The NATIONAL GEOGRAPHIC MAGAZINE

Vol. XVI MARCH, 1905 No. 3

CONTENTS

Published by the National Geographic Society,
Hubbard Memorial Hall,
Washington, D. C.

$2.50 a Year REPRINT 25 Cents a Number

Entered at the Post-Office in Washington, D. C., as Second-Class Mail Matter

THE NATIONAL GEOGRAPHIC MAGAZINE

AN ILLUSTRATED MONTHLY, published by the NATIONAL GEOGRAPHIC SOCIETY. All editorial communications should be addressed to the Editor of the NATIONAL GEOGRAPHIC MAGAZINE. Business communications should be addressed to the National Geographic Society.

25 CENTS A NUMBER; $2.50 A YEAR

Hubbard Memorial Hall, Washington, D. C.

VOL. XVI, NO. 3 WASHINGTON MARCH, 1905

THE NATIONAL GEOGRAPHIC MAGAZINE

THE CHARACTERISTICS OF THE JAPANESE PEOPLE*

BY BARON KENTARO KANEKO, OF THE HOUSE OF PEERS OF JAPAN

I CONSIDER it the greatest honor ever conferred upon me to speak before you here at the National Capital of the greatest Republic. As your President has announced, I have been out of practice in speaking the English language for nearly twenty-five years, and when I was asked by the Society to make an address I declined, because to speak in a foreign tongue after being out of practice so many years is a difficult task, and besides I can hardly convey my ideas and make you understand what I have in my mind. But the request was so sincere and so earnest that I felt that if I still declined I might offend the Society, so I accepted at last with hesitation, but with the greatest pleasure.

The subject of Japan is being written and talked about a great deal at this moment; therefore the subject I have selected for tonight is rather a different one, and might be called "The Characteristics of the Japanese People."

You have no doubt heard and read much about Japan, and my country is already familiar to you, but we have so far been misrepresented in many ways, even in the circle of scholars and learned communities. We have been often called a race of imitators or a race of copyists. To be sure, we have copied many things entirely foreign to our own institutions, but in so doing we follow always a certain principle. This misrepresentation arises from the fact that a foreign observer fails to distinguish between the outward appearance of human activity and the inner workings of man's mind.

Many travelers come to our country; they pass through from one end of the Empire to another; they go through the streets and squares; they see the people and buildings, and when they come home they say "the Japanese are copyists and they are a race of imitators," because they only see the outward appearance of our activity, but, unfortunately, never study the inner workings of our minds; therefore I have selected tonight this subject to present before you—the inner workings of the Japanese mind. The subject is rather gigantic—you might think too gigantic—but I will try to explain as clearly as I can.

* An address to the National Geographic Society, January 6, 1905.

"ADOPT, ADAPT, ADEPT"

The Japanese have a peculiar character. When they come in contact with a foreign civilization they always go through three stages of evolution: First, they pass through the stage of imitation. At this period they imitate everything that comes from a foreign source, and I might say that they blindly copy. But after some years of imitation they arrive at the stage of adaptation; then at last they reach the stage of origination. These three stages are clearly shown by our history, if we only examine into the inner workings of Japanese mind.

THE INTRODUCTION OF THE CHINESE CIVILIZATION

About 1,500 years ago, when we introduced the Chinese civilization into our country, we copied everything after Chinese fashion. At that time we had no national alphabet. There were some sorts of signs to express ideas in writing, and even these signs differed in different parts of the country. The Chinese had a highly developed type of hieroglyphics to express their ideas; therefore at one time the Chinese hieroglyphics took such a hold on the mind of the Japanese that we adopted them as our national language. The imperial edicts were written in Chinese hieroglyphics and government records were kept in that language; even Chinese scholars were employed in the government service as clerks and secretaries, and the Japanese language was almost on the verge of destruction and ruin.

This same phenomenon was found even in England when she introduced the Norman-French civilization. The Norman-French language was taught in schools and was spoken at the palace, as well as in the upper circles. The legal briefs in the courts were prepared in the Norman-French, and the judgments of the court were given in that language. Take, as an example, meat. When an animal is found in the field it is called an ox; but when it is prepared and served on a nobleman's table it is called beef, which comes from "beuf" of the Norman-French. So, again, when prepared on the table it is called mutton—"mouton," from the Norman-French; but when found in the field it is called a sheep. In Japan we went on exactly in the same way as the English people. Among the upper classes, as well as at the court, we used entirely the Chinese hieroglyphics. Every document of the government was kept in Chinese hieroglyphics, and the Japanese language was only spoken among peasants and in a remote part of the country, where the Chinese civilization did not reach.

Therefore this period might be called the era of imitation. Did our country remain long at that stage? Fortunately there came a scholar—the most famous scholar we ever had—by the name of Mabie, who returned from China in 735 A. D. He was in China many years for his education at Chinese schools. When he came back he saw what was most needed in his native country, and he invented out of the Chinese hieroglyphics the forty-seven characters of our alphabet, founded upon the principle of phonetic language. As you know, the Japanese language is phonetic, whereas the Chinese is hieroglyphic. This alphabet is called Shin Kana, which means a genuine alphabet, in order to distinguish from another and later invention of alphabet called Kata Kana. This period might be considered as the dawn of our era of adaptation, for we did not remain long in the stage of imitation, but soon began to realize the future of our civilization, and became conscious of the necessity of our national linguistic independence. Therefore the invention of the alphabet of 47 letters is always considered to have given birth to the Japanese literature, and is reckoned as the beginning of Japanese civilization.

After passing through the stage of adaptation, we soon entered into the stage of origination. In the year 757 A. D. a collection of old Japanese poems was compiled in the newly invented phonetic language. Again, in 798 A. D. the history of Japan was for the first time written in the new language—not in Chinese hieroglyphics as formerly.

THE PART PLAYED BY WOMEN IN JAPANESE LITERATURE

In the early part of the eleventh century "The Tale of Prince Gengie" was compiled by Murasaki Shikibu, a lady-in-waiting to the Empress, and about the same time another book, "The Scrap book Under the Pillow," was written by another lady-in-waiting by the name of Seisho Nagon. This lady, while on duty, observed everything going on in the political as well as social circle of the imperial court, and at night when she retired she used to write whatever she saw during the day in a scrap-book which she kept under her pillow. This custom she kept up during her lifetime, and afterward the scrap-books were compiled and published in book form. These two books, "The Tale of Prince Gengie" and "The Scrap-book Under the Pillow," are considered even now as our Japanese classics, and are studied in our colleges and universities as much as Chaucer's "Canterbury Tales" and Spencer's "Fairy Queen" in your colleges. So you see that our women took a first rank in Japanese literature, and men (unfortunately for them) must be contented to occupy a second position, for men did not prove themselves capable of such a literary work, and those ladies fully mastered the new language and wrote in a most beautiful style, which had never yet been excelled by any man or woman. This period is called the era of origination in our literature.

Next we come to the subject of religion. We have passed through three stages in our religion just as much as in our literature.

Buddhism was first introduced into Japan through Korea in the year 552 A. D.—that is, 1,353 years ago. At first Buddhism was embraced by the higher classes, particulary among scholarly circles, but the lower classes or common people still clung to their old faith of Shintoism. Those who believed in Buddhism went so far as to copy the ceremonies and ritualisms. The doctrine of Buddhism was written in the Chinese language, and the believers offered their prayers in that tongue. At one time Buddhism made such a stride as to become almost a state religion, but the common people still opposed it, with a determination to uphold their own Shintoism. Consequently a most terrible struggle began between the two religions—Buddhism in the hands of the upper classes and Shintoism in the hearts of the common people. Such a contest as this blocked every step in Japan's progress, but finally the statesmen and priests began to understand that they no longer could force upon the people a blind imitation of Buddhism, and they changed their policy and tried to find out some means to meet the requirements of the time. Here again we reach the stage of adaptation.

THE GREAT DAIBUTSU

They invented an ingenious theory of explaining and interpreting the religious principle of Buddhism. They adapted the theory of Monotheism as well as Polytheism by saying that there is only one Supreme Power, which is personified in the form of various gods and goddesses, according to the different countries and different institutions. Thus they reconcile the principle of the one Supreme Power in Buddhism with the Polytheistic theory of Shintoism.

In order to convince the popular mind with this theory, Emperor Shomu patronized a movement to erect a large

bronze statue of Daibutsu or Buddha at Nara, and this statue was erected in 752 A. D., after fourteen years in casting and construction. No doubt some of you who have visited Japan have seen the statue, but no foreigner has so far ever examined into its history and investigated why it was erected at the ancient capital of Nara. Thus Emperor Shomu succeeded in reconciling the two conflicting religions of Shintoism and Buddhism. This period might be called the era of adaptation of the Indian religion in Japan. Henceforth Buddhism swept from one end of the country to the other, converting a large number of people by the theory that "Shintoism is for the living and Buddhism for the dead," or, in other words, that while we are living on this earth the Shinto gods protect us, but when we die our soul returns to the last repose, where Buddha reigns.

THE MARTIN LUTHER OF JAPAN

In the beginning of the thirteenth century there was one priest by the name of Shinran, who is considered in our religious history as a Japanese Martin Luther. He revolutionized the fundamental principle of Buddhism by a new doctrine, for up to that time Buddhism strenuously upheld a monastic life, and the priests were compelled to live in celibacy and abstain from eating any animal food. But this famous priest, seeing the popular mind already turned toward Buddhism, started a new doctrine that a priest, being human, is just as much susceptible as laymen, and abstinence from human wants is against the laws of nature; moreover, a priest must live among the people so as to understand the real nature and feeling of man and woman; therefore a monastic life should be given up and priests should eat animal food and get married, if they desire so to do. From this period the progress of Buddhism with this new doctrine was wonderful and took complete hold of the popular mind. Even at the present time this Shinran sect of Buddhism has the largest number of believers in Japan. Thus the Japanese have gone through three stages—of imitation, of adaptation, and of origination—and in the last stage Shinran was the originator of the new form of Buddhism just as much as Martin Luther was of the Protestantism of the Christian religion of the West.

Next in the sphere of government and law we find the same three stages of evolution. After the introduction of Chinese civilization our governmental organization was moulded after the fashion of the governmental system of the Tō dynasty of China. In the year 701 A. D. we reorganized the departments of our government in accordance with the principles and forms of the Chinese system, and adopted the Chinese law in every branch of our national affairs. At the palace the Emperor as well as the petty officials wore the Chinese headgear and gown. We blindly imitated everything Chinese. This new regime for the organization of the Japanese Empire was embodied in the laws of the Taiho era (701 A. D); but this wholesale change in the political institution was too much for Japan to carry out at that time. Therefore those laws were only executed around the capitol of Kioto and were not carried out in the remote parts of the country.

But the Hojo dynasty, the second military Shogunate of Japan's feudalism, discovered the weakness and defects in the laws of Taiho, because the laws of a foreign country could never be executed in toto, for the simple reason that every nation has traditional laws of its own which every law-giver must not disregard. Therefore Takatoki Hojo, a great statesman, investigated the old customs and traditions of Japan and modified the Chinese-imitation laws of the Taiho era so as to meet the requirements of the country.

This modification is found in a compilation of the customs and traditions of old Japan, which was promulgated in the fifty articles of Teiyei era (1232 A.D.). This is something like the Justinian Roman laws compiled in the reign of Emperor Justinian. This period we call the era of adaptation in our legal evolution.

THE JAPANESE JURY OF TWELVE JUDGES FOUNDED 670 YEARS AGO

No doubt an American audience will be much interested to know that as long ago as the year 1232 A. D. a Japanese statesman made the laws in touch with the popular feeling, for by the laws of the Teiyei era he established a council of state with twelve judges, the same number as the English jury. These twelve judges sat in the council chamber, before whom all litigation was brought for investigation and decision. The plaintiff and defendant had their spokesmen, who argued and defended the case; and afterward the twelve judges retired into a closed chamber, where an oath was administered to them as follows:

"During the deliberation of a case, and the decision afterward between right and wrong, neither family connections, nor sympathy with or antipathy against, the party shall influence. Fear not a powerful family, or favor not a friend, but speak in accordance with the dictates of truth. Should there be a case decided wrong and redress refused to a man, we shall be punished by all the gods and goddesses of the realm. Thus, we swear and affix our signatures."

This is the oath they take before they deliberate and examine the case. Here we have the law, whose spirit and principle are exactly the same as the Anglo-Saxon common law. Again, in 1336 A. D. the laws of the Kenbu era were promulgated by the Asikaga dynasty. This era, combined with that of the Hojo dynasty, might be called the stage of adaptation; but the era of origination begins later on with the Tokugawa dynasty, because the Shogunate of that family made for the first time the distinction of the laws between the sovereign *de jure* and sovereign *de facto* by promulgating "The Seventeen Articles for the Imperial Family" and "The Eighteen Articles for the Military Ruler," and then again they made the laws for the people, which were denominated as "The One Hundred Articles of the Tokugawa Regime." Thus the laws—imperial, military, and common—were executed throughout the whole country without an intermission until the imperial restoration in 1868. With this theory of the characteristics of the Japanese people in our minds, we will find the same three stages of evolution throughout the whole course of our national progress in arts, architecture, industry, commerce, etc.

THUS OUR TRAINING FOR CENTURIES HAD EQUIPPED US TO ASSIMILATE ANOTHER CIVILIZATION

Therefore, when we were confronted at the time of the imperial restoration, in 1868, with a new type of civilization, the western civilization, we were fully equipped by our individual strength and national power to assimilate the foreign civilization with our own, for we had gone through many hard and persevering struggles—religious, social, and political—for many centuries, and without fear could welcome the modern culture and science.

WE STRIVE TO MARK OUT A "GRAND POLICY FOR A CENTURY TO COME"

Here I might refer to one fact, that the Japanese are a little different from the western people in regard to their respect for the past, for they adore the past and the history of their ancestors much more than occidental people do.

As keenly and as profoundly as we look toward our future and our prosperity—the future of our family and our nation—we cling still more keenly and more delicately to our past—the tradition of our forefathers and our nation. We always look ahead in search for something higher than our present condition for our descendants. Our present welfare and happiness is nothing to us when compared with an illustrious past and a great future for our family and our nation.

Thus looking forward to our future, we constantly strive to mark out "the grand policy for a century to come." This is a rather high-sounding word, but when we examine our history we always find it underlying in our national movements—social, religious, and political—because the Japanese from time immemorial have shown their peculiar characteristic to mark out what they will do for the future. In order to establish this grand policy they always study the problem with a far-reaching foresight. This trend of mind is the characteristic of our race. When they contemplate a great problem for national affairs they never think of themselves, but always look forward through the labyrinths of the future to find out the surest way to attain their ultimate aim and goal. According to Japanese notion, compared to this grand policy for the future the present welfare and happiness of ourselves dwindles into nothingness. This policy was clearly and positively marked out by our Emperor on his ascension to the throne, in 1868. Upon that memorable day he swore before the nation in his "Five Articles of the Imperial Oaths": "Seek knowledge in the civilized world, and discriminate the good from the bad and adopt the best; and finally establish the national assembly where all the important affairs of nation shall be decided by public voice." This is the fundamental principle of our national aspiration, closely followed by the Emperor himself and down to the meanest peasant. In order to carry out this policy we must first bear in mind and maintain the past traditions of our country and then engraft upon them the western culture and science.

WHAT WE HAVE TAKEN FROM EUROPE AND AMERICA

With this view we began to reorganize our country in 1868. Since the imperial restoration we have studied the systems of government of the United States and European countries. As you have divided your government into different departments, we divided our government into similar departments. We adopted a compulsory system of national education, exactly on the same plan as your common-school system, of eight years of compulsory education. A boy and girl must attend school as soon as they attain the age of six, and remain there until the age of fourteen. The first four years we teach them the Japanese and Chinese languages, and the latter four years we add English; therefore when a boy and girl graduate from our common schools they can read and speak English. By teaching the Chinese and English languages besides our own we bring up a new generation prepared to seek knowledge in the outer world, as commanded by the Emperor.

In the organization of our army we copied the German system, and in our navy the English and American. In our code of laws we imitated La Code Napoleon, and afterward the German principle and method. In finance we copied your system by adopting your gold, silver, nickel, and copper money, and we went so far as to copy the greenbacks from you. Our first paper money was made and printed in New York in 1870, and if you will take up those old Japanese greenbacks you will find them exactly the same as yours, and no difference except in the writing.

When we come into contact with a foreign civilization we at first blindly imitate it, because that is, according to our idea, the shortest cut to our ultimate goal; but we are never satisfied to remain forever in the stage of imitation. This is clearly shown by our progress during the last thirty-seven years since the introduction of the western culture and science. Our recent evolution differs from the case of our forefathers in this respect, that our era of imitation after 1868 was very short, and the stage of adaptation began very soon after, and even the latter stage was simply a passing phenomenon before we reached the stage of origination. The proof of this fact was fully shown by our constitution. If you examine the constitution of Japan from the first article to the last you will find it quite different from those of American or European countries, yet its frame and foundation are in accordance with the principles of the western constitutions. Therefore I might say that the constitution of Japan is a living monument of the origination of Japanese statesmanship.

Again, in the realm of science, we have already reached the stage of origination by Dr Kitasato's discovery of a new bacteria. He discovered it in Germany and was decorated by the German government; and Dr Takamine, who is now living in New York, discovered adrenalin, a medicine which is used to stop bleeding, particularly by oculists in operations on the eye. Next comes Baron Ito, whose untiring investigation in botany made his name recognized by both American and European scientists.

Major Shimose's smokeless powder is a Japanese invention, and is acknowledged far more powerful than the English lyddite or the French melinite. This powder is by an actual test five times as strong as the European powders. When a shell that is filled with lyddite or melinite is fired it will break into ten or fifteen pieces, whereas the same shell filled with Shimose's smokeless powder when exploded bursts into 2,000 to 2,300 pieces. It is now considered the most powerful smokeless powder ever invented, and its inventor is a major in the Japanese army. Thus we have already entered into the era of origination.

In closing I may here sum up in a few words that although we dearly cling to the memory of the past, yet we eagerly hope for a great future, and in order to realize this hope we mark out the "grand policy of a century to come" with a far-reaching foresight. For means to carry out this policy we come to Europe and America. We go to Germany to study the German system of exactness, for they are noted for thoroughness in everything, but their system was found by our experience to be too stiff and inflexible. As exact and thorough as their system is, it is much more liable to leave us handicapped; therefore we come to America, for the Americans are the most practical people in the world. They cannot mark out such an exact system as the Germans, but they always use their common sense and come out successfully whenever they encounter a difficulty. They do not care so much for academic principles, but they have the tact to solve any question from a practical point of view; thus in Anglo-Saxon practicability we found our indispensable rescue.

OUR ASPIRATIONS

This "grand policy" for our national affairs, marked out "for a century to come" by our far-reaching foresight, coupled with German exactness and American practicability, will be the future course of the Japanese people. Then you will ask, What are your aims and aspirations? To this question I answer that our national ambition is by engrafting the western culture and science upon our own institutions to blend together and assimilate the two

types of civilization—oriental and occidental—and by doing so to bring forth a new type of civilization, in which the culture and science of the two hemispheres will meet, not in conflict, but in harmony, so as to enable us to share the inheritance of Christian religion, oriental philosophy, Greek art, Roman law, and modern science.

Thus we hope in the course of the twentieth century to have at least one fruit out of our earnest and persevering efforts to contribute to the progress of mankind.

GEOGRAPHIC NAMES IN THE UNITED STATES AND THE STORIES THEY TELL

BY R. H. WHITBECK, NEW JERSEY STATE NORMAL SCHOOL

THE geographical names of a country tell much of its history. Each race that inhabits a region gives its own names to mountains, rivers, and lakes, or adopts names previously given. A stronger people may, in later centuries, destroy or drive out every member of the earlier race. The latter may hand down no written sentence of its own history, yet some record of the race will be preserved in the geographical names which survive. The Romans were not able to vanquish the Britons. Comparatively little of Roman civilization penetrated the British Isles. The fact that the Roman "conquest" was little more than a *military* occupancy is attested by the geographic names which the Romans left, most of which terminate in -caster or -chester, from the Roman military word *castra*, a camp. Each wave of invasion—Roman, Angle, Danish, Saxon, or Norman—left its story in the names which it gave, and which remain like the stranded boulders of a glacier long since melted away.

The varied history through which different sections of the United States have passed is told in the varied nature of its geographic names. The red man built no cities in whose ruins we may read the story of his past, for the Indian was not a builder. He has left no roads or fortresses or castles; his methods of warfare called rather for a forest trail and an ambuscade, and these leave no ruins. Were a traveler to examine every valley and hill, every pass and ford and mountain from Maine to Florida, he would now find few traces of the red man in any material thing which survives him. But on every hand he would find the record of Indian occupancy in the names of rivers, creeks, and lakes in which the red man fished and on whose shores he camped and hunted and warred. The mountains seem to have had little attraction for the Indian, and it is seldom that a mountain bears an Indian name. The red man cared little for the bays and inlets along the coast; he made little use of the offshore islands; hence it is that among the hundreds of local names given to islands and bays along the coast of America one seldom meets an Indian word. But the streams and lakes were the Indian's delight. On their surfaces or along their banks most of his time was spent. Along their sides ran his trails and on their shores stood his villages. Every considerable stream and every lake had its name. When the pale face came he found the lake and the stream already named. When he traded

with the dusky brothers for his furs or when he bargained for his land it was convenient to employ the geographical terms already in use by the Indian. Sometimes the white man gave the river or lake a new name, as did Hudson and De la Ware and Champlain, but oftener he accepted the original, and today the most frequent reminder that we have of the unfortunate race is the hundreds of Indian names, mostly of rivers or lakes, sometimes of cities, counties, and states, named after the tribes that dwelt in the vicinity.

The extent to which the early settlers adopted Indian names differs widely in different parts of the country. Twenty-four rivers of Maine, 17 out of 28 rivers of Connecticut, 40 rivers in Georgia, 32 in Florida, and most of those of Pennsylvania, New York, Ohio, and Indiana have Indian names. In Kentucky, Tennessee, and the large majority of trans-Mississippi States Indian words are much less common than they are east of the Appalachians. For example, only 7 of Tennessee's 30 important streams carry Indian names, and not one large stream wholly in Kentucky and not one in the great State of Montana has an Indian name.

Next after rivers lakes remind us most frequently by their names that the red man once dwelt by their waters. Hundreds of New England lakes, particularly of Maine, most of the important lakes of New York, and 4 out of the 5 Great Lakes tell of the Indian.

Even in those states where rivers and lakes most generally bear Indian names the political divisions, the mountains, and the shore features do not. Only 2 of the original 13 states, Massachusetts and Connecticut, and 3 of the mountain states, Arizona, Utah, and Wyoming, have Indian names, while 16 of the 18 Mississippi Valley states have such names. The two exceptions are Wisconsin and Louisiana, both of French origin.

Of the 150 cities in the United States with 25,000 or more people less than a dozen have names of Indian origin. In most cases where states, counties, or cities bear Indian names they have borrowed them from rivers or lakes which already bore them. New York has 20 counties with Indian names, and leads all of the states in this particular. Six out of the 16 counties of Maine have Indian names; but aside from Maine and New York Indian words form but a very small proportion of the county names in the United States. In the geographical names of Indian origin the differences in tribal dialects are everywhere striking. The horrible words of the Russian language do not differ more widely from the soft, mellow language of Italy or France than do the Indian names in northern New England from those of New York. Indian words in Connecticut differ radically in sound from those of New Jersey, and those of South Carolina, Georgia, and Florida differ equally from all others.

Contrast the unspeakable names of the lakes of Maine with the delightfully euphonious names of the lakes of New York:

Maine	*New York*
Chesuncook	Seneca
Pamedecook	Owasco
Motesentock	Otsego
Molechunkemunk	Onondaga
Moostocmaguntic	Cayuga
Mallawamkiag	Cayuta
Cauquomogomoc	Oneida

Again note the difference in sound of the words from different parts of Connecticut:

Mashapaug	Housatonic
Pistepaug	Mystic
Wangumbaug	Niantic
Waremaug	Scantic
Pomeraug	Willimantic
Quinebaug	Yantic

It is evident that the above words tell of very different dialects, and hence of different tribes. The characteristic

terms found in New Jersey and in Virginia, for example, tell a similar bit of history:

New Jersey	*Virginia*
Musconetcong	Chickahominy
Hopatcong	Mallapony
Pohatcong	Potomac
Watchung	Rappahannock
Minnisink	Shenandoah
Navesink	Appomattox

When we pass into South Carolina, Georgia, and Florida, we find an entirely different set of sounds predominating in the geographical words:

Allapaha	Chattahoochie
Altamaha	Auchee Hachee
Tallapoosa	Caloosahatchee
Oostanaula	Chilloccohatchee
Soquee	Choctawhatchee
Oconee	Contoohatchee
Ohoopee	Fahkahatchee
Ochmulgee	Ulcofauhachee
Kissimmee	Withlochoochee

While 17 streams in Florida have names ending in ee, only 3 in the nearby State of Mississippi have such names, suggesting that tribal boundaries were, on the whole, rather definite, and that tribal dialects dominated over well-defined areas. These geographical words show how widely the Indian dialects differed in their prevailing sounds. The ear of the Iroquois evidently delighted in vowel sounds, and most of the Iroquois geographical names terminate in a vowel, usually a or o. The tribes of New England show no such preference. In fact, their long words, loaded with consonants, seem like a train of half articulate grunts. The tribes of New Jersey, Pennsylvania, and Virginia had more musical ears and dialects. Most of the words which they have bequeathed us are pleasant to the ear and flow smoothly from the tongue. But when one examines the words by which the red men of the South Atlantic States called their lakes and rivers, he is led at once to suspect that a crew of shipwrecked Chinese must some time have been stranded on these shores and have tacked to the original names a liberal sprinkling of characteristic Chinese ee's. With the exception of the Great Lakes region, the Atlantic coastal states are the only ones which are fully strewn with Indian names. Other regions have them, but not in abundance.

There are other linguistic trails over our land besides those left by the red men. Up the Hudson and Mohawk goes the trail of the Dutchman, his footsteps marked by Fishkill, Catskill, Peekskill, and Shawangunk Kill; by Rhinebeck and Rhinecliff; by Stuyvesant, Rensselaer, and Amsterdam.

In northern New York and Vermont is the trail of the Frenchman who dotted his path with Richelieu, Ausable, St Albans, Vergennes, and other terms of Gallic sound. The so-called Pennsylvania Dutchman has spread himself thoroughly over the land of Pennsylvania, and still reminds us of his nationality by the several hundred burghs which he founded. The Swede has left a memorial of himself along the Delaware in Swedesburg, Swedeland, Swedes' Ford, and Swede Furnace.

The trail of the explorer-priest extends from the mouth of the St Lawrence to the mouth of the Mississippi and along the larger branches of both rivers. His mind was bent upon missionary enterprises and his calendar was filled with saints' days. Those who came after him—to hunt, to trap, to trade, or to settle—were like him—Frenchmen and Catholics—admirers of the saints, whose names they gave to the rivers which they discovered, the trading posts, and the forts which they established or the settlements which they made. Such are St Lawrence, St John, St Peter, St Hyacinthe, St Catherine, St Thomas, St Mary, St Paul, St Anthony, St Joseph, St Charles, St Louis, St Francis, and St Martin, all and many more scattered along the path of the French explorers from Newfound-

land to Louisiana. Hundreds of other French words mark the pathway of La Salle, Father Hennepin, and their followers; Wisconsin, Eau Claire, Fond du Lac, La Crosse, Des Moines, Des Plaines, Vincennes, Prairie du Chien, Pierre, Versailles, Louisiana, Baton Rouge, and New Orleans.

The geographical names in the two neighboring States of Mississippi and Louisiana tell differences in the early history of the two states. Not a county, island, lake, river, or city in Mississippi has a "saint" in its name, while 9 counties (or parishes) in Louisiana and 40 towns, rivers, or lakes do homage to the saints in their names.

The French occupation of Louisiana obliterated most of the Indian words. The most conspicuous reminder of the French settlers is seen in the "bayous." This is the French word for small stream; one scarcely hears of a creek in Louisiana. They are all bayous. In Maryland they are "runs."

In Kentucky and Tennessee the vocabulary of the priest is strikingly absent; neither state has a county or stream named after a saint, but the vocabulary of the hunter and trapper is found everywhere: for example, in Tennessee we find the streams telling of the hunter in such names as Buffalo, Duck, Elk, Forked Deer, and Little Pigeon.

Montana and Idaho geography tells unmistakably of the invasion of the unschooled miner. He sought the mountains with their treasures of ore. Almost every peak and range of these states bears a name which reveals at once that it was given by men who thought or cared little for the names which history or literature might suggest. Such men would naturally select Bear's Paw, Big Horn, Snake Head, Saw Tooth, Bitter Root, and Seven Devils.

Indian names are seldom met with in these mountain states. In fact, if one scans a list of the geographical words in Montana, Idaho, Wyoming, and Colorado he will scarcely suspect that Indian tribes ever lived within their borders.

The early settlers of Nebraska, Kansas, Dakota, Wisconsin, and Iowa were of a very cosmopolitan character, of varied nationalities, creeds, and ideals. They came from the Eastern States and from foreign countries, and to their settlements gave names that tell of the places in the East, or across the sea, whence these pioneers came.

Though Texas was formerly a part of Mexico and was subjected to Spanish influences, yet one fact at least reveals how slight was the real hold of Mexico upon Texas—the relative infrequency of names with the prefix san or santa. Like the French in the St Lawrence and Mississippi Valleys, the Spaniards in the regions which they explored were inclined to leave a spattering of saints' names. Where Spanish influence really dominated there the san and santa is frequent, and there rivers are "rios" and mountains are "sierras." While such words are often found in Texas—as, for example, San Antonia, San Diego, and Rio Grande—yet these names are relatively infrequent, but naturally increasing as you approach the Mexican border.

The stronger hold of the Spanish upon California is seen in its 10 counties and 15 important streams with names beginning with san or santa. Nearly all of the large cities and over 150 towns of California tell of the Spanish settlement—San Francisco, Sacramento, Los Angeles, San Diego, Alameda, Santa Cruz, Santa Barbara, and many more. Indian names are seldom found.

In the early fifties two important events were taking place on opposite sides of the earth—in Europe the Crimean war, in America the rush for the gold fields of California. In 1854–'55 came the famous siege of Sebastopol in the Crimea. Half way around the world, in the land of new-found gold,

men were founding towns and adopting names for places, and among the names which the California miners selected are seven "Sebastopols," another illustration of how geographical names record history.

In Arizona and Colorado the trail of the Spaniard is everywhere visible. Twenty larger streams of the latter state are "rios." In the former the Spanish mesa, butte, el, san, and santa are constantly met with, yet of the 14 important mountain passes in Arizona not one has a Spanish name.

The desert lands of Nevada did not tempt the cavalier or the priest to build forts and missions. There was little to attract them into its sandy wastes. Less than a half dozen of the 40 important mountains and peaks are named in the Spanish tongue, and not a county in the state has a Spanish name. The place names of Oregon and Washington tell the checkered history of those states. Capes Foulweather and Disappointment speak of unhappy voyages. Astoria recalls the fur trade that helped to found the Astor fortune. The neighboring towns of Harrisburg and Lebanon suggest colonies of people from southeastern Pennsylvania. Salem suggests Massachusetts, and Albany speaks of New York. In both Washington and Oregon Indian names are rare. In Oregon not a saint, san, or santa is attached to a county or important natural feature.

Thus does history unwittingly record itself. Thus is a key which admits us to a glimpse of past events found in the place names of any region.

A GROWING CAMP IN THE TANANA GOLD FIELDS, ALASKA*

BY SIDNEY PAIGE, OF THE U. S. GEOLOGICAL SURVEY

IT is impossible to know in how many and how widely separated localities the question, "Going to the Tanana?" was asked and the reply, "Yes," given during the past two years in Alaska. From Skagway, in the southeast, to Cape Prince of Wales, in the extreme west, from Dawson, on the Yukon, to St Michael, on the coast, the query has been rife, and the "ayes have seemed to have it" everywhere.

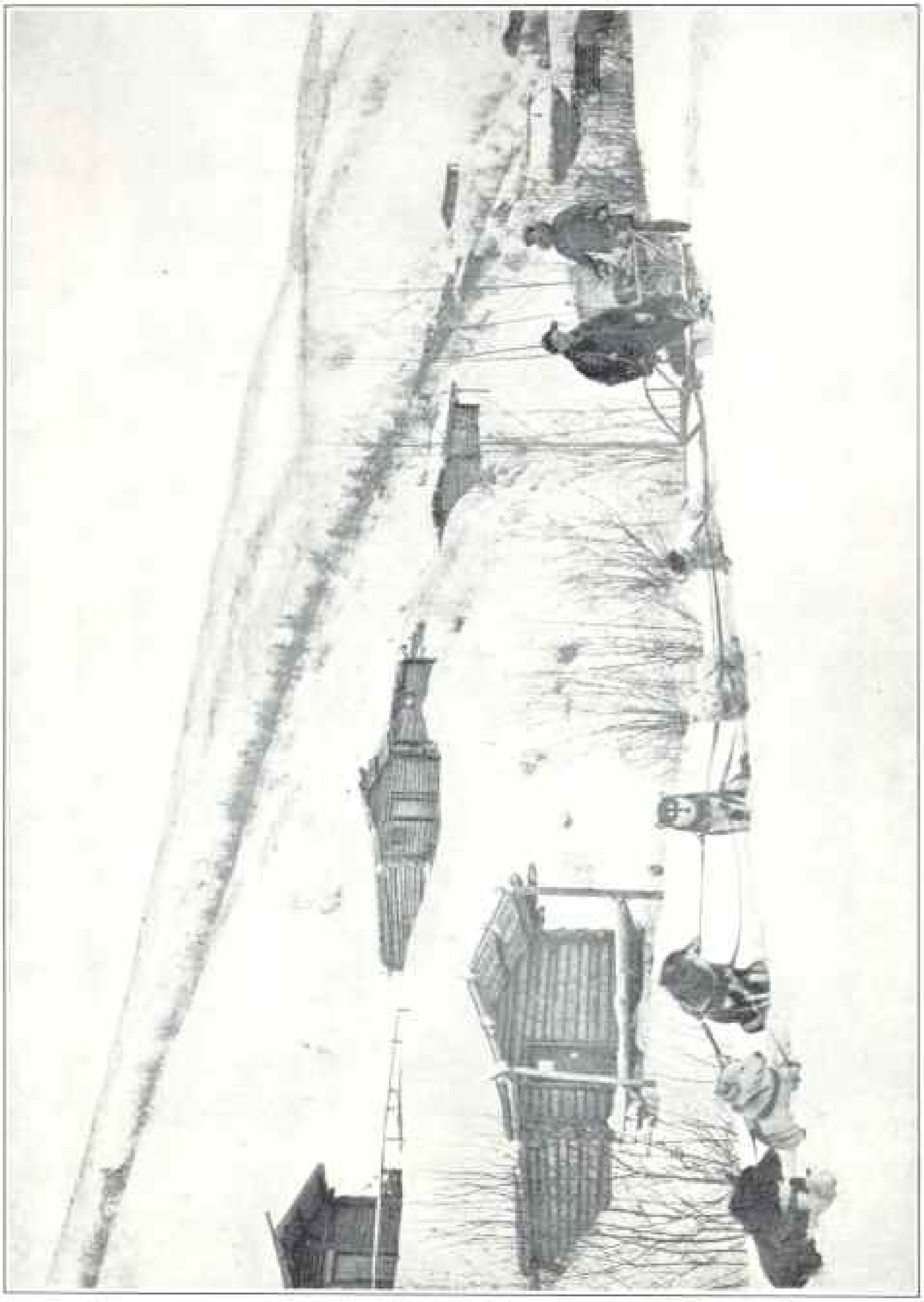
A glance at a map of Alaska will reveal the nearly central position of the lower Tanana Valley, just now the focus of interest for so many hopeful souls. A new camp is always an alluring "proposition," but one that stands the test of time becomes a veritable magnet to that great mass of shifting and roving fortune-hunters, the Western placer-miners. The Tanana fields have stood the test, and Fairbanks town, with all the strength of its new life and important position, means to rival Dawson, across the line.

Six miles to the south flows the Tanana River, second in size only to the Yukon, which it meets 150 miles to the west and with which it forms the great highway to and from the "diggins."

During the summers of 1903 and 1904 great numbers used this easy but long trail to Fairbanks.

The White Pass and Yukon Railroad, leaving Skagway on tide water, climbs the mountains of the coastal range, and, following the beautiful shores of Lake Lindeman and Lake Bennett, brings the traveler to Whitehorse, famous for its rapids, which in the olden days brought

* Published by permission of the Director of the U. S. Geological Survey.



On the Winter Trail to the Gold Fields

Photo by Shirley Baker

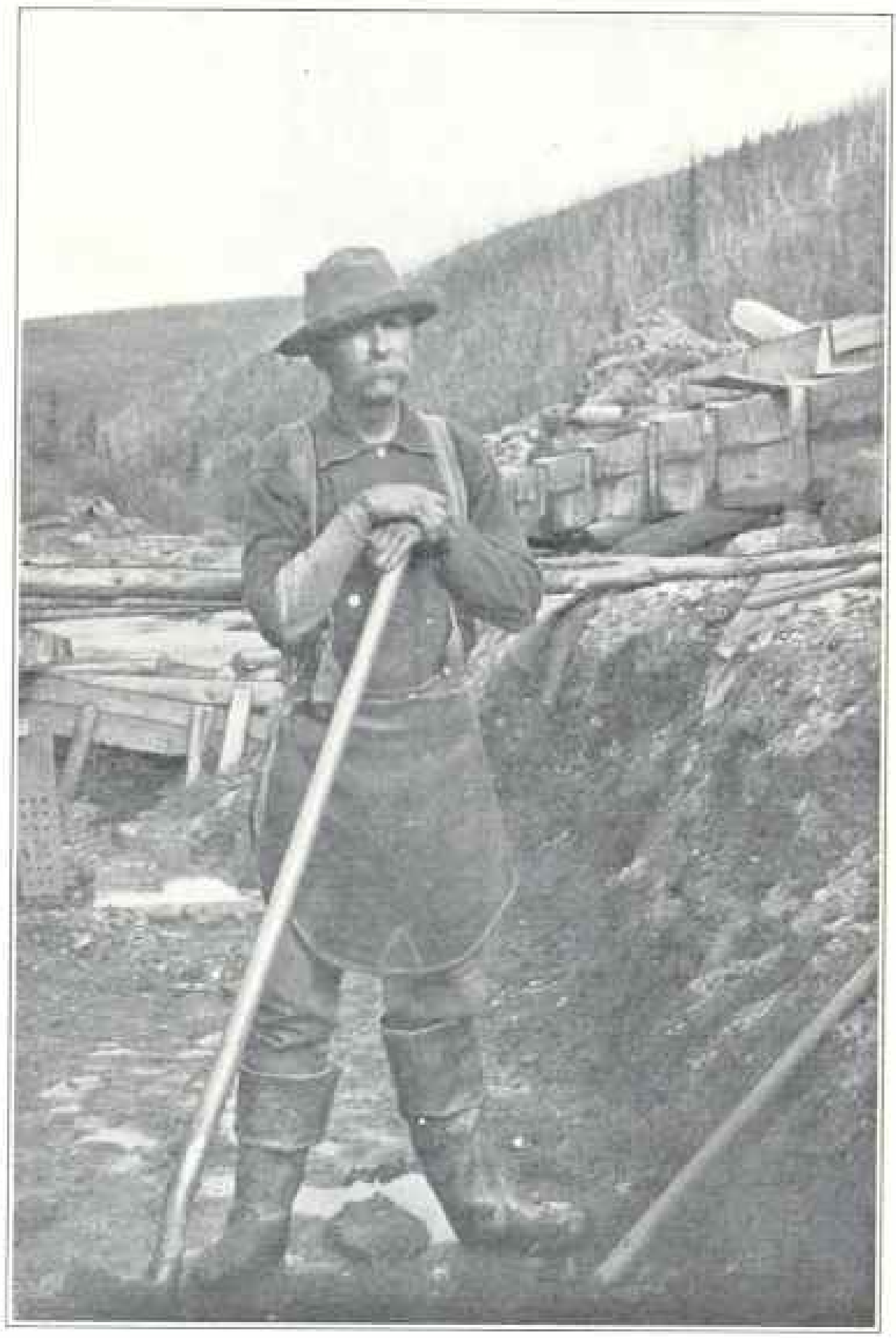


Photo by Sidney Paige

One of the First to Reach the Tanana Gold Fields

to grief so many a hopeful tenderfoot. Down the river, through Lake Lebarge and the "Five Fingers," one can journey under many different class tickets. There is the first-class ticket on the first-class boat, which means that you may have a stateroom if you are lucky, or the floor under a table if you are not, and there is the second-class ticket on the first-class boat, which means you may sleep above the boiler if cold-blooded, or on the bow of the boat if warm; then follow the first and second class tickets on the second-class boats, which cost as much as if they were first-class, but always inspire the sentiment, "If I'd only stayed to home with mother." The wise and independent traveler eschews both classes and masses and takes to the open boat, in many ways the most attractive mode of traveling. The river flows swiftly; the days are endless and the scenery beautiful and varied; hills and valleys, cliffs and flats, fly by as one takes the midstream to escape "them pretty little ——," the mosquitoes, and 50 miles in a day's run before camp is pitched requires little effort. If in great haste to tread the streets of gold and collect the nuggets waiting, "watch and watch" will enable you to utilize the long Arctic days. At Gibbon you await the first steamer up the Tanana, for ascending by small boat means much hard poling and tracking on the bank, 15 miles being a big day's work. The light-draught steamer is crowded, and you are in luck if you find space for your blanket on a secluded spot of the deck. But all are gay and hopeful, and dreams of a farm in southern California, with an orange grove about the house, or a brown-stone front on Fifth avenue in the East put energy into the weary.

It is another matter to reach Fairbanks from the "outside" after the "freeze up." The shortest route is over the mail trail, by dog sled from Valdez, on Prince William Sound, a weary stretch of 400 miles of mountain and lowland, not to be undertaken by a "cheechaco" (Alaskan tenderfoot) unless he possesses not only the right stuff, but also a reserve fund to call on in time of need. Strange as it may seem, the closing in of winter opens up the country to the "sourdough," for dogs can pull where horses fail, and the prospector with his team and "grubstake" roams at will.

Level spruce-covered ridges rising to bare rounded domes, with horizon lines as straight as a rule, characterize the Tanana gold fields. Gently sloping valleys with hillsides at low angles are seen on every hand, and only a clear day reveals far to the south across the wide valley of the Tanana the snow-capped Alaskan range towering to the clouds and culminating to the southwest in Mt McKinley.

Fools, and many of them, rush into a new mining camp, but the presence of angels would be rather a disturbing element in the general scramble for good "pay." Moreover, their wings would become torn in the brush and their robes muddied by the heavy trails.

Fairbanks is a thriving town of some two thousand souls and growing. In fact, it grows as you watch it, and it grows as you give up the watching and turn for a few moments of sleep. It has not yet, and it is to be hoped never will, bear the name of city, so often ill applied in the northern camps, where each collection of log cabins is dignified by that addition to the name of the first prospector who struck pay. The main street fronting Chena Slough already puts to shame many a town of ten times its age on the "outside."

On the main street alone there are as many as ten saloons, all in active business, to say nothing of the hospital, dwellings, sawmills, drug stores, and commercial companies' posts, where can be bought anything from a paper of pins to a folding bed or from a roll of

wall paper to a polished oak dining table. He that imagines that luxury does not exist in our far northern camps would need settle but one small bill for furnishing to become entirely convinced of the luxury of all things, even a sack of flour.

Houses front the slough which would do credit to our eastern shores. Steam laundries vie with the force of muscle in producing the spotless white shirt bosom, and bootblacks at "two bits" a shine, ever ready, await you, that the mud of the trail may be cleaned from your boots before entering your carpeted cabin.

Justice is rendered daily in the court-house (used on Sundays as the church), and if a man's claim be "jumped" he needs but bring suit, and then go seek another claim—"broke."

If you would know the creeks, don't go to them. Enter a saloon, and in five minutes, mid the melodious tones of "Mamie, come kiss you honey boy," screeched from the latest phonograph, and the jostling of the eager crowd about the gaming tables, endeavoring to lose in the shortest possible time their hard-won gold, you will hear more of the "good pay" and rich "fractions" than you could learn in a month at the bottom of a wet drift. "Sell it?" "No; not for $50,000;" and he wouldn't, either, though before the winter is over he'll probably work "day shift" on the end of a wooden windlass hoisting a ten-pan bucket 60 feet at 40° below zero.

The continuous buzz of the sawmills, turning out 50,000 feet of spruce lumber a day, would suggest a western logging camp. Lumber is as essential in mining as is water, and with the prices up to $200 a thousand the owner of a mill needs no gold mine to make his fortune.

Enter a restaurant, and anything from a cup of good coffee, well served, to a four-course dinner is yours. Broiled caribou steak and mushrooms are inviting, served with lettuce and green peas; but don't do it often, or you'll probably work your way out in the fall as a deck hand on a flat-bottom stern-wheeled steamboat bound south.

When you are able to drag yourself from the allurements of the metropolis and start for the creeks, take the ridge trail. Some one may tell you to follow the telephone line, as it is straight. It is straight enough—one of the few straight things in the country, in fact—and the walking is good when you get down to it, but it's a long ways down and you must need make special efforts to extract each separate foot. The ridge road is high and dry, through a stretch of spruce and birch timber, and, if you have dragged yourself through the mud and water of a creek trail, seems a boulevard. The freight of all the creeks passes this route, and the lead horse of a pack train steps aside to let pass the two-ton four-mule freighter as it toils along, jolting over the old roots and stumps of the former wood. Ten miles beyond, in the bottom land at the junction of Gilmore and Goldstream, this same freighter will sink axle deep in the mire, and probably leave half its load by the wayside for a second trip. Little wonder that freight rates are "two bits" a pound, or $500 a ton, a mere bagatelle when your claim carries fifty cents to the "pan," but ruinous when it averages only five.

A newly opened gold placer in an Alaskan camp is far from an inviting sight. Heavy freighting, accompanied with frequent rains, produces in the freshly thawed ground of the creek bottoms a result not conducive to good walking, to say the least, and in a short while the foot trail has spread itself far up on the hillsides in a vain endeavot to find a dry and firm piece of moss upon which to settle. But it is on the creeks that the work begins. The glamor and fascination of the infant

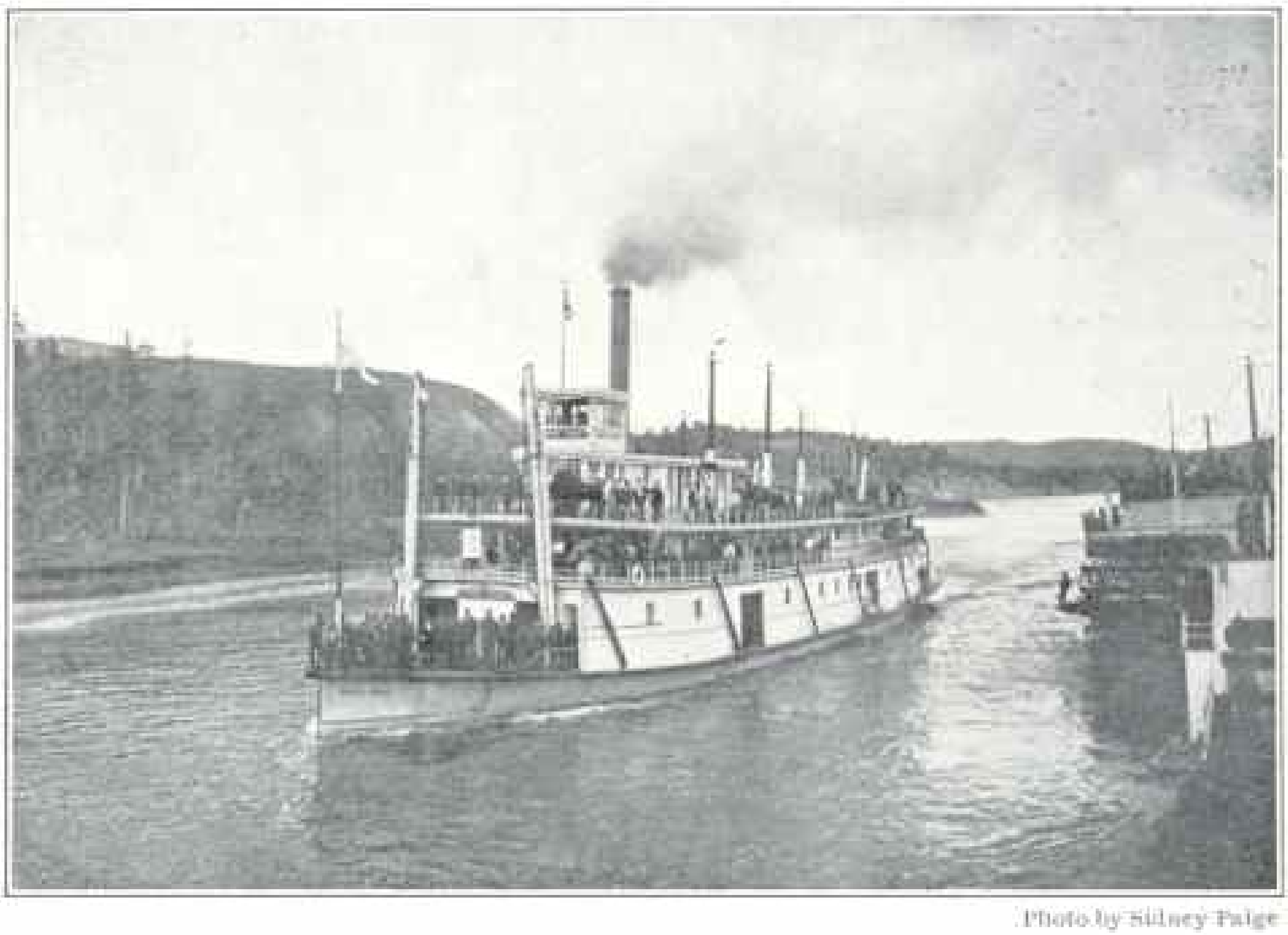


Photo by Sidney Paige

The "First Boat Out" after the Ice. White Horse

city have disappeared, and men shovel and sweat for their daily bread and the other man gets the gold.

Everywhere the sluice box and the piles of "tailings" catch your eye, and the incessant *chug chug* of pumps and dummy engines with the rhythmic dumping of the gravel greets your ears.

Descending one of the many shafts sunk to bed rock through the frozen gravel, the shift boss will show you where the best pay lies, and while you stoop to examine the spot a chunk of the roof may catch you in the back of the neck. But it seldom sloughs off in more than 40-pound pieces, so there is no danger.

The mass of miners are wage-earners, and they earn their wage. To work all day at the end of a No. 2 shovel is not all honey and treacle, nor does it lead to high ideals and gentle philosophy to sweat out your ten hours in a steam-filled drift of frozen gravel forty feet below the creek, and when the whistle blows issue to a hasty wash, a dinner, and a crowded bunk-house. But there is the ever-present possibility of a good strike or a profitable "lay" on a rich claim. The day is 24 hours long and the sun shines most of the time, and when the snow falls and the trail freezes over, the wage-earner is his own master again. With the hard-earned "grub stake" and his team of dogs he hits the trail for the new country, and it is "mush" until the coming spring, when, if he hasn't struck it during the short days of the Arctic winter, he returns to the end of a No. 2 to try it again next fall. Ask as many as you will if they are "goin' out this winter," nine times out of ten the answer comes, "Not till I go with a full poke." And

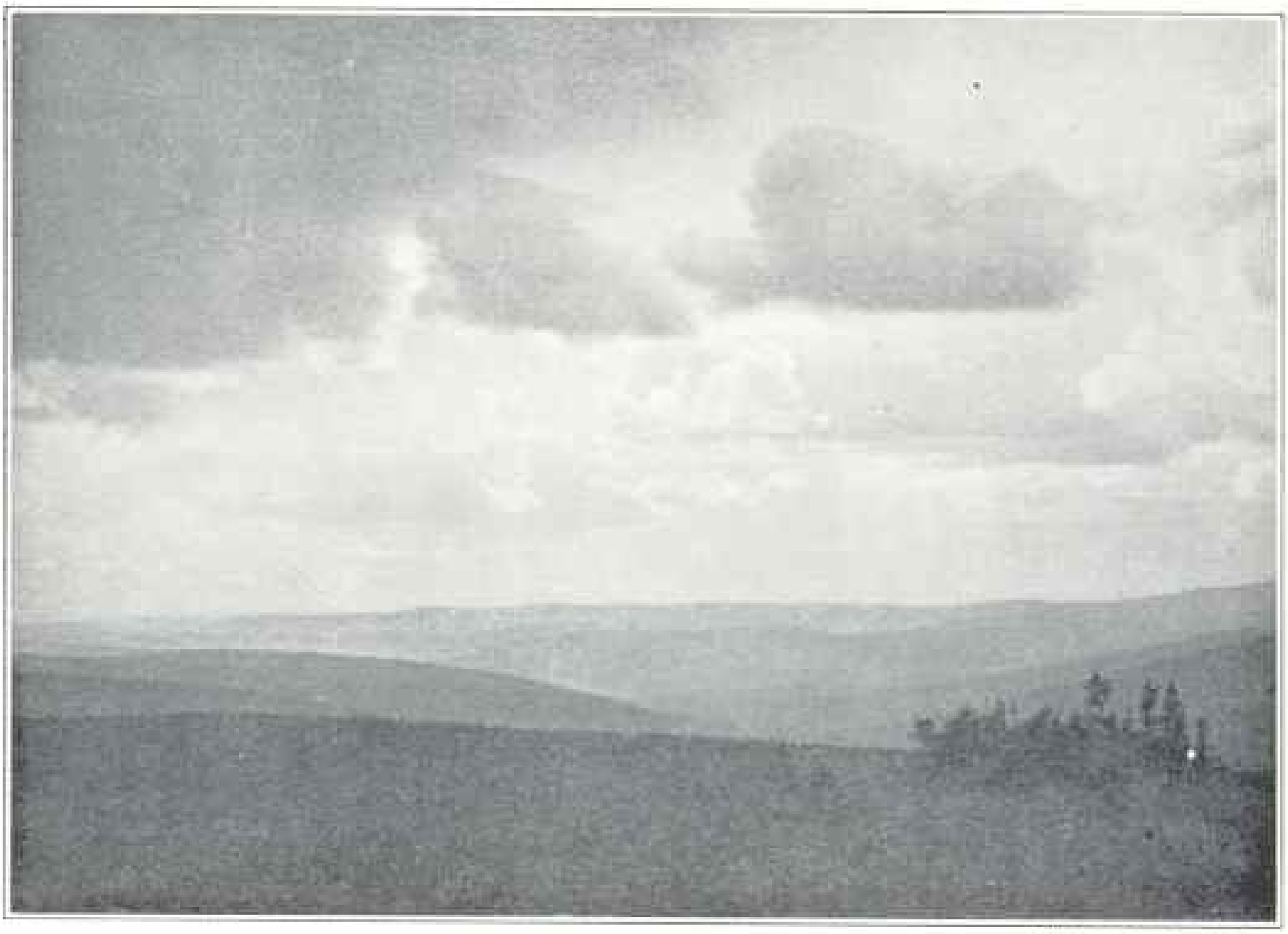


Photo by Sidney Paige.

The Tanana Gold Fields

then Seattle and all that goes with it, and broke in a short six months.

The hospitality of the old Alaskan pioneer is proverbial, and in the Fairbanks camp there is many a proof of it. When noontime and a stranger come about the same time the result is a stranger before a full table heaped with all that money and a generous hand can procure in that far-away land; and even if the miner's ground happens to fall where the bed-rock was smooth and the pay had slipped to the claim below and his shelf showed but few fresh cans of "carnation cream," the same hearty welcome would await the newcomer as if the poke were full and hopes high—a meal to share and a blanket in the cabin on the floor. Strong, healthy, cheerful, mostly hopeful, seldom rich, but always hospitable, defines the Alaskan miner.

Cleary, Fairbanks, and Pedro Creek are yet the mainstay of the camp. One claim on Cleary yielded $1,000 a day from the solidly frozen gravel 20 feet below the surface. Confidence is expressed by the fact that several claims during the past summer changed hands at as high a figure as $60,000.

Underground mining, or drifting, as it is termed, is probably the most economic method of extraction on Cleary and Fairbanks Creeks, for the deep, barren overburden of muck and gravel places open-air work out of the question.

The primitive hand windlass is disappearing, its place being taken by the

self-dumping carriers and steam hoists. Wood fires are no longer used for thawing, the steam point being far more efficient.

During the night shift the steam points are driven in the face of the drift, and after ten hours' thawing the material is extracted the following day by steam hoist and self-dumping carrier.

Already keen competition is lowering the wage and reducing the cost of supplies, and a reduction in cost of extraction and consequent greater profit is the result. Machinery of the necessary class, boilers, pumps, steam winches, hoists, points, and miners' supplies of all kinds are entering the camp in large quantities. As the cost of mining is lowered, the area of workable ground is increased.

The building of better roads would immensely aid the miner whose ground, though not marvelously rich, still affords good "pay" under more economic conditions. It is probable the gold-producing field will grow, though the test of time is the only reliable one. Certain it is, however, that there exist hundreds of square miles in this region that have barely been scratched, and the hopes and spirits, at least, of the camp are high.

THE INDUSTRIAL TRAINING OF THE GERMAN PEOPLE

ONE of the most important government publications in some time has been issued by the Bureau of Statistics of the Department of Commerce and Labor. It is entitled "Industrial Education and Industrial Conditions in Germany," and contains a number of special reports by our consuls in Germany, which give an excellent and thoughtful appreciation of the rapid growth and prosperity of the German Empire. This progress is due mainly to the thorough training which the German workmen and working women, of high and low degree, have received in the German technical schools, which since the union of the German states, in 1870, have been fostered everywhere by principalities, cities, associations, and private benefactors.

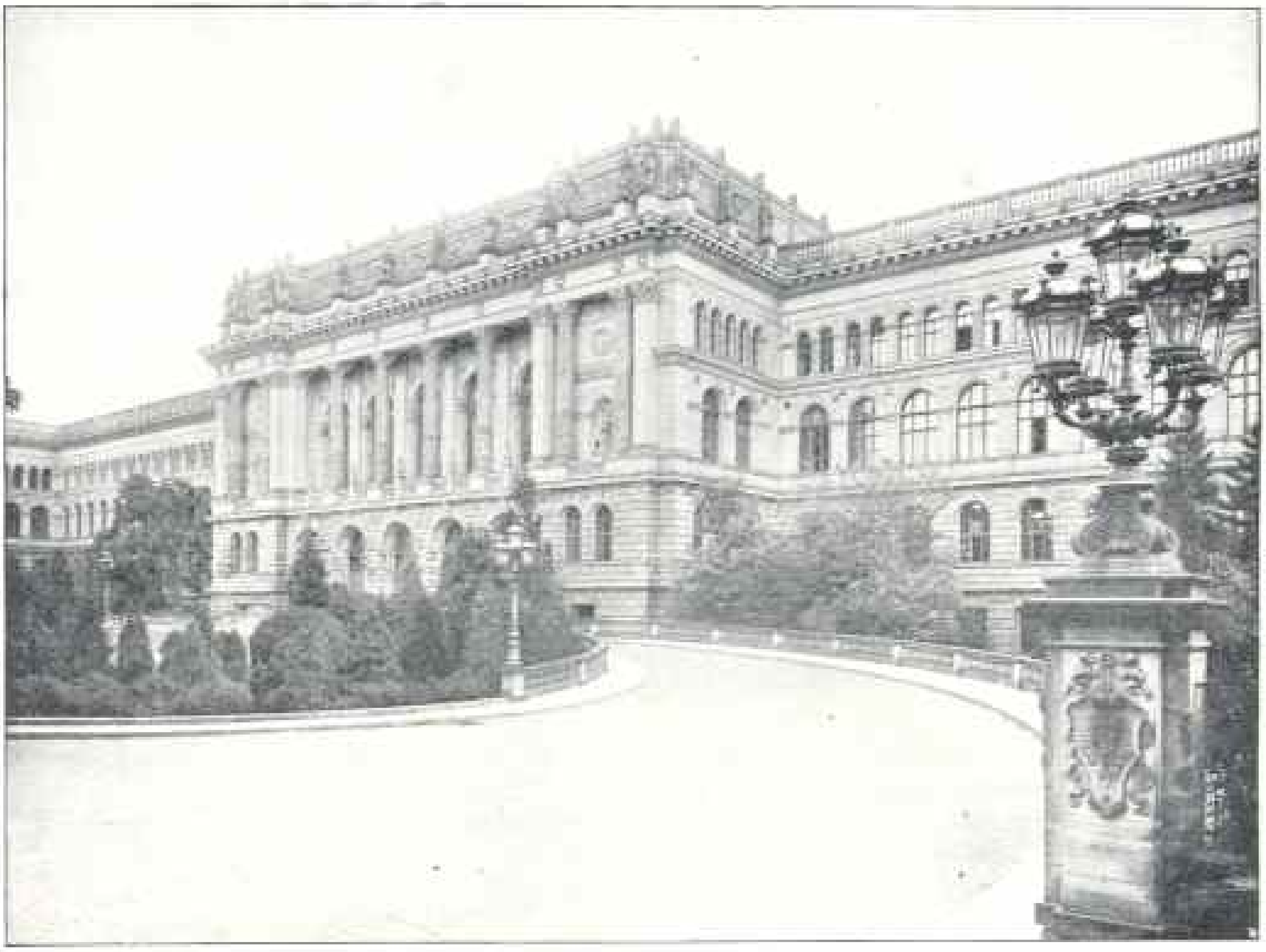
These schools are open, not to a class or to a country, but to the world. In their halls rich and poor meet on equal terms as learners. They require comparatively little money, but educate thousands of hands and heads. They throb with the life about them, and grow with the world without. They are the most powerful weapons of German industry. They are the iron-clads of commerce.

A very large majority of the students who attend the trade schools of Germany have had more or less preliminary training and practical experience in the trades in which they desire to perfect themselves.

Almost all trade schools have special workshops or factories associated with the school building.

In them are found the most modern machines, the latest inventions, and the most practical methods. Every movement of the student is guarded, every act is followed, every mistake is corrected as soon as it happens by teachers who have had good preparatory training, who, in most cases, come directly from their trade and who are fresh and up to date in their practice.

How different the situation of the young apprentice in his father's factory. He may be alone at his machine for hours at a time. He may commit a



The Technical High School at Charlottenburg, Germany

legion of errors without detection until the products of his experimentation are placed upon the market, as experience has frequently proved.

Drawing is made a most important branch of study. It lies at the basis of a large majority of advanced studies and is the A B C in the curriculum of many a trade school. In day schools, evening schools, and Sunday schools it is the same thing—drawing! drawing! It is an aid, rather than an injury, to the memory. It trains the mind as well as the eye. It is as great an aid to the reasoning powers as is logic or mathematics.

Experience in Germany apparently shows that, as a rule, those schools which are under private management exact the highest tuition fees and are the most inefficient.

Out of 519 students who attended the commercial high school of Leipzig in 1902–1903 213 were foreigners (110 of these Russians). Another striking illustration is found in the tanning school of Freiberg, Saxony, where 42 out of 76 students enrolled in 1902–1903 were foreigners. In 1903 the ten technical high schools had an enrollment of 2,242 foreigners out of a total attendance of 14,426.

These hundreds of foreigners return to their various countries and there give no mean aid in the development of industries which are in direct competition

The Technical High School at Stuttgart, Germany

with those of Germany. German steel thus meets German steel; German armor, put on in Germany, turns to meet German armor. On the basis of self-protection and national defense the Empire cannot be criticized for wishing to close its industrial institutions to the rest of the world.

Russia probably profits most in this international educational game. Her students are found in institutions everywhere. Through personal contact with some of these the writer was surprised to note their broad intelligence, their mental keenness, and their linguistic accomplishments. Many of these men speak four or five languages with ease.

The Emperor a few years ago issued the watchword, "The future of the German Empire lies on the seas." It had a force similar to Bismarck's famous declaration that "The nation that has the schools has the future." Commerce and industry were the great hope then, and commerce and industry remain the ambition today. Education was chosen as the powerful weapon with which to attain this future. Today this weapon is but just making itself felt. The industrial schools are still young. In the future more will be heard from the young merchants and manufacturers who daily go out from these institutions. The greatest danger of Germany to the world is probably not in war, but in peace. Her energy is turned to conquests in the industrial world. Her marvelous development is industrial, not political.

Such a development may well be respected and feared; and if we would better arm ourselves against industrial encroachments and equip ourselves for a continuance of our present encouraging commercial expansion with the most effective weapons, we would do well to take the example and lesson of Germany to heart by looking seriously and long to our own industrial schools, good though they are, and improving and developing these in the light of American conditions and of foreign experience.

In a comparatively short time Germany has become one of the great workshops of the world, and has secured a place in the front rank of manufacturing nations with but little assistance from nature and in the face of many difficulties. It is not a rich country; its natural resources are moderate; its position is disadvantageous for trading; it has enjoyed peace for but thirty years; it has never enjoyed security, and tranquillity has been purchased at the cost of an immense military burden. In all these matters it presents a striking contrast to the United States, which has had every conceivable advantage. Then its people are not particularly inventive and have not fashioned for themselves superior weapons in the shape of new mechanical appliances and revolutionizing processes, like the earlier inventions of England and the later ones of America. Nor do they possess exceptional skill in special directions like the French. Even in science, wherein their intellectual strength is greatest, they have no general advantage over England and France, for all three countries can show records of equal luster, whether in physical or biological science; and yet Germany has advanced from comparatively small beginnings so rapidly that she now does what no other country, though possessing superior advantages or fewer difficulties, can do; she successfully challenges England in nearly all the great branches of industry in which England is or was the strongest. Other countries challenge in this or that or they have special lines of their own; Germany is an all-round competitor, and the most formidable we have; and not we only; she competes with other countries in the products in which they are strongest—with the United States in electrical machinery and small machine tools, with France in dress materials, as she does with England in shipbuilding and large machinery. To complete the tale, I must add that while doing this and maintaining the most powerful military system in the world Germany has at the same time modernized, regulated, and improved the conditions of civil life more completely than any other country. She has done all those things in the way of sanitation, public health, street architecture, and public order that other rising industrial countries, and conspicuously the United States, have been too busy to do.

PHILIP NOLAN AND THE "LEVANT"

THE curious paper which Dr Hague has printed in the NATIONAL GEOGRAPHIC MAGAZINE for December closes with a reference to a story which I wrote in the year 1863 called "The Man Without a Country." That story begins with these words:

"I suppose that very few casual readers of the New York *Herald* of August 13 observed, in an obscure corner among the 'deaths,' the announcement, 'Nolan. Died on board the United States corvette *Levant*, latitude 2° 11′ S., longitude 131° W.'"

I had full right to say that very few

readers observed it, because nobody observed it. The story was a fiction, and with the right of an author of fiction I made this statement, which is unequivocally true.

I speak of this with a certain sensitiveness, because I have been accused of being a forger and counterfeiter for using such language. But it is one of the privileges of authors of fiction to make their narrative as plausible or probable as they can, if they give sufficient clues to the reader, from which he may know that he is reading fiction. In this case I began by placing the supposed action of part of the book on board a ship which had disappeared more than two years before. I knew that she had disappeared, the Navy Department knew she had disappeared, all well-informed readers knew that she had disappeared. Even among four thousand newspapers in the country the editors of two knew that she had disappeared. With my eyes open I intentionally gave this ready clue to any careful reader, that from the beginning he might know that the story was a parable; and if there are any of such croakers left, as I suppose there may be in the office of one newspaper known to me, I will say to them that from the time of the Pharaohs down parable has been a method of instruction employed by teachers, even of the highest distinction.

The Navy Department did not know where the *Levant* disappeared. All they knew was that Captain Hunt, of the *Levant*, was under orders to proceed as rapidly as possible from Hilo to the American coast, and that he started out to obey these orders, and the ship has never since been heard from by any trace whatever, unless it be in certain wreckage found on the south shore of Hawaii in June, 1861.

The Navy Department knew this, but I did not know it. I only knew that she had disappeared somewhere in the Pacific Ocean two years before.

To carry out the specific purpose to which I have alluded I meant to have these latitudes and longitudes indicate a spot high on the Andes. It was more than twenty years afterward that I found that in some accuracy of some proof-reader, possibly by some blunder of mine, the spot indicated is in the Pacific Ocean, where I did know she had disappeared. But alas the manuscript copy is lost and I cannot find who made this change. This is in point of fact not far from the Marquesan Islands, and, oddly enough, in the story Nolan is supposed to have been at those islands with Essex Porter. But I had nothing to do with this. I placed the ship on the Andes with the specific purpose which I have named.

I should perhaps have never discovered my own error but that many years ago my friend, James D. Hague, who knows the bottom of the Pacific better than I do the surface of the United States, called my attention to the instructions which Captain Hunt had on his last voyage in the *Levant*. I had never looked for those instructions, having no occasion to for my purpose. It seems that Mr Hague was in Honolulu at the time when the *Levant* sailed; that Hunt was his friend, and that they bade each other good bye on the day of her parting. As the reader knows, she was never again heard of but from the silent record of the spar which has been found on the island of Kaalualu. But Mr Hague has brought together in his interesting paper the evidence which shows that almost certainly Hunt intended to sail on a line nearly east from the Hawaiian Islands. In that region on any of the more recent atlases there is a spot of blue water. On Rand and McNally's elegant atlas of the world I find not a speck for thirty degrees of north latitude from the equator, for twenty degrees of latitude south of the equator. On the old Spanish charts, however, and on charts copied from them Mr Hague and the officers of ma-

rine hydrography have found indications of reefs and even islands. One of the last of them is De Graves's Island of 1859. Almost anywhere in this area, itself larger than some of the smaller planets of the solar system, the bones of the *Levant* may lie. In this region, as the map on page 479 of the NATIONAL GEOGRAPHIC MAGAZINE shows, five degrees of longitude and two of latitude have now been searched in vain.

Mr Hague, however, is kind enough to assure me that if my fictitious character, Philip Nolan, ever had some subliminal form he or his spirit, if they were on the *Levant*, may still haunt the reef or atoll under the shadow of cocoanuts or bananas or bread-fruit trees. Nolan would have been twenty-five years old in the year 1805. Thus his one hundred and twenty-fifth birthday would be found in this year. If the climate is healthy for subliminal people, Dr Hague assures me that if I will land with him on that reef I may meet for the first time in the flesh and blood the somewhat bended form of my old hero. He will forgive me that I placed him on the Andes, where men do not live so long.

It may be well to repeat Mr Hague's summary:

"The cruise of the *Yacoma* has therefore negatively and conclusively disposed of half a dozen or more reported islands as charted in certain defined positions, and it has definitely eliminated from further consideration of doubtful reports an area of about 10,000 square miles, leaving a still questionable region of twice or three times that area open to further search."

EDWARD E. HALE.

PROGRESS IN THE PHILIPPINES

UNDOUBTEDLY that part of the Report of the Philippine Commission for 1904 which will most strongly appeal to us is the account given of what is being done to develop the resources and capability of the people. Scientific agriculture, which is doing so much for the United States, will soon, at small expense, increase many times the return of every farmer in the islands. The government experts are introducing American machinery, improved varieties of plants, and new animals and new crops. The natives seem to appreciate very quickly that greater intelligence in their work means not only greater returns in money, but also shorter hours of work.

Filipino labor is abundant and satisfactory. The chief of the Bureau of Agriculture was at first ridiculed when he insisted that Filipinos must drive the teams and do the plowing on the government farms, but they are now doing it on every farm controlled by the bureau. Furthermore, they are doing it as well as Americans ever did and at prices amounting to but 6 to 10 per cent of what it formerly cost to get Americans to perform the same work.

A steam thresher, introduced by the bureau, got so much more rice from the stalks than the natives had been accustomed to obtain by tramping it out under foot after it had stood for weeks and been subject to the depredations of thieves and rats that they at first conceived the idea that rice hidden inside the separator was allowed to flow from the spout of the machine, thus augmenting the real output.

A period of three months is ordinarily consumed in threshing rice by native methods, and 25 per cent of the crop is often lost. Native methods of hulling and cleaning are very crude and the

valuable by-products are all lost, while rice threshed by steam power is ready to go to the cleaning mill at once, and 20 per cent of the rough rice is saved in bran and polish, which make excellent cattle food. The rice crop being thus quickly disposed of, the farmer and his laborers have time to put in other crops. Several steam threshers have been bought by Filipino farmers.

Experiments in growing Indian corn have been successful. A crop may be matured in less than three months. The meal, pound for pound, is more nutritious than rice. The average rice crop, which requires six months to grow, does not yield more than 750 pounds of cleaned rice per acre, while the average corn crop is 15 bushels per acre, which is more than equivalent in food value to 750 pounds of cleaned rice. It is apparent, therefore, that the successful stimulation of corn production will greatly increase the available food supply.

Attempts are being made to use the castor bean, which grows all over the islands. Little use heretofore has been made of its fruit, while much castor oil is imported at a high price. Press cake obtained from this bean is worth approximately $20 gold per ton for fertilizer.

The stimulation of cocoanut production, at present a source of considerable wealth to the Philippines, has been begun. The trees thrive on ground which is worthless for other purposes. They require comparatively little care, and when grown in large numbers are not often seriously injured by the attacks of insects or by unfavorable climatic conditions other than long-continued drouth. At present nuts are, as a rule, planted haphazard, without regard to the productivity of the trees from which they come. Plantations are cultivated little, if at all. Fruit is often harvested before maturity; no use whatever is made of the husk except for fuel. Copra is sun dried at considerable expense and with constant risk of heavy loss from sudden showers, or, during the rainy season, is placed in bins and smoked over slow fires; naturally the product is of a very inferior quality.

It seems that certain trees make excellent growth and fruit heavily when planted in sea sand, which is almost without plant food, provided their roots are laved by the rising tide and the sea breeze fans their leaves. Should it prove that their ability to live and flourish is dependent upon the presence of a nitrogen-producing organism capable of cultivation and distribution, so that the barren wastes of sand along our long coast can be made to produce cocoanuts advantageously, it would obviously be more economical to plant them there than to give up rich soil to their cultivation and incur the expense of purchasing and using artificial fertilizers.

It is found that horses and mules stand the heavy work on the rice farm as well as in the Southern States of America. A native teamster with 4 mules plows 4 acres of land per day, while a native plowman with 4 Chinese oxen plows 2½ acres per day. The ordinary Filipino, using 2 carabaos, is able to plow about one-fifth of an acre per day; he must have two carabaos however, in order that they may be interchanged every two or three hours and allowed to get their mud baths, without which they soon become incapacitated for work.

The archipelago has a coast line more than double that of the United States, and not more than 10 per cent of this has been adequately charted. The exact geographical situation of a great portion of the east coast of the islands has never been determined, and there has been considerable uncertainty in regard to many other points. Much has already been accomplished by the Coast and Geodetic Survey, nearly 100 topographic sheets having been issued.

With the opening of the Pacific Cable the exact longitude of Manila has been determined from San Francisco during the year, and several other points hitherto in doubt have been cleared up. The bureau will compile data from which it will eventually plot an accurate coast line. In two cases the actual surveys show a discrepancy of nearly four miles over the previous reports.

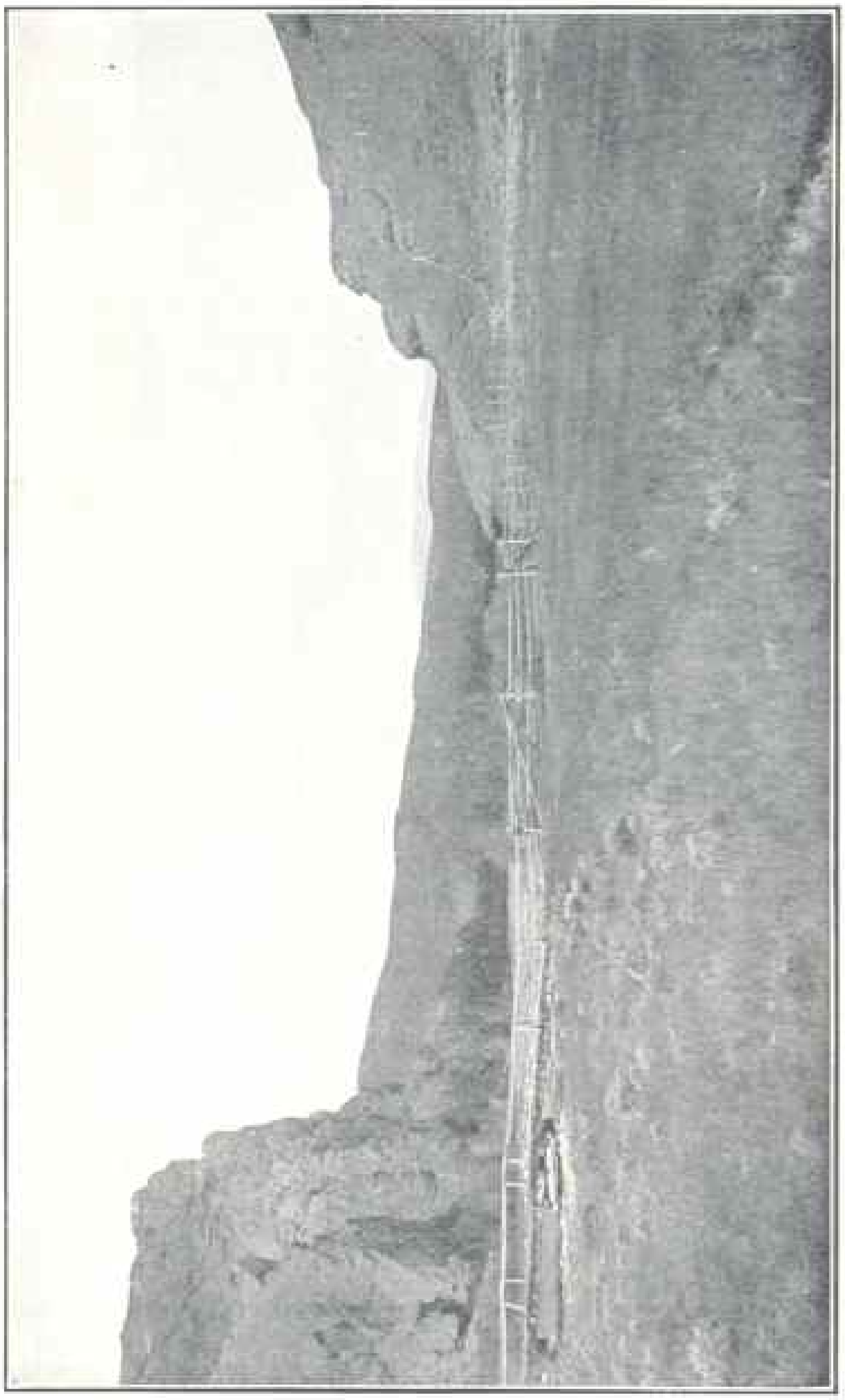
THE GARDENS OF THE WEST

THERE is now lying in the Treasury vaults the sum of nearly $30,000,000, which is reserved exclusively for the government irrigation projects of the West. This immense sum has been realized during the past three and one-half years from the sale of public lands, and the amount is increasing daily at a very rapid rate. Work has already been begun on eight great projects which will make gardens of nearly one million acres, an area equal to the State of Rhode Island and probably capable of generously supporting a population of several million people.

From F. H. Newell, U. S. Geological Survey

Salt River Canyon, Arizona

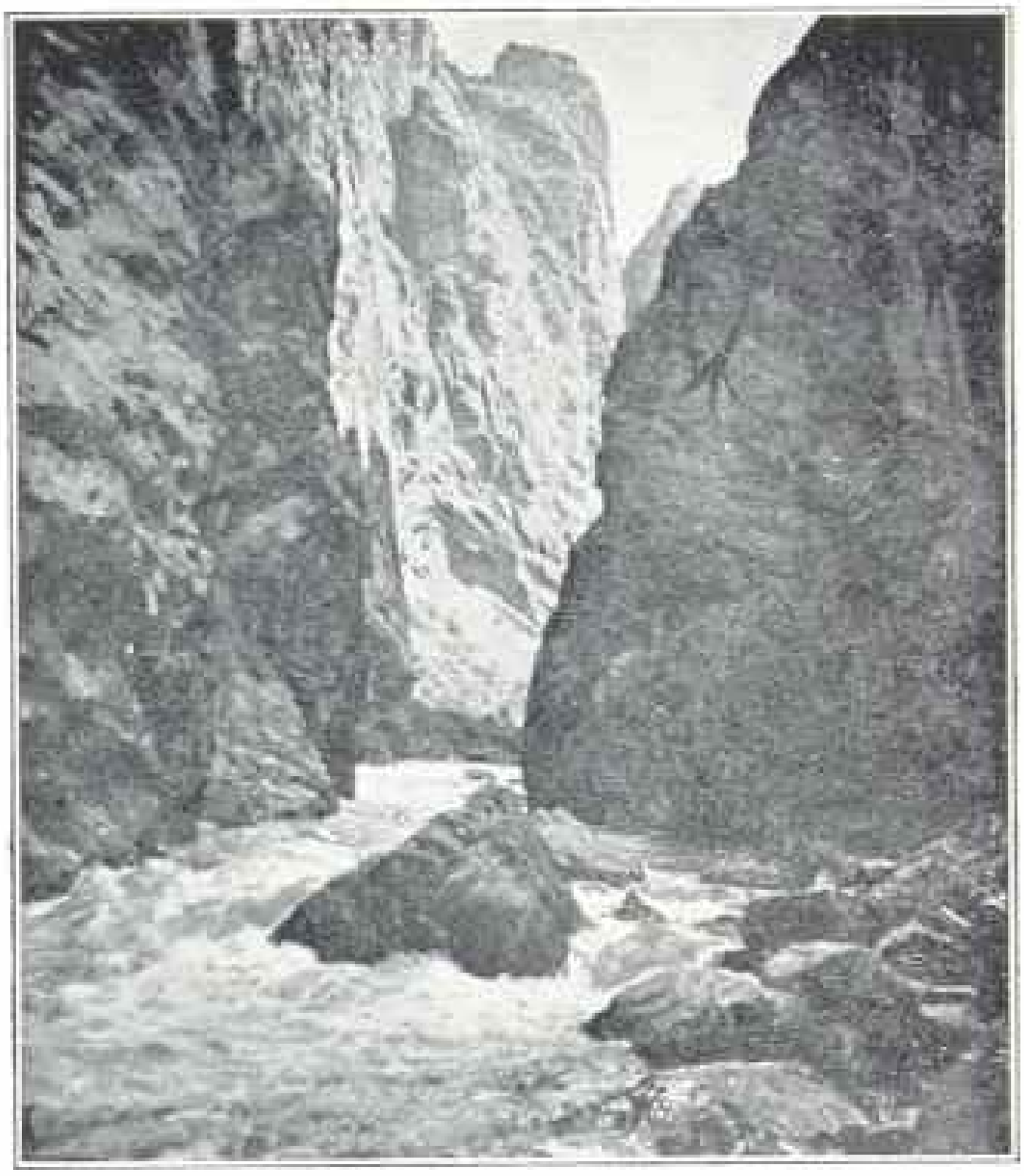
Looking down stream from point about half a mile above dam site. A giant dam 230 feet high and costing $3,000,000 is to be built across the canyon. The water is reserved for Phœnix, 60 miles down the river, where about 200,000 acres will be irrigated. The project also includes a series of power plants which will supply water to nearly 60,000 acres in Salt River Valley.



A Typical Dam Site, Windy Gap, Colorado

From P. H. Newell, U. S. Geological Survey

The proposed dam would stretch from hill to hill



From F. H. Newell, U. S. Geological Survey

Site of Proposed Dam in Gunnison Canyon, Colorado

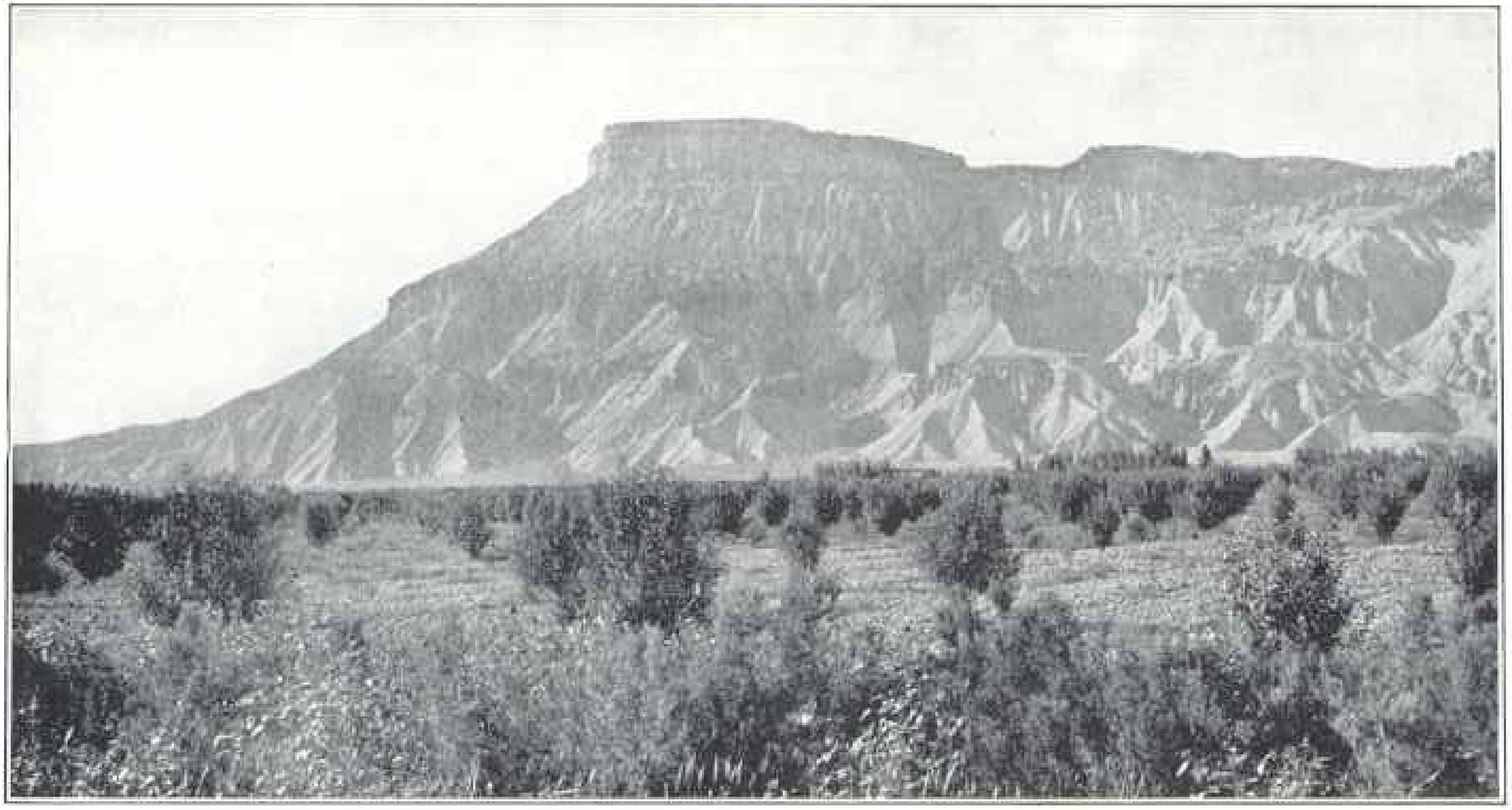
The precipitous canyon walls are 2,000 feet high. It has been decided to build a dam across the canyon and then to bore a tunnel through the canyon wall just behind the dam, which will carry water to Uncompahgre Valley. The men who took this photograph were lowered hundreds of feet by ropes. See the NATIONAL GEOGRAPHIC MAGAZINE, January, 1904, page 27.

The projects already commenced are:

State.	*Project.*
Arizona	Salt River.
California	Yuma.
Colorado	Uncompahgre Valley.
Idaho	Minidoka.
Nebraska	North Platte
Nevada	Truckee-Carson.
New Mexico	Hondo.
South Dakota	Belle Fourche.
Montana	Milk River.
North Dakota	Fort Buford.
Do.	Buford Trenton Pumping.
Do.	Bismarck Pumping.
Washington	Palouse.
Wyoming	Shoshone.
Oregon	Malheur.

The following projects, to irrigate another half million acres, have been approved and will be soon commenced:

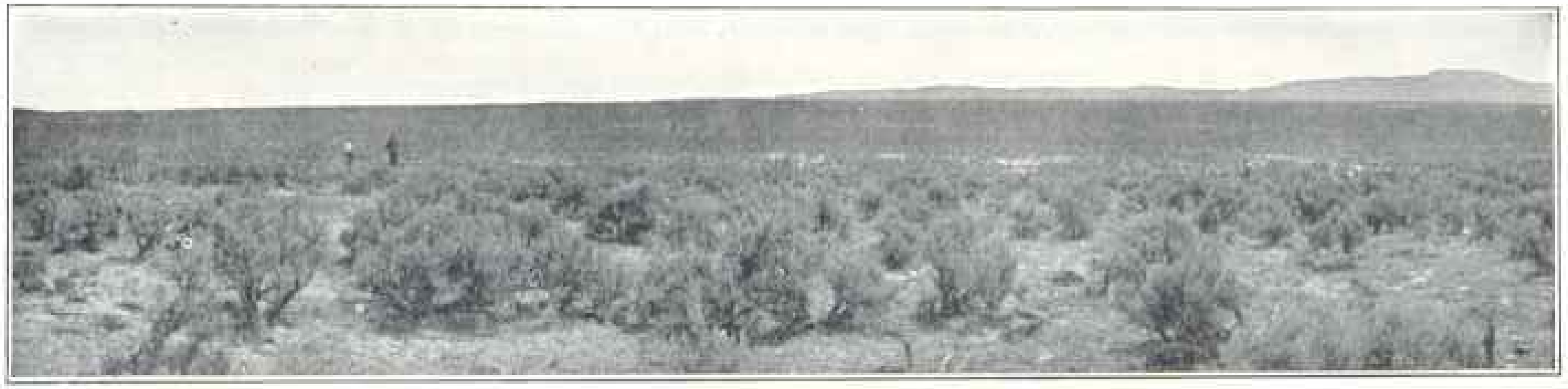
The Third Report of the Reclamation Service, F. H. Newell, Chief Engineer, now in press, contains an interesting comparison of the relative cost to the public of government and private



From F. H. Newell, U. S. Geological Survey

Garfield Point in Grand River Valley, Colorado

This valley is one of the garden spots of the world. A large portion is already well irrigated. It is proposed to construct works to irrigate about 700,000 acres more



Sage Brush Deserts (Minidoka Land) South of Snake River, Idaho
About 85,000 acres of this rich soil is to be reclaimed

From F. H. Newell, U. S. Geological Survey

Shoshone Falls, Snake River, Idaho

From F. H. Newell, U. S. Geological Survey

Fifteen Lignite Beds in Single Section of Little Missouri River near Johnson's Ranch, North Dakota

There are about 250,000 acres along the Little Missouri River in North Dakota which if reclaimed would make ideal farms. This large area is, however, distributed in small terraces, none over 15,000 acres in extent, from 50 to 100 feet and more about the river bank, so that if it were not for the very lucky deposits of fairly good coal along the river it would not pay to reclaim any of them; but with this coal pumping plants can be very cheaply operated. The Reclamation Service has already approved projects to reclaim two terraces on the river.

irrigation works. By the terms of the reclamation law the cost of every irrigation enterprise constructed by the government must be paid back by the people benefited within ten years after completion of the work. The repayment is made by installments. As the government charges no interest and seeks no profit, government irrigation works cost the people considerably less than works built by private corporations. The illustrations on pages 118 to 124 have been chosen to show the stupendous magnitude of some of the projects and the natural difficulties that have to be overcome. Irrigation on such an enormous scale has never been undertaken in the history of the world.

The reclamation law is working admirably. It is elastic and equally fair to all sections. Too much confidence and praise cannot be given Mr Newell and his efficient corps of engineers for the ability and good judgment with which they are carrying out the provisions of the law. The picture on page 120 shows that not only engineering skill but courage and coolness are constantly needed to solve the many varied problems of the work.

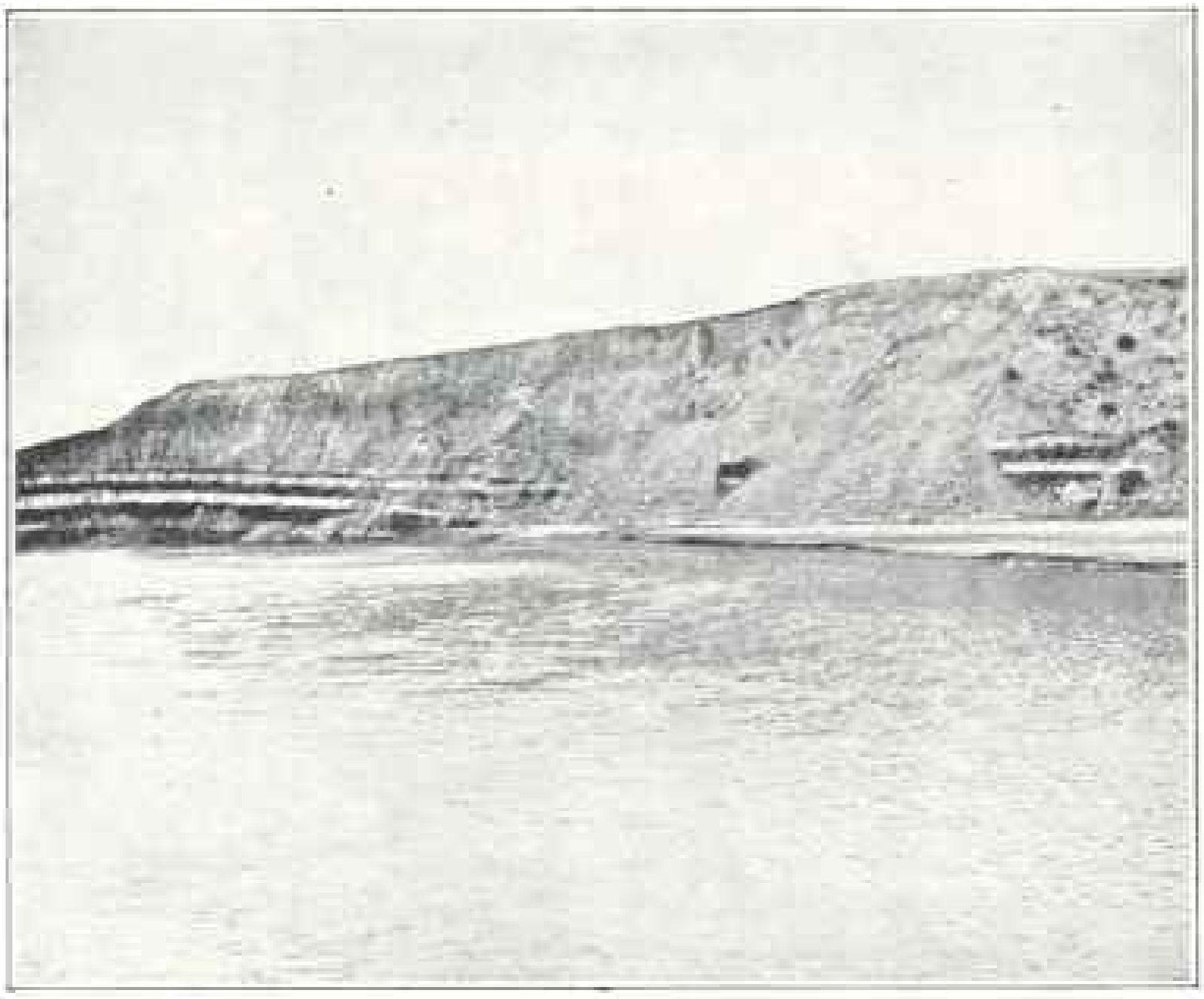
THE CAUSE OF THE EARTH'S HEAT

PROF. ERNEST RUTHERFORD contributes to *Harper's Magazine* for February an intensely interesting article on the cause of the earth's heat, which he is inclined to believe is radium. From his article we may draw much comfort, for whereas Lord Kelvin and later scientists have been arguing that all of our descendants must become extinct in about five million years, Prof. Rutherford gives the hope that our race may hold out for five hundred millions of years, which is quite a bit longer. All estimates, of course, are based on the duration of the heat from the sun. Our new knowledge of radium seems to show that the sun's heat is diminishing much more slowly than has been generally supposed.

After describing the heat inside the earth and the various present theories to account for this heat, Prof. Rutherford proceeds to tell some of the remarkable characteristics of radium.

"In the course of a year one pound of radium would emit as much heat as that obtained from the combustion of 100 pounds of the best coal, but at the end of that time the radium would apparently be unchanged and would itself give out heat at the old rate, and it would emit heat at the above rate for about one thousand years."

The heat which radium gives off seems to be caused by the breaking up of the radium atom into tiny particles, which fly away with tremendous velocity; but notwithstanding their great speed, most



From F. H. Newell, U. S. Geological Survey

Four Coal Beds each 4 or 5 Feet Thick on Little Missouri River, near Mikkelson, North Dakota. See preceding page

of the particles are caught by the outer walls of the atom and their energy of motion converted into heat. "The radium, in consequence, is heated by its self-bombardment."

The emanations of radium and of other radioactive substances are present everywhere in the atmosphere. Every falling raindrop and snowflake carries some of this radioactive matter to the earth, while every leaf and blade of grass is covered with an invisible film of this radioactive material. These emanations are not produced in the air itself, but are exhaled from the earth's crust, which is impregnated with radioactive matter.

The question, then, arises, Is the amount of radioactive matter present in the earth sufficient to heat it to an appreciable extent? Prof. Rutherford believes that it is. The present loss of heat from the earth is equivalent, he says, to that supplied by the presence of about 270,000 tons of radium, which, if distributed uniformly throughout the earth's crust, corresponds to only five parts in one hundred million million per unit mass. The radioactivity observed in soils corresponds to the presence of about this proportion of radium.

According to Prof. Rutherford's view, the present internal heat of the earth tends to be maintained by the constant evolution of heat by the radioactive matter contained in it. The calculations of the age of the earth made by Lord Kelvin, which were based on the theory that the earth was a simple cooling body, in which there was no further generation of heat, cannot, then, apply, for the present temperature gradient of the earth may have been nearly the same for a long interval of time.

The new knowledge which the discovery of radium and of its properties has given inclines the author to the theory that there is available in the sun a vast store of atomic energy. "If ordinary matter in breaking up emits as much heat as radium, then it can be deduced that the duration of the sun's heat would be prolonged for about one hundred times the estimate founded on the condensation theory. . . . If this heat of atomic disintegration is available, it would suffice to keep up the present output of energy from the sun for about five thousand million years, a period of time which probably both geologists and biologists would consider sufficient for the processes of organic evolution, while the duration of the sun's heat in the future may possibly be extended for a hundred times the estimate made by Kelvin."

GEOGRAPHIC NOTES

MAPS RECENTLY ISSUED BY THE GEOLOGICAL SURVEY

THE Batavia quadrangle, situated in western New York, in Genesee and Wyoming counties. It embraces an area of about 220 square miles. In addition to Batavia, a town of about 10,000 inhabitants, the smaller villages of Bethany, Pavilion, Wyoming, Dale, Linden, Lagrange, and Warsaw are shown on the map.

The Greene quadrangle of New York, including a portion of Chenango, Broome, and Cortland Counties. The area represented includes the thriving village of Greene, in Greenetown; portions of the towns of Smithville, German, and McDonough, in Chenango County; the village of Whitney Point, in the town of Triangle; portions of the towns of Barker, Nanticoke, and Lisle, in Broome County; the town of Willet and portions of the towns of Cincinnatus, Freetown, and Marathon, in

Cortland County. This region is accounted one of the best dairy sections in the state.

The Vina quadrangle of California. The area represented embraces about 150,000 acres in the most fertile part of the Sacramento Valley, including portions of Tehama, Butte, and Glenn Counties.

The Kaweah quadrangle, in California. It takes in the eastern slope of the Sierras and covers a country that ranges in elevation from 500 or 600 feet above sea-level in the valleys of the west to 12,400 feet, the height of the summits in the northeast part of the quadrangle.

The Lake City quadrangle, in Colorado. The range of altitude in the quadrangle amounts to over 6,300 feet, extending from an elevation of about 8,000 feet above sea-level on the Gunnison River, in the northeastern portion of the quadrangle, to the summit of Uncompahgre Peak, the loftiest point in southwestern Colorado, a massive mountain that rises to a height of 14,306 feet.

The Niwot quadrangle of Colorado. Besides the oil wells in the southwestern part of the quadrangle, this area contains extensive coal mines.

Longmont, the most important town of the quadrangle, is the center of extensive sugar-beet and canning industries. The whole quadrangle is covered with fine farms, on which large crops of hay, alfalfa, and fruit are raised. The high degree of cultivation seen here is due to an extensive system of irrigation. The water for this purpose is taken from Boulder, Lefthand, and St Vrain Creeks.

The Osoyoos quadrangle, in Okanogan County, Washington. This quadrangle, which lies immediately south of the international boundary line and west of the Republic quadrangle, embraces an area of nearly 800 square miles.

The Ovando quadrangle, in Montana, about two-thirds of which is in the Lewis and Clarke Forest Reserve, just west of the Continental Divide in northern Montana.

Weston and Vadis quadrangles, in West Virginia, which include portions of Harrison, Upshur, Lewis, Doddridge, and Gilmer Counties, constituting a region that is interesting for its undeveloped coal fields.

Salineville quadrangle, which is situated in the east central part of Ohio. It embraces about 226 square miles and contains portions of Columbiana, Carroll, and Jefferson Counties.

The topographic maps of the United States Geological Survey have gained wide popularity in the last nine years. Whereas only 86,974 maps were distributed in 1895, there were 501,775 maps sent out in 1904. These were distributed as follows: through retail sale, 47,906; through wholesale sale, 293,653; through members of Congress, 27,987; to libraries and institutions, 75,112; for official use, 57,117. Although the retail price of each map is only five cents and the wholesale price but two cents, the considerable sum of $8,976.36 was received for maps.

NOTES FROM OUR CONSULS

THE following consular reports give facts of interest in different parts of the world. Persons may obtain from the Bureau of Statistics copies of these reports, as long as a limited edition will permit, by giving the number of the report desired:

Damascus-Mecca Railroad, No. 2191.—The road has been completed as far as Ma'an, 300 miles south of Damascus.

Trade and Possibilities of Arabia, No. 2190.—Probably few people except the Germans realize the possibilities of Arabia. With irrigation and railways the country could be vastly developed.

Trade of Japan During the War, No. 2190.—The exports increased $15,000,000 and the imports $25,000,000 dur-

ing 1904. The total foreign commerce of Japan for 1904 reached $34,000,000.

Reclamation of Mesopotamia, No. 2186.—Chaldæa, once the richest and most coveted part of the East, but long stagnant and desert, is on the eve of being made fertile again.

Simplon Tunnel, No. 2181.—The longest tunnel in the world, 12½ miles, is nearly completed.

Yukon Territory, No. 2179.—The territory produced $93,023,000 during 1898–1903, of which $65,046,178 went to the assay offices at Seattle and San Francisco. Of the 12,000 population, 7,200 are Americans.

Cotton Culture in India, No. 2179.—Attempts to grow the long-staple Egyptian cotton have been unsuccessful. India, the second cotton-growing country of the world, produces 2,000,000 bales a year as against an average of 10,000,000 bales in the United States.

Railroads in China, No. 2179.—A number of concessions for new railways have been granted.

Development of Korea's Resources, No. 2178.—Next to the Japanese and Chinese, Americans far outnumber every other nationality in Korea. The American electric railway and electric light and telephone systems at Seoul are very successful.

Grand Trunk Pacific Railway, No. 2178.—The plans for this splendid new line are rapidly nearing completion.

Commerce and Industries of Korea, No. 2176.—1904 was the most prosperous year in Korea's history. She has not been troubled by the war, but has received large sums for her laborers and supplies.

Railroads in Korea, No. 2177.—The Seoul-Fusan line is completed, that from Seoul to the Yalu nearly completed, and the line from Seoul to Gensan progressing.

Future of Liberia, No. 2172.—The climate is comparatively good, the resources awaiting development many, and the ultimate future reported bright.

Agricultural and Commercial Conditions in Southern Brazil, No. 2171.—A scarcity of labor is handicapping this section, which is one of the most progressive and prosperous in South America.

Russian Crops in 1904, No. 2154.—The Russian crops in 1904 are officially reported as having been considerably larger than the average in recent years.

Commerce and Industries of Cuba in 1904, No. 2149.—Exports from the United States to Cuba in 1904, the first year under the new reciprocity treaty, amounted to $32,000,000, and were larger than in any earlier year in the history of our trade with that island, and were 38.9 per cent in excess of those of 1903.

The World's Silk Production, No. 2130.

Panama's Commerce, No. 2130.

WORK OF THE COAST AND GEODETIC SURVEY

MR O. H. TITTMANN, in his report for 1904 as Superintendent of the U. S. Coast and Geodetic Survey, announces the completion of the determination of the difference of longitude between San Francisco, Cal., and Manila, P. I., thus connecting the longitude circuit around the earth. This work was made practicable by the generous coöperation of the officers of the Commercial Pacific Cable Company, who placed their cables and operators at the service of the Survey. Incidentally, during the progress of this work, the longitude of Honolulu, Hawaii, of Midway Island, and Guam Island were determined.

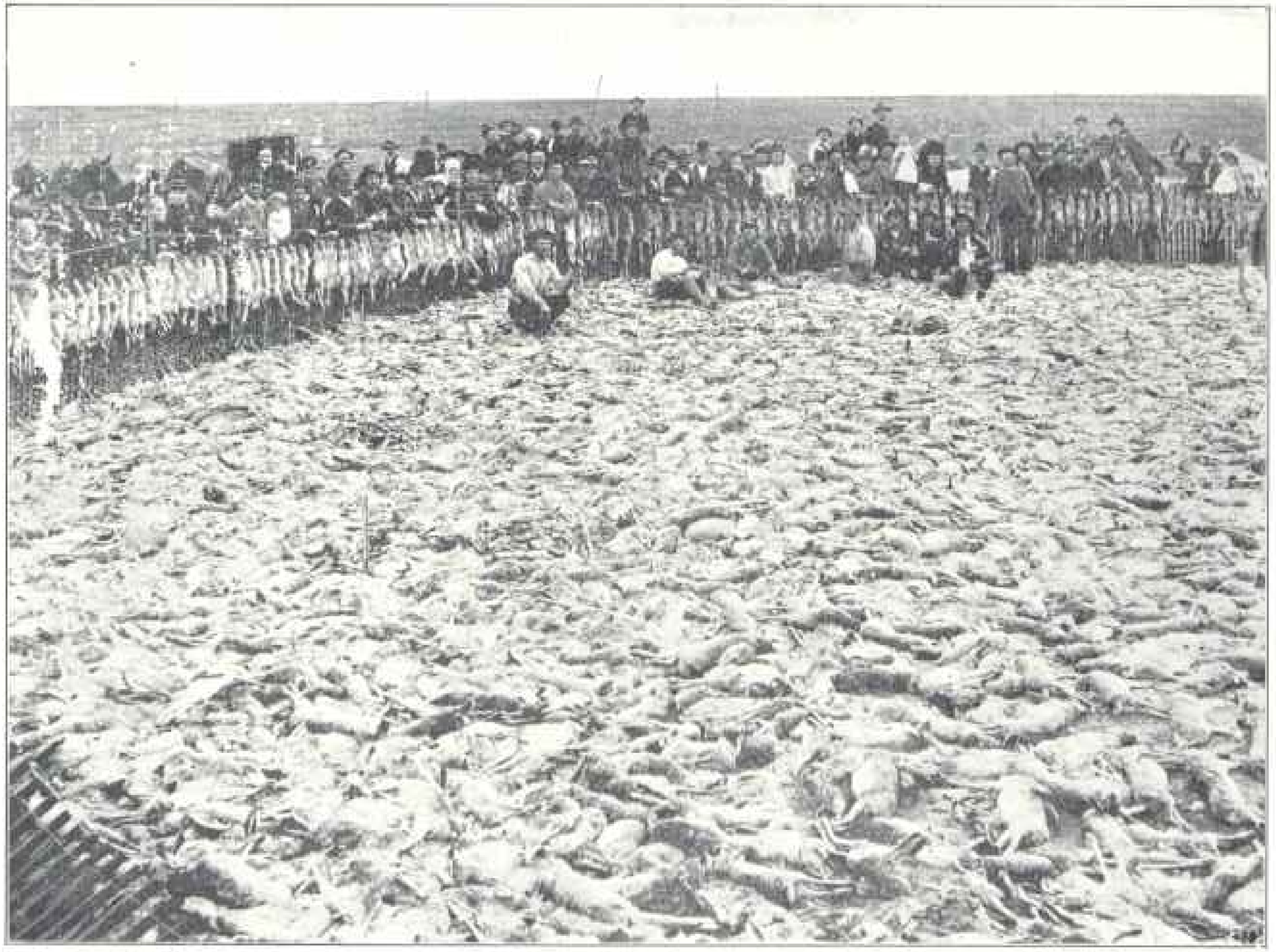
The triangulation along the ninety-eighth meridian was extended toward the north and toward the south from the portion already completed, the total extension amounting to 500 kilometers along the meridian, and the work was in progress at the close of the year.

The location on the ground and marking of the boundary between Alaska and the British possessions, as laid down by the Alaska Boundary Tribunal, was inaugurated under the direction of the

From T. S. Palmer, Department of Agriculture

A Rabbit Drive in Southern California

The depredations of the jack rabbits in the Southwest have been greatly checked by these drives. Several years ago the rabbits were a veritable plague, but the severe measures shown in this and the succeeding picture have given considerable relief, so that these drives are no longer a yearly necessity.



From T. S. Palmer, Department of Agriculture

The Results of a Rabbit Drive in Southern California

Persons who would like the details of these drives are referred to an admirable report on the subject by Dr T. S. Palmer, which was published some time ago by the Biological Survey

Department of State by the Superintendent as Commissioner of the United States in coöperation with the Commissioner of Great Britain.

The various operations of the magnetic survey of the country show a gratifying progress during the year. The determination of the magnetic declination, dip, and intensity was made in 327 localities, embracing 367 stations, distributed over 24 states and territories and 2 foreign countries. An extensive investigation was made of the marked local disturbances in the vicinity of Juneau, Alaska, 45 stations being occupied for this purpose. In coöperation with the Louisiana Geological Survey, the magnetic survey of the state was completed. Effective coöperation was secured with an expedition sent to the Bahama Islands by the Baltimore Geographical Society, and valuable results were thus obtained without expense to the Survey.

Excellent progress was made in securing magnetic observations at sea during the voyages of the ships of the Survey to and from their fields of work. In the Atlantic and Pacific Oceans 92 results of magnetic declination and 33 results of magnetic dip and intensity were thus obtained, nearly all of them derived from complete swings of the ships forward and back.

Continuous records of the variations of the magnetic elements were secured throughout the year at five magnetic observations situated at Cheltenham, Md.; Baldwin, Kans.; Sitka, Alaska; near Honolulu, Hawaii, and Vieques, P. R. During the year a large number of magnetic storms were recorded, the most remarkable one occurring October 31–November 1.

During the year a bureau of international research in terrestrial magnetism was created by the Carnegie Institution of Washington, with an officer of the Survey, the inspector of magnetic work, in charge as director.

A continuous record of tide observations with self-registering gauges was obtained during the year at 8 stations, including 1 station at Hawaii and 1 in the Philippine Islands, and for a portion of the year at an additional station which was established on the Gulf of Mexico, at Galveston.

The electric tide indicator installed in the Maritime Exchange at Philadelphia continued to give satisfaction. A similar apparatus was installed during the year in the Maritime Exchange at New York.

The tide indicators established for the use of mariners in New York harbor, in the Delaware River at Reedy Island, and in San Francisco Bay continued in operation during the year.

Compass deviation ranges were established by marks placed on the inner Delaware breakwater, which will prove of great value to shipping, as any vessel can now determine the corrections to her compass while swinging at anchor in the national harbor of refuge.

The field work necessary for the revision of two volumes of the United States Coast Pilot, covering the coast from Point Judith, R. I., to Chesapeake Bay entrance, Virginia, was completed.

Hydrographic surveys were made in 16 states and territories, topographic surveys in 9, triangulation in 14, and leveling in 6.

The primary triangulation along the Pacific coast north of San Francisco was continued.

In Alaska a survey was made of Davidson Inlet, work was continued in Prince William Sound, and two vessels were dispatched to make a survey of Kiska harbor, Aleutian Islands.

In Porto Rico hydrographic work was continued in the harbors and bays and offshore.

The experts of our Department of Agriculture are constantly on the hunt for

From David G. Fairchild, Dept. Agriculture

Stripping the Bark from a 9-year-old Wattle Tree

new species of plants which can be grown profitably in the United States or in our island possessions. One of the latest suggestions is that the Australian wattle tree, which gives excellent bark for tanning purposes and which grows nearly as rapidly as the bamboo, requiring little care, be introduced into Hawaii. A bulletin on the subject by David G. Fairchild has been published by the department. The accompanying illustration shows a laborer stripping the bark from a wattle tree.

The U. S. Weather Bureau has established a section of its Climate and Crop Service in Hawaii. About 40 voluntary meteorological stations have been established and equipped with instruments of standard pattern and the coöperation of a large number of Climate and Crop correspondents has been secured. The regular issue of weekly Crop Bulletins was began January 9, 1905.

DECISIONS OF U. S. BOARD ON GEOGRAPHIC NAMES

December 7, 1904

Ashnola; river, Okanogan County, Washington (and British Columbia, Canada; crosses boundary at 120° 20′) (not Na-is-nu-loh, Ashtnuloa, Naisnuloh, Nais-nu-loh, Naisnuthio, nor Ashannola).

Bear Lodge; mountains, Crook County, Wyoming (not Bearlodge).

Cakeponlin; creek, Franklin township, Hunterdon County, New Jersey (not Cakepaulins).

Central City; town, post-office, railroad station, and county seat, Gilpin County, Colorado (not Central).

Chewack; creek, tributary of Methow River (from the north, mouth at Winthrop), Okanogan County, Washington (not Chewuch Creek, Chewach Creek, Chewack Creek, Chiwak, Chewach, Chewuck, nor North Fork).

Conconully; lake, Okanogan County, Washington (not Salmon).

Egg; island near easternmost point of Unalaska, eastern Aleutians, Alaska (not Ugalgan nor Ugalgal).*

Ellemeham; mountain, Okanogan County, Washington (not Ellemachum, Ellomaeham, nor Mt Ellemeham).

English; bay indenting the eastern shore of Unalaska Island, eastern Aleutians, Alaska (not Samgamula).*

Fraser; river, tributary from south to Grand River, post-office, and precinct, Grand County, Colorado (not Frazier nor Frazer).

Indian; creek, tributary from south to Bear Creek, Clear Creek County, Colorado (not South Fork Bear Creek, Roeder, nor Vankee).

Lake Clear; lake or pond in Harrietstown, Franklin County, New York (not Big Clear Pond nor Clear Pond).

Latah; creek, Spokane and Whitman Counties, Washington, and Kootenai County, Idaho, tributary from southeast to Spokane River at Spokane (not Hangman, Hangmans, Latah and Hangman's, Latah and Hangman, Lau-taw, nor Camas Prairie).

* Revision of previous decision.

North Head; cape, the northern point of Akutan Island, eastern Aleutians, Alaska (not Sigak) *

Old Baldy; peak in the Santa Rita Mountains, Santa Cruz County, Arizona (not Baldy, Mt Wrightson, nor Santa Rita).

Queneska; island in Shelburne town, off Shelburne Point, in Lake Champlain, Vermont (not Hog, Whites, nor White's).

Reed; post-office and railroad station, Henderson County, Kentucky (not Reads).

Rillito; creek, four miles north of Tucson, Pima County, Arizona (not Rita).

Rollins; pass, over Front Range (Continental Divide), latitude 39° 55', Boulder and Grand counties, Colorado (not Boulder nor Rogers).

Rootok; island near west end of Aratanak Island, Kremitzin group, eastern Aleutians, Alaska (not Aektok nor Rootak) *

Salmon; creek, tributary from the north to Okanogan River, Okanogan County, Washington (not Conconully, Concunully, nor White Salmon).

San Antonio; creek or river emptying into the Pacific Ocean three miles north of Purisima Point, Santa Barbara County, California (not Jesus Maria River, Guaymas River, nor Los Alamos).

Simon; pond, town of Altamont, Franklin County, New York (not Simons, Big Simon, Big Simons, Simonds, nor Big Simonds).

Sinlahekin; creek, tributary from the south to Palmer Lake, Okanogan County, Washington (not Sinlehekin, Sinlahekim, Waring-Sinlehegan, Waring, Toudes Coulé, nor Sinlahegan).

Sunset; island, Colchester town, in Lake Champlain, Vermont (not Hog Back).

Valdez; glacier, narrows, port, summit, and town, Prince William Sound, Alaska (not Valdes) *

Vance; creek, tributary from north to Bear Creek, Clear Creek County, Colorado (not Little Bear).

Whalebone; cape between Usof and Three Island bays, on south coast of Unalaska, Alaska

January 4, 1905

Bergenfield; borough, post-office, and railroad station, Bergen County, New Jersey (not Bergenfields nor Bergen Fields).

Bruster; town and post-office on the Columbia River, Okanogan County, Washington (not Brewster).

Chiliwist; creek, tributary from the northwest to the Okanogan River, Okanogan County, Washington (not Chilliwist, Chilliwhist, Chilliwhist, nor Chilowist).

* Revision of previous decision.

Ecorse; river, township, post-office, and railroad station, Wayne County, Michigan (not Ecorce, River aux Ecorces, nor Ecorces).

Esty; glen, north of Ithaca, New York (not Estey).

Factory; creek in Wayne and Lawrence Counties, Tennessee (not Factory's, Factor's, nor Factors).

False Bottom; creek in Lawrence and Butte Counties, South Dakota (not Falsebottom).

Indian; creek in Wayne and Hardin Counties, Tennessee (not Reinness, Reinse's, nor Reinses).

Kougarok; river tributary to the Kuzitrin River, mountain, mining district, and mining town, Seward Peninsula, Alaska (not Kugruk, Koogrock, Kougrok, Kugrock, nor Kugruk City).

Kugruk; river, flowing into Kotzebue Sound, just east of Cape Deceit, Alaska (not Swan).

Kugrupaga; river, Seward Peninsula, Alaska, flowing into the Arctic Ocean, at longitude 166° 45' (not Kugruk nor Koogrook).

Loup Loup; creek, tributary to the Okanogan River, near Malott, Okanogan County, Washington (not Loop Loop, Loop-Loop, nor Looploop).

Palisades; township, Bergen County, New Jersey (not Palisade).

Rogers; island in Hudson River, Columbia County, New York (not Rolgers).

Wannacut; lake, Okanogan County, Washington, T. 39 N., R. 26 E. (not Wannakee, Wennacut, Womacot, Wannacott, Wanicot, Wannacott, Wannicutt, nor Wannicut).

Weatherford; creek, Wayne County, Tennessee (not Rutherford, Rutherford's, nor Rutherfords).

February 1, 1905

Belleview; township, Washington County, Missouri (not Belview, Bellview, or Bellevue).

Chilicotal; spring and mountain, Brewster County, Texas (not Chili Corte, Chili Cortal, nor Chili Cotel).

East Branch Chenango River; stream, branch of Chenango River, in Onehda, Madison, and Chenango Counties, New York (not East Chenango River nor Chenango Creek).

Kennyetto; creek, Fulton County, New York (not Kenneto).

Mount Vernon; post-office and town, Hillsboro County, New Hampshire (not Mt Vernon nor Mont Vernon).

San Cristobal; lake, Hinsdale County, Colorado (not San Christobal, San Cristoval, nor San Cristopal).

Stacer; post-office and railroad station, Vanderburg County, Indiana (not Stacer, Stacers, nor Stasers).

GEOGRAPHIC LITERATURE

Arbitration in The Hague Court. By John W. Foster. Pp. 147. Boston and New York: Houghton, Mifflin & Co. 1904. $1.00 *net*.

The efforts of President Roosevelt in advancing the interests of international arbitration make this little volume of special interest. As is expected from a man of Mr Foster's experience and ability, the merits of international arbitration are concisely and forcefully, as well as clearly, set forth. The volume covers the inception, progress, and present condition of international arbitration. It makes clear the methods and processes to be followed, concerning which there exist misunderstandings in the minds of many. The Hague Convention recognizes two classes of controversy, the first of a judicial character, and the second questions regarding the interpretation or the application of international treaties.

The Washington conference of 1890 recommended an arbitration treaty with the stipulation that the sole question which any nation is at liberty to decline to arbitrate is a question which might emperil its independence. Chile and Argentina have united in such a treaty, while the Netherlands and Denmark agreed to submit to The Hague Court all mutual differences and disputes that cannot be solved through diplomatic channels.

The Hague Court does not sit as a collective body, but the nations submitting cases for arbitration select by mutual agreement one, three, or five members from the personnel constituting the court, which in its membership is practically a permanent panel of international jurymen.

With regard to rehearings, they are to be permitted only on the discovery of new facts, previously unknown to the tribunal and the parties, which must be of such a character as to exercise a decisive influence on the judgment.

General Foster considers the much-criticised decision of the tribunal conceding preferential treatment to allied powers in the Venezuelan case, but believes with Mr MacVeagh that the presence of thirteen nations before the tribunal was such a valuable object lesson of the wisdom and efficacy of arbitration as to offset any other disadvantages.

General Foster wisely suggests that The Hague Court should be made a truly international tribunal by adding to its personnel representatives from all the American republics. He favors a prohibitive rule regarding a member of the permanent panel appearing as counsel for the litigating party, and believes that the question of expense should be carefully considered, as it is now practically prohibitive against smaller states of limited resources. There should also be suitable rules regarding the language to be used in arguments and the familiarity of the judges therewith.

General Foster shows the necessity of fostering and stimulating an intelligent interest in arbitration. It is hoped that the final outcome in the United States will be to further the interests of peace, and justify his statement that "The Hague Court will long stand as a beacon light in the tempestuous sea of international politics, and its influence and efficiency grow with advancing years." A. W. G

Japan by the Japanese. Edited by Alfred Stead. Pp. xxvii + 697. New York: Dodd, Mead & Co. 1904. $5.00 *net*.

Mr Stead has rendered a service to all students of Japan by bringing together what might be called "the documents in the case," which are indispensable to any one desiring to obtain a

correct idea of the development of that country as regards constitutional government, the growth of education, the creation of its finance system, the development of its industries, the formation of an army and navy, and its development or means of creation and establishment of a system of justice—in short, the creation of a modern and western civilization. Art and literature, the press, the merchant marine, and labor organizations all find a place in this storehouse of Japanese facts. All these articles are written by men who have taken part in this great work of transition and reconstruction, and among them are a number of international repute. Marquis Ito has written on the development of constitutional rights, the duties of political parties, and the growth of Japan; Field Marshal Yamagata on international policy and the growth of the army, the latter subject being supplemented by Field Marshal Oyama's account of the army of today. Rear Admiral Saito tells of the creation of the navy, and the Count Okuma of the foreign policy and the growth of education. Professor Imazo Nitobe contributes a most interesting chapter on the religion and moral ideas of the Japanese. Count Inouye deals with the various phases of Japanese finance, while Baron Shibusawa gives a survey of the industrial situation. Baron Suyematsu treats of the problem of the Far East, and a chapter is given to Formosa. The very brief article by Professor Maruse on women is apologetic and inadequate. Mining, labor, railways, the press, art, and literature are treated as to their development and present condition by equally competent authorities.

It must be understood that these articles are from the Japanese standpoint, and of course, as far as opinions go, are subject to refutation in many respects. The authors occasionally admit the necessity of moral improvement as well as of industrial development.

The great value of the book lies in the mass of statistical data, which are logically and sequentially arranged. The volume will long remain a work of reference, more or less standard.

There might well be added to this book a compendium volume, "Japan in the Beginning of the Twentieth Century," published by the Imperial Japanese Commission to the Louisiana Purchase Exposition, by Secretary Yamanaki, of the department of agriculture, which was printed and distributed in limited numbers. A. W. G.

Dai Nippon (Japan). By Henry Dyer. Pp. xvi + 450. Illustrated. New York: Charles Scribner's Sons. 1904. $3.50 *net*.

This is a valuable study of the evolution of modern Japan, tracing its conversion, in a single generation, from a feudality into a constitutional government, based on deliberate assemblies, national concord, individual legal rights, institution of justice, and the fostering of world-wide knowledge.

Mr Dyer's long service in Japan, beginning as first principal of the Imperial College of Engineering at Tokyo, qualifies him for this difficult study, which is commended to every investigator of Japanese affairs. The growth of educational institutions, the organization of an efficient army and navy, the establishment of railways, telegraphs, and steamship lines, the advance of industries, the growth of commerce, and the creation of a national system of finance have been accomplished so successfully in the past thirty years as to excite the attention and merit the admiration of the world. How these wonders have been wrought, their influences on art, on social conditions, and on the individual and the nation are clearly set forth.

The discussion of the oriental mind, with its preëxistent trend and its nature worship, is curious as explaining the dominant features of the Japanese—patriotism and loyalty. The chapters on

international relations, foreign politics, and recent events are worthy of most careful perusal, giving as they do an insight into the causes of the present war. A. W. G.

The Land of Riddles (Russia of Today). By Dr Hugo Ganz. Translated from the German by Herman Rosenthal. Pp. vi + 331. New York: Harper and Brothers. 1904. $2.00 *net*.

This volume is not a study of Russian institutions, but a compilation of journalistic articles based on interviews with various officials and business men. Dr Ganz doubtless made the most of his opportunities in Russia, but his guesses must be received as such and not as solutions of the current complex problems—economic, military, and political—which seriously threaten the stability of Russian institutions. Labor, education, the press, military administration, methods of public business, are riddles which Dr Ganz does not consider. A. W. G.

North America. By Israel Cook Russell. Illustrated. Pp. x + 435. New York: D. Appleton and Co. 1904.

This important volume in the World Series is highly commended as not only specially worthy of study by geographical students, but also of interest to general readers. Topography and geology are admirably treated, under the head of five physiographic provinces, though with too great fullness. The chapter on climate, following text-book methods, fails to convey, to unscientific readers at least, an adequate idea of the dominant or varying weather conditions of North America, and the illustration of the ice palace, while attractive, is not in harmony with the rest of the volume.

The omission from the volume of political or economic geography is to be regretted, especially when it is considered that from these standpoints the influence of this continent has very materially modified the march of human progress throughout the entire world. The aborigines are treated most graphically and the views advanced regarding them command respect, although not always convincing. The most instructive matter is the recognition and presentation of the admirable work of Dr C. Hart Merriam, who has solved the problem of geographical life distribution, by the formulation of the life-zones and crop-zones of North America. Professor Russell writes in a clear style and logical manner, qualities not always combined, and this volume will add to his literary and scientific reputation. A. W. G.

Fetichism in West Africa. By Robert Hamill Nassau. Pp. xvii + 389. Illustrated. New York: Charles Scribner's Sons. 1904. $2.50 *net*.

This is an important contribution to our knowledge of the religious beliefs and superstitions of the natives of French Congo and adjacent regions. It is the outgrowth of forty years of missionary work by Dr Nassau, and justifies the action of the American Board of Foreign Missions in fostering its preparation. Preëxistence, spirit power, nature adoration, and ancestor worship are the bases on which rest the universal practices in Africa of witchcraft, charms, blood-sacrifices, and other forms of fetichism. Its practical effects in depopulation, assassination by poison, and coercion are vividly described, as also the strange secret societies of various kinds which exist among the women. The folklore reveals the existence of traditions also prevalent far remote from Africa. A. W. G.

Japanese Life in Town and Country. By George William Knox. Pp. xii + 267. Illustrated. New York: G. R. Putnam's Sons. 1904.

This volume, partly a reprint of various articles, is an interesting, sketchy account of every-day life as seen during fifteen years' residence in Japan. The

impressions regarding servants, merchants, trade methods, and domestic life are unattractive from a western standpoint. Contrasts of the old *samurai* (nobility) and the new are more promising. Dr Knox gives credit to Japan for choosing freedom, self-government, progress, and modern science, and forecasts its future world influence as important. A. W. G.

The Proceedings of the American Forest Congress held at Washington, D. C., January 2 to 6, under the auspices of the American Forestry Association, will be issued in book form on March 15. The volume will contain about 400 pages and will be handsomely bound in cloth. It will contain the complete addresses by President Roosevelt, Secretary Wilson, and about fifty other prominent speakers who were on the program, including not only those most prominent in State and national forest work, but the leaders in the railroad, lumbering, mining, grazing, and irrigation industries. The price of the volume is $1.25, prepaid to any address. Published for the American Forestry Association by the H. M. Suter Publishing Company, Washington, D.C.

"The Bahama Islands" will be issued as the first monograph of the Geographical Society of Baltimore early in March. The volume is illustrated with 92 plates, of which 25 are color-illustrations of vegetation, fishes, maps, charts, etc. In June, 1903, the Society equipped and sent out to the Bahama Islands a scientific expedition under the direction of Dr George B. Shattuck, of the Johns Hopkins University. Investigations were carried on in geology, paleontology, tides, earth magnetism, climate, kite-flying in the tropics for atmospheric observations; agriculture, botany, mosquitoes, fishes, reptiles, birds, mammals, medical conditions, social conditions, and the history of the islands, compiled from original records in possession of the government. The book will contain chapters on each of these subjects. The chapter on geology is written by Dr George B. Shattuck, of the Johns Hopkins University, and Dr Benjamin Le Roy Miller, of Bryn Mawr College; that on paleontology by Dr Wm. H. Dall, U. S. National Museum; that on tides by L. P. Shidy, U. S. Coast and Geodetic Survey, and so on.

BOOKS RECEIVED

Check List of Large Scale Maps Published by Foreign Governments. Compiled under the direction of Philip Lee Phillips. Pp. 58. 10 x 7 inches. Washington: Government Printing Office. 1904.

Earthquakes. By Clarence Edward Dutton, Major, U. S. A. Pp. 314. 8½ x 5¾ inches. New York: G. P. Putnam's Sons. 1904.

The United States of America. By Edwin Erle Sparks. Two vols. Pp. 385 + 385. 8 x 5¼ inches. New York: G. P. Putnam's Sons. 1904.

A. L. A. Catalog of 8,000 Volumes for a Popular Library. Editor, Melvil Dewey. Pp. 485. 9¾ x 7¼ inches. Washington: Government Printing Office. October, 1904.

Swedish Life in Town and Country. By O. G. Von Heidenstam. Pp. 286. 7½ x 5 inches. New York: G. P. Putnam's Sons. 1904. $1.20.

Historic Highways of America. Vol. 14. The Great American Canals. The Erie Canal. Vol. ii By Archer Butler Hulbert. Pp. 224. 7¾ x 5 inches. Cleveland, Ohio: The Arthur H. Clark Co. 1904.

Students' Laboratory Manual of Physical Geography. By Albert Perry Brigham. Pp. 153. 7¾ x 5½ inches. New York: D. Appleton & Co. 1904.

Physiography. By T. H. Huxley and R. A. Gregory. Pp. 423. 7 x 4½ inches. New York: Macmillan & Co. 1904.

NATIONAL GEOGRAPHIC SOCIETY

The annual reception of the Society will be held at the home of the Society, Hubbard Memorial Hall, Saturday evening, March 11.

POPULAR MEETINGS

National Rifles' Armory, 920 G street, 8 p. m.

March 8.—"Manchuria." By Col. W. S. Schuyler, U. S. Army, who has recently returned after spending eight months with the Russian armies in Manchuria. Illustrated.

March 10.—"The Panama Canal." Rear Admiral Colby M. Chester, U. S. N., Superintendent of the U. S. Naval Observatory. Illustrated.

March 24.—"The Commercial Prize of the Orient and its Relation to the Commerce of the United States." By Hon. O. P. Austin, Chief of the Bureau of Statistics. Illustrated.

March 31.—"From Lexington to Yorktown." By Mr W. W. Ellsworth, of the Century Company. Illustrated.

April 14.—"Fighting the Boll Weevil." By Dr L. O. Howard, Chief of the Bureau of Entomology. Illustrated.

April 28.—"Niagara Falls." By Dr G. K. Gilbert, Vice-President National Geographic Society. Illustrated.

SCIENTIFIC MEETINGS

Hubbard Memorial Hall, 8 p. m.

March 3.—General subject, "Progress in Plant Physiology." Papers by Dr George T. Moore and others on "Inoculating the Ground," "Protecting Municipal Water Supply Systems," etc.

March 17.—"Japan."

The Geography of Japan. By Mr Eki Hioki, First Secretary of the Japanese Legation.

The Fisheries of Japan. By Dr Hugh M. Smith.

Agriculture in Japan. By Mr David G. Fairchild.

April 7.—"Forestry."

Papers by Mr Gifford Pinchot, Mr Overton Price, and others, of the U. S. Bureau of Forestry, and a paper on Japanese Bamboos, by Mr David G. Fairchild.

For the benefit of the many new members of the Society the by-laws are reprinted below.

BY-LAWS OF THE NATIONAL GEOGRAPHIC SOCIETY.

ARTICLE I.—*Name.*

The name of this Society is *The National Geographic Society.*

ARTICLE II.—*Object.*

The object of the Society is the increase and diffusion of geographic knowledge.

ARTICLE III.—*Membership.*

SECTION 1. The Society shall consist of members, honorary members, fellows,* and patrons.

SEC. 2. Members shall be persons interested in geographic science.

SEC. 3. Honorary members shall be persons who have attained eminence by the promotion of geographic science. They shall not be members of the corporation, nor shall they vote or hold office.

SEC. 4. Fellows shall be persons engaged in scientific work pertaining to geography. They shall be members of the corporation.

SEC. 5. Patrons shall be persons interested in geography who have contributed one thousand dollars or more to the objects of the Society; they shall be entitled to all the privileges of membership for life.

SEC. 6. The election of members, honorary members, fellows, and patrons shall be entrusted to the Board of Managers.

ARTICLE IV.—*Officers.*

SECTION 1. The administration of the Society shall be entrusted to a Board of Managers composed of twenty-four members, eight of whom shall be elected by the Society at each annual meeting, to serve for three years, or until their successors are elected. A majority of the votes cast shall be necessary for election.

SEC. 2. The Board of Managers shall elect annually from their own number a President

* No fellows have as yet been elected.

and a Vice-President, and shall elect annually a Treasurer and a Secretary.

SEC. 3. The President shall preside at the meetings of the Society and of the Board of Managers, or may delegate this duty. The President and the Secretary shall sign all written contracts and obligations of the Society.

SEC. 4. In the absence of the President his duties shall devolve on the Vice-President.

SEC. 5. The Treasurer shall have charge of the funds of the Society, under the direction of the Board of Managers, and shall make collections and disbursements and render an annual report, and his accounts shall be audited by a committee of the Society, not members of the Board, annually and at such other times as the Board may direct.

SEC. 6. The Secretary shall record the proceedings of the Society and of the Board of Managers, conduct correspondence, and make an annual report.

SEC. 7. The Board of Managers shall fill vacancies arising in the Board.

SEC. 8. All officers shall serve until their successors are chosen.

ARTICLE VI.—*Committees.*

SECTION 1. The Board of Managers shall select annually from its own number an Executive Committee.

SEC. 2. There shall be standing committees on Publications, Communications, Admissions, Research, and Finance, whose chairmen shall be members of the Board of Managers. These committees shall be appointed immediately after the annual election of the President, to serve until their successors are designated.

SEC. 3. The committees of the Society and of the Board of Managers shall be appointed by the President except when otherwise provided. The President shall be a member *ex officio* of every committee.

ARTICLE VI.—*Finances.*

SECTION 1. The fiscal year of the Society shall begin on the first day of January.

SEC. 2. The annual dues of members shall be two dollars, payable in January.

SEC. 3. Fellows shall pay an initiation fee of ten dollars on notice of election

SEC. 4. Members or fellows may commute annual dues and acquire life membership by the payment at one time of fifty dollars.

SEC. 5. Members or fellows whose dues remain unpaid on March 1 shall be notified by the Treasurer that unless the dues are paid within one month they will be in arrears and not entitled to vote at the annual meeting, to receive the publications of the Society, or to purchase lecture tickets on members' terms. Members or fellows one year in arrears shall, after formal notification, be regarded as having withdrawn from the Society.

SEC. 6. The funds of the Society may be invested and loans may be negotiated in the interests of the Society, and any other financial business germane to the purposes of the Society may be transacted, by the Board of Managers.

ARTICLE VII.—*Meetings.*

SECTION 1. Regular meetings of the Society shall be held on alternate Fridays from November until May.

SEC. 2. Special meetings may be ordered by the Board of Managers or called by the President.

SEC. 3. The annual meeting shall be held in the District of Columbia on the second Friday in January.

SEC. 4. Twenty members or fellows shall constitute a quorum.

SEC. 5. Regular meetings of the Board of Managers shall be held on the same days as the regular meetings of the Society; special meetings may be held at the call of the President or on notice signed by five members of the Board: *Provided*, That for any of its own meetings the Board may substitute meetings of the Executive Committee.

SEC. 6. Lectures and lecture courses may be provided by the Board of Managers. Free admission to such lectures shall not be a prerogative of membership, but tickets shall be sold to members and fellows on more favorable terms than to non-members: *Provided*, That each life member who acquired life membership prior to the year 1901 shall be entitled to two admissions to each lecture and course.

ARTICLE VIII.—*Publications.*

The Society shall publish a journal or periodical under the title, *The National Geographic Magazine*, which shall be sent to all members and fellows of the Society not in arrears, and may be placed on sale.

ARTICLE IX.—*Amendments.*

These By-Laws may be amended by a two-third vote of the members present at any regular meeting, provided the proposed amendments are reported by the Board of Managers, and provided that notice thereof has been sent to all members of the Society not less than ten nor more than sixty days before the meeting. The publication of proposed amendments in The National Geographic Magazine shall be deemed a notice within the meaning of this article.

Office Hours: 8.30 A. M. to 5 P. M. Telephone, North 306

NATIONAL GEOGRAPHIC SOCIETY

Hubbard Memorial Hall
Sixteenth and M Streets, Washington, D. C.

The National Geographic Magazine is sent free of charge to all members of the National Geographic Society

Recommendation for Membership in the

NATIONAL GEOGRAPHIC SOCIETY

The following form is enclosed for use in the nomination of persons for membership

Please detach and fill in blanks and send to the Secretary

Dues: Annual membership, $2; Life membership, $50. If check be enclosed, please make it payable to order of the National Geographic Society, and, if at a distance from Washington, remit by New York draft or post-office money-order.

.....190

To the Secretary, National Geographic Society, Washington, D. C.:

Please propose .....

address: .....

.....

for membership in the Society.

.....

A Complete Card Index

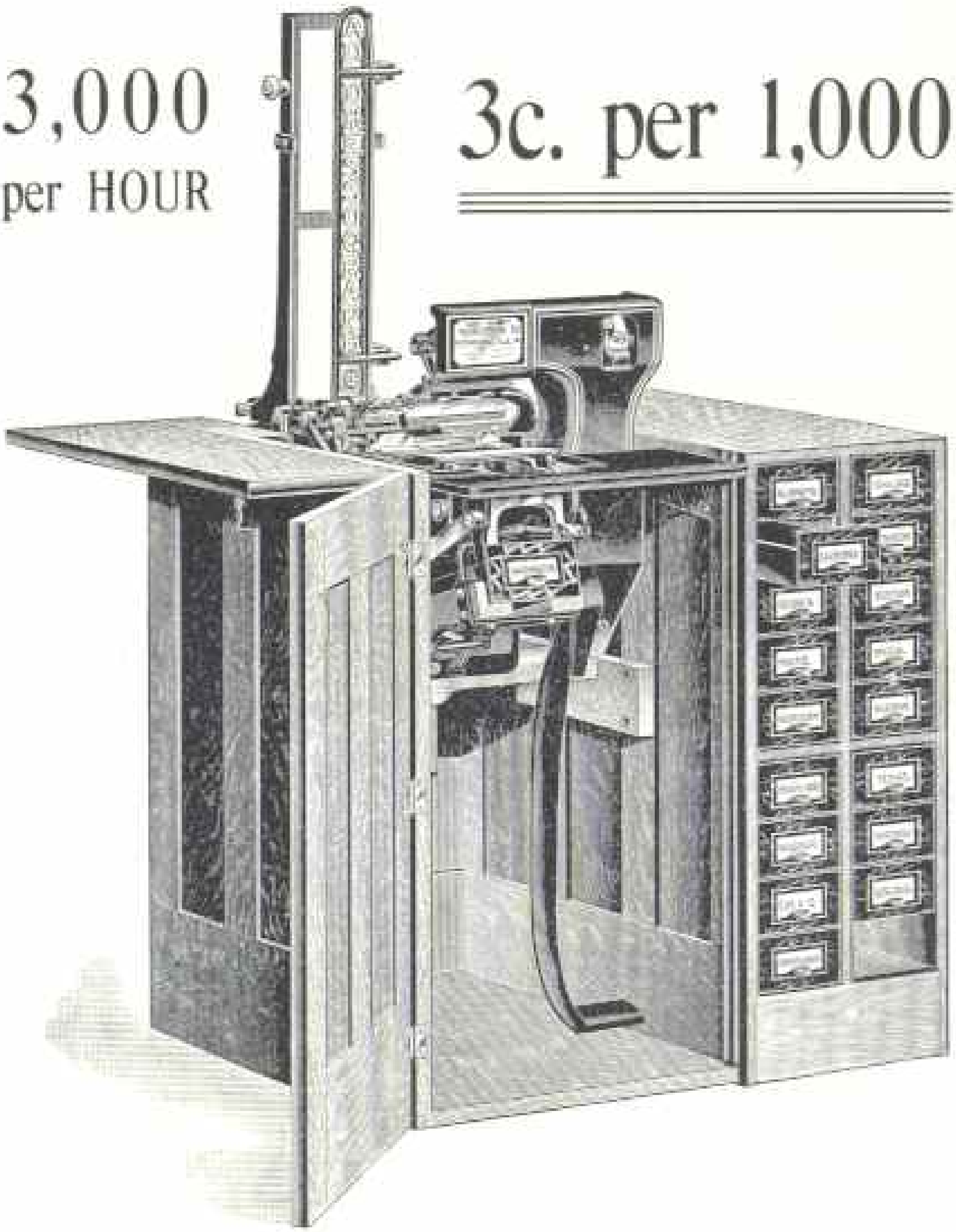
and Perfect Addressing Machine

Addresses

ENVELOPES
STATEMENTS
WRAPPERS
POSTALS
TAGS
PAMPHLETS

3,000
per HOUR

3c. per 1,000



ADDRESSOGRAPH CO. :: :: :: Chicago, Ill.

BACK VOLUMES FOR SALE

We have on hand a few copies of complete back volumes which may be obtained at the following prices:

Vol. 3, 1891	$5.10	Vol. 9, 1898	$2.75
Vol. 5, 1893	4.50	Vol. 11, 1900	2.50
Vol. 6, 1894-5	4.20	Vol. 12, 1901	2.50
Vol. 7, 1896	3.25	Vol. 13, 1902	2.50
Vol. 8, 1897	3.00	Vol. 14, 1903	2.50
		Vol. 15, 1904	2.50

National Geographic Magazine, Hubbard Memorial Hall

WASHINGTON, D. C.

PRESS OF JUDD & DETWEILER (Inc.), WASHINGTON, D. C.