VOLUME XXXV NUMBER ONE

THE NATIONAL GEOGRAPHIC MAGAZINE

JANUARY, 1919

CONTENTS

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

$2.50 A YEAR

NATIONAL GEOGRAPHIC SOCIETY

HUBBARD MEMORIAL HALL

SIXTEENTH AND M STREETS, WASHINGTON, D. C.

To carry out the purpose for which it was founded twenty-eight years ago, namely, "the increase and diffusion of geographic knowledge," the National Geographic Society publishes this Magazine. All receipts from the publication are invested in the Magazine itself or expended directly to promote geographic knowledge and the study of geography. Articles or photographs from members of the Society, or other friends, are desired. For material that the Society can use, adequate remuneration is made. Contributions should be accompanied by an addressed return envelope and postage, and be addressed:

GILBERT GROSVENOR, EDITOR

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VOL. XXXV, NO. 1 WASHINGTON JANUARY, 1919

THE NATIONAL GEOGRAPHIC MAGAZINE

CHICAGO TODAY AND TOMORROW

A City Whose Industries Have Changed the Food Status of the World and Transformed the Economic Situation of a Billion People

BY WILLIAM JOSEPH SHOWALTER

AUTHOR OF "NEW YORK—THE METROPOLIS OF MANKIND," ETC.

WHEN La Salle, the intrepid French explorer, standing on the shore of Lake Michigan, surveyed, with the prophetic eye of the geographer, the site of what is now Chicago, the fourth city of the world, he is reputed to have exclaimed: "This will be the gate of empire, this the seat of commerce."

So definitely do the forces of geography give direction to the currents of history that this explorer, surrounded by what must have been an unprepossessing site, a vast region as yet peopled only by Indians and bison and wolves, was able to look forward through the years and to see arising a teeming metropolis, the center of an empire whose richness beggars description, whose influence upon civilization challenges estimate, and whose future promises achievements that no careful writer would attempt to detail, lest today he seem an enthusiast and tomorrow a short-sighted prophet.

YOUNGEST OF THE WORLD'S CITIES OF MILLIONS

Other cities there are that outrank Chicago in size—London, New York, and Paris are larger—but there is not today on the face of the globe a single metropolis with as many as a million inhabitants that is as young as Chicago, with her two and a half millions.

The Portuguese court was living in Rio de Janeiro before Chicago was more than a lakeside village of fifteen ramshackle houses. Buenos Aires was the seat of a bishopric before La Salle first saw the shores of Lake Michigan. Tokyo and Osaka, Canton and Peking, Calcutta and Bombay, Moscow and Petrograd, Vienna and Budapest, Berlin and Hamburg—all these were fair-sized cities when the site of Chicago was still an unpeopled marsh.

Geography made Chicago. Its position at the foot of the Great Lakes resulted in its evolution as the farthest inland terminus of navigation of the inland seas. All railroad lines of the early history of the northern part of the great Mississippi Valley converged on this one point as unerringly and as necessarily as caravans seek passes in crossing mountain barriers.

Made what it is by the processes of geography, Chicago soon returned the compliment by helping geography transform other regions. Its slaughtering and

Photograph by C. R. Faulkner

LA SALLE STATUE IN LINCOLN PARK: CHICAGO

La Salle was one of Colonial America's men of vision. Yet Chicago has outrun even his broad comprehension, and the day will come when a Lakes-to-the-Gulf waterway will be an accomplished fact. Then will Chicago ship its cargoes to all the world by water, if it does not even rival the cities of the Clyde and the Mersey as a shipbuilding center.

packing industry has changed the center of gravity of the meat-producing world, giving American-grown meat to Briton, Frenchman, Belgian, Swede, Norwegian, Spaniard, Greek—to any one who has something to give America in exchange.

Its agricultural-implement industry has revised the economic status of more than half of the inhabitants of the earth—the hum of its sowing machinery figuring in seed-time operations for a billion people, and the click of its harvesting machinery resounding on every continent, if not indeed in every country within the confines of civilization.

Its sleeping-car industry has entirely revised the geography of travel, bringing hundreds of places separated by mountain and plain close to each other—even to the extent of enabling half of the people of America to be within shut-eye-town distance of the great Middle West metropolis.

RIVAL WONDERS OF THE PAST AND FUTURE

Situated in the very heart of the world's most fertile and prosperous valley, at the natural cross-roads between the industrial East and the agricultural West, the ore-producing North and the cotton-growing South; possessing the cheapest water transportation on earth and the finest railway facilities in the world, it was inevitable that Chicago should grow; and it is equally inevitable that it will continue to grow.

Indeed, one hesitates as to which were the better story, the wonder-tale of the ninety-five years that have sufficed to convert the village of sixty inhabitants into the metropolis of two and a half millions, or the bold plans of far-seeing city-builders who are doing the initial work toward making Chicago a fit place of abode for the five million inhabitants it expects to have before the dawn of the middle decade of the twentieth century.

It is interesting to pause for a bird's-eye inventory of what the city is today. Fourth in population, it ranks first among the world's great urban centers in many ways. No other place butchers as much meat, makes as much machinery, builds as many cars, manufactures as much furniture, sells as much grain, or handles as much lumber.

A casual investigation shows that it is America's principal piano market, its chief mail-order center, its leading stove market. The city has the busiest street corner in the world, the most traveled bridge in existence, the largest department store on the map, the largest art school on the globe.

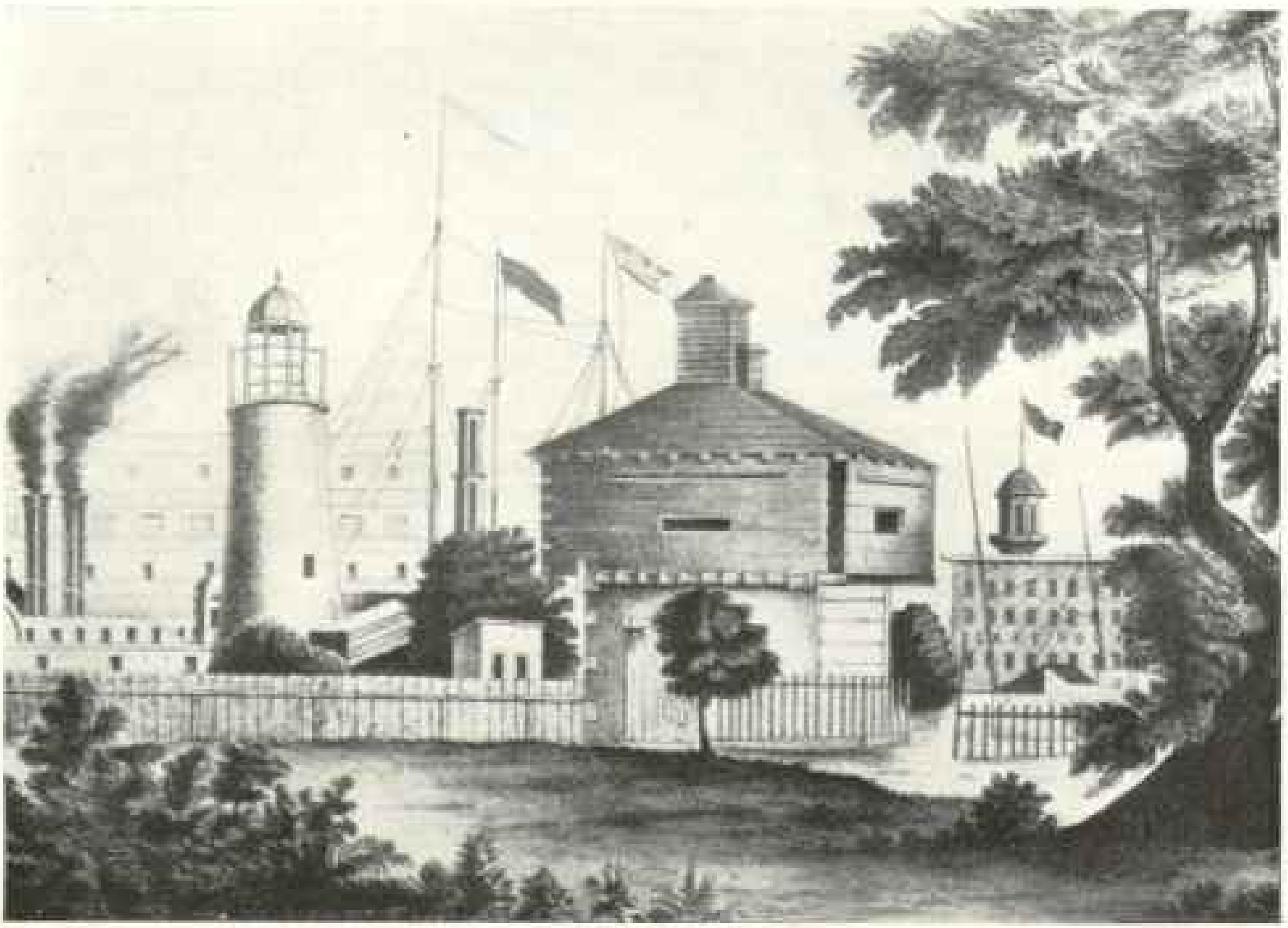
It has so many buildings that if placed in a row they would reach from New York to San Francisco; furthermore, the city normally grows at the rate of ten thousand houses a year, leading even New York in the vastness of its construction program.

AN EMPIRE IN ITSELF

One soon finds that Chicago is a little empire in itself. Thirteen American States have fewer churches; thirty-seven have smaller populations; many States have fewer miles of roads than the Windy City has of streets. It has more telephones than Montana has people. There are nations whose postal business is not nearly as great as that handled by the Chicago post-office; countries by the dozen that spend less money for governmental purposes; even continents that move less freight than is carried into, out of, and through this one city.

Having added two million people to its population in thirty-five years—more than live in the entire State of Kansas—it was inevitable that the city should encounter many knotty problems in providing for the well-being of such a host. Time after time it enlarged its boundaries, improved the transportation system, recast sanitary arrangements, and revised fundamental plans in one way or another; but just as often it has had to take further steps as necessary and as radical as those taken before. The city had to raise the whole business district fourteen feet to insure drainage; it had to reverse the flow of a river to secure proper sanitation, and it had to establish an entirely new water system to meet ever-growing needs.

And yet today it is up against harder problems than ever. The men who made Chicago were not as far-sighted as the



Photograph of drawing by Kaufmann & Fabry Co.

OLD FORT DEARBORN, WITH SURROUNDINGS, IN 1856; CHICAGO

one who discovered its site. He looked down through the years and saw in the vista of the future a world-city, while they built only for their day and time. So Chicago, like Topsy, "jes' growed"; and instead of being one great, well-planned, carefully laid out city, for a long time it was only a series of loose-jointed villages, in none of which was any effort made to anticipate the future, and in all of which the people had too many concerns of the moment to give thought to those of years ahead.

A RING OF WATER AND A LOOP OF STEEL

The result was that Chicago grew up hampered and crowded. The Chicago River, as reversed by the drainage canal, elbows its way through the city, flowing west for some nine blocks, and then south and southeast for many more, before finally turning westward again. Thus the river drew a fluid line around two sides of the business district, while the lake confined it on a third side and the railroads dammed it back on the fourth.

As if this were not enough, the elevated railways supplemented the ring of water with a loop of steel, and presently the great metropolis found itself with residential districts as wide as the prairies, but with a business district so cramped and so much a menace to the city's future growth and prosperity that there arose a universal cry for relief from the conditions that threatened the strangulation of its development.

That cry brought its answer in the shape of what is at once one of the most ambitious and yet the most conservative city plan ever worked out. That plan takes cognizance alike of the immediate needs and the future requirements of the city. It is laid out in units suited to the necessities of the hour and the financial abilities of the moment; at the same time it has been so developed that each completed unit is a step toward the ideal urban community, and the sum of them a symmetrical development that will provide for double the present population and, it is hoped, afford proper foundations for the expansions of a century.

Photograph by International Film Service

TABLET ERECTED AT THE SITE OF OLD FORT DEARBORN; CHICAGO

Chicago is the youngest big city in the world. Men are living today who have seen it grow from a motley village of nondescript structures into a magnificent metropolis, with a population surpassing that of any one of thirty-seven of the sovereign States of the American Union.

It were too long a story here to relate the details of the formation of the Chicago Plan, or to give more than a bird's-eye view of its aims; but they show so well what a municipality can do that it forms a most encouraging example for other urban communities.

THE CHICAGO PLAN COMMISSION

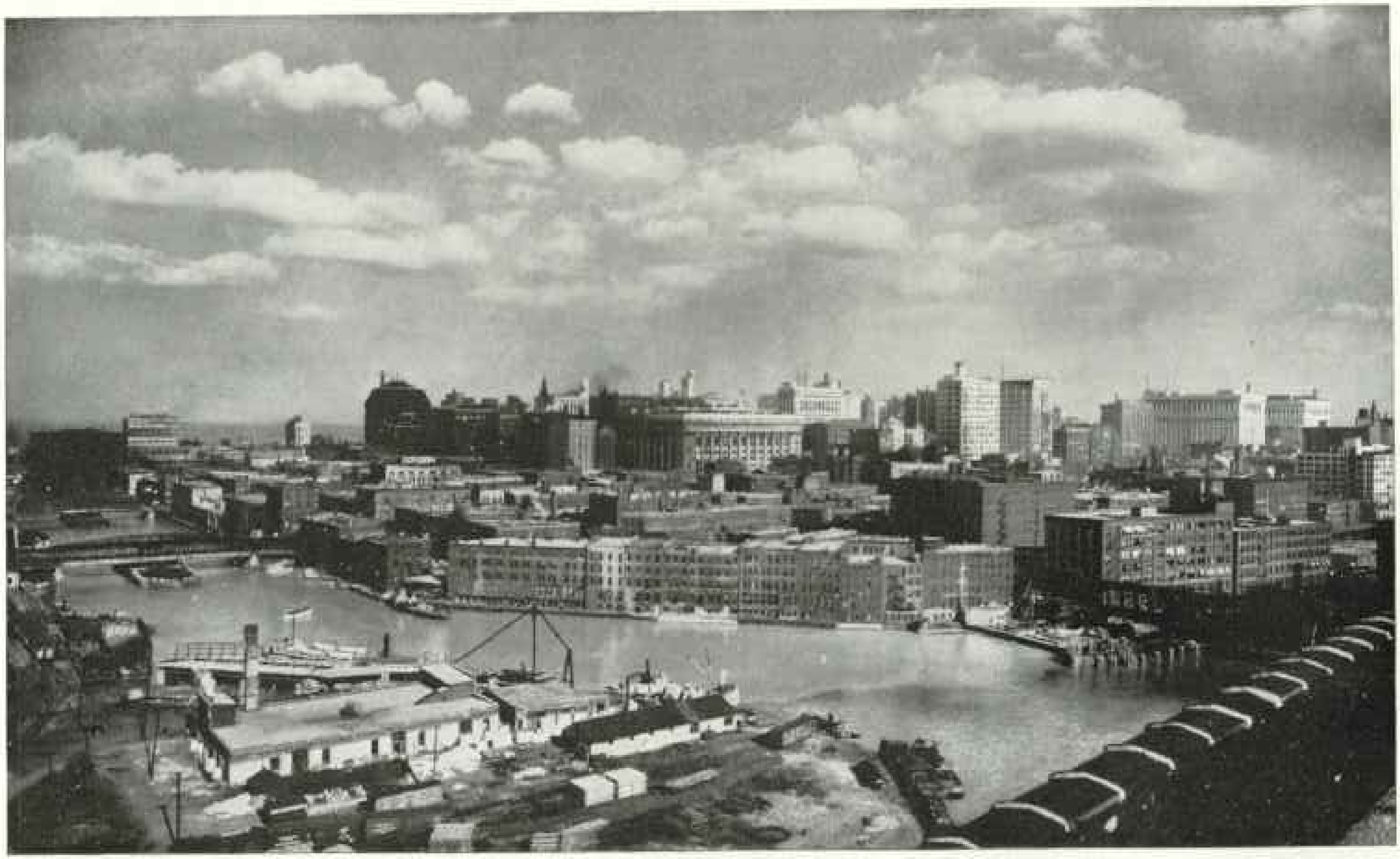
The realization that Chicago was growing fast and would outstrip its facilities unless early action were taken came at the time of the World's Fair. The Merchants' Club and the Commercial Club each took up the work of planning for the future, and each soon found itself duplicating the efforts of the other.

They therefore merged as a new organization, raised funds for sending experts abroad, and in two years spent $85,000 in creating a plan and publishing a report. The plan recommended was accepted by the City Council, which authorized the Mayor to appoint a com-

Photograph by Kaufmann & Fabry Co.

A VIEW OF THE MIDDLE SECTION OF MICHIGAN AVENUE, CHICAGO'S "FINEST STREET IN THE WORLD"

With many of the city's best hotels and shops fronting on it, with a park fringing it and a yacht basin beyond, Michigan Avenue is certainly a beautiful and inspiring thoroughfare. Note the Art Institute in the right background.



A PANORAMA OF CHICAGO'S BUSINESS DISTRICT

One of Chicago's ills is its vast teaming traffic. At present more than 150,000 tons of freight a day must be horse-drawn or motor-moved, most of it in the narrow confines of the business district, which, with its surrounding lofts and warehouses and freight yards, is only a mile wide and two miles long. New York's teaming traffic is only half as large, in spite of the fact that Gotham has no freight subways.

Photograph by International Film Service

A SATURDAY-NIGHT CROWD IN ONE OF CHICAGO'S NEIGHBORHOOD DANCE HALLS

The people of the Lakeside Metropolis are intent on business by day, but when the daytime cares are past they give themselves over to social relaxation to the fullest extent. The spirit of the breezy West is found in pleasure-emporiums as well as in market-places.

mittee to determine what units should be executed first.

This committee is known as the Chicago Plan Commission. It is non-partisan, non-political, having advisory but not executive powers. It has a membership of 325, representing every section of the city, every interest, and every shade of public opinion. The municipal, county, State, and Federal officers whose work has any relation to the several projects provided for in the plan are *ex-officio* members.

In order to provide for a continuing executive head, Charles H. Wacker was made permanent chairman; and though city administrations come and city administrations go, the Chicago Plan is never lost sight of; indeed, it finds each new administration realizing more than the preceding one that it is a people's pet project.

How firmly rooted in the mind of the average citizen it has become is disclosed by the referendum held in the November election with reference to the improvement of Michigan Avenue. That improvement was authorized several years ago by a popular vote, which approved a bond issue of three million dollars for carrying the project into effect.

But the war came on, and with it such a tremendous increase in prices that the work could not be done unless the bond issue authorized was more than double the amount originally asked for. Yet the people, having already burdened their pocketbooks by putting four Liberty Loans, a Red Cross drive, and an allied war-work drive "over the top," responded with an overwhelming majority in favor of the new bonds.

A REMARKABLE CENSUS OF TRAFFIC

How hard it is to carry improvements through is well illustrated in the case of this undertaking, the details of which will be discussed later. Under Chicago law it is necessary to prove that an improvement is of local rather than of general benefit, in order to tax the property-owners of a given assessment zone for that improvement.

To do so in the Michigan Avenue instance a study had to be made of all the traffic entering and going out of the Loop District. A great staff of census-takers was set to work keeping a record of the comings and goings of every vehicle passing in or out. By checking up the numbers it was shown at what hour the vehicle came in, what route it took, where and when it stopped, and where it went out again.

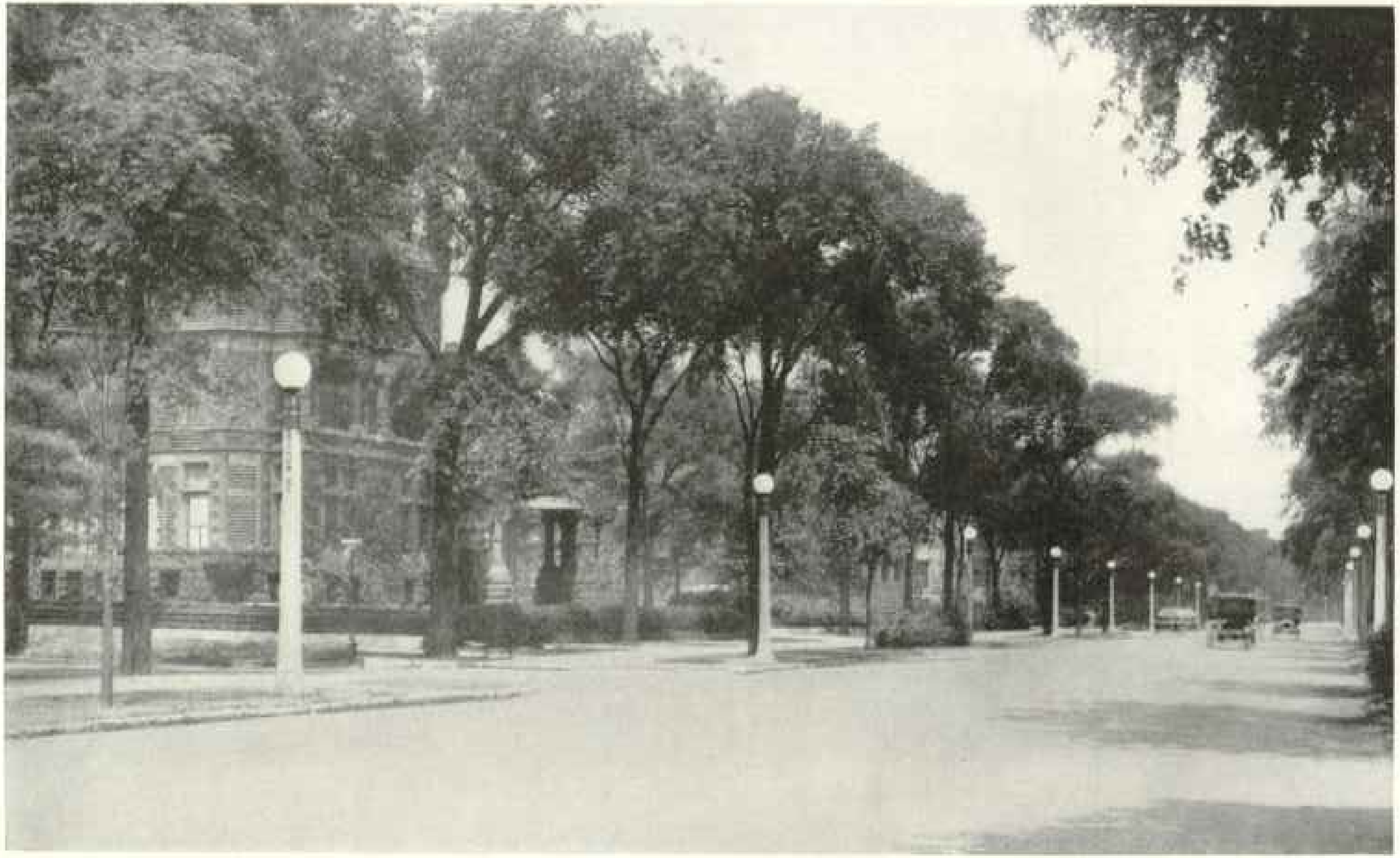
How thoroughly the census was worked out is illustrated by the experience of a Chicago motorist. A friend, happening to be recording the passing vehicles at Rush Street bridge one evening, saw the motorist and his wife pass in their car. He set down the number, as the work required. Later he saw the wife going back alone, and still later saw the man and another woman go out of the district in a taxi.

When the watcher reached headquarters he checked up the motorist's movements, just to see whether one car could be followed from the time it went into the district until it came out.

A few days later the traffic census-taker accosted his motoring friend: "I've got a line on you now!" he exclaimed. "Last Wednesday evening you crossed the Rush Street bridge at 7:40 o'clock. Your wife was with you and you went to the Auditorium for dinner. After dinner you sent your wife home in your car, and at 9:39 you took a taxi at the Sherman House in company with another woman. You drove down Randolph Street to Michigan Avenue, stopped at the Blackstone for thirty minutes, and then drove up Michigan Avenue and across the Rush Street bridge."

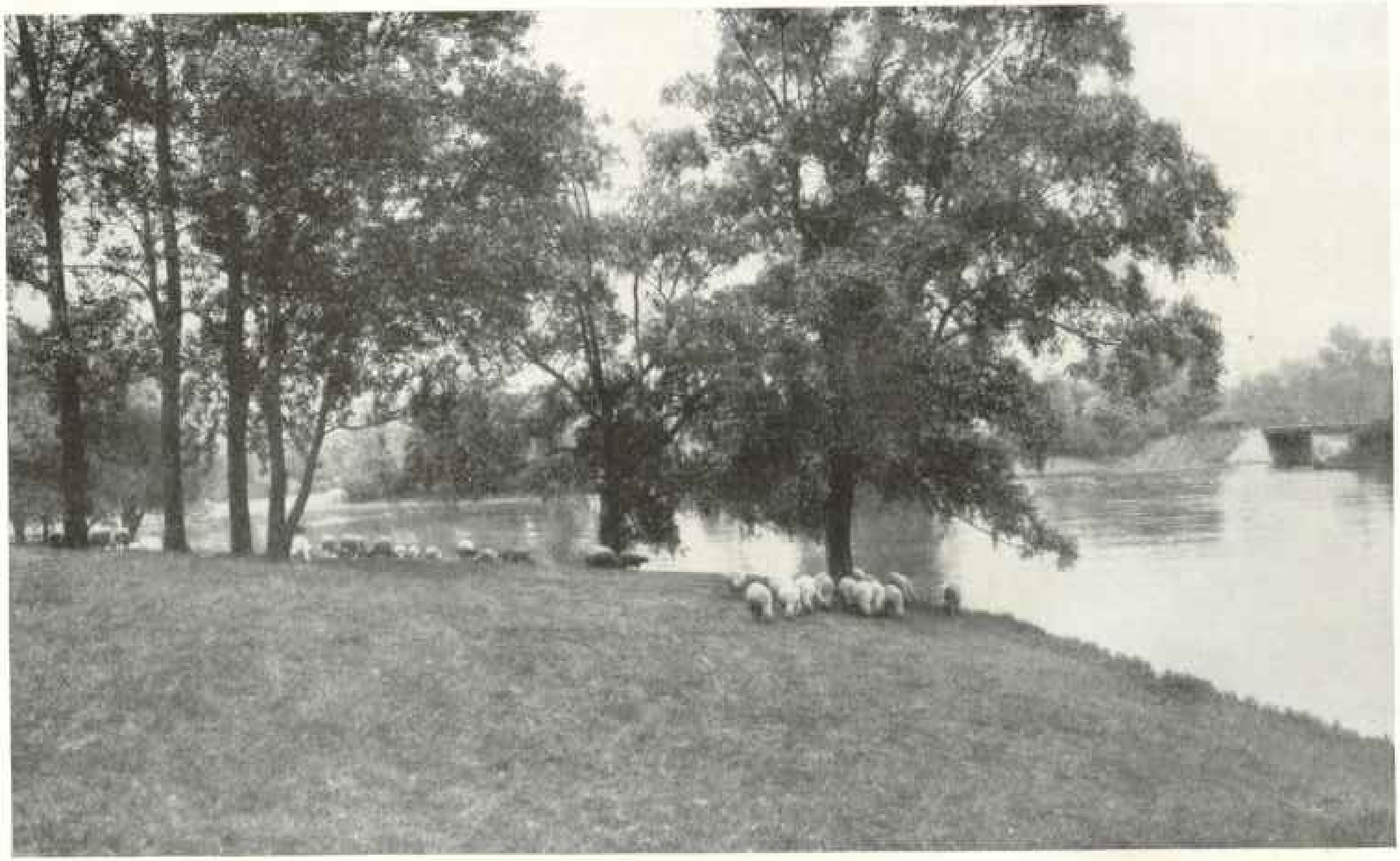
The motorist admitted that the census-taker had correctly stated his journeyings of that evening, but wanted to know what he meant by such "sleuthing." The taxi trip was a perfectly proper one, but it did serve to show how careful was the census.

But even the taking of such a census, which resulted in the accumulation of tons of figures, was only the beginning of the difficulties. Eight thousand lawsuits had to be litigated before the work could be done; then the people themselves had to pass judgment on the improvement by voting for or against the bond issue.



LAKE SHORE DRIVE, CHICAGO'S FASHIONABLE RESIDENCE DISTRICT

Along this highway are gathered the town houses of many men and women who have made Chicago and its civilization-serving industries.



A PASTORAL PICTURE FROM WASHINGTON PARK

Chicago's park system is one where beauty waits on utility. They are all connected by a boulevard system some fifty miles long, giving the motorist a parkway entirely around the heart of the city.

THE CITY'S CHIEF ASSET ALSO ITS GREATEST HANDICAP

When a survey of the city preliminary to the creation of the Chicago Plan was made, it at once became obvious that the railroads were the municipality's greatest handicap as well as its greatest asset. In times gone by they had been allowed to get control of almost any land in the city they desired; and the competition between them was such that each played for the best position. When the game ended, it left the metropolis little more than a series of oases of residence and trade in a desert of railroad terminals and freight yards.

The central business section, broadly bounded by the Chicago River on the north and west, the lake on the east, and Twelfth Street on the south, is hemmed in on all sides by terminals and yards, which even thrust themselves inside this area and leave only about a quarter of a square mile of territory absolutely free.

The immense amount of trackage in the heart of the city simply made the original street system a scrap of paper. North and south, streets became lost here and there in the great maze of railroad trackage. Wabash Avenue is a through street for less than a third of the length of the city; Dearborn disappears for several solid blocks; La Salle is closed for six blocks at one point and for shorter distances at other places; similar conditions prevail with reference to the three remaining streets east of the south branch of the river, while conditions as serious obtain beyond that stream.

With east and west streets a similar situation prevails. From Twelfth Street northward, Eleventh, Ninth, Seventh, and Congress streets have been unable to break the steel barrier, while Quincy gets lost at the river.

HOW THE RAILROADS ARE HELPING

So the first problem was to plan for the creation of new railway terminal and yard layouts, permitting the east and west and north and south streets to pursue their orderly way. At first the railroads were against the proposals, but latterly they have fallen in with them.

The railroads west of the Chicago River agreed to a reconstruction of their terminals. The Northwestern has already finished its monumental depot, and the roads entering the Union Station, led by the Pennsylvania, have laid out a terminal system and prepared plans for one of the finest railroad structures of the kind in the world. These plans involve the construction of streets and viaducts for the benefit of the city valued at six million dollars, and the payment of a million and a half dollars additional into the municipal treasury.

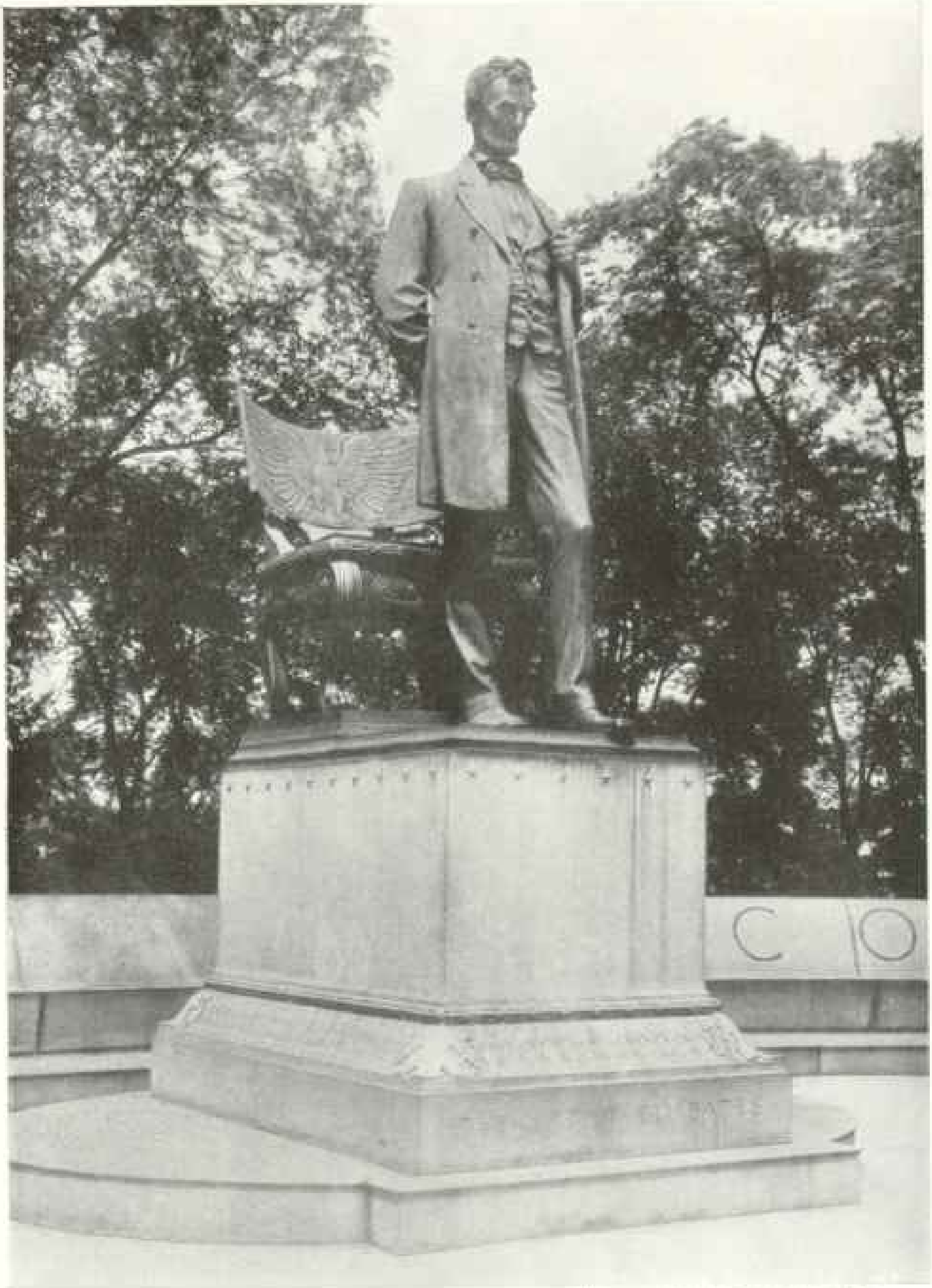
Likewise, the Illinois Central is preparing to build a magnificent new station of monumental type, south of Twelfth Street, and large enough to take care of all the railroads now entering the city from the east and south that are not included in the Union Station group. This great terminal will be two miles long and from six hundred to seven hundred feet wide. It will provide twenty main tracks and accommodate trains on three levels in the station itself. One of these levels will take care of the electrified suburban service.

CHICAGO RIVER TO BE STRAIGHTENED

Coincident with the vast improvements that are destined to grow out of a revision of the city's railroad layout will come a straightening of the south branch of the Chicago River. It is proposed to cut out a big bend in the channel, thus redeeming 194,000 square feet of ground, worth enough, at prevailing real-estate values, to pay for the improvement. Such an improvement would permit the extension of four principal north and south streets through the railroad district.

In order to relieve the unsightly situation of a freight transfer yard at Chicago's front door, the Illinois Central has agreed to establish a great freight terminal at Markham. This will leave only a local freight station on the water front and will largely eliminate one of the city's worst eyesores.

The general idea of the Chicago Plan is not only to develop the Lake Front as the front yard of a great metropolis, and to secure new traffic channels leading into and out of this business district, but also



Photograph by Kaufmann & Fabry Co.

THE ST. GAUDENS LINCOLN, IN LINCOLN PARK: CHICAGO

Lincoln Park, on the North Side; Jackson and Washington, on the South Side; Douglas and Humboldt, on the West Side; and Grant, on the business district water front, are Chicago's principal parks. The Chicago Plan proposes to unite the three big lakeside parks by a magnificent series of drives and lagoons.

Photograph from Chicago Architectural Photo Company

ONE OF CHICAGO'S MICHIGAN AVENUE BUSINESS BUILDINGS

Built firm and on broad foundations, Chicago's big office structures have about them that air of solidity that characterizes the whole city.

Photograph by International Film Service

A CITY WITH A REAL FRONT YARD

Grant Park, with its temple-like colonnade, its Art Institute, and its statuary, is a front yard of which any city might be proud. The realized Chicago Plan will make it a veritable dream of civic beauty.

MICHIGAN AVENUE'S STATELY STRUCTURES AS SEEN FROM THE LAKE

Chicago's business district is all within four blocks of Lake Michigan, and Grant Park, as it is to be, will make this section of the water front one of the most beautiful combinations of lakeside landscape and architecture to be found anywhere in the world.

© Kaufmann & Fabry Co.

to provide a series of diagonal avenues that will permit every quarter of the city to reach every other quarter without going around two sides of a square. The plan can best be visualized by reference to the map on page 40.

In the execution of the plan the widening of Twelfth Street was first undertaken. This is one of the principal east and west thoroughfares. It was a narrow, cluttered street, but one of the main arteries through which the West Side reached the Lake Front. At an expenditure of about five million dollars, buildings were razed or moved back and a splendid thoroughfare developed.

The Michigan Avenue improvement came next. The beautiful highway, with its connecting arteries, unites the North Shore with the South Side. For years this thoroughfare has been the pride of Chicago and the admiration of all who visit the city. As a part of the Lake Shore drive that links the woods of southern Wisconsin with the plains of northern Indiana, it is a magnificent street, yet it has one impossible section.

THE BUSIEST BRIDGE IN THE WORLD

That section is at the crossing of the Chicago River. The Indians in the olden days called this immediate vicinity by a name that meant "the place of the wild onion," and if it smelled as bad then as it does now, the name was not a misnomer. Yet here converges what is believed to be the densest traffic that crosses any bridge in the world.

A break in the Avenue at Randolph Street makes a jog leading to the Rush Street bridge, which is about as homely a structure as the eye could see, being an old-fashioned, single-span drawbridge. Other streets besides Michigan Avenue lead to it from both sides of the river; and morning, noon, and night it is the neck of a traffic bottle, always blocking vehicular movement both by reason of its smallness and because the draw frequently is open

to permit the passage of vessels into and out of the river.

After the river is crossed, the Avenue does not recover its equanimity for several blocks. It meanders along through Carroll Avenue, then through Pine Street to Lincoln Parkway, which in turn becomes the Lake Shore Drive.

Under the new improvement plan the jog is cut out by the razing of scores of buildings; a new double-decked bridge will be built, and there will be a separation of team and truck traffic from light vehicular traffic, the latter using the upper level and the former the lower.

The need for a double-decked bridge at this point was shown in a recent investigation. London Bridge heretofore was supposed to hold the world's record for density of traffic, with 7,578 vehicles crossing it in twelve hours. But a count at the Rush Street bridge showed that it carried a thousand more vehicles in eleven hours than London Bridge carried in twelve.

The waste of money occasioned by inadequate traffic facilities in the past reaches astonishing proportions. When it is remembered that on the eight crossings of Michigan Avenue between Washington and Indiana streets fifty thousand vehicles were counted in eleven hours, as compared with thirty-five thousand in twelve hours at eight of the busiest crossings in London, the cause of delays will appear.

And when one gets into a taxi that registers the time lost by traffic delays and bridge waits, as well as the distance covered, he receives a very pressing appreciation of what the sum of these delays must mean in dollars and cents. In a single year, in terms of one team or motor car, the delays amount, at these crossings, to the remarkable total of more than a hundred thousand days. Think of a hundred thousand days of waiting with the taximeter running all the time!

The new part of the Avenue will be double-decked from building line to building line. The approaches to the two-level section will be by very gradual slopes, and one will hardly realize that he is passing from the city grade to an upper level. The public entrances to all buildings will be from the upper level, the lower being reserved for freight handling, etc.

The third important project in the series of unit undertakings of the Chicago Plan is that of doing away with the unsightly produce market in South Water Street.

The Federal Government has ordered all bridges spanning this part of the Chicago River to be raised, and as Water Street is parallel thereto, it would become nothing more than a series of ramps unless treated in some unusual way. So it is proposed to acquire all property between Water Street and the river, and to utilize it for making a very wide thoroughfare on the bank of the river, with two levels, in keeping with the new levels on Michigan Avenue. This improvement will keep at least fifteen thousand vehicle trips a day out of the sadly overworked Loop District.

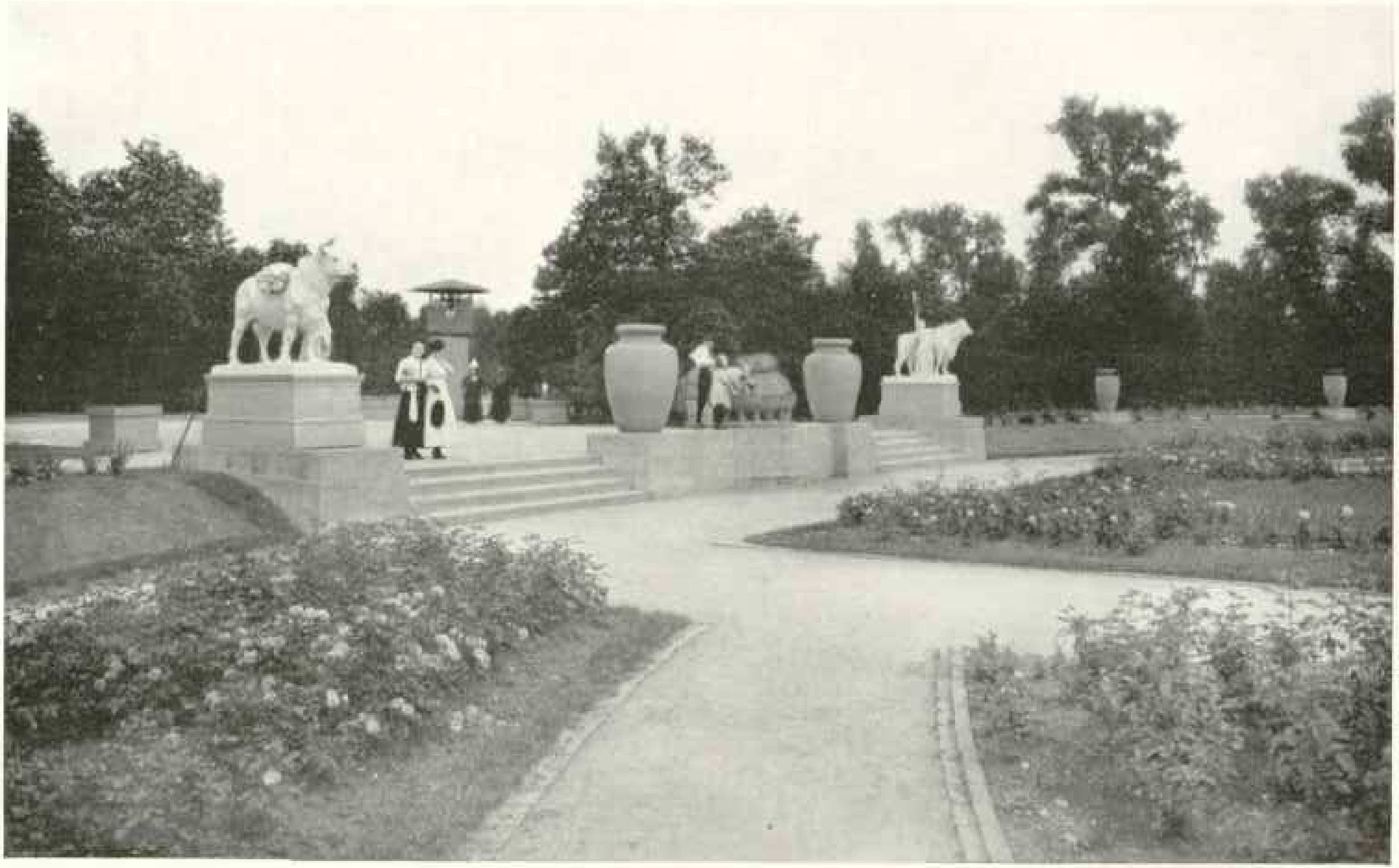
CHICAGO, THE INLAND "SEASIDE RESORT" OF THE FUTURE

To be a manufacturing and commercial metropolis and at the same time an inland Atlantic City is a privilege vouchsafed very few cities in the world. Yet Chicago is destined to have a water front that might make many a seaside resort envious.

To secure the full benefits of her situation, the city is undertaking to connect her three great lakeside parks. Already Lincoln Park has edged a narrow way southward along the beach until there is a wonderful curving stretch of green reaching to Grand Avenue and making a four-mile parkway unbroken and unmarred.

From Grand Avenue southward this stretch of green will be pushed onward, crossing to an island outside the inner harbor, and thence back to the mainland and Grant Park. From this park to Jackson it is proposed to reclaim nearly thirteen hundred acres from the lake, on a stretch of about five and a half miles.

The reclaimed area will consist of an outer park of 850 acres and an inner one of 432 acres, separated by a lagoon 600 feet wide. Based on the lowest prices paid for land in the same section by the



Photograph by C. R. Faulkner

A PARK SCENE: CHICAGO

No city in America has parks more pleasing to the eye or more restful to the body of man than those of Chicago. They were made to use and not merely to admire. There isn't a keep-off-the-grass sign in any of them, and some of them are veritable bowers of flowers in the summer-time.

Illinois Central Railroad, the value of the ground thus reclaimed will be forty-six million dollars.

But it will cost the city nothing! All that Chicago will have to do is to construct the necessary retaining walls, with the consent of the Federal Government, and then collect $3,000,000—more than enough to reimburse the city for these walls—from the people who need a dumping ground.

When this ground has been reclaimed, and Grant Park connected with Lincoln Park, there will be a lakeside playground some fourteen miles long. The people of every section of the city will be brought within a you-don't-have-to-transfer street-car trip to the Lake Front playground; and Chicago, indeed, will be its own Atlantic City. One need only ride along the Lake Shore Drive and Sheridan Road to see how beautiful such reclaimed ground can be made.

CHICAGO'S MAIL POUCH

Another element in the transformation of the Chicago of yesterday into the Chicago of tomorrow is the question of an adequate post-office. A vast proportion of the nation's mail between the East and the West passes through Chicago, making it of national as well as of local concern that adequate facilities be provided.

Heretofore the federal authorities have never been able to look far enough ahead, with the result that before a new post-office was completed the city had already outgrown it. In the early eighties a building was erected on the site of the present post-office, and had to be torn down ten years later because of its inadequacy. Then the present structure was erected, and for ten years, while it was building, the city had to get along with a makeshift. The present structure is not yet two decades old, but everybody realizes its utter inadequacy.

So Chicago induced the railroads planning to build a new Union Station to move their site two blocks further south than they had intended, leaving two magnificent squares between that station and the Northwestern Station. Nearly two-thirds of the mail handled in and through Chicago passes between the railroads using these two terminals.

The volume of the postal business of the city reaches almost unbelievable proportions. Two billion pieces of mail are handled annually, and the receipts are greater than those of any other post-office in the world. The business done at this one office is eight times as great as that of the entire postal system of Norway and four times as great as that of the Kingdom of Holland. The parcel-post business exceeds that of any other five cities in the United States.

The site and building of the present post-office cost the government one million dollars. Such has been the enhancement of realty values that it is estimated to be worth twelve million dollars to-day—the enhancement of value alone being sufficient to take care of the construction of the proposed new two-block post-office. Since the present building was completed the postal business of the city has quintupled.

Having seen the results of a pinch-penny policy in the past, Chicago is now asking the government to put up an adequate post-office outside of the Loop District.

THE AMAZING LOOP DISTRICT

That district, not more than a quarter of a square mile in area, has only nineteen streets in it, with street-cars on all but four of them. It is entered daily by twenty-odd thousand street-cars and more than 130,000 vehicles. A million and a half people traverse its streets every day, and a quarter of a million work there. To get the post-office outside of this jammed district is agreed by all to be one of the prime requirements of the Chicago Plan.

Undertaking improvements that in the end will cost some two hundred million dollars, improvements that will make the city one of greater wealth and better health, improvements that will make it compare with any other city on earth in the development of the esthetic side of the life of the community, improvements that will serve as an inspiration and as a model for urban development for all communities, the people of Chicago ask the nation to help them only by giving them an adequate post-office, for which they pay many times over, and to recog-

Photograph by International Film Service

CLARENDON AVENUE BATHING BEACH: CHICAGO

No city in the world has finer bathing facilities for its people than Chicago. It gets mighty hot sometimes, but one is within ten minutes or so of a bathing beach, and the breezes always blow there. "A lake front for the people's health and happiness" is Chicago's slogan.

nize their rights to water for sanitary purposes and to the water front for a playground.

NO "KEEP OFF THE GRASS" IN CHICAGO

The city annually spends five million dollars for park purposes; more per capita, perhaps, than any other city of the first order in existence. There is not a "keep off the grass" in the entire park system; and all recreational facilities are free except the boats in the lagoons.

At the two golf courses in Jackson Park a third of a million balls were teed off in 1916. Twice as many people play on the long course in Jackson Park as play on the long course at the historic links at St. Andrew. No charge is made for playing, and there are locker accommodations for three thousand, while some sixty an hour can be started in play. Frequently players have remained up all night in order to get a chance to tee off next day.

There is a "swimming hole" within walking distance of every boy in Chicago; and even with the fine municipal bathing beaches of the lake front not far away, these mid-city park lagoons are always in use, providing joy for the hearts of the kiddies who visit them.

SHIFTING WATERS FROM FUNDY TO MEXICO

Long ago Chicago discovered that if it were not to develop into a hotbed of typhoid fever and other diseases of the intestinal tract it would have to devise some way of keeping the water of the lake front free from pollution. A mounting typhoid rate, making the city more nearly a pest-hole than a proper habitation for man, demonstrated that it could not continue to mix sewage with drinking water by draining the sewers into the lake.

So, heroic measures were taken to end the pollution. The Chicago River was forced to give up an age-long right to contribute its water to the St. Lawrence, and was made to flow across the divide separating the Great Lakes from the Mississippi River. Thus waters that normally ran into the Bay of Fundy were dispatched into the Gulf of Mexico and made to carry the burden of Chicago's sewage as they went.

This was accomplished by the construction of a drainage canal 36 miles long, from the south branch of the Chicago River to the Illinois River at Joliet. This waterway, 24 feet deep, and 64 feet wide in rock and 202 in earth, has a fall of 40 feet. It serves the triple purpose of drainage, navigation, and power development. Its construction was begun in the World's Fair year and cost nearly seventy million dollars. It was built larger than the requirements of the hour for drainage, and sooner or later will form a part of the waterway that will permit river steamers to ply between the Lakes and the Gulf.

When the State legislation authorizing the canal was passed, a provision was incorporated providing that, in order to prevent the sewage from becoming a nuisance and a menace to the country through which the canal passes, there should be a flow of 333⅓ cubic feet per second for every hundred thousand people. Realizing that the population would probably reach three million by 1930, the city provided for a flow of 10,000 feet per second, with an ultimate capacity of 14,000 feet.

But the Secretary of War, under his control of navigable waters, stepped in and fixed the flow at 5,000. Later, when it was proposed by the city to construct a branch to drain the Calumet Lake district, the question of the effect on the water level of the Great Lakes was brought in.

On the ground that a greater flow would cut down the lake level, the Secretary of War kept down the allotment; so Chicago was between the devil of State law and the deep sea of Federal order.

Although pointing out that Lake Michigan was higher in the ten years following the opening of the canal than in the ten preceding; and although showing that it was higher by fifteen inches in January, 1917, than it was in January, 1916; and, further, that it was higher in 1916 than it had been in any January since 1876, the Sanitary District authorities were unable to convince the Secretary of War.

Photograph by Kaufmann & Fabry Co.

THE UNION STOCKYARDS, THE NATION'S CHIEF RESERVOIR OF UNSLAUGHTERED MEAT

Measured in the value of the product, the slaughtering and meat-packing industry is the greatest in America. Bread, iron, and steel take back seats in the presence of the country's meat. And the heart of the trade is in the Packingtown district of Chicago. More animals have gone to the butcher's block here than in any other spot in the world.

A friendly suit, which is still pending, was brought in the Federal courts to determine the relative powers of the State, the city, and the Federal Government in the premises. Upon its outcome hinges the question of whether or not Chicago can send enough Lake Michigan water down the Mississippi River to protect the lake from pollution.

Through the Sanitary District, which now comprises a territory of 358 square miles, covering the region from the town of Wilmette to the Indiana line, the city is both a real-estate operator and the owner of a power plant. Nine great aluminum wires carry 42,000 horsepower cityward from the hydro-electric plant above Joliet. They supply one county, twelve municipalities, and many private concerns, besides furnishing the city itself with power for pumping water out of the lake into the city mains and the canal, and for lighting the fourteen thousand arc lights used in the municipal system.

"SIC SEMPER TYPHOID!"

The result of the opening of the drainage canal was phenomenal. Typhoid, which had reached a degree of prevalence that was truly alarming, began to subside immediately, and Chicago, but lately the most unhealthful principal city in America, soon was cutting down its death rate faster than any similar community anywhere. No man who knows the history of the conquest of water-borne disease by the building of this canal can fail to appreciate the triumph of the sanitarians. They said they would cut the typhoid rate in half, but they actually sliced off more than 90 per cent of it!

Like all great world cities, Chicago has many problems still unsolved. Most serious of these is the urban transportation situation. With more passengers to carry than all of the steam railroads of the United States together, and with the great bulk of the cars that carry them entering the narrow confines of the constricted business district, it was inevitable that a heroic revampment of conditions would be needed.

Some very striking steps of coöperation between the various companies operating the urban transportation lines have been taken in the past. These companies were urged to believe that universal transfers would redound to their respective advantage. Very dubious on the subject, yet imbued with the general spirit of coöperation for the city's welfare, they agreed to try it, merging all of the surface lines, for purposes of operation, into one system and all of the elevated lines into another.

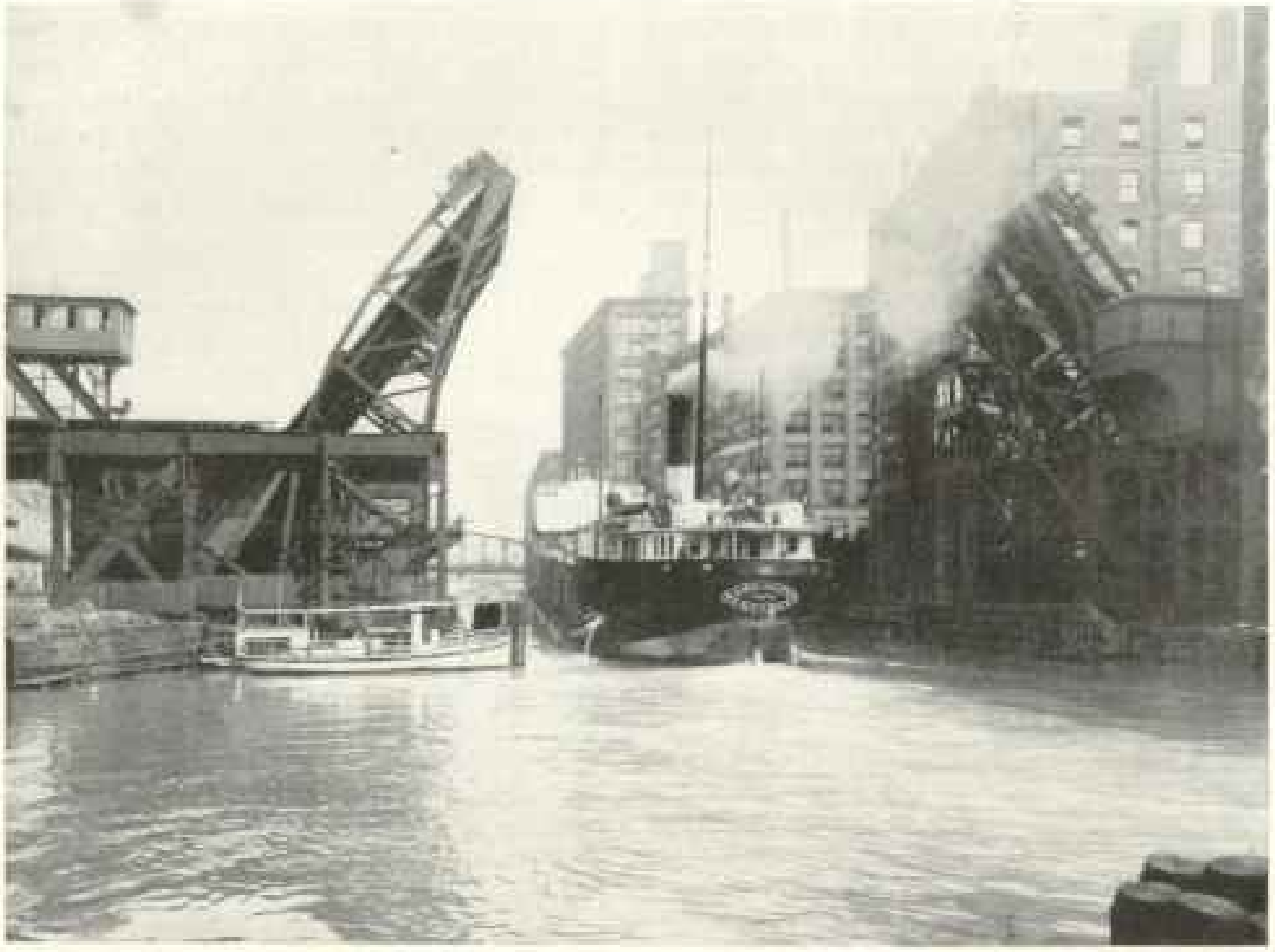
TRANSPORTATION AND WATER PROBLEMS

The result was greater profits than ever before, and the experiment did much to remedy the situation. But much water of development passes under the bridge of progress in Chicago with the lapse of a few years, and now the city is where nothing but a radical extension of both elevated and surface lines, with subways added, and universal transfers established between elevated, surface, and subway lines, will suffice.

A plan was prepared by a commission representing the city, and accepted by the transportation interests, providing for the requisite extensions, and for the operation of all the lines under a board of trustees appointed by the people, with a definite guarantee to all stockholders of a fair income. Every commercial and progressive organization in the city was behind the plan, but somehow it failed of a majority in the November referendum. It is quite plain, however, that Chicago must soon face the transportation problem that handling an overwhelming population involves.

The water situation also presents something of a problem. In a recent number of the GEOGRAPHIC (see "New York—The Metropolis of Mankind," July, 1918) it was shown that Gotham's great aqueduct system carries enough water to slake the thirst of the whole world. Chicago, with half as many people, uses more water than New York. The reason for this, of course, is that Chicago is the home of heavy manufactures and New York of light, the former demanding much more water than the latter. The per capita use in Chicago is two and a half times that in New York.

The combined water and sewer mains



Photograph by Kaufmann & Fabry Co.

A RIVER THAT WAS FORCED TO FACE ABOUT

When Chicago grew populous, its death rate kept pace with its physical expansion until the city decided to send the waters of Chicago River into the Gulf of Mexico instead of permitting them to continue flowing into the Gulf of St. Lawrence. Since then Chicago has been showing the world what sanitation can accomplish (see text, page 21).

of the city are longer than the combined length of the Ohio, Mississippi, and Missouri rivers. The annual volume of water flowing through them would fill a cistern a thousand feet in diameter and a mile deeper than the deepest trench in the ocean.

THE CITY GOVERNMENT'S ANNUAL PAYROLL $39,000,000

Another problem that vexes the great lakeside metropolis is that of its government. There are 22 local governments in the city, having no central control and no central responsibility. There is much duplication, considerable lack of cooperation, and not a little antagonism. The result is that Chicago spends annually $39,000,000 for salaries alone. Between the county and the city there are five separate, independently organized courts, with concurrent jurisdiction in many particulars, and yet with their respective powers so limited that frequently cases arise where no one of them has sufficient jurisdiction to adjudicate all questions involved. There are six separate clerk's offices where half the number might suffice.

The cost of the endless round of elections that result from this scattered authority is almost unprecedented. The outlay for a recent year for Chicago and Cook County was approximately $2,000,000. The cost of a city election is about $700,000, and of a judicial plebiscite about $200,000. And Chicago likes elections, if one may judge by the number she has.

With such matters as these pressing, Chicago voted overwhelmingly in favor of a State constitutional convention, and

Photograph by International Film Service

THE GENERAL GRANT MONUMENT, ILLUMINATED, IN LINCOLN PARK: CHICAGO

No city on the map of America was more patriotically devoted to the aims and end of America's participation in the world war than Chicago. In Liberty Loan subscriptions, in Red Cross work, in War Fund drives—everywhere the city went over the top at home with the same enthusiasm that sent her sons after the Huns abroad. Already plans are in the making fittingly to commemorate in bronze and marble her heroes' achievements on the battlefield.

will go there resolved to secure a simplification of her governmental machinery and a concentration of responsibility.

But the story of the great metropolis of the Middle West is only half told with the recital of its problems and its plans. One might turn to many aspects of the city's activities and find rich fields of interest. A chapter could be written on the two conventions a day that is Chicago's average and the ten thousand delegates a week the city entertains. Another might be written on the babel of voices one hears upon its streets, for there are more than thirty distinct nationalities abiding within its confines. Only two Irish cities have more Irish, only one Bohemian city more Bohemians, and only

one city in Norway, one in Sweden, and one in Poland has more Norwegians, Swedes, and Poles, respectively.

Still another chapter might be devoted to the railroads, for Chicago is preëminently the world's railroad capital. Here centers nearly half the railroad mileage of the nation. The trackage within its limits would reach from New York to San Francisco. Some fifteen hundred trains arrive and depart every day; yet not a single one passes through. More sleeping cars roll into the city every morning than into any other city in the world. Fourteen States in the American Union have less main-line mileage than Chicago has trackage.

MACHINERY THAT IS FEEDING THE WORLD

Chicago's manufactures especially claim attention because, as pointed out in the beginning, they have served to revamp the economic and travel geography of the world. So remarkable has been the growth of these industries that they have made a thousand millionaires the while they have enriched the whole world.

First in the order of their founding and in its service to humanity is the harvesting-machine industry. When Cyrus McCormick invented his reaper, back in the quiet little valley of the Shenandoah, little did he dream that in less than fourscore years the whole grain-producing world would resound with the click of its sickles, and less did he foresee the tremendous growth in the world's population that certainly would have brought starvation but for the reaper. And when Deering boldly staked the earnings of a lifetime on the Appleby binder and on Manila twine, he did not foresee how great a service to humanity he was rendering.

Yet today a single agricultural machinery plant covers 229 acres, has a floor space of 4,000,000 square feet, employs 9,000 men and women, makes 200 tons of twine a day, and turns out a farm machine every thirty seconds. Within 10 minutes' motor ride, another big plant employs 7,000 people and does a business only a shade smaller. A binder every two minutes and a mower every time the clock ticks off 60 seconds is the record of the latter plant when it concentrates on these two types of machines.

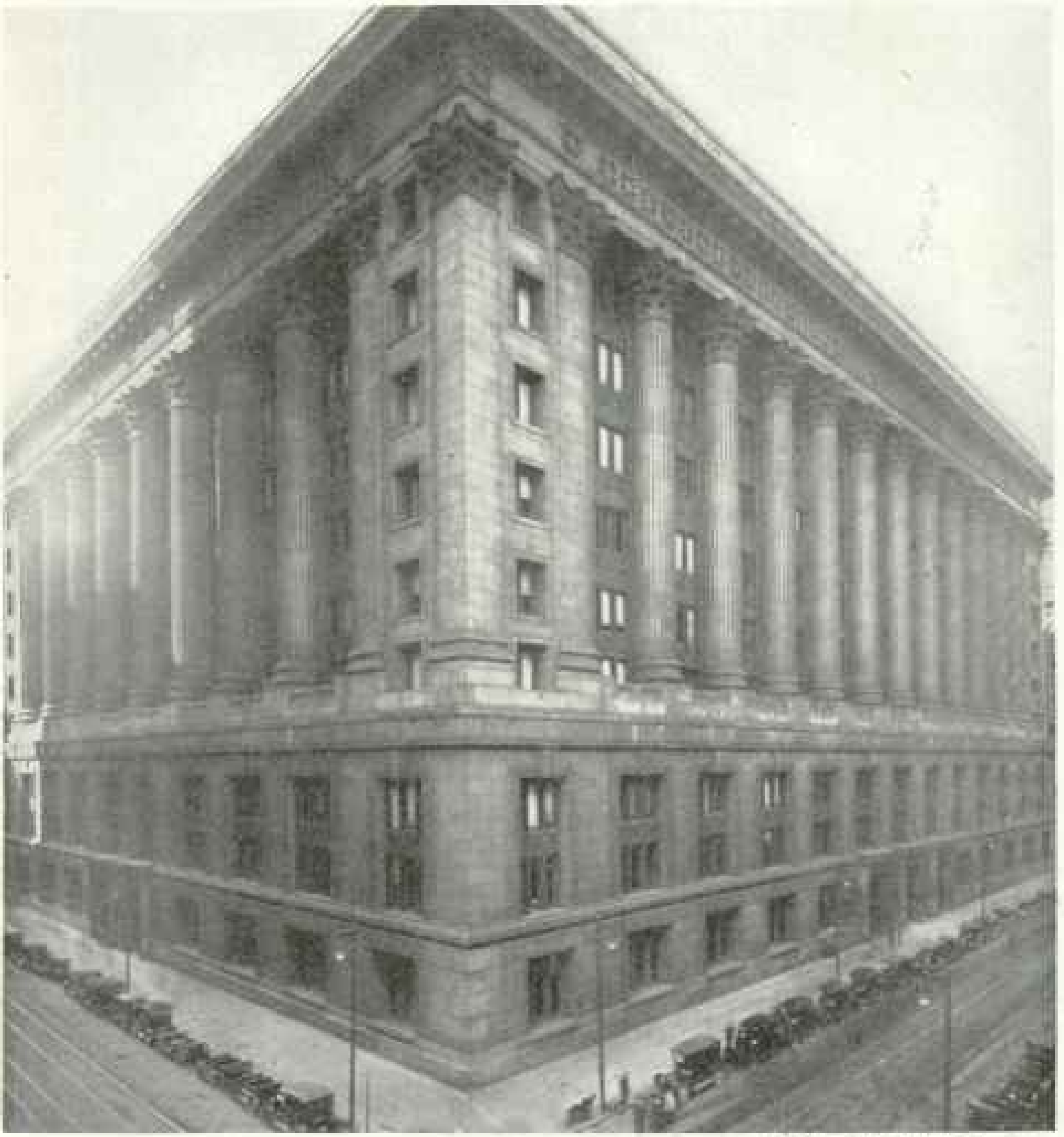
When the reaper was invented there was still left the problem of binding the grain, gathering the sheaves and shocking them. Then came the twine binder and the elimination of hand binding. But gathering the sheaves was a piece of very hard work for the small boys on the farm. Before them was the binder, kicking out the sheaves as fast as four spirited horses could walk, and behind them the shockers, always with a "hurry up, boys," as counsel. When the bundle carrier came, the kiddies of the farm sang peans of praise to its inventor.

But still there was the problem of shocking. It takes two hard-working men to shock behind an ordinary binder with an ordinary field of wheat. For years the harvester companies saw these men working and took it as a challenge to their labor-saving genius. At last Chicago is able to offer the world a mechanical shocker. The new machine shocks wheat like a veteran, setting up the sheaves and putting on the caps as if it were human.

It is a sight to see the different types of implements made by the Chicago farm-machinery factories. One might think that a mower is a mower before going there, but it will soon be found that there are mowers and mowers. Here is one geared to cow power, another for water-buffalo; there one made for horses, and over yonder one to be pulled by a tractor. One is made for extremely low cutting and another for very high. One has a very long cutter-bar, for smooth ground and a sturdy team, and another a very short one, for rough ground and a light team. Also there are binders that merely cut and bind the grain and others that cut, thresh, and bag it. Some of the machines must cut stalks as heavy as a lead pencil, while others must take care of stalks that trail on the ground like shoestrings.

THE TWINE THAT BINDS THE WORLD'S SHEAVES

Not less interesting than the harvester industry is its complement, the manufac-



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CITY HALL AND COUNTY BUILDING: CHICAGO

Chicago has twenty-six governments and near-governments within her borders, each with its own independent functions. Elections alone cost as much here as all activities cost in many fair-sized cities. A State constitutional convention has been called, one of the purposes of which is to consolidate the governing bodies in the city into one organization.

ture of twine. More than 150,000 tons of this product are required to bind the world's grain, and without it every grain binder in existence would lose half its usefulness. The bulk of this twine is made from sisal fiber, which comes from Mexico. The plant from which it is obtained is known as the henequen and is closely related to the century plant. The remainder is made of the manila fiber, which comes from the Philippines, or from a mixture of the two fibers.

The process of transforming fiber into twine begins with the opening up of the great bales as they come from Yucatan. After inspection and mixing, the fiber is put through a series of machines which comb it out into long ribbon-like slivers, becoming smaller and thinner and softer with each operation. Once sufficiently

Photograph by International Film Service

AN AVIATOR'S-EYE VIEW OF THE LOWER END OF CHICAGO'S BUSINESS DISTRICT

This picture shows a section of Grant Park and a sector of the Illinois Central Railroad Yards in the right foreground. Under the Chicago Plan, the Illinois Central has patriotically agreed to eliminate, as far as possible, all trackage on the water front and to convert the rest into a subway (see text, page 12).

combed and softened, the slivers are carried to the spinning room. Here they enter a machine which has a bobbin so placed that as it revolves it twists the sliver and converts it into twine.

When the bobbins are full they are removed and sent to the balling machine. This machine takes the twine from the bobbin and by a peculiar winding operation makes the balls of twine one sees in the harvest field.

In the whole twine factory, with a capacity of 200 tons a day, there is no dust to be seen, for suction ventilators draw it away and keep the plant, which otherwise would be dustier than an old-fashioned grist-mill, as clean as a pin.

As the twine is spun and balled, it is initialed by the operatives to show who had charge of the several machines employed in its making. Random balls selected by inspectors are unwound on reels, so that every strand may be examined for defects and tested for tensile strength.

For when a ball of twine goes to the harvest field it must be good or a twine manufacturer's reputation is ruined. If, after all these precautions, a ball that is bad should get into the market, the system of records kept at the mill will enable the manufacturer to trace the defective product back to its beginning and tell the bale from which the fiber came, who inspected it, who spun the ball, who wound it, and all.

It has often been asked why twine manufacturers do not use other fibers instead of going to far-off Yucatan or farther-away Manila. For answer one must go to the cricket and the grasshopper. Those little creatures can tell why they eat every other sort of fiber known except manila and sisal. One manufacturer spent more than a million dollars trying to make a flax twine that did not taste good to grasshoppers and crickets. But he found their appetites versatile, and that with them only sisal and manila are taboo.

Would you measure the size of the world's grain crop? Then, remembering that there are still vast areas in the backward regions of the earth that have not yet heard the merry music of the binder, you should pause to reflect that the annual harvest in the lands where binders do operate requires 150,000 tons of twine, and that each pound of this makes 700 feet. A little problem in arithmetic shows that the whole amounts to forty million miles. Think how small an item twine is in the making of our daily bread, and yet the annual use of it calls for enough to make sixteen hundred strands reaching around the earth.

THE DEATH MARCH OF THE ANIMAL ARMY

Chicago's hold on the slaughtering and packing of meat is only less striking than its supremacy in the harvester and twine industries. One-fourth of all the meat animals that leave the farms and ranches of the United States are bound for the butcher's blocks of the lakeside metropolis.

Would you visualize the vast size of the animal army that annually marches into Chicago to pay the bloody sacrifice that the human appetite requires of it? Then pause and watch it pass by, single file. Here comes the cattle contingent, two and a half million strong; head to tail the line would reach from Chicago through the North Pole to the Russian coast. Then follow the hogs, seven million of them—a solid procession of pork long enough to reach from the southern shores of Lake Michigan via Mexico City and Panama to the mouth of the Amazon River. Even the sheep brigade is not a mean one, for the bell wether of the flock would be coming up to the Chicago Drainage Canal when the last one in the line was leaving the Panama Canal.

The stockyards of the city have a capacity of 75,000 cattle, 300,000 hogs, and 125,000 sheep. More than 60,000 people find employment in Packingtown, and a million dollars change hands on the average day in the barter and trade of the stockyard.

The story of the conversion of the live animal into meat and the hundred and one by-products is too well known for repetition here. No need the pros and cons of costs and profits in the meat industry be considered. But certain it is that when Gustavus Swift and Philip D.

Photograph by International Film Service

INSPECTING A SECTION OF CHICAGO'S FREIGHT TUNNELS

Chicago up to date has taken the opposite view of her transportation problems from that held in New York. New York puts her merchandise on the surface and her rapid transit below ground. Chicago puts her freight below ground as far as possible and keeps her people on the surface as much as possible. Freight subways connect all the principal business houses with the freight stations. But even then Chicago's teaming traffic is very heavy and a heroic revision of her street system has been demanded. The city has some sixty miles of freight tunnels and some three thousand cars.

Armour went west and set up their packing plants at Chicago they revolutionized the meat industry of a nation and affected that of the world.

A steer weighs only a little more than half as much dressed as on the hoof, and a refrigerator car can carry more than twice as much as a stock car. The saving in transportation charges that has resulted from the substitution of the refrigerator car, with its load of dressed beef, for the stock car, with its load of live cattle, amounts to an enormous total.

Then comes the economy of the salvage of the waste product. The neighborhood slaughter-house annually wasted millions of dollars worth of offal that cannot be utilized profitably in small plants. The Chicago packers pioneered in the utilization of these wastes, and they have made vast fortunes by saving what formerly was thrown away.

A TRAVELING HOTEL WITH 26,000,000 GUESTS ANNUALLY

It is no great distance that separates Packingtown from Pullman either on the map or in the relation of the one to the other. Packingtown would be a strictly local affair without the refrigerator car, and Pullman would have no place on the map but for the sleeping car.

Imagine a hotel with 260,000 beds, 2,960 office desks, and a total registration of 26,000,000 guests a year. And imagine it having 8,000 negro porters carrying a stock of linen valued at $2,000,000 and using some $60,000 worth

Photograph by International Film Service

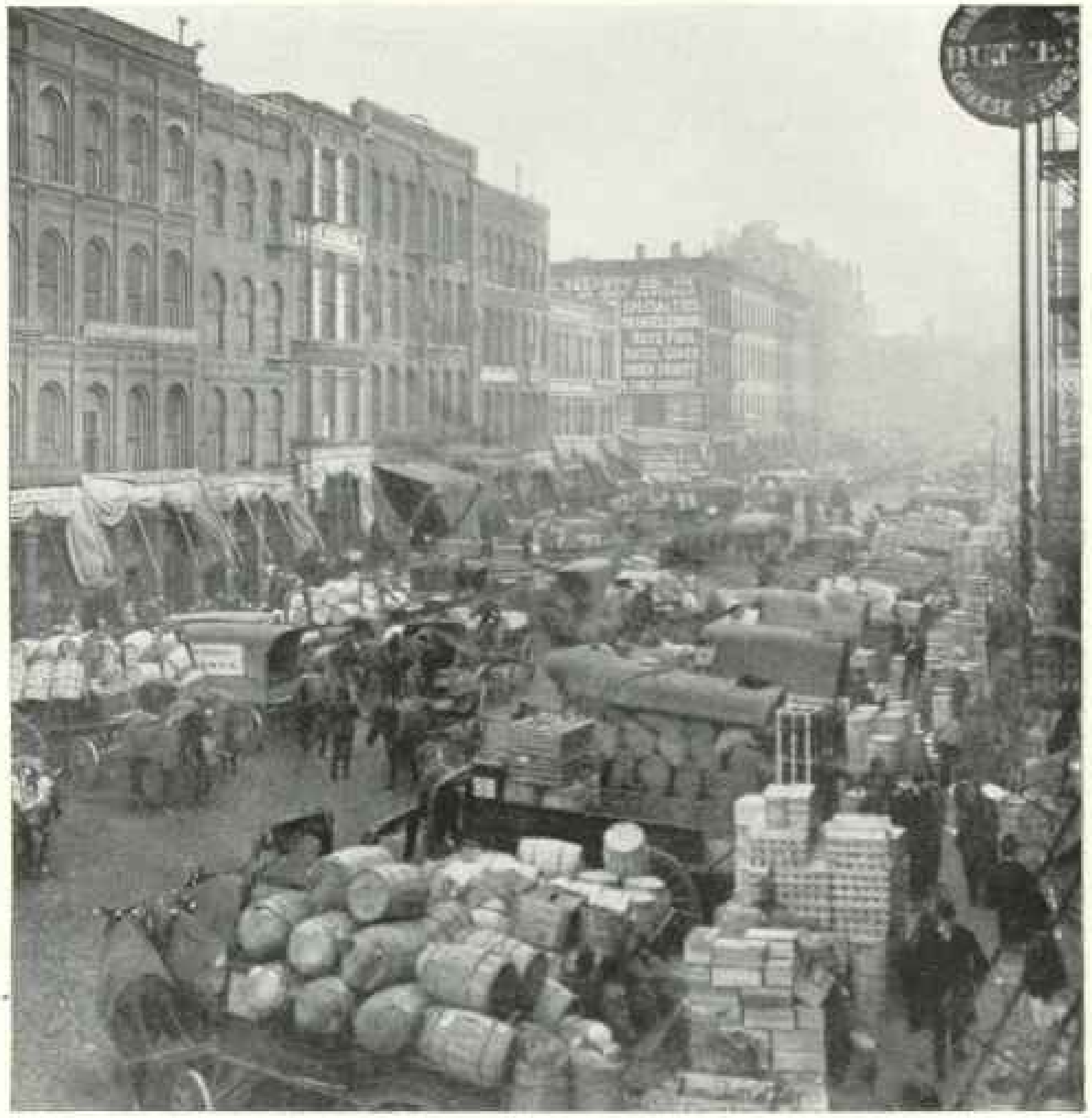
AN ELEVATOR FIRE IN CHICAGO

Some of the biggest grain elevators in the world are located in Chicago, and when fire breaks out among them the souls of the firemen are put to the test. But Chicago has a fire-fighting system worthy of the city's size, and never again can a Mrs. O'Leary's cow work such destruction as in 1871.

of soap annually. Such is the Pullman Company, as typified by the cars in the service.

But back in Chicago these cars are made. When one rides in them and thinks that this is wrong or that the other thing might be improved, it is with little realization of what steps have been taken to secure the perfect car. On a track near the main entrance to the shops there is a modern sleeper. In this every practicable suggestion from every source is incorporated, in preparation for the monthly meeting of the committee on standards. This committee examines them one by one. Those that to their practiced eyes are obviously unsuited are at once eliminated. The others are passed on for the verdict of the traveling public, which renders a judgment in due time.

The Pullman shops remind one somewhat of a shipbuilding plant. Here are mighty girders, eighty-one feet long and



Photograph by Kaufmann & Fabry Co.

A VIEW OF SOUTH WATER STREET IN THE EARLY MORNING: CHICAGO

South Water Street is perhaps the busiest and at the same time the most antiquated public produce market in the world. The foodstuffs of the entire city pass through this market. Nearly three million cases of eggs, twenty million pounds of butter, seven million boxes of oranges, seven million bushels of potatoes, and one million barrels of apples change hands annually. The place has been called the city's vermiform appendix and is slated for elimination in the execution of the Chicago Plan.

weighing nine tons each. Each of these will form the keel of some new Pullman. To it nine sills are riveted, with floor beams, etc., making a complete underframe weighing seventeen tons. On this the superstructure is built, and then the roof deck is swung into position by a crane.

One of the major items in the construction of an all-steel Pullman is the insulation of the car. This insulation consists of a combination of cement, hair, and asbestos, packed into every cubic inch of space between the inner and outer walls of the car and between the upper and lower coverings of the floor. One man with a wheelbarrow could trundle at a single load all of the wood that

enters into one of these seventy-ton hostelries on wheels.

Once the Pullman car was built of wood. The best cabinet-makers in the world were employed, and the ends of the earth were visited in search of fine woods for the interior work. But when the steel car came into vogue the song of the bandsaw was stilled, the planer's plaintive hum was heard no more, and instead there arose, as the poet of the plant has written, "the metallic clamor of steam hammer and turret lathe, and the endless staccato reverberation of an army of riveters."

AN INSPIRING TALE OF BUSINESS

Selling goods to six million customers a year, handling a hundred thousand orders a day in ordinary times, and in rush times nearly twice as many, nothing but the most phenomenal system would stand the strain that the mail-order business of the world's greatest mail-order house involves. The story of how the vast flood of orders flows in and the deluge of merchandise flows out is an inspiring tale of business.

The main plant covers fifty acres and has more than ninety acres of floor space. From the mechanical letter-opener that can dispose of 27,000 pieces of mail an hour to the shipping room, where the merchandise finally starts on its way toward the customer, nothing but organization raised to the nth power could cope with the vast volume of business that sweeps through the great institution.

Here is an order from Farmer Smith, of Jonesville, Kentucky. It contains nine items. The letter-openers send his check to the cashier and the order and letter to the auditor. The latter receives them as one of a batch of twenty-five such orders. One of a hundred clerks reads the order and decides how the shipment shall go—whether by parcel post, by express, or by freight.

From the auditor's office the orders go to the entry department. Here five hundred girls, operating billing machines, make out orders for each department. Farmer Smith's order affects seven departments, so seven tickets are made out. Next the orders pass to the scribing department, which makes out all shipping labels, box markers, bills of lading, etc.

The next step takes it through the great card-index room. Here a record is made and kept of what Farmer Smith has ordered, what money he has sent in, and all information about him that would bear on future transactions. Through a series of endless-belt conveyors the orders are distributed to the girls at hundreds of filing cases—each order to the appropriate case—where the record entries are made and where the routes of shipment are determined—if by freight, by what road; if by express, by what company; if by parcel post, in what zone.

Then the order goes to the distribution department, where the schedule of its transit through the shipping department is made up. Somewhere down in one of the buildings is a great room, marked off into many sections. In each of these sections there are many baskets, and one of these is set aside for the reception of the goods ordered by Farmer Jones. Now, of course, where from 1,200 to 2,000 orders every ten minutes are going through, no basket can wait long for all the items in an order or there would be confusion worse confounded.

EACH ORDER FILLED IN TEN MINUTES

So every order is filled on a ten-minute schedule. The distribution office writes on each ticket of the order the ten-minute period within which all the merchandise must be in the particular basket assigned to Farmer Smith. Gravity and endless-belt conveyors carry the various items to the designated place, one by one, and from all parts of the merchandise building. After the order is assembled—and you may bet your last dollar that it will not be more than ten minutes from the time the first item arrives to the time the last one puts in its appearance—the basket is sent off by gravity chute to the packers.

Meanwhile the tickets that were made off early in the routine have gone back to the billing room to be consolidated into one order, which, in turn, goes back to the packer who checks up the merchandise and sends the bill out with the shipment. Mechanical conveyors then carry

Photograph by International Film Service, Inc.

A LINE WAITING TO PLAY GOLF IN JACKSON PARK: CHICAGO

Chicago plays as earnestly as it works, and the public golf links in Jackson Park are reputed to be the busiest in the world. More balls are teed off there than at the historic links of St. Andrew. Many a golfer has sat up all night, so as to be sure to get into the game on the morrow.

the packed orders to loading platforms—parcel-post shipments to one platform, express to another, etc. Here they are again separated, each railroad and each express company having a special section where the packages intended for them are assembled. In the case of parcel-post packages, belt conveyors carry them to an assorting room, where they are properly bagged and labeled, so that the postal service can handle them in bag lots until they reach the point nearest their destination where mail-bag lots are broken up.

In the rush season this institution handles as many as 20,000 orders an hour. The number of employees is greatly augmented at these times, and the cream of each enlargement is added to the permanent list, with the result that the force is always kept efficient.

The annual turnover of an institution like this is almost past belief. Even in peace times, before the costs of production had been lifted to unparalleled heights by the competition of Mars, the ledger of one mail-order house at the end of the year is said to have shown total sales reaching to nearly $200,000,000.

A DEPARTMENT STORE WITH 46 ACRES OF FLOOR SPACE

There may be one or two other department stores in the world outside of Chicago that have outgrown a full city block, but certainly no other such store has outgrown as large a block nor occupied more floor area than Chicago's leading establishment. The square bounded by Wabash, Washington, State, and Randolph streets is a big one—how big may be gathered from the statement that the basement sales-room of this institution covers four acres of ground, while the

Photograph by International Film Service

THE COLISEUM DURING A REPUBLICAN NATIONAL CONVENTION: CHICAGO

Chicago has nominated a majority of the Presidents of the United States since the first nomination of Abraham Lincoln. The city succeeds in capturing a majority of the Republican conventions and gets a fair share of the Democratic gatherings.

main aisle on the main floor of the establishment is nearly 400 feet long.

And yet the structure covering that block, 13 stories high, with four basements below, is unable to accommodate that vast retail business built up by the merchant prince of the Middle West; so across Washington Street there is a second building, big enough in itself for a princely business, housing a man's department store.

Imagine a retail business that requires 46 acres of floor space, yet of such high class that more than 60 running miles of carpet are laid down to maintain the quiet elegance of the establishment. Fancy an army of shoppers so numerous that 77 passenger elevators are sadly overworked when high-water mark is reached, and a volume of purchases that requires 16 big freight lifts to handle it.

Picture a store that even in slack times has 10,000 employees and in rush seasons has to add 3,000 extra sales and delivery

Photograph by Kaufmann & Fabry Co.

"COME ON IN, THE WATER IS FINE": SWIMMING POOL IN PALMER PARK, CHICAGO

Chicago thoroughly believes in the application of the principles of the old swimming hole to urban conditions. In every quarter of the city there is a park pool with bath-house facilities, within easy walking distance of every one. And when the hot spells come Young America in Chicago knows where it is cool.

people. Consider the size of an institution that can meet the wants of a quarter of a million people in a single selling day in the big season.

Then you will begin to get some idea of the vastness of this wonderful temple of trade. It is a business of such proportions that it carries some 62,000 open accounts per month and 100,000 per year. Its stock of goods on hand is worth enough to ransom a king and diversified enough to supply every essential need of a man or woman from the cradle to the grave.

A trip from the flagstaff to the tunnel basement of this department store is an experience one can never forget. A stock-taking at the end of the journey would reveal that the visitor had been on his feet seven hours, had visited 150 sales departments, had surveyed wares valued in eight figures, and had outhiked an army on the march.

FURS OF FABULOUS PRICE IN COLD STORAGE

Several upper floors are not used by the selling departments, but are utilized for divers and sundry purposes that we ordinarily do not associate with merchandising. Immense cold-storage vaults containing furs valued at $4,000,000 are on the one hand and vast refrigertors containing provender sufficient to feed a whole army division are on the other. Here is a shoe shop that makes the village cobbler appear ten centuries out of date, and there a department that can mend the rarest rug or restore the plainest carpet that a cosmopolitan trade may send in.

Here is a whole floor given up to restaurants, tea rooms, grills, etc. Four thousand people may find table room and tempting bills of fare at a time. There isn't a taste or a fancy, from those of the bluff business man of the Middle West to those of the staid society leader and the whimsical debutante, that is not studied and provided for.

As one marches down through the mazes of buzzing activity there are many sidelights that show the bigness of the institution and its atmosphere in striking ways. For instance, the store, aiming at once to display its wares and to help its customers, has installed 27 full-sized residence rooms, which are furnished in approved designs from time to time. Here is one furnished as a living-room, there one as a guest-room; here another as a nursery, and there still another as a den. Yet so large is this store that these 27 rooms become all but lost, and scarcely figure in any bird's-eye survey of the establishment.

MAKING FRIENDS FOR THE FUTURE

When one comes down to the children's floor it is soon evident that the firm is wide awake to its own future. There are scores of rooms equipped with about every sort of plaything that the most imaginative kiddie in all Chicago could conjure up. "Yes, indeed, our little friend," the firm seems to say, "come right in and have a good time. You may break something now and then, but that's all right. We want you to feel that this store is your friend. So jump right in."

And maybe the kiddies don't accept the invitation! They enter into the spirit with such glee that when they have become men and women they could not be pried away with a crowbar from trading there. Does it cost much to maintain such a policy? Go to the toy hospital and look at the staff of people working there; go to the toy morgue and see the daily accumulation of victims ready for the potter's field. Yes, it is very expensive. But untold thousands of those who are today the store's best customers were but yesterday the kiddies who visited the "joyland of toyland in the little-girl-and-boy-land" of that emporium.

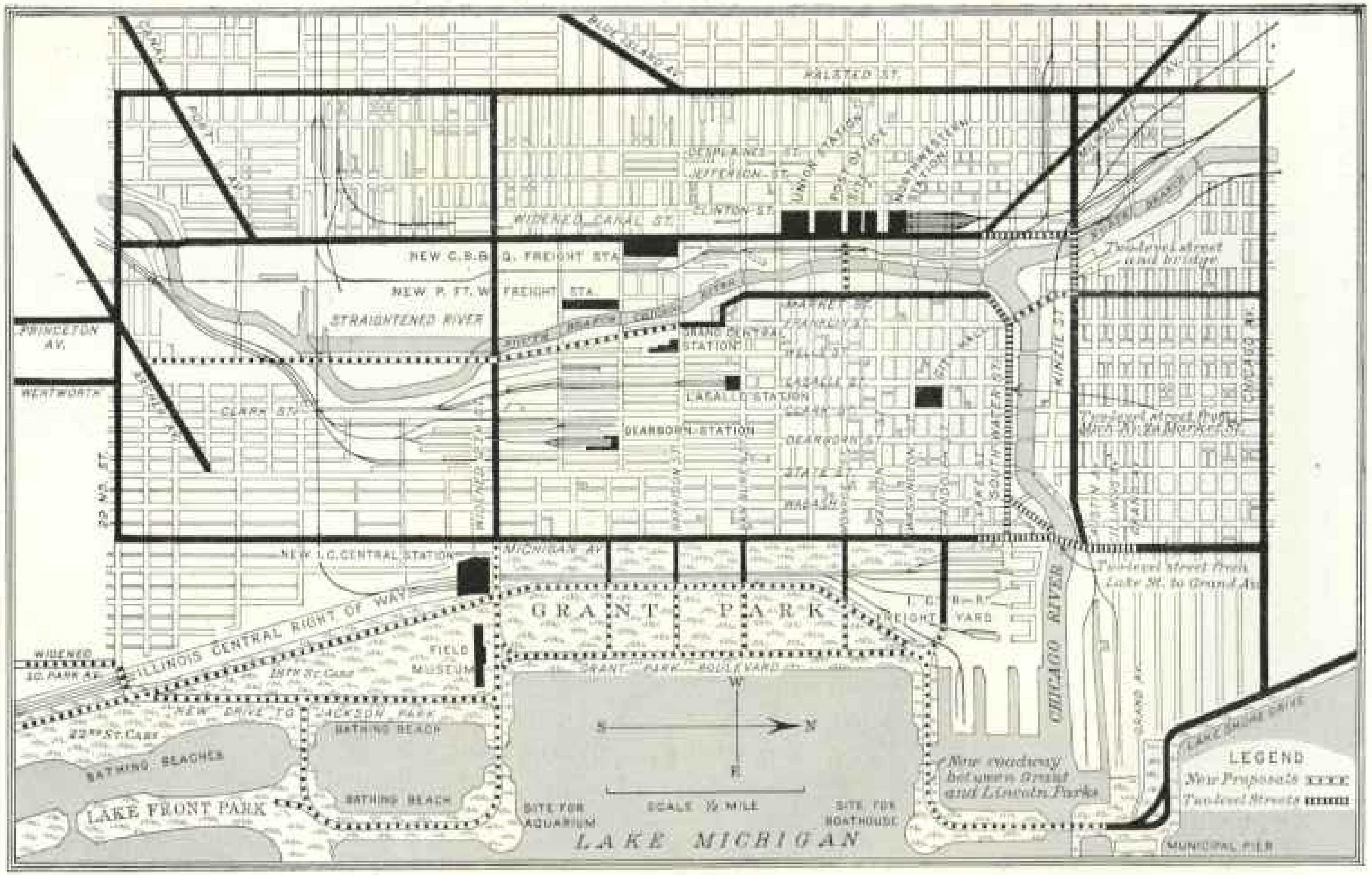
One might write a whole article about such an institution. There is the credit system, where a financial Who's Who that is practically an open sesame for bad debts is maintained. Mr. Black comes in to buy a pair of shoes he wants charged, and Mrs. White purchases some lingerie and says, "Charge it, please." The salesfolk make out the tickets in the usual routine way, and send them through pneumatic tubes to the credit department, which maintains an endless array of slips placed in frames like the room assign-

HANDLING THE MAIL OF ONE OF CHICAGO'S MAIL-ORDER HOUSES

Sending from 1,200 to 2,500 orders through its several departments every 10 minutes of the working day is the task that confronts the management of a Chicago mail-order house, yet every item in a given order must reach a certain basket in a certain section of a certain room within a period of 10 minutes. Only organization developed to the nth power makes such an achievement possible.

A SECTION OF THE FOUR-MILLION-DOLLAR MUNICIPAL RECREATION PIER BUILT OUT INTO LAKE MICHIGAN

This splendid structure is often visited by 75,000 persons a day in summer. Breezes always sweep across it. In a single month a third of a million people danced in its grand pavilion. It has every device and convenience for making the vast crowds that visit it comfortable and happy and for affording them real recreation.



MAP SHOWING THE MAIN FEATURES OF THE CHICAGO PLAN

In addition to the features of the Chicago Plan shown here and discussed in the text, the municipality is acquiring 25,000 acres of land in a broad belt around the city for a park preserve, and preparing to extend Ogden Avenue diagonally through the city from the southwestern section to Lincoln Park, at an outlay of $4,640,000. It is also planning the extension of three other broad thoroughfares north and south throughout the length of the West Side—Western Avenue, Ashland Avenue, and Roby Street. The expenditures to date by the Commercial Club in fostering the Chicago Plan in the press, in the schools, and elsewhere, amount to more than $300,000. The whole plan was prepared under the direction of the late Daniel H. Burnham, who was preëminent among the world's city-planning experts.

MERCHANDISE "SHOOTING THE CHUTES" IN A CHICAGO MAIL-ORDER ESTABLISHMENT (SEE TEXT, PAGE 33)

ment boards of hotels, each slip carrying the rating of a customer.

By the time the packages are wrapped, the sales tickets have gone to the credit department, and Mr. Black and Mrs. White have been submitted to the acid test of the financial Who's Who. If the ticket comes back properly checked the packages are delivered and the two customers depart without realizing that their debt-paying reputation has been thoroughly scanned in the interim. If the tickets bear a different notation, the salesfolk politely tell the customers that they can arrange the charge matter with Mr. So-and-So. Before that no question is asked and no word spoken. The Who's Who heard a silent appeal and rendered an inaudible verdict.

Another feature of this mercantile establishment is its delivery system. Covering nearly 400 square miles of territory and making some 30,000 deliveries a day as an average, it is natural that efficiency should be the keynote of its operation. The handling of the orders as they are collected in the basement of the establishment and then separated according to delivery routes is but little less complicated and yet equally as efficient as the methods at the mail-order house mentioned previously.

A few years ago this store had both horse-drawn and motor vehicles in its delivery service. The question of the relative cost of the two kinds of transportation frequently arose, and it was finally decided to put it to the test of expert accounting. The costs for a long period were kept, and when the balance-sheet was made up it was found that the horse had lost out by such a decisive showing that the whole service was motorized.

In times gone by Chicago has been regarded in the East as a place inhabited by the rough-and-ready type of American more concerned with the amassing of piles of money than with the development of the finer phases of life. When it is remembered that fourscore years ago the city had little more than a name, and was without a railroad or a canal; that it could not boast of a sewer nor of a paved street; that there were but few sidewalks; that mudholes deeper than usual were marked by signs reading, "No bottom here—the shortest road to China!"—when these things are remembered, and then with them is contrasted the splendid city, with its world-serving industries, its great business institutions, its wonderful city-betterment plans, its beautiful art institute, its famous musical organizations, its internationally famous universities, one must feel thankful that there was a rough-and-ready day in the city's history during which the foundations of culture could be laid deep and lasting.

With an educational system following the same lines as the New York system, with a financial district that is as solid and as substantial as the rock of Gibraltar, with a health department that has probably made the most thorough study of the tuberculosis situation ever undertaken by any major municipality, Chicago occupies no secondary rôle among the big cities of the world.

CHICAGO'S SOLICITUDE FOR THE DEAF

No city in the country has done as much in the fitting of its deaf children for normal lives as Chicago. The foremost authorities have long since realized that the only way to teach speech to the deaf in any way that will make it valuable to them is to have them use it out of the class-rooms as well as in school. The child that learns to make use of signs is prone to resort to them, since speech and lip-reading are difficult at first. Such children are in the selfsame boat with the child that studies French in the class-room and leaves it behind elsewhere. Unless one learns to think in French, it takes an effort to use the language. And no child can think in a foreign tongue who utilizes it no further than the class-room.

Chicago realizes this, and has developed all of her public education of the deaf accordingly. Practically every deaf child is being taught under the more modern system—a system for which the country owes a debt to Dr. Alexander Graham Bell. The city has acknowledged this debt by naming its principal day school for deaf children in his honor.*

Chicago is a city with a past, whose "I will" spirit has overcome many an obstacle to its progress; a city with a present that meets every test that war or peace puts upon it; a city with a future of the richest promise.

The late James J. Hill, whose services as a constructive geographer contributed so much to the development of our national resources and the building of our inland empire, understood well the operation of the fundamental laws of geography, and thereby was able to forecast and capitalize the future. Before he died he declared that within a generation the Pacific coast would be the home of twenty million people, and that Chicago, the cross-roads between the two seaboards, would have five million.

One who studies Chicago cannot escape the feeling that Hill was a modest prophet and that the city's splendid achievements of yesterday and its wonderful accomplishments of today augur the fulfillment of plans for tomorrow which will be a source of pride to every American.

* Under the leadership of the "American Association for the Teaching of Speech to the Deaf" (of Washington, D. C.), three-fourths of the deaf pupils in the schools of the United States are being taught the new method of communication, and Illinois' metropolis leads the procession with a 100 per cent enrollment in schools using that method.

THE LEAGUE OF NATIONS, WHAT IT MEANS AND WHY IT MUST BE*

By William Howard Taft

Ex-President of the United States

THE first attempt, after the beginning of the European war, to formulate and state a general plan for a League of Nations to secure permanent peace after the war was made in Philadelphia on the 17th of June, 1915, in a convention of some three hundred or four hundred prominent men interested in the subject and coming from all parts of the country.

They organized themselves into what was called a League to Enforce Peace. They declared it to be desirable for the United States to join a League of Nations, binding its members:

First, to submit all justiciable questions to a judicial tribunal for hearing and judgment;

Second, to submit all other questions arising between them to a Council of Conciliation for hearing, consideration, and recommendation;

Third, jointly to use forthwith both their economic and military forces against any one of their number making war against another before submitting the issue to either the court or the Council of Conciliation, and,

Fourth, to hold conferences of nations to formulate and codify rules of international law to govern in the decisions of the judicial tribunal.

This program was enlarged and made more ambitious at a meeting of the governing body of the League on November 24, 1918. It then declared that *the initiating nucleus* of the membership of the League should be the nations associated as belligerents in winning the war.

It declared further:

First, that the judgments of the international court on justiciable questions should be enforced:

Second, that the League should determine what action, if any, should be taken in respect to recommendations of the Council of Conciliation in which the parties concerned did not acquiesce;

Third, that provision should be made for an administrative organization of the League to conduct affairs of common interest and for the protection and care of backward regions and international places and other matters jointly administered before and during the war, and that such administrative organization should be so framed as to insure stability and progress, preventing defeat of the forces of healthy growth and changes, and providing a way by which progress could be secured and the needed change effected without recourse to war;

Fourth, that a representative Congress of Nations should formulate and codify rules of international law, inspect the work of the League's administrative bodies, and consider any matter affecting the tranquillity of the world or the progress or the betterment of human relations;

Fifth, that the League should have an executive council to speak with authority in the name of the nations represented and to act in case the peace of the world is endangered.

NATIONS SHOULD BE REPRESENTED IN PROPORTION TO THEIR RESPONSIBILITY

It further declared that the representation of the different nations in the organs of the League should be in proportion to the responsibilities and obligations that they assume, and that rules of international law should not be defeated for lack of unanimity.

It will thus be seen that the American Association has become more ambitious in its aims since its first declarations, because under the first declaration it did not propose to enforce judgments of the court or in any way to deal with the recommendations of compromise. The exercise of force of the League was to be

* An address delivered by William Howard Taft before the National Geographic Society, in Washington, D. C., January 17, 1919.

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A VIEW OF DANZIG, WHICH THE NEW POLISH REPUBLIC DESIRES AS ITS OUTLET TO THE SEA AND TO WORLD COMMERCE

The photograph shows the Langer Markt, which, with the Langgasse (Long Street), constitutes the finest thoroughfare in this quaintly beautiful city of 140,000 inhabitants. The medieval town hall, with its lofty clock tower, is one of the most interesting buildings in West Prussia.

directed only against a nation beginning war before submission to the Court or the Council.

In England, after the organization of the American League, a British League of Free Nations Association was formed, proposing a Court and a Commission of Conciliation, the use of force to execute the decisions of the Court, and the joint suppression, by all means at their disposal, of any attempt by any State to disturb the peace of the world by acts of war.

It looked to the immediate organization of a League of Great Britain and her then allies, with a view to the ultimate formation of a League of Nations on a wider basis, including States at present neutral or hostile. It excluded the German peoples until they should bring forth works meet for repentance and become a democracy.

It contained a provision for action by the League as trustee and guardian of uncivilized races and undeveloped territories. It proposed as a substitute for national armaments an international force to guarantee order in the world, and proposed a further function for the Council of the League in supervising, limiting, and controlling the military and naval forces and the armament industries of the world.

HOW FRANCE JOINED THE MOVEMENT

Late in 1918 a French Association for the Society of Nations recommended that the Society of Nations should be open to every nation who would agree to respect the right of peoples to determine their own destiny, and to resort only to judicial solutions for the settlement of their disputes;

That the use of force be reserved exclusively to the international society itself as the supreme sanction in case one of the member States should resist its decisions;

That the allies should form their association immediately and should work it out as completely as possible in the direction of sanctions of every kind—moral, judicial, economic, and in the last resort military—as well as in that of promulgating general rules of law.

The French Society further provided that the Society of Nations thus immediately formed should control and conduct the negotiations for the coming peace.

It will thus be seen that the League of Nations, as conceived by its proponents in three of the four great nations that have won this war, has substantially the same structure. It includes a court to decide justiciable questions, a Council of Conciliation to consider other or non-justiciable questions and to recommend a compromise. It calls for the organization of the combined economic and military forces of the world to enforce the judgments of the court, and to deal with a defiance of the recommendations of the mediating council as the executive body of the League shall deem wise.

JUSTICIABLE AND NON-JUSTICIABLE QUESTIONS DEFINED

The distinction between justiciable and non-justiciable questions is generally clear, although it may sometimes give rise to disputes.

A justiciable question is one that a court would take up for decision and adjudge upon principles of law. A non-justiciable issue is one in which the claim asserted and denied is not rested on legal right, but is based on a policy which the claimant seeks to maintain for its own safety and for the general welfare.

Such non-justiciable claims are to be weighed by the Council of Conciliation in the light of considerations, not of positive law or juridical equity, but in the light of conventional rules of decency, courtesy, neighborly feeling, and morality which the common brotherhood of nations and their general welfare require.

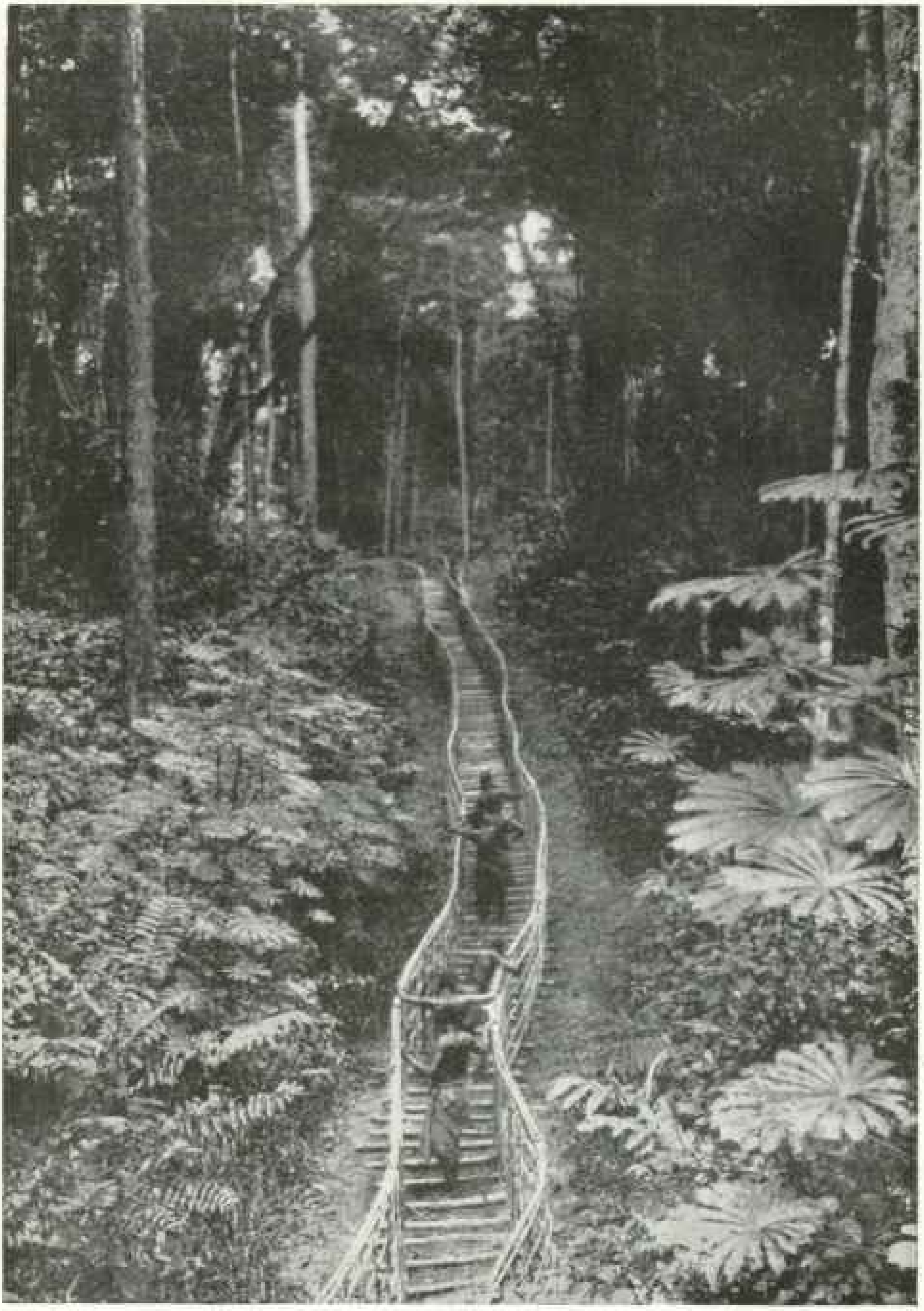
Illustrations may be given. The Monroe Doctrine of the United States was a declaration by the United States that its interests and safety required that it should exclude from the Western Hemisphere interference by European or other governments to overturn any independent government in this hemisphere; that it should prevent further colonization by any foreign government in this hemisphere; and this has been amplified to prevent the transfer of territory in this hemisphere to any foreign government.

The object was to avoid disturbance of the peace by the ambitions and intrigues of European nations against the

French Official Photograph

NATIVES WEAVING MATS IN WHAT WAS FORMERLY GERMAN WEST AFRICA, CAMEROON

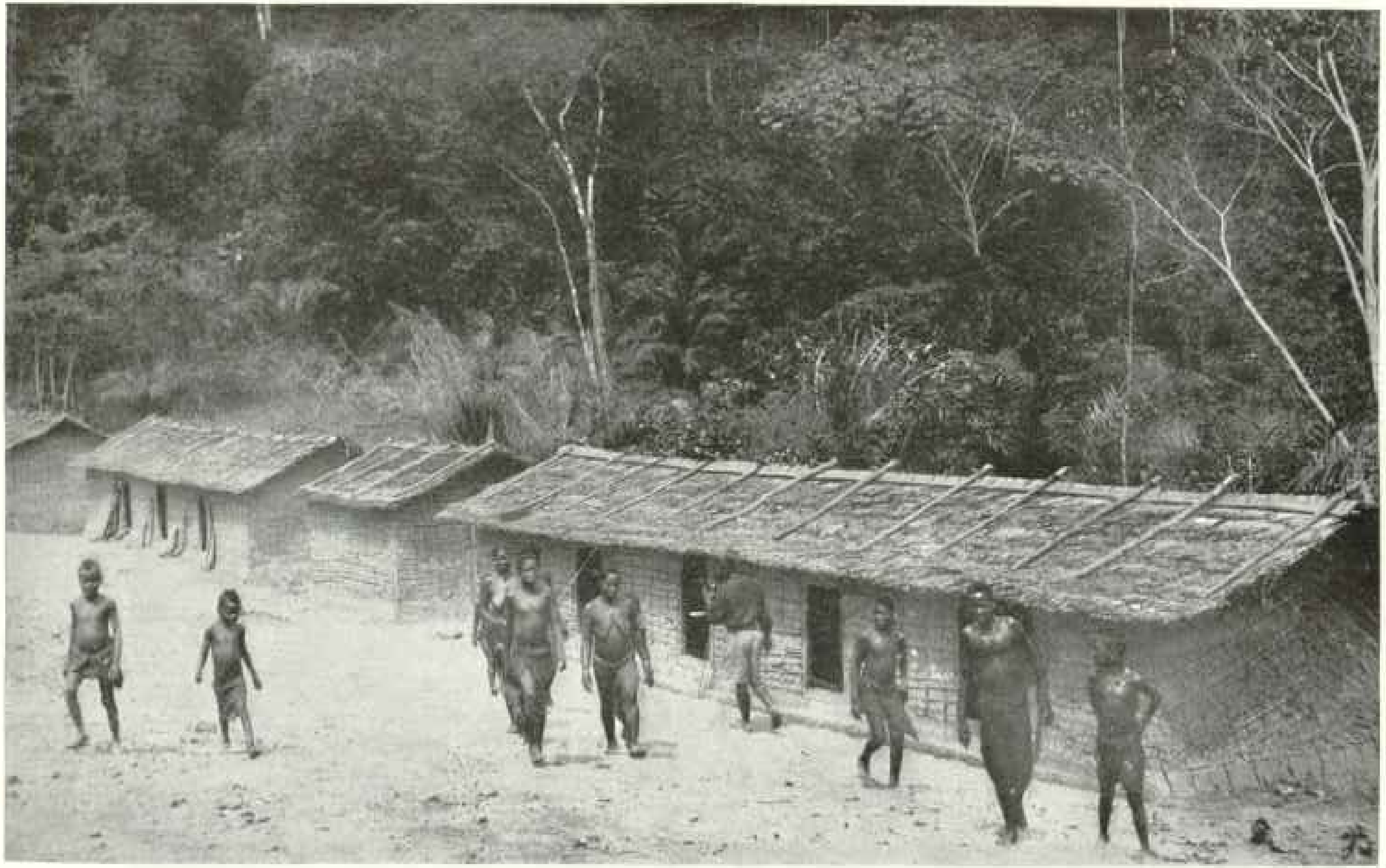
"Germany has been as murderous in dealing with the backward tribes of her colonial possessions as she was in Belgium and in northern France." Scandals in the maladministration of Cameroon and in the oppression of the natives under German rule came to light in 1906. Three weeks after the outbreak of the world war British troops from Nigeria crossed the German frontier into this colony, and on February 18, 1916, its complete occupation by the British and French, working in cooperation, was announced (see page 57).



Photograph from Pictorial Press

A STAIRCASE LEADING TO THE TOMB OF A NATIVE CHIEF: CAMEROON

At the beginning of the world war Germany's Cameroon possessions embraced an area of 305,000 square miles—more than four and a half times the area of all the New England States. The native population about equaled that of Massachusetts, but less than 2,000 whites lived in the colony. Although the Imperial Government had been in control of the territory for 30 years, less than 200 miles of railway had been constructed in this, one of the richest regions of tropical Africa.



French Official Photograph

NATIVES IN A VILLAGE OF CAMEROON, FORMERLY A WEST AFRICAN COLONY OF THE GERMAN EMPIRE

"Gemany has forfeited her right to the colonies by her mistreatment of them in the past." The Cameroon country came into possession of the Germans in 1884, when several merchants signed a treaty with the chiefs of Duallaland and a few months later "assigned" their interest to the Imperial Government (see page 57).

political and territorial integrity and independence of the governments in this hemisphere.

The policy has promoted the peace of the Western Hemisphere. It has promoted the principle of self-determination here, and it has minimized for the United States danger of conflict with European and other nations. It does not rest, however, on the legal right of the United States. It is based on no principle of international law which the United States could invoke in a court.

So, too, the question of whether the Japanese or the Chinese shall be admitted to the United States or shall be admitted to naturalization in the United States is not a question involving principles of international law.

Every nation by international law is given the absolute right to admit whom it will and to exclude whom it will from its shores or from the privileges of its citizenship. The claim of the Chinese and the Japanese to admission or to citizenship must rest on the issue whether neighborly feeling and good-fellowship and international brotherhood require this country to admit races like the Chinese and the Japanese, with their racial qualities and traditions, to share with the present residents of this country the material benefits of residence here or the political advantages of its citizenship.

In issues over the Monroe Doctrine or Chinese or Japanese exclusion the case must go to the Council of Conciliation. It can have no place in a court. The question how a recommendation of such a council adverse to the Monroe Doctrine or Oriental exclusion would affect either must depend on the provision for dealing with recommendations of the council in the plan of the League.

A CASE LOST AND WON BY THE UNITED STATES

Let me give a concrete case of a judgment of a court, of a recommendation of a commission or Council of Conciliation, and a settlement in accordance with the recommendation.

The United States, by a transfer from Russia, became the owner of the Pribiloff Islands, in the middle of the Bering Sea. Upon these islands was the breeding place of the largest herd of fur-bearing seals in the world. They were a valuable property and a considerable annual income was derived by the United States from the sale of the fur.

Canadian schooners began what was called pelagic sealing. They shot the seals in the open Bering Sea. This indiscriminate hunting killed the females of the herd and was decimating it.

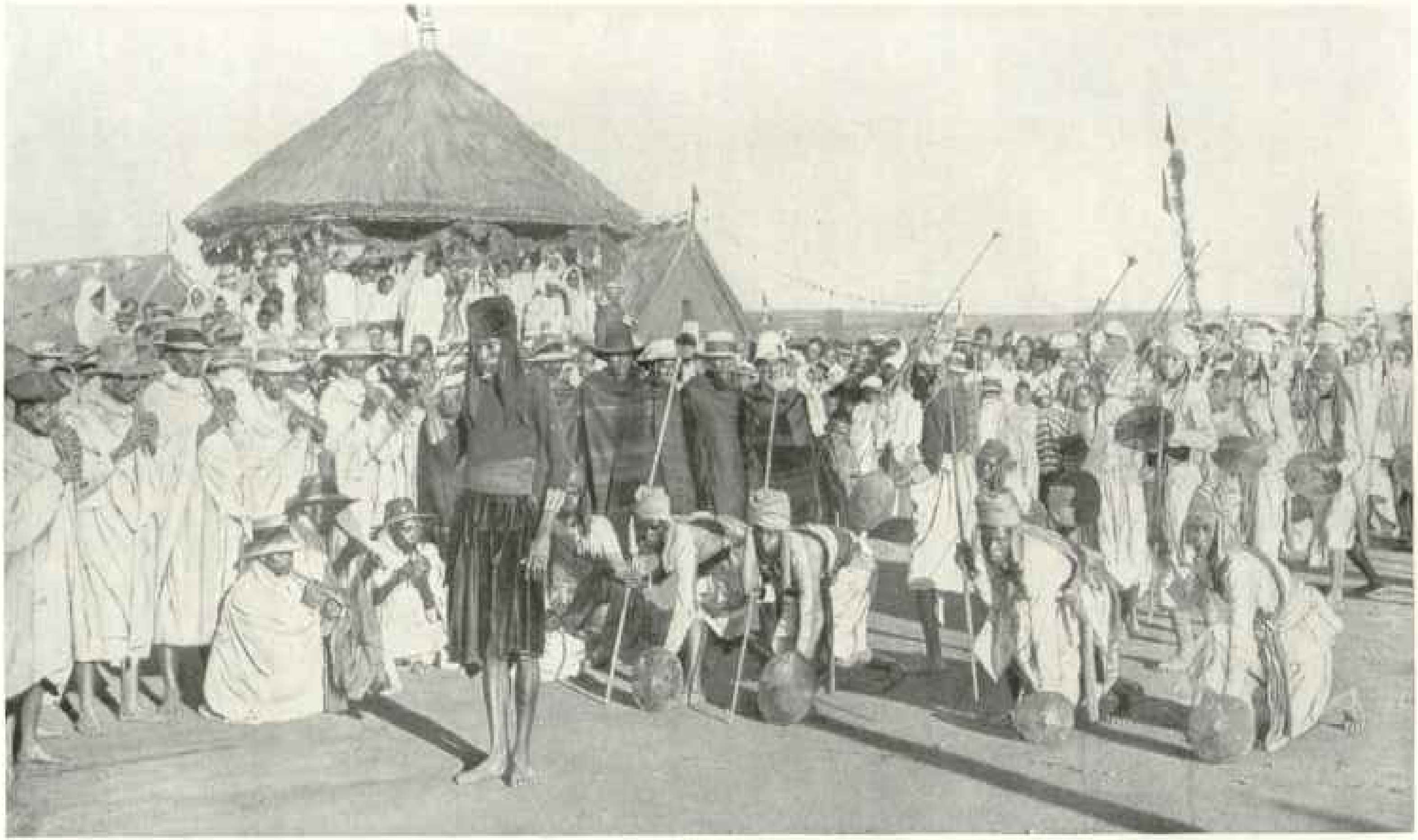
Revenue cutters of the United States, by direction of the government of the United States, seized such sealing vessels, brought them into a port of the United States, where were instituted proceedings to forfeit them.

Great Britain objected on the ground that the United States had no legal jurisdiction to do this. The case was submitted to an arbitration. The treaty contained a provision that the arbitrators, should they reach the conclusion that the United States had no legal right, might recommend a basis of compromise.

The United States asserted its right, on the ground, first, that it had territorial jurisdiction over the open waters of the Bering Sea by transfer from Russia, which had asserted, maintained, and enjoyed such jurisdiction, and, second, that it owned the seals while in the sea in such a way that the Canadian schooners were despoiling its personal property.

The court of arbitration held against the United States on both points, deciding that Russia never had any territorial jurisdiction over the open Bering Sea to transfer to the United States, and that when the seals left the islands and swam out into the open sea they were the property of no one and were subject to capture by any one. The judgment of the court, therefore, was against the United States and awarded damages.

Pursuing, however, the recommendation of the treaty, the court made itself into a council of mediation. It said that while the killing of seals in the open sea was not a violation of the legal rights of the United States, of which the United States could legally complain, it was nevertheless a great injury to the common welfare of the world to destroy this greatest seal herd of the world, first, because the fur was valuable and useful for the garments of men and women, and,



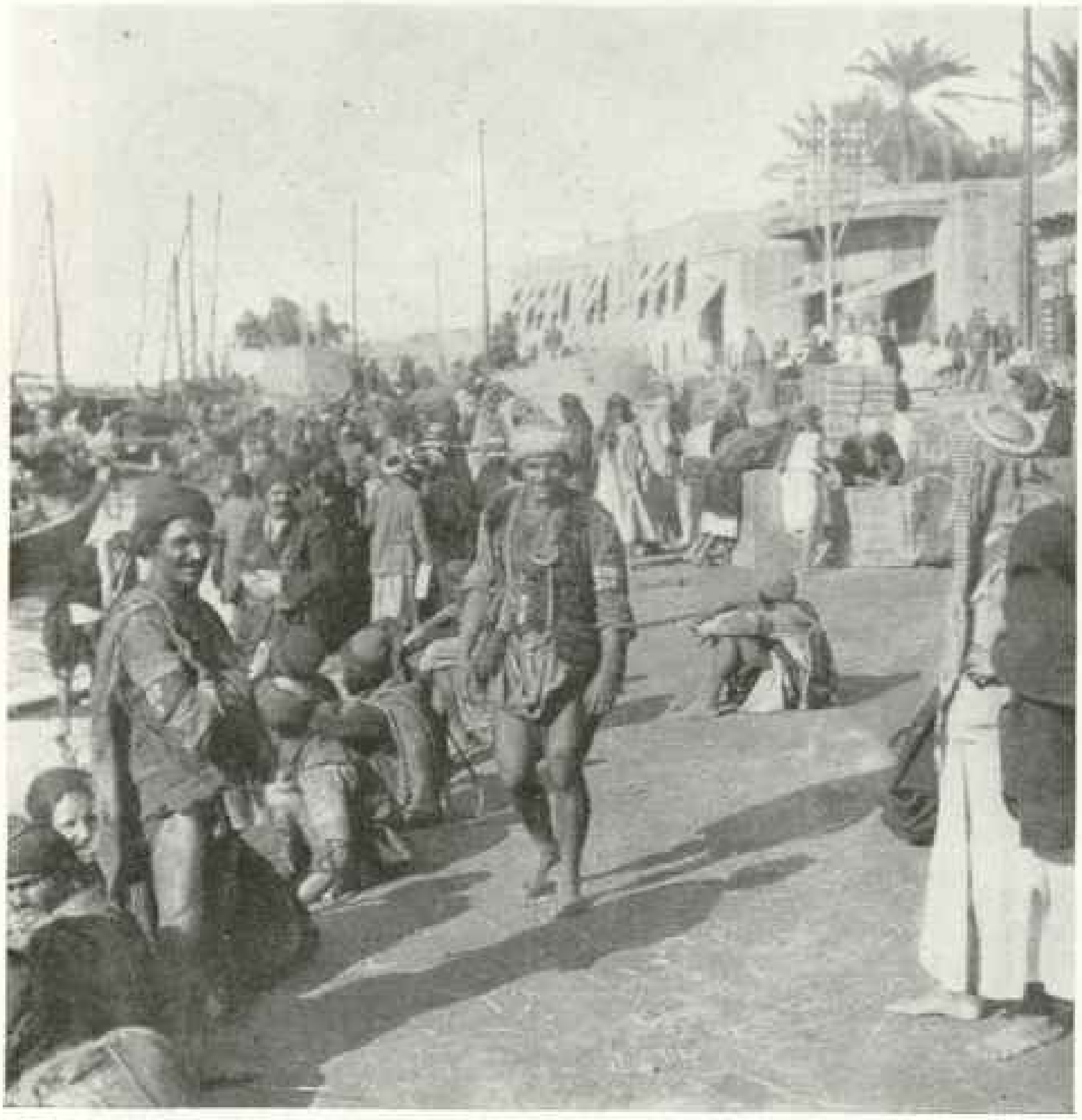
THE GYMNASTIC DANCE OF THE MARAKELY: MADAGASCAR

When Germany launched her attack upon France it was with the confident expectation that the French colonies in Africa, poisoned by Prussian propaganda, would revolt against the motherland. Instead, every French possession gave of its store of wealth, of its reserve supply of food, and of its native troops to assist the French armies in stemming the tide of invasion. The humane colonial policy of France in Madagascar and elsewhere has been in gratifying contrast to Germany's mismanagement of holdings in East and West Africa—mismanagement which fully justifies the Entente Allies in refusing to consider a plea for the restoration of these colonies to the German nation.

Photograph by M. O. Williams

THE CENTRAL FIGURE IN THIS GROUP EXPRESSES THE SPIRIT OF ARMENIA BETTER THAN ANY WRITER HAS DONE IT

She has a day's supply of bread for perhaps ten persons, but she looks into the future, asking: "Salvation or massacre—or worse?" for she is a handsome woman in spite of her rags and no Turk would kill her. A League of Nations could safeguard Armenia against the repetition of such outrages as are reflected in the tragic face of this sufferer.



KURD COOLIES AT AMARA, A TOWN IN IRAK-ARABI ON THE BANKS OF THE TIGRIS

The Entente Allies are to establish many new republics in Europe and in Asia, thereby releasing oppressed peoples from the yoke of Prussian militarism and Turkish barbarism, and at the same time forming a series of buffer States, which will make impossible any further aspirations of Germany for the control of middle Europe and the Near East.

second, because the destruction of the herd would destroy valuable and useful industries in the preparation of the seal pelts for use.

Therefore, they said it was good form and in the interest of the world that the four nations concerned should agree upon a compromise, by which the United States might continue to maintain the herd and sell the seal pelts gathered on the islands, and that pelagic sealing should be stopped, but that the United States, in consideration of the other three nations restricting their citizens from pelagic sealing, should divide with the other three nations some of the profits of the herd.

Accordingly, Great Britain, Russia, Japan, and the United States made such a treaty, which is still in force, and under which the herd has been restored to its former size and value. Here we have an

example of a court passing on questions of legal right and deciding them against the United States. Then we have the court changing itself into a council of mediation and recommending a compromise, prompted by considerations of decency and good form and the public welfare of the world, which the nations appealed to have adopted and embodied in a treaty.

VIRTUALLY TWO LEAGUES PROPOSED

The American, English, and French plans all show a purpose to create a smaller League of the allied nations fighting this war, who are, so to speak, to be charter members of a larger League, which they are to form by inviting other nations into it as they show themselves fitted to exercise the privileges the League will give and to enjoy its protection and to meet their obligations as members. The American plan refers to these allied nations who won the war as the initiating nucleus of the larger League.

Each plan looks to the enforcement of judgments and leaves open to the League the question what shall be done with reference to compromises recommended and not acquiesced in. Each one looks to a congress of nations to declare and codify international law.

One of them provides for the reduction of armament; the others omit it. It does not appear in the American plan. I may say that this was not because the ultimate reduction of armament was not regarded as important, but because it was thought that this feature of a League of Nations might meet serious objection until the League should be shown to be an effective substitute for the insurance which reasonable preparation for self-defense gives against unjust foreign aggression.

The purpose of this war was to defeat the military power of Germany and to destroy any possibility in the future of her instituting a war of conquest against the world. It was to make the world safe for democracy and to allow races and peoples oppressed by the imperial central powers to establish independent, popular governments.

This purpose was shown in the fourteen points of President Wilson, set forth in his message of January 8, 1918. The armistice made those fourteen points a diagram of the purposes of the allies to be embraced in the treaty, subject to two modifications by the Entente Allies, one in reference to the freedom of the seas and the other in reference to indemnities.

If the points of the President's message are carried out, there will be created an independent State of the Ukraine, an independent State of the Baltic provinces of old Russia, an independent State of Finland, an independent State of Poland, including Russian, Austrian, and German Poland, with a strip running through East Prussia connecting Poland with Danzig, the port upon the Baltic Sea. There will also be created a republic of the Czecho-Slovaks, including Moravia, Bohemia, and Slovakia—a State lying between Germany on the north and Austria and Hungary on the south.

In addition, the Jugo-Slavs are to be created into an independent republic. Palestine is to be set up as an autonomous State, and so, too, are Armenia and the Caucasus.

In this wise Germany will be hemmed in to prevent her extending herself into Russia, and her ambitious plan of controlling middle Europe to Bagdad and the Persian Gulf will be made impossible.

THE ALLIES PLEDGED TO LAUNCH MANY NEW REPUBLICS

The allies are thus to launch on the troubled seas of new national life half a dozen or more republics whose peoples have never had any training in self-government.

Our experience with Cuba, in which we gave her self-government and had to take her over again after two years for another period of two years, should teach us how uncertain is the fate of such new republics unless they have a protector who can aid them to stand upon their feet.

Self-government is a boon, but it is, as President Wilson says, character. People need training in it in order to make it useful. We allies are now to give birth to seven or eight children, whose steps we must lead gently in order that they may learn firmly to walk. We

Photograph from C. W. Whitehair

TURKISH CAVALRY ON THE ARID PLAINS NEAR BEERSHEBA: PALESTINE

If such troops, inspired by a sinister military power, should again threaten the peace of the world, it would be the duty of the European members of the League of Nations to thwart their malign purpose. America's activities would be confined to the Western Hemisphere, except in the case of a general riot or conflagration (see text, page 61).

have seven Cubas under our parental care, and we must maintain an organization of the League and an active agency of the League to prevent their self-destruction.

More than this, their very existence creates humiliation and resentment in the peoples of the empires out of which they are carved, and these new peoples naturally cherish hatred against the people of the central countries because of the past outrages to which they were subjected. Between the old and the new we shall find jealousies and ambition and selfishness. Even with their present imperfect existence as governments, some of these peoples are already in war in the Ukraine, in Poland, and in some parts of the Slav country.

We fought this war and are reorganizing these new governments for the purpose of maintaining a democratic peace; but if continual quarrel and war are to succeed this change on the map of middle Europe, the purpose of the war and the treaty will fail.

How can these new States be enabled to maintain their self-government and be saved from fighting with their neighbors? Only through the supervision of a League of the Allies.

A SHOW OF FORCE NECESSARY TO INSURE PEACE

The treaty will be as long as the moral law. It will define access to the sea and will delimit in various ways the powers and the rights of the countries within the sphere of war. Immediately upon the signing of the treaty the question of interpretation and application to facts that could not be anticipated will arise.

Interpretation of a treaty and application of it are ordinarily judicial questions as between nations. Indeed, it is the commonest form of a justiciable issue. The interpretation must be authoritative, and it cannot be given except by a court acting under the authority of the League of Nations making the treaty.

Doubtless other questions will arise as between these newly created countries and the old ones which a court may properly settle. But not only will legal questions thrust themselves forward for solution under the treaty, but there will also be many non-justiciable questions of policy between the new and old States that will clash. Therefore, a Council of Conciliation will be as necessary as a court.

If peace is to be maintained, the judgments of the court must be enforced and the recommendations of the Commission of Conciliation must be given weight. For this reason alone the League will have to make arrangements among the members so that their joint economic pressure can be exerted and, where necessary, war may be declared and a sufficient force furnished by one or more of the allies to compel respect for the League court and its other agencies.

Only by economic pressure and force or a show of force can the quarrels growing out of the jealousies of the new and old nations be suppressed.

Another reason why the League must maintain a potential military force is to suppress Bolshevism, that enemy of human civilization.

We have promised, in the President's message of January 8, to enable Russia to get on her feet and to establish a government of her own framing. The Bolsheviki have Russia now by the throat and are preventing a constituent assembly through which alone a democratic form of government can be established, and through which alone a majority of the people of Russia may give expression to their desires as to the form of their government.

Again, we are to draw the boundary between the Balkan States. That boundary has often been drawn in the recent history of Europe, but has rarely stayed drawn. The bitterness between the Bulgarians and the Slavs and the Rumanians, the Greeks and Italians, has often manifested itself in the past. One of the great difficulties in settling the terms of this peace is in the proper division of territory between these Balkan nations and Italy.

After the treaty is made, boundary questions will be justiciable questions, and they can only be settled authoritatively by the League court.

Moreover, the League will have a new function to perform, indispensable in the carrying out of the treaty. It must exercise local government through agencies

THE VANGUARD OF THE BRITISH FORCES WHICH PUNCTURED THE BERLIN-TO-BAGDAD BUBBLE: THE ENTRY INTO BAGDAD

"We fought this war and are reorganizing these new governments for the purpose of maintaining a democratic peace; but if continual quarrel and war are to succeed this change on the map of middle Europe, the purpose of the war and the treaty will fail" (see text, page 55).

to be selected by it and to be under its general direction. The German colonies must thus be governed, and so, too, must Constantinople and the country in its immediate vicinity.

INTERNATIONAL CONTROL FOR GERMAN COLONIES

It will not be satisfactory to all the allies to turn either the German colonies or Constantinople over to any nation. Germany has forfeited her right to the colonies by her mistreatment of them in the past. She has been as murderous in dealing with the backward tribes as she was in Belgium and in northern France. Were we to turn her colonies over to Great Britain or France, it would soon be charged that the trustee was exploiting the colonies for the benefit of its home people.

The acquisition of these lands by one or another government would give the appearance of selfishness to the aims of the allies in the war.

What is true of the German colonies is also true of Constantinople. It must be internationalized. The Dardanelles, the Sea of Marmora, and the Bosporus must be under the guardianship of a government that represents equally all the allies who won this war. Only so will the government be satisfactory. Only so will the management secure peace.

We must have, to make the treaty effective, a League of Nations with a court, a Commission of Conciliation, joint economic pressure and an agreement to use military force, and an executive agency to administer governments and trusts which should be international in their character. The situation, therefore, requires the institution of a League of Nations such as the American, English, and French plans suggest.

This is the natural way in which institutions are born and developed. Men do not create them by academic discussion and because of a general perception of their usefulness. They are usually forced into political existence by conditions which defy the traditions of the past and overcome by their inevitable character the objections that conservative men oppose.

Fortunately, the safest and most practical way to create a general League of Nations is through a limited League having the Great Powers as its charter members.

It would be exceedingly difficult to call a convention of all nations and therein frame the constitution of the larger league. The vanities and jealousies of the smaller nations, whose life and peace and happiness it is the chief purpose of the general league to protect, would nevertheless be very likely to prevent the possibility of any such general organization.

SMALLER NATIONS MIGHT DEFEAT THE PLAN

The smaller nations would be so insistent on a general and equal representation in the governmental branches of the League as to defeat its organization on any reasonable plan.

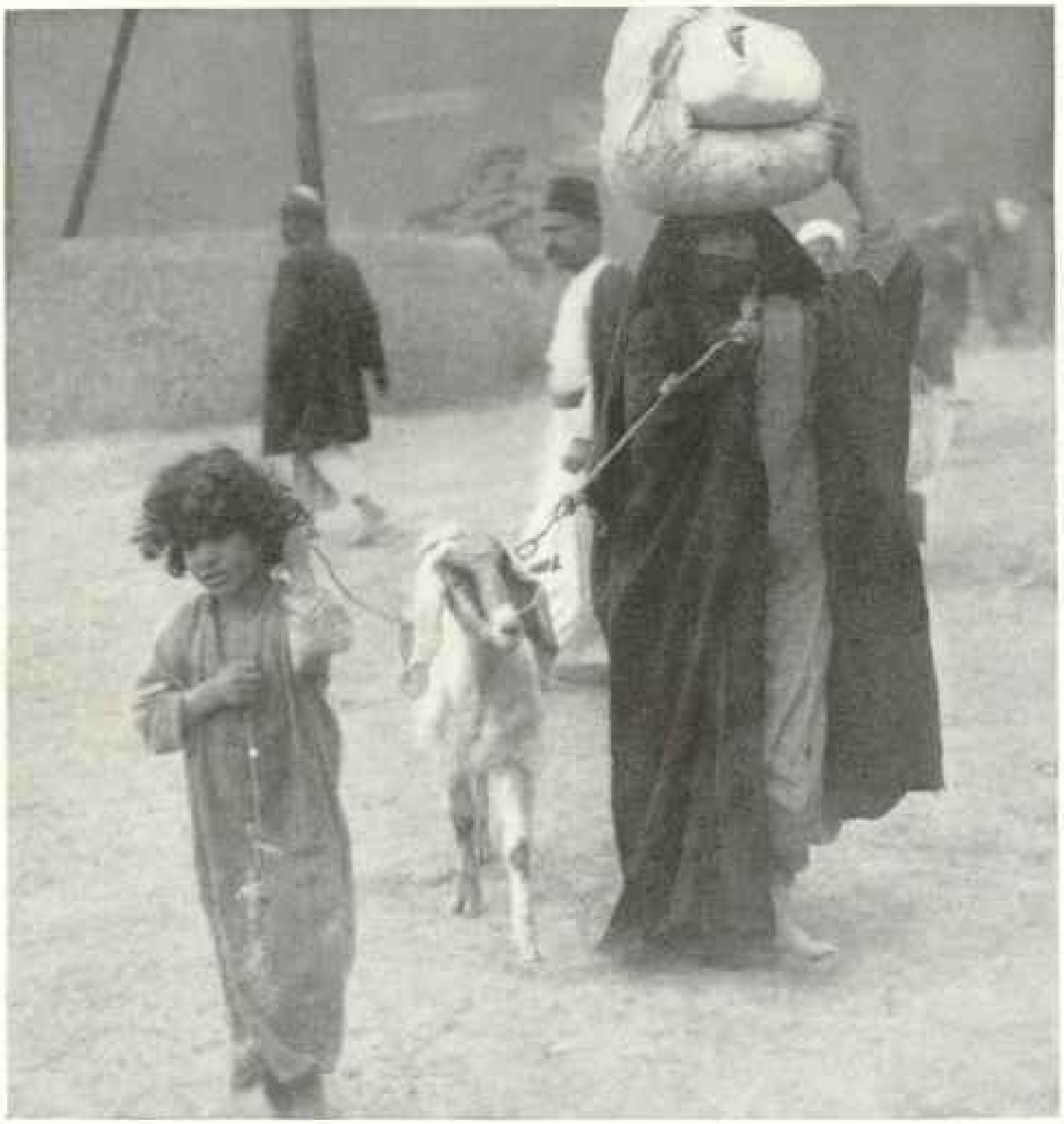
During my administration there was an attempt to create a World Court, and the plan halted and failed because it was impossible to agree with the smaller nations to any feasible method of selecting the judges. Each nation insisted that it should have a permanent member of the court, and this would have required a court of absurd and impracticable size, like a town meeting, indeed.

With the allied nations as charter members, and with the protection to the smaller nations that the League would offer, the charter members can lay down in advance the feasible lines upon which a general league must be formed, and then admit the other nations to the privileges of the League on condition of their accepting its then structure.

The branches of the League would naturally be, first, a congress, or quasi-legislative branch; second, the court; third, the Council of Conciliation; fourth, the administrative agency, and, fifth, the executive council.

ALL NATIONS TO BE REPRESENTED IN GENERAL CONGRESS

All nations should be represented in the general congress, but the representation should be determined by the charter members in accordance with the population, political importance, and responsibility of each applicant. The congress would enact and codify, subject to the



LONG HAIR FOR CHILDREN, LONG EARS FOR GOATS, AND LONG MANTLES FOR WOMEN ARE THE FASHION IN THE STREETS OF BAGDAD

"The Allies are to launch on the troubled seas of new national life republics whose peoples have never had any training in self-government. They must be led gently in order that they may learn firmly to walk" (see page 53).

approval of the nations, internaticnal law and adopt other general rules of policy for the conduct of the League.

The court should not be representative at all. It should consist of great jurists, learned and able in the law, of high character and much experience. The court should have nothing to do with political policies, should have no representative character or constituencies. Its sole function should be to decide the issues presented on pure questions of law and fact.

The Council of Conciliation, however, may well be representative, because it is a negotiating and mediating body. It should have a few permanent members, and in addition temporary representatives of the countries who are interested in the specific controversy to be mediated.

REPRESENTATIVES OF A NEWLY FREED PEOPLE: MESOPOTAMIA

The veiled girl at the left is a betrothed Jewess. She is accompanied by her mother and the two younger daughters of the family.

The executive council will have the duty of enforcing the judgments of the League where they are defied, and of considering what action should be taken in respect to recommendations of compromise by the Council of Conciliation in which one of the parties does not acquiesce. The executive council should be composed, therefore, of those nations who are willing to assume the responsibility of furnishing armies to the League when necessity arises. These, in the nature of things, will be the Great Powers, or the charter members of the League.

Under such an arrangement a League could be made to work. The fact that the smaller nations are not represented in the executive council would not work to their disadvantage, because they could be confident that the greater nations would not unite against them. The inevitable diversity of interests between the greater nations would be their security.

OBJECTIONS TO A LEAGUE OF NATIONS

What are the objections to a League of Nations developed in this way and thus constituted? The first and chief objection is that the United States ought not to bind itself to make war upon the decree of an executive council in which it has but one vote out of four or five.

What authority and duty does the executive council have in the League? It will be its duty to see that judgments are executed.

Why should we object if called upon to declare war and make our contribution to the police force to maintain peace by enforcing a judgment of an impartial court? Such a judgment is not the result of the vote of other powers than our own. It is merely a decision on principles of international law as between two contending nations.

We have heard a great deal during this campaign of international justice.

LIBERATED AFTER CENTURIES FROM TURKISH MISRULE, THEIR FUTURE IS IN THE HANDS OF THE PEACE DELEGATES NOW IN SESSION IN PARIS

"Only by economic pressure and force or a show of force can the quarrels growing out of the jealousies of the new and old nations be suppressed" (see text, page 55).

Why should we favor international justice and then refuse to furnish the machinery by which that justice can be declared and enforced? What risk do we run? It is said that we ought not to be called upon to enforce a judgment against a Balkan State, so far away.

Doubtless, different zones of executive activity for the different great powers might be established for convenience. Thus, except in the case of a general riot or conflagration, our activity might be limited to the Western Hemisphere, while the European nations would take over central and eastern Europe and Asia.

SAFEGUARDING MEMBER NATIONS FROM THE NECESSITY OF MAKING WAR

With reference to the enforcement of recommendations of compromise, the executive council should consider whether it is a case in which peace would be promoted more by economic or military enforcement than merely by international public opinion.

If, in such a case, it is thought that a majority of the executive council should not control the right to call for military execution of the compromise, such action might be limited to a unanimous decision of the executive council. This would prevent the imposition of the burden of war by the determination of the League members upon any nation without its consent. Or the enforcement of such a compromise, if determined on by a majority of the executive council, might be left to that majority.

AN ANSWER TO SENATOR KNOX

Senator Knox, in his criticism, seemed to anticipate that the United States was to be drawn into the war against its will by a majority vote of a convention of heterogeneous nations.

No such result could follow from the organization of a League as indicated above. The assumption that the votes of Haiti, or San Salvador, or Uruguay could create a majority forcing the United States in a war against its interest and will, under a practical League of Nations, is wholly gratuitous and unfounded. It would be left to the vote of an executive council of the great powers, and even then the United States, under the modifications above suggested, could not be drawn into war against its will.

NO CONSTITUTIONAL PROVISION VIOLATED

The next objection is that the United States cannot through its treaty-making power bind itself to make war in any future contingency. The argument is based on the constitutional requirement that Congress shall declare and make war.

I confess that I cannot see the slightest force in this contention. The treaty-making power can bind the United States to make war. It has done so. The legislative arm, the Congress of the United States, must perform the promise or it cannot be performed.

The promise to pay money is exactly analogous to a promise to make war. The treaty-making power binds the government to pay whatever sum it deems just and proper, as where the treaty-making power bound this government to pay $20,000,000 to Spain for the Philippines. That promise had to be performed by Congress, because under the Constitution Congress is the only power to make the appropriation.

PROMISES ALREADY MADE WHICH ENTAIL OBLIGATION TO MAKE WAR

Congress may repudiate either obligation and dishonor the promise of the nation; but that does not invalidate the promise or render it unconstitutional any more than a man's letting his note go to protest renders the original obligation invalid.

We have already made promises that may entail the obligation on us to make war. We have promised to guarantee the political and territorial integrity of Panama, as we have of Cuba. If any nation were to attempt to overthrow Panama or Cuba, or to take any part of the territory of either, we would be under obligation to make war to resist this aggression.

These obligations were entered into by the treaty-making power, but they are to be performed by Congress and to be performed by Congress in a constitutional way—that is, by declaring and making war.

JEWISH WOMEN ON THE STREETS OF BAGDAD

With the signing of the Armistice of November 11, the world awoke from its troubled nightmare of a Europe and Asia manacled by Germany from Helgoland to Hindustan.

Objectors who rely on the Constitution seem to assume that the League plans contemplate a permanent international police force, constantly under command of a Marshal Foch, who may order the international army to enforce a judgment or a compromise without the preliminaries of declarations of war by the League members. This is wholly gratuitous and no plan justifies it. When force has to be used, war will be begun and carried on jointly, in the usual way.

MAKING THE MONROE DOCTRINE INTERNATIONAL

The third objection is that it will imperil the Monroe Doctrine for us to enter into such a League. The whole purpose of the League is to suppress war and prevent the oppression by war of the smaller nations. The Monroe Doctrine is to prevent the unjust making of war against, and the overthrow of, the independent nations in the Western Hemisphere by European or other foreign powers.

The League of Nations merely extends the principle of the Monroe Doctrine to the entire world. Instead of imperiling it, it would strengthen the Monroe Doctrine, because in case of its violation the obligations of the League would require all the great powers to unite in the maintenance of the Monroe Doctrine.

A violation of the Monroe Doctrine as against the United States would in every class of cases but one be a direct violation of the legal rights of one of the nations of the Western Hemisphere. It would be a case for the League court, brought by the assailed nation against its aggressor. The judgment would be one which the United States would have the function to enforce, acting exactly as it would in enforcing the Monroe Doctrine independently.

AN OBJECTION THAT HAS FRIGHTENED MANY PEOPLE

There is, perhaps, one class of cases which would not be reached in this way, and that is where a nation of the Western Hemisphere would sell out its territory or a part of it to a European or Asiatic government.

If this is a real danger, which may be doubted, we can be sure that the great powers would be quite willing to insert in the treaty that the United States should be given a right to object to such a sale. Indeed, Colonel Roosevelt expressed the view that the League of Nations would be willing to adopt our Monroe Doctrine as part of the principles of the League, and I concur in this view. The statements of Lord Robert Cecil, a spokesman for the British Government on this subject, justify it.

Again, the formidable plea is made that by entering a League of Nations, such as has been suggested, we are parting with the sovereignty of the United States as a nation. This has frightened many people; but the objection is like so many other objections. It is a mere confusion of definition, and when analyzed it ceases to be serious.

What is sovereignty? It is the right of the people associated in government to do what they please as a government. It is the freedom of action of governments. It is the liberty of governments in a community of nations. It is quite analogous to the liberty of the individual.

INTERNATIONAL LAW IS THE RULE LIMITING NATIONAL SOVEREIGNTY

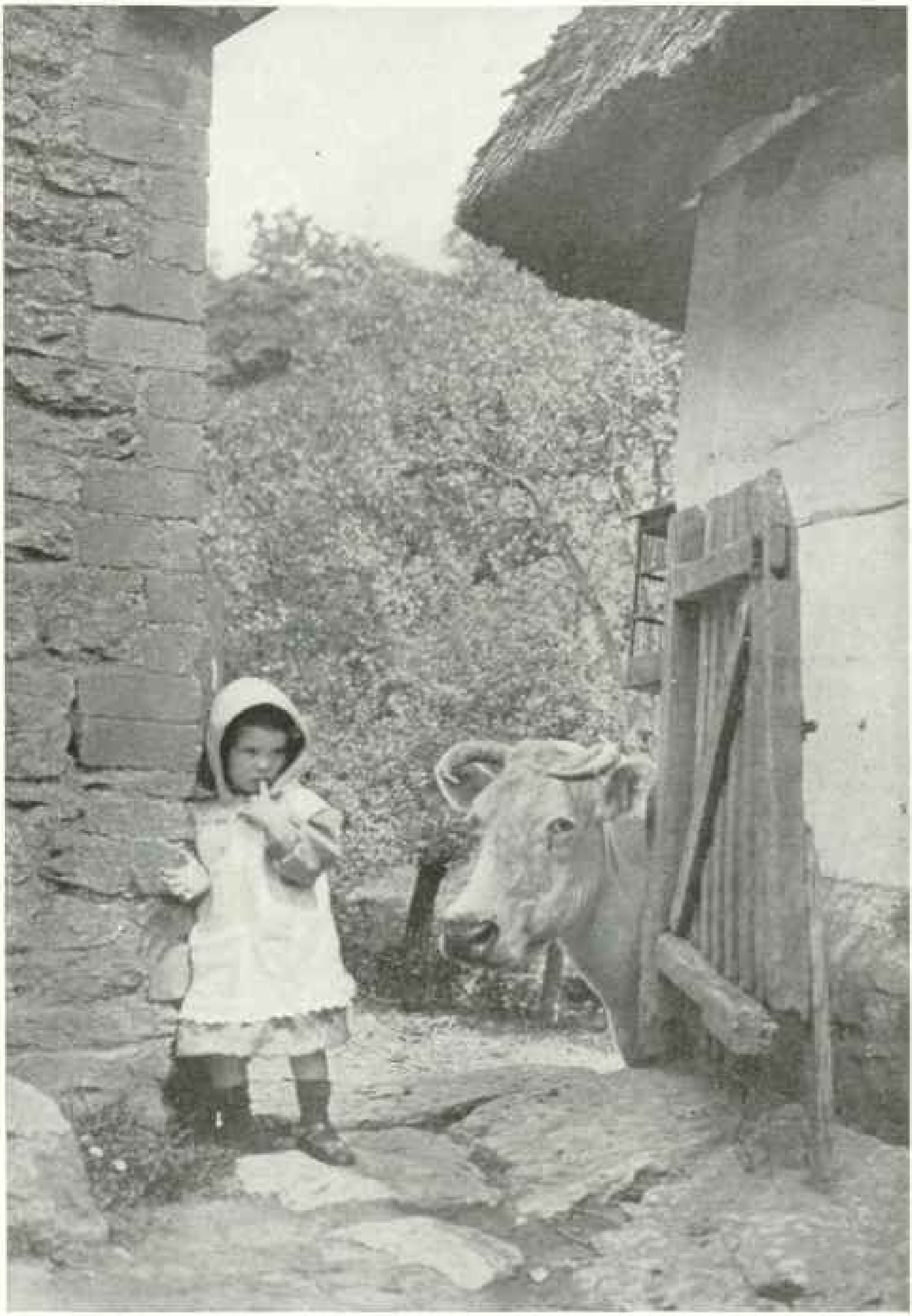
What is the desirable liberty of the individual? We describe it as liberty of the individual regulated by law. What does that mean? It means complete freedom of action of the individual limited by such legal restrictions as will enable every other man in the same community to enjoy equal liberty. That is what one branch of the law is for. It is to regulate the rights and duties of the individuals, the one toward the other. It is the impairment of the sovereignty of one individual for the benefit of all the others, so that all may enjoy equal sovereignty.

So it is of governments, and nations, and peoples. They are members of the family of nations. International law is the rule by which their sovereignty is limited, so that they may live together in peace in the world.

We do not propose to limit the freedom of action of a nation in the League to Enforce Peace by anything more than

AN UPPER CLASS JEWESS OF MESOPOTAMIA

Palestine, the homeland of the Jews, is one of the new States which probably will rise from the disintegrating ruins of the empire of the Ottoman Turks. If it is to endure, its security must be guaranteed by the League of Nations.



Photograph by A. W. Cutler

IT IS THE IDEAL OF THOSE WHO SPONSOR THE LEAGUE OF NATIONS THAT ALL THE WORLD BE MADE AS SAFE FOR FUTURE GENERATIONS AS IT IS TODAY FOR THIS BASHFUL MISS OF SHROPSHIRE, ENGLAND

the rules of international law or those of decency, moral conduct, and good form. What we propose in the League is merely to give a sanction to such rules of international law and decency and moral conduct and good form by providing machinery of international courts of justice and conciliation such as to bring needed pressure to bear on the lawless members of the community of nations, so that they shall keep within the law.

A PROTECTION AGAINST THE FOOTPADS AMONG NATIONS

This is in analogy to our domestic courts of justice and our instrumentalities for conciliation in domestic communities. It is not an impairment of sovereignty. It merely stabilizes the sovereignty of every nation by enabling the great and small nations equally to enjoy the benefits of international law without maintaining armed forces to secure their rights, to prevent murder and robbery, and to drive off the footpads among the nations, as travelers and householders of the sixteenth and seventeenth centuries had to go armed always to protect themselves.

It is to protect the sovereignty of the smaller nations and to relieve the greater nations from the burden of their self-protection that the League of Nations is to be formed.

In the sense in which the word sovereignty is used in this objection, every treaty restricts the sovereignty of a nation. Every time it agrees to do anything, it binds itself and its freedom of action, and in this extreme definition of the word the League of Nations would be a limitation upon the sovereignty of the countries entering into it.

A BUGABOO TO BE DISREGARDED BY SERIOUS MEN

But in the true, broad, and liberal sense, sovereignty is a matter of degree, and where a nation retains complete freedom of action within its borders and only yields by its consent to regulations for the maintenance of the principles of morality and international law to be sanctioned by an association of nations, it does not yield its sovereignty at all. The argument is a mere bugaboo and ought not to attract the support of serious men.

The final objection is that in entering into such a treaty we would be violating the traditions of Washington and Jefferson, sacredly followed down to this war, to avoid entangling alliances in Europe or in Asia.

We have been able to live until the last four years and keep out of European wars, but this war has developed clearly that no general European war could happen again without involving the United States.

This country, with its enormous resources, would be resorted to by all belligerents for food, ammunition, and war supplies, and this participation by the United States in the essential maintenance of the war will always put her in opposition to one country or the other and create a friction that ultimately will drive her into the contest, if it lasts long enough.

THE ATLANTIC OCEAN DOES NOT SEPARATE

The Atlantic Ocean is not a separation from Europe. It is a means of communication and transportation.

In Washington's and Jefferson's day we were a month or six weeks from Europe. Now it is but a week in transportation and but a few minutes in point of communication.

We are the greatest nation in the world: greatest in population of a high average intelligence, greatest in natural resources, and greatest, as we have shown in France, in our potential military power. This power enjoins upon us the obligation to the rest of the world to do our share in keeping the peace.

It is a very narrow view of our international duty which would prevent our keeping the rest of the world out of the danger of war.

We are no longer a small struggling nation of four millions of people, as we were in the early part of the last century, but we are now the world's greatest power, and we should not wish to avoid the responsibility which that entails upon us.

MEDICINE FAKES AND FAKERS OF ALL AGES

Strange Stories of Nostrums and Kingly Quacks in Every Era and Clime

By John A. Foote, M. D.

Author of "The Geography of Medicines"

WHATEVER King Solomon had in mind when he said, "There is nothing new under the sun," to a great many people his reputation as a wise man is based on that one remark. "Nothing is new excepting what has been forgotten" was the historic reply of Marie Antoinette's dressmaker when the queen demanded an absolutely original gown. But this point of view is so unusual as to be considered epigrammatic.

Guy de Chauliac, a famous surgeon who lived 600 years ago, wrote a surgical text-book which is now only a historical curiosity, and at the end of it he expressed the belief that probably no further progress in surgery would ever be made. In fact, each generation has been conceited enough to think that it knows much more than the preceding one; that it is, in fact, more progressive.

CURE-ALLS AS OLD AS CIVILIZATION

Accordingly, we are quite surprised, or even amazed, when, as happens every now and then, some "ologist" emerges from his excavations, or his library, and announces, for example, that the Babylonians had artificial teeth and bridge-work, or that the Pompeians, just before the eruption of Vesuvius, were wrestling with the problem of suffragette pickets.

The fact is that we have kept on discovering and forgetting, and then rediscovering, ever since man began to think. Most new things, as a rule, have been received with more or less distrust at first, forgotten, and then rediscovered and acclaimed. However, this generality has one marked exception in cure-alls and patent medicines. Cure-alls we have always had with us—these and the drug fakers and substitutors. The slogan of "something just as good" is older than Babylon and Tyre, older than Crete, perhaps as old as Egypt.

That over-used and abused word, psychology, is called upon nowadays to cover things as antipodal as the rat-like cunning of a yeggman, and Dr. Freud's interpretation of an iridescent dream. It has acquired so many meanings that its very diffuseness has made it almost meaningless. So it will not explain matters simply to say that our hunger for nostrums is a question of psychology, and that the nostrum venders must necessarily have been psychologists.

There are, to be sure, many kinds of psychologists nowadays; yet to most of us only two main groups exist—the theoretical and the practical.

The theoretical kind we visualize as college professors who try to take our minds apart and put them together again, and invent names for our different kinds of thoughts that we would never recognize the poor things by.

The practical or applied psychologists are individuals who specialize on figuring out how people are going to think about one certain thing. The inventor of poker must have been one of these, P. T. Barnum another, but nostrum venders were the deans of this school of psychology.

ALL ARE BELIEVERS IN MIRACLES

Truly, the explanation of the perennial youth of the "cure-all," of its endurance throughout the ages, is not an easy matter, since this endurance is deeply grounded in a weakness of human nature common to all peoples and all times—possibly in our primeval instinct to live. No one wants

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CURE-ALLS AND NOSTRUMS ARE OLDER THAN BABYLON ITSELF

The ancient Babylonian laws, called the Code of Hammurabi, contained penalties for malpractice and quackery, and also stipulated the amount of the fee which a physician might charge, the fee varying according to the ability of the patient to pay.

THE PYRAMIDS OF EGYPT: FORTY CENTURIES LOOK DOWN UPON THE OLDEST NOSTRUM IN THE WORLD—THE MEDICINAL COMPOUND KNOWN AS HIERA

The greatest names in medicine invented *hieras*. Scribonius Largus, physician to the Emperor Tiberius, is reputed to have had a "hiera" of such marvelous powers that when he died a diligent search was ordered in an effort to find the secret formula.

to die; few actually are ever convinced that they are going to die.

We are all really believers in miracles, and until comparatively recent days medicine and magic were closely associated. The Greek word "pharmakon" meant not only drugs, but also magic. We would all like to believe that somewhere is a fairy draught which once taken will make us free of pain, free of ills, young and vigorous. We have a secret sympathy with Ponce de Leon, who sought the fountain of youth and the alchemists who searched for the Elixir of Life were men like ourselves.

Perhaps here we have stumbled on the "psychology" of our ready acceptance of cure-alls.

"The medicines of every generation are ridiculous to the succeeding one," said a wise observer. Yet many a nostrum that started out as a secret formula, in the course of less than a generation became a recognized drug, used by the regular physicians.

There have been many such legitimized children of the pharmacopoeia, of various degrees of antiquity, and at least one compound the use of which begins in prehistoric times and has continued down through the ages, even to the present day, changing very little in its constituents and not at all in its name. In England it is called *hiera-picra*, or powder of aloes and canella. Aloes is the active ingredient, and in every one of the numerous formulas except one aloes has always remained.

A NOSTRUM CHANGELESS AS THE HILLS

If William Hawkins, of London, 1917, owned a magic carpet which would trans-

Photograph by Katherine W. Stewart

GREAT PALMS ON THE SITE OF ANCIENT MEMPHIS: EGYPT

The walls of Memphis have crumbled and disappeared, but one of the nostrums prescribed by her learned men of medicine has come down through the musty centuries practically unchanged and is used today. Ptah Hotep, who wrote his proverbs 6,000 years ago, probably knew of it and used aloes in some form.

port him back to the city of Damascus about the year 1000, in that ancient Syro-Arab city he need only seek out a Jewish drug vender in the bazaar and whisper "hiera" and hiera-picra, not much different from what is used today, would be forthcoming. "None other than the exact formula of the great Arab doctor, Avenzoar," the Jew would murmur.

Let him then go back to Rome in the day of Julius Cæsar and visit a "medicina" kept by one of the many Greek practitioners who flocked to the capital—barbers, corn-doctors, hair-dressers, herbalists, and other irregular quacks—and he could on demand receive "hiera" and be assured that it was the secret formula used by the priests of Æsculapius, "stolen from the temple, my lord," the crafty Greek would whisper.

Let him even go to Alexandria when it was building, or back to Memphis when the Pyramids were being planned, and the word *hiera* would evolve this same compound of aloes—the oldest nostrum in the world. And though possibly tasting a little different, it would have the identical action of the compound dispensed by the modern Lon-

don druggist under the name of "hierapicra."

The greatest names in medicine invented *hieras*. Scribonius Largus, physician to the Emperor Tiberius, had a "hiera" so wonderful that when he died diligent search was made and a reward offered for the discovery of the formula. Back in the obscurity of mythology it took its origin, being used in the rites of Æsculapius, the god of medicine, by the Greek priests.

Greek doctors, Roman doctors, Arabian doctors, monkish doctors of the middle ages, and even modern doctors, had "improvements" on this eternal medicine, and all of these secret improvements were imitated by the quack doctors in every country and every period in the history of the world. Think of it—the dried juice of a common oriental plant marching down the musty centuries and enduring, while

> "Kings and realms
> Passed into darkness and were lost!"

Ptah Hotep, of Memphis, who lived and wrote his proverbs 6,000 years ago, and over 2,500 years before King Solomon, probably knew of and used aloes in some form. Beside antiquity like this the house of Hapsburg is infantile and the Hohenzollerns simply pre-embryonic.

THE ANCIENT LINEAGE OF COLD-CREAM

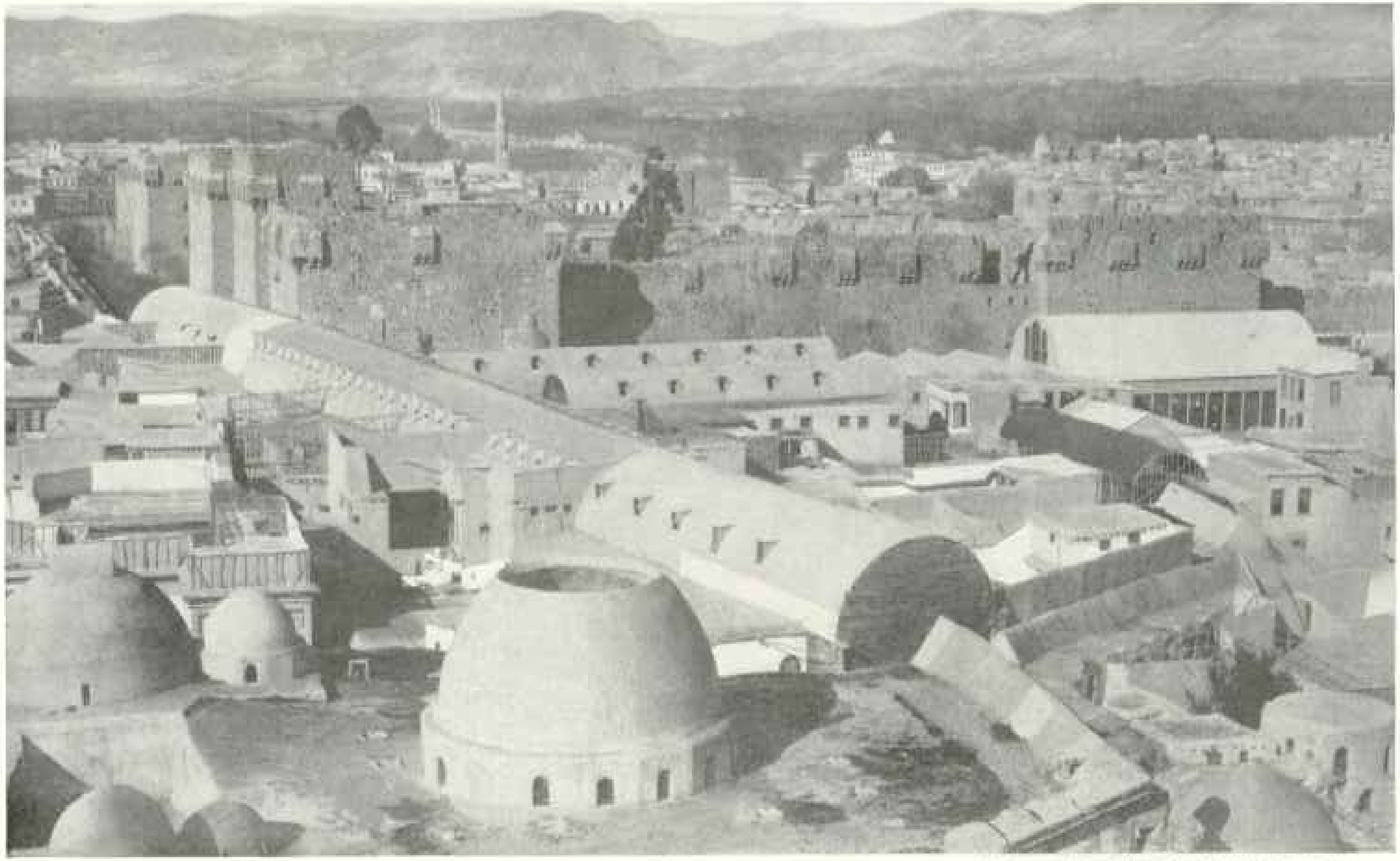
Most people at some time or another use cold-cream. It seems quite a modern luxury, indispensable alike to peer and peri, and adapted to many and varied uses. In fact, one traveler tells recently of having some of his cold-cream eaten by a fat-hungry valet in Germany. So we are inclined to regard it as a fairly modern product. And yet "Unguentum Refrigerans," cold-cream, has come down to us from Roman days. The first formula is attributed to Galen, who lived and wrote in the second century. What we use today is practically the same, though "Doctor" Galen's original formula was imitated and "improved" hundreds of times.

In the mellow days of the Renaissance, to be a monarch was even more exciting than it is now. New poisons were bought as eagerly by "liberal" citizens of that

Photograph from C. L. Aab

A FAMOUS CURE-ALL OF THE DARK AGES

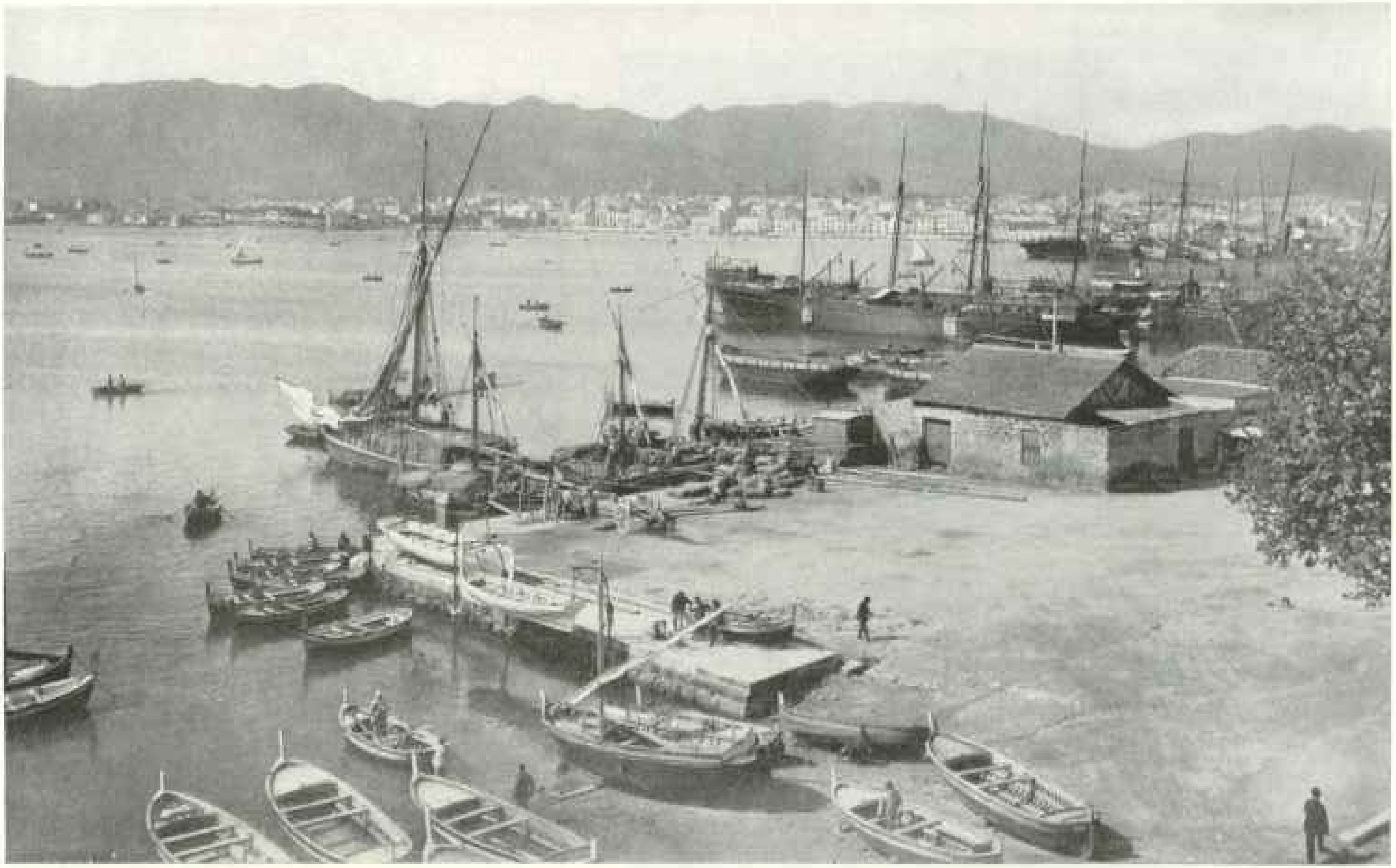
The medieval medicine man, upon securing such an Egyptian "antique," would (to translate his announcement into the modern vernacular) have advertised to his patients the receipt of another large consignment of dried mummy, imported in its original mummy case, direct from the tombs of the ancients on the banks of the Nile—a sure panacea for all the ills that flesh is heir to.



Photograph from Rear Admiral Colby M. Chester

HIERA-PICRA, SIMILAR IN ITS ESSENTIAL INGREDIENTS TO A POPULAR PANACEA OF TODAY, WAS SOLD IN DAMASCUS A THOUSAND YEARS AGO

The use of this compound began in prehistoric times and has continued to the present day. Aloes is the active ingredient. The drug vendor who sold it in the bazaar of the ancient Syro-Arab city in the year 1000 was dispensing the same article that the Roman "medicina" of Julius Cæsar's time sold as "the secret formula used by the priests of Æsculapius."



PALERMO, THE CORONATION CITY OF FREDERICK II, THE DR. WILEY OF THE THIRTEENTH CENTURY

Frederick, King of Sicily and later Roman emperor, was an advanced thinker. He promulgated decrees providing penalties for the sale of impure drugs; by his order, physicians were not allowed to enter the drug business; quackery was severely punished, and high standards of education were set for medical students.

A MEDICINE-SHOW MAN OF THE MIDDLE AGES

Testimonials and public demonstrations of the curative powers of nostrums were the methods employed by quacks of the middle ages, as chronicled in this painting. As it is true that human nature is much the same from generation to generation, so the practices of charlatans vary little through the centuries. Refinements of humbuggery are adopted only as the intelligence of the clientele rises.

period as spring medicines used to be by us, and to a king a meal in those days was as perilous an undertaking as a yachting cruise in a mine field would be today. It is not surprising, therefore, that many nostrums were invented with the avowed purpose of neutralizing any poison that might be taken internally.

Mithradatium was the name of the great antidote of Roman pharmacy. It had from 40 to 50 vegetable ingredients, few of which had any real medicinal value except opium, and these drugs were blended with honey.

It remained for Nero's physician, Andromachus, to put the finishing touches to this wonderful compound. Andromachus added viper's flesh to the formula and called his new compound Theriaca. He wrote some verses dedicated to Nero, describing this medicine and claiming virtues for it which in our day would subject him to prosecution under the Anti-trust Act. Evidently he believed he had created in this one compound a veritable pharmaceutical monopoly.

A MEDICINE WITH A MONOPOLY ON DISEASES

Galen, one of the fathers of medicine, went even further. He recommended it as a cure for all poisons, bites, headaches, vertigo, deafness, epilepsy, apoplexy, dimness of sight, loss of voice, asthma, coughs, spitting of blood, tightness of breath, colic, the iliac passion (appendi-

PADUA, ONE OF THE CENTERS FOR THE MANUFACTURE OF VENETIAN TREACLE IN THE MIDDLE AGES

Theriaca, or Venetian treacle, was the great antidote of Roman pharmacy and was used throughout the ages in various modifications for almost every conceivable illness. It was officially recognized by English physicians until 1788. The university cities of Italy were the centers for its manufacture until Venice obtained a practical monopoly of the whole export trade in drugs.

citis), jaundice, hardening of the spleen, stone, fevers, dropsy, leprosy, melancholy, all pestilences, etc. Nowadays he would probably have included coupon thumb, golf shoulder, and movie eye.

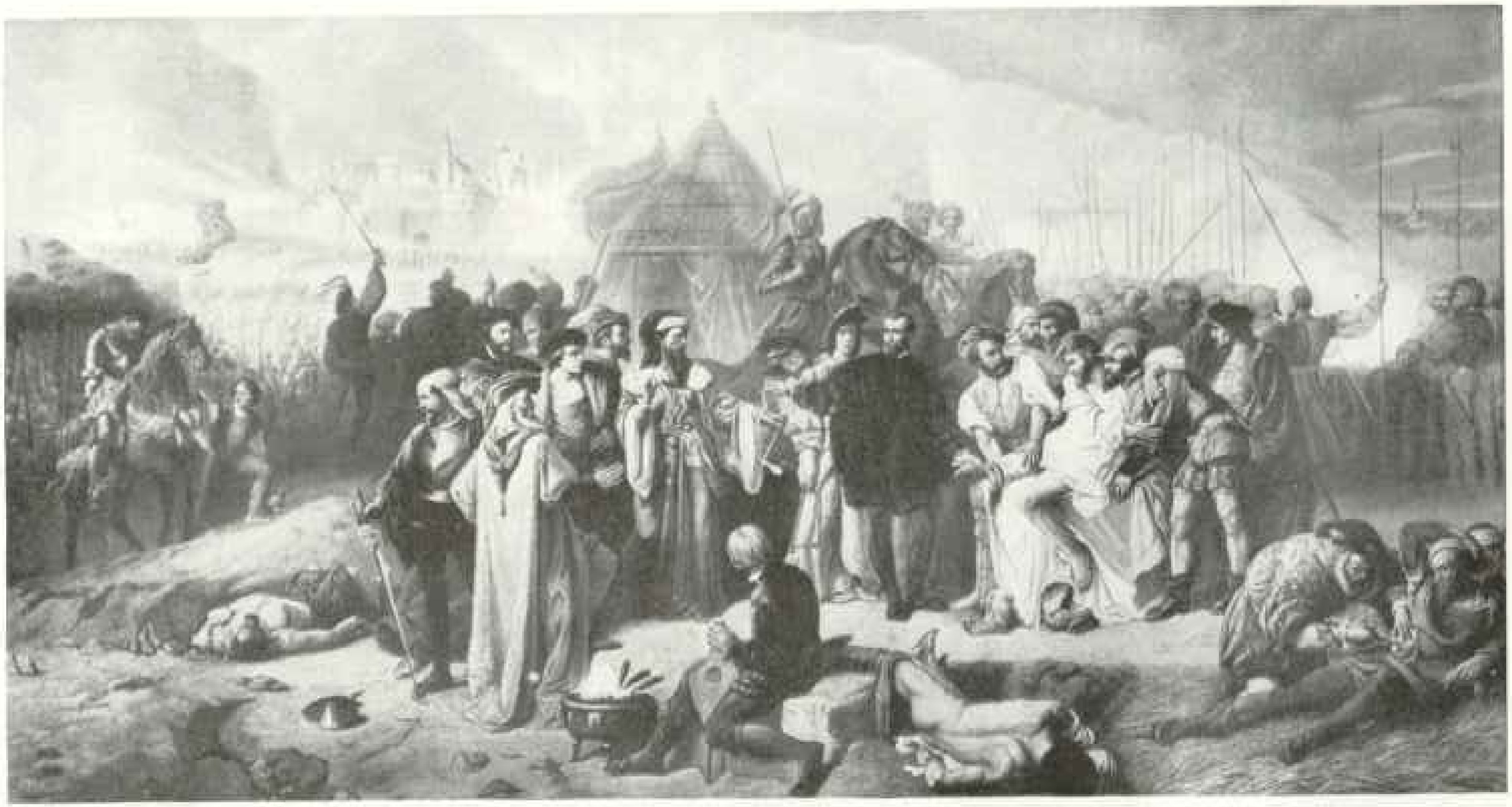
As Galen's writings dominated medical thought for over 1,500 years, it is not surprising that this advertisement made Mithradatium, or Theriaca, a valued remedy. Every physician of note for centuries afterward claimed some improvement on the original formula.

And the "genuine formulas" or the "improved formulas" were hawked about by many a nostrum vender, until all sorts of precautions were taken to hedge the making of this preparation with an elaborate ritual of a ceremonial nature.

An old English book of "Leechcraft" tells of a letter of Helias, Patriarch of Jerusalem, to King Alfred, expressing concern for the King's illness and recommending "Tyriaca" as a valuable remedy.

The specific was first made at Constantinople, then at Genoa, and finally at Venice, when that city perfected its monopoly of the drug trade of Europe. This Venetian Treacle, as it came to be called, was sold at high prices. Evelyn, in his diary, speaks of purchasing some "treacle" in Venice after having seen the ceremony of its compounding.

In Queen Elizabeth's time there was much complaint in England of the dearness of Venetian Treacle, and of the spurious treacle sold by nostrum venders. It was about this time that English pharmacists began to presume to make their



A FAMOUS PAINTING WHICH CHRONICLES THE OCCASION WHEN AMBROISE PARE ABANDONED THE PRACTICE OF SEARING THE ENDS OF AMPUTATED LIMBS WITH BOILING OIL. HE SUBSTITUTED LIGATURES

Ambroise Pare, who lived almost from the beginning to the end of the sixteenth century, began life as a barber's apprentice. He became the most famous military surgeon of his age, reviving the use of ligatures to prevent hemorrhage. He protested against the use of dried mummy and bezoar stones as cure-alls, and to him is attributed the invention of artificial limbs and eyes.

own treacle. Spies had been sent to Venice to worm out the exact identity of the ingredients and the process of their manipulation, and finally a suitable product was made at home.

The making of treacle was an occasion not to be taken lightly. Witness the recorded speech in the "Chronicles of Pharmacy" of one Laurence Catelan, Master Apothecary of Montpellier and Apothecary to the Prince of Condé, which was delivered when he prepared a batch of Theriaca at Montpellier on September 28, 1668.

To the assembled multitude Master Catelan enumerated the regulations which compelled him to prepare this great remedy in public in the presence of the "illustrious professors of the famous University of Medicine." All this pomp and circumstance was, of course, a pure drug-inspection procedure, invented to discourage the vending of spurious products. Master Catelan proceeded to relate the wonderful history of Mithridates, who had rendered himself immune to all poisons, and of the formula he had left to posterity.

THE FABLE OF THE POISON-PROOF KING

This Mithridates, concerning whom Master Catelan spoke, known in history as Mithridates the Great, King of Pontus, was born 134 B. C., and, next to Hannibal, was the most dangerous foe against which the Roman Republic had to war. After wars lasting 26 years, Pompey's armies finally conquered him.

Mithridates was reputed to have been immune from poison because of a compound which he had prepared and which he took each day; so that when, being defeated, he attempted suicide, no poison of the many he tried would cause his death. Consequently he had to call in one of his soldiers, who killed him with a spear. Such was the fable.

Stories of Mithridates' medical lore had long been told the conquering Romans, whetting their curiosity. They searched eagerly amongst his papers at Nicopolis and found, it is true, some medicinal formulas, but none of any great value. It is quite likely, though Master Catelan firmly believed in its authenticity, that this legend originated in Rome much later and was disseminated "next to pure reading matter" by the nostrum venders, who made Mithridatium Antidote and sold quantities of it. But Master Catelan related the Mithridatium fable with almost devotional zeal, and told, as well, the later history of the compound, dwelling particularly on the many improvements made in it and leading up to its present pinnacle of perfection. The speaker then rested, while some soft music was played.

SAVING ALEXANDER FROM THE VENOM-SATURATED SLAVE GIRL

Resuming, Master Catelan told many marvelous tales of princes who had escaped poisoning by immunization. One incident, on which he dwelt with special emphasis, concerned Alexander the Great. An Indian prince who hated Alexander sent to him as a gift a beautiful slave girl whose system had been so saturated with aconite that she fairly reeked of poison. It was thought that Alexander, struck with her beauty, might kiss her and be poisoned by her surcharged venom. But Aristotle saw her first, recognized by her flaming eyes that the girl was a poison-carrier, and by sending her away saved his patron's life.

After this the lecturer naturally took another rest and there was some more music.

The virtues of the half-hundred ingredients were then dwelt upon, which took up the remainder of the day. The actual mixing of the drugs took place on the following day, but the final ceremony was not concluded for nearly two months. Such was the elaborate program for the manufacture of this compound.

The manufacture of English theriaca was as much due to the prevalence in the market of adulterated products as to the high price of the imported article. Many protests of the guilds are recorded against the false treacle which was being sold in England.

From the point of view of medicinal value, however, the false product was probably quite as effectual as the true, both being almost worthless. That the medical profession was slow to realize

ONE OF THE FIRST ILLUSTRATED BOOKS ON DRUGS, PUBLISHED THE YEAR BEFORE COLUMBUS DISCOVERED AMERICA

A photograph of the hand-illuminated pages of Johannis de Cuba's famous "Hortus Sanitatis," part of which is devoted to the use of precious stones in medicine. The upper half of the left-hand page shows a teacher in doctor's gown instructing a pupil in the use of stones and the lower illustration shows a lapidary-apothecary's shop with customers buying medicine rocks. This book is one of the priceless volumes in the library of the Surgeon General, U. S. A., in Washington.

this can be inferred from the fact that the compound was officially recognized by the English pharmacopœia until 1788.

A THIRTEENTH CENTURY FORERUNNER OF DR. WILEY

Emperor Frederick II of Sicily, in 1240 or 1241, published the first pure food and drugs act. He was about 700 years ahead of Doctor Wiley, for he specified strict regulations of the standard of drug purity, and provided for drug inspectors, and fined all offenders.

The practice of medicine was also regulated. A physician was required to have a diploma from a university before he could study medicine; then he took a three-year course in the school of medicine and one year practice under a practicing physician. Special postgraduate work in anatomy was required if he was to do surgery.

All this was in the so-called "dark ages." Even the fees of physicians and pharmacists were strictly regulated by law and were in purchasing value about the same as the charges of the present day. Physicians were not allowed to own drug-stores and drug adulterators were severely dealt with.

The idea of general antidotes for poisons was a very ancient and very generally accepted belief. Some of us probably remember the "mad-stones" which not so very long ago were applied to mad-dog bites to "draw out the poison." These mad-stones were unquestionably direct traditional descendants of the bezoar stones of ancient days.

BEZOAR STONES RENTED TO PLAGUE VICTIMS

Bezoar stones acquired their reputation in the East, among the Arab practitioners. Avenzoar, a great Arabian writer on medicine, who lived in Seville about the year 1000, was the first European practitioner to write about these supposedly wonderful stones. But a little over a century ago the Shah of Persia sent his brother monarch, the Emperor Napoleon, three bezoar stones as a very proper precaution against the effects of poison.

Bezoar stones were used as a general antidote against poisons, from four to ten grains being given at a dose. Externally they had a wide variety of uses, being applied in fevers, in various skin diseases, and even as a cure for leprosy. Nobles and princes carried them about in jeweled boxes as amulets. Wily speculators, in times of epidemics, as during the plague in Portugal, rented them out at the equivalent of about £5 a day, requiring a bond for their return.

Many kinds of bezoar were sold, but the most valuable were the Oriental kind, *lapis bezoar orientale*. This came from Persia and was obtained from the intestines of a Persian wild goat. It was merely a sort of petrification formed by the digestive juices about some foreign substance in the goat's intestines. But the medical authorities of that day thought that the stone was formed by some mysterious medicinal plant on which these animals fed.

A certain Oriental ape also yielded bezoar stones. The directions were first to catch your ape and then give him an emetic. Similar stones were obtained from the llamas of Peru, and from the Swiss chamois. But the Eastern products commanded the market, and were said to have sold for ten times their weight in gold.

THE SALE OF IMITATION BEZOAR STONES EXPOSED

Naturally, this supposedly valuable stone would be imitated. It was, and a certain Mr. Slare, a Fellow of the Royal College of Surgeons in London, read a paper in 1714, in which he exposed the substitution. One wholesale druggist told Mr. Slare he had 500 ounces of bezoar in stock, and Mr. Slare, being an old-time statistician, estimated that it would require the slaughter of 50,000 goats annually to supply this one dealer. As no such terrible mortality had occurred among the Persian goats, Mr. Slare asked the pertinent question: "Where did they get it?"

In the records of the Royal Society of Apothecaries, May 25, 1630, is the following entry: "Pretended bezoar stones sent by the Lord Mayor to be viewed were found to be false and counterfeit and fit to be destroyed, and the whole

table certified the same to the Lord Mayor."

Ambroise Pare, a great military surgeon of the 16th century, is credited with discontinuing the practice of searing the stumps of amputated limbs with boiling pitch, and instead successfully using ligatures to tie the bleeding vessels. He did not believe in the virtues of bezoar stones. One day when he was in attendance on King Charles IX at Clermont, a Spanish nobleman brought a bezoar stone to the King, assuring him that it would protect him against all poisons.

A WISE PHYSICIAN, A CREDULOUS KING, AND AN UNFORTUNATE COOK

Pare says his monarch sent for him and asked if there was anything which could act as a general poison antidote. Pare replied that, as various poisons differed in their nature, the antidotes would necessarily differ. But the nobleman persisted in his statement and aroused the desire of the King to test the virtues of the stone, which he proceeded to do in a ruthlessly conclusive manner.

The Provost of the Palace was summoned and asked if he had in his charge any criminal awaiting the execution of the death sentence. The Provost bethought himself of a cook who was to be hanged for the theft of two silver dishes.

The King thereupon sent for the cook and proposed to him that in place of hanging he should be given a poison, to be followed by the universal antidote, and if the antidote proved efficacious he would be given his liberty. The cook gladly consented.

An apothecary was instructed to prepare a draught of deadly poison. This was administered and followed by a dose of the powdered bezoar. The unfortunate victim died in horrible agony seven hours later, in spite of all Pare's efforts to relieve him. The pharmacist had given him bichloride of mercury. An autopsy was then performed and Pare demonstrated to the King that the bezoar had not the slightest effect in counteracting the corrosive action of the poison.

"And the King commended that the stone be thrown in the fire, which was done," Pare succinctly concluded. It is not stated whether the Spanish nobleman suffered the same fate, but he must at least have had an uncomfortable hour or two.

QUEEN ELIZABETH THE PATRON OF PATENT MEDICINES

The patent-medicine business in England, viewed as a distinct trade monopoly, really took definite form during the reign of Queen Elizabeth. Both Elizabeth and James I abused this assumed arbitrary power of granting monopolies of various sorts, until great discontent was produced amongst the people. The Statute of Monopolies, passed in 1624, regulated all such grants, placing authority in the hands of Parliament. The period of duration was likewise limited to 14 years. In the beginning, specifications of methods or formulas were not required; but during the period of Queen Anne applicants began to be required to file these specifications. As secrecy was an important element in the success of nostrums, this ruling tended to discourage the patenting of medicines until in 1800 medicinal compounds were patented but rarely.

Of course, the term "patent medicine" nowadays is a misnomer, as few of these preparations are patented. The property right is protected by copyrighting the label or registering it as a "trade-mark," thus preventing competition in the use of the *name* of the preparation.

CENTURIES-OLD FAVORITES STILL SOLD

The oldest patent preparation still made in large quantities in Great Britain is probably Anderson Scot's Pills, patented under King James II in 1687. Formulas of these pills appeared in all the manuals on pharmacy published in Europe and America in earlier days. Their activity depends largely on aloes. Duffey's Elixir, invented by a clergyman, the Reverend Thomas Duffey, in Leicestershire, in 1675, is still advertised and sold, and the old-fashioned advertisement in which the bottle is wrapped states that the elixir was "much recommended to the public by Dr. King, physician to King Charles II," an argument somewhat belated, to say the least.

Haarlem Oil, a turpentine compound, made first in 1672, and Godfrey's Cordial, a preparation of opium, advertised first in 1722, are still bought by the public.

Goddard's Drops was a remedy to which Salmon, a contemporary of Charles II, refers as "the true medicine which was purchased of the Doctor by King Charles the Second, so much famed throughout the whole Kingdom and for which he gave him, as it is reputed, fifteen hundred pounds sterling." Other writers state that Charles paid £5,000 for the formula.

The formula consisted of a distillate "of humane bones or rather scales," which were to be "well dryed." These were distilled until "a Flegm, Spirit, Oyl, and Volatile salt were obtained." The product was digested in the earth for three months, digested at a gentle heat for 14 days, and the "oyl" separated and bottled.

DRIED MUMMY A POPULAR REMEDY

Animal products were much used in medicine from the sixteenth to the eighteenth century. Dried mummy was a favorite remedy. The importation of mummy was an industry of some commercial importance and several writers of that day caution against the use of spurious mummy, giving directions as to what distinguishes the good from the poor product.

There was much substitution here, and one Jewish dealer was found to have done an extensive trade in bodies dried in imitation of the genuine article.

One of the most picturesque careers in medical charlatanry of a more modern day was that of St. John Long, a handsome and clever Irish quack, who practiced in London early in the nineteenth century. He had attractively furnished offices in Harley Square and pretended to cure many diseases, notably tuberculosis, by the application of a liniment and the inhalation of a vapor. His consulting rooms were crowded with fashionable and noble patrons and he was reputed to have an income of £65,000 a year.

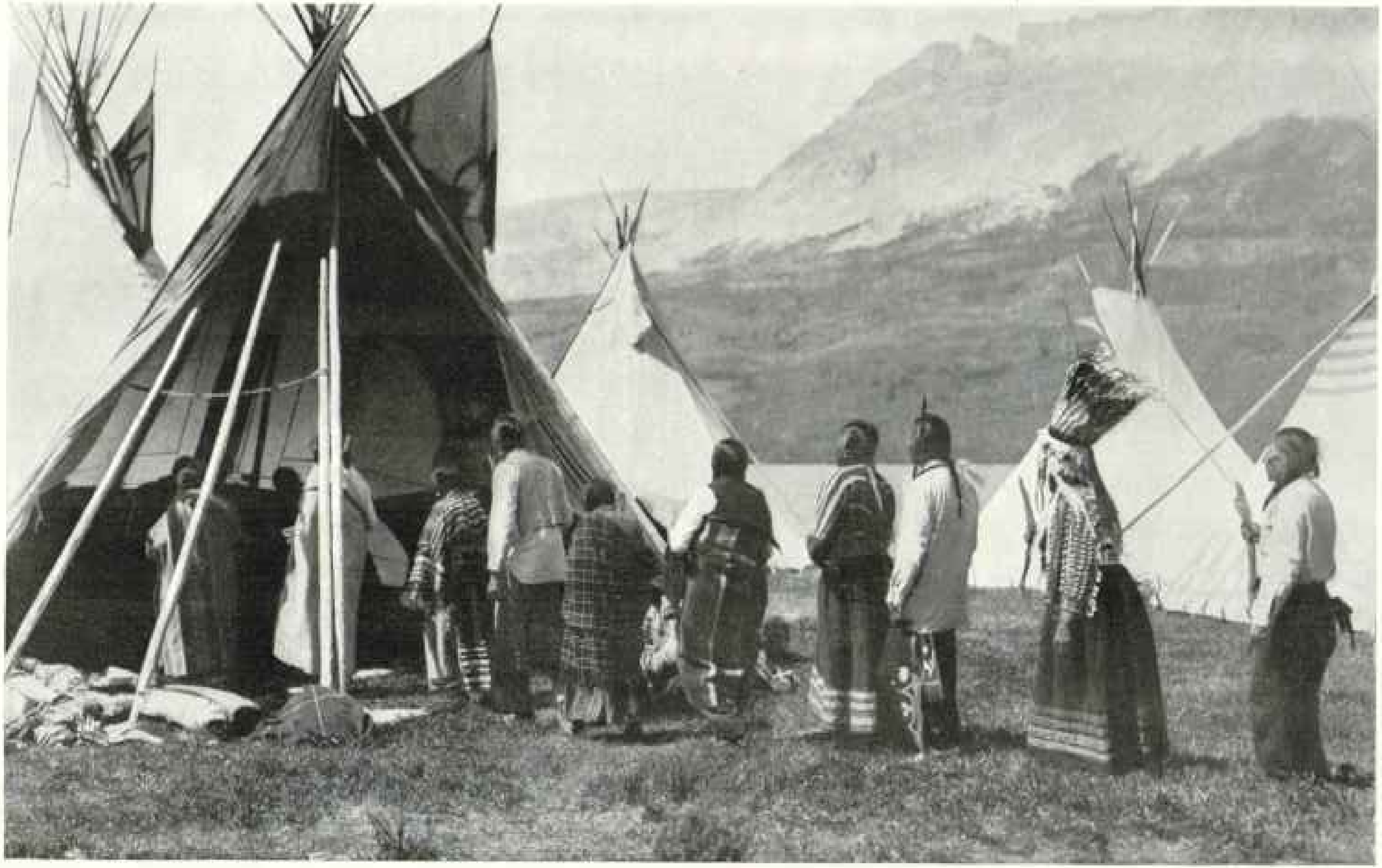
A FIFTEENTH CENTURY ILLUSTRATION WHICH SHOWS THE METHOD OF EXTRACTING A CURATIVE TOADSTONE

The idea of a stone in the head of the toad was not confined to the literature of medicine. Shakespeare spoke of adversity, "which, like the toad, ugly and venomous, wears yet a precious jewel in his head."

He was tried for manslaughter twice. Once he was required to pay a fine of £1,250, which he produced from his pocket and counted out, afterward driving away from the court in the carriage of the Marquis of Sligo. At the second trial he was acquitted. He died in 1837, at the age of 37, from pulmonary tuberculosis, the disease which he purported to cure. The formula of his liniment after his death was sold for £50,000, but never sustained its previous popularity. It was composed principally of turpentine, acetic acid, and egg yolk.

Even the English Parliament has been gulled by the "cure-all" vender. In 1739 an act was passed "providing a reward to Joanna Stephens upon the proper discovery to be made by her for the use of the publick of the medicines prepared by her for the Cure of the Stone."

The formula, when published, consisted of a solution of the products re-



ENTERING A MEDICINE LODGE: GLACIER NATIONAL PARK

The Indian medicine man is a survival in modern days of the most ancient ideas of medicine.

sulting from calcining egg shells and garden snails. An alkaline vegetable decoction and some pills made from calcined snails and some burned vegetable drugs comprised the "cure." Horace Walpole is said to have taken this awful mess in the belief that it helped him. Lime water would have been just as efficacious.

THE QUACKS WHO TREATED BEASTS AND BISHOPS ALIKE

The Taylors, known as the Whitworth Doctors, inventors of the Whitworth Red Bottle and the Whitworth Drops, flourished at Whitworth during the same period. The original Taylor was a farrier, who was also an unqualified veterinarian. He died in 1802. His young brother, his sons, and their descendants all practiced surgery, mostly irregularly, although some of them were qualified. The older brothers applied horse remedies to human beings, treating man and beast alike. People came to these ignorant men from every quarter of England, crowding the small village near Rochdale. Duchesses and princesses and bishops—all came to the Whitworths; rarely the "Doctors" went to London.

The fame of the Whitworths still lingers in rural England and the sale of the "remedies" continues.

Nostrum makers have not confined their attention to the humble citizen. Some of the most notorious quacks have been favored by royalty. John Ward, who manufactured Ward's Pills and Ward's Drops and many other remedies in Paris and London, had no medical training, but included among his patients Lord Chesterfield, Gibbon the historian, Fielding the novelist, and was so well thought of by George II that the King opened a dispensary at Whitehall and paid Ward to treat poor patients there. When, in 1748, a bill was introduced in Parliament to restrict the practice of medicine, the act contained a clause specifically exempting Ward from its penalties.

Queen Charlotte on one occasion asked General Churchill if it was true that Ward's medicines once made a man mad. "Yes, Madam," said Churchill; "his name is Mead." Richard Mead was the regular physician to the King.

A DRAWING WHICH DEPICTS THE ADMINISTRATION OF A BEZOAR TO CURE A VICTIM OF POISONING

An illustration from "Hortus Sanitatis," published in 1491. "Mad-stones," which only a few years ago were applied to "draw out the poison" from mad-dog bites, were direct traditional descendants of these Bezoar stones of the ancients.

The history of nostrum making in America, of the fortunes builded on it, and the frauds practiced on the credulous public, has been well told by other writers—so well told that as a nation we are ceasing to be the greatest nostrum users in the world.

The alcohol medicines, the cocaine medicines, the opium medicines, and their less actively harmful associates, the sarsaparillas, etc., have had their day, and their use has declined in every section of the country. The Council on Pharmacy of the American Medical Association holds the members of that influential body to a strict code of requirements in the matter of the kind of drug compounds they prescribe, and even compounds not advertised to the public must nowadays toe the ethical mark.

IT IS NOT NECESSARY TO GO BACK TO MEDIEVAL TIMES TO FIND WITCH DOCTORS; THEY ARE PLYING THEIR PROFESSION TODAY IN NATAL, SOUTH AFRICA

But in civilized countries, the day of the medical charlatan is at an end. Occasionally there are "flare-ups," but when secrecy about formulas and practices was abolished it became impossible for pretenders to hold sway over popular imagination for any length of time. Today, the physician who refuses to share with the world his knowledge of a discovery that will benefit mankind suffers social and professional ostracism.

THE DOOM OF THE NOSTRUM SOUNDED

Today, despite "flare-ups" like Friedman's tuberculosis turtle cure and enthusiasms like "twilight slumber," the exploiting of specific remedies is on the decline. The vogue of the Wards and the Whitworths has passed away.

Standards of regulation of the purity of drugs, rigidly enforced ethical codes among physicians, prescribed and standardized formulas in national "pharmacopeias" or formularies, and, most of all, campaigns in magazines, both lay and medical, to instruct the people in public health and sanitation, especially in the United States, have sounded the doom of the nostrum and the cure-all. No more are outlaw remedies made legitimate and admitted to the Pharmacopœia, for the prescribing of drugs is being put on a rational basis and the explanation of the *reason why* medicines produce certain effects is becoming more and more of an exact science. The magical lure of ancient pharmacy has departed.

There are today no secrets in medicine, and the physician who makes a discovery that will benefit the human race must either share it with his fellows or suffer social and professional ostracism.

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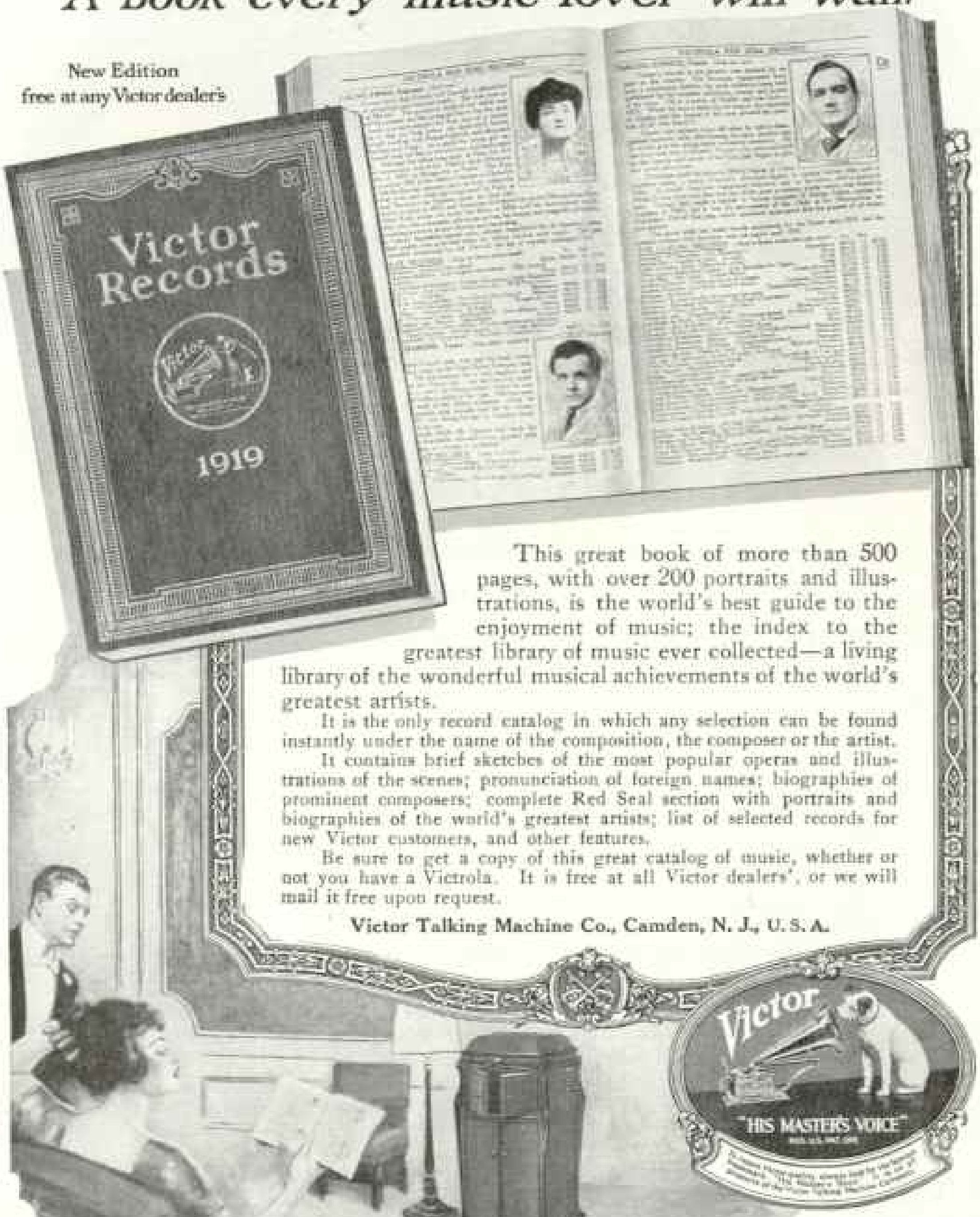

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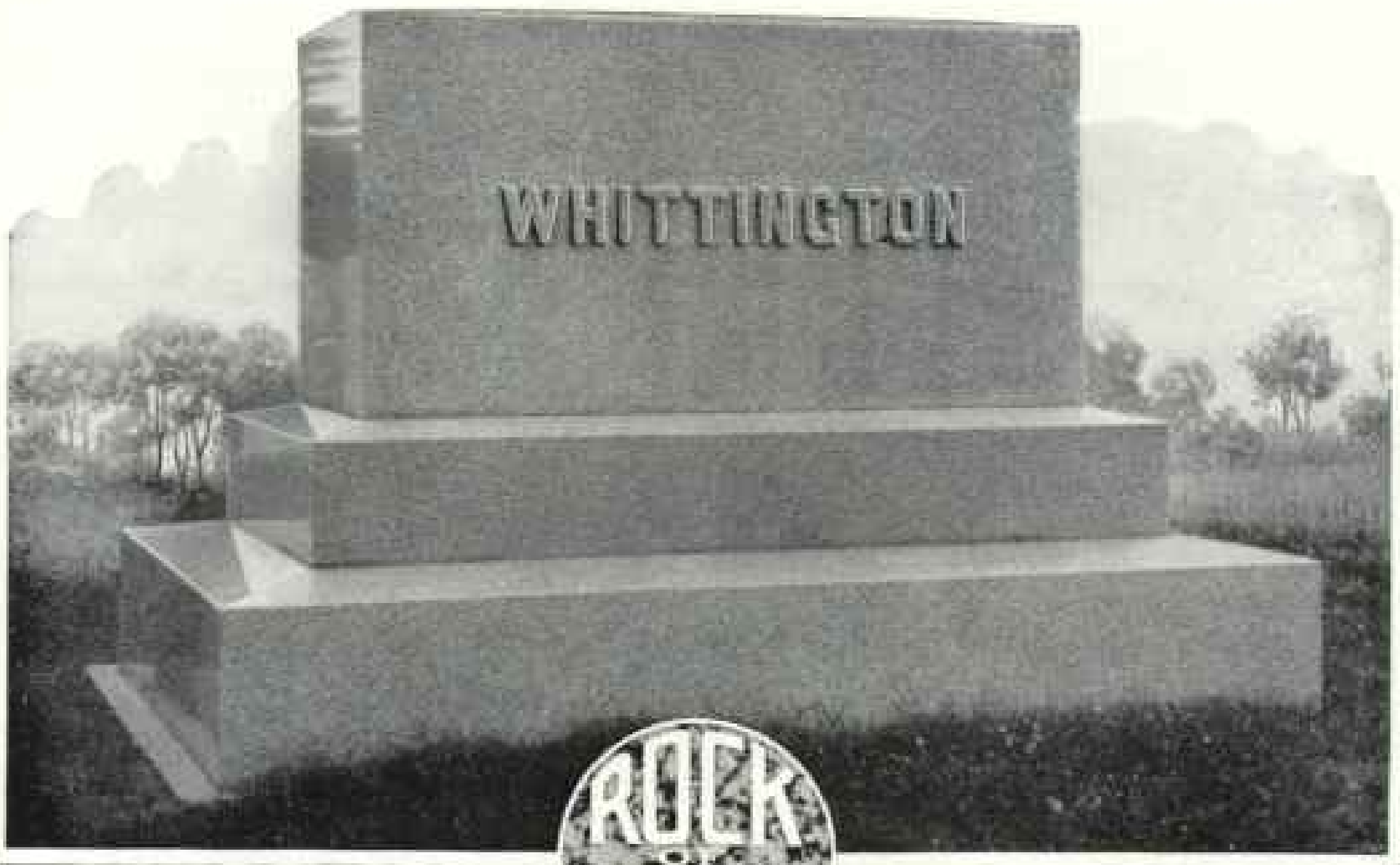
Applied Patriotism

Woman has made herself indispensable to the Nation's war activities. This is being demonstrated daily in many splendid ways. The telephone operator takes her place in the front ranks of our "national army" of women.

Back of the scenes, invisible, her war work is to make telephone communication possible. Through her the Chief of Staff in Washington speaks to the Cantonment Commandant in a far-off state. The touch of her fingers forges a chain of conversation from Shipping Board to shipyard, Quartermaster General to supply depot, merchant to manufacturer, city to country, office to home.

Without her this increasing complexity of military, business and civil life could not be kept smoothly working. Hers is patriotism applied. She is performing her part with enthusiasm and fidelity.

The increasing pressure of war work continually calls for more and more telephone operators, and young women in every community are answering the summons—cheerfully and thoughtfully shouldering the responsibilities of the telephone service upon which the Nation depends. Each one who answers the call helps speed up the winning of the war.



ROCK OF AGES
TRADE MARK

YOU are sure of beauty, quality of workmanship and material, and of the permanence of the memorial when you specify Dark Barre Granite—The Rock of Ages—and receive from your monument dealer a certificate pledging to you the genuineness of the product and the character of treatment it has received.

Dark Barre Granite is the *guaranteed* memorial rock, with dealer, manufacturer and quarry owner back of it. It must be real Dark Barre Granite, from our quarries, and the workmanship on it must be right when such a certificate is placed in your hands. You then know that your investment is the best you could have made.

Whether for costly mausoleum or monument, whether for spire, tablet or marker, Dark Barre lends itself perfectly to the work of polisher and cutter. Its texture and freedom from elements tending to discoloration enable it to defy time and weather. Your memorial will always be the same strong and beautiful silent sentinel over the resting place of your dead.

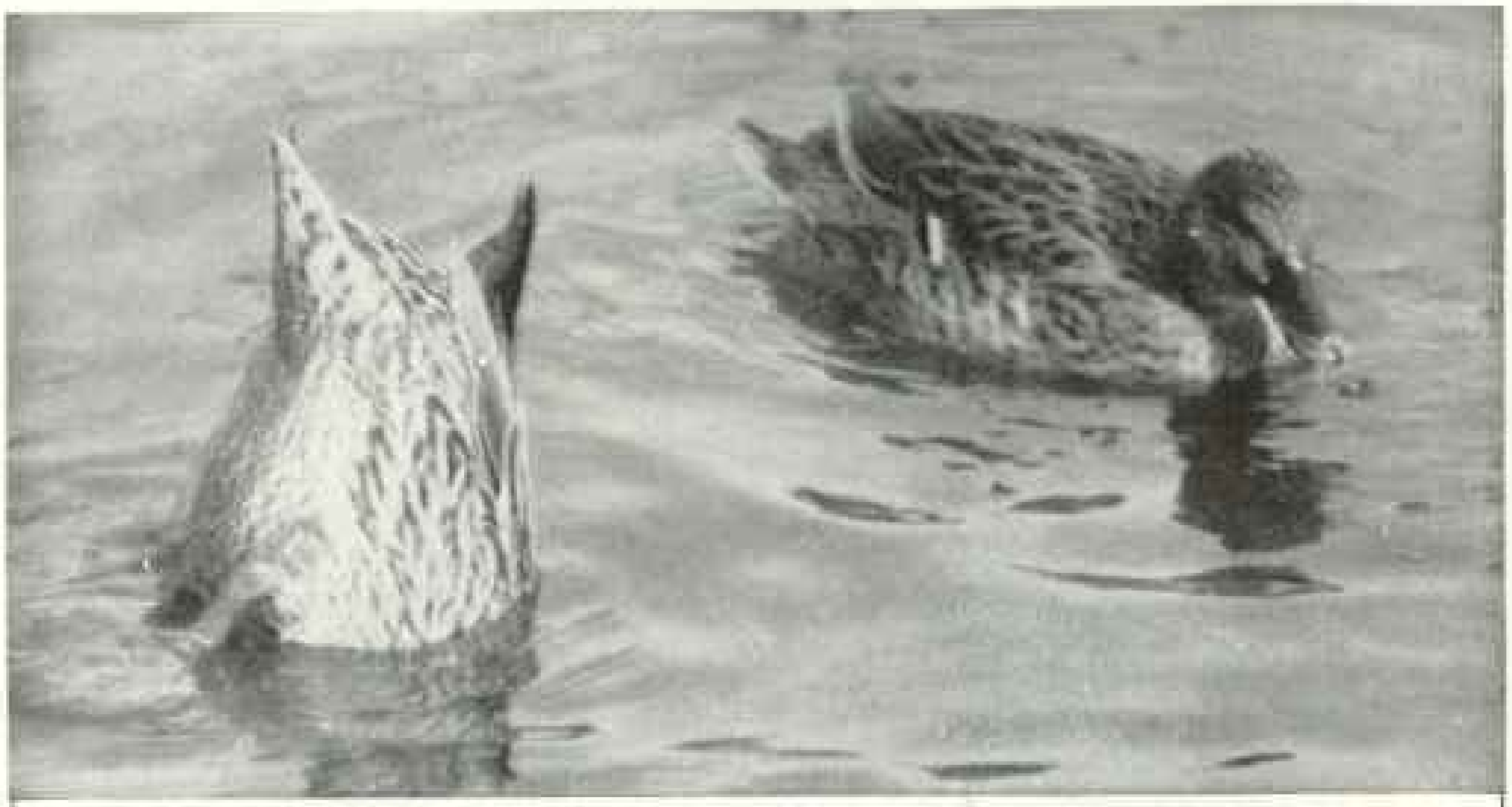
Write for a free copy of illustrated booklet, "The Rock of Ages."

BOUTWELL, MILNE & VARNUM CO.
Address: Dept. H, MONTPELIER, VERMONT Quarries at BARRE, VERMONT
The Granite Center of the World

DARK BARRE GRANITE

BACK AGAIN and in pre-war plenty. You can now buy the Sampler the continent over at Whitman agencies—usually drug stores of the better class.

STEPHEN F. WHITMAN & SON, Inc., Philadelphia, U. S. A.



A HAPPY FAMILY: MALLARDS "TIPPING UP" ON THE LOUISIANA STATE GAME PRESERVE
The Water Bottoms of the Lowlands Grow Duck Food in Abundance

They Save Teeth Now In a New Way

All Statements Approved by High Dental Authorities

They End the Film

Countless people now are cleaning their teeth in a new way. And modern dentists all over America are urging other people to join them.

The old way proved inefficient. As millions know, they failed to prevent tooth troubles. Despite the tooth brush, tartar, decay and pyorrhea constantly became more common.

Some years ago the reason was discovered. It lies in a film—a slimy film—which constantly forms on teeth.

That film gets into crevices, hardens and stays. It resists the tooth brush, and most tooth troubles are now known to be due to it. The film is what discolors, not the teeth. It hardens into tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea. And many troubles besides tooth troubles are traced to this germ-breeding film.

After years of research, a way has been found to combat it. Able authorities have proved this fact by adequate clinical tests.

For general use the method is embodied in a dentrifice called Pepsodent. And we supply a One-Week Tube, free to all who ask, so the millions may quickly know.

Return your empty tooth-paste tubes to the nearest Red Cross Station

(15z-A)

PAT. OFF.

Pepsodent

REG. U.S.

The New-Day Dentifrice

A Scientific Product—Sold by Druggists Everywhere

Let It Convince You

The Pepsodent results are quickly apparent. After a few days' use you will never forget them.

The basis is pepsin, the digestant of albumin; for the film is albuminous matter. The object of Pepsodent is to dissolve the film, then to constantly prevent its accumulation.

But pepsin must be activated. The ordinary agent is an acid, harmful to the teeth. For long that fact made pepsin seem impossible.

Now modern science has discovered a harmless, activating method. Five governments already have granted patents. It is that method which makes possible this efficient application.

Four years have been spent by dentists in proving the value of this product. Now we urge all people to prove it by a Free test.

Send the coupon for a One-Week Tube. Use it like any tooth paste. Note how clean the teeth feel after using. Mark the absence of the film. See how teeth whiten as the fixed film disappears.

All this means that the film which wrecks teeth can now be effectively combated. And you will never cease to do that when you see what it means to you. Cut out the free coupon now.

One-Week Tube Free

THE PEPSODENT CO.
Dept. 374, 1104 S. Wabash Ave., Chicago, Ill.
Mail One-Week Tube of Pepsodent to

Name .....

Address .....

YOUNG AMERICA SALUTES ITS FLAG

Flags of the World

BY COMMANDER BYRON McCANDLESS AND GILBERT GROSVENOR

A HANDSOMELY BOUND VOLUME of 150 pages, containing 1,200 flags, past and present, in their full colors, 300 illustrations in black and white, the insignia of the uniformed forces of the United States, the international flags in use on land and sea, together with an epitomized history of each flag, and an authoritative story of the evolution and history of the "Star Spangled Banner."

Our beautiful flag has taken its place on the crest of the wave of a new order of civilization. It is a necessary part of our education to know about the flags of every other nation as well as our own.

With its wonderful illustrations; with its first publication of the flags of the forty-eight States of the United States, based on original research; with its descriptions of the uses of all the flags of all nations; with its wealth of historical data relating to the evolution of flags, this volume is the most exhaustive, and yet the most entertaining, work of its kind in existence.

The Federal Government put all of its resources at the command of the National Geographic Society in order to insure the correct reproduction of every military flag, past and present, in its proper design and coloring. The same cooperation was given by the Embassies and Legations of all the friendly countries represented. No complete collection of Pan American flags hitherto published has been correct, and the same is true of Asiatic flags. No other publication has shown all our State flags or embodied all the changes that have been made in them during the past decade.

This flag book is as authoritative as an official report, as delightful as fine fiction, and as beautifully illustrated as a gem of the printing art can be. It has a place in every home and is a gift par excellence for youth and age, men and women.

Obtainable only from our Washington Headquarters.

CUT ON THIS LINE

Dept. H, National Geographic Society,
16th and M Streets, Washington, D. C. _____ 1919

Please send _____ copies of "FLAGS OF THE WORLD," bound in _____

for which I enclose herewith _____ dollars.

If several copies are desired, write names and addresses and send with your card.

Bound in Royal Buckram (Stiff Covers) or Military Khaki (Flexible Covers), $2.00, postpaid in U. S. A.

Name _____

Street Address _____

City and State _____

1-19

74TH ANNUAL REPORT

New York Life Insurance Company

DARWIN P. KINGSLEY, President

Influenza, we are told, up to January 1, 1919, had already killed as many young and vigorous persons in the world generally as were killed by bullets and disease in four and a half years of the war.

The mortality of the Company up to the outbreak of influenza promised to be, in 1918, about 61% of the mortality provided for in the premiums; it was actually 95% of the expected. If this epidemic persists during 1919 dividends may be reduced in 1920. They remain substantially unchanged in 1919. But neither war nor influenza can make any material difference to members of this Company, because as against such startling incidents this Company long since made abundant provision.

From this there are two fair deductions:

First—INSURE—there are just as many and just as sound reasons for insuring your life during days of peace as there are for insuring during times of war.

Second—insure in companies that have aimed, above all things, to achieve safety. In these days SAFETY sounds better than CHEAPNESS.

The New Business of the year, chiefly from the United States and Canada, was over $340,000,000

the largest year's business in the Company's history.

The Company bought so many Liberty Bonds during the year that it was obliged to borrow from the New York banks. The statement shows, on that account, Bills Payable for over 22,800,000

On December 31, 1918, the Company owned at par in Liberty Bonds .. 70,000,000

And in the Bonds of Allied Countries issued to finance the war 30,000,000

BALANCE SHEET, JANUARY 1, 1919

INCOME		DISBURSEMENTS	
For Insurance and Annuities...	$110,138,795	On Policy Contracts.....	$98,563,728
Interest and Rent.....	41,500,877	Expenses and Taxes.....	22,816,479
Borrowed Money.....	24,000,809	Loans Repaid.....	1,320,000
Other Income.....	3,246,707	Added to Ledger Assets.....	56,186,172
Total.....	$178,886,879	Total.....	$178,886,879

ASSETS		LIABILITIES	
Real Estate.....	$13,449,609	Policy Liabilities.....	$786,267,062
Loans—on Mortgage, Policies and Collateral.....	121,887,157	Premiums, etc., Prepaid.....	4,515,383
Bonds and Stock.....	609,717,289	Commissions, Salaries, etc.....	3,870,246
All other Assets.....	50,033,229	Borrowed Money.....	22,863,879
		Reserves for Dividends, etc.....	177,364,625
Total.....	$995,087,285	Total.....	$995,087,285

Policies in force Jan. 1, 1919 1,360,433

Insurance in force Jan. 1, 1919 . . . . . $2,838,829,802

Dioxogen

It has been fairly well established that Spanish Influenza gets its start in the mouth. Health Board rules and directions all call attention to the importance of keeping the mouth clean, and they also emphasize the importance of clean hands, for the hands are continually in contact with things that may be infected and are as constantly going to the mouth.

Of all the personal germicides and cleansing agents, there is nothing superior to

Dioxogen

Perfectly harmless, yet an effective germ destroyer, it may be used as a mouth wash or with soap to sterilize the hands, or it may be used as a spray for the throat; in fact, it may be used in most any way that seems desirable; its flexibility of use, combined with its harmlessness and effectiveness, constitutes its chief claim to distinction.

Dioxogen cleanliness is perhaps the best protection against Spanish Influenza or any of the communicable diseases.

THE OAKLAND CHEMICAL CO.,

10 Astor Place New York, N.Y.

APPERSON 8

the EIGHT WITH EIGHTY LESS PARTS

FOR the owner who considers his car something more than a mere conveyance, who demands that in color, line and appointments it reflect a patrician taste — the Apperson 8. Equipped with the powerful, economical Apperson 8 motor — the 8 with 80 less parts.

APPERSON BROTHERS AUTOMOBILE CO.
Kokomo, Indiana

Columbia Records

Hear Them All In One Evening

Each one a star of the first magnitude in the musical firmament—each an exclusive Columbia artist.

Columbia Records give you the wonderful privilege of hearing them all, at your fireside, any evening.

An aria from each of your favorite operas, a Chopin nocturne, a Liszt rhapsody—you make your own program, you listen in the comfort of your home to these brilliant stars of opera and concert, and you enjoy every number as thoroughly as though the artist were there in the room with you.

Lazaro

Barrientos

Lashanska

Casals

Seidel

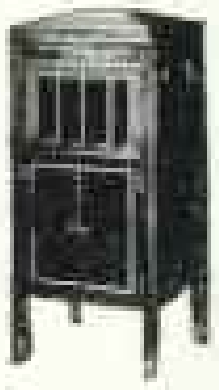
Stracciari

That is the unique charm of Columbia Records—they reflect the individual gifts of the artist as perfectly as a clear, still pool mirrors the flower that nods on its brim.

To make a good record great, play it on the Columbia Grafonola.

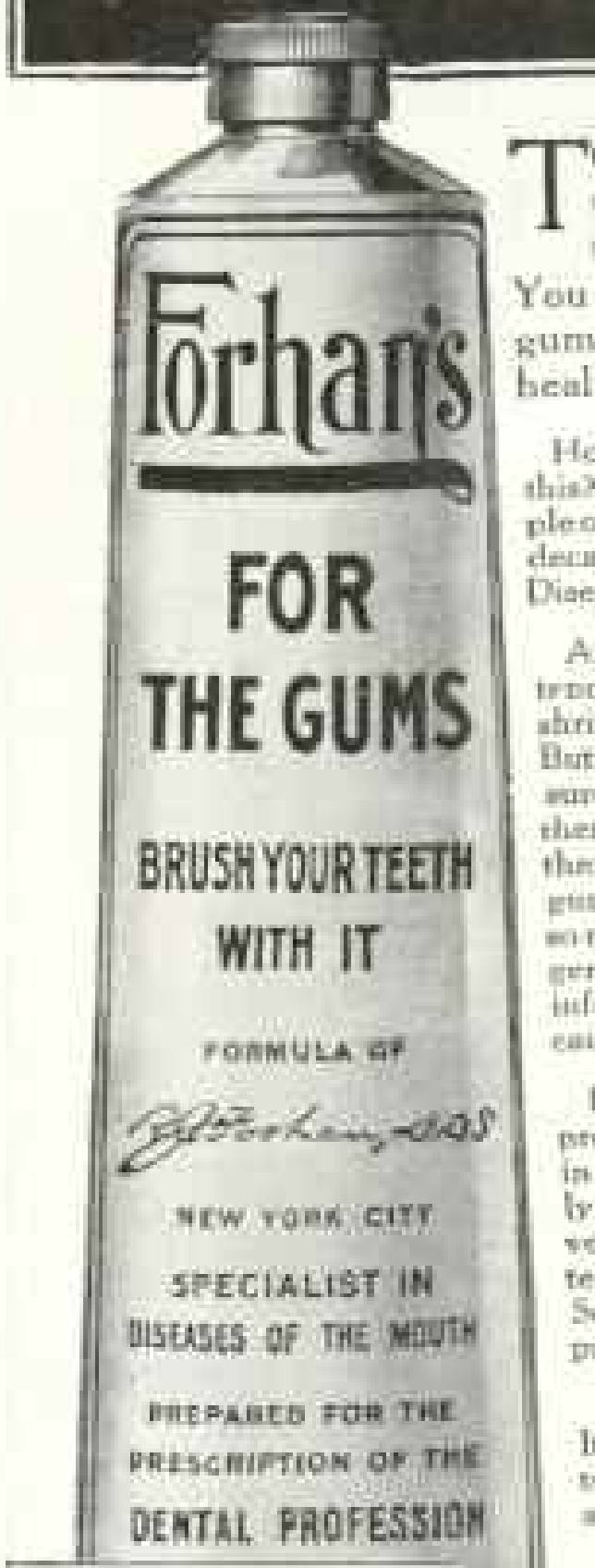
COLUMBIA GRAPHOPHONE CO.
New York

London Office: 102 Clerkenwell Road, E. C.



Columbia Grafonolas — Standard Models up to $300; Period Designs up to $2100

There is danger in tender gums



TO preserve healthy teeth the ordinary tooth-paste is futile. You must first care for the gums, on which tooth health depends.

How many people think of this? Yet four out of five people over forty suffer from gum-decay, or Pyorrhea (Riggs' Disease).

At first the gums become tender, though actual gum-shrinkage is imperceptible. But in time receding gums will surely loosen your teeth, and then only a dentist can save them. The tender, bleeding gums of Pyorrhea also act as so many doorways for disease germs to enter the system—infecting joints or tonsils—or causing other ailments.

Forhan's (For the Gums) prevents Pyorrhea, if used in time and used consistently. This means that it prevents gum-shrinkage, gum-tenderness, gum-bleeding. So, automatically, Forhan's prevents tooth-loosening.

Brush your teeth with it. It scientifically cleans the teeth—keeps them white and free from tartar.

If gum-shrinkage has already set in, start using Forhan's and consult a dentist immediately for treatment.

30c and 60c tubes
All Druggists

FORHAN CO.
200 6th Ave. N. Y.

TRAVELERS' LETTERS OF CREDIT

Special Service

Many Americans still remain on the other side.

To those in the Army, Navy, Red Cross, Y. M. C. A., or other similar organizations we issue LETTERS OF CREDIT free of commission.

Special American representative in Paris at the office of Credit Commercial de France, 20 Rue Lafayette, Paris. His services and advice are at the disposal of our friends.

BROWN BROTHERS & CO.
Philadelphia NEW YORK Boston

BROWN, SHIPLEY & COMPANY
Founders Court, Lothbury
LONDON, E. C.
Offices for Travelers
123 Pall Mall, LONDON, S. W.

A Garden Full of Gladioli *for* $1.00

The Gladiolus is one of the most satisfactory flowers grown, and there is no reason why every family cannot enjoy this grand flower, for the simple reason that it is as easy to grow as the potato. Blooms from July to frost if you plant a few bulbs each month from April to July.

For only ONE DOLLAR we will send 50 Bulbs of our Grand Prize Mixture, which covers every conceivable shade in the Gladiolus kingdom.

Each year we sell thousands of these bulbs and have received numerous testimonials as to their merits.

ORDER YOUR BULBS NOW, so as to have them to plant when you begin making your garden.

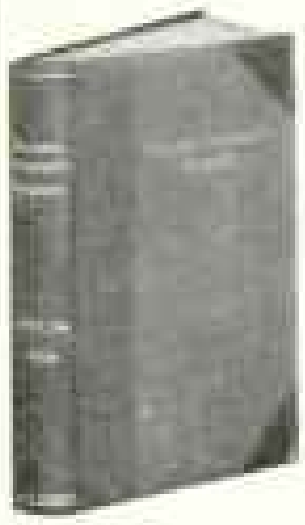
Write cultural directions with every package.

Mail this advertisement with Check, Money Order, Dollar Bill, or Stamps, and secure this splendid collection, post prepaid to any point in the U. S. east of the Mississippi.

For points West and Canada, add 25 cents to cover cost of delivery.

Our 1919 Spring Catalogue sent on request.

Stumpp & Walter Co
30 and 32 Barclay Street New York



The National Geographic Magazine

is treasured by each and all of its subscribers; its pages are full of items of interest too valuable to be thrown away or carelessly handled.

Let Us Bind Them For You

Put them in book form, both beautiful and economical; make them an attractive addition to your library.

Back numbers supplied at reasonable prices; indices furnished gratis.

Send for free booklet, illustrating different styles of binding, quoting prices, and giving shipping instructions. All work guaranteed.

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Your Rifle Will Be Ready Soon

.250-3000 Savage
Sporting Rifle

SAVAGE has been making for the Allied Governments many thousands of Lewis Guns, large numbers of three-inch rapid fire naval guns, thousands of truck frames for army transportation, and many other products absolutely essential to the winning of the war.

Our customers have been very patient under the necessary cessation of peace-time manufacturing. We need ask your indulgence further only until we can take the steps necessary for transferring our enlarged facilities to peace-time production.

By April you will be able to buy at your dealer's the famous .22 Savage Hi-Power Sporting Rifle, the powerful .250-3000 Savage Sporting Rifle, and the .32 Savage Automatic Pistol.

Savage ideals will never change. But Savage production, with our new and greater equipment and personnel, will be much more extensive than has hitherto been possible.

"You'll always find a Savage where the service is the hardest."

SAVAGE ARMS CORPORATION

Sharon, Pa. Utica, N. Y. Philadelphia, Pa.
General Offices: 50 Church Street, New York

SAVAGE

"As certain as pointing your finger"

A Campaign to Protect You in Buying Your Watch

RALPH WALDO EMERSON, speaking in one of his essays of a distinguished man, said: "He is put together like a Waltham Watch."

This remarkable tribute to Waltham greatness is the result of the genius of men whose inventive faculties have been concentrated for nearly three-quarters of a century to make it the wonderful time-keeping device it is.

The buying of a watch is an investment in time-keeping. And time is the most valuable possession of man.

You purchase a watch for one thing—to keep correct time for you—to tell it to you with dependability at any moment of the day or night.

A good watch, therefore, must have something more than good looks—it must have good "works."

Millions of people imagine that the "best" watch is made abroad—or, at any rate, that its works are imported from there.

Yet, in competitive horological tests at the world's great Expositions, Waltham has not only defeated these watches of foreign origin, but all other watches as well.

In a series of advertisements we are going to show Americans that there is a watch built in the United States whose time-keeping mechanism is more trustworthy than those of foreign make,—

A watch that is easily and reasonably repaired because its parts are standardized,—

A watch that represents American leadership in mechanical skill,—

Duane H. Church, famous inventor who filled the great shops at Waltham, Massachusetts, with exclusive watch-making machinery that performs miracles of accurate and delicate work which the human hand could never equal.

A watch that has revolutionized the art of watch making and assured accurate and dependable time-keeping.

We are going to take you through the "works" of a Waltham—lay bare those hidden superiorities which have led the horological experts of the greatest nations to choose Waltham as *the* watch for the use of their government railroads.

When you have finished reading these advertisements, which will appear regularly in the leading magazines, you will walk up to your jeweler's counter and demand the watch you want—because you will know how it is built and why it is superior to the foreign watch.

WALTHAM

THE WORLD'S WATCH OVER TIME

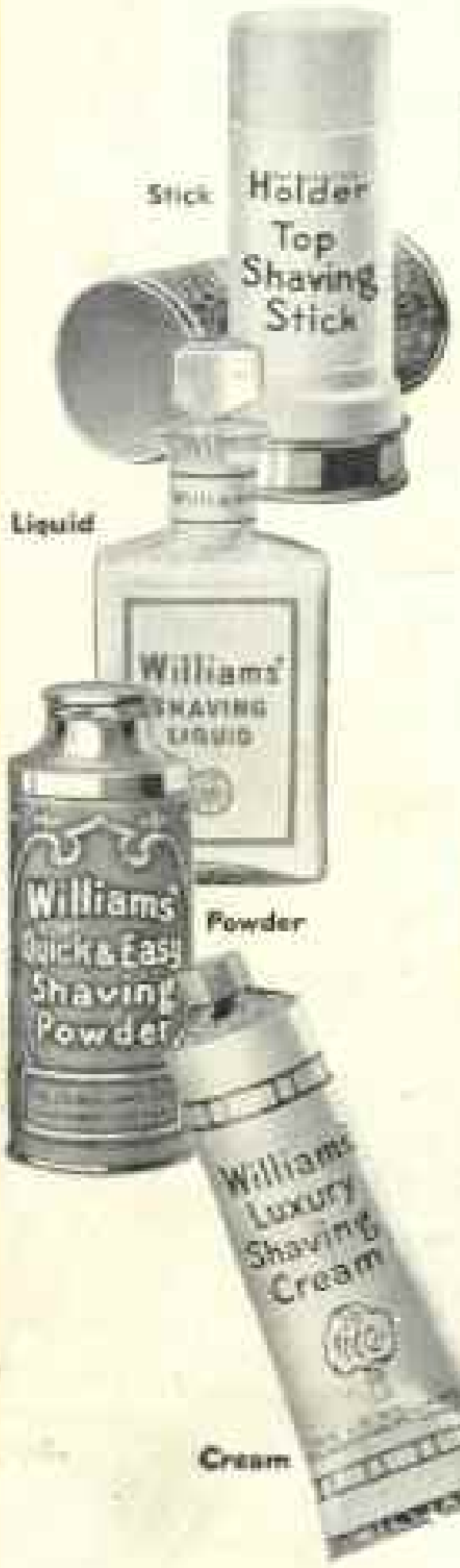
"Mention the Geographic—It identifies you."

PRESS OF JUDD & DETWEILER, INC.

Four forms of

Williams'

Shaving Soaps



Send 20c. in stamps for trial sizes of the four forms shown here. Then decide which you prefer. Or send 5c. in stamps for any one.

The J. B. WILLIAMS COMPANY
Dept. A, Glastonbury, Conn.

After the shave or the bath you will enjoy the comforting touch of Williams' Talc Powder. Send 4c. for a trial size of the perfume you prefer—Violet, Carnation, English Lilac or Rose.

Williams'

PATENTED Holder Top Shaving Stick

THERE is comfort at both ends. Comfort at the holder end because of the firm, metal grip for the fingers—a grip that never loosens or wabbles. Comfort at the business end because of the wonderfully softening, soothing, lasting lather that paves the way for a smooth shave and leaves the skin cool and refreshed. Ask for Williams' Holder Top Shaving Stick. You cannot ask for anything better.