, sunlit enclosures, dark-haired women and big-eyed children framed in vine-hung doorways, pedestrians flattened against the wall.

As the sledge approaches a curve, the crew jump off to guide it, with vigorous tugs, around the corner, checking the speed when the lower level is reached. It is well if the ride is not marred by the sight of a bent man straining up the steep hill with a heavy sled on head and shoulders (see page 86).

Those in search of adventure will find these running sledges on a few suburban roads so steep that the overheated runners actually smoke in the descent. But such mad dashes are prescribed only for daring souls.

If time permits there are motor trips to



Photograph by Branson De Con from Galloway

#### ASSORTED SMILES FOR THE FUNNY FOREIGNERS

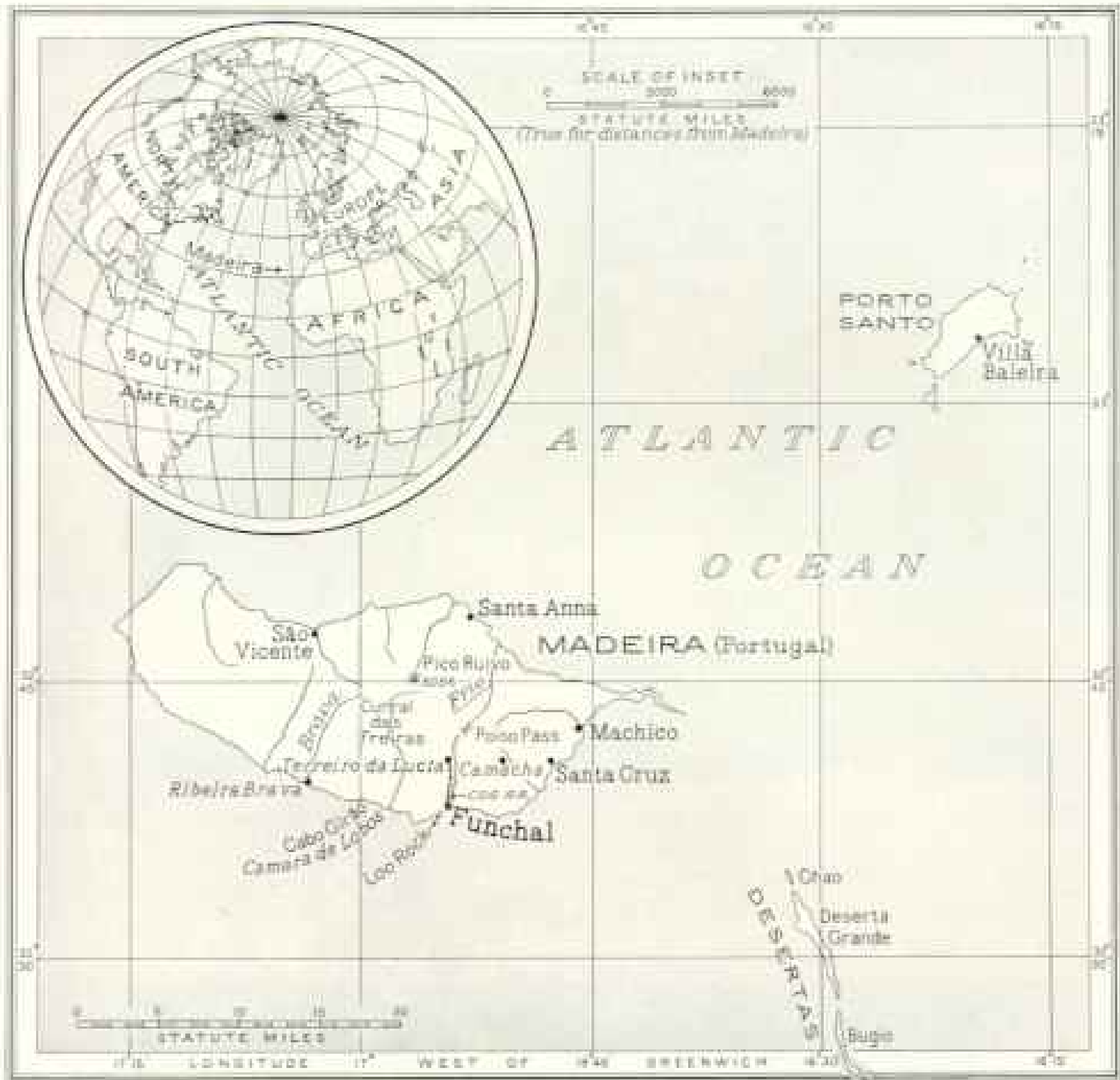
Only the baby regards them with serious eye. Gay and friendly, these feminine types peer over the wall of their modest dwelling in Funchal's suburbs. Gardens and pergolas fragrant with eucalyptus embellish even the homes of the poor.



Photograph from Frederick Simpich

#### A FLASH OF SILVER AND DOWN THEY SHOOT

"A shilling, Mister! Please, a shilling!" The eager shout greets the traveler as he sails into Funchal harbor (see text, page 83). Lithe brown bodies swiftly follow the gleam of the coin. But it must be silver or gold, for these boys disdain mere coppers. Excellent swimmers all, they sometimes dive from lofty heights.



Drawn by Newman Bamstead

#### A TINY PORTUGUESE SPECK ON THE WORLD MAP IS TEEMING MADEIRA

Long-extinct volcanoes reared it from the depths of the Atlantic off northwest Africa. On its fertile and mountainous surface lives one of the world's densest populations—an estimated 761 persons to each of its 285 square miles. Nearly a third of the mass of humanity clusters in and about Funchal, the capital. Off at a respectful distance lie its satellites, Porto Santo and the lonely, uninhabited Desertas (see text, page 101).

be made through the island, the beauty of whose inland scenery is renowned; but the majority of visitors from the cruising ships see only the outstanding features of the port and the mountain heights above.

The sturdy country people who come to town with their wares, suitably shod for cobbled roads in soft-hued, yellow goat-skin boots resembling the old cavalier pattern, are mighty burden-bearers. Children shoulder amazing weights, heavier than themselves. The manner of carrying baskets at each end of a pole borne across the shoulders, to the accompaniment of a rhythmic trot, has its counterpart in far-

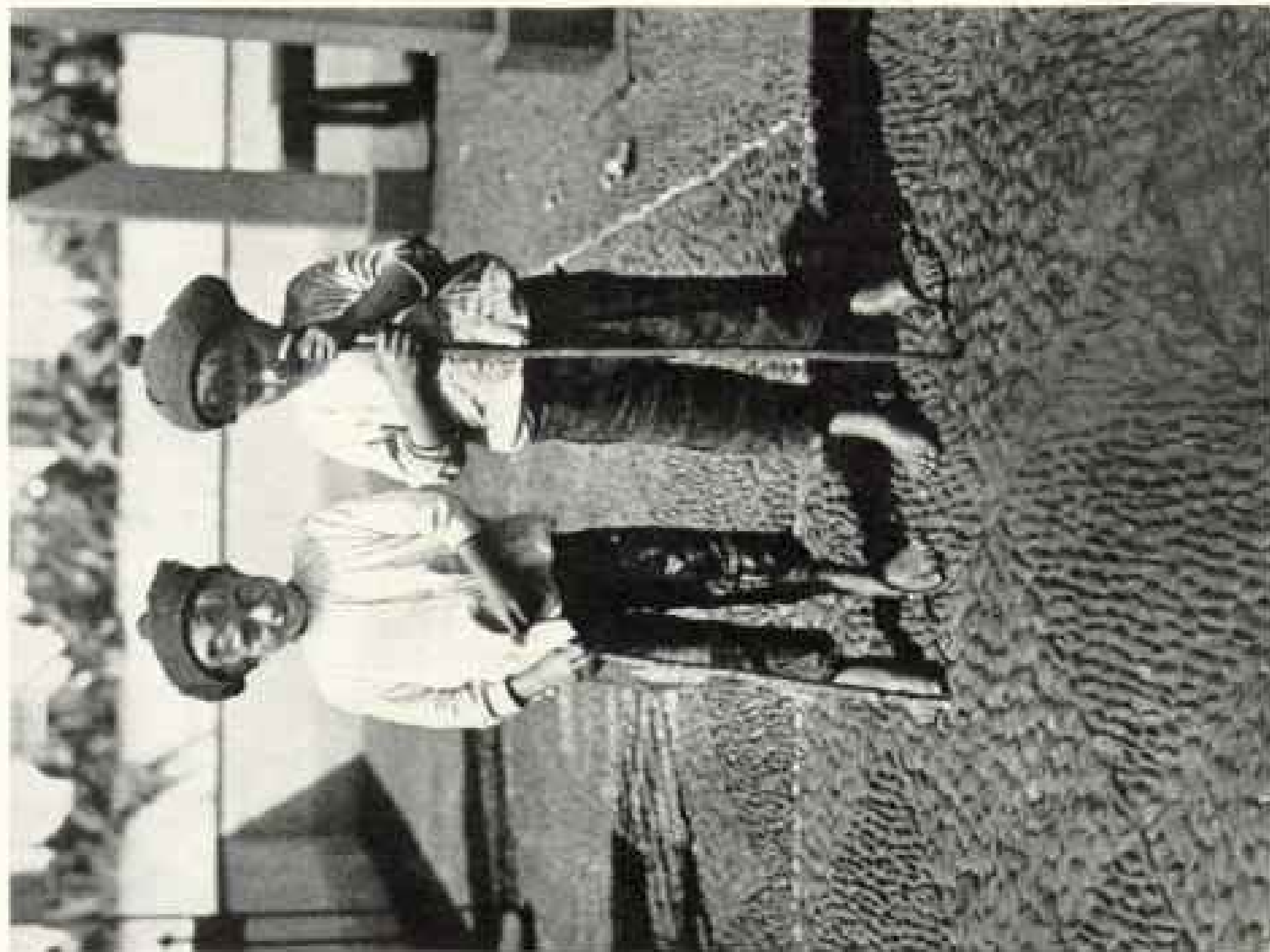
away Portuguese Macao, on the coast of China.\*

Narrow cargo sledges, drawn by bullocks or mules, which conquer incredible grades, glide along the cobbles. The unique type of transportation and the tranquil nature of the island people make for a quiet, restful town in marked contrast to the roar of Lisbon's streets, more than 600 miles away in the motherland.

There is the tinkle of the bell on the neck of the oxen, the call of the driver as

\* See "Macao, 'Land of Sweet Sadness,'" by Edgar Allen Forbes, in the NATIONAL GEOGRAPHIC MAGAZINE, September, 1912.





Photograph by Wilhelm Tuhien

**EVEN THE YOUNGSTERS CARRY CANES IN MADEIRA**

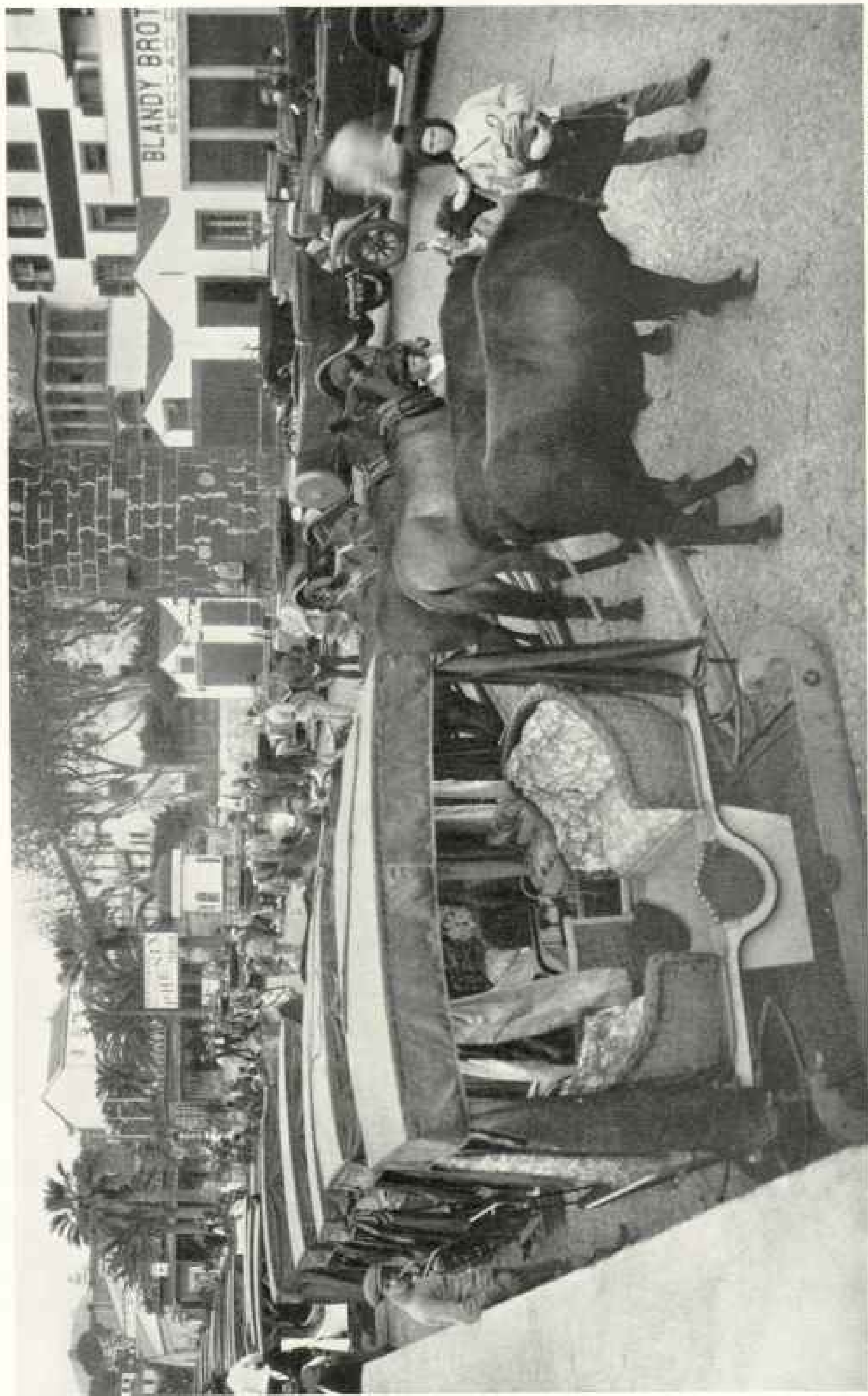
When walking steep streets, scaling mountains, and packing cumbersome loads, nothing is handier than a staff. The lads' clothes are of homespun or a patchwork material; their tasseled caps have ear-flaps to be pulled down when climbing chill, cloudy heights, and their tanned feet are rarely shod. Santa Cruz pavements make a cobbler's life a checkerboard.



Photograph by David J. Martin

**HIS LIFE IS FULL OF UPS AND DOWNS**

Hard on the lungs and back is the handling of the running cars, which swoop down from the 3,000-foot heights of Terreiro da Larta to near sea level in a few swift minutes (see illustration, page 82, and text, page 83). This slender youth, carrying his sledge, staggers up to the top several times a day.



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**OX, MULE, OR GASOLINE POWER? TAKE YOUR CHOICE AT THIS TAXI STAND**

The curious, canopied "Madeira sleigh" was born of an early English resident's necessity. The wife of an officer could not ride horseback. To travel by palanquin or hammock made her ill. So the husband built seats on a bullock-drawn sledge and thus started a style in transportation which still survives (see Color Plate III and text, page 82).

he urges the animals on, the singsong of the occasional street vender; but these are subdued notes. Even the honk of the automobile is less insistent on this peaceful isle. The nights are strangely quiet.

The sledge seems to fit into the picture and is well adapted to steep gradients and stone-armored roads. Long may it linger in Madeiran town and countryside! Our western civilization is so forceful in brushing established native customs aside. When every land on earth is like every other, there will be less incentive for travel.

#### PEDESTRIANS SURRENDER SIDEWALK TO AUTOMOBILES

There are already about 1,000 motor-driven vehicles in Funchal. On many of the streets the pedestrian has surrendered his right to the sidewalk to provide parking space for the motorcar.

The streets are kept remarkably clean. The entire island is practically dustless.

I think of marine islands as the proud heads and shoulders of mountains whose feet are firmly set on the ocean floor far beneath the surface of the sea. Madeira is one of these oceanic Amazons whose height from her crown, on the summit of Pico Ruivo, to her base in the briny deep south of Funchal is nearly 20,000 feet. Only about one-third of this mountain queen is visible above water, her head and shoulders, draped in a vivid emerald scarf.

The islands forming this archipelago, Madeira and Porto Santo and two uninhabited groups, are of volcanic origin. Considering the depth of the surrounding sea, and the abysmal chasms which everywhere cleave Madeira's mountainous surface, it is evident that a vast period of time must have elapsed since the beginning of the countless eruptions which went toward the making of this island. To-day no live craters exist in this group, as on the Canary and Cape Verde Islands to the south.

The Madeiras are not colonial possessions of Portugal, but constitute one of the administrative districts of the motherland, the chief authority being vested in a civil governor in Funchal appointed by the Central Government.

It requires less than half the time for a resident of Madeira to reach Lisbon by sea that it does for a Californian to journey by rail to Washington, D. C.

Much traditional lore is associated with the discovery of Madeira. Romans, Arabs,

Italians, Spaniards, French, English, and Irish have all been credited as the first to glimpse this island. The most romantic of the legends concerns two English lovers, Robert Machin and Anna d'Arriet, who, in the middle of the 14th century, eloped from Bristol in a small craft bound for the coast of France. Borne south by tempestuous gales, they were blown to Madeira's eastern shore, where they landed and found sustenance in forest and stream.

One night in a storm their little boat was carried far out to sea. Anna died from the shock of this disaster and the broken-hearted Robert expired so soon thereafter that the lovers were buried in the same grave. The crew went about building another boat, and when it was finished they sailed away, homeward bound; but treacherous winds carried them to the coast of Barbary, where they were made prisoners.

Years later, a Spanish sea dog, Juan de Morales, long held captive by the Moors, was ransomed and carried the story of the discovery of Machin's Isle, related to him by fellow captives, to Portuguese seamen. In time the tale reached that great inspirer of Lusitanian exploration, Prince Henry the Navigator, who dispatched to the south a famous mariner, João Gonsalves Zarco.

When it comes to Zarco we are on firm historic ground. He fought with Prince Henry against the Moors at Ceuta. It was he who, in 1419, sailed to the island of Porto Santo, which had been discovered the year before, and across to a larger island 25 miles away, braving a dark cloud which hung over it, an evil omen to the superstitious sailors of that day.

#### A TOWN RECALLS THE LEGEND OF STORM-TOSSED LOVERS

The forbidding cloud proved to be vapor hanging over the mountains of a beautiful, densely wooded land. On the shore of a sheltered bay, which some claim was the very harbor where Robert and Anna disembarked, Zarco and his followers landed. Here, to-day, lies the little town of Machico, about 12 miles northeast of Funchal. If there be truth in the sad tale of the English Machin and his sweetheart, this town may commemorate his name.

Because of its forests the new land was named "Madeira," the Portuguese word for wood. Zarco was appointed governor. Fires lit back of Funchal, to rid the island of wild animals and noxious reptiles which

MIRRORS OF MADEIRA, ROCK GARDEN OF THE ATLANTIC



© National Geographic Society

Natural Color Photograph by Wilhelm Toblen.

SHE CROWNS HER RADIANT COSTUME WITH A FUNNEL-SHAPED HAT

Rarely seen nowadays is this feminine folk dress, flashing amid the green sugar cane of a terraced hillside. Along with it young Miss Madeira wears the family jewels, thick-soled goatskin boots, and by her side hangs a gourd for water or wine. The boy in brown homespun grips a man-sized climbing staff and keeps his ears warm with a woolen cap. The girl's ancient, horned hat, once worn by both sexes, has been abandoned by the men.





BOUGAINVILLEA OVERFLOWS THE WALLS IN WINE-COLORED WAVES

Into the floral paradise within the gate, these urchins of Santa Cruz will lug their milk can. They serve a typical Madeiran house of two stories surrounded by a garden full of luxuriant flowers.



© National Geographic Society

Natural Color Photographs by Wilhelm Tobien

AN ISLAND-SPANNING HIGHWAY THREADS A RUGGED RAVINE

Good roads brought modern busses, but many country folk in this densely populated land of hard labor prefer to walk and save their coppers. Beyond the wayside group at Ribeira Brava, on the south coast, basks a red-rooted villa in front of which grow Madeira's small but very sweet bananas.

MIRRORS OF MADEIRA, ROCK GARDEN OF THE ATLANTIC



THE VILLA-STREWN SUBURBS OF FUNCHAL CREEP UP THE MOUNTAINSIDES

Down the steep, rocky trails and paved streets, into the heart of the capital, visitors coast at breakneck speed on greased runners. In the foreground three generations stitch embroidery (see Color Plate VI).

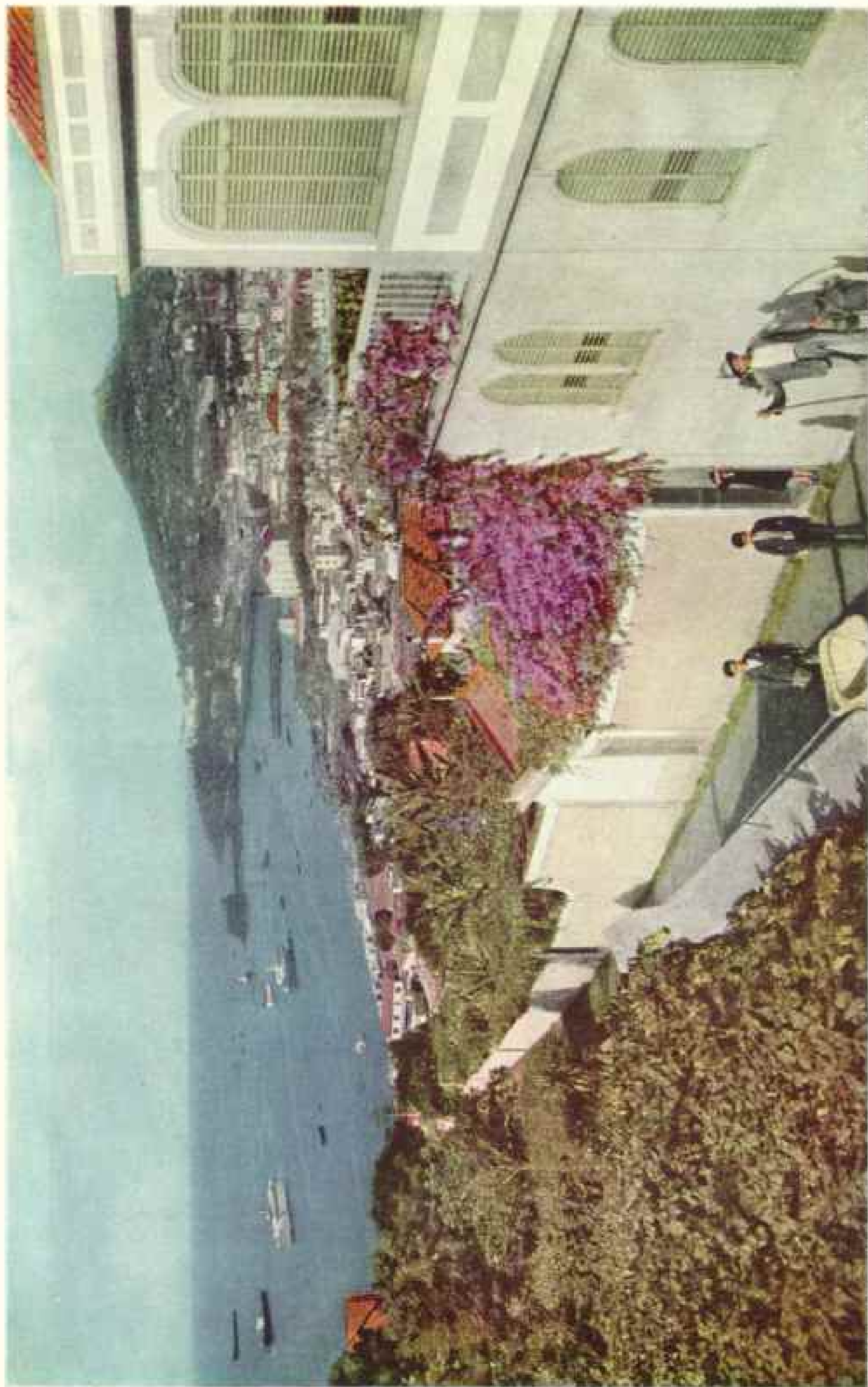


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Natural Color Photographs by Wilhelm Tobim

CALL AN "OXEY-CAB" AND GO SLEIGH-RIDING OVER COBBLESTONES!

As the gay, canopied passenger sledge, or *curro*, skids along at a trot, a man races beside it to throw tallowed rags under the iron-shod wooden runners while the boy guides and prods the oxen. An hour of the fun in Funchal cost the lady about 60 cents. Until a few years ago Madeira had no wheeled traffic.



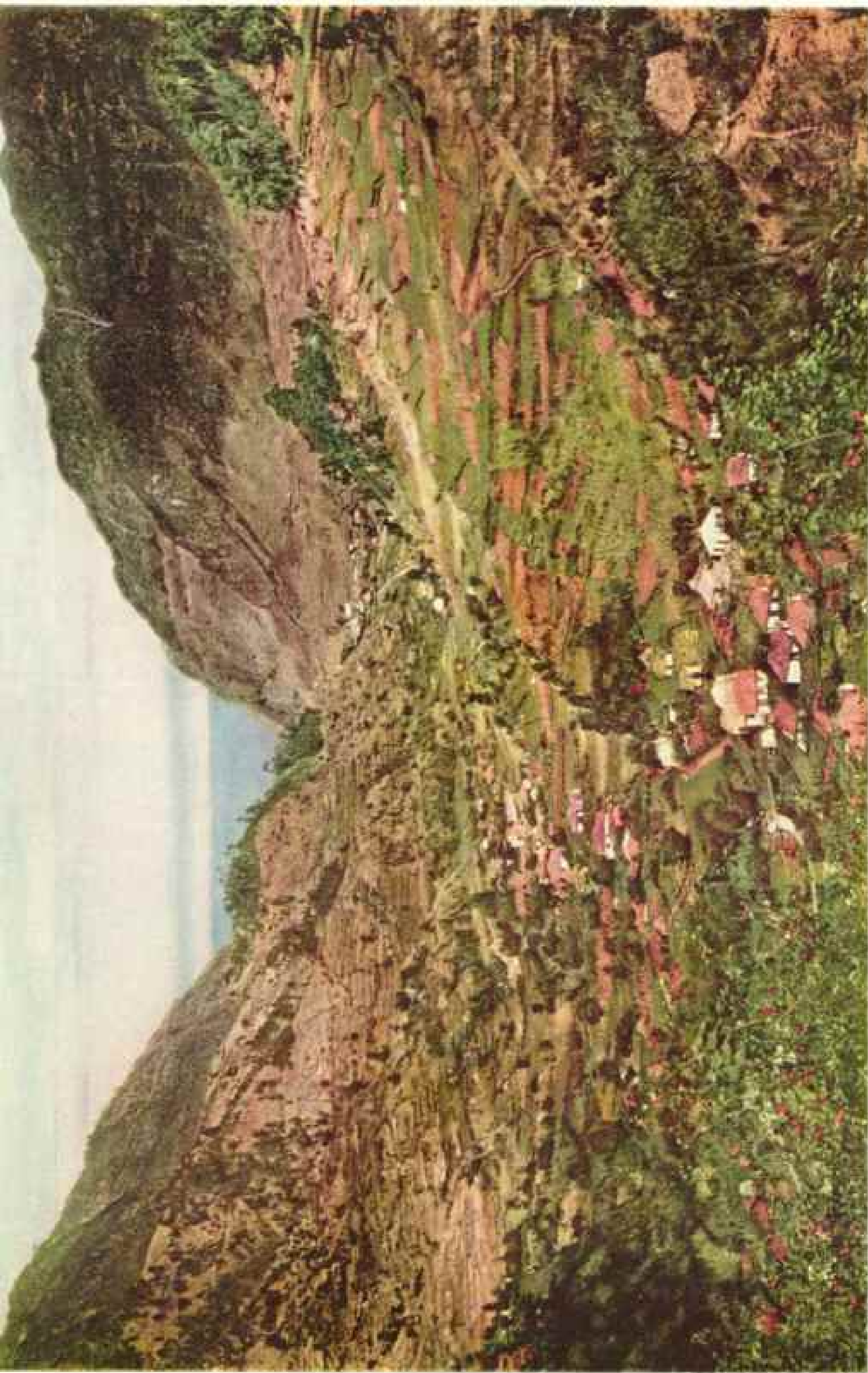
Notam Color Photograph by Wilhelm Tebner

© National Geographic Society

TO FUNCHAL'S SAPPHIRE HARBOR COLUMBUS CAME WHILE HE LIVED IN THE MADEIRAS, DREAMING OF SAILING FARTHER WEST

Now, white yachts, sailing ships, liners and tramps from the Old and New Worlds dot its brilliant waters. The steep, narrow streets, their cobbles worn smooth, are bordered by high-walled tropical gardens and houses tinted in soft pastel shades. The hotels of the island, long a favorite winter resort, nestle near the sea at the left beyond the hill. In the foreground a milkman carries his cups slung from a pole. Above the girl shading her eyes in the doorway trails the purple glory of bougainvillea (see Color Plate II).





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MADEIRA'S TERRACED HILLSIDES RIVAL THE STAIRCASE FARMS OF OLD PERU

The island's hard-working peasantry have mastered "perpendicular agriculture." Above the sprawling village of São Vicente, on the scenic, precipitous northern coast, vineyards and farms rise in terraces up the green slopes. The rich volcanic soil springs to life at the touch of water brought from the rain-catching mountain tops through stone irrigating canals, miles long. Beyond lies the gleaming Atlantic. At this town terminates the paved trans-island highway from Ribeira Brava (see Color Plate II).

Natural Color Photograph by Wilhelm Tobirn





STONE AND THATCH MAKE A HUMBLE "HOME SWEET HOME"

This peasant of São Vicente works hard to keep his brood supplied with maize porridge, fish, vegetables, and the favorite sweet potato. Peasants usually own their vine-clad houses, walls and trees—but rarely the land. Crops are cultivated on shares, the landlord generally taking a third or half.



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Natural Color Photographs by Wilhelm Tebben

MADEIRA EMBROIDERY, LIKE MADEIRA WINE, MAKES FAMOUS THIS PORTUGUESE ISLE

Busy women, squatting "tailor fashion" on the cobbles, stitch intricate patterns, which are stamped on linen by the agents of foreign firms. The art of fine needlework was introduced to the islands by an Englishwoman in the middle of the last century.

MIRRORS OF MADEIRA, ROCK GARDEN OF THE ATLANTIC



HE TAKES HIS LITTLE PIG TO MARKET ON A LEASH!

Along stone-paved highways, built for the ox sled and now adapted to the motorcar, visitors may wind through the rugged interior past cottages, villas, and clumps of reeds (left), used in basket-making. Some resort to man-borne hammocks when they explore high peaks and inaccessible gorges.



© National Geographic Society

Natural Color Photographs by Wilhelm Tobien

THE PEAKED-THATCH COTTAGE OF THE MOUNTAINS IS MOSTLY ROOF

In pleasant Camacha, Madeiran wickerwork is made from willow growing along near-by streams. Fragrant flowers, such as those in the dooryard, are borne on women's heads down the steep road to the Funchal market. Large families are the rule and children romp everywhere.



AROUND THE MODEST CHAPEL REVOLVES THE LIFE OF THE FIOUS PEASANTS

On feast day pilgrimages to church, there is much merrymaking to break the monotony of everyday toil. Led by their musician, playing his small Madeira guitar, gaily singing groups of men and women march along the road. Here an elderly milkman rests his burden on the steps and chats.



© National Geographic Society

Natural Color Photograph by Wilhelm Tubben

WHERE HEAVY LOADS DO NOT MAKE HEAVY HEARTS

Up and down steep grades and across mist-enfolded mountains trudge these industrious, frugal peasants, barefoot on rough stones. The graybeard and his wife cheerfully carry their share down the long road to the capital. Now the group is homeward bound.



did not exist, raged month after month across gorge and mountain, destroying much of the virgin forest.

Sugar cane was introduced from Sicily, and to it was due Madeira's prosperity during the early years of its colonization. Negro and Moorish slaves were imported from Africa to work on the sugar plantations and to build roads and aqueducts. The stone irrigating canals, or *levadas*, extending for miles down the steep mountain sides, still render efficient service (see illustration, page 102, and Color Plate V). Without them the lower regions would be without water the greater part of the year.

Feeling the need of an aristocracy to lead the humbler colonists, representatives of Portugal's nobility were sent to Madeira, among them three young noblemen who married three of Zarco's daughters. The first children born on the island, twin boy and girl, were fittingly christened "Adam" and "Eve."

Zarco was elevated to the nobility, and governed for more than 40 years. I have seen his tomb in Santa Clara, the oldest church in Funchal; and, on heights overlooking the town, the monument erected in his memory 500 years after his landing.

#### WHERE COLUMBUS PONDERED GEOGRAPHIC PROBLEMS

A world-renowned figure stands out in the early history of Porto Santo and Madeira. Christopher Columbus, restlessly sailing these seas in search of information regarding the then unknown Western Ocean, came to Porto Santo. He married pretty Philippa Perestrello, the Governor's daughter. The house where they lived in Villa Baleira, the only town in Porto Santo, can still be seen.

Columbus devoted himself to chart-making, from time to time visiting Funchal to gather information. In the Madeiras, Canaries, and Azores he listened to the tale of every adventurous sailor he encountered, picked up valuable nautical hints, and pondered deeply on the drift borne islandward from the west.

After the discovery of the New World, the ports of these eastern islands knew many a sturdy caravel bound for the Indies and welcomed many a returning sail.

The tie between the English and the Portuguese dates back to 1387, when João I of Portugal married Philippa of Lancaster, daughter of John of Gaunt. This bond was

strengthened by the marriage, in the 17th century, of Charles II of England to the Portuguese princess, Catherine of Braganza.

It was then that the English, loaded with privileges and exemptions, flocked to Madeira. The British "factory," combined trading and social center, was established.

Although the British factory ceased to function more than a century ago, foreign trade is still largely in British hands, there is a permanent British colony, and the majority of visitors who come for the winter months hail from the British Isles. Captain Cook was one of the early English writers on Madeira, visiting the island in the latter part of the 18th century.\*

#### WINE MADE ECONOMIC HISTORY

Soon after the colonization of Madeira, the Malvesi vine was imported by Prince Henry from Crete, and other varieties were introduced at a later period. To-day one type of Madeira wine bears the old name, "Malvasia," or "Malmsey," famous in England when western European wines of that name were well known, and later when Madeira wines had taken their place.

Owing to wars with its neighbors, England, in the middle of the 17th century, strictly prohibited the importation of wines from France, Italy, Spain, and Portugal, at the same time decreeing that wines of Madeira and the Azores might be carried in English-built ships to England or to "any of the lands, islands, plantations, colonies, territories, or places to His Majesty belonging, in Asia, Africa, or America."

Our naval hero, John Paul Jones, was at one time master of the *Two Friends*, a Madeira wine ship. The finest wines of the island were in demand in the American Colonies. Ships from Boston, New York, Philadelphia, and Savannah, laden with pipe staves, timber, train oil, dried fish, and rice, brought back pipes of Madeira to the wealthy American merchants and planters.

To-day there are several varieties of Madeira—heavy and light, sweet and dry. The best of the seasoned dessert wines is a rich golden-brown in color, and looks and tastes much like old Spanish sherry.

In the old days wine sent from the island on a long sea voyage by sailing ship to the Tropics was found to be greatly improved

\* See "The Columbus of the Pacific," by J. R. Hildebrand, in the NATIONAL GEOGRAPHIC MAGAZINE, January, 1917.





Photograph by Wilhelm Tobien

#### MODERN RADIO TOWERS TOP 300-YEAR-OLD PEAK FORT

From the commanding heights above Funchal frowns Forte do São João do Pico, built by the Spaniards during their occupancy. Below its weathered battlements wind narrow streets bordered by walled gardens and houses with old-fashioned balconies and shuttered windows.

by the heat. To-day some Madeira wines are mellowed by being kept for weeks in heated vats at a fixed temperature and are later fortified. A recent decree prohibits the exportation of wine until it is five years old.

Madeira is a small island, little more than 30 miles in length and less than half this in width; but it is so mountainous, so gashed by deep gorges and guarded by gigantic headlands, that access is difficult to certain of its sun-kissed coastal villages, cool, mist-enveloped uplands, and deep, fern-hung canyons.

Motor busses, which connect the villages on the paved highways, have made a marked change in the manner of life and

outlook of the country people. Long accustomed to perilous descents afoot or by sled, they show no fear as the heavily laden bus sways around sharp curves, skirts precipitous cliffs, and lumbers down some of the steepest grades with which a car is called upon to cope.

One of the most interesting motor trips to be made from Funchal takes us up the serpentine road back of the town to the summit of the mountains. We linger at the 500-year-old church of Nossa Senhora do Monte, on a hill crest above the city. It shelters the tomb of the exiled Karl, Emperor of Austria-Hungary, who, until his death, twelve years ago, lived with his family on an estate near by.



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#### THUS THE FINE LADIES OF FUNCHAL ONCE WENT ABOUT TO TEA PARTIES

Nowadays the hammocks are rarely used except for exploring rough mountain country. The bearers keep in step and often break into a canter. If the passenger shows signs of falling asleep his porters talk to him constantly, for they say dead weight is harder to carry.



Photograph by Wilhelm Töbjen

#### THE CANARY MIGHT ALSO BE CALLED THE "MADEIRA"

Cages of the feathered musicians are displayed in the Funchal market, for these birds are native to this island as well as the near-by Canary group. They are often seen flying wild in the glens. Their normal color is grayish brown, slightly varied with green, yellow, and other hues. The all-yellow bird was a product of careful breeding.



Photograph by David J. Martin

#### MADEIRAN BOOTS HINT OF FAR-AWAY RUSSIA

Oak now imported from New Orleans for wine casks once came from the Tsars' Baltic provinces. This casual contact may explain the island's goatskin footwear, spread out on the stones of Funchal's public square. For the shawled, kerchiefed women and swarthy men the style is exactly the same. Nowadays thick soles are cut from cast-off automobile tires, many of which once rolled on American roads.

On we climb, past Terreiro da Lucta, terminus of the cog railway, through wooded country where pines predominate, to Poiso Pass (4,553 feet). Here is one of the highland refuge houses, maintained by the Government chiefly for the use of the hardy northern peasants, who plod up steep trails in all sorts of weather, bringing eggs, poultry, and vegetables to south-coast markets.

After passing the summit, we are enveloped in mist as we cross a bleak moorland where sheep and goats graze. The winding road then drops down a ravine on the northern side of the mountains. The

remains of the forest which once clothed the island: laurels, junipers, and other trees of the Temperate Zone; also various plants and ferns, some of which are peculiar to Madeira.

#### COLUMBUS LIVED ON PORTO SANTO

The island of Porto Santo, which we saw in the distance from the mountain balcony, is much lower and drier than Madeira. It has stretches of sandy beach which the larger island lacks, and in summer residents of Funchal brave the rough four-hour passage to Villa Baleira

"view of views" is obtained when we are well down the slopes. Leaving the automobile at Ribeiro Frio, we walk about a mile over a sylvan path bordered by rhododendrons to a projecting ledge, called locally a *balcão* (balcony), on the brink of a deep canyon. Here a magnificent panorama is spread out before us.

Far below, the silver thread of a stream winds along its rocky bed. From every cleft and crevice of the cliffs above, where a foothold can be obtained, vegetation drapes the walls. Where the canyon curves out of sight loom rounded green hills dotted with white cottages overlooking the sea, which skirts the northern coast, and, across the blue waters, Madeira's satellite, the island of Porto Santo (see illustration, page 104).

For countless centuries Nature's eroding agents have been at work scooping out the deep ravines which, on every side of Madeira's jumbled mountain range, descend to the encircling sea. In their cool, ferny depths are

to enjoy the sea bathing.

The small, short-horned sledge oxen of Funchal come from Porto Santo; so do the little white limestone pebbles which form the design on the black pavements of the Avenida Arriaga and in many of the gardens.

Porto Santo's chief interest, to me, lies in its association with the Great Admiral who gave to the Old World half a planet (see text, page 97, and illustration, page 104).

My bedroom in Funchal opens on to a garden overhanging the sea. At dawn I step out and stand under the palms by the vine-covered railing above the cliff, which is clothed with verdure to the pebbly shore.

Across the pearly waters the horizon is broken by three purple islands: the lonely, uninhabited Desertas. In the center is Deserta Grande, with Bugio and Chao on either side.

It is behind Bugio that the sun rises, shafts of radiance now piercing the gray sky.

The new-born light touches the white sails of fishing boats far out from the shore. It is the beginning of another sun-drenched day.

#### A PLEASANT LIFE FOR THE WINTER VISITOR

On Deserta Grande there are wild goats, rabbits, and cats descended from animals brought long ago from Madeira. Colonies of sea birds frequent these shores; and in coastal caves the monk, or Mediterranean, seal is still to be found. The islands are the property of two British residents of Madeira, and sportsmen occasionally visit them to shoot the wild goats.



Photograph by Wilhelm Töhlen

#### THE DOG MARKET INTERESTS EVERYBODY BUT THE DOGS

Miscellaneous mongrels, a bit bored and sleepy, await a new master in Funchal under a sign (upper left) meaning "wholesale and retail." Thoroughbreds are rarely seen, but every peasant has his faithful dog or two. Usually one watches the owner's lunch while he works and the other guards the house.

A second uninhabited group of islands of the archipelago, three in number, the Salvages, lie more than 180 miles from Madeira, nearer the Canaries. In summer men sail to them to slaughter the shearwater, a sea bird which nests in large numbers on these low-lying islets. The flesh, dried and salted, is eaten by the poorer classes in Madeira; the fat and down are also utilized.

From Funchal to the near-by mountain village of Camacha the ascent is precipitous. Once on the heights, we are among wide stretches of slim, planted pines, which furnish much of the fuel used in Funchal.





Photograph by A. S. Waterton

#### AN IRRIGATION CANAL GOES MOUNTAIN CLIMBING

Here the life-giving stream flows gently downward through a tunnel cut in the solid rock, and across a stone bridge clinging to a cliff high above thirsty, terraced farms (see Color Plate V). Some wind 50 miles or more. Water is deflected at each farm in turn for an allotted period, timed to the second.

Camacha has a grassy common unusual in Madeiran villages. Large, fragrant violets are a feature of the region.

This village is the home of the important wickerwork industry, for the bushy willow grows in the beds of near-by streams. At nearly every door men and women weave chairs, tables, and baskets.

Madeira hand embroidery has become as well known in recent years as Madeira wine. In riding through the country I have everywhere seen women, sitting in the open, industriously plying their needles at odd moments between household tasks, and girls as young as seven or eight stitching away

like veterans. About 20,000 women and girls are engaged in this industry.

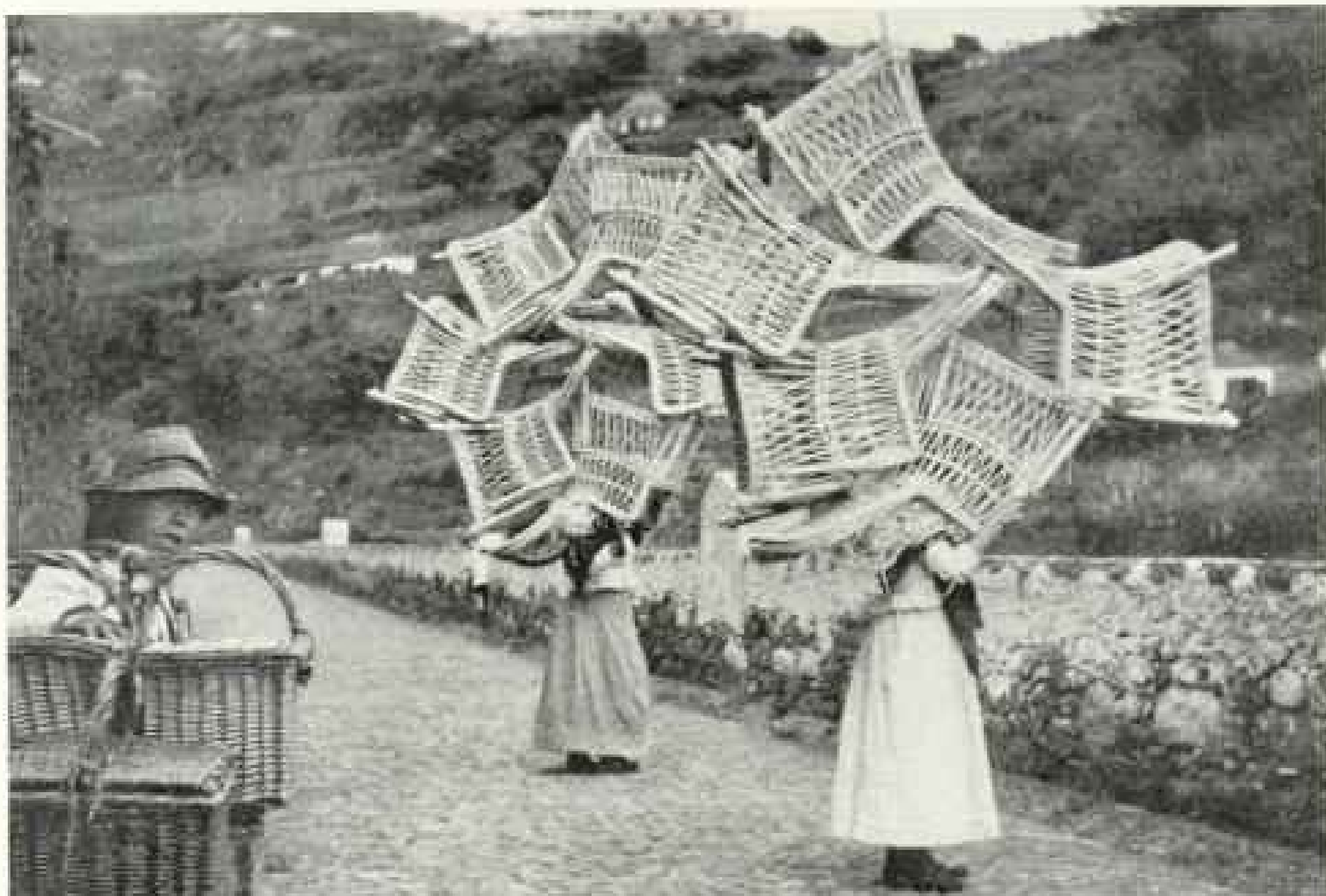
Life in Funchal is pleasant for the winter visitor. For some, beauty and the study of flora, customs, and language suffice; for outdoor enthusiasts there are tennis, and bathing in the sea and in sea pools built above high tide along the shore.

Some miles from Funchal, in the hills, there is a 9-hole golf course. There are the British country club; the English reading rooms; and the Casino, for dancing and games. Tunny fishing is at its best in April, May, and June.

The food at the hotels does not offer wide variety, as little is imported. Fish is a feature of the menu, one variety appearing almost daily. This is the *espada*, a scabbard-like, deep-sea fish. A familiar sight near the market is a man homeward bound with a basket of vegetables in one hand and in the other a long, black *espada* tied in a circle

with its tail in its mouth (see illustration, opposite page).

Every New Year's Eve Funchal stages an impressive scene. On the last day of 1933, a trio of European cruising ships lay at anchor in the harbor. By 6 o'clock night had fallen, and pier, water front, and Avenida were thronged with tourists, residents, and country folk who had been flocking into town since dawn. Red and green electric lights, colors in the flag of Portugal, ran along the pier, outlined buildings, festooned trees, and extended in jeweled bands up the mountain sides. The crests of the hills were crowned with



Photograph from Charles H. Galile

IT'S EASY—EXCEPT IN A HIGH WIND

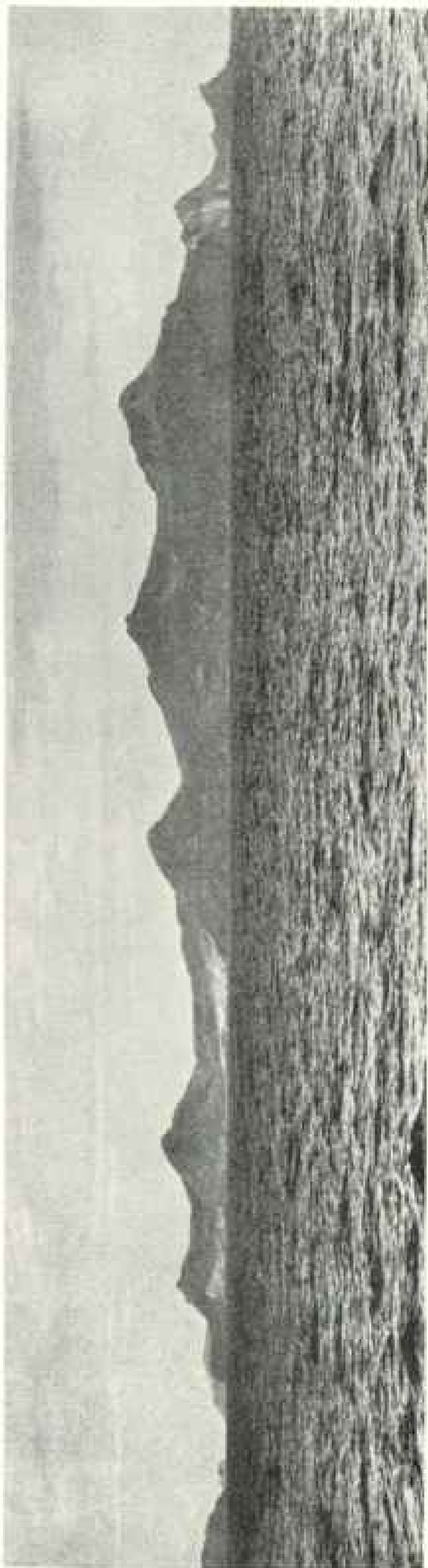
Peasant women "use their heads" to carry handmade wicker furniture down from Camacha to Funchal for sale. Long accustomed to bearing loads in this fashion, they descend the mountain at a surprising pace, often juggling five or six chairs apiece.



Photograph by Franklin Adams

THEY WERE CAUGHT WITH A LINE MORE THAN HALF A MILE LONG

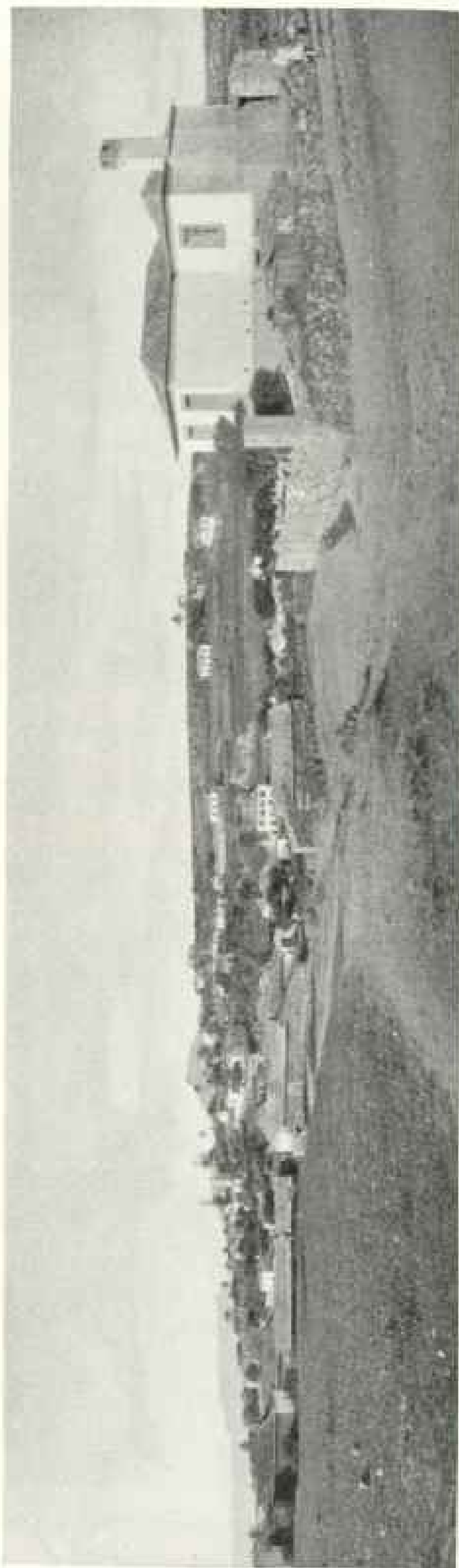
Tasty, scabbardlike deep-sea fish called *espadas* (swords) are hooked at depths of 3,000 to 4,000 feet and sold cheaply here at the Funchal market. The boy has one with its tail in its mouth for easier carrying. Peasants riding back to the country are not allowed to take the fish inside the busses; so they are hung along the outside, like rows of small spare tires.



Photograph by Euphonia Press Agency

**LIKE A HOT SLICE OF AFRICA IS DRY, SANDY PORTO SANTO**

To its beaches in summer flock holiday-makers from Madeira to bathe, bask on the sand, and eat the grapes which the warm sun ripens to amazing sweetness. From the sea this satellite isle may look hilly, but actually it is much lower than its mountainous sister, Madeira.



Photograph by M. G. Peristrelli e Filhos

**HERE, ON THE ISLAND OF PORTO SANTO, DWELT COLUMBUS WITH HIS BRIDE**

The great explorer married the daughter of its first governor, and for some time about 1479 they lived in this straggling, sun-drenched town of Villa Balaia (see text, page 97). Though tiny, the settlement exceeds in age big Funchal, on the main island of Madeira.



Photograph by M. O. Perryette & Filha

**THIS IS NOT A FOURTH OF JULY, BUT NEW YEAR'S EVE IN FUNCHAL**

Clocks strike 12 on the little island, and the city, nestling in a natural amphitheater of mountains and sea, paints the sky with dazzling streamers of fire—for this is the memorable "Night of Light" when Madeira's capital greets the birth of another year (see text, page 102). Each householder likes to set off his own fireworks, but the hotels and visiting liners in the harbor, too, add to the dim and lavish display which each year attract throngs of travelers.





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HUGE TABLECLOTHS LIKE TARGETS DECK A SHOP AT THE FOOT OF THE SLIDE

A familiar flag meets the eye of Americans, weak and breathless from their headlong ride (see illustration, page 82). A sign in English urges: "Please Come Up; Pure Madeira Wine, etc., etc." Outside are spread striking samples of the island's hand embroidery. At a rival shop across the way other flags are flown and a dummy displays a Portuguese peasant girl's costume.

brilliant lights, the illumination extending to the Peace Monument, high above the town (see illustration, page 105).

The visiting ships were aglow, and every craft in the harbor, down to the smallest fishing boat, displayed its twinkling lights. It was a clear, moonlit night. The shimmering sea was calm.

Expectantly the crowd waited for the midnight hour, all faces uplifted to the surrounding hills.

As the Old Year died and the New Year was born, a fusillade of rockets shot skyward from the heights, north, east, and west of the town, and from the ships in the harbor. Soon the heavens were ablaze with iri-

descent showers of light, each more beautiful than the last. Golden spangles! Glittering fountains, rising, falling, disappearing! Sheets of fire, flaming, waning, vanishing! Madeira dissolved into Fairyland!

I know of no city which can excel the effect produced on this "Night of Light" in Funchal. Apart from the national love of the Portuguese for pyrotechnical displays, and the expense and effort expended, there is here the gorgeous natural setting of wide valley, sea, and encircling mountains.

It is as if the sky, which at sunset vies in coloring with the florescent gardens below, strives, on this one night in the year, to surpass them in beauty.

## WORLD'S LARGEST FREE BALLOON TO EXPLORE STRATOSPHERE

**A** SHELTERED pocket in the Black Hills of South Dakota, eleven miles southwest of Rapid City, has been selected as the starting point for the Stratosphere Flight sponsored by the National Geographic Society and the U. S. Army Air Corps.

The ascent is to be made early in July, the date depending upon weather conditions. For the safety and full success of such flights, almost perfect weather is necessary during the time the balloon is in the air, and over the entire area above which it drifts. The balloon cannot be sent aloft until it is determined, from hundreds of telegraphic reports supplied by the Weather Bureau, covering large regions of the United States and Canada, that fine weather lies just ahead.

The location near Rapid City was decided upon after Maj. William E. Kepner, pilot for the stratosphere expedition, and Lieut. Orvil A. Anderson, alternate pilot, had flown to numerous sites in several States and had examined them carefully from the air and from the ground.

Many sites were offered The Society by public-spirited citizens in various States, and their fine coöperation is appreciated.

Records of the Black Hills site for past years show that during the period from mid-June to mid-July there are probabilities of three or four opportunities for the flight under ideal weather conditions.

### INFLATION REQUIRES NINE HOURS

The site is a level, grassy meadow 600 feet square, surrounded by cliffs and hills.\* In this natural amphitheater the balloon can be extended to 305 feet above the ground during inflation, yet remain protected from winds. It requires nine hours to inflate the immense bag, and the vast area of "sail" would be dangerously buffeted by even a five-mile breeze.

A good road has been built, through the coöperation of the civic leaders in Rapid City, into the isolated pocket from which the ascent will be made. Over it, and down to the grassy floor, must be trucked the huge packing case containing the balloon, the metal gondola, and five carloads of heavy steel cylinders containing hydrogen

gas to furnish the lifting power for the flight.

At Akron, Ohio, the largest free balloon ever built has been finished in the scheduled time, at the factory of the Goodyear-Zeppelin Corporation. In the vast room in which it was made the windows were sealed, the air was strained through cotton flannel, and the men and women employees wore grit-free "slumber shoes" of cloth as they walked over the delicate rubber-impregnated fabric (see illustration, page 108).

### A 2½-ACRE JIGSAW PUZZLE

Not a stitch was taken in putting together more than two-and-a-third acres of cloth. Every one of the 3,520 major pieces into which the fabric was cut, and each of the scores of smaller fragments, was carefully cemented to its next-door neighbors with rubber cement. The next step was to cover the cemented seams of this jigsaw puzzle with fabric-backed rubber tape on both sides. When these operations were completed the seams were stronger than the neighboring fabric.

More than 300 gallons of cement—the purest rubber dissolved in gasoline and benzol—were used in putting the balloon together.

Cloth for the balloon was made from specially selected cotton of long, strong fibers. It was woven in strips 42½ inches wide and 300 feet long. One hundred and thirty of these massive rolls were used for cutting out the pieces for the balloon—39,000 running feet, or more than seven-and-a-third miles of cloth!

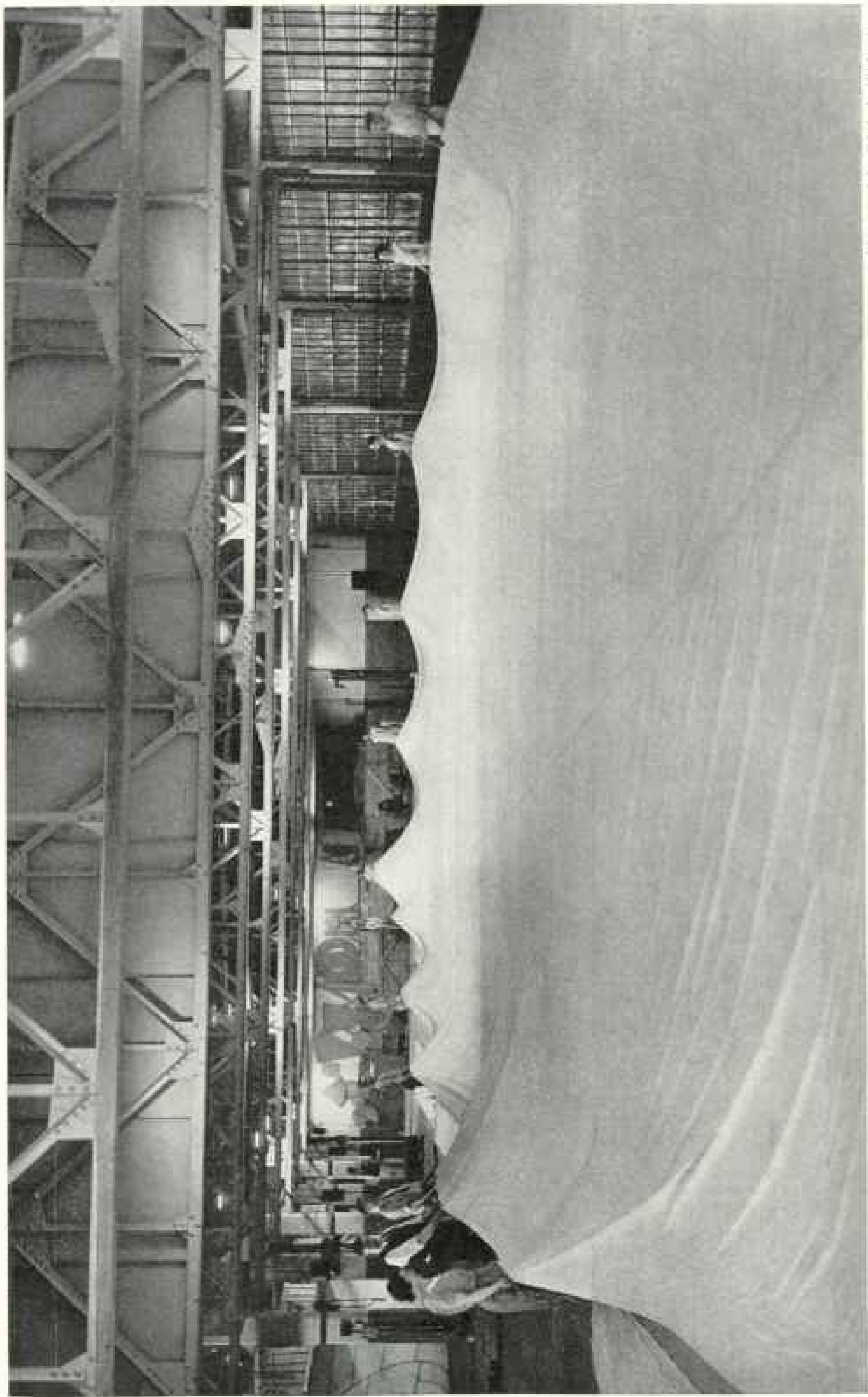
Every square foot of the amazing acreage of cloth passed through a rubberizing machine thirty times, each time receiving a very thin coat of rubber.

### METAL PUMPED FROM BRINE WELLS

At Midland, Michigan, the ball-shaped gondola has been completed by the Dow Chemical Company. It is made of light, strong DOWMETAL, weighing only two-thirds as much as aluminum (see page 110). The alloy consists chiefly of magnesium, and that rare metal is extracted chemically and electrically from a "magic brine" pumped from deep wells.

The gondola was constructed by welding together eight sections of metal shaped like pieces of orange peel. The shell thickness

\* See "Black Hills, Once Hunting Grounds of the Red Man," in the NATIONAL GEOGRAPHIC MAGAZINE, September, 1927.



Photograph by Edwin L. Wisard

**TWENTY-FIVE MORE PIECES THIS SIZE MAKE THE GIANT GAS BAG**

This section, shaped like a piece of pie, is 42 feet across in the foreground and tapers to a point 141 feet away from the camera. More than 2 1/4 acres of long-fiber cotton cloth—nearly enough to make an awning that would shelter the playing field in Yankee Stadium—was used to make the balloon skin. This cloth was impregnated with 30 applications of rubber. Because tiny particles of dust or grit might damage the fabric, the workroom is sealed, the air conditioned, and workers must wear soft moccasins.

is slightly less than the depth of two lines of type you now are reading.

At first glance the big metal ball seems to be built of steel; and it is almost as strong as though it were. But the shell alone, before the various fittings were added, weighed only 450 pounds. If it had been made of steel, it would have weighed almost a ton.

At Wright Field, Dayton, Capt. Albert W. Stevens, scientific observer for the flight, supervised the construction of instruments and of ingenious devices that will record their readings automatically, so freeing himself and Major Kepner, the pilot, for work that can be done only by hand. These instruments and those to be assembled from other cooperating sources will make up the "pay load" of apparatus weighing more than a ton, which is the reason for the stratosphere expedition. When the many strange devices are taken aloft in the gondola, they will transform it into a floating laboratory.

As Captain Stevens is one of the foremost aerial photographers of the world, he has made use of photography as a labor-saver in the stratosphere scientific work. An ingenious motor-driven train of gears—a "brain" of clockwork and electricity—is mounted on a large aerial camera, and automatically will make photographic exposures straight down, one every minute and a half. Never before has such a large camera been operated automatically.

#### A SCIENTIFIC RECORD ON FILMS

At the same time that the master mechanism makes exposures by the aerial camera it sets off three other small cameras inside the gondola by means of electric solenoids. These exposures are to photograph instrument dials.

When the gondola settles to earth after its twelve-hour trip into the upper atmosphere, it will contain hundreds of feet of film on which the photographic "robots" will have recorded instrument readings that would have kept half a dozen men busy. These data will be tabulated and contributed to world knowledge.

During preparation for the flight the Advisory Committee of specialists in various fields of science have held frequent meetings at the Administration Building of the National Geographic Society. Their conferences have considered the design of instruments, plans for collecting data in the upper atmosphere, and many other problems of the flight. At The Society's headquarters, too, has centered the detailed work

of handling the finances of the expedition, of purchasing its equipment, and of taking steps to insure the best chances for its safety and success.

#### BROADCAST FROM ABOVE THE CLOUDS

In New York City, engineers of the National Broadcasting Company have designed special broadcasting and receiving sets, of minimum weight, to be carried in the gondola. For five minutes of each hour Major Kepner and Captain Stevens plan to talk by radio, reporting their progress and describing the appearance of the earth as they rise farther and farther above it. Their comments are to be picked up on the ground near by and rebroadcast over a nation-wide network of National Broadcasting stations.

These arrangements were made to enable any of the million members of the National Geographic Society throughout the United States, near a radio set, and many members in the far places of the earth, to follow the flight in detail.

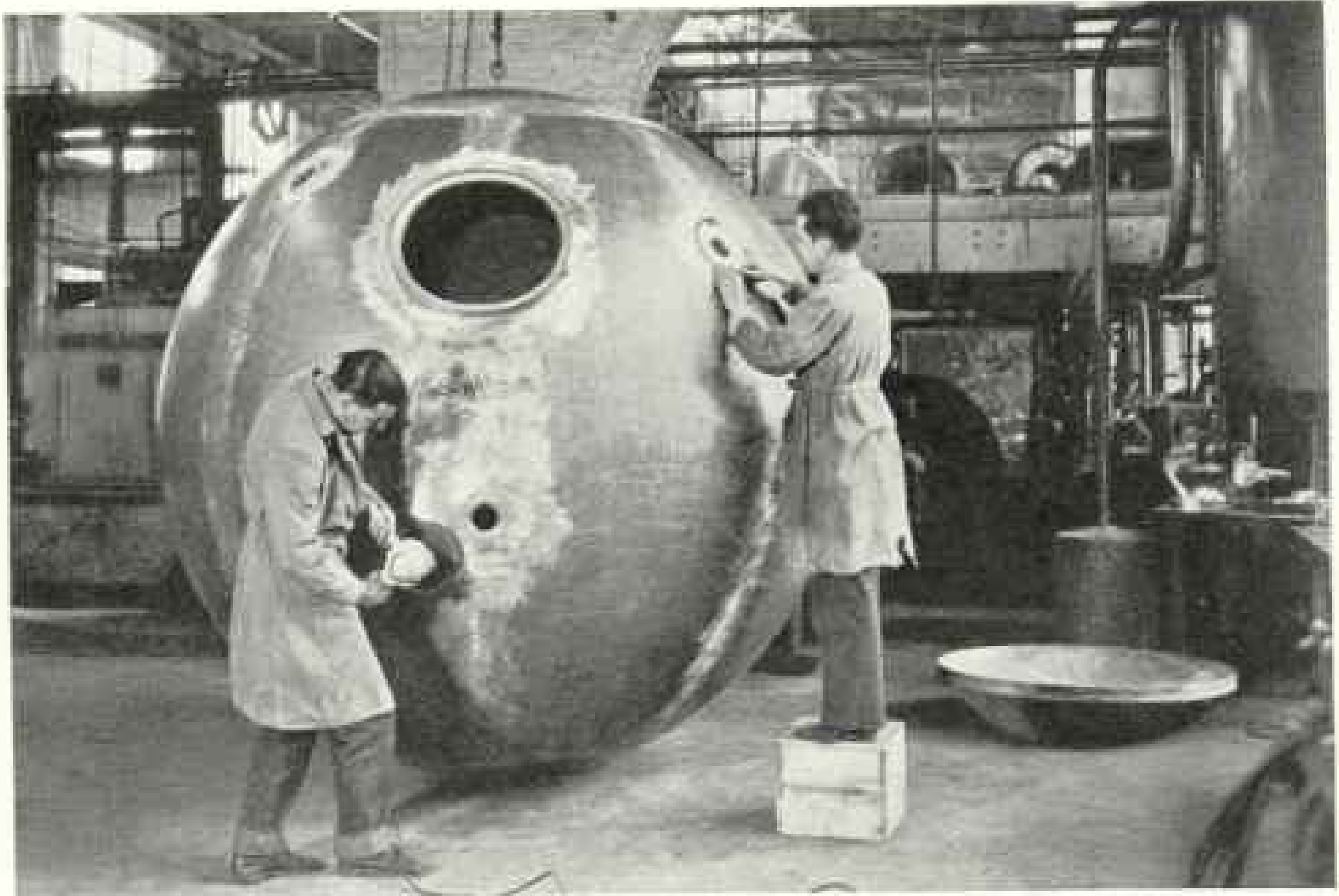
The engineers of the National Broadcasting Company also have arranged for two-way communication between the balloon and Washington. Thus officials of The Society and officers of the War Department may confer with the two balloonists at any time during their twelve hours in the air.

The stratosphere flight is being made possible by the cooperation of a group of organizations and individuals keenly interested in obtaining the fullest data obtainable of the physical and chemical conditions of the upper atmosphere. In addition to contributing the principal amount toward the expenses of the expedition from its research funds, The Society has undertaken the management of the project, and is giving the services of its staff. The Society also will publish the results of the flight in the NATIONAL GEOGRAPHIC MAGAZINE, and technical accounts will be prepared for a series of scientific monographs.

The Secretary of War, George H. Dern, through the Army Air Corps, has assigned three expert balloon officers to conduct the flight: Maj. William E. Kepner, pilot; Capt. Albert W. Stevens, observer; and Lieut. Orvil A. Anderson, alternate. The Air Corps also has made available the facilities of its admirably equipped machine shops and laboratories at Wright Field, Dayton, Ohio.

The project is deeply indebted to the Advisory Committee for the flight, appointed by President Grosvenor, of the Na-





Photograph by Edwin L. Wisberd

THE GONDOLA WAS MADE FROM CLEAR BRINE

The Dowmetal used in the car was extracted chemically from a liquid pumped out of deep wells at Midland, Michigan. The alloy consists of more than 95 per cent pure magnesium, and is one-third lighter in weight than aluminum. The sphere, slung below the balloon, will carry to the stratosphere, in addition to the two balloonists, more than a ton of scientific apparatus and 7,000 pounds of lead-dust ballast.

tional Geographic Society. The chairman of the committee, Dr. Lyman J. Briggs, Director of the Bureau of Standards, and its members have given generously of their time and knowledge in shaping the plans and instruments for collection of scientific data. The members of the committee, in addition to Dr. Briggs, are:

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

Since the original announcement of the

stratosphere flight in the April issue of the Magazine, additional contributions of funds, materials, and services have been made. The list of contributors to date is:

The National Geographic Society, The American Telephone and Telegraph Company, The National Broadcasting Company, P. G. Johnson, Capt. Albert W. Stevens, William A. M. Burden, Sherman M. Fairchild, Col. Edward A. Deeds, C. F. Kettering, The California Institute of Technology, The United Aircraft and Transport Corporation, The Sperry Gyroscope Company, The Eastman Kodak Company, The Fairchild Aviation Corporation, George D. Widener, Dr. A. Hamilton Rice, Cornelius V. Whitney, The Bell and Howell Company, The Bausch and Lomb Optical Company, The Hamilton Watch Company, The General Electric Company, The Folmer-Graflex Corporation, The University of Rochester, The Puritan Compressed Gas Corporation, The Chicago, Burlington and Quincy Railroad, The Chicago and Northwestern Railway, The Illinois Central System, and Rapid City Chamber of Commerce.

# BLACKBIRDS AND ORIOLES\*

BY ARTHUR A. ALLEN

*Professor of Ornithology at Cornell University*

IT WAS my first trip to the Tropics. As we stood on the newly finished dam, Colonel Gaillard was explaining the probable extent of Gatun Lake when water should finally be admitted to the Panama Canal. But my mind was on other things.

I was an ornithologist craving bird adventure, and while I listened to the Colonel with one ear, the other received most alluring sounds from the undergrowth; and while my eyes took in the enormity of the dam I really perceived only strange shapes and bits of color flitting through the trees in the background.

The next day, as I made my way alone to the beckoning forest, from the train window I glimpsed birds I had never seen before, and yet many of them had a strangely familiar appearance.

There were hawks and swallows and woodpeckers in about the same numbers as one would see from a train window in eastern United States, but other groups flashed by in much greater variety. Instead of one species of humming bird, for example, there were apparently four or five kinds, and the same was true of the brilliant tanagers. There were many more flycatchers, and there were birds of the oriole family (*Icteridae*) nearly as large as crows.

## A LESSON IN GEOGRAPHICAL DISTRIBUTION

Still other groups of birds that one could never expect to see in the United States were much in evidence. Noisy little parakeets, for example, took the place of house sparrows, and gave the bird landscape an exotic appearance. In the forest I found warblers and vireos somewhat similar to those at home, but also many strange birds belonging to bird families I had never seen except in a museum or a zoological park. There were toucans with huge bills, and motmots with long racquet tails, and tree creepers, ant-thrushes, cotingas, and honey creepers that one never sees in the northern forest.

Some groups of birds that are familiar companions in our New York and New England woodlands, like the nuthatches and the chickadees, and the shrikes discussed in this article, had no counterpart in this tropical jungle; and others, like the crows and jays and even the sparrows, were rare.

Without realizing it, I was enjoying a lesson in geographical distribution that was to make clear to me, as never before, the origin of our North American bird life and the meaning of bird migration. Had I ventured into a British woodland instead of a Panama forest, the birds might have appeared equally strange to me; but even more striking than the number of new birds seen would have been the absence of representatives of so many families that are found in North and South America.

In Britain there would have been no humming birds, no tanagers, no flycatchers, as we know them; no wood warblers, and no blackbirds and orioles.

On the other hand, there would have been more sparrows and buntings, more titmice, more crows and jays, more shrikes, and more of the birds belonging to the kinglet family.

## BLACKBIRDS AND ORIOLES CONFINED TO THE NEW WORLD

How, then, can we explain the absence of humming birds from the English landscape and of titmice from Panama, and the presence of both in New England? Why are blackbirds and orioles, vireos and phainopeplas, confined to the New World, while waxwings and shrikes are found on both sides of the Atlantic and Pacific Oceans?†

Evolution has taught us that all species of birds and animals were not created at the same time, and that there has been a gradual extension of range as well as an evolution of structure. It is thus not difficult to conceive that each group of birds originated in some one part of the globe in distant past ages, and in succeeding ages endeavored to populate the world.

That some should have been much more successful than others is understandable, because we know that to-day some birds are much more prolific, more aggressive, and more adaptable than others.

Compare the starling and the skylark,

\* This is the eighth article, illustrated by paintings by Major Allan Brooks, in the important GEOGRAPHIC series describing the bird families of the United States and Canada. The ninth article, "Wild Ducks and Geese of North America," with 16 pages of paintings in color by Major Brooks, will appear in an early number.

† The bird called "blackbird" in Britain is really a thrush, closely related to our robin.

for example. Repeated attempts to introduce the skylark into North America have thus far been unsuccessful and the birds liberated have gradually disappeared. The starling, on the other hand, from an initial start in New York City in 1890, has in four decades spread to Florida, Texas, and Wisconsin, and over a great deal of this range is now one of the commonest birds.

#### NORTH AMERICAN BIRD LIFE HAS COME FROM TWO SOURCES

And so it is with all of our birds; some groups have never spread very far from the place of their origin, while others—the hawks and the owls, the woodpeckers, the sparrows, the thrushes, and many more—are now found over the greater part of the earth.

North America has apparently become populated with birds from two sources. The Old World, by way of Alaska, has contributed such groups as the shrikes, the chickadees, and the nuthatches, which have not yet extended their range to Central and South America. It has also contributed other families, such as the sparrows, the thrushes, the woodpeckers, and the waterfowl, which are now cosmopolitan. South America has obviously contributed the humming birds, the warblers, the vireos, and the blackbirds and orioles.

These families have not yet extended their ranges to any part of the Old World, in spite of the wealth of species to be found in the land of their origin. Of the birds discussed in this article, therefore, we have the blackbirds and orioles, the vireos and the phainopeplas, that are manifestly of New World origin with no representatives in the Old World, and the shrikes and waxwings that have come into North America from the Old World.

One reason, perhaps, why the blackbirds and vireos have not spread more rapidly is that they are migratory, and each winter retire toward the land of their ancestors. The bobolinks, for example, spend scarcely more than three months on their breeding grounds in northern United States, and the other nine on the pampas of Brazil and Argentina, and in traveling back and forth (see Color Plate VI and text, page 126).

Leaving the daisy fields of New York and New England before the middle of August, they assemble in flocks about our marshes, making their way by easy stages to the rice fields of the Southern States.

About the last of October, while food is still very abundant and before the huge flocks of blackbirds that might compete with them for food have arrived from the North, they leave the United States entirely.

Flying a little east of south, they cross Cuba and Jamaica and the Caribbean Sea to Venezuela. Not content with this long flight, however, they continue in the same southeasterly direction over the llanos of Venezuela and the forests of the Amazon until they come to the wide prairies of southern Brazil and northern Argentina. What draws them to this vast area of sedge and marsh no one knows, unless it be that here the original bobolinks sprang from the ancestral blackbird stock.

#### MIGRATORY BIRDS DO NOT BREED ON THEIR WINTERING GROUNDS

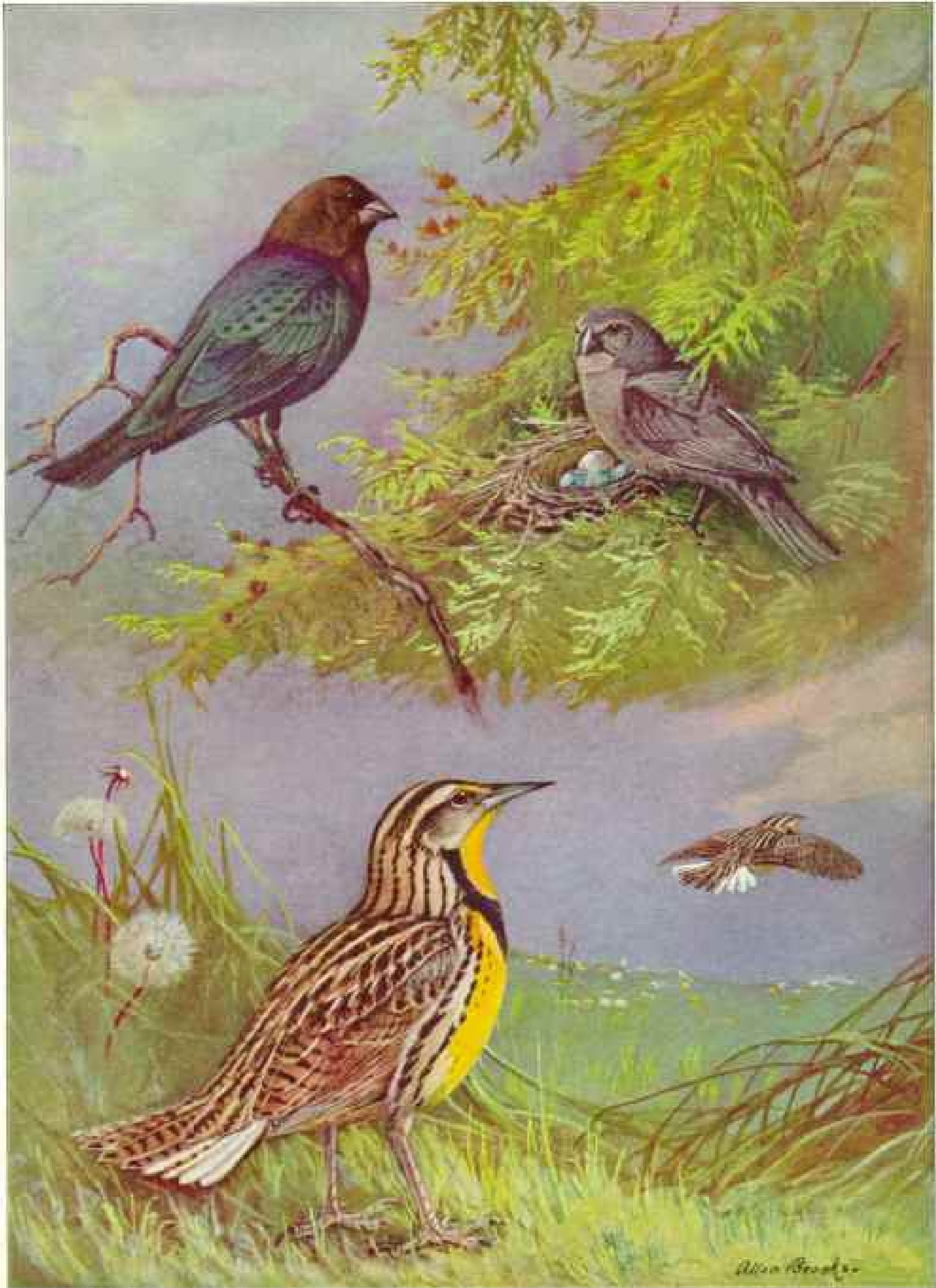
But whether or not the pampas represent the original home of the bobolink, there they return with unfailing regularity each winter and there they spend about as much time as they do on their nesting grounds in the North, although, of course, like other birds, they do not nest at this season because they are physiologically unable to do so. So they merely travel about in small flocks until February, when they begin to feel the urge to start northward again.

Most members of the blackbird family are fine songsters, although their notes consist of relatively simple piping whistles. The simple "spring-is-here" piping of the eastern meadowlark, the clear, flutelike calls of the Baltimore oriole, "Here, here; look right here, dear," and the liquid "gurgle-lee" of the redwing are familiar to all Nature lovers in northeastern United States.

The more finished production of the western meadowlark and the finchlike warblings of the more southern orchard orioles are less familiar, though perhaps more to be admired. On the other hand, the rasping notes of the grackles and the shrill, squeaky whistle of the cowbird, and the squeals of the yellow-heads can scarcely be classified as music by any stretch of the imagination.

Even those species which cannot sing, however, have some method of appearing bigger and better than they really are, and thus intimidating their rivals. When the male redwing is at rest the scarlet epaulets often do not show at all. He then presents a modest appearance, with a narrow bar of buff across the wing. But when the bird

BIRDS IN GLOSSY BLACK AND VIVID COLOR



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A SOCIAL PARASITE AND A BIGAMIST

Too lazy to build nests or rear their own young, the eastern cowbirds (upper pair) play a tragic rôle in the lives of smaller birds. The female (right) has sneaked one of her large speckled eggs into a chipping sparrow's nest. Unless the foster mother builds a floor over the unwelcome present or ejects it, she will rear a ravenous cowbird almost twice her size, while her own young may be crowded out, or starved. The eastern meadowlark (lower, and flying), sweet songster of our daisy fields, has induced more than one female to become his wife, but normally he is monogamous.



takes flight the flash of red is a dazzling surprise which he apparently takes pleasure in displaying (see Color Plate IV).

During the breeding season the redwing is often seen balancing on a cat-tail or flying up into the air with the scarlet feathers standing up on end and all the feathers of its body fluffed out. At such times he gives his "gurgle-lee" song with the greatest fervor.

The various grackles also have the habit of fluffing out their feathers and spreading their wings and tail when they utter their squeaky notes. This is carried to the extreme in the cowbird, which, while spreading its wings and tail and raising its feathers as it gives forth its shrill, squeaky note, pitches forward over the branch with a disquieting resemblance to seasickness. This is a familiar sight among a company of cowbirds gathered in a tree top on a spring morning.

#### POOLED BY A STUFFED FEMALE

Apparently display of plumage is purely instinctive and a natural reaction, during the nesting season, of the male to the presence of a female or, indeed, of another male in his territory.

A few years ago, in connection with the study of the cowbird made at Cornell by Dr. Friedmann, we kept a captive male in a large flying cage, and, in an effort to obtain photographs of his display, we gave him a mounted specimen of a female cowbird for company. Although the female was far from being a well-mounted specimen, so captivating was she to the male bird that he displayed for her again and again with all the ardor that he would bestow upon a live bird.

I have since repeated this experiment with other species and usually with the same result: that the male bird, during the mating period, cannot differentiate between the living and stuffed specimens.

In nest building the members of the blackbird family show as much diversity as they do in color and habitat. The bobolink builds an open nest like a sparrow's in the meadow; in a similar situation the meadowlark makes a nest of long grasses and roofs it over like an old-fashioned Dutch oven; the redwing and the yellow-head hang their nests in the reeds of marshes; the grackles build plastered nests like robins', usually in trees; the orioles build long, beautifully woven, pocketlike

nests, suspended at the tip of a branch; and the cowbirds build no nest at all.

In general, the duty of building the nest, whether it be simple or elaborate, falls on the female bird. The male's duty is to sing, announcing to others of his kind that he is prepared to drive them out of his territory should they dare to intrude, and to spread the alarm at the appearance of a hawk or other enemy.

Birds feel a greater attachment to their nesting sites than to their mates, and if one mate is lost another is promptly secured.

Ordinarily the bird allows six or seven days for nest construction, three for the outside and three or four for the lining. This is approximately the time required for the yellow yolk to be deposited about the ovum in the ovary, which starts concomitantly with the building of the nest.

Just how much control the bird can consciously exercise over her egg-laying is not known, but ordinarily one egg is laid each day until the normal number of four or five is complete. Some birds lay only every other day, and some can be stimulated to lay many more than the normal number by removing the second egg as often as laid. If the nests or eggs of birds of the blackbird family are interfered with before incubation begins, they usually desert and choose other sites.

#### THE EGGS

The eggs of the blackbirds and orioles vary considerably, but the majority are light blue, greenish, or gray in ground color, with some irregular inklike scrawls of purple or black among the brownish spots. The eggs of the meadowlark, yellow-headed blackbird, and cowbird are rather similar, but differ from the others in being white, usually with numerous small brown spots, and very seldom with the inklike scrawls.

The incubation periods of birds of this family are in general shorter than those of other birds which lay eggs of similar size. The period of the cowbird, for example, is ten days, while those of most birds which it parasitizes, such as sparrows, warblers, and vireos, average eleven or twelve. This gives the young cowbird a day's start on the rightful young, which is a great advantage, for birds do not feed their young in rotation and make sure that each has had an equal share of the food. Instead, they feed the hungriest one first, which is the one with the longest neck and the widest mouth.

Since the young cowbird is always thus equipped, he regularly gets the lion's share.

Members of the blackbird family do not feed their young by regurgitation, as do the waxwings (page 129) and many birds, but ordinarily carry the food, consisting of insects and the like, in the bill and insert it into the gaping mouths of the youngsters. The contraction of the throat muscles in the action of swallowing is entirely automatic and dependent upon the mechanical stimulus of touching the base of the tongue.

The parent bird inserts its bill with food far enough into the throat of the young bird to produce the proper reaction. If she should not do this, the food, whether worm or grasshopper, would certainly crawl out, as many with good intentions have learned when attempting to succor an orphaned bird.

After placing the food in the throat the mother watches to see whether it has been swallowed, and, if the throat muscles do not give the proper response immediately, she reaches down and pulls out the last bug and gives it to the next youngster.

After feeding, the nest is scrupulously cleaned, and in this group of birds the feces are enclosed in a mucous sac, so that they can be carried away. The young birds are ordinarily brooded by the female; at any rate, no male bird of this family has been observed sheltering the young from heat or cold, although he may be very diligent in feeding them. After they once leave the nest, they are never brooded again by either parent, no matter how hot or cold it may be, and they never return to the nest, although they may be fed by their parents for two or even three weeks longer.

Frequently meadowlarks, redwings, and yellow-heads have second nestings, and cowbirds are known to lay eggs as late as July. The bobolinks, orioles, and grackles, however, seem to be content with one brood, though if their nests are broken up in an early stage of incubation they will often make a second attempt.

When the young are able to shift for themselves they band together into flocks of varying size, accompanied by the old birds that are through nesting. The bobolinks desert the hayfields for the edges of the marshes, and the redwings forsake the marshes for upland feeding areas, although they return to the marshland at evening to roost. Meadowlarks and orioles, as well as the yellow-heads, seldom gather in very

large numbers, but the flocks of redwings and grackles sometimes contain such myriads of individuals that they are a real menace to the farmers' cherries and green corn.

### The Cowbird

(*Molothrus ater ater*)

Every spring a male cowbird (see Color Plate I) takes his stand in the top of an oak tree across the ravine from my garden. He arrives about the first of April and is quite conspicuous until the leaves hide his perch. Whenever another flies overhead he points his bill to the sky and assumes a stiffened, dignified pose; if others alight in the tree with him he puffs out all his feathers, spreads his wings and tail, and makes a profound bow, but never tries to drive the others away, be they males or females.

A female is often seen with him, but more frequently she is observed quietly watching the phœbes that are building on the cliff by the pond, or the song sparrow or the chipping sparrow carrying straws into the spruce hedge. Oftentimes they complain of her presence with alarm cries and even fly at her as though they knew her intention to drop one of her eggs in their nests when they are completed.

For the cowbird is a social parasite which lays her eggs in the nests of other birds and foists her maternal duties on the foster parents.

If she becomes impatient and lays her egg before they have laid theirs, they often desert their first nests and start again; but if they have already laid eggs they seem to pay no attention to hers and hatch it out and rear her youngster with their own. In this they are more successful than smaller birds, the red-start, or the yellow warbler, or the red-eyed vireo that nest within the bounds of her territory (see text, page 114).

These smaller birds are not able to raise any of their own young when they have hatched a cowbird in their tiny nest. Sometimes, however, they floor over the cowbird's egg and raise their family in safety above it.

I have found nests of the yellow warbler in which three and even four cowbirds' eggs have thus been successively floored over before the warbler laid any eggs of her own. A few species have learned to throw out the cowbird's egg, but the majority accept it as one of their own and are quite as solicitous for the care of the intruder as



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A SUMMER FLAME FROM THE TROPICS IS DAPPER "LORD BALTIMORE"

Sporting the colors of Maryland's founder, the male Baltimore oriole (upper right) surveys his domain and whistles cheerily—while his lady weaves a beautiful hanging home of strings and plant fibers. Dressed richly and in perfect taste, an adult male orchard oriole (center) sings a bubbling song to his spouse (below) and to a second-year male, who matches the mother except for his black "bib." Not until the third summer can the youngster wear the gay colors of his father. The birds feed largely on insects, with a dessert of mulberries or cherries in season.

BIRDS IN GLOSSY BLACK AND VIVID COLOR



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SOME BRIGHT AND BREEZY ORIOLE COUSINS FROM THE OPEN SPACES

Bullock's oriole (upper trio) is a favorite with western bird lovers, as the Baltimore is in the East. His song may be a bit less musical, but his flashing colors are more conspicuous among the cottonwoods. Like the orchard oriole, the young male (upper right) masquerades in ladies' dress with black V-neck. Scott's oriole (lower left pair) haunts the misshapen Joshua trees of the arid Southwest and hangs its cup-shaped, fiber nest to the under sides of the yucca's stiff leaves. Perched in mesquite is a pair of hooded orioles (lower right).



for their own young, although he may have pushed out or smothered all of them.

Experiments with those species, such as wrens and robins, that probably never accept cowbirds' eggs, indicate that this ability to note differences in size or color of eggs does not extend to recognition of the young; for, if young cowbirds hatched by some other bird are placed in robins' or wrens' nests, they accept them as their own.

A few years ago, for example, I removed a young cowbird from a yellow-throated vireo's nest and placed it in a house wren's nest in my garden in which the young were approximately the same age, though far from the same size. The wrens were so diligent in bringing food that they succeeded in rearing four of their own young in addition to the cowbird. When, at the age of ten days, the cowbird was ready to leave the nest, I put him in a cage beneath the nest box and the wrens continued to feed him for twelve days longer, at which time he finally escaped.

When the young cowbird leaves the nest he develops a most insistent food call and often waylays birds other than his foster parents and successfully begs food from them. Finally he joins a flock of young house sparrows and roosts in the ivy on the house; then he joins others of his kind and makes evening flights to the marsh to roost with redwings and starlings and hundreds of cowbirds.

Thus cowbird life goes on from year to year in my garden, with nearly half of the summer resident birds rearing cowbirds instead of their own young. At first I used to remove cowbird eggs, and it still irritates me to see the scarlet tanager bring a fat cowbird to the mulberry tree, or to hear the Louisiana water-thrush making a fuss in the ravine when all she has to lose is one of these cry-baby parasites. Bird life has its ruefulness, although the birds themselves do not realize it; but it all helps to make their study fascinating.

All over United States and southern Canada, except in the southeastern corner and in the high mountains, the small birds have these cowbirds to contend with. In western United States the species is divided into several varieties, but their habits are uniformly the same and they look almost identical.

The cowbird derives its name from its habit of following cattle for the insects attracted by them or stirred up by them as

they plod along, and they are often seen feeding on the animals' backs. In early accounts of prairie life they were known as "buffalo birds" for the same reason.

The parasitic habit of the American cowbirds is shared by a number of unrelated species in other parts of the world and is one of the most difficult phenomena of bird behavior to explain.

### The Eastern Meadowlark

(*Sturnella magna magna*)

The loud, clear whistle of the meadowlark, "Spring is here," brings to my mind scenes of my boyhood in moist meadows, with pockets full of frogs and shoes caked with mud. The meadowlark has always said this to me and I suppose always will, long after my children have stopped catching frogs and tracking mud into the kitchen (see Color Plate I).

All winter the meadowlarks in small flocks gather in the old fields and barren pastures from Washington, D. C., southward to the Gulf. But as often as March comes round they start for their more northern nesting grounds. Why they should care to brave snow and ice by arriving early in March when they never start nesting until May is a mystery, but certainly they are welcome among the winter-weary folk of the North.

The males usually appear first in the spring and select certain song perches, from which they sally forth to drive others of their kind from the territory which they claim for themselves. The meadowlark is a rather shy bird, but I have often amused myself and members of my classes after an unsuccessful attempt to stalk a singing male by sitting quietly and imitating his song.

The whistle of the meadowlark is rather easy to approximate, and not much more is necessary at this season when he is "territory-mad." On quivering wings he approaches a supposed rival and circles about us, looking for the bird that dares to sing in his territory. The bird that had been so shy a few moments before now flies round us within twenty feet, and we have a wonderful opportunity to see his brilliant yellow breast with its black crescent and the conspicuous white patches in his tail.

By the middle of May one or more females have usually accepted each male's territory, the males being sometimes polygamous, and the nests are started under the

dried grasses of the previous year. Sometimes they tunnel for a foot or more under the flattened grasses before they start the nest, which usually is arched over. In this safe retreat the four or five speckled eggs are laid and are incubated by the female, but the male is quite assiduous in feeding the young.

The eastern meadowlark ranges northward into southern Canada and westward into Kansas, Iowa, and Texas, where it meets the range of the western meadowlark (*Sturnella neglecta*), a paler species with the yellow extending onto the cheeks. The two species overlap somewhat along the borders of their ranges, but seldom intergrade or interbreed in spite of their similarity of appearance. The songs of the two species are more dissimilar than their plumages, that of the eastern species being clean-cut short whistles, while that of the western is longer, mellower, and more bubbling.

### The Baltimore Oriole

(*Icterus galbula*)

There is a silver maple shading my drive where for the last 15 or 20 years a Baltimore oriole has hung its nest. It has not been the same pair of birds all these years, for one year both birds were taken by a screech owl and other fatalities also have occurred. Once a pair of orioles decide a tree is to their liking, and raise their young in it successfully, it is likely to be used by them or other orioles indefinitely (see Color Plate II).

Securely woven from strings and milkweed fibers, the nest hangs to the tips of the branches through the storms of winter to give mute testimony that an oriole family chose this tree for their home the preceding year, and perhaps that in itself is sufficient to encourage others to accept it.

And so each May 4 or 5 we welcome the cheery whistle of Lord Baltimore when he comes back to look over his domain. If he arrives on time we assume that all has gone well with him during the winter in Central America; but if he is late we fear that something has happened to him and that another male oriole is making up his mind to fill the vacant territory.

A few days after the male has taken up his stand, a female arrives, and his song is redoubled. A whistled imitation of it brings him like a flash to drive out the intruder. We put out short lengths of light-colored yarn or string, and in a few days

Lady Baltimore is busy weaving her nest, usually starting at the top and working down and putting on all the finishing touches from the inside.

Then the eggs are laid—one each day for four or five days; and though from my window I can no longer see the female deep down in the nest, I can occasionally see the flexible pocket shake as she adjusts the eggs beneath her, and I know that in twelve days the male, too, will be absorbed in family duties from which thus far he has escaped all responsibility.

For about two weeks we can see them flying to the dark spot, now concealed by leaves, wherein the youngsters are doubling and trebling in size and budding and growing feathers, but all is relatively quiet. On a certain day, however, a change comes over the household.

We are now aware of different voices in the tree. Lord Baltimore himself has become quiet—the cares of filling four hungry mouths and the lack of necessity for defending his territory have calmed him. But we hear insistent cries from hungry youngsters. It is a sign they are nearly ready to leave the nest and have developed the food call which will enable their parents to find them after they have scattered from the nest. And what cry-babies they are from early dawn until dark!

Through June and July they all visit the mulberry tree and occasionally we hear fragmentary whistles from the male. But this does not last long, for in late summer they all moult and grow new feathers for the winter which, strangely enough, are similar to those worn during the summer. Usually, brightly colored birds such as tanagers and goldfinches wear dull feathers like the females during the winter. But the Baltimore oriole wears the same colored suit winter and summer, and to the peons of Mexico and the caballeros of Colombia and the American schoolboy he is the same gaudy fellow.

During the summer the Baltimore oriole is found from southern Canada nearly to the Gulf and west to the Rockies, and throughout its range it shows so little variation that it has never been divided into subspecies.

### Orchard Oriole

(*Icterus spurius*)

Of less widespread distribution is the orchard oriole, which scarcely ever reaches



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GENERALS OF THE MARSHES PARADE IN GOLD BRAID OR BRILLIANT EPAULETS

Across the western plains and prairies fly the legions of the yellow-headed blackbird (upper pair and flying). His wings are marked with white chevrons and his "song" is a series of uncouth cries, like a choking spell. Below him at the left clings California's tricolored redwing, with his drab spouse. Best known of the group are the eastern redwings (bottom trio). The old veteran at the left proudly displays blazing "shoulder straps," edged with buff instead of white, while he sends forth his liquid "Ok-a-lee." His mate (center) and two-year-old son (right) wear just a hint of his insignia.

BIRDS IN GLOSSY BLACK AND VIVID COLOR



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THEIR COATS OF MANY COLORS MAY SWIFTLY CHANGE TO DEEPEST MOURNING

Iridescent greens and purples vary with the sunlight in the plumage of the grackles, and at times disappear altogether, leaving the birds a gloomy black. As if in pain, the "crow black-bird," or purple grackle (upper, with mate), grates out raucous squeaks like the creaking of a rusty wheelbarrow. Sometimes it gobbles the eggs and nestlings of smaller birds. Larger and partial to marshland are the South's boat-tailed grackles (lower). The males have a way of deserting their brownish wives until the work of raising the young is over. Where the birds are abundant, their appetite for young sprouts is the farmer's despair. Here they feast on self-sown wheat.



the Canadian border (see Color Plate II). It is most numerous in the South Central States, where it frequents orchard and shade trees and weaves a nest of freshly dried grasses, which hangs less freely than that of the Baltimore, usually resting against the branch. For some reason it seems partial to trees where kingbirds have already established themselves, and lives in friendly relations with this bird that seems to take pleasure in bullying all others.

During the winter the orchard orioles frequent the same range as the Baltimores.

Both orioles are insectivorous and very beneficial, being among the comparatively few birds that like hairy caterpillars.

### Bullock's Oriole

(*Icterus bullocki*)

What the Baltimore oriole is to eastern United States the Bullock's oriole is to the west, the ranges of the two species overlapping only from the foothills of the Rockies to central South Dakota, Nebraska, Kansas, and Texas (see Color Plate III). In winter the Bullock's oriole retires to Mexico. In summer it ranges from the tableland of Mexico northward to southern British Columbia and Alberta.

It is fond of tall sycamores and cottonwoods, though where these are not found it may nest in low willows, especially along irrigation ditches or streams.

The song and call notes, the nests and eggs are scarcely distinguishable from those of the Baltimore oriole, to which it is closely related.

After the breeding season the bird, like all other birds, changes all its feathers. The new plumage is similar to that shown in Plate III, except that most of the feathers are edged with grayish or whitish, causing the birds to appear much duller. As spring advances, these gray tips wear off and the bird appears to become much brighter. This masking of the bright colors during the winter and brightening the plumage by feather-wear occurs in all the species of orioles and blackbirds and, indeed, is quite widespread among all birds; much more so, in fact, than is an actual renewal of feathers in the spring.

### The Hooded Oriole

(*Icterus cucullatus*)

The hooded oriole ranges through the chaparral and cottonwoods of southwestern New Mexico, southern Arizona, and southwestern California (see Color Plate III).

During the winter these brilliant birds retire into Mexico, but by the first of April they are back in their old haunts and ready once more to hang their beautiful cuplike nest to the edge of a palm leaf or a yucca, or in the upper branches of a cottonwood.

### The Scott's Oriole

(*Icterus parisorum*)

In the semiarid regions of our Southwest this handsome lemon-yellow and black oriole is particularly welcome (see Color Plate III). Of active disposition and often making long flights from one clump of yuccas to the next, his flash of color gives many a thrill to the traveler. His high, clear whistled song is somewhat suggestive of the western meadowlark, and while it has not the wide range and throaty quality of the meadowlark, it has perhaps greater vivacity. The female Scott's oriole, too, in her plain grayish brown and yellow, is known to sing nearly as well as the male, though not so loud nor so prolonged a song.

During the winter months the Scott's oriole retires into Mexico, but comes back again the following April to remain until August or September.

### The Eastern Redwing

(*Agelaius phoeniceus phoeniceus*)

Each spring for the past twenty years it has been my privilege to introduce a group of students to the bird life of eastern United States. Most of them have never before ventured near the marshes, thinking of them only as places to be shunned.

It is interesting to watch their reactions when a redwing leaves the cat-tail where he has been swinging and floats off towards a female hidden in the tangle of sedges (see Color Plate IV). All of a sudden he is transformed from an ordinary little black-bird into a ball of fire, his scarlet epaulets ablaze in the sunlight—no longer a bird, but a message from the genie of the marsh. After that even the most timid member of the class must explore all the marshland for other surprises.

Early in March the redwings come back from the Southern States, where they have been spending the winter, the males sometimes two weeks ahead of the streaked females and the old birds ahead of the immature males, which can be recognized by their orange shoulders. At first they travel in flocks, spending the days on the uplands and the nights in the marshes, but when the summer resident males arrive in late

March they select their territories, and will be found in the marsh all day long.

Nesting, however, does not begin until about the middle of April, and is not in full swing until the middle or last of May. Even at this time immature females are still arriving from the South, and sometimes they settle down in the territories of mated pairs, for redwings are sometimes polygamous.

A large percentage of the early nests are capsized by the rapidly growing vegetation to which one side of the nest may be fastened. Many a time I have found nests tipped on one side, and only a single half-grown young remaining to give mute evidence of what must have become of his unfortunate nest-mates. Later nests and second-brood nests are usually safely suspended entirely in the growing vegetation.

By the last of June the young birds are gathering in flocks and moving around, sometimes accompanied by a few old males, though the majority of old birds are still busy with their second broods. The immature birds, even the males, resemble the females in their streaked gray and black plumage; but before fall they shed all these feathers, and then the young males resemble more the old males in winter plumage, except that their shoulders are orange instead of red and the black feathers are much more broadly edged with brown.

There is no spring moult, but the brown edges wear off completely by March, so as to produce the familiar coal-black bird as we know it best.

The redwing is found from the Atlantic to the Pacific and from the Gulf of Mexico to Alaska, but in various parts of its range it differs somewhat in size and proportions, especially of its bill and wing, so that the species has been divided into fourteen different subspecies.

### The Tricolored Redwing

(*Agelaius tricolor*)

Just what happened to separate the redwings of the San Joaquin and Sacramento Valleys of California and Oregon from the parent stock and make them uniformly different we will probably never know. At the present time, however, the males show a clear white edging to their scarlet shoulders, their bills are more slender, and their females are uniformly darker. Their voices, too, have changed so as to lose some of the liquid quality of the Eastern redwing (see Color Plate IV).

In other respects, however, the habits and appearance of the tricolored redwing are essentially the same as those of the other redwings.

### The Yellow-Headed Blackbird

(*Xanthocephalus xanthocephalus*)

This denizen of the marshes helps make the waste areas attractive, though I must admit he can lay no claims to being a musician (see Color Plate IV). What he lacks in musical ability, however, he makes up in effort, puffing out his throat and spreading his wings and tail as he balances on a reed and gives vent to a song that sounds more like "the drawl of a discontented hen" than that of many of his clear-voiced relatives.

In his other habits, however, he is much like the redwing, hanging his nest in the reeds of the marshes, gathering in large flocks after the nesting season, moving to the uplands to feed on grain and weed seed, and returning at evening to the roosting place in the marshes.

During the summer the yellow-heads are found from Mexico north to central Manitoba and Mackenzie, but are practically absent east of the Mississippi. In winter they retire for the most part into Mexico.

### The Purple Grackle

(*Quiscalus quiscula quiscula*)

Crow blackbirds we called them as youngsters, and I can never forget the wonder of it when once at close range in full sunlight I saw one and discovered that he was not black like a piece of coal, but wonderfully and iridescently purple and green and bronze; and then as he turned and the sun struck him at a different angle he was just a plain blackbird once more (see Color Plate V). Another discovery was his yellow eye, which looked so pale in the sunlight as to be almost white; and then, when the pair of birds flew and the male held his long tail half spread towards the tip and folded so as to appear like the keel of a boat, I had still another surprise.

Every fall long files of crow blackbirds flew southward over the city—sometimes only 50 or 75 birds wide, but the flocks were possibly a mile long. People complained then as now of the noisy roosts where the birds congregated by the tens of thousands before moving southward to the Southern States for the winter.

Every March, however, we were glad to have the "blackbirds" come back and we



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"BOB O' LINCOLN" TRAVELS IN DISGUISE AND UNDER ASSUMED NAMES

To the rollicking banjo songs of the "bridegroom" in his black, white, and buff "wedding dress," the bobolinks (upper) nest in northern meadows. Then the male dons a dull suit for the flight of nearly 5,000 miles to the winter home south of the Amazon. In southern States farmers call them "rice-birds" and many are shot as pillagers. Others are eaten as "butter-birds" in Jamaica. A handsome westerner is Brewer's blackbird (right center pair). The rusty blackbirds (lower trio) vary from the greenish black of the pair at the left in summer to the rusty brown of the young deb in her fall frock (lower right).

BIRDS IN GLOSSY BLACK AND VIVID COLOR



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SONGBIRDS ALL—BUT SOME ARE HOOK-BEAKED KILLERS!

From the Old World immigrated the shrikes, or "butcher birds" (lower trio), which impale their prey on thorns and combine such predatory habits with a surprising ability to sing. Holding a field mouse victim is a young northern shrike with adult above. At the left is the smaller loggerhead. Although related to them, the waxwings (upper right trio) have straight beaks and are gentle eaters of berries, insects, and fruit. The largest is the Bohemian, and above him are cedar waxwings (young left, adult male right). The Southwest's phainopepla, or silky flycatcher, eating peppertree berries, builds the nest for his somber, gadabout wife and helps to hatch the eggs.



watched them carry dry crusts to the water and soak them before trying to eat them. Late in April we watched them carrying grasses and rags and bills full of wet mud into the tops of the Norway spruces, where they built nests like those of large robins, with an outer layer of coarse materials, a middle layer of mud, and a lining of grasses.

How we boys prized those large greenish-white eggs with their varied scrawls of dark brown and black! No two of them were exactly alike and we had great times bartering with each other, because this bird was not protected by law and we felt then that we had a perfect right to all the eggs we could find. Thus does lack of legal protection stigmatize any species.

These were the so-called bronzed grackles, found west of the Alleghanies. All those crow blackbirds that breed between the Rockies and the Alleghanies and north to the Great Slave Lake, and south to Georgia, are now recognized as belonging to this subspecies described as the bronzed grackle (*Q. q. acneus*), while those east of the Alleghanies from southern New England to northern Georgia are the purple grackle.

### The Boat-Tailed Grackle

(*Cassidix mexicanus major*)

One familiar with the purple grackle will immediately recognize the boat-tail as a larger edition of the same bird unless perchance he sees the female first (see Color Plate V). In her brown plumage she might be very puzzling; but the males of the two species are quite alike except that the boat-tail is some four inches longer.

The boat-tails are partial to water and may often be seen wading clear up to their breasts in the shallows, snatching aquatic insects, scuds, or little fish. They feed in small flocks, even during the nesting season, and, for some reason, the number of males seems always to outnumber the females. Sometimes they nest in the saw grass like redwings, sometimes in the willows among the herons, and again they may conceal their nests in the curtains of Spanish moss hanging from cypress trees.

This grackle is found in the South Atlantic and Gulf States, north to Chesapeake Bay and west to Texas.

### The Bobolink

(*Dolichonyx oryzivorus*)

In this family of orioles and blackbirds the bobolink is so different that he has been

placed in a genus by himself, and some would no doubt place him in a different family (see Color Plate VI).

His bill is more sparrowlike than the others except the cowbird; his female is decidedly sparrowlike in her coloration and nesting habits; and his species is different from all other blackbirds in having pointed tail feathers, the reason for which has never been satisfactorily explained.

Beside this, the fact that most birds are colored lighter below than above, while the bobolink is just the reverse, and the fact that his song, given on the wing, has neither oriole nor blackbird quality, give us a peculiar sort of a bird.

The bobolink spends the winter south of the Tropic of Capricorn, in southern Brazil and northern Argentina, nearly 5,000 miles south of his breeding grounds, in the northern United States and southern Canada (see text, page 112).

The bobolink travels farther than any member of its family. His migration exceeds the distance traveled by the meadowlarks, cowbirds, and the various blackbirds, which merely retire to the Southern States or northern Mexico, by several thousand miles; and exceeds even that of the orioles, which go to central and northern South America, by over a thousand miles.

In spite of the distance traveled, the bobolinks return with great regularity to their nesting grounds. In comparatively recent years the bobolink has extended its range to eastern Washington and British Columbia, and these birds are said to migrate eastward in the fall, so as to leave the United States by way of Florida or the Gulf coast.

The bobolinks' nest is difficult to find in the hayfield, because they prefer to place their inconspicuous cup of grasses in a little depression in the ground amongst dense grass or clover and they never fly directly to it. The gray eggs heavily blotched with reddish brown are likewise quite inconspicuous, and the yellowish brown young, resembling the female, match well the dead grasses covering the ground.

During the summer they feed almost entirely upon insects destructive to the meadows and gardens, such as grasshoppers and army worms, and are therefore among our most beneficial birds.

Before the bobolinks leave the fields and marshes of northern United States, they change all their feathers, and the new

feathers of the males resemble very closely those of the females. With most birds, including the other members of the blackbird family, this complete post-nuptial moult is sufficient for the year, but the bobolinks change all their feathers again in the spring, so as to become bright once more.

### The Brewer's Blackbird (*Euphagus cyanocephalus*)

Out where the real West begins, the Brewer blackbird takes the place of the bronzed grackle both in appearance and habits (see Color Plate VI). It has the same iridescent black plumage and pale yellow eye, and the same habit of walking about lawns with wings slightly drooped, and the same sort of rusty, squeaky notes. It is a decidedly smaller bird, however, and the female is much grayer, more the color of a female cowbird, though its bill is longer and more slender. About the ranches and even in towns it is a familiar back-yard bird and is even more given to lording it over the English sparrows and poultry than the grackle of the East.

It nests in small colonies, usually in a thick tree, but sometimes in bushes about marshes and on the outskirts of the colonies of yellow-heads or redwings. With these birds it associates often in large flocks, after the nesting season is over, and then may do considerable damage in grain fields.

Brewer's blackbird breeds in the western United States, north to southern Canada, and east to Texas, Kansas, and Minnesota. It winters over most of this range and south to Guatemala.

### The Rusty Blackbird (*Euphagus carolinus*)

During the summer the rusty blackbirds are confined to the boreal zones, and though found in western Canada as well as eastern, they begin where the Brewer's leave off and extend well up into Alaska (see Color Plate VI). When migrating they swing eastward and spend the winter mainly south of the Ohio and Delaware Valleys to the Gulf coast, and only occasionally are found within the range of the Brewer's blackbird.

In fall and winter the edges of the feathers are margined with brown, those of the young females so widely as to make them look brown like a sparrow. But these edges all wear off during the winter, leaving

the males blue-black and the females almost as gray as catbirds.

When frightened from some woodland pool where they have been feeding, the whole flock rises as a body into the trees and almost immediately starts a concert of gurgles and squeaks that is interesting if not musical.

### The Cedar Waxwing (*Bombycilla cedrorum*)

The waxwing family contains but three species, which is quite unusual for a group that is so distinctive in appearance and has such a wide distribution. One species, the Japanese waxwing, is confined to eastern Asia; another species, the cedar waxwing, is confined to United States and southern Canada; and the third species, the Bohemian waxwing, is found almost throughout the Northern Hemisphere, though it is rare in eastern United States and also west of the Rockies (see Color Plate VII).

Assuming that the waxwings came originally from the Old World, the cedar waxwing has done a good job of colonizing North America, for it now breeds throughout southern Canada and most of the United States except California.

In migration, however, the species seems not to know what to do and is very erratic. Some years large numbers winter throughout the Northern States and the next winter there may be none over this area, but they will swing south into Mexico and even to Panama.

Usually they congregate in the Southern States wherever dried berries are abundant and migrate northward in apple-blossom time in large numbers. At this season they may be seen filling their throats with petals as few other birds do, or they find trees infested with cankerworms or elm-leaf beetles of which they seem to be very fond.

Their liking for fruit has given them the name of cherry bird in farming communities, and it is no uncommon sight to see a row of waxwings on a branch where only the outermost can reach the fruit, passing the cherry or mulberry from one to the next until one swallows it or passes it back. Their smart crests, well-groomed silky plumage, the yellow bands on their tails, and the "sealing-wax" tips to their secondaries make them favorites everywhere.

Waxwings are late nesters, seldom starting before the middle of June and continuing into September, making rather untidy



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WELL-CAMOUFLAGED ARE THE VIREOS, WHOSE NAME MEANS "I AM GREEN."

They all build pendent nests, as do the orioles. Tireless singers, some repeat the same musical phrase over and over, as many as 4,000 times a day. At the left (top to bottom) are the white-eyed vireo, which volubly scolds intruders; the West's least vireo; the warbling vireo, whose song ripples up to a marked crescendo; and the red-eyed vireo, or "preacher-bird," whose reiterated phrases suggest the robin's carol. At the right (top to bottom) are Hutton's vireo of California; the yellow-throated vireo; and the blue-headed, or solitary vireo, a wild, sweet, woodland singer of the northeastern United States and Canada.

nests of grasses and wooly materials in tall bushes or in low horizontal branches of thickly leaved trees.

They feed their young, by regurgitation, a mixture of insects and berries, usually bringing back enough for the whole family in their distended throats. They are not at all shy, but often permit close approach while they are feeding their young.

If you have a mulberry tree in your garden you may expect waxwing visitors from the time the fruit begins to turn red until it is entirely gone. This will attract birds of many species all summer and may at the same time save the cultivated fruit trees from the birds.

### The Bohemian Waxwing

(*Bombycilla garrula pallidiceps*)

This is the larger cousin of the cedar waxwing, but is very similar to it in habits (see Color Plate VII). It nests in the Canadian Northwest from southern Alberta to Alaska, and in winter wanders irregularly southward and eastward, often joining bands of cedar waxwings.

### The Phainopepla

(*Phainopepla nitens lepida*)

The phainopeplas, or silky flycatchers, as they are called, belong to another strictly New World family numbering only four species (see Color Plate VII). They are rather intermediate between the waxwings and the vireos.

In habits they are like the flycatchers, perching on exposed branches and darting out at passing insects. They undoubtedly had their origin in the New World Tropics, and only one species, the phainopepla, has extended its range to include the United States, where it is now resident from western Texas to California.

The phainopepla is one of the few birds in which the sex duties seem to be reversed. The males are often seen building the nest and even incubating the eggs, while the females seem unconcerned until after the eggs are hatched, when both help feed the young.

### The Northern Shrike

(*Lanius borealis*)

There are more than 90 species and subspecies of true shrikes in the Old World, but only two have become established in the New World, although these two have split up into eight subspecies (see Color Plate VII).

If one examined only the bills of the various shrikes he might think they belonged to the hawk family, so raptorial are they in appearance. One glance at their ordinary perching feet, however, will convince anyone at all familiar with birds that shrikes and hawks are not related, for all the hawks have very strong feet, with sharp, curved talons that are used in catching their prey, while the shrikes depend entirely upon their bills.

In spite of their predacious habits, the shrikes are songbirds of no mean ability, and during March, while still on their winter quarters, they may sometimes be heard singing much like a catbird. During the summer they move to northern Canada.

They are often called butcher birds because of the strange habit of impaling their prey of large insects, small birds, or mice on thorns for future use.

A few winters ago a northern shrike, attracted by the many birds at the feeding station, took up his abode in my garden, and I had frequent opportunity to watch his method of capturing sparrows. Instead of seizing his prey in his claws, he depended entirely upon his bill. Since the shrike's flight is not very swift, it was necessary for him to corner his victim or else so terrify it as to confuse it completely.

I recall an unhappy day when a cardinal, which is a rare bird in New York State, came flying through my garden toward the house, pursued at some distance by the shrike. The cardinal could easily have eluded the shrike, but apparently was so frightened that it dashed against a window and fell dead at my feet.

Usually, when the shrike appeared, the birds immediately "froze" and remained immovable until he either left or started in pursuit of some other bird. Once a bird had been caught, the shrike was unable to pluck it or tear it to pieces until he had impaled it on a thorn or wedged it in a narrow fork so that he could stand beside it.

During the winter the shrikes' migrations are erratic and dependent upon the abundance of food in the North. Some years they do not leave Canada and other years they reach Kentucky and Virginia.

### The Loggerhead Shrike

(*Lanius ludovicianus*)

This familiar bird of the Atlantic and Gulf States is a smaller and bluer edition



of the Northern shrike, with the black lores connected by a black line above the bill (see Color Plate VII). It is represented in all parts of the United States by one variety or another, which vary but little from the parent stock here illustrated.

Being smaller, this bird feeds more upon insects than his Northern cousin, but he can be quite objectionable around feeding stations where small birds are numerous. He builds a bulky nest during April in a thick bush, leafy tree or vine and is quite a devoted parent.

Because of their predacious habits, they perch on exposed places where they can view the landscape and are familiar sights on the telegraph wires.

### The Vireos

The vireos constitute another New World family of birds of which the majority of the 75 species are confined to tropical America, only twelve reaching the United States. Were it not for their songs they might easily be overlooked, for they have neither the active flitting habits nor the bright colors of the warblers and flycatchers (see Color Plate VIII).

These greenish little birds, which are smaller than sparrows, spend their lives gleaning among the leaves of forest and shade trees or in the undergrowth, where their coloration is very protective.

So loud and so oft-repeated are their songs, however, that anyone with an ear for bird music has no difficulty in finding them.

The nests of the vireos are pendent little baskets fastened at the rim in a small fork. The white-eyed and least vireos build in the undergrowth; the red-eyed and blue-headed in the lower branches of small trees; the yellow-throated in the center of a tree, on lateral shoots from the trunk; and the warbling vireo in the tree tops.

Most vireos are rather fearless of man, especially when nesting, and I have many times enjoyed the sensation of stroking a blue-headed or red-eyed vireo on its nest or of watching a yellow-throated vireo at arm's length.

The song of the warbling vireo is a continuous warble, like that of a purple finch, but with a rising inflection at the end fitting the words, "If I could see it, I would seize it, and would squeeze it till it squirts."

The red-eyed vireo seems to say, "Look up—way up—tree top—etc.," while the

yellow-throated sings more slowly and huskily, "Cherries—sweet cherries—have some." Both species keep up their refrains during the nesting season from daylight until dark with scarcely a pause.

The red-eyed vireo (*Vireo olivaceus*) everyone hears but few recognize. Widespread in summer throughout North America wherever there are trees, from central Florida to central British Columbia, it sings continuously from the time it arrives, in April or May, until it leaves for South America, in September or October.

In spite of its wide range, the red-eyed vireo shows remarkably little variation and has not been divided into any subspecies as have so many of the other vireos.

The warbling vireo (*Vireo gilvus*) is found from the Atlantic to the Pacific north of North Carolina and south of central Ontario. Perhaps because of its inconspicuousness, it is one of the few North American birds whose winter home is not definitely known, though of course it is somewhere south of the United States. The red-eyed vireo winters from Colombia to Brazil, but the warbling probably does not go quite so far, for it arrives on its nesting grounds nearly a week earlier.

The least vireo (*Vireo belli*) lives in the thick brush of our arid Southwest and is more often heard than seen.

The blue-headed vireo (*Vireo solitarius*) is a striking bird, with its blue-gray head, pronounced white eye-ring, wing bars, and white throat. Its confiding ways and early migration northward before the leaves have unfurled make it better known, even though it is much less numerous than the red-eyed or warbling vireos. It ordinarily winters in the Gulf States and spends the summer in southern Canada.

The white-eyed vireo (*Vireo griseus griseus*), because of its brushy haunts, is difficult to get acquainted with. In summer it is found throughout eastern United States as far north as southern New York and New England.

The yellow-throated vireo (*Vireo flavifrons*) nests from northern Florida to central Texas and northward to Maine and east central Saskatchewan. Its throaty song somewhat resembles that of the red-eyed vireo, but is louder, slower, and more buzzy.

The Hutton vireo (*Vireo huttoni huttoni*) can be found west of the Sierras from Vancouver Island to Lower California, in the belt of live oaks and firs.

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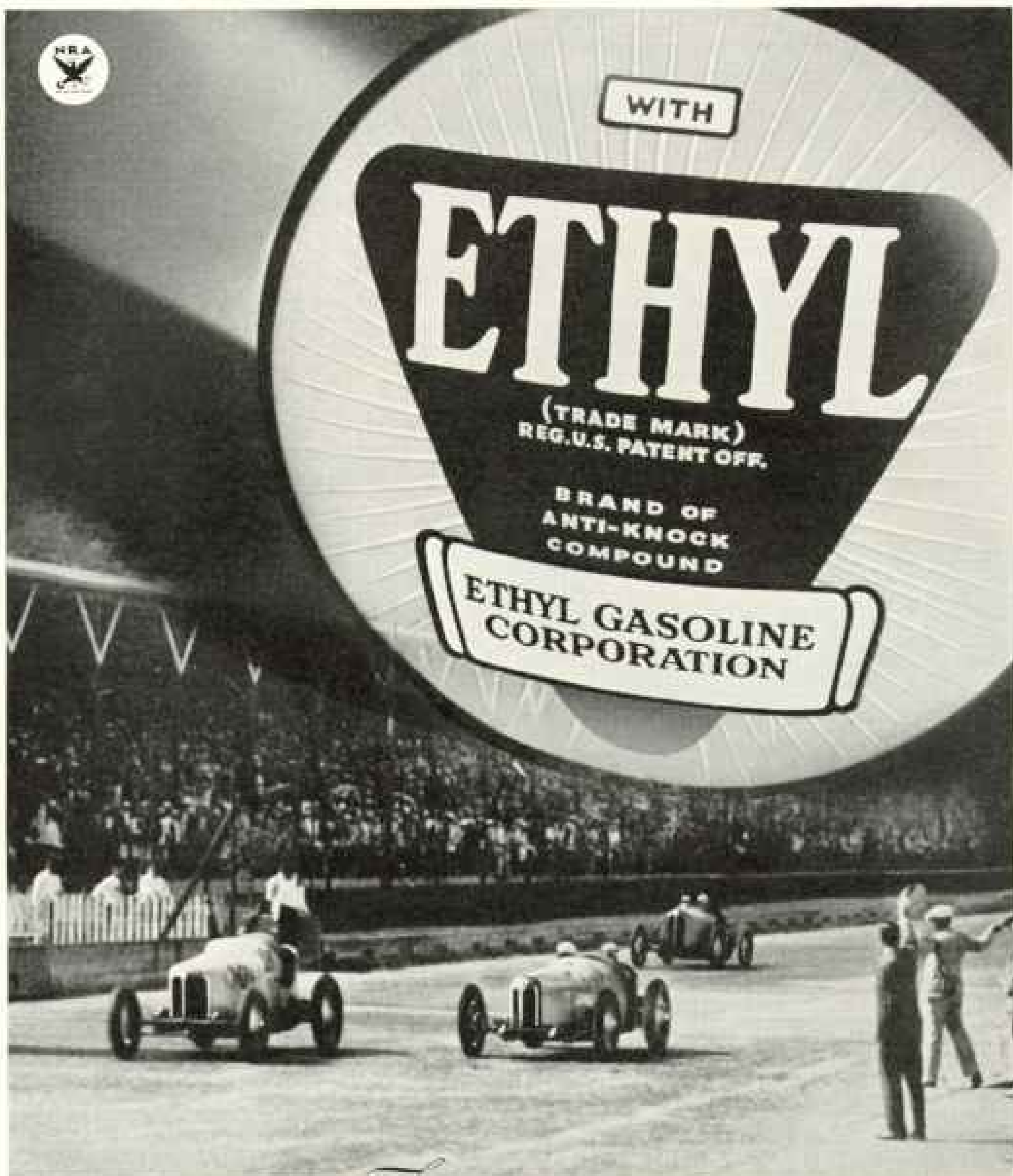
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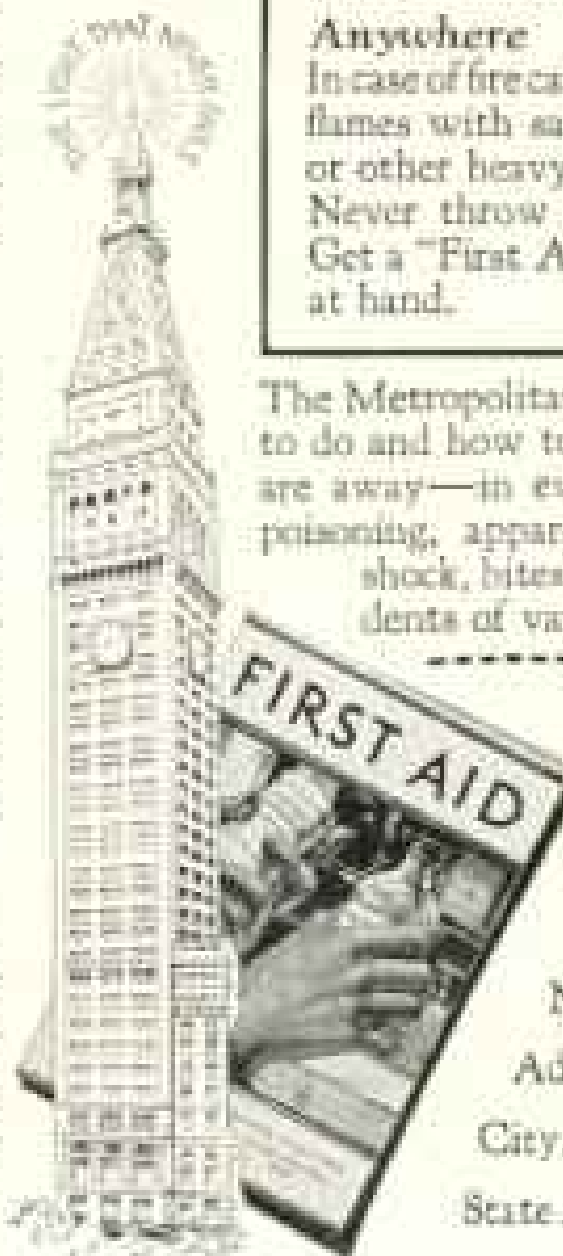
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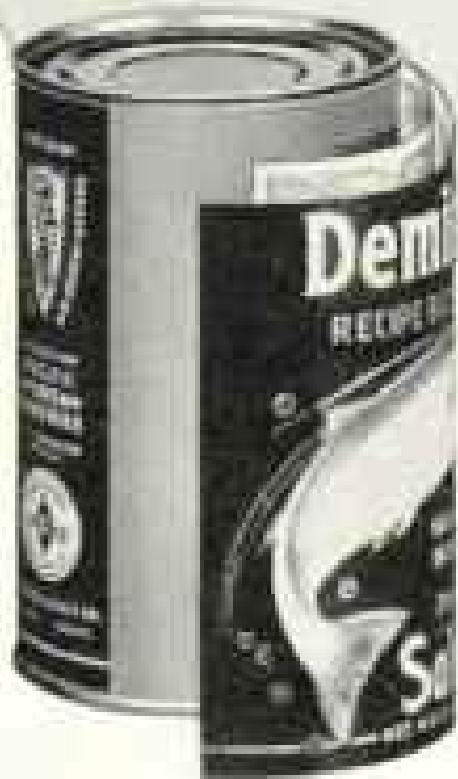
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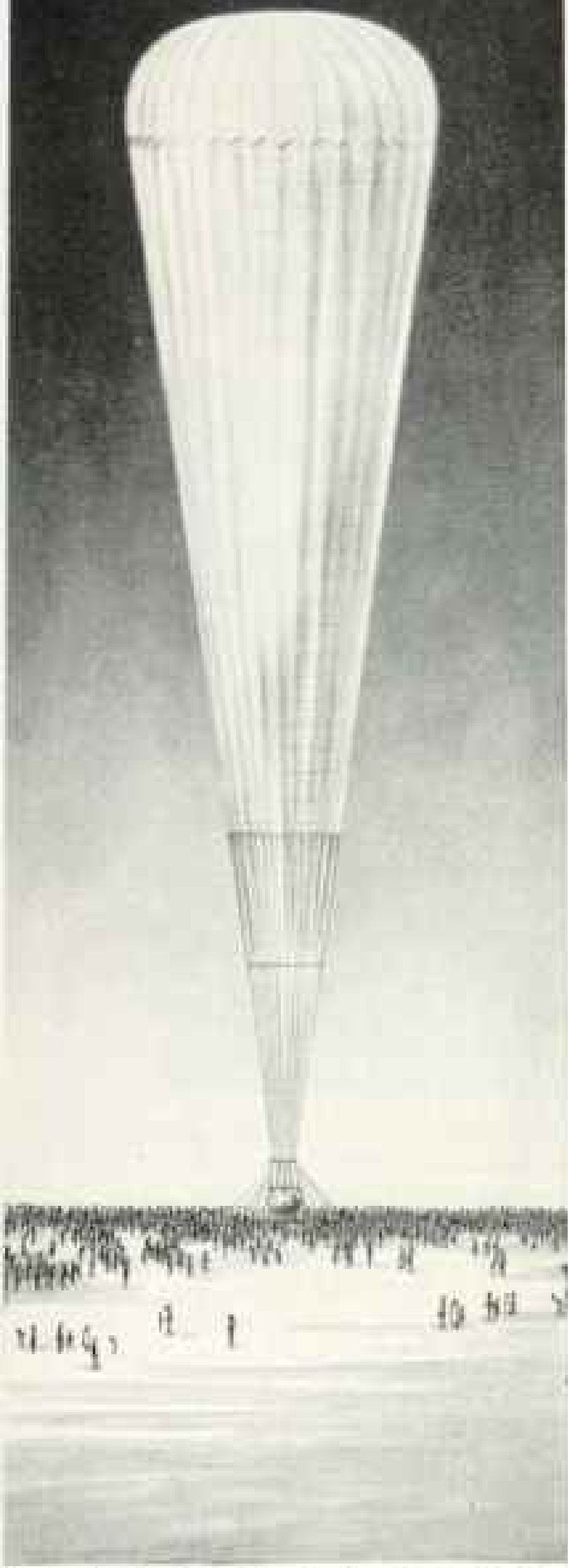
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