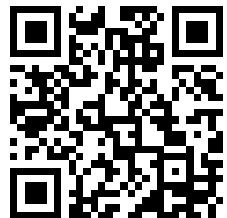

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A WASHINGTON
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by

OLIN D. WHEELER.

A STORY OF THE NORTHWEST

In which is
given some account of its

History, Forests, Mountains, Fishing,
Parks, General Scenery, Mining,
Agriculture, Grazing, and Cities

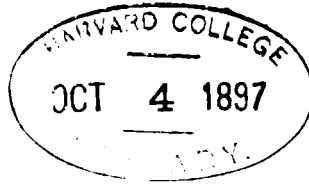
Along the

Northern Pacific Railway.

ILLUSTRATED.

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By CHAS. S. FEE, General Passenger and Ticket Agent
Northern Pacific Railway,
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THE GREAT NORTHWEST

"I will never vote one cent from the public treasury to place the Pacific Coast one inch nearer to Boston than it is now."—DANIEL WEBSTER, in U. S. Senate Chamber, 1844.



1803 France sold and ceded to the United States, greatly to Spain's chagrin, and in defiance of an express agreement to the contrary, what was known as Louisiana. In the United States this transaction is known as the Louisiana Purchase. Consistent with the scant geographical knowledge of that period, the limits of this territory were but vaguely defined. In a general way they were as follows: The Mississippi River from its mouth to the forty-ninth parallel of latitude—the present boundary line between the United States and Manitoba, British Columbia, etc.—formed the boundary on the east; the forty-ninth parallel from Lake of the Woods to the Pacific Ocean, on the north; on the west, the Pacific Ocean to the forty-second parallel of latitude, or to the present southern boundary line of Oregon; thence eastwardly along the forty-second parallel, approximately to the Rocky Mountains, thence in an irregular southeastern line to the mouth of the Sabine River which constitutes part of the western boundary of the present State of Louisiana; thence along Gulf of Mexico to point of beginning. I quote the following from Brower's recently published "The Missouri River":

Louisiana, area, in 1803, acres.....	766,733,440
(Reduced from Wheeler's square mile estimate.)	
Stipulated price.....	\$ 15,000,000
Price per acre, a fraction less than 2 cents.	
Price per section of 640 acres each.....	\$ 12 52
Value at the Government price, \$1.25 per acre.....	\$958,416,800

By the census of 1890 there were more than 12,000,000 inhabitants within the limits of the Louisiana Purchase, or just about twice as many as the *total population* of the United States *at the time of the purchase*.

It will be noted that the Louisiana Purchase included the Northwest, and the peculiar history of the ancient Louisiana is fraught with important consequences and most intimately related to the latter region. In

the long, tedious, and stubborn diplomatic fight between the United States and Great Britain over the title to Oregon, the title to this region which vested in Spain through her discoveries in the fifteenth and sixteenth centuries, and which was transferred by her to France and acquired by the United States through the Louisiana Purchase, cut an important figure.

It was about twenty-seven years after the purchase of this territory before the first locomotive was used in the United States. Now, there are, within the limits of Minnesota, North Dakota, Montana, Idaho, Washington, and Oregon—States which are a part of the old Louisiana, and now traversed by the Northern Pacific Railway—about 17,000 miles of railway. Furthermore, every transcontinental railway in the United States crosses a portion of the old purchase, and four of them do so for very long distances.

President Jefferson determined that the larger part of this region should be explored. Through his efforts Captains Lewis and Clark, at the head of an expedition left St. Louis early in 1804, ascended the Missouri River, crossed the mountains, descended the Columbia to the Pacific, recrossed the mountains and returned late in 1806. So thoroughly was their work done, that to this day it stands as the greatest exploration ever attempted by the United States.

In the later development of this country the Northern Pacific Railway has proved an important agency. Starting from the head of navigation on both the Mississippi River and Lake Superior, it follows some of the largest water courses through the heart of the Northwest. Prominent among these are the Mississippi, Yellowstone, Missouri, Clark Fork of the Columbia, Yakima, Columbia, and Willamette rivers. It reaches tide-water on the Pacific Coast at Tacoma, Seattle, and Portland. It has opened one of the most valuable sections of the United States. Wide spreading prairies; grazing lands of vast extent; the richest of irrigable valleys; mineral regions of fabulous wealth; timber lands beyond the conception of ordinary mortals; orchard and garden spots marvelously fertile, and fisheries of varied sorts are tributary to this great artery of commerce.

WISCONSIN.

While by far the major portion of the Northern Pacific Railway lies in the old Louisiana Purchase, that part of it eastward from Brainerd to Duluth, Minn., and Superior and Ashland in Wisconsin, is outside of it.

Wisconsin once included a considerable portion of the lands west of it, and was itself formerly included in the Territory of Michigan. It became a State in 1848.

The easternmost point of the Northern Pacific is at Ashland, Wis., on Chequamagon — She-quahn'-me-gon, originally and correctly Shah'-gah-wah'-me-kong — Bay. The road skirts the Lake Superior shore for a good part of the distance between Duluth and Ashland, cutting a fine timber region. There are also splendid trouting streams found there, the Brule — Bróo-lay'— being noted as an unusually fine one.

Superior and Ashland are two prominent cities of Wisconsin, on the Northern Pacific. The former includes several varieties of the name — West, South, etc., Superior. It has large grain elevators, flour mills, and enormous coal docks; is a well-built, street-paved city, prosperous, and bound to be a large place. Ashland is a shipping point for the ores mined in the Gogebic — Go-geé-bic — iron ore region. Its harbor facilities are good as are also those of Superior.

MINNESOTA.

Minnesota assumed a territorial relation to the Government in 1849, and graduated into statehood in 1858. Its area is 84,287 square miles, or 53,943,379 acres. Its surface is very diversified, and it is as well a State of diversified industries. Agriculture in its various forms of grain raising, stock raising, dairying, etc., is of course of primal importance. Scarcely less is the lumber and shingle industry; and the great flouring mills once largely confined to Minneapolis, but now scattered well over the State, are a source of great wealth. Historically it is full of interest. Midway between St. Paul and Minneapolis are the falls of Minnehaha, a beautiful though not specially large cascade, that furnished Longfellow the theme for one of the most beautiful incidents of his poem, "The Song of Hiawatha." Hard by is Fort Snelling, at the junction of the Minnesota and Mississippi rivers. The corner-stone of the fort was laid in 1820, and it has ever since borne an important part in the military history of the Northwest. Fort Snelling is the Fort Sibley of Captain King's military novel, "From the Ranks." At Minneapolis are the St. Anthony Falls, so named by Father Hennepin, a Franciscan friar or monk, who traveled through the region in 1680. He named the falls after his patron saint, Anthony of Padua. In Lake Itasca, in the northern part of the State, the Mississippi River, the "Father of Waters," has its source. For about 600 miles it flows entirely within the limits of the State. Its total length, from its ultimate source in the Itasca Basin to the Gulf of Mexico, is 2,553 miles.

Several varieties of good building stone, granites, sandstones, and limestones are scattered over the State. In the northeastern section of the State are large deposits of iron, found in the Mesabi — Me-sah'-be



1. ST. ANTHONY FALLS.

2. MINNEHAHA FALLS.

— and Vermillion ranges. Fire clay is found in many localities, and large numbers of brick and much terra cotta is manufactured. Manufacturing is carried on upon a large scale. At St. Paul one of the largest agricultural implement manufactories in the United States is located, and Minneapolis is noted for its many and fine flouring mills.

The Northern Pacific main line, leaving St. Paul, passes through Minneapolis, thence, following the Mississippi Valley, passes through Anoka, St. Cloud—the seat of large granite quarries—and Little Falls, an important lumbering point, where the road crosses the Mississippi. It then swings to the northwest, across the Park Region, and enters the Red River Valley, crossing the Red River at Moorhead, one of the large towns of the valley.

At Staples the line from Duluth joins the other, and beyond Staples, at Winnipeg Junction, the Manitoba branch for Winnipeg diverges. It will thus be seen that the Northern Pacific touches the three important cities of Minnesota—St. Paul the capital, Minneapolis the largest city, and Duluth the third city in population. These are modern cities in every sense of the word, with asphalted streets, large buildings, residences of fine architecture, good sanitary and water systems, and beautiful parks. St. Paul and Minneapolis are located upon both banks of the Mississippi, and Duluth is an enthroned queen upon the ancient heights that overlook

Superior's spacious bosom, where its people can watch "The Ships that Pass in the Night" as they come and go freighted with precious cargoes.

Aitkin—Á-kin—and Brainerd are important lumber towns between Duluth and Staples. At Brainerd are large shops of the Northern Pacific, and a railway track—formerly part of the main line—connects Brainerd and Little Falls. St. Paul, at the head of Mississippi River navigation, has an altitude of 710 feet above sea level.

Minnesota is drained by the St. Croix—a portion of its eastern boundary line—Mississippi, Minnesota, Red, and St. Louis rivers. These rivers run south or southeasterly, with the exception of the Red. This river has its source near the source of the Mississippi, at first flows south and then whirls about and runs directly north into Lake Winnipeg, Manitoba. Along the northeastern boundary are a series of lakes and rivers, including Rainy Lake, Rainy Lake River, and Lake of the Woods, that drain a large portion of that part of the State. *The most northern point of the United States*, excepting only Alaska, is the isolated part of Minnesota on the west shore of Lake of the Woods. The land surrounding it is entirely in Manitoba, and its connection with the United States and the State of which it forms a part is entirely by the waters of the lake.

NORTH DAKOTA.

In 1861, the Territory of Dakota took its place among the sisterhood of States and on the United States maps. This Territory, which included both North and South Dakota, in 1889 was divided and became two States. The area of North Dakota is 70,795 square miles, or about 45,308,800 acres. North Dakota, with other portions of the West, was formerly a vast buffalo range. Now, instead of buffalo, cattle, horses, and sheep are raised.

The State has a good drainage system. Beginning at the east, there is the Red River, flowing north; the Sheyenne, James, and Missouri rivers, which flow south, and the Little Missouri and Mouse rivers that also run north. Of these the Red and Missouri rivers are much the largest. The surface of the land outside of the Red River Valley is more or less rolling. The valleys of the Red, James, and Missouri form great troughs running north and south, and that of the Red River is unusually level for so long and wide a valley.

North Dakota is essentially an agricultural State, but in the western part of the State there are large deposits of lignite coal.

The main line of the Northern Pacific enters North Dakota at Fargo, and runs entirely across the State.

Fargo is one of the most enterprising cities of the West. It is thoroughly alive to its own interests and abreast of the times in municipal

improvement, and is the important city of the Lower Red River Valley. It ranks third among farm machinery distributing points in the United States.

West of Fargo are Valley City and Jamestown, the one in the valley of the Sheyenne, the other in the James River Valley. Not so large as Fargo, they are thriving places, and as the surrounding country is settled they become larger.

Bismarck, on the eastern bank of the Missouri, is the State capital. At this point the railroad crosses the Missouri River on an iron and steel bridge. On the west bank of the river is Mandan, named after the Mandan Indians, who formerly roamed this region. In this neighborhood Lewis and Clark, the explorers, wintered in 1804-5. Beyond Mandan is Dickinson, in the heart of a sheep and cattle country. Just before reaching Medora, the traveler can see, on the left side of the train, the Watch Dog Rock, one of the odd figures formed in rock in this locality.

The Manitoba branch line traverses the Red River Valley to Winnipeg. Until Grand Forks is reached, it lies in Minnesota, passing through Fertile and Crookston, two thriving places. Just east of the line, and reached from either of these places, is the recently opened Red Lake Reservation. Crookston is the seat of the United States Land Office, and a branch line extends from Crookston to Red Lake Falls, near the boundary of the reservation. After entering North Dakota, the road reaches northward on the western bank of Red River, passing through Grafton and Drayton—growing points of importance in the valley.

Grand Forks, like Fargo, is another example of push and energy among northwestern towns. It is a modern place, with good buildings, churches, and schools, and the seat of the North Dakota University. One of the finest woolen mills in the West is located here, and it ships its products to far-away Japan among other outside points.

The heretofore accepted meaning of the word Dakota—recently questioned, however—is an interesting one. It comes from the Dakota tribe of Indians, commonly though incorrectly—except so far as custom sanctions it—called the Sioux. The word has its counterpart in our own motto, "*E pluribus unum*," and refers to a league established two centuries ago between tribes ranging over a vast extent of territory, from the great Lake Superior westward. The old French *voyageurs* called the Dakotas "*Gens du Lac*" (People of the Lakes), because of the number of lakes in their country.

In 1895, among other agricultural products, North Dakota produced *approximately*, 2,800,000 bushels of potatoes, 1,000,000 bushels of corn, 56,000,000 bushels of wheat, 20,000,000 bushels of oats, and 3,600,000 bushels of flax.



1. YELLOWSTONE RIVER - MEYERS BLUFFS. 2. RAILWAY STATION, LIVINGSTON, MONT.
 -3. OLD ST. MARYS MISSION CHURCH, STEVENSVILLE, MONT. 4. AUSTIN VIADUCT ON HELENA HILL.
 5. PORTAL OF MULLAN TUNNEL—ROCKY MOUNTAINS, WEST OF HELENA. 6. ALONG BUTTE AIR LINE.

MANITOBA.

The Northern Pacific line that traverses the Red River Valley leaves United States territory at Pembina—Pem'-be-nah. This is one of the oldest settlements in the Northwest, and, until recently, was a United States military post. Winnipeg, the capital of Manitoba—formerly Man-i-to-bah', now usually pronounced Man-i-tó-bah—is a city of much interest to a citizen from the States. It occupies the site of old Fort Garry, a former Hudson Bay Company post, at the junction of the Red and Assiniboine—As-sin'-i-boin—rivers. A portion of the fort wall still stands and the Hudson Bay Company still does business in a large, modern structure. The streets of Winnipeg are broad and well built up, traversed by electric cars, and lighted at night by electric lights. Among many fine buildings is the "Manitoba," a large brick structure owned by the Northern Pacific, and the finest hotel in Winnipeg.

MONTANA.

After leaving Medora and the Little Missouri River the railroad winds up to the divide through a narrow creek valley. Prairie dog villages, with their cute, grave, stub-tailed denizens, afford mirth to the passengers. Away to the left, Sentinel Butte is a conspicuous feature of the landscape.

We are now in a State, of new and striking characteristics, although the fact is not at once made apparent. The immediate locality is still a cattle or, in the vernacular, "cow" country. The little stations, such as Wibaux, Roubaix, Allard, etc., are busy cattle-shipping points at times. In 1896, more than 294,000 head of cattle were shipped from Montana, and 60,000 were used within its borders. The value of the entire number was over \$8,500,000. When the divide is reached, the rails follow Glendive Creek to its debouchment in the greater Yellowstone River. Now the change in scenic character shows itself. Indeed the weird, startling pinnacles and cliffs of the Bad Lands about Glendive have betokened a change. Montana became a Territory in 1864, a State in 1889. Its area is 146,080 square miles, or 93,491,200 acres—one of the largest States in the Union. The name itself is significant of its physical character. Mr. W. E. Sanders, the Librarian of the Montana Historical Society, in Brower's "The Missouri River," discusses the derivation and meaning of the word from which I give an excerpt. The Latin words *montána* and *montánis* are under consideration.

Here, however, the word is pronounced with the long sound of the "a," as follows: "*Mon-tay-na*," or "*Mon-tay-nis*," while the correct and proper pronunciation of the word gives the Spanish sound of the "a"; not the long, as in "fate," nor yet the flat, as in "bat," but more nearly that of "a" in "far," as "*Mon-táh-nah*," not too broadly given. So you will see that the word could not have been taken directly from the Latin. It is evident,

as it is a fact, that it came directly from some other language founded upon the older tongue, and this language is that of Spain. The name comes directly from the feminine form of the adjective "*montaña*," meaning mountainous; from the noun "*montaña*," a mountain or mount, and pronounced "*mon-tán-nyah*." The feminine form of the adjective "*montaña*" is "*montaña*," which is pronounced "*mon-táh-nah*," the signification of which is a mountainous country. * * * * *

As to the signification of the word, no other one would so well describe the topographical characteristics of the State, for, with the ranges and spurs and isolated groups of mountains, the State of Montana is indeed a mountainous country. First and foremost, of course, the main range of the "Rockies"—the "backbone of the continent"—reaches from north to south across the State, a magnificent mountain wall. Radiating from it in many directions run spurs and lesser ranges, as the Cœur d'Aléne, Bitter Root, Kootenai, Cabinet, Gallatin, Madison, Snowies, Highland, Basin, and many more or less isolated groups and ranges, as the Tobacco, Snow Crest, Crazy, Ruby, Milk River, Bridger, Pryor, Bull, Little Belt, Big Belt, Bear Paw, Big Snow, Sweet Grass, Little Rockies, Highwood, Wolf or Cheetish, Big Horn, and Rosebud, some of which reach eastward nearly to the eastern boundary of the State.

The main range of the Rockies enters the State at the northwest corner and extends southeasterly to the vicinity of Helena, where it swings to the south. The range is formed of many parallel ranges, which, west of Helena, trend northwest and southeast.

After the Northern Pacific reaches the Yellowstone River, it takes advantage of this natural grade and follows it for 341 miles to Livingston. Between Livingston and Bozeman it finds the first and highest ridge of the Rockies, which it crosses at an altitude of 5,565 feet above sea level, via the Bozeman Tunnel. West of Helena the range is again crossed, through the Mullan Tunnel at 5,548 feet elevation, and yet a third time via the Coriacañ — Kohr-i-ak'-an — Defile west of Missoula, which pass is 3,946 feet above the sea.

The drainage system of Montana, taken as a whole, is an immense one.

The Missouri and Yellowstone rivers

east of the mountains,

the Clark Fork of the

Columbia and the

Kootenai rivers in the

northwest, are the

greater individual

systems. Besides these

there are many other streams, of which the Pow-

der, Tongue, Rosebud, Big Horn, Bitter Root, Missoula, Musselshell, Milk, Marias, etc., rivers are examples, which drain large areas and are almost as important in this respect as the larger streams. The Missouri River



ON THE BITTER ROOT NEAR MISSOULA, MONT.

has its rise in Montana, the ultimate source being found in the southeast corner just west of Yellowstone Park, and being the utmost source of the Jefferson Fork of the Missouri.

The mountains are full of the precious metals, and contain extensive beds of good merchantable and coking bituminous coal.

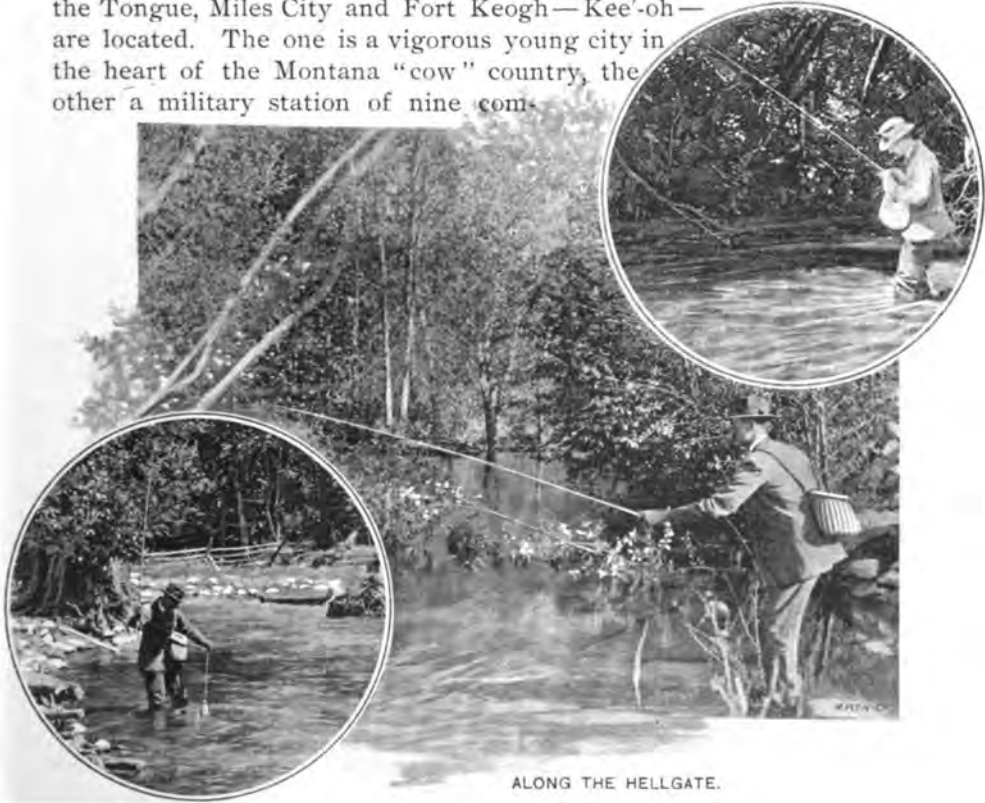
Agriculturally the State stands high. Its valleys are fertile, and under irrigation produce enormous crops of grain and vegetables. The Yellowstone, Tongue, Gallatin, and Bitter Root valleys are particularly noted in this respect. Horticulturally it is also coming to the front. This is especially so with those valleys west of the main Rocky range, which are more within the influence of the warm Japan Current, locally known as "Chinook" winds. Small fruits grow luxuriantly in all the valleys. Within a few years the west side of the Bitter Root Valley will be almost one continuous orchard. The Gallatin Valley raises unusually fine barley. From 75,000 to 100,000 bushels of barley are shipped annually from this valley to European points, and 250,000 bushels are made into malt, in the valley itself. The many mining camps throughout the State furnish markets of the best and steadiest sort. In 1895, there were planted to wheat more than 40,000 acres; barley, about 17,000 acres; corn, 1,300 acres; oats, 80,000 acres; potatoes, more than 5,000 acres; hay, 225,000 acres, and to alfalfa, 10,000 acres. There were nearly 300,000 standard apple trees, of which between 35,000 and 40,000 were in bearing.

From a scenic standpoint, Montana is resplendent. East of the main Rockies are the great rolling plains, varied in profile by the spurs and offshoots from the mountains that stretch eastward. The numberless water courses, a plexus of fructifying agencies, with their grass-bottomed and tree-fringed valleys, cut the plains in all directions even as the life-giving arteries of blood penetrate the human system.

The mountains themselves are nature's own. They are "full of days" and of glory. They are of all varieties. Lofty, gigantic ranges, clothed with umbrageous forests, terminate in bald peaks whose crowns have been scalped by nature, with the relentlessness of an Indian. Naked and unblushing slopes browned by the suns of centuries, are contrasted by their heights of austere, black, timber garments, in whose avenues and savannas the elk, deer, bear, and cougar reign, and above which the battlemented crags and snow-touched crests rise to meet the sun and storm. In their bosoms are cold mountain lakes and colder glaciers. Dim, narrow trails used indiscriminately by hunter, prospector, elk, or mountain goat are their highways of communication, and the axe blazings on trees are their telegraph lines.

Montana — mountainous — well and truly named, and its people love the name as they love the land.

The ride through the historic Yellowstone Valley, the old Elk of the Sioux, and the theater of so much savage warfare, is full of interest. Mile after mile the train rumbles alongside the swirling stream, now shooting across a wide amplitude of valley, now thundering at the base of cliffs. The Powder, Tongue, Rosebud, and Big Horn rivers are each crossed where they debouch into the Yellowstone. At the mouth of the Tongue, Miles City and Fort Keogh—Kee'oh—are located. The one is a vigorous young city in the heart of the Montana "cow" country, the other a military station of nine com-



ALONG THE HELLGATE.

panies. Near Miles City the evidences of irrigation are seen. A large canal is brought down from the Tongue River. The broad fields of grain, and the beautiful green of those checker-squares of alfalfa fields are a sight to gladden the eyes. A little farther and Billings is reached. Here is another depot for cattle, and especially for wool and sheep shipments. The value of sheep and wool produced in 1896 in Montana was \$2,500,000. Here, too, are more irrigation canals. Presto! what a change! A few short years ago, the grazing ground of buffalo, the hunting and fighting ground of the Indian. Now, the fattening ground of cattle and sheep, the land of fruits, grain, and alfalfa, with the wings of peace spread over it. **GREAT IS IRRIGATION!**

Fort Custer and Custer's fatal battle ground lie only forty miles to the south. They can be reached from Custer Station by stage, or from Billings by trains of the Burlington system.

At Livingston, the tourist bound for Yellowstone Park leaves the through train. The park lies fifty-one miles southward, and is reached by a branch line.

Beyond the first crossing of the mountains is Bozeman, a most prosperous little city, in an equally prosperous valley — the Gallatin.

Helena is the capital of Montana and the site of Fort Harrison — visible from the car windows after the train leaves Helena — the newest and best of recently built military posts. It is a large, well-built, though rather rambling, city, and the center of a wealthy mining region. From the summit of the mountains west of Helena, at the Mullan Tunnel, there is a down grade clear to Missoula, where again an up grade is found that extends to the Coriakan Pass, in the last ridge of the Rockies. Down this grade swiftly and safely the train sweeps. Like a kaleidoscope, the scene keeps shifting. A glance at some bold rock poised high in air, and it has vanished. The Blackfoot or Hellgate River, whichever it may be, is racing us through the broad, flowery meadows. The Hellgate Cañon is one of the grandest pathways through the mountains that a railroad engineer ever meandered.

At Logan, on the eastern side of the mountains and west of Bozeman, a line known as the Butte Air Line diverges. This line, via Butte, the great mining city, and the Montana Union Railway, traverses the valley of the Jefferson River, crosses the range into Butte, and then swings north through the beautiful Deer Lodge Valley, and at Garrison, about half-way between Butte or Helena and Missoula, reconnects with the Helena or main line. The scenery via this route, while decidedly different, will strike many as equal to that seen via Helena. In both cases the ride down Hellgate Cañon is an experience of the traveler.

Missoula is a "right smart of a town," as some of my old-time Southern friends would say. That reminds me that many from the land of the Southron have set up their tents within its borders. A finer sight for a town,



FORT SHERMAN AND CŒUR D'ALÈNE LAKE, MONTANA.

large or small, the sun never shone on. A great big flat at the angle of two rivers, the Bitter Root and Hellgate, which from the junction point becomes known as the Missoula, with glorious mountains round about, make it an ideal place on which to build a city.

The Bitter Root Valley which extends seventy-five miles southward and the Missoula Valley to the westward are two well settled fertile valleys.

The DeSmet or Cœur d'Aléne branch line leaves the main line at DeSmet, follows the Missoula River northwestward to its junction with the St. Regis de Borgia, and then winds up the narrow valley of the latter to the summit of the Cœur d'Aléne Range and over to Wallace, in Idaho.

After the Northern Pacific crosses the Mission Range through the Coriacan Defile, it stretches away to the northwest at last clear of the



SHORE OF LAKE PEND D'OREILLE AT HOPE.

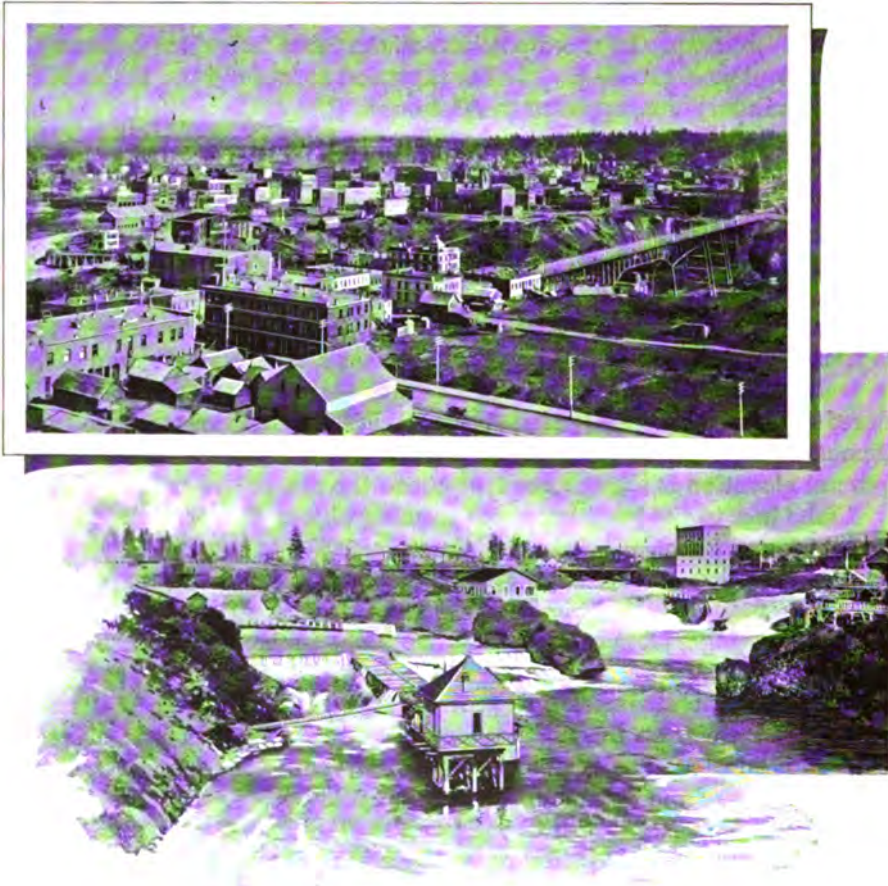
Rockies. The train whirls swiftly across the Flathead Indian Reservation and then follows the Clark Fork, another winding and beautiful stream in the mountains, to Hope, Idaho, on the northern shore of Lake Pend d'Oreille.

IDAHO.

In 1863 Idaho was formed into a Territory. After twenty-seven years of probation, or in 1890, after considerable tribulation, it was elevated to statehood. Its area is 84,800 square miles, or about 54,272,000 acres. It is an odd-shaped State. This is owing to the fact that the eastern boundary is largely the summit line of the Bitter Root Mountains. Like Montana it is a mountainous country, but less so than its neighbor.

When the Territory of Idaho was established an effort was made to

tory of Oregon, designated that part of it lying north of the Columbia River to be called Columbia. Such a name was eminently appropriate. But with the strange, fatuous notions that at times move men, even though they be august congressmen, a Kentucky member of Congress moved the substitution of the word Washington for Columbia, and Wash-



SPOKANE, WASH. SPOKANE FALLS, SPOKANE.

ington the new Territory became. This was in 1853. The area of the new Territory was 69,180 square miles, about 44,275,200 acres.

In 1889 Congress gave the Territory of Washington a commission as the State of Washington.

The first settler on *Puget Sound*, like the congressman who gave name to the Territory, was a Kentuckian, who settled at Budd's Inlet in 1845.

The eastern part of the State is largely a timberless, rolling plain, wonderfully rich in its volcanic ash soil. The northern and western portions are mountainous, with beautiful and fertile valleys, and vast areas of the finest of timber—spruces, firs, pines, cedars, etc. One who has not seen these marvelous forests, with their semi-tropic foliage, can not form an adequate conception of them from description alone. The mineral wealth of Washington is great. The country north of Spokane, around the Okanogan—O-ka-nah'-gan—River and Lake Chelan—She-lan'—and in various other portions of the Cascades, produces gold and silver. Large deposits of coal are found in the Puget Sound country, and iron and copper are thought to exist in paying quantities at various points. The fruits of Washington, whether of Eastern or Western Washington, are of the finest quality. East of the mountains irrigation must be more or less employed in all agricultural or horticultural pursuits, save in the Walla Walla region. West of the Cascades irrigation is unnecessary. East of the mountains, especially in the celebrated Yakima—Yak'-i-mah—Valley, fortunes have been invested in irrigation enterprises.

The fisheries of Washington are very valuable. They comprise the salmon—easily the most important branch—the sturgeon, shad, smelt, oyster, and clam fisheries. These fisheries are found in the Columbia River, Willapa and Grays harbors, and Puget Sound. The total value of the output for 1896, was \$3,200,000.

The exports from Washington cities are large, and yearly increasing. These consist of lumber, shingles, wheat, coal, etc. Wheat and lumber are exported to Europe, Japan, etc., as well as to parts of our own country. Most of the coal used on the Pacific Coast is obtained from the Puget Sound country.

There were exported in 1896: Wheat, more than 3,200,000 bushels exceeding \$2,200,000 in value; flour, more than 500,000 barrels, exceeding \$1,500,000 in value; timber, more than 170,000,000 feet, exceeding \$1,500,000 in value. Total timber and shingle shipments of all sorts were \$7,000,000. The coal output was worth \$3,500,000, and that of dairy products, \$1,500,000.

The climate of Eastern Washington is warm and dry, that of the western half warm and moist.

The drainage of the entire State flows either into the Pacific Ocean, through the Columbia River principally, or into the Sound. Besides the Columbia, the larger rivers are the Snake, Spokane, Yakima, Okanogan, and Clark Fork, or Pend d'Oreille, all of which are affluents of the Columbia. West of the Cascades, and in the Olympic Range, are numberless short rivers running directly to the sea or Sound. Some of these carry a good volume of water. Such are the Cowlitz, Skagit,—Skaá-jit—Elwah, etc.



1. BRIDGE. POINT DEFIANCE PARK, TACOMA, WASH.
3. THE SOUND, FROM POINT DEFIANCE PARK, TACOMA, WASH.

2. C STREET, TACOMA.
4. ELEVATOR A, TACOMA, WASH.

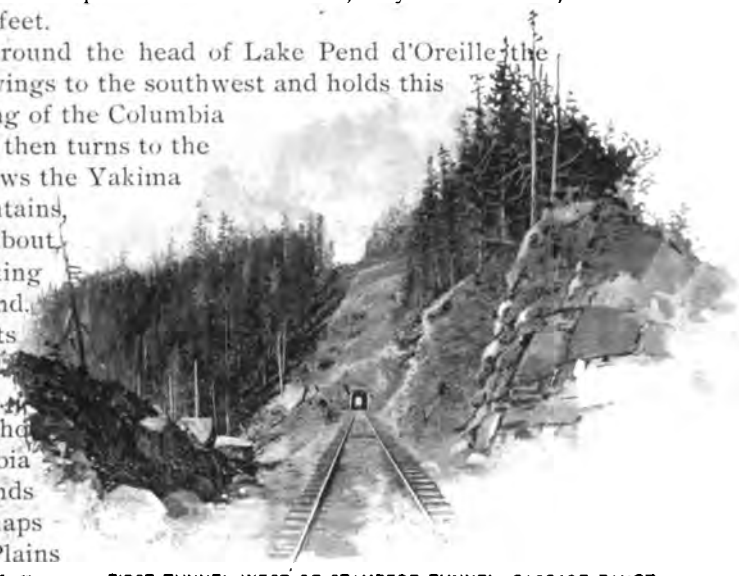
The relative and actual elevations of different parts of the State are shown in the following figures :

Where the Northern Pacific crosses the Columbia River, at Pasco and Kennewick, it is 330 feet above sea level; at North Yakima, 91 miles northwest, the altitude has increased to 990 feet; at Ellensburg, 37 miles farther along and at the base of the Cascades, it has become 1,510 feet, and at the pass through the range, the Stampede Tunnel, the track is 2,885 feet above sea level. Spokane lies 1,910 feet above the Pacific, and Tacoma and Seattle are about 30 feet above the water.

The tremendous and varied heights to which the mountains attain, become evident in the naming of a few figures. Mount Baker, in the extreme Northern Cascades, is 10,719 feet high. On the opposite side of the Sound Mount Olympus of the Olympic Range faces it, but with only 8,150 feet of elevation. Mount Adams, in the Southern Cascades, is 12,250 feet high, while the white poll of Mount Rainier, fifty miles north, reaches heavenward 14,532 feet.

After working around the head of Lake Pend d'Oreille the Northern Pacific swings to the southwest and holds this course to the crossing of the Columbia River at Pasco. It then turns to the northwest and follows the Yakima River to the mountains, where it squirms about here and there working its way to the Sound. From Tacoma its course is southward to Portland.

Between the Idaho line and the Columbia River, the road winds across what old maps called the "Great Plains of the Spokane and Co-



FIRST TUNNEL WEST OF STAMPEDE TUNNEL, CASCADE RANGE.

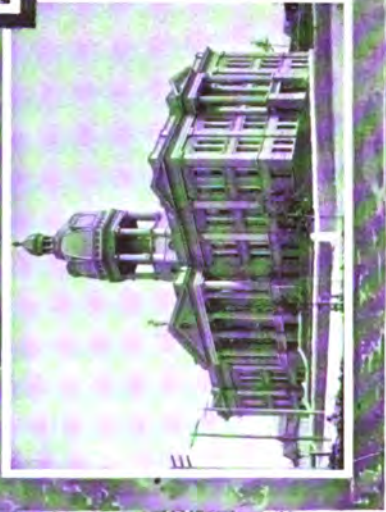
lumbia." It is at first a wide, gravelly plain, becoming more sandy as the river is neared. The larger part of it has seen volcanic disturbance, and volcanic ridges and buttes — bûtes not but — are seen in all directions. In many sections the soil is decomposed volcanic products and is exceedingly rich. All that is necessary is moisture, either by natural precipitation or artificial irrigation, to enable it to produce enormous crops. North and west of Spokane, in the beautiful Colville Valley and Big Bend country, irrigation is more or less necessary.



1. SHIPPING SCENE, SEATTLE.
3. KING COUNTY COURT HOUSE.



2. PLYMOUTH CONGREGATIONAL CHURCH, SEATTLE.
4. MADRONA PARK, LAKE WASHINGTON, SEATTLE.



In all the region east of the mountains the soil seems to be well adapted to either grain or fruits.

Between the Columbia and the mountains lies the Yakima Valley. Under this name are included many lateral valleys that are subsidiary to the main valley. The Yakima is a wonderful object lesson. The desert that was—the garden that is. Such may be written even now of many parts of it—such will be written of all of it ultimately. Irrigation is the one word that explains it. Fruits, vegetables, grain, and forage crops—alfalfa and clover—are raised indiscriminately and with profit. Washington is a natural garden for hops, and the Yakima Valley is especially adapted to their growth. There are in this valley nearly 400 miles of completed canals. Out of 140,000 acres thus reclaimed, 70,000 are under cultivation. The upper valley around Ellensburg, known as the Kittitas—Kit'ty-tās—Valley, is noted for its hay and small fruits. There are, in this locality, about 30,000 acres of land under irrigation. The dairy industry thrives here.

Washington has more than 800 miles of irrigation canals and over 200,000 acres under irrigation. It is estimated that there are 65,000 acres devoted to horticulture; that 10,000 acres were set out to fruits in 1896; that there were 5,000,000 trees bearing fruit, and 17,000,000 pounds of prunes and plums raised the same year. The fruit crop for 1896 was worth \$2,000,000.

Of the cities and towns of Washington, Spokane is the metropolis of the eastern half. From it railways radiate in every direction to mining and agricultural communities. It is a splendid city, and now, since the opening of the rich gold fields of Kootenai and the Boundary Creek country to the north, is again running over with prosperity. Cheney, Oakesdale, Garfield, Palouse City, Colfax, Pullman, Pomeroy, Asotin, Dayton, Walla Walla, Pasco, Ritzville, Sprague, Davenport, etc., are towns of various degrees of growth and importance in the region east of the Columbia River. In the Yakima Valley, Kennewick, Kiona, Prosser, Mabton, Toppenish, North Yakima, and Ellensburg are points where the great irrigation enterprises are best seen. Of these places North Yakima and Ellensburg are towns of several thousand population each. At any of these points every facility will be extended to the stranger to become acquainted with the peculiar agricultural problems involved.

The Yakima Valley is fast acquiring a reputation for salubrity of climate and relief afforded in pulmonary complaints. Its range of elevation—300 to 1,500 feet above sea level—renders it peculiarly adapted to all classes of individuals.

The cities on the Sound are well known. Tacoma, Seattle, and Olympia, the capital, are large cities, with all the culture, refinements, modern

improvements, and advantages of Eastern cities. The churches, school buildings, hotels, and business blocks found in the cities of the Pacific Northwest show that in the essentials of religion, morality, art, and education, these people are as careful to provide for them as are their fellow beings of the Atlantic Slope, due regard being had for age and environment. People are as well educated, dress as well, have as fine equipages, if not as many, indulge in clubs and societies and all the other up-to-date et cetera of modern civilization, the same as their brethren and sisters of the effete East.

Located on the Sound are the smaller towns of Everett, Port Townsend, Fairhaven, New Whatcom, and Victoria. Steamship lines connect these places with Seattle and Tacoma. A trip on the Sound to Fairhaven and New Whatcom, or to Port Angeles or Victoria, will prove enjoyable.



HARBOR OF PORTLAND. GRAIN VESSELS LOADING FOR LIVERPOOL

The steamer *City of Kingston*, which plies between Tacoma and Victoria, is an unusually pleasant boat. This trip gives one an opportunity to see the capital city of British Columbia.

OREGON.

In a historical way Oregon and Washington are most closely allied. This is especially so regarding the early history of the region.

As a Territory, Oregon took its position in 1849—the first year of the great rush of gold hunters to California and the Pacific Coast. This relation was maintained until 1859, just ten years, when it was admitted to statehood.

In general characteristics, also, Washington and Oregon are much alike. The lofty Cascade Range with its snow-helmeted sentinels is common to both. If Washington has Rainier, Adams, and Baker, Oregon has its Hood, Jefferson, and Three Sisters. The great Columbia—the lower part of it—is the common drainage channel and boundary line of both.

The vast forests to the north utterly ignore conventional boundaries and sweep on southward in undiminished grandeur. The agricultural products of the one are also those of the other.

The area of the State is 96,030 square miles, or about 61,459,200 acres. The Cascades here also divide the country into Eastern and Western Oregon. The climatic conditions in these regions are about the same as in the corresponding divisions of Washington.

The principal rivers, in addition to the Columbia already mentioned, are the Willamette—Wil-lam'-met,—Umpqua—Ump'-quah',—and Rogue rivers in Western Oregon, and the Des Chutes—Day-shoot',—John Day, Snake, and Owyhee—O-wy'-ee—rivers in Northern and Eastern Oregon. The river valleys as a rule are not only rich but beautiful, particularly west of the mountains. The Columbia and Willamette rivers together form a deep water-way up which ocean vessels make their way. The Willamette Valley is a prolific one, and the river traffic between Portland and the river towns up the latter valley and down the Columbia is a large one.

The principal cities are Astoria, Portland, Salem the capital, Albany, Eugene City, Roseburg, Pendleton, Baker City, etc. Astoria is, historically, the most interesting place on the North Pacific Coast. Portland is the largest and wealthiest of North Pacific Coast cities and one of the oldest. It is a beautiful city and the seat of a large ocean commerce. One of the grandest views of natural scenery in the world is seen from the Portland heights where Mount Hood and Mount St. Helens both are in view, their white, sharp cones rising like white thrones of the Almighty. Someway the visitor from the East feels as if he were in an Eastern city when in Portland. Many pleasant river trips can be made from Portland.

The Northern Pacific now has for sale in "THE GREAT NORTHWEST," approximately:

In Minnesota, upward of 1,250,000 acres, at from \$2.50 to \$8.00 per acre.

In North Dakota, upward of 6,800,000 acres, at from \$1.00 to \$5.00 per acre.

In Montana, upward of 17,450,000 acres, irrigation lands.

In Northern Idaho, upward of 1,750,000 acres, at from \$3.00 to \$8.00 per acre.

In Washington and Oregon, over 9,375,000 acres, at from \$2.00 to \$65.00 per acre.

Lands in Montana require irrigation. The high-priced lands under "Washington and Oregon" are also under irrigation, and the price carries with it and includes the water right.

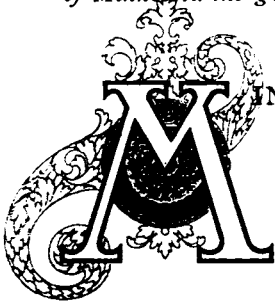


NORTHERN PACIFIC TRANSCONTINENTAL EXPRESS.

THE LAKE PARK REGION

"The fine scenery of lakes, and open groves of oak timber, of winding streams connecting them, and beautifully rolling country on all sides, renders this portion of Minnesota the garden spot of the Northwest."

—CAPTAIN—AFTERWARD GENERAL—JOHN POPE, 1850.



MINNESOTA is a land of lakes, paradoxical as it may appear. The Minnesota Geological Survey places the number in the State at about 10,000. The water area of the State is larger than that of any State or Territory in the United States, amounting to more than 5,600 square miles, exclusive of Lake Superior. Of these 10,000 lakes, the number that can really be called large will scarcely exceed ten or twelve.

The water area of the northwestern corner, a strip along the northeastern boundary, and the southeastern portion of the State, is comparatively limited. Over the remainder of the State, in a general way, these water jewels of nature are quite evenly distributed. In the Detroit lakes region, many of them are connected by a stream of moderate size, affording a fine opportunity for canoeing trips, but most of the lakes are isolated and disconnected. There is one section that is pre-eminent for the number of lakes and lakelets it contains. It is noted as well for its great natural beauty. The Lake Park Region is the name given to it, and it truly merits it. The topography of the State was determined during the great glacial epoch. The surface of the land consists largely of the *drift* brought down by the great ice sheet. Large moraines, or belts of



SERPENT LAKE, DEERWOOD, MINN.



FAIRHAVEN HOUSE.

hills and knolls composed of drift, are scattered over the land principally in the central portion. It is

from this morainic character of the country that the Lake Park Region derives its beauty. Rolling and hilly, with lakes filling the depressions, and areas of trees of greater or lesser extent, it is a region of great fertility, great variety, great beauty.

This lovely park land is penetrated by the Northern Pacific Railway in three directions. The main line of the road, from St. Paul and Minneapolis, runs via Little Falls. Leaving this place, it crosses the Mississippi River and swings to the northwest, winding through the heart of this picturesque country. From Perham, Detroit, and Lake Park, as points from which to radiate, the tourist or sportsman has an unlimited number of lakes from which to make his choice.

From Wadena a branch line extends to the southwest and west, passing through Clitheral, Battle Lake, and Fergus Falls.

Between Battle Lake and Fergus Falls on the south, and Perham, Detroit, and Lake Park on the north, the country is literally alive with lakes, so to speak. From every knoll and eminence they are visible by the score.

As an attraction to the fowler and the wielder of the rod, what can be said of one lake can be said of all. They all contain fish, some of them of course having more than others, but I think that no lake worth mentioning of the several thousand in this area, will prove unsatisfactory to the fisherman.

Bass, both the large and small-mouthed

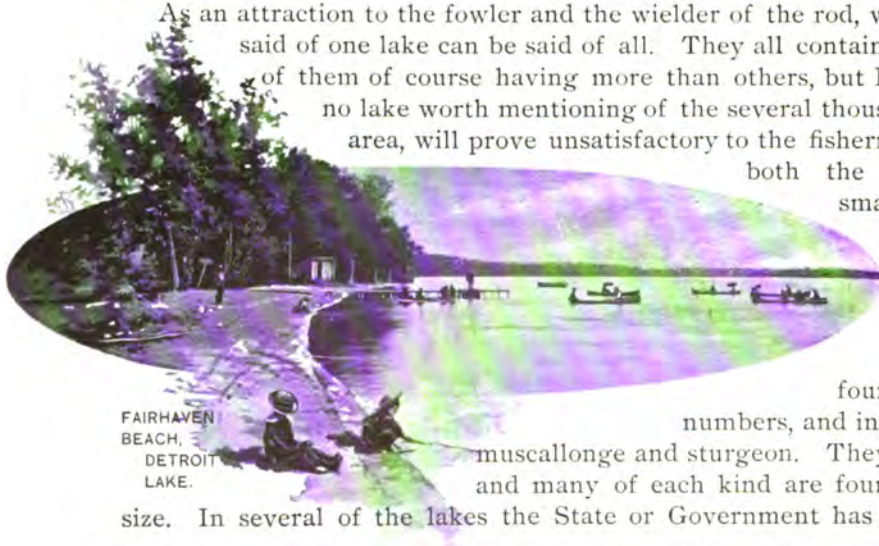
varieties, pickerel, whitefish, pike, and perch, are

found in large

numbers, and in some cases

muscallonge and sturgeon. They are gamy, and many of each kind are found of large

size. In several of the lakes the State or Government has planted, in

FAIRHAVEN
BEACH,
DETROIT
LAKE.

recent years, thousands of trout, so that this variety will soon be added to the enticements of the angler. The Lake Park Region is noted as a great ducking ground. Prairie chickens, snipe, grouse, and other small game are abundant. As a spot where the tourist can while away a week, a month, or a summer, this locality is unsurpassed. Of a general elevation of 1,200 to 1,700 feet above sea level; with lakes and rivers, groves and undulating prairies, and, almost encircling it, the Leaf Hills, which in many places become miniature mountains, both health and pleasure are obtained by a sojourn here.

One feature deserves special mention. In visiting a locality where lakes are as numerous as they are in the Lake Park country, one expects to stumble upon them in every depression, and to find all the pleasures possible to be obtained in so far as lakes them-



CLUB HOUSE COTTAGES,
DETROIT LAKE.



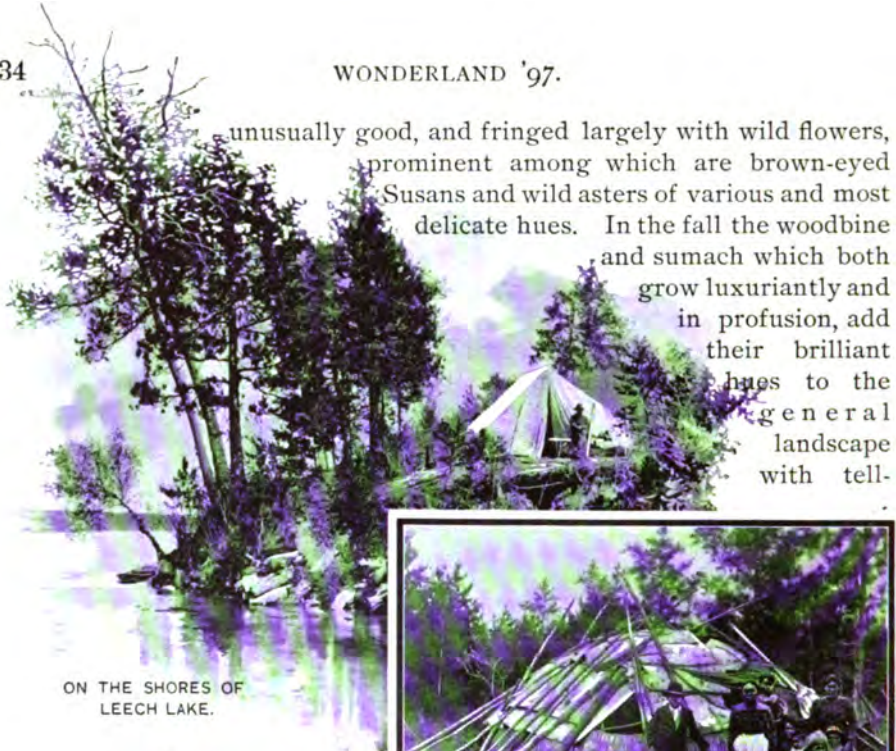
LAUNCH ON
DETROIT LAKE.

selves go. One thing he is not so sure of, and that is the character of the roads which traverse the region. If to a large degree impassable, dim, full of ruts and holes, the delights of rural driving, which are so effective

by way of contrast and restfulness, are absent. Luckily the Park Region does not suffer in this respect. Some of the most pleasurable country drives imaginable are found. The undulating character of the region, with its many fine farms, comfortable houses, clumps of woodland, with the rugged Leaf Hills closing in the horizon, make of it, in connection with the shining, mirror-like bits of water surface, a glorious park indeed. The roads are



YIELD OF BLACK BASS.



ON THE SHORES OF
LEECH LAKE.



AT LAKE MELISSA.

unusually good, and fringed largely with wild flowers, prominent among which are brown-eyed Susans and wild asters of various and most delicate hues. In the fall the woodbine and sumach which both grow luxuriantly and in profusion, add their brilliant hues to the general landscape with tell-

ing effect. Rocks, either in field or road, are almost unknown. The great field of ice which covered the country deposited the rocks and boulders in the morainic hills and left the greater part of the surface composed of what geologists call *till*—a mixture of sand, gravel, and clay. Eastward from Staples, on the line to Duluth and Superior, the Park Region, in a wide sense, extends as far as Deerwood a lovely spot convenient to Duluth, and Aitkin. The westward limit on the main line is Lake Park. Between Aitkin and Lake Park, from any station, one can find first-class fishing and hunting or take a nice

outing. At many points good hotel or farmhouse accommodations can be secured, and at a few of them special efforts are made to cater to summer tourists. At Lake Park, Detroit, Periam, Brainerd, Deerwood, and Aitkin there are good hotels, and also at Fairhaven, a lovely summer resort on lakes Sally and Melissa, just south of Detroit. At Clitheral, Battle Lake, and Fergus Falls, on the branch line from Wadena, good accommodations are procurable.

North of Brainerd, reached by the Brainerd & Northern Railroad, is Leech Lake. It is a new suitor for popular favor, is in the heart of a timber region, *a large lake*, and with new and modern hotels. It bids fair to become exceptionally popular as a cool summer resort. Summer tourist excursion rates are in force to all these points.

These resorts form convenient resting points for the overland traveler via either Duluth or St. Paul. This is particularly so as regards Deerwood, Leech Lake, and Detroit, these points being on the main line or convenient thereto.

At Detroit and Leech Lake small steam launches make regular trips about the lakes.

THE VALLEY OF THE RED RIVER OF THE NORTH

"Here is the place, the central place, where the agriculture of the richest region of North America must pour out its tributes to the whole world."

—WM. H. SEWARD, 1860.

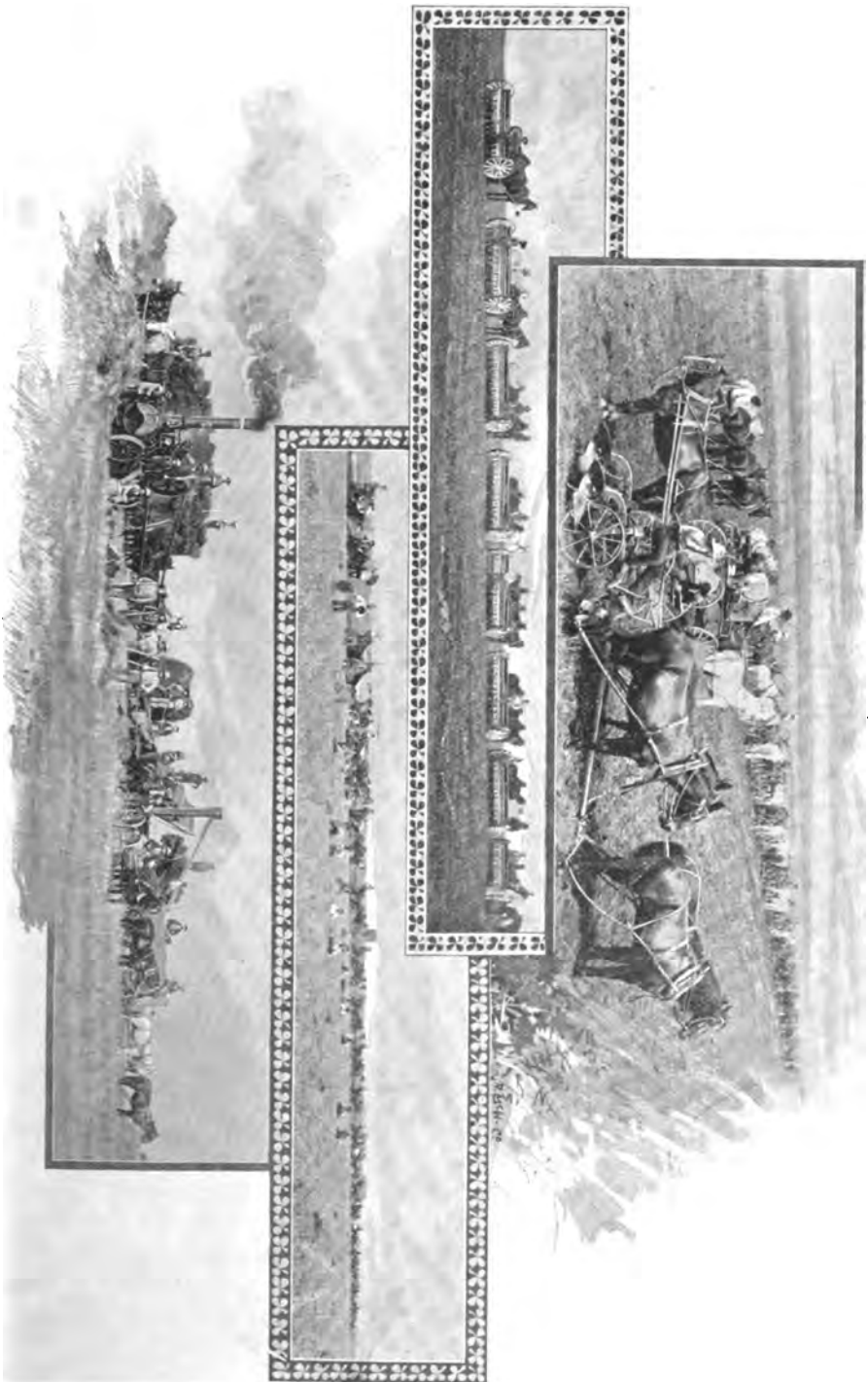


SOMEWHERE, from 6,000 to 10,000 years ago," writes Prof. Warren Upham, there was a great lake in what is now Minnesota, North Dakota, and Manitoba. The lake existed for a thousand years. Before that time there was a vast ice field there, a glacier. When it melted it couldn't flow away for a long time, because of physical obstacles, and so the lake took its place. The glacier really remained, only in a melted state. All that is now left of glacier and lake is Lake Winnipeg in Manitoba. The old lake was nearly 700 miles long. It has been called Lake Agassiz, in honor of Louis Agassiz, a noted American geologist, especially in the field of glacial geology. Its area was about 110,000 square miles, larger than lakes Ontario, Erie, Huron, Michigan, and Superior combined.

Where this lake once was there is now a large river and valley. This great valley lies about equally on each side of the river, and also about half and half in the States of Minnesota and North Dakota. It is about 300 miles long and from twenty-five to fifty miles and more wide. It is nearly as large as the State of Tennessee. The river is called, for a peculiar reason, the Red River of the North.

It is one of the most important valleys in the entire world. It is pretty nearly as well known in England, Russia, Germany, India, South America, and other countries as in the United States. If it rains hard there during the spring and summer that fact is cabled under the ocean to all those countries. If it *doesn't* rain that is also made known.

Why is this? Simply because the Red River Valley, or to be more precise, the people living there raise the best wheat in the world, and in such enormous quantities that it affects, favorably or unfavorably, the world's supply of it. If the wheat crop of any year is a large one in this valley, the price of wheat, in our own and other countries, is very liable



RED RIVER VALLEY.

PLOWING.

SEEDING.

REAPING.

THRASHING.

to go down; if the crop happens, as will at times be the case everywhere, to be more or less of a failure, the price of wheat goes up.

The finest flouring mills in the world, and the largest, are located at Minneapolis and Duluth, Minn., and Superior, Wis. They were brought into existence by these great crops of wheat. Some of these mills will make daily, from 2,000 to 8,000 barrels of flour. The total output of Minneapolis flouring mills for 1895, exceeded 10,000,000 barrels of flour.

At Minneapolis, St. Paul, Duluth, and Superior are enormous elevators built to hold this wheat in storage. Large vessels, and many of them, sail the great lakes, carrying nothing on the downward trip but wheat or flour. Some of these steamers carry nearly 200,000 bushels of wheat at one time. The actual elevator capacity at Duluth and Superior is 26,000,000 bushels.

The crops of wheat raised in this valley, in recent years, will average not far from 50,000,000 bushels yearly. Professor Upham estimates its ultimate product, when the entire valley shall have been brought under careful cultivation, to be not less than 200,000,000 bushels a year. One can take a railway passenger or express train and ride all day north or south, without more than traversing the Red River Valley; and he will observe, on all sides, comfortable farm houses, large barns, and groves of trees set out by the farmers.

Lusty young cities are there also. Cities well paved, with electric-lighted streets, modern systems of water-works and sanitation, electric street-car lines, and modern improvements in general. Churches and schools are prominent features of the landscape, both in town and country.

Farms range in size from 80 or 160 acres, for the smaller, to 5,000, 10,000, 15,000, and 20,000 acres for the large, or bonanza farms. These latter raise enormous crops. It requires a small army of men and large numbers of horses and farming implements to work them. Labor-saving machinery is universally employed. All threshing is performed by steam and in other branches it is more or less used. The passenger in one of the Northern Pacific trains, either on the main line or the line running north to Winnipeg, passes in plain view of some of these bonanza farms. Near Casselton, on the through line, he will ride right across the celebrated Dalrymple farm.

In recent years diversified farming has been much practiced. Not only wheat, but grasses, rye, barley, oats, corn, sheep, cattle, hogs, poultry, and horses have been raised. Dairying is rapidly on the increase. Corn, once thought to be an impossible crop grows well. In 1895 the corn crop of North Dakota amounted to 1,000,000 bushels. Wool is becoming an article of commerce. There are more than 250,000 inhabitants in the Red River Valley, and they will compare favorably in prosperity with the corresponding number of people in any section of our country.

A GREAT CATTLE RANGE

The Cattle upon a Thousand Hills.—PSALMS I. 10.



THE western part of North Dakota the Northern Pacific Railway passes through a region, the counterpart of which is not to be found in this country at least. It is a land kaleidoscopic in character, of dissolving views, strong sculptural effects, warm tones, and a fascinating history, physically speaking. In olden time the trappers, *voyageurs*, etc., gave to it a name, appropriate and fitting from their point of view. Unfortunately, as it came into more common use the name was shorn of its qualifying feature, and, as thus used, was perverted and gave an erroneous idea of the land.

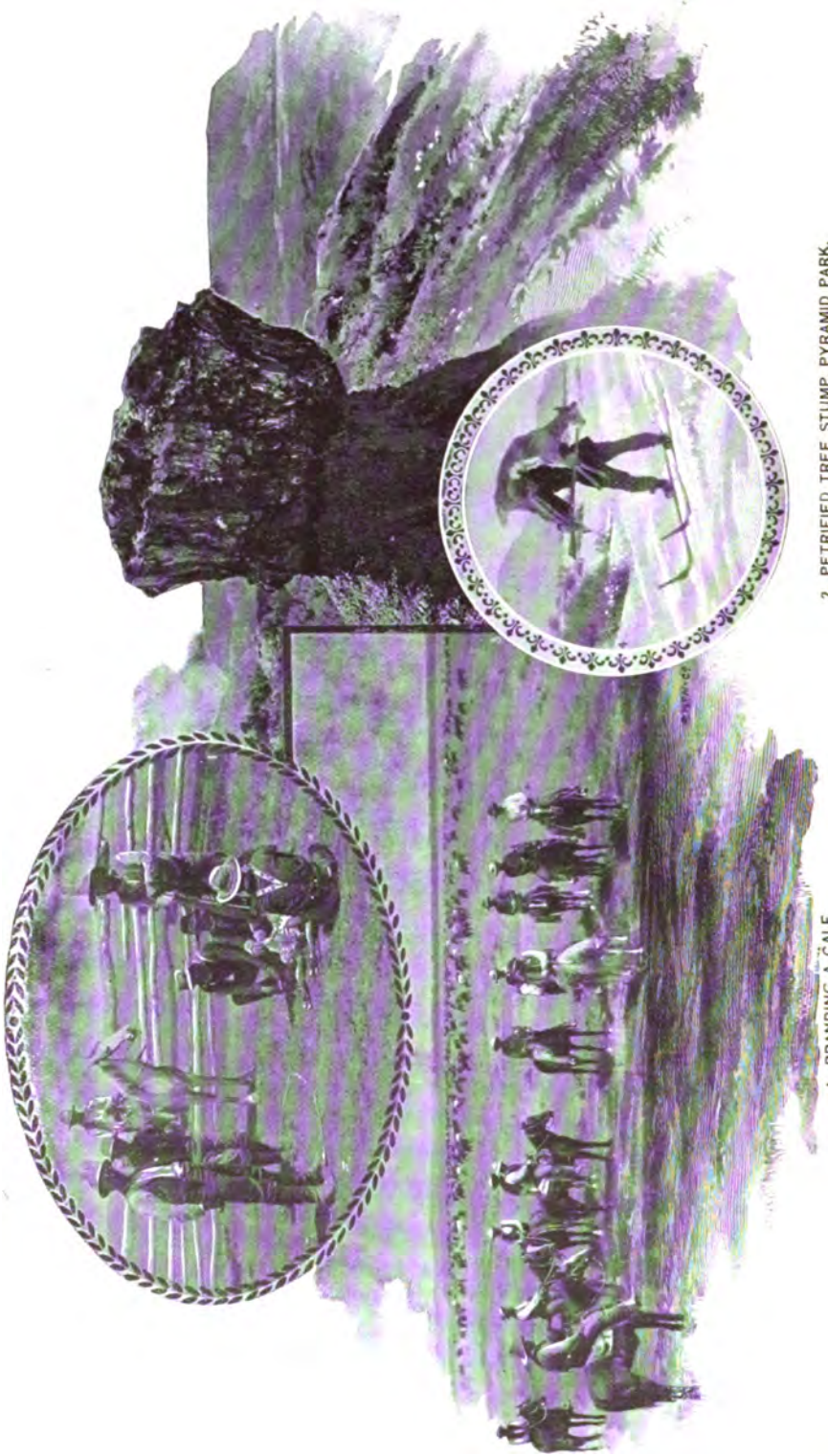
Mauvaises terres pour traverser, or Bad Lands through which to travel, meant just what they said. Bad Lands, alone, to which it was curtailed, was a misnomer and carried an idea the very opposite of the truth.

A name far more apropos is Pyramid Park, as it is now called.

To the ordinary traveler the region is interesting because of the rare scenic effects found. The combination of helter-skelter cliffs and buttes, the tangled, jumbled ravines and hills, and dominating it all, the overwhelming effect produced by the sensational colors, is beyond comparison with any similar known region.

Scarce a living thing, though, will the car rider see, and therein he will be deceived. A census will show, say 250,000 prime cattle, 5,000 horses, and the requisite number of men, women, and children to look after them. Through the heart of the flaming land with its odd rock fortresses and battlements, flows the sluggish Little Missouri River. Alongside it and its small tributaries, comfortable ranches are found. All the garden truck necessary can be grown on the ranches, and there are upland meadows which afford sufficient wild grass of a nutritious sort, to supply the demands for the winter feeding. The valley of the Little Missouri is quite heavily timbered, principally with cottonwoods.

Good water is found in wells in sufficient quantity for domestic uses, and also for stock purposes in winter. The region is eminently fitted for a stock range. Running water and timber are scarce and the country is



2. PETRIED TREE STUMP, PYRAMID PARK.

4. BRINGING HOME GAME, PYRAMID PARK.

1. BRANDING A CALF.

3. A BUNCH OF CATTLE.

too rough for an agricultural one. The hills, slopes, draws, etc., are covered with the finest of grasses, the wild ravines and abrupt gulches furnish the best of protection against the storms of winter. The water and timber supply is ample for the needs of the country as a stock range.

The snowfall does not exceed six inches and it is no obstacle to successful cattle raising. In winter the thermometer may range between 30° and 40° above zero and 30° to 40° below. The latter figure is seldom reached, and is maintained for only two or three days. Such weather is invariably unaccompanied by wind, and the dry cold is much less serious in its effects than a lesser degree of temperature would be in a humid climate. The elevation of this region ranges from 2,000 to 3,000 feet above the sea. During storms the cattle seek the cover afforded by the deep ravines, and undergo little physical discomfort.

The region under consideration extends well across the Montana State line. In summer the cattle are driven out to the higher prairies on the edges of the "Bad Lands," and in the fall brought in near to the Little Missouri and other streams. The weaker stock are kept near the ranches, where they can be fed and watered. The others rustle for themselves, and eat snow to satisfy the cravings of thirst. This particular section of country has perhaps, nearly all the stock now that can be well pastured. There is still room for a few more ranchmen in a rather small way. Quite large areas, comprising hills, ravines, plateaus, and valleys, are surrounded by wire fences. The fenced lands are in the vicinity of the ranches.

The grasses found in this region are of the finest varieties. The small bunch grass, characteristic of the West and greatly prized by stock men, is found in abundance. A short, blue stem grass also grows freely. From elevated points, I have seen a depression among the hills so covered with this variety that the effect was in reality a decided blue. Grama and buffalo grasses are also found.

A variety of sage, a small bush unusually delicate in texture and color, is plentiful, and furnishes a nutritious winter food, if, for any reason, the grasses fail. The grass cures on the range and is more valuable cured than in the green state. Cattle fattened on the cured grass take on a firmer and better quality of flesh than when pastured on the uncured grass.

The character of the grasses and of the region in general, in its value for stock raising, is shown in the fact that the average yearly loss for steers is not more than 5 per cent.

The bulk of the cattle come from Texas. The great plains of the Lone Star State and its warm climate seem to make it the finest cattle-breeding country in the West. When they attain the age of two or three years the cattle are sent to the Northern country, and there become much

finer beeves than they do in the South. They are shipped in to the Pyramid Park country in the spring, coming the greater part of the distance by railway. At this time the grass is fresh, green, and sweet, and the cattle improve in condition from the outset.

They are kept on the range usually until four years old and then sold. These Texan cattle cost on an average, delivered on the northern range, \$14.00 to \$15.00 per head for two or three year old steers. When sold, say in the Chicago market, they will bring the owner \$33.00 to \$45.00 if the demand is good.

The character of the stock is constantly being improved. Native calves are dropped from April to July, and a native yearling is as good as a two-year-old Texan steer.

There is little sickness or disease among the cattle. The purity of the atmosphere, the rare quality of the range, the light snow fall, and the fine natural protection afforded from storms, all combine to produce this result. It will prove instructive to one interested in cattle raising to study the subject on this range. It will then not be hard to understand how the term Bad Lands utterly fails to fit the locality, except, as before mentioned, in respect to traveling through it. And even in that respect it has improved, for good roads and trails cross the country in all directions. J. W. Foley, at Medora, will provide accommodations, including horses, camping outfits, etc., for those desiring to see this weird land, at reasonable rates. Cedar Cañon and the Burning Mine are two points near Medora worthy a visit.

YELLOWSTONE NATIONAL PARK

"The sublime scenes of our natural Wonderland surpass all my expectations. The Grand Cañon of the Yellowstone is of course the climax. As I beheld it to-day, its long kaleidoscope of varied colors, its castles and cathedral spires sculptured by the Deity, and heard the voice of its magnificent cataract, I felt it was a place where the Finite prays, the Infinite hears, and Immensity looks on."

—JOHN L. STODDARD.



THIS now a quarter of a century since the Yellowstone Park first became known to mankind and was set aside, dedicated to the world as a pleasure ground. Within that time thousands have visited it yearly and have been impressed by the wide range of the phenomena found there. This is one of its great peculiarities. It is, so to speak, many sided in its character. It has all that other parks have, and much more. It boasts unusual features uncommon to parks. It is a park wrought by nature, but into which she has thrown lavishly, and with consummate skill, the wonders of the universe. Within a space of about 3,344 square miles she has concentrated such a variety of objects as one would only expect to find scattered throughout the universe.

Not this alone. In many cases she has so grouped them, as to bring phenomena of a certain character, yet more or less diversified, together, so that one is able to study them to better advantage, and carefully note these differences. This is especially valuable for scientific study and comparison. The great park may be said to be an aggregation of smaller parks. The park-like character of the region is evident upon every hand. It is not park-like in the meaning of the word as usually applied to city parks. There, there is much that is artificial — often the park is entirely so. Yellowstone Park is natural — as nature has made it. There are no artificial fountains, hand-planted groves, lawns, grottoes, lakes fed by artesian wells, etc. Instead, there are mighty mountains, great lakes fed by melting snows and springs, dashing rivers of both hot and cold water, many and great cataracts, deep and wonderfully-made cañons where the colors of the rainbow are almost put to shame, translucent springs,



painted cliffs, spouting geysers, mountain valleys, mud volcanoes, sulphur mountains, and thousands of elk, deer, and antelope. Bears also are there, but not given to marauding, and beavers, wild fowl, and feathered game. The streams and lakes are full of trout, that the angler is at liberty to entice from their cool retreats, if he desires.

Yellowstone Park is not for a city, a county, a state, a nation only — but for the *World*, and to it come denizens from every country, people speaking every tongue. The rich and the poor, the saint and the sinner, the young and the old, the native and the foreigner may be seen traveling through this park in truly cosmopolitan fashion. There is something there that persons of all degrees and conditions in life can appreciate and enjoy. It takes a little time to see this park — it can not be seen in an afternoon, or a day. From where the detour from the main line of the Northern Pacific Railway is made, it requires six days to travel the round of the park. The tourist is not *compelled* to make the park tour in six days, he can spend two weeks, or a month, or a longer time if he desires, and extend his observations.

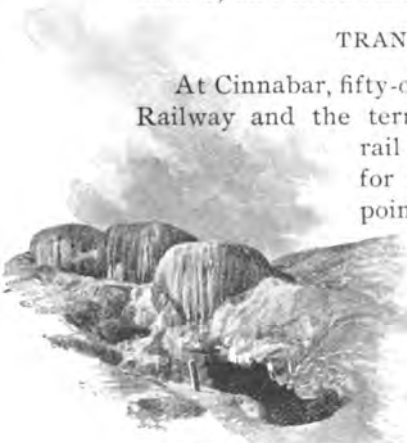
TRANSPORTATION WITHIN THE PARK.

At Cinnabar, fifty-one miles from the main line of the Northern Pacific Railway and the terminus of the Park branch line, the journey by rail ends. Concord coaches, constructed especially for Yellowstone Park travel, meet the tourist at this point and are his means of conveyance within the Park. These coaches are well built, pulled by four and six horses, driven by careful drivers, and arranged in all respects for the comfort of the occupants.

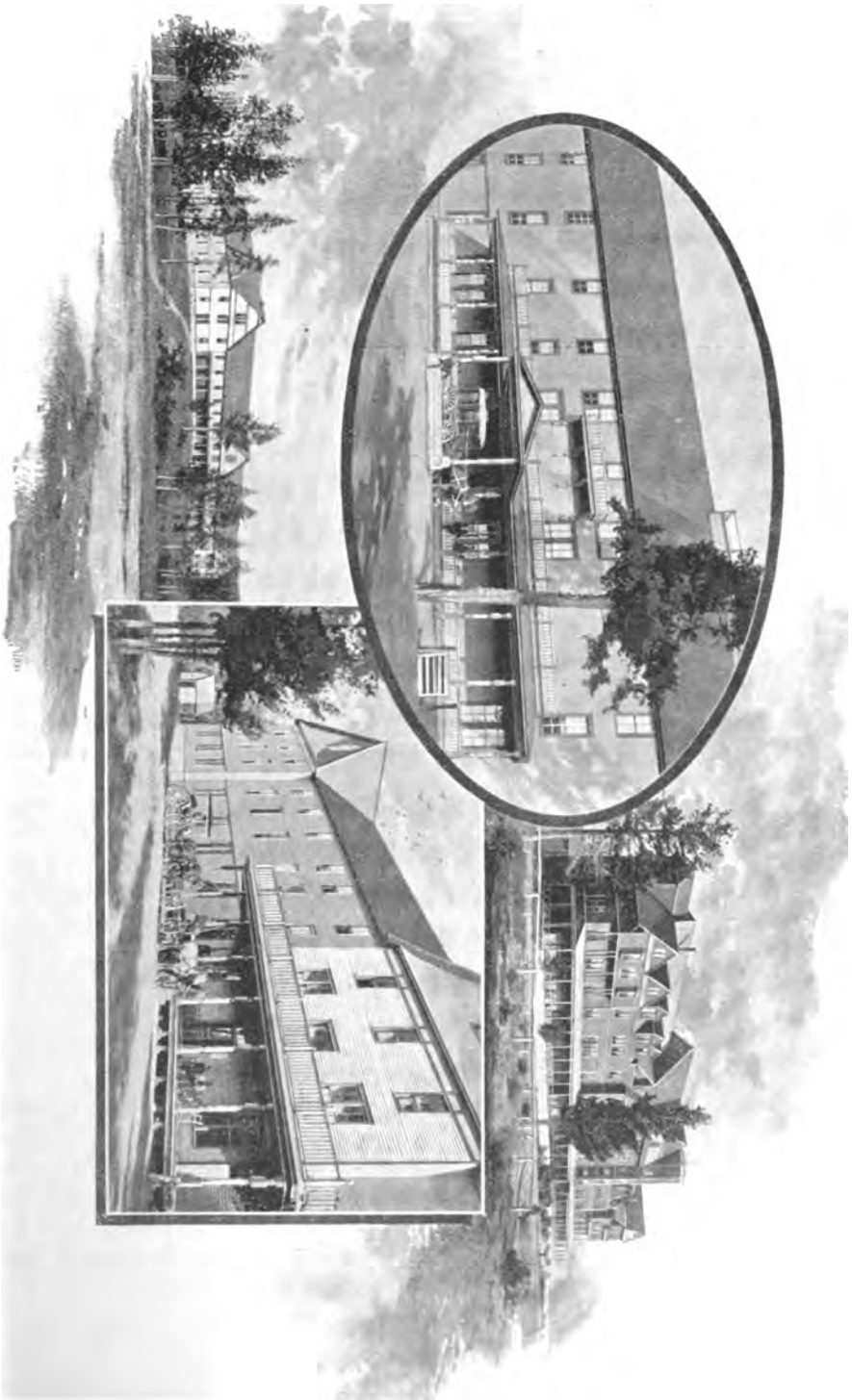
They will carry from five to ten passengers each, with necessary luggage. It is not customary to take trunks beyond Mammoth Hot Springs. Tourists may stop over at any one or all of the hotels without extra expense for transportation by giving the Transportation Company proper notice in advance. A certain distance is driven each day, and at night the traveler is housed in a hotel set down in the heart of the mountains. Ample time is afforded to see the objects of interest near the hotels, and en route. At some of these places an entire day is given to sight-seeing.

THE PARK HOTELS.

Modern hotels, commodious and well appointed, are located at such points as best subserve the interests of the tourist. At other points lunch



CUPID'S CAVE



1. HOTEL AT GRAND CAÑON.
2. FOUNTAIN HOTEL (LOWER GEYSER BASIN)

3. MAMMOTH HOT SPRINGS HOTEL.
4. HOTEL AT YELLOWSTONE LAKE.

stations are maintained throughout the Park season, from June 1st to October 1st. These hotels are steam heated, electric lighted, supplied with bathrooms, and in one case—the Fountain Hotel—with hot water from one of the natural springs.

The following table may be of interest in this connection :

TABLE FOR TOURISTS.

PLACE.	Accommodations.	Tourist Capacity.	Elevation in feet above Sea	Miles from previous Station.	DAILY RIDE.
Cinnabar.....			5,179	*51	} 1st day.
Mammoth Hot Springs.....	Hotel.....	150	6,215	7	
Norris Geyser Basin.....	Lunch Station.....	None	7,400	20	} 2d day.
Lower Geyser Basin.....	Hotel.....	250	7,200	20	
Upper Geyser Basin.....	Lunch Station.....	None	7,300	9	} 3d day.
West Arm Yel. Lake.....	Lunch Station.....	None	7,741	19	
Outlet Yellowstone Lake.....	Hotel.....	125	7,741	19	} 4th day.
Grand Cañon.....	Hotel.....	250	7,850	17	

* From Livingston.

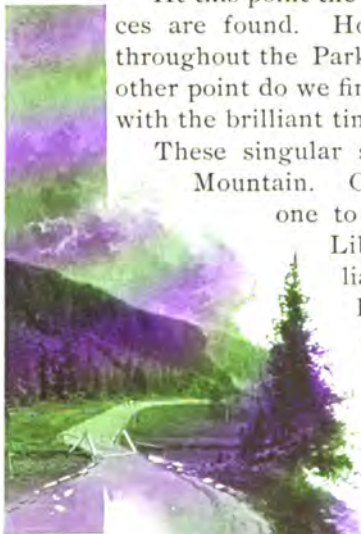
On 3d day's drive tourists return for night to Fountain Hotel.

The 6th day's drive is from the Grand Cañon to Cinnabar via short route, via Norris Basin, 39 miles.

MAMMOTH HOT SPRINGS.

At this point the principal hot springs with their accompanying terraces are found. Hot pools are scattered abundantly at other places throughout the Park, but they are quite different in character. At no other point do we find the peculiar cliffs or terraces found here. These, with the brilliant tints seen in the pools, excite the liveliest interest.

These singular springs cover a wide area on the side of Terrace Mountain. One tier succeeds another, and the trail winds from one to the other by easy gradients. At the base stands Liberty Cap, an extinct geyser or spring cone of peculiar appearance. Above it lie Cleopatra, Minerva, Pulpit, Mound, and Jupiter Terraces. Still higher are the Devil's Kitchen, Cupid's Cave, Narrow Gauge Terrace, Elephant Back, Angel Terrace, etc. The tourist will be quick to note that, while evidently of the same general character, these are quite dissimilar. During the season of 1896, the two most striking objects were the Orange Geyser and Narrow Gauge Terrace. An entire afternoon is devoted to climbing leisurely among these terraces under the leadership of a guide.



OBISIDIAN CLIFF
FROM THE NORTH

An additional feature of interest usually, is the presence of some antelope fawns and elk calves in a wire enclosure beyond Jupiter Terrace. They are quite tame and enjoy the presence of strangers. One can pet them, and they will eat sugar from the hand, gazing meanwhile in innocent wonderment and trusting confidence.

SOUTHWARD BOUND.

After breakfast tourists take the coaches, being grouped as far as possible in congenial parties. Straight toward Bunsen Peak they go, and when they can progress no farther, the road turns to the right, and behold! Golden Gate opens before them.

Slowly the sturdy horses drag the vehicle through the very attractive cañon. On one side Bunsen Peak climbs skyward, on the other, and closer to the moving coach, the vertical yellowish wall of rock rises 200 to 300 feet above. Soon the end of it is reached and the road leads out and down a large and beautiful valley. Mountains surround it, green meadows cover its wide expanse, trout streams meander it, and trees relieve it from monotony. Swan Valley is its name. Following in succession come Willow Park, Obsidian Cliff, a huge black rampart of nature's glass of more than 200 feet altitude, Beaver Lake, Roaring Mountain, and Twin Lakes. By this time lunch hour is almost at hand, and sure enough, as the coach whirls around a bend of the road, the eye rests upon a collection of tents and lunch station is reached.

NORRIS GEYSER BASIN.

At the lunch station proper there is nothing in sight to indicate that there is a geyser within a thousand miles. After the inner man is attended to, in obedience to the directions of the guides the tourists cross the divide near at hand. Without warning a wide, long plain opens to view.

Is it the site of ancient Sodom or Gomorrah, and am I in the land of Canaan instead of America, or is it the scene of a recent and vast conflagration, and this all that is left of a once prosperous community? No, it is neither. There is no pillar of salt visible, neither are there piles of brick, stone, and charred timbers. It is Norris Geyser Basin; but one is excusable for making such blunders hereabouts. That white, bellowing thing over yonder is the *Black Growler*. It is the only steam geyser in the Park, and it is always roaring—is never quiet, night or day. Just here is the *Minute Man*. That fellow always meets his engagements. Out with your watch and time him. Every fifty seconds he is due to dance and play, and he is always on time.

Springs of sulphur-yellow water are boiling furiously, and near them are other pools of boiling water, but green, pearl, etc., in color. One of the really beautiful things here is a terrace—a small one—like white marble. There are long, wavy water ribbons, too, where the colors are green, saffron, pearl, etc. The Devil's Inkstand, Emerald Pool, Congress Spring, and the Monarch Geyser are the other prominent members of this geyser community. They are easily found, and near the road.

STILL SOUTHWARD.

Leaving Norris Basin, Elk Park and Gibbon Meadows are passed, and the black defile of Gibbon Cañon looms up ahead. Beautiful Beryl Spring is reached, and then Gibbon Fall. As the road turns westward a fine view down the cañon opens out. Then, after an exhilarating ride in the depths of the cañon, the good, broad road climbs easily out over the divide, stretches southward, and dips down into the valley of the Firehole River. If the day is clear, from the divide there will be a splendid view of the Three Tetons, which lie far to the south and are covered with snow.

THE GEYSER BASINS.

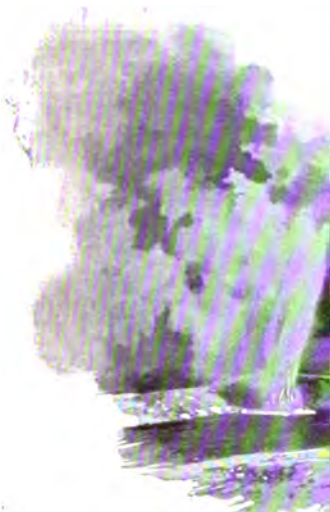
The road from the Lower Basin follows the Firehole River, passing the Midway Basin—Hell's Half Acre—en route.

The small streams in the Lower Basin appear to have been formed by hot springs and pools. Near the Fountain Hotel are the Fountain Geyser, Clepsydra Spring, and the wonderful Paint Pots. The first and last are very fine, indeed. The Fountain plays at quite frequent intervals and is very regular in its action, throwing out an enormous mass of water from fifteen to forty feet, with occasional jets going higher. The Paint Pots are curious things. The finest of clay is superheated and continually boils in a sluggish logy sort of a way. The clay is of the most delicate hues, pink, pearl, white, etc. Because of the size, these are called the Mammoth Paint Pots. They will repay examination.

A mile and a half from the Fountain Hotel, and easily reached by bicycle, tourist wagon, or by walking, lies a hidden basin full of nature's caprices. At the entrance, as if on guard, stands the immaculate *White Dome*. As one approaches, he almost expects to be challenged and asked for a countersign. If such challenge is given, it is in a curious fashion, in the form of a geyser eruption, for the White Dome is a geyser. It is not unlike the Castle Geyser, or the White Pyramid of the Upper Geyser Basin. The geyser is a very white, rather dome-shaped mound, built up

from the secretions of its waters, and is the most conspicuous feature of the locality. Its performances are hardly in keeping with its appearance, but are interesting nevertheless. It is perhaps 25 feet high, with a circumference at the base

of 75 or 100 feet. Its eruptions come at intervals of from twenty to forty-five minutes, being somewhat irregular, and the water is thrown to a height of from ten to twenty-five feet. This relegates the geyser to the lesser



RIVERSIDE GEYSER,
UPPER GEYSER BASIN.



A REFLECTION, UPPER GEYSER BASIN.

class so far as the question of power alone is concerned. But, as steam forms a good part of its eruptions, the display is apt to be one of much beauty. This is especially so if the wind be blowing but gently. Then, viewed from a distance, the steam, as it becomes dispelled, assumes fancy cloud or vapor forms. Some of it floats airily about, expanding more and more until it entirely vanishes. Some of it rises straight upward, a pillar of steam, until it, too, loses itself in the atmosphere high above. The volume of water gives body to the display, and near at hand the water jets can be discerned playing upward and outward. As the minor chords of a symphony have a characteristic, indefinable sweetness all their own, so these lesser, minor features of Yellowstone Park, like the White Dome, have an attraction for the tourist peculiar to themselves.

The principal object of interest here, however, is the Great Fountain Geyser. This is much larger in every way than the Fountain Geyser near the hotel, but the two are much alike. Along Tangled Creek the pools are strung like beads on a string, and a beautiful string it makes.

At Midway Basin, the tourist gazes



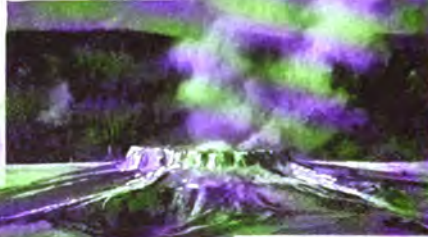
CRATER, OLD FAITHFUL GEYSER,
CASTLE WELL, OLD FAITHFUL GEYSER IN DISTANCE,
OLD FAITHFUL GEYSER, UPPER GEYSER BASIN.

upon the chief among geysers. It has been many years now since Excelsior aroused itself from its lethargy. As now seen, it is a large and beautiful pool, not evidencing in the least, the tremendous power it displays when the fit is on. It is a great pool giving off

large quantities of steam. On one side of it lies Prismatic Lake, and just north of it is Turquoise Spring. These three monopolize the geyserite plain at Midway, and the world is challenged to show "Three Graces" that can compare with them. Of their kind they are perfect.

The Upper Basin really comprises three detached areas. Biscuit Basin is the first one to be seen by the tourist. The name is given from the number of geyserite nodules found, of about the size and shape of biscuits. There is much of this basin lying alongside the road and it has many beautiful pools. Following this is the Upper Basin proper, and then over on Iron Creek, just beyond, is the third one. In the main basin all the principal geysers, Old Faithful, Bee Hive, Castle, and others, are located. In the third division are Black Sand Basin, Sunset Lake—an exquisite pool—Cliff Spring, Emerald Pool, the Three Sisters, and others. The better and easier way to see these is to take the tourist wagon after lunch, which makes the tour of the basin.

No person who visits the Upper Geyser Basin should fail to see Black Sand Pool. It lies to the south of the main Upper Basin, and is reached by a road leading past the beautiful Punch Bowl Spring. Black Sand Pool is an oval spring some 40 feet long by 20 or 25 feet wide. The water is of a light blue sapphire or turquoise color—it is not easy to name the precise tint in many instances—extremely beautiful, from whose surface the steam constantly rises. The great peculiarity about it is that the encircling sides, which are in places fifteen feet high or more, are composed of black, probably decomposed obsidian, sand.



PUNCH BOWL.

FREQUENT GEYSER.

One of the interesting features of the Park springs and pools is the great variety of their rock or geyserite basins, both above and under the water. Of course the unusual purity and clearness of the water contributes to this. The beautiful colors thus seen in the shelving sides of these rare wells never fail to excite the wonder and admiration of the spectator. In Black Sand Pool these sides slope far down to the center of the basin, to the tube or funnel that supplies the water. They are of a delicate ashes-of-roses hue, and contrast remarkably with the black sand environment of the spring.

The outlet is at the farther end of the pool, and there is found another surprise. The black walls break down and the waters have eaten out what might be termed a little cañon, from three to twelve inches deep, through a little ravine. The water in its descent leaves a coating on the sides and bottom of the little cañon. This coating assumes a variety of colors, in consonance with the changes of temperature found in the water as it gradually cools. The



A POOL IN UPPER GEYSER BASIN.

result in this instance is astonishing. The water course is a variegated ribbon, brilliant in its coloring. The predominant hues are of the family of yellows. Cream, white, and neutral tints are found and streaks of olive-green, reds, faint pinks, and terra-cottas, with markings of arsenic green add to the beauty of the display.

A number of the prominent geysers play only after many hours of quiescence. The Grand, Splendid, Bee Hive, Economic, Riverside, Fan, Mortar, and Castle play at more or less frequent intervals. Old Faithful is the most frequent of the larger geysers and regularly plays every seventy minutes.

In the *Northwestern Christian Advocate* of Chicago, of September 30, 1896, appeared an article by Bishop Warren of the M. E. Church, entitled "Hunting a Geyser." From this excellent article I make the following excerpt, regretting that lack of space precludes its insertion in full :

I knew its habitat. I had haunted it all the morning. I knew the great raised platform on which stood a castellated rock more than twenty feet square, that had been built up particle by particle into a perfect solid by deposits from the fiery flood. In the center was a brilliant orange-colored throat that went down into the bowels of the earth. That was not the Geyser, it was only the trump through which the Archangel was to blow. I had heard the preliminary tuning of the instrument.

* * * * *

This Castle Geyser is not registered to be quiet more than thirty hours, nor to indulge in preparatory spouts of more than six hours. When I finally camped to watch it out, all these premonitory symptoms had been duly exhibited. I first carefully noted the frequency and height of the spouts, that any change might foretell the grand finale. There were ten spouts to the minute, and an average height of twenty feet. Hours went by with no hint of change, ten to the minute, twenty feet in height.

* * * * *



CASTLE GEYSER.

Six hours of waiting were nearly over when, without a single previous hint of change, one descending spout was met by an ascending one, and a vast column of hissing water rose with a sound of continuous thunder 100 feet in the air, and stood there like a pillar of cloud in the desert. The air throbbed as in a cannonade, and the sun brushed away all clouds as if he could not bear to miss a sight he had seen perhaps a million times. Then the top of this upward Niagara bent over like the calyx of a calla, and the downward Niagara converted all that elevated masonry into a rushing cascade. Shifting my position a little, I could see that the sun was thrilling the whole glorious outpour with rainbows. At such times one can neither measure nor express emotions by

words. In the thunder which every one can hear there is always, for all who can receive it, the ineffably sweet voice of the father, saying: "Thou art my beloved son, and all this grand display is for your precious sake." In sixteen minutes the flow of waters ceased, and a rush of saturated steam succeeded. At the same time the fierce swish of ascending waters and of descending cascades ceased, and a clear, definite note, as of a trumpet, exceeding long and loud, was blown. No Archangel could have done better. As the steam rolled skyward it was condensed, and a very heavy rain fell on about an acre at the east as it was drifted by the air. It looked more like lines of water than separate drops. I found it thoroughly cooled by its flight in the upper air.

YELLOWSTONE LAKE.

There is an individuality about lakes. Perhaps the most striking thing about Yellowstone Lake is its high altitude. It is up among the mountains and clouds nearly a mile and a half — 7,741 feet — above where the sportive summer girl sits on the beach at the Atlantic Ocean while the lazy wavelets ripple about her dainty toes. But as high as it is the mountains rise higher still by thousands of feet. In a solenine, owl-like fashion they blink down at the lake, and the lake winks back at them. These mountains are well-defined peaks, and cones, and turrets, and nearly all are named. Some of them are in this way redolent of the old explorers, the men who first braved the perils and difficulties of an unknown, untrodden wilderness. Such are Colter Peak and Mount Doane. Other names represent, to some extent, the natural appearance of the mountains to which they are applied, as Cathedral Peak or Table Mountain. Again, Grizzly Peak may mean that a monstrous grizzly bear was stumbled upon in the dense forest about it, and that high above the summit of Eagle Peak, the eagle was seen winging its graceful flight, by those who in early days climbed their rocky sides. On the south side of the lake Mount Sheridan, over 10,000 feet high, perpetuates the memory of Fighting Phil Sheridan.

The lake is not only one of the two or three highest known lakes in the world, but it is peculiarly irregular in form. At the west and south it has long arms or claws that wind in among the mountains. The West Arm of the lake is almost a smaller circular lake joined to the main lake by a narrow body of water. There are several small islands and in the middle of the lake is a large island. The water is cold, full of trout, and the shores are varied and picturesque. The lake is an enlargement of the Yellowstone River which rises in the south and flows north and east to the Missouri River. At the point where the river leaves the lake the Lake Hotel is located. Among all the Park hotels this is the one the tourist will probably choose if he wishes to remain a few days and rest. Here he can fish, row a boat, go out to the Natural Bridge, lounge among the trees, watch the bears at night when they come to feed, or enjoy the splendid view, for the hotel overlooks the entire

length of the lake and the mountains on the east. Or he can scour around on horseback over an interesting region.

Leaving the lake the road follows the left bank of the Yellowstone River to the Grand Cañon. It crosses Hayden Valley and skirts the base of the Crater Hills or Sulphur Mountain after passing Mud Volcano.

THE GRAND CAÑON.

Who can describe the indescribable? Thousands of columns of description have been written, in vain attempts to depict the glories of this inimitable effort of nature. I confess that much of this has seemed to me to be of the nature of gush, a straining after effect. And yet I think it is entirely natural. The first effect after seeing the



THE OUTLOOK AT INSPIRATION POINT.



GRAND CAÑON FROM GRAND VIEW.

effusiveness and exaggeration in becomes so full, so saturated, so enraptured under the revelation, as to be absolutely drunken with enthusiasm and hardly responsible for his words.

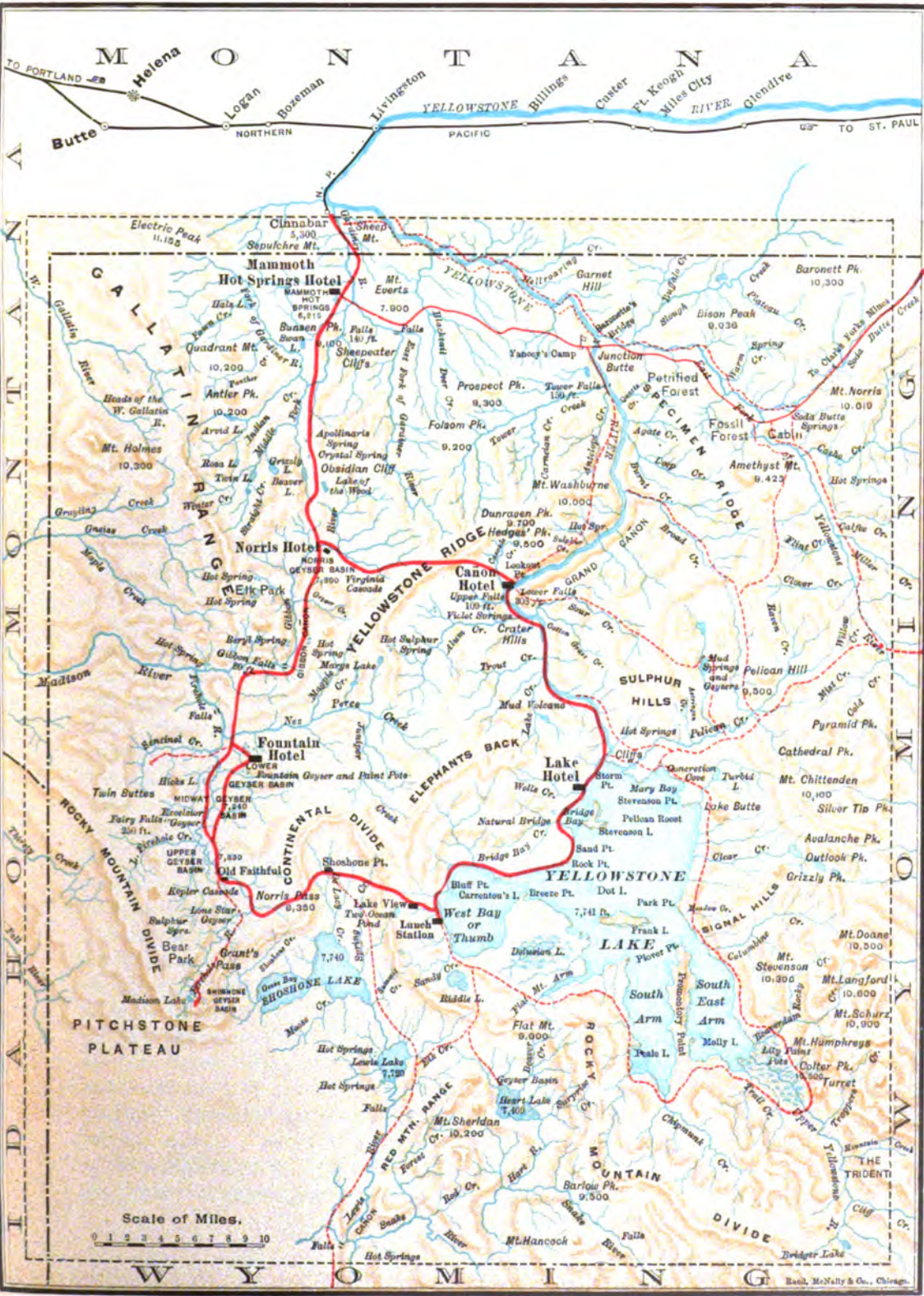
In one sense, and that the highest, no word painting can exaggerate the grandeur, majesty, and thrilling splendor of this magnificent cañon. But the enthusiast, made drunken by these glories, may make use of such comparisons and figures of speech as to produce exactly the contrary effect to that intended, or give, in one or more respects, an erroneous idea of the subject. This rule applies, of course, to any piece of descriptive work. There is this consolation here however. If the sightseer *has* been misled in any particular, he is quite sure to find that in other ways "the half has not been told," and a few minutes suffice to readjust the mental focus so that no real harm is done.

Grand Cañon is to develop in one who writes or talks of it, a tendency to word painting. One

completely on fire and en-

raptured under the revelation, as to

be absolutely drunken with



I find that the oftener one sees the cañon, and the more it is studied, the loftier is the conception of it, the truer its real proportions and relations are grasped, and the more exact and real is the pen picture of it.

As last summer, I again stood and gazed upon those matchless walls, fairly glowing in the morning sun, I thought I could understand how many, especially those well along toward the evening of life, standing thus, might gain a better appreciation of the words "Jerusalem the Golden," than they had before known.

Everything conduces to a supreme effect. The river, changing from a quiet stream to one of turmoil and rapids, then the jump over the Upper Fall, a gathering again and the second leap at the Lower Fall down into the deep abyss; the gently sloping plateau at one side with the umbrageous forest pushing down to the cañon's edge; Dunraven Peak and Mount Washburn on the opposite side, with their flanks carried down to the brink and thrusting a large timbered rectangle half-way down the northern wall, and masking on that side every indication of a cañon; the thunder of the greater fall; the wondrous sculpture of the walls, and above all, the opulence of color with which the walls are deluged, all form a combination, a monopoly, a "trust" of nature, that the eye of man will find nowhere else.

It seems as though everything needed to make the perfect picture is there; subtract anything and it would lack completeness.

At times, when watching the rush and roar of the geysers, I have felt like hurrahing, throwing my hat in the air and conducting myself as the small boy is wont to do. I have never felt disposed to levity when looking into the Grand Cañon. I have seen it in many moods, if I may so put it, and each time observed something not before seen, but never have I looked upon its sublime escarpments and not felt that I was in the presence of Infinity, and that in the soft whisperings of the wind I could all but hear the gentle breathings of the great Jehovah.

The best way to study the cañon is to go alone, or with wife or other congenial companion, and sit on the projecting rocks and commune with it. In this way there will come to be a sort of companionship with the cañon itself. It will be invested with a personality, a feeling of *camaraderie*. The moaning of the wind, the weird cries of the eagles and their young from the bristling pinnacles far below you, the deep-toned thunder of the cataract, will all seem like living voices of the cañon calling to you. The spirit of the cañon will take hold upon you, the spell of the cañon will be weaved about you, you will scarcely be of the earth, but will float dreamily upon the vast sea of imagination and thought.

Where the road turns to the left at Grand View, walk out over the salient of rock at the angle itself, sit down on the farthest chimney shaft,

over rocks naturally white but now blackened by weathering, and see if the foregoing statement be not true. If possible go there in the morning or in the latter part of the afternoon. At noontime the light is too strong, and the details of the cañon are smothered, and the individuality of the walls killed. But with a soft morning or afternoon light every detail of one or the other of the walls leaps out from the general mass as if instinct with life. And what a wonderful sea it is that lies beneath and beyond us. A painted sea, not of water but of rock. And such painting! Try to distinguish the decided colors and their infinite variations. The most wonderful part of it is the rare blending, where one fades into another, and yet thou canst detect neither the beginning nor the ending.

At the brink of the cañon, on the north, the walls are dazzlingly white, becoming, farther down, black and rusty from weathering. This is the general effect. Intermingled with them are some grays, pearls, and faint yellows. Farther down the walls, the reds and terra cottas work in. Starting from the crest, wide avenues of pulverized or granulated material, bordered for hundreds of feet from the top by quaint rock pillars, sweep down to the water's edge. As they reach down, and yet farther down, they expand in area, and the white, gray colors above become faintly reddish yellow, then yellow, and then red, strong and flaming. On the opposite side, the inclination of the slopes is more abrupt and vertical, the color a dull, heavy, brownish yellow for the most part. At one point the wall is deeply splashed with a beautiful lavender of many shades, giving the name Lavender Point to the spot. This lavender field is pierced by many long graceful streamers of yellow and yellow-green. Beyond the lavender, the yellows become a strong lemon. Here and there ribbons of lavender stretch clear to the river.

On the north wall these lavenders are again found well down toward Inspiration Point, below the timber. There they are in combination with reds, yellows, and purples.

On both walls thousands of pinnacles, towers, obelisks, and needles seem to be growing like the trees around them. On the south wall there are gigantic buttresses supporting smaller ones. The north wall flares widely and carries the toboggan-slide areas, through which knife-like ridges and tongues of rusty rock are thrust.

Between our rocky perch and Inspiration Point, which stands well out into the cañon an absolute precipice almost aloof from the main wall, the forest pushes half way down to the river. Its dark green intensifies the vivid walls on each side of it. It also shelters numbers of deer, that can be seen if one wishes to climb down into it.

The pinnacles of rock below us are used by the eagles for nesting purposes. Their nests can be seen, as can also the young eagles, with the

naked eye. In a hasty search I found six or seven nests between Lookout and Inspiration Points.

As the road is followed down the cañon, a short distance before reaching Inspiration Point, an intensely interesting spot is suddenly stumbled upon. It is Castle Ruins. The name indicates the character of it. It is a superb piece of rock sculpture. The predominant color effect is yellow, and the slowly disintegrating wall has been sculptured into a most remarkable assemblage of what may well be called the ruins of ancient castles.

Inspiration Point is indeed a spot of inspiration. It is now reached directly by the road, is well railed about like Lookout Point, and has a good board walk and platform to walk out and stand upon. One seems to be hanging in mid-air, suspended over the gorge, so narrow is the Point and so far out in the cañon. Looking up the cañon the near view is exactly the reverse of that from Grand View. But it is somewhat more. The Lower Fall is now seen. It, of course, appears small from this distance, but it is there.

Then there is the view down the cañon. Not such as we have in the other direction, but a very different and contrasted one. I recall, while gazing down the river, that among others who stood there with me the last time I was there, was young Lenz, who was on his bicycle tour around the world, and who lost his life among the wild fanatics of the Eastern desert when safety was almost assured.

Inspiration Point commands a wider or rather a longer perspective, with a greater variety, than any other. No person should for any reason visit the Grand Cañon and fail to experience the exquisite pleasure derived from standing on that little promontory which may well be a source of inspiration to both gods and men.

YELLOWSTONE PARK WATERFALLS.

Yellowstone Park is the realm of the water-nymph. It revels in rills, mountain brooks, rivers, and lakes. It leaps about the cataracts, disports itself in the rapids, flits through the veils of spray that gracefully sway hither and thither, and haunts the hundreds of cool trout streams that wind from sunlight to shadow, from cañon to meadow. But it finds its chief delight in the waterfalls. And what wonder, when such cataracts, falls, and cascades are there. There is apparently no extended area in the park without them. At the Grand Cañon are the majestic, deep-toned thunders of the Upper Fall, 109 feet, and the Lower Fall, 308 feet high. Between the two, Crystal Cascade tumbles down a deep, dark glen into the river. Over near Yancey's is beautiful Tower Fall. Isolated in locality, it has for companions the many black, needle-like towers that are so stately. Near Norris Geyser Basin are the Virginia Cascades that

go pirouetting down a gentle declivity, alongside the road. At the head of Golden Gate is the little Rustic Fall, that glides with gentle murmur down into the cañon. Gibbon Fall, in the heart of the wild Gibbon Cañon, is a wide fan of foam and water sliding down the black, slippery rocks for a distance of eighty feet, still farther into the depths of the range. Near the Upper Geyser Basin is Kepler Cascade, leaping down into the gloomy, narrow gorge of the Firehole River.

If one will take horse and ride from Mammoth Hot Springs up the East Gardiner River road for three miles, he will be repaid by a sight of two or three lovely falls, deep among glens and mountain cañons. Overhung by dark rocks and mountains, with only the green trees for friends and companions, they are beautiful pictures in the midst of wild and rugged scenes.

Some of these falls and cascades deserve more than passing mention. The Upper and Lower Falls at the Grand Cañon are naturally the most important of these.

The Lower Fall is nearly three times the height of the Upper; it is at the head of the great cañon and can hardly be disassociated from it, and, therefore, borrows to a degree from the grandeur of the cañon view. The Upper Fall has as an accessory the fine stretch of rapids above it. The rapids, however, being subordinate to the former, while the Lower Fall is subordinate to the cañon, add far less of embellishment to the Upper Fall than the Lower Fall imbibes from the cañon. There is a royal, dignified grandeur in the Lower Fall that is seen and felt wherever the fall is seen or heard.

You feel this as you look at it from Lookout Point, where its roar is plainly heard; you feel it when at Inspiration Point, where it is but partly seen and no sound of it comes; you feel it when walking along the



FALL OF MIDDLE GARDINER RIVER.

TOWER FALL, 110 FEET HIGH.

CRYSTAL CASCADE, NEAR GRAND CAÑON.

brink of the cañon above the fall, where its ponderous tone thunders in your ears but no sight of it can be had, and it is powerfully impressed upon you, as you stand by the cataract itself and gaze over the railing, fascinated by the terrific plunge of the waters into the boiling abyss.

The Upper Fall, while lacking the great height and serious aspect of its congener, impresses itself with a manner emphatically its own. To me there is a charming personality in it. It seems almost as if endowed with sentiality.

One can sit on the rocks by the hour and see the water come racing down the rapids, steady itself in the circular bowl above the fall, and then go tearing over the edge, an angry, furious, kicking, fuming volume of white and green spray. Turmoil doesn't begin to express it. It is frantic, crazy, beside itself. For miles it has come flowing down from the lake, as a decorous, well-behaved river, until it can stand it no longer.

Like a boy released from school it must turn somersaults, hand springs, leap and jump for very joy at its freedom. And it does it. It is the personification of energy. And it doesn't entirely cease after it has made its dive. It only quiets down when some distance away from the foot of the fall. It is a rare exhibition of its kind, and the two falls form a pair hard to equal.

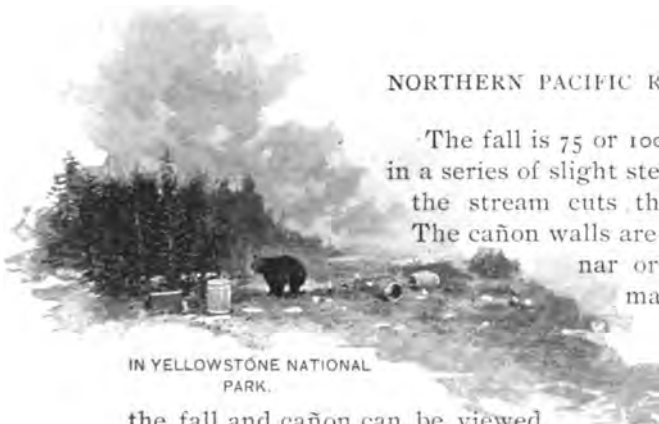
If the tourist who lingers for a day or two at Mammoth Hot Springs, or he who is unable, for the time being, to extend his trip beyond that point, wishes to indulge in a healthy constitutional or a pleasant horse-back ride, let him note the following remark :

Cast your eye upon Bunsen Peak. See that ridge or hog back, scantily timbered, at the left and lower end of the mountain, and running toward you? Between the first and second mile posts, on the main road southward, a side road, which soon becomes simply a trail, leads away and over that ridge. At a distance of only three miles—just beyond the ridge—it comes to the edge of the Middle Gardiner River Cañon. The trail is perfectly plain, and the climb up the hog back not a hard one. The distance can be walked easily in an hour. The trail touches the brink of the cañon about one-half mile below the Fall of the Middle Gardiner, or Osprey Fall, and continues on to the fall.

The stream has eaten out a noble cañon that, while devoid of high coloring as is the Grand Cañon, is well worth seeing. It is cut through the lava, and the tone of the walls is a reddish brown and black.



EMIGRANT PEAK,
NEAR YELLOWSTONE PARK.



The fall is 75 or 100 feet in height and goes down in a series of slight steps. The fall is formed where the stream cuts the lava at a narrow gateway. The cañon walls are mostly vertical, with a columnar or basaltic structure, and have many black needles and spires.

The cañon is from 700 to 1,000 feet deep, and there are many salient points from which

IN YELLOWSTONE NATIONAL
PARK.

the fall and cañon can be viewed.

Gibbon Fall is the oddest one in the park. It is seen by the tourist from the stage coach. It is a large cascade rather than a fall, and its shape is very peculiar. It is placed amid surroundings that enhance its beauty, and altogether it is the most striking display found in the Gibbon Cañon.

Four miles beyond Yancey's, and this side of the junction of the two trails leading over Mount Washburn from the Grand Cañon, and where the trail crosses Tower Creek, is Tower Fall. There is, perhaps, all things considered, no more attractive waterfall in the park, exclusive of the Upper and Lower Falls at the Grand Cañon.

The little stream winds and twists about among black obelisks and needle-pointed towers that give the name to the creek and fall. Right in the midst of them it leaps the ledge and tumbles in a narrow solid mass 110 feet into the cañon below, and within a few yards empties into the Yellowstone River. The fall is very secluded, and is hidden among the speechless towers and the trees as if nature had been a bit selfish at one time. It lies below a high bluff on the left bank of the stream, and the trail to the left, after crossing the creek—going from Yancey's—leads directly to it. The spot and region is one of the most beautiful in the park. For a few days' camping the locality can not be surpassed.

A PLACE FOR A VACATION SOJOURN.

Why is it that those who can, do not use this vast, inspiring domain as a place of recreation? In all the large cities of the land—New York, Boston, Philadelphia, Chicago, Baltimore, Cincinnati, St. Louis, etc., there are men and women of wealth and leisure who are sated with the monotonous humdrum of the sea shore, of fashionable watering places and resorts. Here is a region, new, far away from artificiality, where one can drink in inspiration and life from the very clouds themselves.

Let me appeal at least to those who can well afford both time and money, to go and try this wonderland among the mountains.

If you wish to be where you can abide not only with nature but also

have the companionship of the human kind, there are four hotels where you can mingle with the human throng. Located at places where the surroundings are radically diverse, they can be utilized as summer homes, from whence sundry excursions can be made. Prices are reasonable, \$4.00 per day, and after seven days only \$3.00.

If a life in the open is preferred for a time, tents and camp outfits can be procured of the Transportation Company at reasonable rates and a push made into the hills and groves and parks now and then. Set up the tent by one of the trout streams or lakes, and broil and fish and fish and broil.



IN YELLOWSTONE
NATIONAL PARK.

East of the Yellowstone River is a region largely unvisited — go and explore it. Take a pack mule or two and go down into the Jackson's Lake country and rest for a week under the shadows of the Tetons.

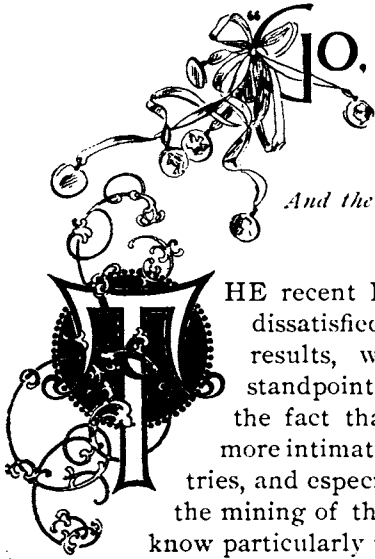
From all such excursions return to the hotels and renew acquaintance with the geysers, lake, cañon, or hot pools.

A climb up Electric Peak ; a ride over Mount Everts ; a trip to Yancey's; paddling about Yellowstone Lake; camping out down at Two Ocean Pass; a ride into the Hoodoo country; an excursion down the Madison to Riverside — all these can be made from some one of the hotels as a rendezvous, and take my word for it you will be surprised at the results.

Make up a party of congenial spirits for vacation time in 1897, and go out to Yellowstone Park and see how much of its 3,344 square miles can be seen before you return. Spend the heated summer season at hotels where the temperature and altitude will allow genuine comfort and recreation.

There need be no fear of sickness ; the skilled physicians that attend Uncle Sam's blue coats will also dispense physic to others that need it.

Let us as American citizens show to the world that we appreciate the heritage God has given us, and to that end utilize it as it should be utilized.



"GO. MAKE MONEY." OTHELLO.

And the Gold of that Land is Good.—GENESIS 2: 12.

THE recent Presidential campaign, however satisfied or dissatisfied we may be individually at its political results, wrought much good from an educational standpoint. Not the least, perhaps, of its benefits is the fact that it brought the bulk of our people into a more intimate relation to one of our great national industries, and especially an important one of the entire West—the mining of the precious metals. Not, perhaps, that they know particularly more of the details, the *technique* of it, but the industry itself, the fact that it lies close to our actual life and prosperity both individually and collectively, has been brought home to us forcefully.

The history of mining in our country is almost coeval with its early settlement. I glean from Charles Howard Shinn's "Mining Camps" a few interesting facts. In 1622 the first attempt at mining seems to have been the opening of an iron mine at Falling Creek, near the James River, Virginia. In 1657 Gov. John Winthrop prospected in New England and in 1661 opened mines near Middletown, Conn., where the Governor "used to resort with his servant, and spend three weeks in roasting ores, and assaying metals, and casting gold rings." The first blast furnace in New England Colonies was built in Plymouth County, Massachusetts, in 1702, and copper mining received its first start in Simsbury, Conn., in 1709.

Gold mining was prosecuted in the South early in this century, a gold nugget weighing twenty-eight pounds being found. On the French Broad River placer mining was carried on.

Then followed the opening of mineral lands in Missouri, Arkansas, Iowa, Illinois, and the Lake Superior region.

Then came the most dramatic chapter in mining in the history of this country, or perhaps of any other. In 1848 came the discovery of gold in California and the glorious days of '49, when the country went crazy. Men braved death by the Indians and starvation in the mountains, in crossing the plains; they risked shipwreck and death to get around Cape

Horn. All they asked was to get to California and have a chance at the fabulous placers. In January, 1848, the first gold was found near Sutter's Mill. That year over \$5,000,000 in gold dust were taken out. In 1849 came the great rush to the gold fields. Thirty-five thousand men went by sea and 42,000 by land in that year. Farms and ranches were deserted and sailors left their ships. In August, 1849, 400 ships lay idly at their anchors in San Francisco Bay. The sailors had deserted, swam ashore, and were off to the gold fields. The discovery of gold in California was an important epoch in our history. It brought home to the nation in a manner almost stunning, the fact that between the Western frontier and the waves of the Pacific, was an empire fraught with possibilities of which no one had dreamed. It made of us a gold-producing country, and to a degree, if the signs failed not, that was bound to give us a prouder standing among nations. Did the signs fail? The following table of the total production of gold and silver in the world, is taken from tables compiled by Soetbeer and the Director of the Mint:

Period.	Gold.	Silver.
1821-1830.....	\$ 94,479,000	\$ 191,444,000
1831-1840.....	134,841,000	247,930,000
1841-1850.....	863,928,000	324,400,000
1851-1860.....	1,332,981,000	872,261,000
1861-1870.....	1,263,015,000	507,174,000
1871-1880.....	1,150,814,000	918,578,000
1881-1890.....	1,059,892,000	1,298,820,000

A simple glance will show the impression made upon the world's output of precious metals by the Californian discoveries and the subsequent spread of mining in this country. It was not a great while before the army of placer

miners in California naturally concluded that the placers they were scraping were but the output of the mountains themselves. The gold they obtained in the streams and gulches came from rocks or deposits elsewhere. Why not therefore search for the original source of the supply? Then began the hunt for ore ledges and veins which has spread over the entire West, until not a range, scarcely even a hill, that has not been more or less scraped, tunneled, or disemboweled by these assiduous individuals, leaving however to future generations as much and as good as they appropriated. Thus came into existence that unique, original, picturesque character to whom the West owes so much —

THE PROSPECTOR.

Do you know him? Have you ever seen him panoplied for his tussle with the mountains, as for years he has trudged over them, perhaps alone, perhaps in pairs or triplets, searching out the hidden spots where God has placed the treasures which all men seek? He is a character. Would that I could depict him as he really is. But, alas, I fear no pen can do that. There are so many of him that,



A TRAIN OF PROSPECTORS.

even with all the characteristics common to the genus, there is so much that is distinctly individual that it is a hard matter to describe him.

He is the advance guard, the skirmish line of the great army of miners. He goes where no one else goes—*until after he has been there*. He finds gold and silver where there is none, and fails to discover it when it is there. Strange indeed but true all the same. He is always hopeful, never gives up, is tireless, tough and hardened in brawn and muscle, ever looking forward to something better than he has yet found. Once a prospector always a prospector is almost literally true of all of them. His life is one of toil, hardship, hope, exaltation, disappointment, expectation, many aches and pains, and solitude for weeks and months at a stretch. He knows then but little of the society of his kind, but recoups himself somewhat in the winter months by the rest in the towns, which he has fairly earned. His life has a good deal of the X quantity in it. He gets many a hard knock and finds few soft places upon which to rest his tired bones. But he doesn't complain. He expects precisely what he finds, takes things as they come, and looks forward to a good time coming in the sweet by and by. He is indomitable, does any amount of hard work on liberal rations of bacon and bread, beans and coffee, with an occasional elk or deer, or a mess of trout to freshen his larder. He exiles himself from friends and family if he has one. With pick and shovel, blasting powder, frying-pan, coffee pot, blankets and "grub," he leads his pack horse or tramps along with pack on his back looking for *indications*. He drives a short tunnel here, digs a shaft there, gathers his specimens, and takes them to the assayer. If the assays "pan out" well he looks for a partner to furnish money to develop the claim, and sometimes as I have known, sells a hole in the mountain eighteen feet deep for \$150,000.

It is the hope of such success that keeps up his spirits, makes his faith buoyant, and carries him over the mountains and through the cañons. But luck seldom falls in such large chunks. Too often he sows and the other fellow reaps.

And yet with it all he is happy and enjoys life. He makes fair wages as a general thing, has a life of independence and freedom of movement, grows to enjoy more or less his communings with nature, and all in all is pretty well satisfied with things as they are.

THE MINER.

The farmer tills the earth's surface bringing forth the fruits, grains, and vegetables necessary to man's sustenance. Another, an underground farmer, complementary to the other, is as important an agent in the world's progress and existence. The one toils in the fierce heat of the

noonday sun, the autumn winds, the wintry blasts, that his brother may have whereof to eat. The other, deep in the cold, gloomy caverns of earth, where night is night forever, toils as does his brother that the world also may live. By the dim, flaring light of the tallow dip, the smoky torch, or as now more frequently seen, the brighter ray of the incandescent lamp, he delves night and day for the precious metals so necessary to man's comfort and happiness. The one we call farmer, the other miner, indeed, but wherein, after all, is the real difference? One farms upon the outside of the rotund earth, where the chemistry of the air and soil crown his labors with success. The other, deep in the belly of the same earth, farms where the hidden alchemy of the Divine One has worked its perfect work. It requires no great stretch of imagination to classify them together—the one providing the staff of life, the other the wherewithal to procure it.

God bless the miner!

How great is mankind beholden to him.

The banker, as he counts his bags of wealth; the laborer, as he receives his hard-earned wage; the professional man, as he takes his fee for skillful service rendered; the bride, as she stands at the altar and glances at the golden circlet that adorns her finger, and the dominie, who receives, perchance, a double eagle for his part in that ceremony, all, all owe these toilers in the earth a vast debt.

God bless him, I say!

Rough, hard-handed, possessing faults, undoubtedly, as do all men, sometimes reckless, misguided, uncontrollable, the true miner has yet in him the virtues of a brave, manly man, does unobtrusively much good and deserves well of his fellows. What the manufacturing hand has done for New England, the miner has done for the Far West.

The history of mining in the Northwest begins with 1860. Long before that, however, gold had been washed from the gravels in more than one locality there.

It is stated that in 1851 gold was discovered in Southern Oregon. In 1852 it was first found, in what is now Montana, at Gold Creek. In the earliest years of this century the Indians made bullets from melted galena, on the shores of Kootenai—Koo'-ten-ay'—Lake. Dr. G. M. Dawson, F. R. S., says that in 1851 gold was discovered on Queen Charlotte Islands, and in 1857 on the Thompson River, a tributary of the Fraser River. It was not until the early 60's that anything like actual and systematic efforts at mining began, particularly in the United States, save, perhaps, in one or two rather perfunctory instances.

The California gold wave reached its zenith in 1853. What more

natural than that the army of miners, with the decadence of the California fields, should search out virgin ground. This they did. In 1859 came the great Washoe wave, when the historic Comstock Lode and its bonanzas were uncovered. Eastward and northward the conquering legions swept. Slow but sure was their progress. The gulches were ravaged and the mountains rent.

The exodus of California became the genesis of Idaho and Montana.

In 1860-61 came the discovery of the Salmon and Clearwater River diggings in Idaho. The rush to this region was almost a repetition of that to California in 1849. Pierce City, Oro Fino, Florence, Elk City, Warrens, etc., were names as familiar as were Virginia City and Gold Hill, Nevada, or as Butte and Deadwood of later years. Millions of dollars in gold were taken out of this region.

In 1860-65 came the Montana excitement. Gold Creek was indeed the "Pioneer," followed by Alder Gulch, Last Chance Gulch, Marysville, Confederate Gulch, etc., as the more important camps. But there were any number of other gulches of nearly as much or equal importance. Virginia City, Bannack, Deer Lodge, Marysville, Nevada City, Helena were the familiar names of early Montana towns.

From 1862 to 1867, inclusive, it is estimated that Montana furnished \$74,000,000 of gold to the world.

One fact that will impress many as a strange coincidence may be noted here. From 1853 the yield of gold from California steadily declined. In 1860-61 the Nevada, Idaho, Montana, etc., fields were opened, and re-established and increased our output of precious metals.

From 1861 to 1865 the country was engaged in a great civil war that threatened its very life. When most needed these new gold discoveries were made and the vast amounts of gold dust and bullion thus turned into the channels of commerce served to repair the waste of treasure in the war and to sustain the credit of the country.

In the early days the method of mining was almost entirely that known as placer mining.

"Placers are superficial deposits of gold which occupy the beds of ancient rivers." The word placer is of Spanish origin, and means content, pleasure, satisfaction, or delight. Briefly, placer mining is the artificial washing out by water of the gravelly beds of streams or gulches. In this process the earth and rock materials are washed away, and the gold, which is of course in its free or natural state, is saved. Originally, this process was crude and clumsy, but experience soon improved the methods, until finally it developed into the hydraulic process, where with a mountain stream of strong head sent through a large iron nozzle, whole hills and mountain sides were sluiced away. As men gained experience, and

ideas were enlarged, they thus passed from the primary school of placer mining pure and simple, to the intermediate department of hydraulic mining, and then to the high school of ledge and vein mining. Placer mining and hydraulicking are still practiced in all parts of the West, and the aggregate of gold produced by these methods is millions of dollars annually. Ledge mining has however assumed such gigantic proportions and is so scientifically carried on, as to overshadow them to a great degree.

MONTANA.

It can probably be said with truth, that the entire mountain region of Montana is a mining area. While, naturally, the greatest present activity is in those sections near the railways, there are many yielding and promising fields in remote localities.

Helena is the site of an old and rich placer claim. The discovery of this placer was an interesting one :

Placer mining was the great industry of the country, and already extensive operations were carried on at various diggings, the chief of which were Gold Creek, Grass-hopper Creek, and Alder Gulch. As these placers, however, were overrun with gold hunters, prospecting for new mines was constantly going on, and almost every day men left the settlements to seek for other deposits of the precious metal. On such an errand, John Cowan, one of the well-known early-day miners, started early in 1864 with a party of kindred spirits for the Kootenai country, in British Columbia, where it was known that gold fields existed. On account of trouble with the Indians he was forced to turn back toward the settlements. The party prospected on the return trip without finding anything in the way of "pay-dirt." Weary, disheartened, and almost despairing, the party, on July 21st, camped upon the present site of Helena for another trial with the pick, shovel and pan, Cowan remarking that this was their *last chance* for a discovery. The auriferous gravel "panned out" well, further prospecting showed the existence of plenty of "pay-dirt," and Cowan and party took out considerable gold. News of the discovery spread, and in a month's time people began to flock to Last Chance Gulch. The "camp" grew as only mining camps can grow, and in the following October it had assumed such metropolitan proportions that a meeting of the miners was called to give it a name. This meeting was held in the cabin of Geo. J. Woods, October 30, 1864, when the name, Helena, was given to the new town and a committee appointed to

lay out streets and fix the size of town lots. Thus, in three months from the time gold was discovered in Last Chance, Helena was born, christened, and well started on the road to commercial importance.

Inasmuch as no accurate figures were kept in the early days, it is impossible to give precise information as to the total yields of these old placer claims. Estimates regarding Last Chance Gulch range from



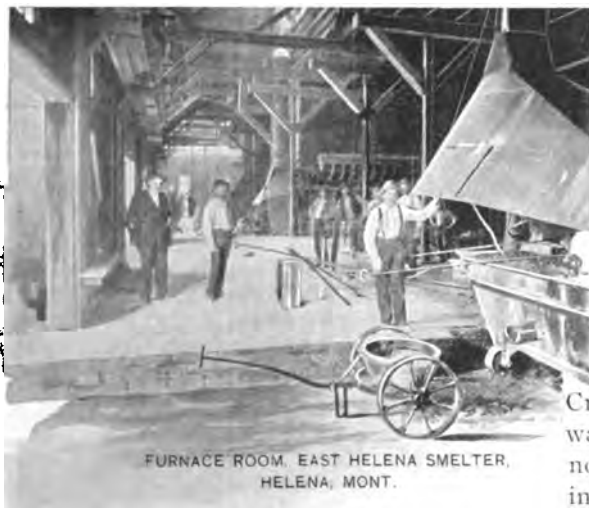
HIGH SCHOOL BUILDING,
HELENA, MONT.

\$20,000,000 to \$50,000,000, with probabilities favoring \$40,000,000 as being about the correct amount. A few miners are still working there taking out thousands of dollars yearly.

Helena has tributary to it a greater mineral-bearing zone than any other Montana city. West of it is the Phillipsburg district. This has been one of the richest silver districts in the world, the Granite Mountain, Bi-metallic, Hope, etc., being the prominent mines. The Granite Mountain

has paid more than \$12,000,000 in dividends. Since the silver depression there has been a marked development in gold properties in this district, greatly to the surprise of most people.

North of Helena and in the same county—Lewis and Clarke, the largest gold-producing county in Montana—is Marysville. This sprightly town, only twenty-one miles from Helena, is located near the head of Silver Creek. Before Last Chance Gulch was opened, this creek had attracted notice because of the gold found in its gravels. It was not until



FURNACE ROOM, EAST HELENA SMELTER, HELENA, MONT.

1876, that Thomas Cruse, who had been working in the Silver Creek placers for nine years, stumbled upon the valuable ledge to which he gave the name Drum Lummon after the parish of that name in Ireland where he was born.

This mine proved to be one of the richest gold mines in the world. It cost its present owners \$2,500,000. It has returned to them

more than \$3,000,000 in dividends, and has produced more than \$10,000,000.

They own their mills. The mine is one and a half miles long. There is a shaft 1,600 feet deep. There are five miles of drifts and tunnels.



DRUM LUMMON MINE AND MILL, MARYSVILLE, MONT.

and operate 110 stamps. operated through a tunnel. At the mine end of it are in the mine thirty-



COURT HOUSE, BUTTE, MONT.

The greatest of the great, "the chiefest among ten thousand." Such is Butte, the city on a hill honey-combed with drifts and tunnels. Butte first became known to fame in 1864. As in the case of the other camps the first workings were placer diggings. From 1864-1867 the vicinity of Butte and Silver Bow was quite prosperous. In the latter year many of the placers began to "peter" out and a hogira to other places resulted. From 1868-1875 Butte was in the dumps.

"To William L. Farlin and to him alone does Butte to-day owe her prosperity." In former years Farlin had noted some fabulously rich ore taken from a prospect hole on a Butte ledge. Without means to develop a mine he went to work in the placers and bided his time. A United States law compelled all owners of quartz mines to perform a certain amount of labor upon their claims prior to January, 1875, or they became forfeited to the United States and subject to relocation. Farlin returned to Butte. The work on the particular prospect was not performed by the owners. The night of December 31, 1874, Farlin was ready. To paraphrase Longfellow,

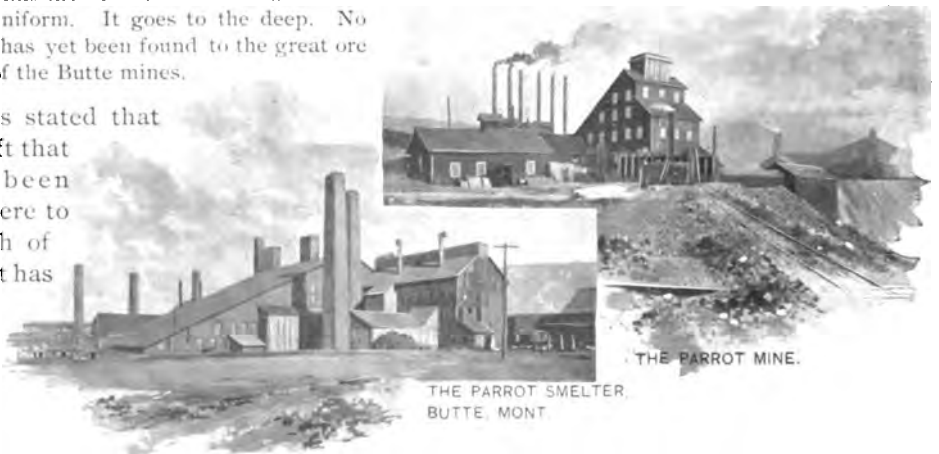
"He stood on the lode at midnight,
All alone in that silent hour."

and as soon as January 1, 1875 was born he relocated the ledge, christened it Travona, went to work to develop it, and a new era and time of prosperity had dawned for Butte. So runs the chronicle.

The mineral-bearing rock at Butte is composed of a network of veins from 10 to 100 feet wide, and dipping to the south.

The ore * * * occurs in shoots, usually varying in length from 100 to 1,000 feet. * * * It often fills the vein from wall to wall. Its dip is uniform. It goes to the deep. No bottom has yet been found to the great ore shoots of the Butte mines.

It is stated that no shaft that has been sunk here to a depth of 300 feet has

THE PARROT SMELTER,
BUTTE, MONT.

THE PARROT MINE.



THE MONTANA ORE PURCHASING CO.'S SMELTER,
BUTTE, MONT.

ever been abandoned, or that a mine worked to that depth has ever been exhausted. The great value of

the copper deposits was not at first understood, although

as far back as 1866 the Ramsdell-Parrot mine, a copper mine, was being worked. Butte now produces more copper than any district in the world. Butte's total output of gold, silver, and copper from 1880 to 1896, inclusive, is reputed to have been \$288,198,600.

The methods of mining at Butte are thoroughly scientific. The mines are worked almost invariably through vertical shafts instead of adits. There are now many of these shafts from 1,000 to 1,500 feet deep. A table of shaft depths of 104 mines ranging from 200 to 1,500 feet gives a total of 60,000 feet, or $11\frac{1}{3}$ miles, in depth. The shafts are one, two, and three compartments in size. All medium-sized mines use at least two, and the largest mines three compartments. In a three-compartment shaft two are used for the ore cages—one ascending the other descending—and the third for the pump shaft. These shafts are well timbered, all timbering being specially framed on the surface of the ground.

In connection with the mines there are large mills—concentrators, smelters, stamp mills, chlorination and amalgamation mills, etc.—at Butte and Anaconda for reducing the ores. Among the large producing mines of this camp are the Lexington, Alice, Anaconda, Parrot, those owned by the Montana Ore Purchasing Company, the Boston and Montana and Butte and Boston Companies, the Butte Reduction Works, etc.

THE MOUNTAIN VIEW
MINE AND MILL,
BUTTE, MONT.

Electricity for hoisting purposes has been applied in Butte with complete success.



THE MONTANA CONSOLIDATED MILL
AND MINE, BUTTE, MONT.

South and east of Butte are many promising camps. The towns of Pony, Norris, Sappington, Whitehall, Twin Bridges, etc., are all centers of mining activity. At Virginia City is the noteworthy Alder Gulch, said to have yielded, probably, \$100,000,000.

North of Butte, Clancy, Corbin, Wickes, Basin, Boulder, and Elkhorn are the more prominent camps. Most of these places have rail communication with Butte or Helena via the Northern Pacific, including, also, Rimini, southwest from Helena. Montana's total output of minerals for 1896, at present prices—including \$4,500,000 of gold—was \$41,960,000.

At Anaconda, a few miles west of Butte on the Montana Union Railway, are the largest smelting works in the world. These are owned by the Anaconda Company, of Butte and Anaconda, and represent an investment of more than \$9,000,000. There are employed in the works about 3,000 men, and the monthly pay-roll aggregates \$250,000.

"The copper in the water of the Anaconda mines pays bigger dividends than many of the great mining companies of the West. The copper precipitating business in Butte netted \$60,000 in two years from the water of the Anaconda and St. Lawrence. It is estimated that the company will net about \$15,000 per month from precipitating the copper in the water in the group of mines owned by the company. Two per cent water will give greater profits than a mine carrying 20 per cent copper."

IDAHO.

In almost the extreme northern corner of Idaho are the Cœur d'Aléne—Ker-dah-lané—Mountains. The ore-bearing properties of this range are well known. The earliest history of this region and the unique manner of its discovery, prepared for me by Mr. Adam Aulbach, of Murray, Idaho, an old settler and one who possesses personal knowledge of the subject, I append hereto:

The discovery of gold in 1882 by A. J. Prichard, and the subsequent excitement and rush to the Cœur d'Alénes in the fall and winter of 1883-'84 must be fresh in the minds of most people of the present day. Like all mining excitements since the discovery of gold in California in '49, the reaction came in the Cœur d'Alénes. The fever spent itself quickly in the new El Dorado, for the conditions were not favorable for the sudden accumulation of riches. With characteristic shrewdness the prospectors and experienced miners saw that the Cœur d'Alénes would be a camp of slow development, and many sought more favorable fields. The region was densely covered with timber in the first place, and in the second place the bed rock, the miners' paradise, was far beneath the surface. Gradually, however, the unfavorable conditions were overcome by steady toil and the investment of capital, and although thirteen years have been devoted to its exploitation, the gold belt of the Cœur d'Alénes, with its annual output of about \$300,000 of yellow metal, is only partially prospected and known, and it affords better opportunities at the present day for the investment of capital than it has since the day of discovery. Added to the placer mining, the auriferous veins have received

attention, and in and about Murray, within a radius of five miles, there are eleven stamp mills pounding gold from quartz. This is an encouraging showing for a district only thirteen years old, twenty miles from the nearest point on the Northern Pacific Railway.

But, while the gold mines of the Cœur d'Alénes have been somewhat slow of development, the silver-lead belt has forged ahead with giant strides, and the country at large recognizes the fact that the argentiferous district is one of the richest in the world. The great depression in the prices of lead and silver has in a great measure been offset by scientific methods of reduction and increased output. Transportation, too, has been greatly facilitated by railroads, which run their cars directly to the mills, and haul the ores and concentrates both east and west, as may be desired. The output of the Cœur d'Alénes for 1896 will approximate \$7,000,000 of gold, silver, and lead.

The *actual* discovery of the silver-lead mines was made in 1879, by Tom Ervin, the *practical* discovery in 1885, and the latter created a new interest in the Cœur d'Alénes, and one which



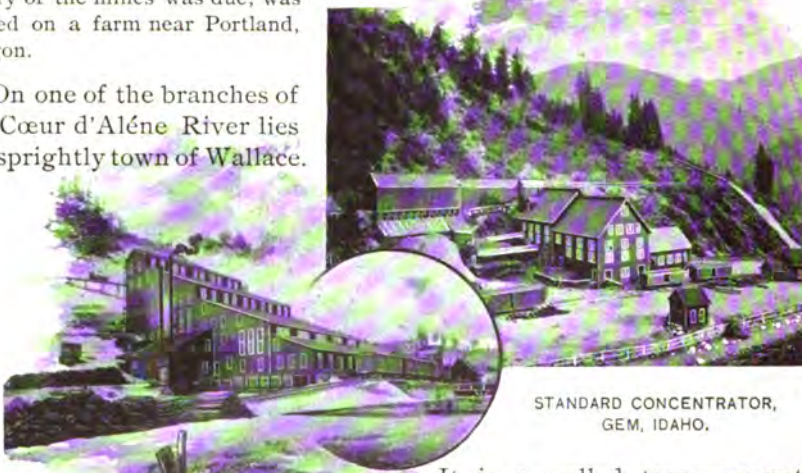
1. BIRD'S-EYE VIEW, WALLACE, IDAHO.
2. BIRD'S-EYE VIEW, WARDNER, IDAHO.
3. THE ONLY STREET IN GEM, IDAHO.

has never abated. The largest of the present producing mines, the Bunker Hill and Sullivan, located at Wardner, were found in a novel way. In the fall of '85, an old gold prospector, Noah S. Kellogg, left Murray with a

donkey, vulgarly called a jackass, under a grub-stake. He crossed two ranges of mountains, and camped at the mouth of Milo Gulch, on the south fork of the Cœur d'Aléne

River. During the night the donkey strayed up the gulch about a mile. In the morning old man Kellogg looked for his faithful beast of burden, and found him on the hillside on the ground now known as the Bunker Hill Mine. The hill is steep, and as Kellogg climbed up the hill after his donkey, he observed that the feet of the little animal had loosened some of the shining lead-silver ore from the croppings of a ledge. The old man did not realize his good fortune at the time, but he picked up some of the ore, all he could conveniently carry, and returned with the donkey to his camp. Several days afterward, Kellogg and his donkey returned to Murray, where his grub-stakers chided him for bringing silver-lead ore; they wanted gold mines. Kellogg, undecided what to do, told some friends of his discovery and showed them the ore. One of these had been a lead-silver miner, and he quickly recognized the importance of the discovery. It was given out to a few, and the same night hasty preparations were made for an early start next morning. The following evening and the next day the mountains about the present town of Wardner were crowded with prospectors locating claims. One thrifty prospector of Black Hills fame located seventeen claims before noon of the second day. The claims were supposed to be 500 feet wide and 1,500 feet long. Kellogg died in an eastern insane asylum a few years afterward. The Bunker Hill and Sullivan mines were finally sold for \$500,000, and they are probably worth \$2,500,000 at the present time. The plant of the company is the largest of the kind in the United States. The donkey, to whom the discovery of the mines was due, was placed on a farm near Portland, Oregon.

On one of the branches of the Cœur d'Aléne River lies the sprightly town of Wallace.



MORNING MILL, MULLAN, IDAHO.

STANDARD CONCENTRATOR,
GEM, IDAHO.

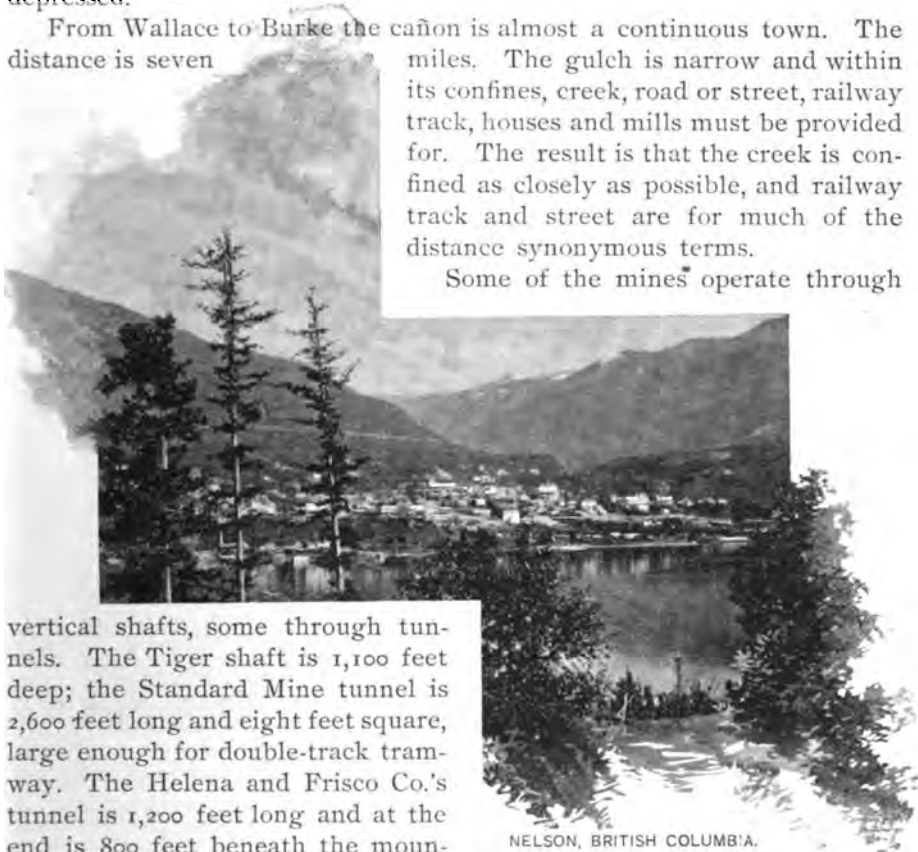
It is a walled town, mountain-walled, and almost fancifully located. Up the gulch from Wallace is Mullan and the group of mines thereabout; down the gulch is Wardner and another group, while up Cañon Creek Gulch, a side gulch running north from Wallace, are Gem and Burke, well known mining towns. These places are all reached by the Northern Pacific. Of prominent mines, aside from the Bunker Hill and Sullivan already mentioned, there are the Tiger, Poorman, Mammoth, Standard, Helena and Frisco—recently

sold for \$2,225,000—and Gem, of Cañon Creek Gulch; the Stemwinder, and Last Chance, near Wardner, and the Morning, and Gold Hunter, near Mullan. The total output of these mines for 1896 was 87,640 tons of ore and concentrates, and this too, with silver mining greatly depressed.

From Wallace to Burke the cañon is almost a continuous town. The distance is seven

miles. The gulch is narrow and within its confines, creek, road or street, railway track, houses and mills must be provided for. The result is that the creek is confined as closely as possible, and railway track and street are for much of the distance synonymous terms.

Some of the mines operate through



NELSON, BRITISH COLUMBIA.

vertical shafts, some through tunnels. The Tiger shaft is 1,100 feet deep; the Standard Mine tunnel is 2,600 feet long and eight feet square, large enough for double-track tramway. The Helena and Frisco Co.'s tunnel is 1,200 feet long and at the end is 800 feet beneath the mountain's top. A vertical shaft 400 feet deep drops down from a large station at that point.

Electricity, compressed air, and steam power all are used for power and lighting purposes.

The water supply is gathered from the mountains, brought to the head of the cañon in flumes, and is used over and over as it flows down the creek after each successive use.

Church and school privileges are not forgotten. Wallace has one of the finest brick school buildings in the West, and many cozy, tasteful residences. Its hotel accommodations are also good.

The old placer mining camps of Eastern Idaho, Pierce City, Mount Idaho, Elk City, Florence, Warrens, etc., have within recent years taken on a new lease of life. With improved mining methods, deposits that previously would not repay the labor and expense of working them, now give good returns, and, in addition, new workings have been uncovered.

WASHINGTON AND BRITISH COLUMBIA.

North of Spokane lies a region which of late years has riveted the attention of mining men from all over the world. It may be said to lie along the 49th parallel of latitude or International Boundary, and includes territory both in the United States and British Columbia. South of the boundary this



VIEW FROM IDAHO BASIN—SLOCAN REGION.

territory extends from and including Northern Idaho, west to the summit of the Cascades, embracing the country about the Okanogan River and Lake Chelan. An important part of it is known as the "Reservation," it being a portion of the reservation of the Colville Indians, which was opened to mineral location in 1896. Now that this privilege exists, and that transportation facilities are fairly satisfactory, Northeastern Washington should take giant strides forward in mining within the next decade. Colville, Chewelah, Marcus, Myer's Falls, Bossburg, and Northport, all on the Spokane Falls & Northern Railway, are important centers for this region.

Events have so shaped themselves that the country north of the boundary has developed more rapidly than that south of it. And this too, to an amazing degree and within a few years.

If Americans must regret the fact that this land of gold and silver is not of their own country, they are consoled by the reflection that its exploitation has been by American capital and American miners, almost wholly. Men who served their apprenticeships in the mines of the Comstock Lode and Butte, backed by capital from Portland, Seattle, Tacoma, Spokane, Butte, Helena, and points even as far east as Minneapolis, St. Paul, and Chicago, are showing their Canadian cousins how to mine. The Canadians are "catching on"; so are the London, Eng., capitalists.

The first gold discovery in British Columbia is variously stated to have been in 1848 and 1851. Doctor Dawson, director of the Canadian Geological Survey, gives the latter date as the correct one. The discoverer is said to have been an Indian woman. At Fort Colville, Washington, a Hudson

Bay employe found placer gold in 1855, and to this, the succeeding era of gold discoveries in British Columbia is said to be due.

In 1863-4, rich placers were found on Wild Horse Creek and vicinity near Fort Steele, in what is known as East Kootenai District. The influx of prospectors and miners was to a great extent from Washington, and

supplies and provisions were taken in from there. To prevent this and hold all trade within their own territory, the Canadian government

constructed the Dewdney Trail just north of the boundary line. This, with its connection westward, ran from the Fraser River to Fort Shepherd and east to Kootenai River just below Kootenai Lake, thence up the Moyie River to Fort Steele.

The route for this trail was carefully explored by Mr. Dewdney, now Lieutenant-Governor of British Columbia, in 1864-65, and was cut, throughout, to a



INDIANS ON KOOTENAI LAKE.



MINER'S CABIN.



INDIAN CAMP ON KOOTENAI LAKE.

width of four feet. The trail followed down Trail Creek to the Columbia River, thus passing by the present site of Rossland. The first location in Trail Division was the Lily May. It is generally stated to have been located in the early 60's, and as it is near the Dewdney Trail, the inference is that it was about the time the trail was made. An old hole five feet deep, on the present Le Roi ground, and an old tunnel but recently discovered on Lookout Mountain, indicate the presence of early prospectors.

The region drained by the Kettle River and its tributaries, and popularly known as the Boundary Creek Country, lies in Yale District. This section is connected by daily stage — except Sunday — with Marcus, on the Spokane Falls & Northern Railway, forty-five miles distant from Grand Forks. There are many camps extending over a wide area. The character of the ores varies, free milling gold, galena, gold-copper, gold-silver-copper, etc., all being present. It seems to be merely a question of railway facilities when the country will expand into a wide and rich mining field. The principal centers of this section are Grand Forks, Cascade City, Boundary Falls, Carson, Anaconda, Midway, and Rock Creek.

Most of the country east of Kootenai Lake and west of the headwaters of Kootenai River is within the East Kootenai Division of Kootenai District. This includes the Wild Horse Creek and Fort Steele region. There is much activity manifested and the prospects for perhaps a more or less remote future are good. Lack of transportation facilities hampers it now.

The most noted and richest part of the country under consideration is situated in the West Kootenai Division of Kootenai District. This includes the Rossland or Trail Creek, Salmon River, Nelson or Toad Mountain, Ainsworth, Hendryx, Kaslo, Sandon or Slocan, Cariboo Creek, Deer Park, etc., subdivisions.

The character of the ores found has a wide range. The Trail or Rossland ores are gold with silver and copper. The Slocan ores are principally galena—silver-lead—as are also the ores around Kootenai Lake, near Ainsworth and Hendryx; the Nelson ores are mostly silver-copper, but on the affluent creeks of the Kootenai River, below Nelson, many gold properties are being found; the Salmon River ores are for the most part gold, both placer and ledge; the Deer Park ores are said to be similar to the Trail ores; on Cariboo Creek the ores carrying gold appear to be emphasized, and about Slocan Lake, in what has been supposed to be a heavily silver-lead region, some gold ores are found.

It now seems certain that the Rossland mineral belt is a very extensive one extending westward, to the Boundary Creek region, and also eastward to the Columbia River. That this country bids fair to be thoroughly

examined is shown by the statement that more than 65,000 miners' licenses were granted in the year 1896, in British Columbia. It should be stated that every miner must pay \$5.00 yearly for a miner's license.

The earliest attempts at mining in West Kootenai are said to date from 1882, at Ainsworth. The first ore shipped was from the Krao Mine and was packed on men's shoulders a distance of three miles, and from 1,500 feet above the lake. The best known mine, the Skyline, was discovered in 1889, and is 3,900 feet above Kootenai Lake and 5,600 feet above the sea. The Blue Bell Mine at Hendryx, on the east shore of Kootenai Lake, was discovered it is said, as early as 1825 by trappers. It carries an enormous quantity of low-grade galena, and when the assays established this fact no further attention was paid to it. Early in the '80's it was again located, by a man who shot another for jumping his claim and who was himself subsequently executed for it. The ledge of the Blue

Bell runs under the lake, but the waters do not percolate it.

The discovery of the Nelson or Toad Mountain region is stated by Doctor Dawson to have been in this wise :



LE ROI MINE AND ORE DUMP



LILY MAY MINE.

In 1886, some prospectors, still in search of placer gold only, happened to camp in a high mountainous region which has since become familiarly known as Toad Mountain, and one of them, in seeking for lost horses, stumbled on an outcrop of ore, of which

he brought back a specimen. This specimen was afterward submitted to assay, and the results were such that the prospectors returned and staked out claims on their discovery. The ore, in fact,

proved to contain some- thing like \$300 to the ton in silver, with a large percentage of copper and a little gold.

Other versions of the story with minor variations, are given. This was the Silver King Mine, and to the discovery of it and the Skyline may be traced the rush to this country.

Forty-nine Creek, below Nelson, indicates in its name the time when some lone prospector "found colors" there.

The Slocan region was made known in 1891-92.

The genesis of the Rossland or Trail camp is worthy of note.

In July, 1890, Joe Bourjouis and his partner Joe Morris, located five mines on Red Mountain. Bourjouis staked the Centre Star and War Eagle, Morris the Idaho and Virginia, and together they staked the Le Roi. They then went to Nelson, the place of record, where E. S. Topping was recorder. The two men gave Topping the Le Roi claim, he in return paying the fees for recording all the claims. Topping gave the name Le Roi—The King—to his claim, in honor of the two Frenchmen.

It is said that the original locators sold their claims for several thousand dollars each, and, like sensible men, carefully invested the money. Bourjouis went to Canada, and Morris settled on a ranch near Spokane. Topping finally sold the Le Roi to a small syndicate, who have developed it into a great mine. It has already paid in dividends \$325,000, and the War Eagle, another of the five claims, has returned to its purchasers \$187,000 in dividends.

Once it really became known what manner of country this was, the population rapidly increased. The elevation of Rossland is between 3,500 and 4,000 feet above the sea. The town was located by Ross Thompson (hence Rossland) in 1892, surveyed in 1893, and lots placed on the market in 1894. In January, 1895, there were but 300 or 400 inhabitants; now—January, 1897—there are probably 5,000. The town is in the midst of mountains and the site is unusually good for such an one.

The Kootenai region is almost redundant in fine scenery. It is very mountainous, with few valleys of any consequence. Doctor Dawson, describing the mountain systems here, says:

The Rocky Mountain Range proper is the furthest inland. * * * The next mountain system, to the southwest of the Rocky Mountains, is referred to under the general name of the Gold Range, though really a complex and somewhat irregular mountainous belt, which includes several more or less distinct and partly over-lapping ranges. The Purcell, Selkirk, and Columbia ranges constitute its southern part. * * * West Kootenay comprises the southern portion of the Selkirk and Columbia ranges. * * The mountains to the west of the Arrow Lakes may be described as belonging to the Columbia Range.

The Trail Creek Camp lies on the eastern slope of the southern extremity of the Columbia Range, which gradually merges into plateau land south of the International Boundary.

The Purcell Range is on the east side of Kootenai Lake, the Selkirks between the lake and the Columbia River and Arrow Lakes. The mountains range, on an average, from 8,000 to 9,000 feet high, with some peaks rising still higher. They are densely timbered, very rugged, and the many mountain streams, particularly of the Selkirks, tumble down narrow, steep channels, amid the wildest of scenery, including large glaciers far back in the range.

Within a short time transportation facilities, so important an adjunct to mining expansion, have been greatly



LOOKING UP KOOTENAI LAKE FROM
NELSON, B. C.

multiplied. The Spokane Falls & Northern Railway extends from Spokane to Nelson. At Northport, just south of the boundary, a branch line crosses the Columbia and connects Rossland with the main line. A line of good river steamers connects Northport with important Columbia River and Arrow Lake points. The International Navigation & Trading Company Limited



STEAMER KORANEE, KOOTENAI LAKE.

line steamers connect Nelson and the railroad with all Kootenai Lake points. The Columbia & Western Railway has a narrow-gauge line between Trail and Rossland; a standard-gauge road extends down the Kootenai River from Nelson to Robson; another narrow-gauge line connects Kaslo, on Kootenai Lake, with Sandon and Cody, in the heart of the Slocan region; and a standard-gauge road extends from Sandon to Nakusp and Arrowhead. In this scheme the Spokane Falls & Northern is an arm, with the other lines like fingers radiating from it. Its connec-

tion at Spokane with the Northern Pacific affords the most direct and shortest route into the Kootenai from Pacific Coast and also from Eastern points.

Winter, instead of being a drawback, is an advantage to many of the mines in the slower stages of exploitation. The process by which this is carried on is called

RAWHIDING.

This is another of man's many inventions, a case of mind triumphing over natural obstacles. Winter and deep snow are the rawhidiers' opportunity. The essentials of a rawhide outfit are snow, a mule or horse, a bull's hide used with the hair on the outside, a declivity down the mountain, and a grooved slide or gutter in the snow. The deeper the snow the better. Into the neck of the hide a block of wood eighteen inches long is firmly fixed. The sides and tail end are punctured with small holes, and the ore, in sacks, is placed in the hide, and the sides and tail end are drawn tightly together with thongs. Each hide will contain about a ton of ore, and several of these are strung together and constitute an outfit. The trail or grooved passageway is carefully selected, and, after it is well worn, which it usually is after a trip or two, mishaps seldom occur.

The mule is unshod, in order that when accidents take place he may not cut himself or the driver.

When ready, the mule is hitched to the front of the rawhide and a start is made. All goes well until a sharper declivity is reached, when chains are wrapped around the rawhide to serve as brakes. Then the fun begins. Again starting, the rawhide soon overtakes the mule, doubles his hind legs under him, and he sits down perforce upon the front of the rawhide, with as much equanimity and grace as a mule naturally can.

The experienced mule understands that he is expected to steer the outfit safely down the hill. He braces his front legs against the hard snow, preserving his equilibrium as best he can, and down, down, down they slide. All goes well enough usually, unless a brake chain snaps or works loose. If that happens, there is apt to be a miscellaneous mixture of mule, ore, snow, and rawhide.

The good rawhide mule, like a good pack mule in a bad plight, is in a way a philosopher, and manages to disentangle himself, none the worse for wear, and the journey is resumed.

This method is a great boon to miners in a mountainous region, where roads are few and useless in winter and the snow lies fifteen or twenty feet deep. In this way the winters are not dreaded, nor is the time lost. The mules soon become proficient steersmules. Where

the route is at all favorable, the process is safe, expeditious, and cheap, and a mule will handle well as many rawhides as he can guide. One man will usually superintend from three to five mules and outfits.

Of noteworthy properties in these various localities some have already been mentioned. In the Slocan section the Slocan Star, the most prominent mine, has paid \$300,000 in dividends; the Alamo, Noble Five, Wonderful, Cumberland, and Idaho have also paid large dividends. The interest of one man in the Payne Mine was recently sold for \$125,000. The Silver King Mine, near Nelson, cost its present owners more than \$1,000,000. The policy until recently regarding this mine has been to develop it rather than to ship ore.

There is a smelter at Pilot Bay on Kootenai Lake, another at Nelson, and a very large one at Trail, and each smelter is increasing its capacity. Most of the Kootenai ores are smelted in the district itself.

In 1896, there were more than 67,000 tons of ore treated in Kootenai smelters, and nearly 26,000 tons exported to outside smelters. The Kootenai smelters produced 6,200 tons of *matte* and bullion.

For the year ending December 31, 1896, exports of Kootenai ore were valued as follows:

Gold.....	\$ 903,079
Copper.....	267,582
Silver.....	1,420,435
Lead.....	171,726
Total.....	<u>\$2,762,822</u>

The output of these metals for 1896 for British Columbia is supposed to exceed \$5,500,000.

The respect shown for law and order in these mining camps across the line is simply astonishing to one from the States who is familiar with camps there. It comes simply from the fact that *laws are enforced*—law breakers are *heavily punished*. *Ergo*, being *taught* to respect the laws and morality, they *do* pay deference to them. The men are, most of them, from American mining camps, but their behavior is entirely different from what it is in United States camps. Very little expense attends the enforcement of law here. In Rossland, one man and a deputy attend to it, and the chief has also other official duties to perform.

Churches and schools, even in the smaller places keep pace with the growth of the latter.

Living is not unusually high for such localities and is constantly being cheapened. The climate is an equable one, and elevations above sea

not excessive. Kootenai Lake is but 1,800 feet, and Upper Arrow Lake 1,400 feet above sea level. Snow line in the mountains is about 6,000 feet above sea level.

Mail, telegraph, and telephone communication between the various places, and with Spokane is satisfactory. Good physicians are found, the hotels are fairly good, and all these accessories of progressive communities are constantly being improved.

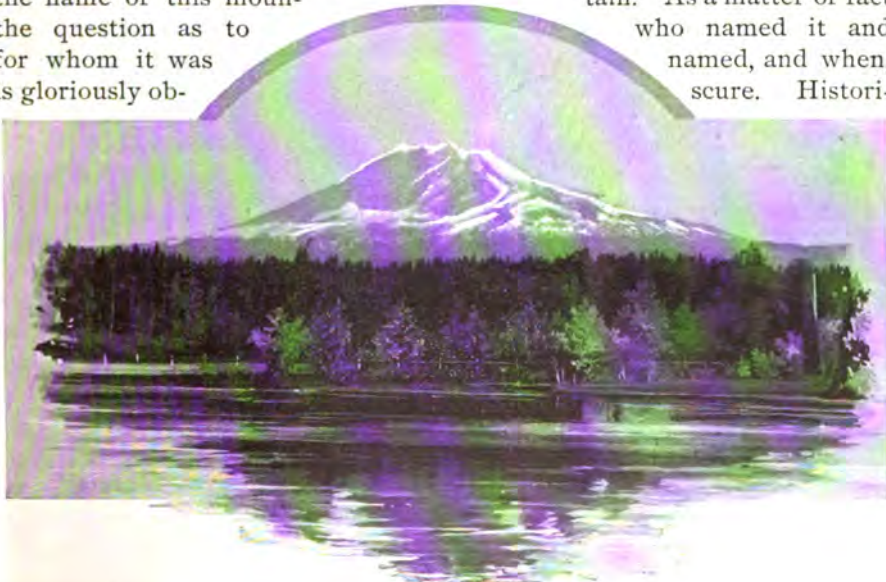
MOUNTAINS FOUR

"To fill the thirst of the human heart for the beauty of God's working,—to startle its lethargy with the deep and pure agitation of astonishment,—are their missions. They are as a great and noble architecture; first giving shelter, comfort, and rest; and covered also with mighty sculpture and painted legend."—RUSKIN, "Modern Painters."

THE great mountains of the Northwestern Pacific Coast are its glory. They *are* mountains. No one can look on them unmoved.

MOUNT ADAMS.

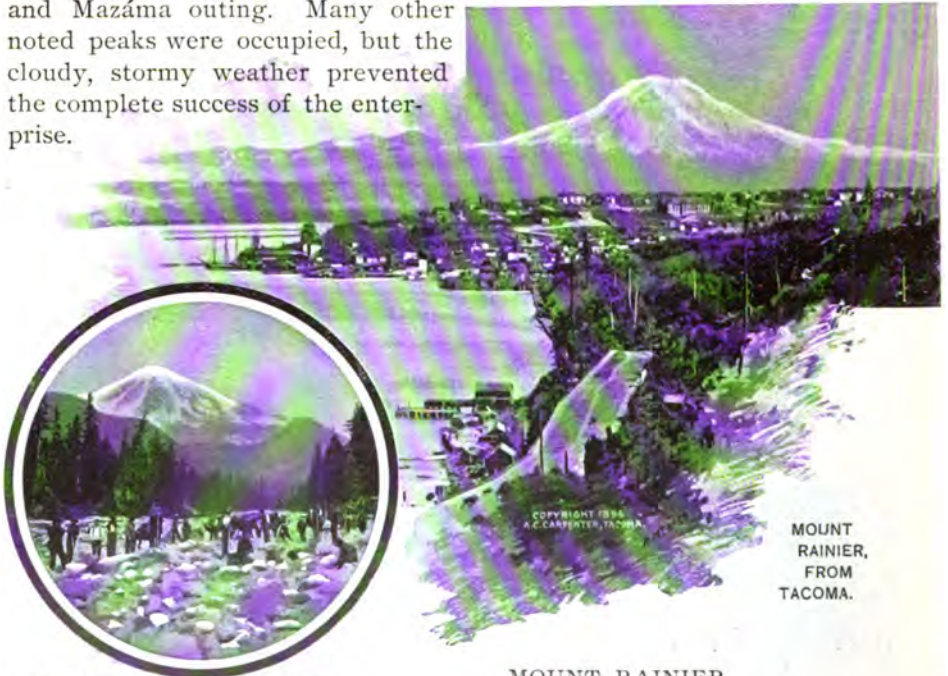
The traveler on the Northern Pacific can see, while traversing the Yakima Valley, a vast mountain to the west. It is a magnificently arched dome, perfectly clear and white, apart from any other that would dwarf it. It is Mount Adams, 12,250 feet high, named presumably, after one of the Presidents Adams. I have discovered an interesting historical tangle regarding the name of this mountain. As a matter of fact the question as to who named it and for whom it was named, and when, is gloriously obscure. Histori-



MOUNT ADAMS.

ans have dodged the matter with great ability. Adams has always seemed to me peculiarly the symbol of strength and majesty, even more so than Mount Rainier, or Mount Hood. The Indians call it "Pah-to," a high, sloping mountain. Next to Mount Rainier—Rayneer'—it is the highest mountain of the Cascades. Its height has until recently been understated, being given at 9,570 feet. The mountain has four summits, although as seen from a distance not more than three of these can be discerned.

As with nearly all the high Cascades, there is one central, predominant dome peak of unsullied whiteness. The basaltic mass is generally covered with glaciers, which once reached far below their present limits. Glacial shavings, sand, and scratches are found five miles below the snow line, so Prof. W. D. Lyman states. The northern and eastern sides of the mountain are very precipitous, but the peak is easily climbed on the southern side. In July, 1895, the Mazámas, a mountaineering club of the Pacific Slope, used Adams as the central point in a heliographic expedition and Mazáma outing. Many other noted peaks were occupied, but the cloudy, stormy weather prevented the complete success of the enterprise.



MOUNT
RAINIER,
FROM
TACOMA.

MOUNT RAINIER.

SEATTLE CHOIR BOYS CROSSING
NESQUALLY RIVER, ON WAY TO CLIMB
MOUNT RAINIER.

Mount Rainier is a relic—one of hundreds—of Vancouver. In the vicinity of Port Townsend he first saw Rainier.

Writing of the whole range he makes this reference to it :

And a very remarkable, high, round mountain, covered with snow, apparently at the southern extremity of the distant range of snowy mountains before noticed, bore S. 45 E.

When later he saw it again, after recording the bearing of Mount Baker, he added :

The round snowy mountain, now forming its southern extremity, and which, after my friend Rear-Admiral Rainier, I distinguished by the name of Mount Rainier, etc.

The Indian name for this peak, the finest within the United States, possibly excluding Alaska, is Ta-hó-ma. There are other Indian forms of the word, varying somewhat from this, depending upon the tribe. The two meanings given for the word are "nourishing breast," from its resemblance to the female breast, and "snow-covered mountain." Judge Wickersham, of the Tacoma Academy of Science, after an exhaustive research, gives preference to the second meaning. As between these names, Rainier and Tahoma or Tacoma, the United States Board on Geographic Names, a board appointed to decide all such questions for the Government, decided upon Rainier as the name to be used on official maps.

Rainier is the highest of the Cascade peaks, being, according to the latest determination, that of the United States Geological Survey, 14,532 feet above sea level. What this means may be imagined when it is stated that the mountain, as visible from the Puget Sound region, is seen *from* the sea level itself. The first view of this august, splendid peak almost staggers one. It is so idealic that it is next to impossible to believe it other than a dream or vision. It is not unlike Adams in general contour, but is much nearer a conical shape. It is completely enameled with snow and is the center of a profound system of glaciers, some of them four or five miles in length. The northern side is very precipitous and has never been scaled. The eastern, western, and southern sides have been climbed many times. The ascent is long but not specially dangerous. In the summer of 1894 the writer, for the Northern Pacific, organized a party and climbed the mountain, spending an hour and a half *upon the highest peak*. There are two large craters there, nearly filled with ice and snow. The highest point is a beautiful snow and ice dome between the craters. Steam issues from the craters constantly, and when chilled we threw ourselves down on the warm decomposed volcanic ash where the ice was melted away, and became thoroughly warmed.

Many tourists and Pacific Coast people climb the mountain each year. A good road extends from Tacoma to Longmire's Springs at the base of the peak on the south side. From there an easy trail ascends the Nes-

qually and Paradise rivers to Paradise Park, where a tent hotel is maintained during the summer.

As the Northern Pacific train runs south from Tacoma, Mount Rainier is in sight for many miles. Near Yelm, its three summits can be seen.

MOUNT ST. HELENS.

Not long after Rainier is lost to sight another mighty mass of snow, terminating in a sharp point, appears. This is Mount St. Helens, 9,750 feet high and called by the aborigines, "Lah-me-lat'-cla"—fire mountain. Another Indian name is "Seuq." It is also an extinct volcano, and was named by Vancouver in 1792 as per the following:

The clearness of the atmosphere enabled us to see the high, round, snowy mountains, noticed when in the southern parts of Admiralty Inlet, to the southward of Mount



MOUNT ST. HELENS, FROM PORTLAND.

Rainier, * * * and, like Mount Rainier seemed covered with perpetual snow, as low down as the intervening country permitted it to be seen. This I have distinguished by the name of Mount St. Helens, in honor of his Britannic Majesty's Ambassador at the Court of Madrid.

St. Helens has been an active volcano more recently, perhaps, than any of the other northwestern mountains, unless possibly Mount Baker. It seems to have been in eruption many times between 1831-1850. Like all these peaks, it is not difficult of ascent on the south side. It is an intensely interesting peak to explore. Volcanic bombs and large quantities of ashes and cinders are found. In the first half of this century, St. Helens seems to have been the most frequently mentioned mountain of the Cascades.

MOUNT HOOD.

The same remarkable mountain that had been seen from Belle Vue Point, again presented itself, * * * * * ; and though the party were now nearer to it by seven leagues, yet its lofty summit was scarcely more distinct across the intervening land which was more than moderately elevated. Mr Broughton honored it with Lord Hood's name; its appearance was magnificent and it was clothed in snow from its summit, as low down as the high land, by which it was intercepted, permitted it to be visible.

Such are the words in which Vancouver christened Mount Hood, the most beautiful and graceful of the northwestern peaks.

Who that has seen this clear-cut, sharp cone of marble, from Portland, has not felt it worth a long journey to be permitted to look upon it? Of



the four mountains here mentioned it is third in height, being 11,225 feet above the sea. It is at all times an object to enthuse, to inspire, but it is especially grand at sunrise or sunset.

For the tourist, Hood is the most easily accessible of the mountains named.

By train one is transported to Hood River Station, on the O. R. & N. Railway, thence by good stage coaches to Cloud Cap Inn, a comfortable, rustic-like hotel, 7,000 feet above sea level. The Inn is a picturesque

arrangement of silver fir-logs, securely built on the north edge of the mountain. Within a short walk of it is Eliot Glacier. From the Inn, horses can be used for a distance, in the climb to the summit, more than 4,000 feet above the hotel. The climb is not a difficult one for most persons, and can be made in from five to six hours.

The first ascent of Hood was made, it is stated, in August, 1854.

It was in July, 1894, that the Mazáma — mountain goat — Club was organized on the summit of Hood, amid its glaciers and craters. There were 155 men and 38 women who made this ascent, in regular, old-fashioned mountaineering style, and thus became charter members.

Such mountaineering is the best of physical exercise, and it broadens one's sympathies and humanities, and strengthens the mind.

A noble quartette these grand old giants form. Once, indeed, belching volcanoes, now whitened, shrouded spectres, silent save for the thunders of the avalanche.

Travelers to the coast can be thoroughly equipped for a climb among the clouds that overhang them, at Seattle, Tacoma, or Portland. Guides, alpenstocks, ice-picks, and pack outfits can be arranged for at short notice and at reasonable rates.

The mountaineer who has never scrambled among glaciers or listened to the music of the avalanche is only half a mountaineer.

THE HEART OF THE OLYMPICS

*"Or lose thyself in the continuous woods,
Where rolls the Oregon, and hears no sound
Save its own dashings."*

—BRYANT, "Thanatopsis."



FIFTY-FOUR-FORTY or fight." Such was the slogan with which, strange to say, both the Democratic and Whig parties entered upon the Presidential campaign of 1844. This was half a century ago. The old actors are gone, a new generation now treads the boards, both political and commercial. Look for a moment at a few of the former. Daniel Webster, Thomas H. Benton, John C. Calhoun, James K. Polk, Henry Clay, James Buchanan, Robert C. Winthrop, and Rufus Choate were a few of the intellectual giants whose voices were heard in the political arena in those days.

Great was the tumult and excitement over the words quoted. And what was it all about? A vast territory of deserts, impassable mountains, worthless forests—such was what it was *then* thought to be. *We* know it to be a magnificent domain—one of great present worth, and grander possibilities to come. "Fifty-four-forty or fight"—either place the northwestern boundary line from the Rocky Mountains to the Pacific, on the parallel of latitude of $54^{\circ} 40'$, or war; such was the ultimatum it was desired to lay down to England.

The boundary was *not* placed at $54^{\circ} 40'$ but at 49° , and no war resulted, either. Had the people of that day and generation *known* what vast wealth in minerals and forests the old Oregon of '44 and contiguous territory possessed, to say nothing of its prospective value agriculturally, there would undoubtedly have been another and higher boundary line or a fight sure enough. But they didn't. Benton said in 1825, "The ridge of the Rocky Mountains may be named without offense as presenting a convenient and everlasting boundary. Along the back of this ridge the western limits of this Republic should be drawn and the statue of the fabled god Terminus should be raised upon its highest peak, never to be thrown down."

Benton learned better than this afterward, but in 1844 Webster, in a speech to the Senate, fairly represented the general idea regarding the Oregon country prevalent even then. He said, "What do we want with this vast, worthless area, this region of savages and wild beasts, of deserts,

of shifting sands and whirlwinds of dust, of cactus and prairie dogs? * * * * * What can we ever hope to do with the Western coast, a coast of three thousand miles, rock-bound, cheerless and uninviting, and not a harbor on it?"

In the summer of 1896, after steaming over Puget Sound, with its many lighthouses to guide the mariner safely on his way, as I stood on the heights of Port Angeles,—An'gle-ess, not An'jel-eez—Washington, and saw before me a harbor so good that Rear-Admiral Beardslee, of the Pacific squadron, United States Navy, brought the squadron there to spend the summer in drill and evolution; and as I even then saw before me, gracefully resting upon the smooth waters, the flagship Philadelphia, the coast defense steamer Monterey, the monitor Monadnock, and the gun-



1. HOTEL ALBANY, PORT ANGELES.

2. U. S. NAVAL VESSELS IN PORT ANGELES HARBOR.
Steamer to left, "Monterey."
Steamer in Center, "Monadnock."
Steamer to right, Flagship "Philadelphia."

3. PORT ANGELES HARBOR, WASHINGTON.

boat Bennington, clean, and white, and powerful, I thought of what the great expounder had said and wondered what he *would* say could he but gaze upon the spectacle.

Beyond the low, long, and narrow sandspit that forms the harbor was the wide strait of Juan de Fuca, and through the middle of it ran the boundary line so long the bone of contention between the mother country and her vigorous daughter. As I looked out across it I saw a ship go sailing in, perchance exactly upon the imaginary line itself.

Port Angeles—Port of the Angels—was not inappropriately named by the old storm-tossed, weather-beaten Spanish navigator who a century ago found it, as many others have since, a haven of refuge. It has had a

peculiar history. Before 1890 the number of "angels" living there was a few hundred, now it is a fairly prosperous community, with several thousand hospitable people, and shingle mills, saw mills, canning factories, etc., growing up.

The ground for the town was set aside from public entry by President Lincoln early in his administration. There he purposed building a model city having a fine harbor, for the protection of northwestern interests. The harbor has twelve square miles of deep anchorage. The spit, at the end of which is the Ediz lighthouse, is 1,200 feet wide at the shore end, 200 feet in width at the narrow end, and extends into the strait nearly parallel to the shore about three and one-half miles. The climate here is delightful. The warm Japan Current makes it semi-tropical. Vegetation is luxuriant. Frost comes late in October and disappears by April 15th. Flowers, fruits, vegetables, grain, etc., grow to perfection.

Salmon, trout, clams, etc., are found in the waters. From the Angeles Bluffs, Mount Baker, the grand, hoary old peak of the Northern Cascades, can be seen in all its majesty. The south shore of Vancouver Island lines the farther side of Fuca's Strait, and in the evening the lights of Victoria, B. C.,—fifteen miles away—can be seen. And the forests—where will the eye of man rest upon grander, nobler trees? A "vast, worthless area—a region of savages and wild beasts and deserts," forsooth. Oh, Webster, Webster! grand and intellectual as thou wert indeed, an expounder of the sublime old Constitution beyond compare, little didst thou reckon of what thou saidst, else wouldst thou not unwittingly have perpetrated such slander upon so fair a land, such libel upon the Almighty who made it.

The Olympic Range occupies pretty generally the region west of Puget Sound and between the Strait of Fuca and Gray's Harbor. The highest peaks are well to the north, and range from 8,000 to 9,000 feet above sea level. Glaciers and snow fields predominate in the higher altitudes; lakes that enrapture are found at the lower levels; the streams are brawling brooks and rivers that tumble over rock ledges and thunder through the wildest of gorges; the slopes are covered with what is said to be the finest timber in Washington, and Alpine valleys of surpassing loveliness are found below the glacial fields and above the streams.



ELK HUNTING IN OLYMPIC RANGE
MIRROR LAKE, OLYMPIC RANGE.

Thousands of elk and deer are found in the mountains, and many bears, mountain lions, and wild cats. Grouse and ptarmigan are plentiful.

ABOUT LAKE CRESCENT.

Leading west from Port Angeles is a mountain road, the best road of the kind I have ever seen. Not only this, but it is also relieved by bits of delightful landscape. A few hills; long stately curving avenues through the forest; a long, curved bridge, spanning the lovely Elwah River and valley, are appreciable adjuncts to the ride. Where the road descends the mountain, sixteen miles from Angeles, to Lake Sutherland a small lake near Lake Crescent, there is unfolded one of the daintiest scenic treats one may hope to see. It is a veritable tid-bit of its kind. The lake is about three miles long, east and west, narrow, and literally hemmed in on the north, east, and south sides by the mountains. At the west end a gap in the hills provides a vista that extends far away into the range.

Down in the beautiful valley, almost hidden by trees, a rough but roomy house betokens the only sign of humanity—save the road—in the solitude of the wilderness. Two miles farther on, and Lake Crescent laughs and sparkles in the gloaming.

Lake Crescent is about nine miles long. The shore line is all of thirty miles. At the narrows the lake is about one-half mile wide, and the average width is perhaps two and one-half miles. Admiral Beardslee has sounded it to a depth of 600 feet without touching bottom. The color of the water indicates great depth. It is of that deep ultramarine blue so characteristic of Lake Tahoe in the Sierra Nevadas, and Lake Chelan in the Cascades, both very deep lakes. The lake is crescentic in shape, and from this fact it is said to derive its name.

The mountains rise in huge and steep masses from the water's edge. From the eastern end, at Fisher's, they appear to swell upward in oblong and sugar-loaf forms, with slight benches at intervals of many hundreds of feet. The trees, stiff pike-like fellows, range from the water to the summit. At Fisher's, Fairholme on the extreme western end, and at the outlet at Lyre River, there are level areas of limited extent, beautiful cottage sites. Every foot of land on the shores of beautiful Crescent suitable for the purpose, has been taken up for cottage purposes.

At daybreak the morning after arrival, we look eagerly out upon the lake we have come so far to see. Ah! something besides a beautiful lake, mighty mountains and trees, we discern. Clouds, and weren't they beautiful! Whether it were a feeling of jealousy, as it were, that incited them to hide from us as much as it were possible of the wild landscape before us; whether it were a selfishness born of a fondness for the grim

old mountains, or whether indeed it were from a supreme sense of the fitness of their presence, we shall never know. An element of grandeur and beauty was, however, added to an already striking scene.

“Here lifts the land of clouds! The mantled forms,
Made white with everlasting snow, look down
Through mists of many cañons” . . .

As our launch carries us well within the mountain labyrinth, we realize more and more the subtle charm that seems to brood over lake and crag.

A solitude deep and pervasive hovers around, broken only by the short, asthmatic wheeze of the steamer's exhaust.

We reach the narrows. Space is contracted; the tree-barbed heights climb higher overhead; the white clouds lie heavily banked about the 'pinging crags, or float gauzily in torn tresses among the tree tops.

Onward still! To the left the mountains now rear themselves in black, ponderous profiles, their sharp, jagged peaks piercing through the misty veil that would fain enwrap them.

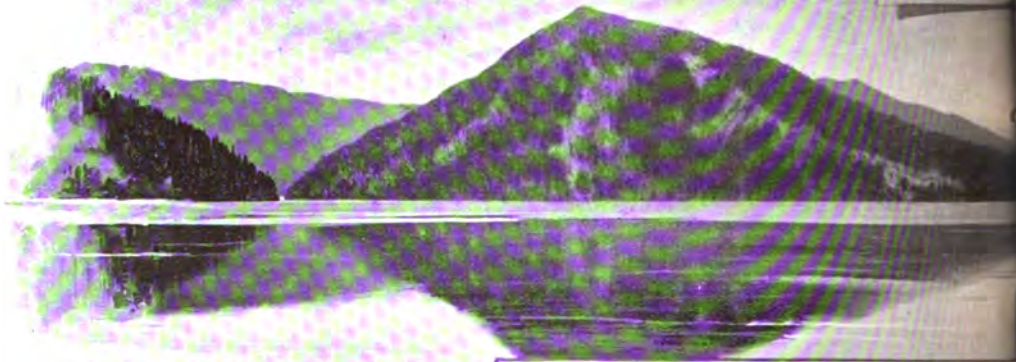
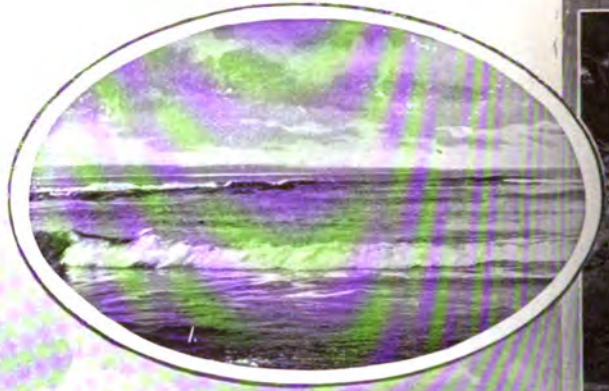
But look there, still farther back! Crowning the vast masses that crowd toward the zenith, far beyond and above them, towering a giant among giants, peerless, proud, haughty, grand, and to-day gloomy, rises noble old Storm King, its haystack-like rock 3,000 feet above us.

In a circular bowl-like recess underneath the Storm King, the white cumulus clouds are densely packed, concealing much of the topography. We can, nevertheless, discern that there are in this part of the range black, ram-like headlands, with deep recessive gulfs — sleeping nooks, where the clouds still lie in whitened splendor.

Here and there is flashed the silvery trail of a creek, leaping from the dark alcoves above, among the trees, in a long tenuous cascade, hundreds or even a thousand feet to the lake.

The shores of the lake have numerous little capes, with quiet bays between. One of these is Madrona Point, so named from a madrona tree that grows out over the water. At the base of Pyramid Mountain is Idlewild, a romantic spot, and a little farther along is the Giant's Stairway, an interesting formation in the solid rock.

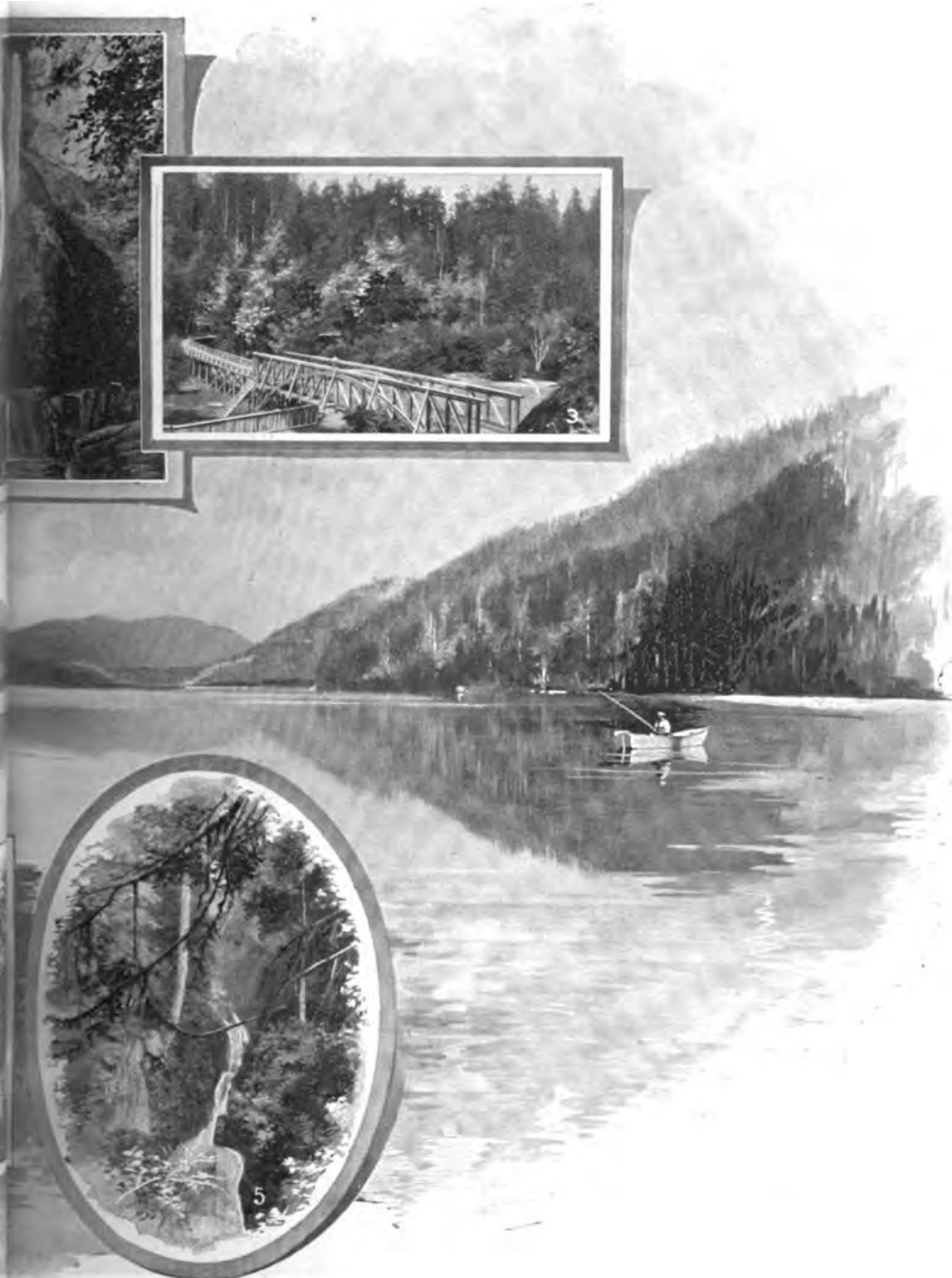
From Fairholme at the western end of the lake, the finest view probably is obtained. The long timbered noses of the mountains are thrust out into the air, and overhang the water, to which they descend in curves of magnificent sweep. Storm King and his group of lesser peaks form the distant mountain wall. This view is particularly fine at evening, when the purple haze, softened by the declining sun, seems to enwrap the neighboring mountains in a delicate veil, which grows more palpable as distance is added to the picture.



R. MENN CO
CALIF.

LAKE CRESO

1. BREAKERS AT MOUTH OF ELWAH RIVER. 2. MARYMERE FALLS, NEAR LAKE CRESO.
4. FAIRHOLME AND LAKE CRESO.



ROAD VICINITY.
ASCENT, 180 FT. 3. BRIDGE OVER ELWAH RIVER, ON WAY TO LAKE CRESCENT.
5. THREE FALLS, SOLDUCK RIVER.

“ Grand here the scenes that burst upon his view,
 Fair too the scene outspreading far and near,
 The tumbling brook that leaps from crag to crag,
 The wide, undimpled lake, whose lucent sheet
 Reflects the bending forests of the shore;
 While high above him spreads a canopy,
 Of heavenly azure and celestial light.”

From Fairholme a well traveled and well kept trail twists far back into the mountains—into the wild magnificence, the tangled, devil's club brakes, the glens and fastnesses of nature, where “every prospect pleases and only man is vile.” For sixteen miles the trail winds through the forest. Giant firs and spruces, pines and hemlocks, and cedars lift themselves aloft 100, 150, 200, and in many cases nearly or quite 300 feet. Great monsters of their kind eight, ten, twelve feet or perhaps more in diameter, straight as if plumbd by the Almighty, of a royal dignity that impresses man with a sense of his own littleness, we can well understand that we are riding through the heart of the finest timber belt in Washington. What a mute, but no less emphatic, protest each of these noble forest kings is to that libelous utterance of Webster's!

At the end of the day's ride we are at the Hot Springs of the Solduck River. At intervals along the trail we have found timber-claim cabins, and in the clearings the advance guards of civilization, pushing westward as was the case with our forefathers 100 years ago in the forests bordering the Atlantic. Now we are in the heart of the glorious hunting country. On the flanks of the mountains 1,000 or 1,500 feet above the Springs are beautiful mountain valleys and plateaus, and among these and in the timber the elk and deer range. The Springs, of medicinal virtues, have a private ownership, make delightful bathing, and form a good rendezvous for fishing and hunting parties.

Rear-Admiral L. A. Beardslee (“Piseco”), United States Navy, has recently brought the Lake Crescent region into marked prominence in a piscatorial way. He is an enthusiastic fisherman, has angled in the best waters of the globe, and nowhere has he found such sport as in Lake Crescent. But I will let him tell the story in his own words.

I have made four visits to Lakes Crescent and Sutherland — two in October, 1895, and two in August, 1896.

My first trip was to Lake Sutherland alone, and was a very successful one as far as the number of fish taken was concerned, but I got no very large ones — the largest taken by



REAR-ADMIRAL L. A. BEARDSLEE.

any of my party weighing $4\frac{1}{2}$ pounds. It was a speckled trout; but in our catch (two boats) of about 150 trout in two days, there were many of over two-pounds weight; our total catch of about seventy-five pounds consisting of speckled, mountain, and silver trout, with two or three cut-throats.

We caught few with the fly, but as our outfit consisted of small gnats, caddis, ants, etc., we could hardly expect many, as the trout were feeding on large white butterflies, which were constantly lighting or falling on the surface on which there was considerable ashes from forest fires. I was informed that in the spring the fish rise readily, and fly-fishing is excellent.

On October 27th, in company with Mr. M. J. Carrigan, I made my first visit to Lake Crescent, and my first fishing was on the 28th—a date which local prophesiers at Port Angeles pronounced too late; and so it seemed, for nearly all of that day, which was raw and chilly with an east wind, and up to 4 P. M. we caught scarcely a dozen small trout. At that hour the wind changed to the westward and almost simultaneously I hooked and caught a large blue-back at a depth of perhaps thirty feet, and from that time until dark, about 6 P. M., one or the other of us was steadily busy with mates to my first. We caught six fish, all blue-backs, weighing from 6 to $11\frac{1}{2}$ pounds, and from 22 to $32\frac{1}{2}$ inches in length. Our longest was not the heaviest; he weighed but $10\frac{3}{4}$ pounds; he was a spent male, considerably scarred. Our heaviest, $11\frac{1}{2}$ pounds, was a female 30 inches long. Our fishing was done by trolling—two surface spoons from rods, one hand line of copper at an average depth of thirty feet, and on this latter all the large ones were taken.

I was fully satisfied that not only the blue-backs but several others of the fish were as yet new to science, and so wrote to Prof. David S. Jordan, enclosing photos taken some time after catching. Not having sent him specimens, the professor did not give a positive answer. In accordance with arrangements, Mrs. Geo. E. Michell, the wife of the postmaster at Fairholme at the head of the lake, an ardent and skillful angler, undertook to supply Professor Jordan with the necessary trout, and on the 12th of March, 1896, a date much earlier than I can find authentic record of trolling on the lake, she caught, with a Tahoe spoon and line, two specimens of the blue-back and one of the speckled—the former about 18 inches and the latter 16 inches long. These we sent to Professor Jordan and in his notes on fishes new or little known, he says:

“I find myself forced to agree with Admiral Beardslee in the opinion that each of these forms is distinct from any previously recorded or named,” and he eventually named them thus: The Blue-back, *Beardsleei*; the Speckled, *Crescentis*; and thus they now stand.

Mrs. Michell's success was followed up, and in the course of a few weeks she had supplied Professor Jordan with a 14-pounder. Quite a number of others of from 10 to 15 pounds weight had been taken, the principal capturers being Mrs. Michell, Mrs. Carrigan, and Miss Sara Beasley of Missouri, who, on March 27th, took the largest speckled trout of which I can obtain record. It was 27 inches long and weighed 8 pounds.

During the summer months, the big ones ceased to bite, although surface trolling continued successful. I visited the lake August 14 and 15, 1896, and had excellent sport, trolling in the deep water, fly casting and surface trolling in the shoal. August 29th and 30th I again put in a couple of days. All over the lake medium-size Beardsleeis' were striking. They were feeding on a bug locally known as the Stink Bug, of which there were great numbers blown from the shore, and on the small trout which in schools were also feeding on the bugs. I caught very few in the forenoon. The moon was nearly full and the fish had fed all night and were gorged. In the afternoon the fishing was excellent, we boating twenty-six that would average over a pound, in rowing from

one end to the other of the lake. I undoubtedly would have had many more but that I was devoting my time to slow rowing and deep trolling for large ones. From these I had no response until the afternoon of the 30th, when I had three unmistakable tugs and brought a Beardsleei, which probably weighed 10 or 12 pounds, so near to my gaff that I felt too sure of him. The big fish got away, but he left with me the certainty that they had again begun to take hold now that the summer rest was over, so when Messrs. James C. Hart and B. Dunn, members of the Caledonian Club of Rochester, N. Y., and H. O. Wilbur of Philadelphia, Pa., arrived at Port Angeles on the 7th of September and informed me that they had come all the way from the East to catch one or more of the big Beardsleeis described in my letters to "Forest and Stream," I felt that the journey might not have been made in vain. And I was right. To-day is the 10th of September, and yesterday I received from the lake a box of trout in which there was one Beardsleei taken by Mr. Hart, 29½ inches long, and weighing 13½ pounds; one 29 inches long, weighing 8½ pounds, and several from 4 to 6 pounds, all taken on the 6th. The successful anglers sent me the cheering message that I had much under, rather than overestimated, the resources of the lake.

From my own experience I state that in this lake I have caught a larger variety, and greater number of large trout than in many other of the fishing resorts of the world combined, in much longer time.

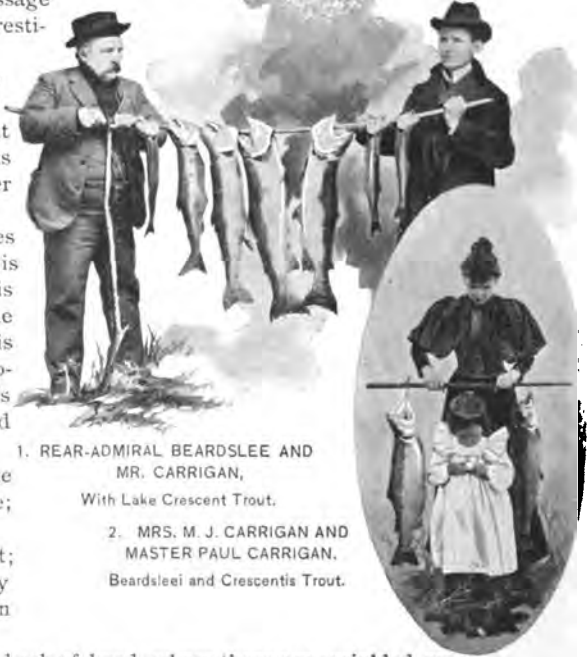
The Blue-back, or Beardsleei, deserves the precedence I have given him. He is the distinctive trout of the lake. There is nothing like him anywhere else, and he can not be mistaken for any other. He is a most vigorous fighter, and a two-pounder on a fly rod means an hour's work. He is the best table fish found there, and his description is as follows:

BLUE BACK.—*Blue-back Trout*—Lake Crescent, Washington. Specimen female; 28½ in. x 8 in.; weight, 11½ lbs.

Body—Short for weight; thick-set; short head; ova apparently not entirely developed; eggs about half size of salmon of same weight.

Back—Deep indigo blue, deepest on back of head, where there are sprinkled many round black spots about the size of No. 4 shot. Gill-covers smooth and pearly, free from spots. At about medium line the blue lightens into a pearly, silvery tint which in the sunlight has an iridescent pinkish hue which is not visible in the shade. The belly is white.

Fins—The caudal is nearly as square as that of a *fontinalis*, except at the center there is a small V-shaped notch; it and the dorsal fin are brown, profusely black-spotted. Pectorals, ventrals, and anals nearly colorless, but with slight brownish hue. No spots and no border color on edges. There are eleven rays in the dorsal fin, thirteen in pectoral.



1. REAR-ADMIRAL BEARDSLEE AND MR. CARRIGAN,
With Lake Crescent Trout.

2. MRS. M. J. CARRIGAN AND MASTER PAUL CARRIGAN.
Beardsleei and Crescentis Trout.

Flesh—Uncooked, pale lemon color, bleaching to white when cooked; hard, firm, and of most excellent flavor, in which the oily flavor of the salmon does not occur.

Scales—Very large for a trout, small for a salmon of the size.

I am told that it comes to the surface in spring, when it feeds on large white butterflies, then abundant; it does not leap for these, but will then take salmon or bass flies trolled slowly. In summer it seeks the deepest water and can not be, or rather has not been, taken with fly or surface lure, and is, as far as I can learn, of moderate weight, say two to five pounds.

In fall we found it a deep-water fish, touching none of our surface lures; caught at depths of from thirty to fifty feet; hard fighter when first hooked, boring and running deep; weakens as it nears surface, and is nearly exhausted when brought alongside.

The tackle that has proven the most satisfactory is:

Fly-fishing in the bays—large brown hackles, professor, white miller, and coachman.


Surface trolling—light rod; silk line; single salmon leader six foot; small oval skittering spoon of silver and copper, preferably in precedence: Al Wilson's, Fleugler, Emerich.

Deep trolling by hand—100-foot copper line, with 50-foot linen or cotton line at the hand, and in precedence, Tahoe spoon, silver and copper or brass, and almost any large three-hooked feathered spoon; on either or all a small strip of trout belly.

L. A. BEARDSLEE ("Piseco"),

Rear-Admiral U. S. Navy.

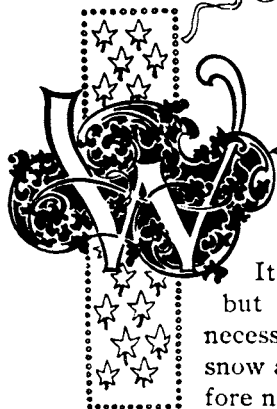
As this locality has but lately come into prominence it can well be understood that accommodations for tourists and anglers are not now what they will be. Such persons can, however, be comfortably entertained, in moderate numbers, at the present time. There are two small steam craft on Lake Crescent. Parties who purpose visiting this spot can address Mr. M. J. Carrigan, agent Northern Pacific Railway, Port Angeles, Wash., or Mr. Geo. E. Michell or Mr. Ben Lewis, Fairholme, Wash.



IN THE LAND OF MIST AND SNOW

—“ANCIENT MARINER.”

“To see the Muir Glacier is an event in one's life, like seeing St. Peter's at Rome or the Taj in India.”—DR. H. M. FIELD.



WHO has not been forcibly, weirdly impressed by Coleridge's quaint description of the woes of the Ancient Mariner “in the land of mist and snow?”

Think not, oh reader, that this is another such tale. It is a land of mist and snow, truly, that I would describe; but it is also much more. A land of mist and snow is not necessarily a cold nor disagreeable land. Were it not for the snow and the mist there would be no Muir Glacier, and therefore no such treat in store for you as Doctor Field so pointedly indicates in the foregoing excerpt.

“St. Peter's at Rome or the Taj in India,” two of the world's grandest specimens of architecture. And what is the Muir Glacier, if not one of nature's grandest architectural efforts? True, it is not a noble building, ornately embellished and delicately sculptured, but it is a fabrication of such immortal design that the hand of man will never attain to it. “The land of mist and snow,” or, to be brief—Alaska.

How far away it used to seem. What a feeling of incredulity passed over the country in 1867, when it was known that Secretary Seward had purchased it for \$7,200,000 *gold*. We didn't know so much then about the seal fisheries. There were not so many sealskin cloaks seen on the streets in those days. Neither did we know of the gold fields, nor of the valuable salmon fisheries.

Miner W. Bruce, in his recently published “Alaska,” refers thus to the report of a special agent of the Treasury Department, on Alaska, made in 1869: “It says that at 6 per cent, interest on the \$7,200,000 paid for the Territory, together with the expense of maintaining the government there, would amount in twenty-five years to the sum of \$44,000,000.” The annual income he estimates—liberally—at \$110,000.

Bruce gives the following table of returns from this investment, compiled from official records:

Furs.....	\$53,000,000
Canned salmon.....	10,000,000
Whalebone.....	10,000,000
Gold and silver.....	6,000,000
Whale oil.....	3,000,000
Codfish.....	1,600,000
Salted salmon.....	800,000
Ivory.....	160,000
Total.....	<u>\$84,560,000</u>

The Treadwell mine and mill he pronounces the greatest in the world, all things considered. The claim was purchased by John Treadwell from "French Pete," a miner, for \$400. It is now pounding out gold in its 240-stamp mill at the rate of \$70,000 to \$80,000 per month continuously.



1. INTERIOR OF INDIAN HOUSE—SITKA. 2. LOG CHURCH AT JUNEAU. 3. TAKU GLACIER.
4. INDIAN TOWN AT SITKA, AND SNOW CLIFFED MOUNTAIN—ALASKA.

Gold was discovered near Sitka in 1873, near Juneau in 1880, and in the Yukon Basin in 1881. The Yukon mining has thus far been principally placer mining. What will be developed in the future can not now be forecasted. All indications point to Alaska becoming a great field for quartz mining.

Alaska is the tourist's paradise. Here is where the mountain systems of the United States seem to run together, to coalesce, and rise to loftiest heights. Here is the birthplace of the largest glaciers. There is great

diversity of climate in Alaska. It must be remembered that the Japan Current — Kuro Siwo — exerts an ameliorating influence, especially upon the coast of Southern Alaska. This induces precipitation and a dense, perennial foliage. Vegetables and root crops grow prolifically, and strawberries are found under the shadows of the glaciers themselves.

The scenic features of Alaska have no counterpart elsewhere, in the eyes of experienced travelers. The tourist's trip begins at Tacoma, reaches its extremity at Sitka, and returns to Tacoma over a different route, partially. It is not an ocean voyage, but is over an inland sea where high mountains and innumerable islands make it one of pleasure and freedom from roughness. The

various stopping places — Fort Wrangel, Juneau, and Sitka being the more important ones — are interesting and serve as brief resting-spots in the voyage.

The glacial scenery is, of course, the paramount feature of the trip, and of the



1. INDIAN RIVER—ALASKA.

2. GENERAL VIEW—TREADWELL GOLD MILL AND MINE.

3. WALK TO INDIAN RIVER—ALASKA.

many glaciers—Patterson, Davidson, Auk, Eagle, Malispina, Taku, etc.—the Muir is chief. Its front is two miles across and it towers 250 feet in the air, which means that 1,750 feet of it are under the water. Great blocks or chunks break from its top and go crashing into Glacier Bay, awaking the echoes for miles around. Its surface is covered with crevasses, and the tourist has an opportunity of climbing over it as the steamer lies at anchor in the bay.

The tourist season extends from May 1st to October 1st. The fine steamer *Queen*, is devoted to tourist travel only. The round trip requires about twelve days. Other steamers that make more frequent stops can be taken, thus prolonging the trip. The voyage to "the land of mist and snow" is indeed the trip of a lifetime.

Time, Rate and Distance Table to the Spokane-Kootenai Country.

Rates marked thus * are 1st class Unlimited. Grand Forks passengers are ticketed only to Marcus.
 Rates are subject to change without notice further than that required by law.

FROM	TO	Northport, Wash.	Trail, B. C.	Rossland, B. C.	Nakusp, B. C.	Grand Forks, B. C.	Nelson, B. C.	Kaslo, B. C.	Sandon, B. C.	Sandon, B. C.
Portland, Ore.	Routes	N. P. Ry. S.F. & N. Ry. C. & N. O.	N. P. Ry. S.F. & N. Ry. C. & N. O.	N. P. Ry. S.F. & N. Ry. C. & N. O.	N. P. Ry. S.F. & N. Ry. C. & N. O.	N. P. Ry. S.F. & N. Ry. Stage.	N. P. Ry. S.F. & N. Ry. N. & T. Co.	N. P. Ry. S.F. & N. Ry. N. & T. Co.	N. P. Ry. S.F. & N. Ry. N. & T. Co.	Via Northport and Nakusp.
"	Distances—miles	674	702	690	816	686	744	784	813	887
"	Rates—1st class Limited	\$23.15	\$24.15	\$24.40	\$24.15	\$26.80	\$26.15	\$26.20	\$26.20	\$26.20
"	Time	1 day	1½ days	1½ days	1½ days	1½ days	1½ days	1½ days	2 days	2 days
Tacoma, Wash.	Routes	Nor. Pac.	Ry. to Spokane	* 24.00	672	542	600	640	609	713
"	Distances—miles	590	558	* 24.00	672	542	600	640	609	713
"	Rates—1st class Limited	* 22.75	* 23.75	* 24.00	23.75	25.90	24.25	24.25	24.25	24.25
"	Time	1 day	1 day	1 day	1½ days	1½ days	1 day	1½ days	1½ days	1½ days
Seattle, Wash.	Routes	Nor. Pac.	Ry. to Spokane	* 23.85	692	562	630	660	689	793
"	Distances—miles	590	578	* 23.85	692	562	630	660	689	793
"	Rates—1st class Limited	* 22.80	* 23.80	* 23.85	23.80	25.45	23.80	23.80	23.80	23.80
"	Time	1 day	1 day	1 day	1½ days	1½ days	1 day	1½ days	1½ days	1½ days
Victoria, B. C.	Routes	P. S. & A.	S. S. Co. to Tacoma	662	777	647	705	745	774	818
"	Distances, via Seattle—miles	695	663	662	777	647	705	745	774	818
"	Rates—1st class Limited	* 24.80	* 25.80	* 26.05	25.80	27.95	26.30	26.30	26.30	26.30
"	Time	1½ days	1½ days	1½ days	2 days	1½ days	2½ days	1½ days	2 days	2 days
Vancouver, B. C.	Routes	C. P. R.	B. E. & B. R. and S. C. & I. Ry.	C. R. R. and Gt. Nor.	Ry. to Seattle	Ry. to Seattle	Ry. to Seattle	Ry. to Seattle	Ry. to Seattle	Ry. to Seattle
"	Distances—miles	725	753	742	867	737	785	835	864	908
"	Rates—1st class Limited	23.80	23.80	24.80	23.80	26.30	23.80	23.80	23.80	23.80
"	Time	2½ days	2½ days	2½ days	3 days	2½ days	2½ days	2½ days	3 days	3 days
San Francisco, Cal.	Routes	So. Pac.	to Portland	or Steamer to Portland	1468	1458	1516	1556	1620	1620
"	Distances—rail	1446	1474	1468	1588	1458	1516	1556	1620	1620
"	Rail Rates—1st class Limited	43.15	44.15	44.40	44.15	46.80	46.15	46.20	46.20	46.20
"	2d class	38.15	39.15	39.40	39.15	41.80	41.15	41.20	41.20	41.20
"	Steamer Rates—1st class Lim.	34.80	35.80	35.95	35.80	37.45	36.80	36.80	36.80	36.80
"	2d class	28.80	29.80	29.95	29.80	31.45	29.80	29.80	29.80	29.80
"	Time—rail	2½ days	3 days	3 days	3½ days	3 days	3 days	3 days	3½ days	3½ days

Time, Rate and Distance Table to the Spokane-Kootenai Country — *Continued.*

FROM		TO		Northport, Wash.	Trail, B. C.	Rossland, B. C.	Nakusp, B. C.	Grand Forks, B. C.	Nelson, B. C.	Kaslo, B. C.	Sandon, B. C.	Sandon, B. C.
Helena, Mont.	Routes.....	Nor. Pac.	Ry. to Spokane; then	540	Ry. to Spokane; then	520	ce same as	from Portland.	582	622	605	605
	Distances—miles.....	519	540	520	582	582	582	582	582	582	582	582
	Rates—1st class Limited.....	\$26.10	\$27.10	\$27.85	\$29.25	\$29.25	\$29.25	\$29.25	\$29.25	\$29.25	\$29.25	\$29.25
Butte, Mont.	Routes.....	Nor. Pac.	Ry. to Spokane; then	548	Ry. to Spokane; then	532	ce same as	from Portland.	585	625	608	608
	Distances—miles.....	515	548	532	585	585	585	585	585	585	585	585
	Rates—1st class Limited.....	\$28.15	\$27.15	\$27.40	\$29.80	\$29.80	\$29.80	\$29.80	\$29.80	\$29.80	\$29.80	\$29.80
St. Paul, Minn.	Routes.....	Nor. Pac.	Ry. to Spokane; then	1670	Ry. to Spokane; then	1650	ce same as	from Portland.	1712	1752	1781	1781
	Distances—miles.....	1642	1670	1650	1712	1712	1712	1712	1712	1712	1712	1712
	Rates—1st class Limited.....	47.50	47.50	48.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50
Minneapolis, Minn.	Routes.....	Nor. Pac.	Ry. to Spokane; then	1650	Ry. to Spokane; then	1648	ce same as	from Portland.	1701	1741	1770	1770
	Distances—miles.....	1631	1650	1648	1701	1701	1701	1701	1701	1701	1701	1701
	Rates—1st class Limited.....	47.50	47.50	48.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50
Duluth, Minn.	Routes.....	Nor. Pac.	Ry. to Spokane; then	1676	Ry. to Spokane; then	1665	ce same as	from Portland.	1718	1758	1787	1787
	Distances—miles.....	1648	1676	1665	1718	1718	1718	1718	1718	1718	1718	1718
	Rates—1st class Limited.....	47.50	47.50	48.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50

The Northern Pacific

is the **direct and quick** line from both **Eastern and Pacific Coast** points to this mining region.

Send for our large and new relief map of that country.

CHAS. S. FEE,
General Passenger Agent, St. Paul, Minn.

NORTHERN PACIFIC RAILWAY.

Rates and Arrangements for the Tourist Season.

MINNESOTA SUMMER RESORTS

During the summer season the Northern Pacific Railway will sell round-trip excursion tickets from St. Paul or Minneapolis to Glenwood (Lake Minnewaska) at \$5.25; Battle Lake, \$7.50; Fergus Falls, \$7.50; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan (Devil's Lake) \$18.65; Winnipeg, \$22.50. From Duluth to Deerwood, \$3.80; Battle Lake, \$7.50; Fergus Falls, \$7.50; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan, \$18.65; Winnipeg, \$22.50. From Ashland, Wis., to Battle Lake, \$9; Fergus Falls, \$9; Perham, \$9.25; Detroit Lake, \$10.65; Minnewaukan, \$20.15; Winnipeg, \$22.50. Good going to Minnesota resorts one day (from Ashland two days), to Minnewaukan (Devil's Lake) and Winnipeg two days from date of sale. Good to return on or before October 31st.

YELLOWSTONE PARK RATES

The Northern Pacific Railway will sell round-trip excursion tickets from May 29th to September 28th (both dates inclusive) at the following rates:

A \$47.50 round-trip ticket, St. Paul, Minneapolis, or Duluth to Livingston, or Mammoth Hot Springs and return, returning same route, or via Billings to the Missouri River. These tickets are limited to thirty days going, ten days returning, final limit, forty days.

A \$5 ticket, Livingston to Mammoth Hot Springs Hotel and return, including rail and stage transportation.

A \$49.50 ticket, Livingston to Cinnabar and return, Cinnabar to Mammoth Hot Springs, Norris, Lower and Upper Geyser basins, Yellowstone Lake, Grand Cañon, and Falls of the Yellowstone and return, including rail and stage transportation, and five and one-half days' accommodations at the Association hotels.

The \$5 and \$49.50 tickets on sale at eastern and western termini between dates first named above, at Livingston May 31st to September 30th, both dates inclusive, are good if used in the Park any time between June 1st and October 6th, both dates inclusive, and do not require identification of purchaser.

By payment of \$22 at Mammoth Hot Springs Hotel, to the cashier of the Yellowstone Park Association, and of \$22.50 to the manager of the Yellowstone National Park Transportation Company, having his office in this hotel, tourists not provided with regular Park tickets can secure transportation and hotel accommodations for the regular five and one-half days' tour.

The hotel service in the Park is now very complete. Tourists can stop at any of the principal points of interest with the assurance that comfortable accommodations will be supplied them.

MONTANA AND EASTERN WASHINGTON POINTS

The Northern Pacific Railway has on sale, at greatly reduced rates, round-trip excursion tickets from St. Paul, Minneapolis, or Duluth to Billings, Springdale, Livingston, and Bozeman, Mont.; Helena and Butte, Mont. (choice of routes returning, via Northern Pacific or Great Northern Railway lines); Missoula, Mont.; Spokane, Wash. (choice of routes returning, via Oregon Railway & Navigation Company and its connections, or via the Great Northern, or Northern Pacific lines); Medical Lake, Pasco, Kennewick, and Toppenish, Wash.; Nelson, Trail, Rossland, Ainsworth, Kaslo, and Sandon, B. C.; and Coulee City, North Yakima, and Ellensburg, Wash.

These tickets are of iron-clad signature form; require identification of purchaser at return starting point.

Any of the above tickets may read to return via Billings to the Missouri River.

NORTH PACIFIC COAST EXCURSIONS

A \$90 round-trip individual excursion ticket, St. Paul, Minneapolis, or Duluth to Tacoma, Portland, Seattle, New Whatcom, Vancouver, or Victoria, is on sale daily at points first named and by Eastern lines.

Tacoma, Seattle, New Whatcom, Victoria, Vancouver, or Portland tickets, at above rates, will be issued, going via Northern Pacific, returning via same route, or Great Northern, or Soo-Pacific to St. Paul, Minneapolis, or Duluth; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; Portland tickets will also be issued, returning via Oregon Railway & Navigation Company and its connections to either Omaha or Kansas City, or to St. Paul via Sioux City.

CONDITIONS

Above tickets limited to nine months from date of sale, good, going trip, sixty days to any one of North Pacific Coast termini named, returning any time within final limit.

ALASKA EXCURSIONS

An excursion ticket will be sold from Eastern termini named to Sitka, Alaska, at \$170, which rate includes meals and berth on the steamer. Tickets on sale May 1st to September 30th. Limit, nine months. Going to Tacoma, sixty days, returning within final limit, holder to leave Sitka on or before October 31st. Tickets will be issued to return either via the Northern Pacific, Soo-Pacific, or Great Northern lines to St. Paul or Minneapolis, or via Canadian Pacific Railway to Winnipeg or Port Arthur. Usual stop-over privileges granted. Steamer accommodations can be secured in advance by application to any of the agents named below. Diagrams of steamers at office of General Passenger Agent at St. Paul.

"TO THE WESTWARD"

The Alaska Commercial Company's steamer Dora will sail from Sitka to Unalaska, in Bering Sea, 1,300 miles distant, on or about the 8th of April, May, June, July, August, September, and October, stopping at Yakutat, Prince William's Sound, Cook's Inlet, Kodiak, Karluk, and Unga. Close connection is made with Pacific Coast Steamship Company's vessel City of Topeka at Sitka. The steamer Dora has accommodations for twenty-two cabin passengers. Round trip is made in from twenty-five to thirty days, three days of which time are spent at Unalaska. Round trip from Sitka, including berth and meals on boat, \$120. (There is also steerage rate of \$80 for round trip, there being accommodations for thirty-five passengers.)

CALIFORNIA EXCURSION RATES

The Northern Pacific Railway will sell round-trip excursion tickets from St. Paul, Minneapolis, or Duluth as follows:
To San Francisco, going via the Northern Pacific, Seattle, and steamer, or Portland and the Shasta Route, or the ocean to San Francisco; returning via rail or steamer to Portland, or via steamer to Seattle, and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; or via rail or steamer,

Portland and Huntington to the Missouri River; or returning by the southern lines to Council Bluffs, Omaha, Kansas City, Mineola, or Houston, at \$103.50; to New Orleans or St. Louis, at \$109.50.

To Los Angeles, going via Portland and Shasta Route, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Billings or Huntington to the Missouri River, at \$122.50; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$113; to St. Louis, at \$119.

To San Diego, going via Portland and rail through Los Angeles, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings or Huntington to the Missouri River, at \$129; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$119.50; to St. Louis at \$125.50.

Tickets via ocean include meals and berth on steamer.

At the eastern termini of the southern transcontinental lines excursion tickets will be sold, or orders exchanged, for tickets to San Francisco, returning via either the Shasta Route, the all-rail line to Portland, or the ocean and the Northern Pacific to St. Paul, Minneapolis, or Duluth, at a rate \$13.50 higher than the current excursion rate in effect between Missouri River points, Mineola, or Houston and San Francisco. The steamship coupon includes first-class cabin passage and meals between San Francisco and Portland.

Return coupons reading from Missouri River points to Chicago or St. Louis will be honored from St. Paul or Minneapolis, either free, or with a small additional charge, according to route.

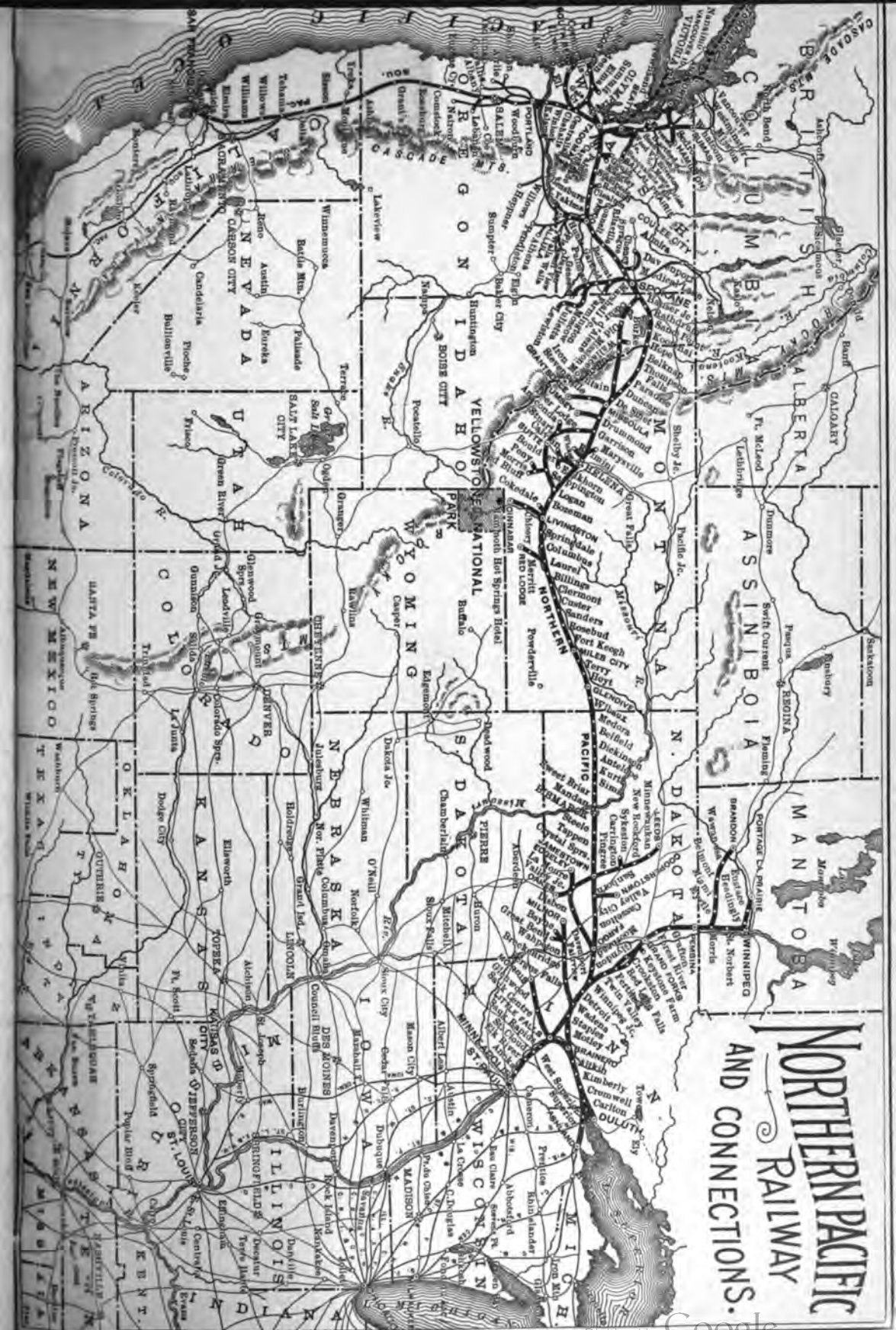
These excursion tickets allow nine months' time for the round trip; sixty days allowed for west-bound trip up to first Pacific Coast common point; return any time within final limit.

**District
Passenger
Agents.**

F. A. GROSS, 230 Washington Street, Boston, Mass.
 J. H. ROGERS, JR., 47 South Third Street, Philadelphia, Pa.
 L. L. BILLINGSLEA, 47 South Third Street, Philadelphia, Pa.
 CHAS. E. JOHNSON, 817 Carnegie Building, Pittsburg, Pa.
 WM. G. MASON, 215 Ellicott Square, Buffalo, N. Y.
 THOS. HENRY, 128 St. James Street, Montreal Que.
 W. H. WHITAKER, 163 Jefferson Avenue, Detroit, Mich.
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 C. G. LEMMON, 308 South Clark Street, Chicago, Ill.
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 E. L. RAYBURN, Traveling Passenger Agent, 255 Morrison Street, Portland, Ore.

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and Special
Agents.**

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 F. H. FOGARTY, General Agent, 208 South Clark Street, Chicago, Ill.
 R. A. EVA, General Agent, Duluth, Minn.
 F. C. JACKSON, Assistant General Agent, West Superior, Wis.
 H. SWINFORD, General Agent, Winnipeg, Manitoba.
 A. D. EDGAR, General Agent, Helena, Mont.
 W. M. TUOHY, General Agent, Butte, Montana.
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 I. A. NADEAU, General Agent, Seattle, Wash.
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 B. N. AUSTIN, Assistant General Passenger Agent, St. Paul, Minn.
 A. L. CRAIG, Assistant General Ticket Agent, St. Paul, Minn.
 CHAS. S. FEE, General Passenger and Ticket Agent, St. Paul, Minn.
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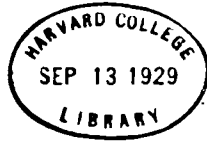
NORTHERN
PACIFIC RAILWAY.

ILLUSTRATED

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By CHAS S. FEE, General Passenger and Ticket Agent,
Northern Pacific Railway,
St. Paul.

FRED LOCKLEY
RARE WESTERN BOOKS
1243 East Stark St.
PORTLAND, ORE.



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RIVERS AND MOUNTAINS



RAILWAY journey across a plain in time becomes tiresome. The slight variations in topography, the flying houses and hamlets, the long freight trains, whether puffing heavily along or resting lazily on the side tracks while the express train whizzes past, are not sufficient to break the inevitable monotony. That railway ride is the pleasantest and most instructive that carries the traveler through the most varied landscape. Contrast and antithesis are needed. Then, each element of scenery—plain, mountain, forest, water, valley, cañon, town, city; yes, even desert—has its proper weight or influence in creating an agreeable whole.

We know that this is true of a short trip, one of but a few hours' duration; how much more so, then, of a long one! Viewed in this light, the journey of 2,000 miles over the Northern Pacific, or any other line, may well be studied seriously.

Without intending invidious comparisons, it can, I think, be fairly and truthfully stated that no line of equal approximate length affords more and greater diversity of scenery than does this. Without taking account of the shining lakes of the Park Region of Minnesota, or of the lesser streams beside which the bands of steel wind in curving flashes of light, there are nearly 1,000 miles of large and beautiful waterways along which the transcontinental trains of the Northern Pacific hold their way. Three times do these trains cross separate portions of the Rockies and once the Cascade Range. Here, then, are two of the most important features of a landscape—water and mountains—found, sometimes in pleasing alternation and again in conjunction.

Let me particularize :

Leaving St. Paul the valley of the Mississippi is followed to Little Falls, 108 miles. As the traveler leaves St. Paul he is on the eastern bank of the river. Entering Minneapolis the train skims across the river on a



PAINTED ROCK AND
MISSOURI CAÑON—
GALLATIN RANGE, MONT.

graceful steel bridge, and, where it leaves the city some miles distant, again returns to the eastern bank. At

Little Falls it again crosses to the western bank and leaves the stream and valley.

Far to the west, after crossing two States, the train enters a third, and, following the sinuosities of a Montana creek, rolls out upon

the southern bank of the Yellowstone River at Glendive. For 341 miles it then follows the banks of this wide, rolling stream to Livingston.

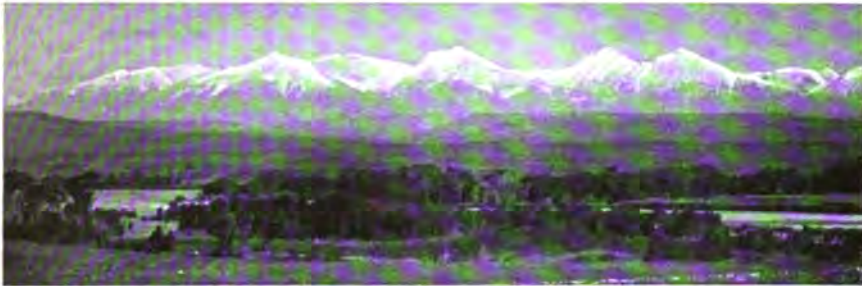
The Yellowstone is one of the largest rivers of the West. The history of the valley is one of subjugation—first, of the bison; second, of the Indian. On certain maps the sign of the diminutive crossed sabres can be seen at many places in and adjacent to the valley, signifying old battle-grounds where the white and the red man contended for the mastery. That day has gone, never to return. The advent of the railway signalized the doom of the red man's occupancy, however just and righteous it may or may not have been. The track of the iron horse lies principally along the south bank of the river. For mile after mile the train thunders onward near enough to the stream so that the traveler can dreamily note the eddyings and movements of the water. Except at occasional periods of low water the Yellowstone fills the wide channel from bank to bank, and is a stream of much dignity and volume. The color is usually of pleasing, bluish green, becoming more clear and green as the upper valley is reached. The bottom lands often cover an area several miles wide, and,



VALLEY OF YELLOWSTONE RIVER,
JUST WEST OF GLENDIVE.

again, will be pinched down to rather a small compass as regards width. The sides of the valley are generally formed of palisades of yellowish gray or dun-colored cliffs, very different in appearance from the brilliant, strong tones of the Pyramid Park bluffs and pyramids in North Dakota. Sometimes the track skirts these bluffs, and at other times is far from them. The upper valley becomes gradually more pleasing. Mountains appear in the distance. Near Big Timber the Crazy Mountains to the north form a constantly changing panorama as the train changes direction. At Livingston the Snowy Range to the south seems almost to hover over us.

Leaving Livingston the scene changes entirely. Now the mountains come and swallow us up. Around us, on all sides, over us they hang, and



CRAZY MOUNTAINS — UPPER YELLOWSTONE VALLEY, MONTANA.

through wild passes and cañons the train holds its way until the Gallatin Valley and river is reached. Now the river and wide, green valley flanked by massive snow-covered mountains, greet the eye. The river soon joins with its fellows, the Jefferson and Madison, to form the Missouri. The train is soon following the curves of the latter, a small, clear, rushing stream, far, far prettier than the muddy river seen between Bismarck and Mandan in North Dakota.

Again, when the river is left behind, the mountains come to us. Beyond Helena the Rockies are again ascended. As the train slowly gains altitude, they lie around in great chunks, as it were, almost bare of trees and mutely bearing witness of honorable age and showing the evidences of constant warfare with time and the elements. At the summit the Mullan Tunnel furnishes the means of crossing to the western side of the range. Almost from the beginning of the ride down the western grade a small stream is followed. At Garrison it assumes larger proportions and becomes the Hellgate River. From Garrison to Missoula the river and the rails are boon companions. High over both stretch the mountains—we are in the heart of the Rockies.

In serried heights they fly past. We crane our necks to gaze at some



1. MISSION RANGE - FLATHEAD RESERVATION, MONTANA.
2. ON THE COEUR D'ALENE BRANCH. 3. EAGLE BUTTE AND YELLOWSTONE RIVER, MONTANA.
4. ALONG THE BITTER ROOT RIVER. 5. SKIRTING THE BITTER ROOT RIVER.

riven rock high in air, or admire the deep green, pikelike trees that in solid phalanxes line the slopes, only to again drop them to admire the silvery river as it winds through the cañon beside us.

When Missoula is reached we suddenly burst from the pent-up cañon out into the broad light and day of a charming valley. Away to the south the heavy fringe of green betokens the Bitter Root River flowing toward us. Over beyond and high above, keeping faithful vigil over the valley, rises Lolo Peak, a clear-cut monolith. Toward the west we can see another nipple mountain distinctly clear among an array of its fellows. We

shall again see this graceful cone from the north and nearer to us. To the north the pine-trimmed giants rise in terraces that wall in com-



NEAR FORT
MISSOULA.

pletely the beautiful valley. Toward the west those familiar with the topography can discern the pass or notch in the mountains through which we shall soon make our way.

Slowly our long train is pulled mountainward by two huge locomotives, after we leave Missoula. Hither and thither, this way and that, now clinging to an excavated bluff, now shooting across a fill, we go. For a good part of the time we can see the steeds of iron at the head of our train as they pant and groan in their prodigious efforts to reach the summit.

Crossing Marent Gulch on a steel trestle of gracefulness and strength, the notch in the mountains is soon reached. A stop, one engine uncoupled and run on to a side track, and then we start on a long down grade. The gulch widens, the swift-moving train rushes out into open country and whirls down the grade, revealing each moment an expanding and increasingly interesting scene. Cattle and horses, blanketed Indians, cabins and smoke-begrimmed tepees swing into view. Over at the base of the mountains—the grand old Mission Range—the Flathead Indian Agency is seen. The Jocko River is reached; soon it becomes the Flathead, and ere long we know it as Clark Fork and admire the wide, swift river as it winds beside us to Lake Pend d'Oreille.

The Clark Fork Valley is not a wide one, nor is it as yet thickly settled,

It is a picturesque valley, a fertile one, full of interest to the traveler. For mile after mile we hug the shores of the stream. We note the cross gorge through which the Missoula River cuts across the range, admire that finely chiseled peak we saw in the distance at Missoula, now rearing itself near at hand, and in delight gaze upon the old, old mountains, rough, craggy, timbered, and gorge-eaten.

Near Paradise the character of the valley is such that the significance of this name will be well understood. The mountains, bold, grim, and cut by lateral cañons, rise high above. Below there the valley narrows, the mountains crowd together in sheer, scarped faces, wild and irregular, with a talus of granulated fragments of rock. At Plains the valley again expands. This alternate contraction and expansion of mountain and valley continues. At some points the effects are very impressive.

Thompson Falls is in the midst of scenes somewhat contradictory in character. The lofty heights again retreating, the valley resolves itself into alternate parklike spots and straggling patches of evergreen trees. The river, however, is a noisy, tumbling stream, finally plunging over the falls, which can for an instant be seen from the train, and afford a spectacle well worth seeing.

Near Heron, above Cabinet Gorge — which is a picturesque spot, and should on no account be passed unseen — on the side of the river farthest from the track, the range rises in long, timbered flanks surmounted by scalped crests, forming a fine view. At another place a remarkable exposure of rocks at the summit of the bluffs startlingly resembles the ruins of ancient castles.



HELL GATE CAÑON,
LOOKING EAST.

Crossing the Idaho line, we soon skirt the shores of Lake Pend d'Oreille, one of the most beautiful lakes in the West.

It rests us. Mountains and river, river and mountains—we have seen them for long hours, and though we love them, have admired them, we rejoice to see the river lose itself and the mountains draw back, and in their places have this large, slumberous, hazy, beautiful lake, that soothes

YAKIMA CAÑON
AND RIVER.

and throws about us a restful calm. For a time after leaving Hope, we skirt its shores and obtain fleeting, elusive glimpses of it, lethargic and lazy.

Then our course takes us away from it across the Spokane plain.

Many miles southwestward from Spokane the valley of the Yakima River is reached. It is a river in a thirsty land. On each side of the valley the brown volcanic hills rise with no sign of a tree on them. The river itself is a clear, swift running stream, pleasant to gaze upon.

It derives interest also from its value as an economical factor from an irrigation standpoint.

Between North Yakima and Ellensburg the river flows through the Yakima Cañon, and the railway follows the river. The cañon is cut through the lava, and it affords an interesting study for those who delight in volcanic geology. Beyond the cañon there is a wide expansion of the valley, known as Kittitas Valley. It is a large and beautiful meadow valley at the eastern base of the Cascades.

From Ellensburg the train continues alongside the Yakima River until well into the mountain range.

The Cascades are vastly different from the Rockies. The former are very heavily timbered and deeply gorged, and as the train climbs them the traveler gazes out upon a wilderness of peaks and ravines. Below, he peers into a wild, tangled chasm; above, the mountains climb higher and higher. Mountain climbing among the Cascades means hard, hard work, as can be seen at a glance.

After the summit of the Cascades is passed, through the Stampede Tunnel, the road follows the windings of the Green River, a small but exceedingly picturesque trout stream, until practically clear of the mountains.

About halfway between Tacoma and the Columbia River

LAKE PEND D'OREILLE, FROM HOPE, IDAHO.
Altitude, 2,062 feet.

the valley of the Cowlitz is entered. This stream is of glacial origin and has its sources in the glaciers on Mount Rainier. The railway follows it to the Columbia River. At Kalama the entire train is run on to a large ferryboat and transferred to the opposite side of the Columbia River, here wide and deep. The transfer requires about twenty minutes.

The valleys of the Columbia and Willamette are then followed to Portland.

In this 1,000 miles of travel along historic waterways, four of the largest rivers of this country are followed for greater or lesser distances, and of these four, three—the Mississippi, Missouri, and Columbia—are among the largest rivers of the continent.

A study of these streams would prove interesting, but that is foreign to the purposes of this chapter.



GA-SA-GOG-SQUA-JA-MAI-GOG SA-GA-AI-GAU → that is one way the Ojibway (Chippewa) puts it. We say, simply, Leech Lake. Our one-syllabled "Leech" becomes seven syllables in the Ojibway tongue.

That, however, is neither here nor there ; it is the same lake in each case, the same large, shore-timbered, beautiful water, with the birch-bark canoes of the noble, untutored Ojibway Indian dancing over it in storm and calm. Untutored, did I write? Well, possibly so, but in at least a few instances we shall have to modify that, as we shall see farther along.

It is still pretty nearly a primeval wilderness about Leech Lake, as it was 100 years ago when the Ojibway and the Sioux—or the Dakotah—their bitter enemies, were each striving to annihilate the other. It is but recently that the logging camp and railway have invaded the region. Now the sport-loving man, from Chicago say, can, within twenty-four hours, transfer himself from his boxlike office, fifteen stories above the street, to a clean, cool, white tent, set up among the "murmuring pines and the hemlocks" near Walker, on the western arm of the lake. From turmoil to quiet, from city to country, from filthy dust to clean beach sand, from nervous strain to healthful relaxation, from business scheming to bass fishing—these are some of the changes that come to him who is wise enough to take time by the forelock, and repair the wastage of the nineteenth century wear and tear by going to Mother Nature for solace and cure.

Leech Lake is in Northern-Central Minnesota, is nearly 1,300 feet above sea level, and is a part of the Leech Lake Indian Reservation. It is the third largest lake in the State, exclusive of Lake of the Woods.

It is easily reached by the Northern



A CANOE LOAD OF INDIANS.

Pacific and the Brainerd & Northern Minnesota railways, connection being made at Brainerd.

Walker, the terminus of the latter railway, is a new and thriving town situated upon the lower part of the western arm of the lake. It is well supplied with hotels that make a specialty of catering to summer boarders and tourists.

The Hotel Pameda is a new brick-veneered, electric-lighted, steam-heated hotel, thoroughly modern in its conveniences.

There are several steam craft on the lake which can be hired for picnics, special excursions, etc. Occasional trips are made by some of these steamers about the lake. There are also many small boats suitable for rowing and fishing to be found.

As is the case with most localities roamed by the Indian, there are many legends and traditions connect-

ed with the region. I give one relating to the name of the lake, as told by White Hair, an

1. AN INDIAN GRAVE ON GOOSE ISLAND.

2. SUMMER BARK HOUSE.

3. A DAY IN THE WOODS.

4. THE RIPPLED WATERS.



NORTHERN PACIFIC RAILWAY.

Ojibway chief. At the time of the occurrence the Leech Lake country was in the possession of the Sioux Indians. An Ojibway Indian, traveling far from his own tepee, had penetrated this land of the Sioux and at length stepped from the forest upon the shore of the lake. Just then he saw an immense leech, — as large as an “Ah-pah-quah,” a birch-bark covering for tepees — three or four feet wide, and so long that the entire leech could not be seen as it swam through the water. The Indian exclaimed, “Kah-sug-quah-je-may-caug!” — the place of the leech — and thus the lake derived its name. The similarity of this word with that at the beginning of the chapter will be noted.

The lake is picturesquely irregular in its shore line, aggregating thus more than 500 miles. It is nearly forty miles in length and sixteen or seventeen miles wide, counting extremes.

The western arm of the lake is a good-sized body of water in itself. It is connected with the larger lake by a narrow channel. Along the northern shore of this channel are several settlements of Indians where they live in primitive conditions still. Their novel bark tepees, wigwams, or wikiups, as one chooses to call them, are in plain sight from the boat, and a stop can be made to visit them if one is so disposed.

The main lake is indeed a fine body of water. There are three large islands, one of which, Bear Island, holds an encampment of Ojibways, thus far but little influenced by civilization. A favorite excursion from Walker is by steamer to Bear Island to see these aborigines.

The main lake extends northward in two large arms. Between them is a high, prominent point, with a graceful slope upon all sides to the water. Mah-shah-wah-see was an Indian traveler. In the eighteenth century

he paddled his canoe up the Mississippi and Leech Lake rivers, on a journey from the Great Lakes to the Leech Lake country. When he reached the point mentioned he saw the tail of a plunging otter, and from that circumstance he named the point Otter Tail Point, and thus



it remains to the present day. Mah-shah-wah-see also named the islands: Goose Island, near Otter Tail Point, because the wild geese nested there; Pelican Island, from the number of shay-day-min-is (pelicans) he saw; Bear Island—Mah-ko-min-is—because many bears were found there.

One day I hired a steam launch and coasted about the lake. First we went up to the extremity of the western arm of the lake. Thence we

steamed up a narrow winding river, mile after mile, between swamp lands, to an isolated, beautiful body of water—Steamboat Lake. On its shores we found another birch-bark tepee encampment of Indians. On the swamp lands along the river were scaffolds from two to five feet high, on which were cocks of hay cut from the swamps by the Indians, for sale to the lumbermen for winter forage for their horses.



HOTEL
PAMEDA.

Returning, we threaded the narrow passage to the main lake, shot out across the water past Goose Island, and, rounding Otter Tail Point, landed to replenish our fuel supply.

An old Indian and his squaw slowly paddled by and we greeted each other in friendly fashion. Then we climbed to the top of the point. A large portion of it was bare, save for a large number of red sumach bushes and a little undergrowth of grass.

Tradition says that on this point was fought a long, bitter, and bloody battle between the Ojibways and the Sioux. From the blood-soaked ground sprang the sumach bushes, and to this day their flaming banners commemorate the awful carnage of that time.

An interesting trip is that from Walker to the Agency. There the improved Indian is seen. Two schools show kindergarten and regular school work equal to that found in the city schools. Comfortable log huts and stores replace the old-fashioned birch-bark structures. The Indians dress in civilized attire, attend a church presided over by an Indian Episcopalian rector, a man of high standing among Minnesota Episcopalians, and show redemption from barbarism.

Most astonishing of all things the Indian girls and women make fine laces. Miss Colby, their instructor from the East, has reason to be proud of the proficiency of her pupils. A short time before my visit they had forwarded to New York a quantity of lace which was sold for \$6,000. A peculiar fact about the lacemaking is that almost all of it is made to fill special orders. Some of it may be found in the residences of New York's "400."

The Indian girls receive 10 cents an hour for their labor and learn the art in reasonably short time. They are kept constantly employed and make handkerchiefs, lace curtains, doilies, collars, dress fronts, etc. Miss Colby prepares the patterns and the girls grasp the meaning of them quickly.

The region about Leech Lake is almost a virgin fishing ground. Besides Leech Lake itself there are many other lakes hard by that abound with fish. Bass, pickerel, lake trout, perch, and muskallonge will afford abundant opportunity for the angler to enjoy himself. There are many muskallonge in Leech Lake, and the year 1897 saw some large specimens of this fish landed.

Woman Lake, southeast from Leech Lake, reached from Pine River, is also an attractive spot.

Both feathered and large game are found in this region during the season.

For the person who earnestly delights in an out-of-door life of a week or a month, this region, with its superb climate and health-giving atmosphere, its satisfactory accommodations, and hunting and fishing privileges, can not be too highly recommended.



1. DUCKING—
HAULING
THEM IN.
2. THE OLD MAN
AND HIS
SQUAW
AFLOAT.



3. LACE-MAKERS
AT THE
AGENCY.
4. THE
NARROWS.
5. THE AGENCY
FROM THE LAKE.





THE AGRICULTURAL NORTHWEST



WILLIAM H. SEWARD bids fair to go down in history as a prophet not without honor in his own country. His purchase of Alaska in 1867, and his faith in the future of that region and the ridicule which resulted therefrom, are fresh in the minds of many at the present day when Alaska is surprising the world by the richness of its varied resources. But in 1860 Seward made a prediction that has now generally faded from the recollection of mankind. It was made in the city of St. Paul, Minn., then a place of about 10,000 souls, while Minnesota had a population of less than 200,000. Now St. Paul numbers between 150,000 and 200,000 persons—as many as the State then contained—and those who count Minnesota as their home probably exceed 1,500,000. His prediction was based upon his travels in the Northwest and related to that section. In part it was as follows: “Here is the place, the central place, where the agriculture of the richest region of North America must pour out its tributes to the whole world.” The quotation is the kernel of a rather lengthy address upon the subject indicated, and, made thirty-seven years ago, evinces a wonderful far-sightedness even in an astute statesman such as Seward was.

It is my purpose in this chapter to enlarge somewhat upon the development of the Northwest—which has even yet scarcely begun, and which is rapidly verifying Seward's prophecy.

The years of the fat kine have truly been followed by years of the lean kine, commercially speaking, but we seem at last to have reached and emerged from the trough of depression, and to have made some progress up the opposite side of the hill of prosperity. It seems to be one of the unwritten laws of trade, that after such periods of stagnation as that through which we have been passing, there comes a great

emigration from the congested cities to the open country. People flock from the city to the farm.

This movement has already begun and no section of the United States will derive more benefit from it and receive from the older-settled portions of our domain greater accessions to its population than will the broad Northwest, simply because no other portion of the land deserves more when once the Northwest is studied and understood. Between the banks of the Mississippi River and the shores of Lake Superior, and the waters of the Pacific Ocean are found a variety of climate, topography, elevation, temperature and soil found nowhere else in our country.

I shall divide the region mentioned into three zones. The first stretches from the Mississippi River and Lake Superior to the Missouri River; the second, from the Missouri River to the Cascade Range; the third includes the coast country west of the Cascade Mountains.

This division is by no means a refined one, but it will answer the purposes of this discussion.

In using the word "agricultural" in the heading of this chapter, I mean it in an elastic, wide sense, and wish it to include the pastoral occupation as well.

The story of the development of the Northwest is an interesting one, and it relates, substantially, to the period of time since 1870. Between Lake Superior and the Missouri River, north of the latitude of St. Paul,

there were, practically, at that time, few settlements, and the Indians roamed at will. West of the Missouri River and extending to the barriers of the Rocky Mountains, the buffalo fed in countless herds, pursued

by the red man for his winter's supply of furs and food.



A1 DEERWOOD,
MINN.



SERPENT LAKE, FROM THE
ISLAND,
DEERWOOD, MINN.

Among the Rockies were a few mining camps containing some thousands of population.

West of the Rocky Mountains and east of the Cascade Range was a region destitute of settlement, but on the shores of the Pacific in Oregon, and on Puget Sound in Washington, there were numerous settlements of hardy pioneers enjoying existence where the balmy breezes and fecund soil of the coast made life worth the living.

The Northern Pacific Railway Company began construction in 1870, and a comparison showing the population of this region then and now will be instructive.

The population given for North Dakota for 1870 includes, of course, that for South Dakota, as both were at that time embraced under one territorial government, Dakota. Figures given are in round numbers only:

STATE.	Population, 1870, per 9th Census.	Population, 1890, per 11th Census.	Population, 1898, Approximate.
Minnesota.....	440,000	1,302,000	1,500,000
North Dakota.....	14,000	183,000	225,000
Montana.....	20,000	132,000	175,000
Idaho.....	15,000	84,000	100,000
Washington.....	24,000	349,000	450,000
Oregon.....	91,000	314,000	375,000
Total.....	604,000	2,364,000	2,825,000

It will thus be seen, that the country had really to be penetrated by the railway before humanity went up to possess the land and before there was any business there for the railway itself.

No. 1 hard wheat, which now cuts such a figure in the world's food supply, was then unknown.

New lands and new soil, like new acquaintances, require time and trials before they are understood and known. It was so with this region. The whole country was decried, but as settlers gradually arrived, became conversant with the problems involved and successfully mastered them, a change took place. When it became known, for instance, that the Red River Valley could produce the finest wheat in the world, that fact settled at once and conclusively the question as to whether that immense area would ever teem with a numerous population. When later it became evident that Eastern Montana was fitted for successful stock-raising, ranchmen gradually settled along the protected streams, and their flocks and herds became visible on the hills and plains.

THE EASTERN ZONE.

What I have denominated the eastern zone — as indeed, is true of each of the zones mentioned — is a region of much variety as regards lands,

elevation, etc. The one thing which may be noted as a constant here is the fact that the rainfall is sufficient to mature crops.

The eastern portion of this section includes the lands in Minnesota, and they lie almost wholly in the beautiful Park Region. The country is well settled, has numerous towns that are progressive and growing, and



THRESHING
SCENE
NEAR GRAFTON.

is convenient to good markets.

Aitkin, Staples, Wadena, Perham, Detroit, Brainerd, Lake Park, Glyndon, and Moorhead are centers of population, some of them being noted as summer resorts and for fish-

ing and hunting. The lands in this region are all good, varying somewhat in quality, and lakes and streams sparkle over the broad expanse like diamonds on the floor of a jeweler's window. The country owes its form and character to glacial action, is decidedly rolling, and is well, in many places densely, timbered. Pine timber in the extreme east gives place to deciduous trees farther



PLOWING,
REAPING,
TAKING HOME THE HAY,
IN THE
RED RIVER
VALLEY.



RED RIVER
VALLEY
FARM HOME
IN 1895.



SAME IN 1885.



west. The soils are rich and well drained. The lands in the vicinity of Aitkin and Deerwood are specially suited to small fruits and market gardening.

Scattered bunches of timber afford protection from winds, and the settler has a choice of markets between Duluth and

Superior on the one hand and St. Paul and Minneapolis on the other. The expansion of the iron mining industry on the Mesabi and Vermillion ranges north of Duluth and Superior, and in the Gogebic region east of Ashland, Wis.—the easternmost point reached by the Northern Pacific—enlarge

the markets for these particular productions. The timber camps in the Wisconsin and Minnesota pineries north of the line of the Northern Pacific also afford a market for vegetables, fruits, flour, oats, forage, butter, eggs, etc. Logging and other railways push northward from strategic points into these great forests.

Pushing westward from Duluth the elevation gradually increases, Brainerd being about 1,200 feet above the level of the sea, and Detroit, near the rim which divides the Park Region from the Red River Valley, being nearly 1,400 feet above sea level. This entire region is emphatically a garden spot. In proportion to the changes in soil it is better adapted to the cultivation of certain products. Wheat, oats, corn, potatoes, the grasses, etc., are common to every portion of it. As we progress westward we find the dairying interest increases in importance. The same is true of stock-raising in general. The recent high standard obtained in London, England, by Minnesota butter in competition with that article from all parts of the world, shows what can be done by the thorough and intelligent Minnesota farmer and dairyman. The splendid grasses, the pure water of the lakes, and the bracing, non-malarial atmosphere are prime elements in this.

The recent establishment of Swift & Co., the packers, at South St. Paul, indicates the value placed by experts upon the quality and quantity of beef, mutton, and pork that is being and will be raised in the Northwest.

The majority of lakes in Minnesota are well stocked with fish. Bass of several varieties, pike, pickerel, white fish, muskallonge, and perch predominate. Prairie chickens, geese, ducks, pheasants, etc., are usually plentiful in this region during the season, and moose and deer are found in the depths of the forests. The State laws regarding the protection of game are very stringent and are rigorously enforced.

Leaving the Lake Park Region with its beautiful lakes, rolling hills, and fertile fields, one is borne in swiftly rolling car over a country far different in appearance. Farther than the eye can see, stretch vast, scarcely undulating plains. In early summer they are clothed in vivid green; in early fall, robed in golden yellow; in late autumn, a vast checkerboard of black and green and brown — plowed fields, green swales, the stubble of harvest. It is the famed Red River Valley. It is as flat as the Park Region is rolling. It is an empire in itself. Year after year it produces those enormous crops of hard wheat which, from the elevators in Duluth and Superior, are sent



ON THE TRAIL HOMEWARD BOUND.



PYRAMID PARK (BAD LANDS), SHOWING "BALANCED ROCK" IN CENTER OF VIEW IN DISTANCE.

A CAMP IN THE COTTONWOODS, PYRAMID PARK.



forth in mammoth ships to supply the world with bread.

The rise and progress of this valley, from the standpoint of civilization, borders on the romantic.

When the iron horse first broke the silence of its solitudes it was a buffalo feeding and Indian hunting ground. Traffic between the frontier towns from St. Paul to Winnipeg, or Fort Garry, in Manitoba, was carried on in a peculiar two-wheeled cart, of

which there were thousands in use. The old cart and buffalo trails are now succeeded by steel trails. The valley is supplied with rail and telegraph lines, both lengthwise and crosswise.

The valley is quite uniform in character and the Red River flows, approximately, through the center northward to Lake Winnipeg. The river being the divisional line between Minnesota and North Dakota, it follows that the valley lies about equally in the two States.

On account of the great adaptability of the soil for wheat-raising, this cereal has for years been the staple crop. But a change is in progress. Diversified farming is increasingly practiced. Stock-raising and dairying are becoming important departments of the larger and better farms. The valley is not timbered except immediately along the streams, and this lack is being partially supplied by planted groves, which serve also the purpose of wind-breaks.



RAILWAY STATION,
MILES CITY,
MONT.

It has been popularly supposed that the so-called "corn belt" found its northern limit at about the Iowa-Minnesota State line. It now seems as if there might not be any northern limit. It is fairly possible that by careful selection and cultivation this grain may gradually become so acclimatized as to admit of the indefinite extension of its line of north latitude. In this connection a table showing the production of wheat and corn in Minnesota and North Dakota for 1870, 1890, and 1897 may prove instructive:

STATE.	WHEAT BUSHELS.			CORN—BUSHELS.		
	1870 9th Census.	1890 11th Census.	1897 Approximate	1870 9th Census.	1890 11th Census.	1897 Approximate
Minnesota	18,800,000	52,300,000	59,900,000	4,700,000	24,700,000	25,800,000
N. Dakota	170,000	26,403,000	28,350,000	133,000	178,000	426,000
S. Dakota		16,541,000			13,152,000	

It should be remarked that the figures for 1870 as applied to North Dakota include also what is now South Dakota, and the probabilities are that nearly if not quite all the yield of both wheat and corn for that year came from that portion of what was then Dakota. The acreage of corn in Minnesota and North Dakota is increasing yearly, and it is also expanding latitudinally. *Pari passu* the live-stock industry also grows.



BIG
HORN TUNNEL,
YELLOWSTONE
VALLEY,
MONT.



1. BOZEMAN, MONT.

The successful cultivation of corn in this region, and its rapid increase, speak more forcibly than can words of the tremendous possibilities of this region.



2. THRESHING SCENE NEAR BOZEMAN.

The Dent and Flint varieties of corn do as well here as in the East and South. They adapt themselves to the cool climate and short seasons and usually are fully matured before frost comes, or else become so hardy that they simply ignore Jack Frost's presence. It may here be stated that the Ojibway Indians have cultivated corn for 100 years on the shores of Red Lake, Minn., in the 48th parallel of north latitude.



3. MAIN ST., BOZEMAN.

West of the Red River Valley are the Sheyenne and James River valleys, flowing for the most part from north to south, parallel to each other. The country traversed by these streams is an undulating one, well drained and splendidly suited to diversified farming. As we proceed westward from the Red River Valley we find that



SPIRE ROCK IN BRIDGER CAÑON, NEAR BOZEMAN.

stock-raising has taken a firm foothold. Sheep-raising particularly has been taken up, not necessarily in large flocks, but many farmers have from

six to one hundred, and from these are able to supply their own needs for domestic yarns, clothing, etc. A woolen mill at Grand Forks runs day and night on domestic work, and



BOZEMAN OPERA HOUSE.

has been so successful that other mills are projected. Westward still to the Missouri River lies the Coteau country. This section is hilly prairie, with few streams but many depressions filled with ponds and lakes. It covers an area of, say, 300 miles from north to south by from 30 to 45 miles in width. This is preëminently a sheep and cattle country, but in most of the depressions abundant crops can be grown.

The Coteau country is of course more sparsely settled than that to the eastward, but as the stock-growing industry increases, this part of

North Dakota will advance.



THE GREEN
MOUNTAIN
MINE,
BUTTE, MONT.

the northern part of the valley the German Baptists, or Dunkards, from Ohio, Indiana, Pennsylvania, etc., have planted colonies and are prospering. One of the sisters who recently moved there expressed the general sentiment regarding the country thus: "It seems a sin that there should be such a grand country and we not know anything about it." The Mennonites also have flourishing settlements in the State.

The regions mentioned are cut in twain by the Northern Pacific. Upon each side of the road the land stretches in great, motionless waves into Iowa and South Dakota on the south and to Manitoba on the north. Throughout their length and breadth the steel rails glisten, and cities, towns, and hamlets dot the landscape. Some of these have been mentioned. Others are Minneapolis, the great city of flouring and lumber mills; Anoka, St. Cloud, and Little Falls on the main line in the Mississippi Valley; Clitheral, Battle Lake, Fergus Falls, Breckenridge, and Wahpeton on a branch line from Wadena which taps the Park Region to the south of the main line; Casselton, Valley City, Jamestown, and Bismarck on the main route west of Fargo, the latter the most important place in the southern Red River Valley. The main line of the Northern Pacific begins at St. Paul, the capital of Minnesota, and the company's through trains start from that point. Connection is made at Staples with trains to and from the head of the Great Lakes. Just west of Detroit, at Winnipeg Junction, the Manitoba branch diverges, passing through Crookston, Grand Forks, Grafton, Drayton, and Pembina, to Winnipeg, the capital of Manitoba, and traversing the Red River Valley. From Fargo a

branch line taps the Sheyenne and James River valleys southward transversely, and at Jamestown the valley of the James is longitudinally opened by branch lines both north and south. It will, therefore, be seen that ample transportation facilities exist in the so-called eastern zone, especially as two or three other, but shorter, feeder lines leave the main line at Little Falls, Sanborn, and La Moure.



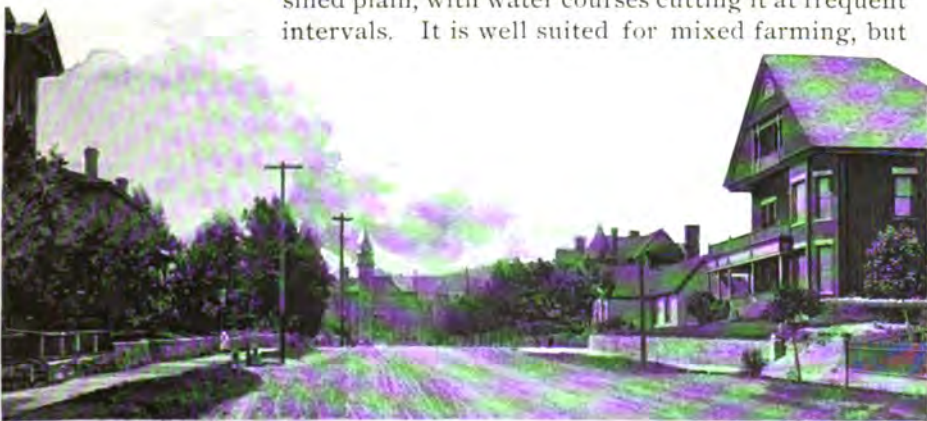
LIBRARY BUILDING,
HELENA, MONT.

THE MIDDLE ZONE.

In adopting the Missouri River as the line between the eastern and middle zones, based upon the lack of rainfall west of the river, I did so somewhat arbitrarily and for convenience sake. As a matter of fact there is but slight difference in this respect between the western portion of the eastern zone and the eastern part of the middle zone. The counties that border the Missouri River on the west have sufficient rainfall to mature crops without irrigation except in a year of excessive dryness, such as comes impartially to all portions of our country at times. It is not until we reach the higher plateau country at Dickinson and beyond that the deficiency of precipitation becomes specially noticeable.

This zone, extending from the Missouri River to the Cascade Range, covers a wide scope of country, including large and important valleys, wide plains, prodigious mountains. It embraces also a wide range in climate, and, naturally, some minor differences in rainfall. As a general proposition, however, successful agriculture within this area is dependent upon irrigation.

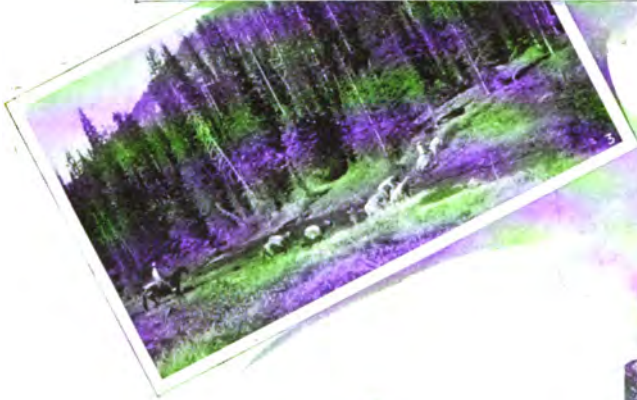
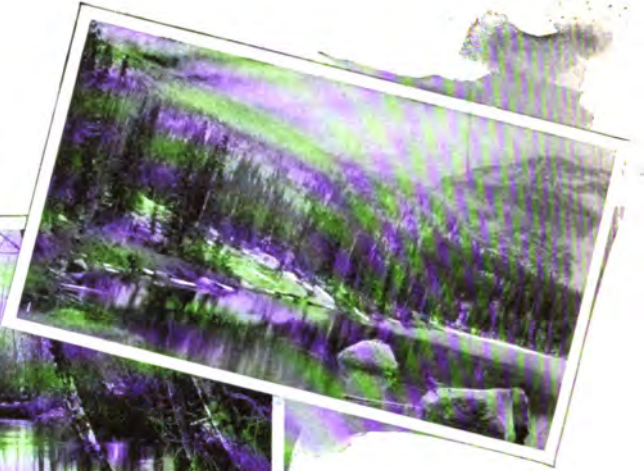
Immediately west of the Missouri River the country is a rolling, diversified plain, with water courses cutting it at frequent intervals. It is well suited for mixed farming, but



IN HELENA, MONT.

IN THE BITTER ROOT RANGE.

1. COQUINA LAKE.
2. WHERE THE TROUT HIDE.
3. ON THE TRAIL.
4. MARY STUART FALLS, EAST FORK MOOSE CREEK.



TROUTING NEAR MISSOULA.

will undoubtedly become more and more noted as a grazing country. This is true of the entire region west to the Yellowstone Valley. West of the river, also, the temperature ranges a little higher than to the east, and spring and summer come a little earlier. This brings us to a peculiarity of the Northwestern climate apparently at variance with nature.

In the Northwest one hears much of the "Chinook winds," or the "Chinook." Flowing across the Pacific Ocean from the shores of Japan is a warm ocean current, the Kuro Siwo, comparable to the Gulf Stream of the Atlantic Ocean. This flows northeasterly from Japan to the Aleutian Islands, Alaska, is deflected to the southeast and south and strikes the Pacific Coast near the mouth of the Columbia River, whence, after a southerly course, it again flows out into the ocean. This stream ameliorates what would otherwise be a harsh climate. The North Pacific Coast climate is very warm and moist and the winds from the warm water of the ocean that rise above the Cascades and project themselves inland, modify and temper the otherwise terribly frigid climate of Washington, Idaho, Montana, and North Dakota. As the Chinook's breath reaches eastward it of course gradually loses its warmth, and its effects are probably not much felt east of the region between Bismarck and Jamestown.

Thus, as one progresses westward from North Dakota, he experiences increasingly the warmth-giving properties of the Chinook. I myself have gone to bed at night in Missoula, Mont., when the mountains were white with snow, and upon rising in the morning have found them brown as in autumn—the work of a Chinook during the night.

Leaving this rolling country of North Dakota we descend into one of the strangest, most weird spots found within the United States.

In the old days the French *voyageurs* called it *Mauvaises terres pour traverser*, meaning, "bad lands to travel through." This meaning became perverted, and it has been called, for convenience' sake, the "Bad Lands."

This section is now known as cause of the remarkable resemblance to other figures found there. The first, on one side of the revealed a picture of what appears to be the ruins of an old castle far away on the horizon; the next instant there will burst into view on the other side a grotesque medley of rock-forms resembling animals, fantas-

Pyramid Park. This is be-
 lances to architectural and
 scene at times baffles descrip-
 car will be



IN THE ROCKIES,
 NEAR MULLAN
 TUNNEL.



tic figures, and what not. So realistic are some of these that names have been applied to many of the objects. One who has never seen them can really form any idea of the multiform effects and the delicate carving produced by rain-sculpture, as it is called. We are hemmed in and almost overwhelmed by an endless array of parti-colored hills and bluffs of such strange appearance and configuration, that one is tempted to believe that by digging, the remains of an ancient civilization might easily be uncovered.

The field is one in which the imagination has unlimited opportunity to exercise itself, to the great delight of its possessor.

But it is not a land of painted cliffs and buttes alone. All in all it is perhaps the best stock range in the West. The hills, bluffs, and plateaus are covered with a peculiar blue grass that is very nutritious. The many ravines and abrupt banks afford splendid protection from storms, and along the few streams there are groves of cottonwoods, suitable for cabins, fencing, and fuel. This region extends well across the Montana line and hundreds of thousands of cattle range over it.

Another feature of this country ought now be referred to. A wide area extending west from the Missouri River and across the Pyramid Park or Bad Lands region is underlaid with lignite coal. It is of good quality, and is rapidly coming into general use among the farmers for fuel. It is to a certain extent the burning of some of these beds that gives to Pyramid Park its peculiar figures and rich coloring. This coal is found in veins from four to twenty feet thick, is easily mined and is cheap. It

is sold at railway stations at from \$2 to \$4 per ton.

While, of course, inferior to bituminous coal, it is good for domestic uses and fills a want in a country which is practically treeless. Lignite is mined at many points for commercial use, and a great many

settlers have mines on their own premises, where a little work with pick and shovel procures a wagon load of it. Lignite—wood coal—is wood just changing to coal, in the first stages of conversion, and still retains the woody texture and appearance.

As the train winds westward from Mandan, on the west



1. IRRIGATED RANCH
IN HELLGATE CAÑON.

2. CATTLE HERD,
YELLOWSTONE VALLEY.



LIEUT. MOSS' BICYCLE CORPS
OF COLORED TROOPS, U. S. A.
OF FT. MISSOULA.

1. BICYCLE CORPS IN
ALIGNMENT.
2. BICYCLE CORPS STARTING
FOR ST. LOUIS.
3. ON THE MARCH.



4. A MONTANA NURSERY.
5. DAIRYING ON THE
BLACK FOOT.

bank of the Missouri River, it follows the Heart River for a considerable distance and then winds across the elevated country to beyond Dickinson, where the descent to Medora on the Little Missouri in the heart of Pyramid Park, begins. Wheat, corn, and oat fields, vegetable gardens, and prosperous appearing towns at frequent intervals attest the fact that settlers are moving in. Many of these towns represent the colonization idea, having been established by colonists, some from the States, others from Russia.



MISSOULA RIVER,
MONT.

After the Pyramid Park country is left behind the railroad crosses an elevated plateau grazed by cattle, and then follows the windings of Glendive Creek to the town of Glendive on the Yellowstone River.

From Glendive the railway follows the Yellowstone River, one of the mightiest streams of the West, 341 miles to Livingston. This valley is a trough or big furrow plowed by the stream through an upland plain that forms the eastern part of Montana. It has just begun to play the part that

God intended it should in the agricultural economy of the Northwest. Twenty-five years hence the Yellowstone Valley will support a large population, and the waters of the great river that now run idly to the sea will be irrigating hundreds of thousands of acres of land and turning machinery in flouring mills. On each side of the valley the country is a great cattle and sheep range. Montana cattle and Montana wool are sought after in the eastern markets. When this valley shall have been placed in large part under irrigation, a

new era will have come to stock-raising. 'Tis true that crop-raising will be largely increased, but



1. WHEAT PILED FOR SHIPMENT
NEAR MOSCOW, IDAHO.

2. THRESHING OUTFIT
NEAR MOSCOW,
IDAHO.

more than this will come of it. Thousands, perhaps millions of tons of alfalfa, the forage crop *par excellence*, will be raised and the vast herds that now graze the plains the year round will then be brought into the valley in the fall and winter and fattened upon alfalfa. This particular species of forage is destined to play a very important part in the future development of the arid and semi-arid portions of the Northwest. It grows luxuriantly, requires little attention, can be cut from two to six times a season, therefore yields heavily, retains well its freshness after

cutting, and its nutritious and fattening qualities are very great. Alfalfa will also fatten hogs, is good for dairy cows, and bees make the best of honey from its blossoms. In a word it makes a wonderful all-around crop. It is only within seven or eight years that alfalfa was introduced into Montana.

While the Yellowstone Valley is as yet sparsely settled, there are a



AIR COMPRESSOR,
STANDARD MINE,
BETWEEN BURKE
AND GEM, IDAHO.

number of thriving towns that serve as supply centers and shipping depots for stock and wool interests. Including Glendive, already mentioned, Miles City, Billings, Big Timber, and Livingston are the larger towns.

At Miles City and Billings the results of irrigation are seen. From a point up the Tongue River, distant some ten or twelve miles from its mouth, a canal has been constructed which irrigates some 25,000 acres along that stream, and, near its mouth, along the Yellowstone, below Miles City. The ranches, market gardens, and small fruit farms supplied with water by this canal show the value of irrigation thereabout.

Billings, nearly 150 miles farther up the valley, boasts of irrigated fields on a still larger scale. There one will find from thirty to fifty miles of the valley under irrigation. The county of which Billings is the county seat has some 300 miles or more of irrigation canals. Other large irrigation enterprises are in prospect, some of them particularly under the



HYDRAULIC MINING.



SPOKANE,
WASH.

sponsorship of the General Government and the State of Montana. In this section of Montana there are valuable coal deposits. Southwest from Billings, on the Rocky Fork of the Yellowstone at Red Lodge, bituminous coal is mined. The coal used on the locomotives of the Northern Pacific Railway in Eastern Montana comes from these mines. At Horr, on the Yellowstone Park branch, good coking coal is mined. At other points in the mountains in this region mines have been opened and shipments of coal are constantly being made.



N. P. RY. STATION,
SPOKANE.

Leaving Livingston and the valley of the Yellowstone, the first crossing of the Rocky Mountains is made, and what is probably the most noted valley of Montana, at the present time, lies before us. This is the Gallatin Valley, of which Bozeman, the seat of the Montana Experiment Station and a place of 4,000 population, is the chief town. This valley was formerly a vast lake, which accounts for its great fertility. They have no crop failures there — irrigation prevents that. The valley is surrounded by mountains which provide an unfailing supply of water. It contains, including both valley and bench lands, about 1,000 square miles. The valley is apparently level, but it really slopes to the north, the fall being about sixty feet to the mile.

Gallatin Valley barley is noted the world over. In 1896 one firm at Bozeman shipped 14,000,000 pounds of barley to Europe. Alfalfa grows luxuriantly. In several instances three cuttings per season have averaged three tons per acre per cutting, or nine tons per acre per season.

Prof. S. M. Emery, director of the Experiment Station, in an article published in the October number of the *Montana Fruit Grower*, makes the following interesting statement :

Within ten years the valuable discovery has been made that much of the bench land does not require irrigation for crop production; the precipitation of moisture in the vicinity of the mountain ranges is much greater than at a distance of a few miles, and under the system of summer fallowing as often as each third year, it is found that winter grains can be grown most successfully without irrigation. This has materially increased the area of agricultural lands within the county, as the bench land area is more extensive than that of the valley proper.

Figures, personally compiled from crop statistical reports, obtained by correspondence with each farmer of Gallatin County for the years 1893, 1894, and 1895, show the average yield for three years to have been as follows:

	Bushels per acre.
Spring wheat	33.5
Winter wheat.....	37.9
Oats	58.1
Barley	46.3

These, by comparison with the average crops of



1. HEAD GATE OF A YAKIMA VALLEY CANAL.

2. TEN-ACRE POTATO FIELD IN THE YAKIMA VALLEY, WASHINGTON.

3. YAKIMA VALLEY, TWO MILES SOUTH-WEST OF N. YAKIMA.



the United States, are remarkable; but upon the plats of the Montana Experiment Station, located at Bozeman, Callatin County, under intensive cultivation and without the use of fertilizers, the average yield of grain for 1894 was as follows:

Spring wheat.....	41	bushels per acre.
Oats.....	82	" " "
Barley.....	52	" " "

The station farm is much inferior in quality of soil to the average Gallatin farm, and it is fair to assume that with a subdivision of our large farms and the better farming practiced in Eastern States, the average of the general crop in the county could be made to exceed that of the station farm here noted.

The great success here achieved in the culture of the grasses, clovers, and root crops, together with the short winter season, make of Gallatin County an ideal location for dairying, swine and cattle raising, and mixed husbandry in general. Fuel is cheap, coal of good quality is extensively mined in the county, selling at the mines for \$2 per ton; pine and fir wood, green or dry, can be bought in the mountains, ready to load on to the wagon, for \$1 per cord. Fencing material, poles and posts are abundant, and to be had on the public domain for cutting and hauling.



AN IDEAL
FARM HOME,
WASHINGTON

There are two routes from the Gallatin Valley, both across the mountains, westward.

The main line of railway follows the Missouri River — the headwaters — northward to Helena, the capital of the State, thence crossing the Rockies again, follows a series of streams, of which the Hellgate is the principal one, to Missoula, at the foot of the Bitter Root Valley. The other route crosses the mountains to Butte, the greatest silver camp of the world, thence follows the valley of the Deer Lodge River to Garrison, where the main line is reached. The scenery by either route is fine, particularly so when crossing the mountains and when riding through the Hellgate Cañon. Helena and Butte are both interesting cities, very unlike, and can each be seen to advantage from the train. Via the Helena route the summit of the Rockies is crossed through the Mullan Tunnel, 3,850 feet in length.

The Hellgate Cañon and valley is well settled by ranchmen.

Missoula is situated at the foot of one of the grandest valleys in the West — the Bitter Root. The valley is the old camping ground, the home



APPROACHING
TUNNEL NO. 2,
CASCADE MTS.

of the Selish, or so-called Flathead Indians. It lies along the eastern slope of the Bitter Root Mountains, being protected by the range from chilling western blasts. A large number of small streams course from out the mountains, across the western side

particularly, debouching into the Bitter Root River, which flows longitudinally through the valley to the

north. These various streams render irrigation easy and comparatively inexpensive. The western part of the valley slopes rapidly to the river, and from its protected nature is especially adapted to fruit-raising. With the climate, elevation, etc., found here, it is not improbable that this valley will eventually produce the finest winter apples to be found in the West. The eastern side is a little less sloping and is better adapted to grain and grasses than to fruits.

After the junction of the Hellgate and Bitter Root rivers the stream is known as the Missoula River. It flows northwestward for many miles through the mountains, and finally cuts squarely across the range and joins the Pend d'Oreille River near Paradise. The stream then again changes name to Clark Fork of the Columbia.

The valley of the Missoula is one of marked fertility and also of rare scenic beauty. The junction of the Bitter Root and Hellgate valleys is a large, wide, level plain surrounded by mountains. North of Missoula, among the mountains, are small and beautiful valleys of not too great elevation to permit success-



COMMENCE-
MENT BAY,
TACOMA,
WASH.



TACOMA,
WASH.

TACOMA HARBOR
AND SOUND.



ful cultivation of fruits, etc. Throughout this locality much experimental work has been done in horticulture. The results are seen in large nurseries that will supply the State with a native stock of hardy, acclimatized trees, and in a rapid increase of orchard planting in the valleys. The

upper part of the Missoula River Valley is well suited to grain, and heavy crops of cereals are raised there. This

valley is well timbered also with coniferous trees. Along the lower valley the mountains contain minerals and the mining interests are growing in importance.

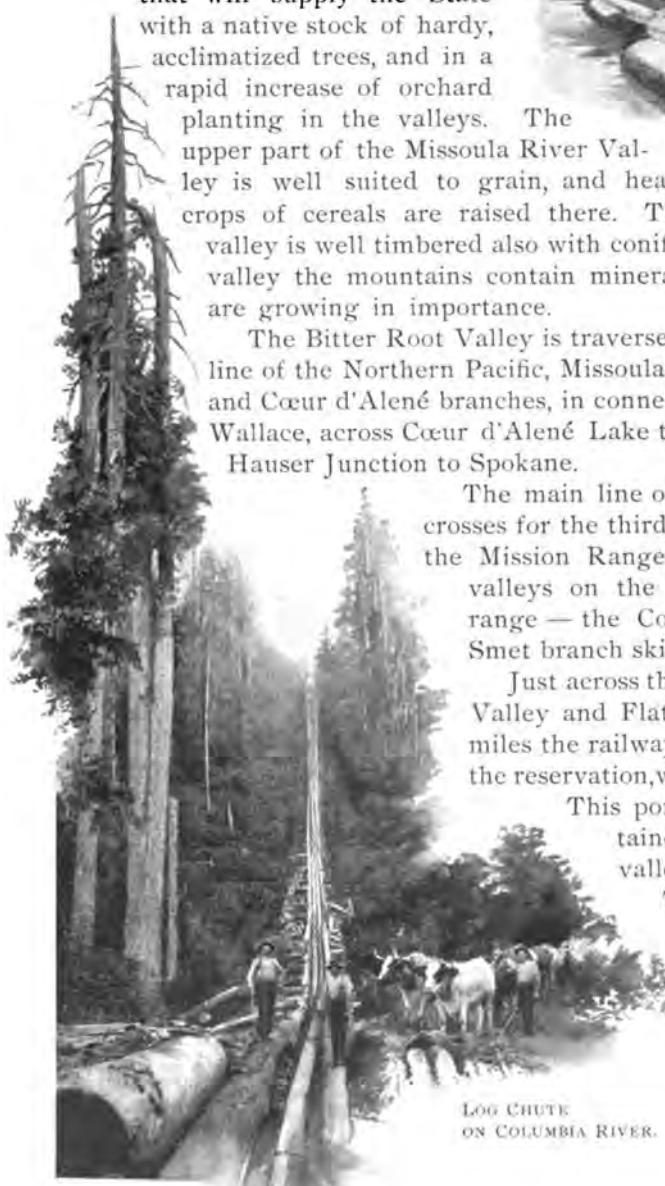
The Bitter Root Valley is traversed for fifty miles by a branch line of the Northern Pacific, Missoula to Grantsdale. The De Smet and Cœur d'Alené branches, in connection, extend from Missoula to Wallace, across Cœur d'Alené Lake to Cœur d'Alené City and via Hauser Junction to Spokane.

The main line of railway, west from Missoula, crosses for the third time an arm of the Rockies, the Mission Range, and then follows a chain of valleys on the north side of the mountain range — the Cœur d'Alené — which the De Smet branch skirts on the south side.

Just across the Mission Range are the Jocko Valley and Flathead Reservation. For some miles the railway follows the southern line of the reservation, which stretches far to the north.

This portion of Montana is a mountainous one, with the usual inclosed valleys of such regions.

The Clark Fork Valley, the longest and most important one, which the railway follows west from the Mission Range, is of about an average elevation of 2,000 feet above the sea level and



LOG CHUTE
ON COLUMBIA RIVER.



LOGGING ON
PUGET SOUND.

very fertile. The mountain slopes are heavily timbered and many streams flow into the river from the gorges leading back into the depths of the ranges. At a few places there is little cultivable land; at some points there are wide areas.

The valley is gradually becoming populated and the towns bear evidences of prosperity.

For the lover of fine scenery there is a large supply of the article.

Spokane is the central point of an agricultural empire. It is really hard, even for one who has traveled much over this immediate region, to conceive of its future grandeur. Its possibilities are scarcely computable. This empire extends upon all sides of Spokane. Northward, lies the beautiful Colville Valley, agriculturally of much value, and flanked upon each side by mineral wealth beyond estimation. Still northward is the Kootenai country, poor in cultivable land, vastly rich in precious metals. The Spokane Falls & Northern Railway to Rosslund and Nelson opens an extended market for the country southward. West of Spokane is the Big Bend region, cut by railways that afford outlets for the products of its fields. The Big Bend is a peculiar country, and portions of it, owing to peculiar conditions, will be slowly settled. Fruit, vegetables, and grain grow well, and the climate is mild and warm. The soil, like so much of that in Washington, is decomposed volcanic ash, very rich and easily cultivated. Many prosperous towns are found and there is a good deal of Government land yet unsold.

It is, however, to the south of Spokane that the pride of Eastern Washington lies. This is the country known in a general way as the Palouse, Lewiston, and Walla Walla countries. These names cover the greater part of the region south of Spokane, east of the Northern Pacific Railway and extending over into Idaho.

This section is well settled, rejoices in a delightful climate, is well supplied with railway facilities, and finds in Idaho many mining camp markets right at its doors. A peculiarity of this region is that over large portions of it irrigation is unnecessary, and over other wide areas it is necessary. There are two causes for this. The warm winds from the Pacific impinge upon the Cascade Range and, rising above them, flow across the intervening country between the Cascades and the Bitter Root and Cœur d'Alen  mountains, where, opposed by these ranges, they precipitate their moisture upon the region contiguous to Spokane. The Columbia and Snake rivers form a funnel, so to speak,



CENTRAL SCHOOL,
SEATTLE.

through which the moisture-laden winds from the ocean also pour and spread out over this region, furnishing the necessary moisture for crops. This condition of affairs is more or less modified in particular localities by elevation, peculiar location, etc., that give rise to apparently contradictory conditions, whereby irrigated farms and non-irrigated lands are found in proximity.

This region is a rolling one, with little timber except along the streams and on the high foothills and mountain slopes. Every foot of ground is productive. The top of a hill will produce as fine fruit trees or as good wheat or potatoes as will the land at its base.

The country tapped by the Palouse branch of the Northern Pacific is divided locally into several subdivisions. These comprise the Potlatch, the Palouse proper, the Snake River, and the Clearwater regions, which take their names from the principal streams which drain them.

This portion of Washington has been largely devoted to cereal production. During the summer and fall there is no rain, and grain crops may be harvested and then cared for at leisure, protection from the weather being unnecessary. It is a common sight to see alongside the railway tracks, thousands of bushels of wheat in sacks piled high in the air, and with no protection whatever given, or the covering merely a sort of a large, portable, rough shed. Within recent years fruit-raising has advanced rapidly. As an instance, the prune crop for 1897 around Juliaetta, Idaho, was enormous, 3,000 acres producing 250,000 pounds of prunes of many varieties. Thousands of acres of orchards in Washington and Idaho are just becoming productive, with the result that prune shipments increased 50 per cent, apricot shipments 25 per cent, and apple shipments 50 per cent over previous years. The East reaps the benefit of this great addition to the fruit output. Spokane is the distributing point for it, and during the season the Northern Pacific ran daily fast fruit-trains composed of from 10 to 25 refrigerator cars, destined for points east of Spokane. Some of these cars were dropped at points in Montana and North Dakota, many of them were for the Minneapolis and St. Paul markets, and the others went through by fast freight to Chicago, Cleveland, Buffalo, New York, and Boston. This fruit came from the Willamette Valley, Oregon, and the Snake River or Lewiston country principally. During the season of 1897 at least 100 car loads of fine apples were shipped east from the country between Spokane, Genessee, and Kendrick—in the Palouse region—alone. The recently ceded lands of the Nez Percé Indian Reservation east of Lewiston have attracted many immigrants. It is stated that there were raised in 1897, 300,000 bushels of wheat on these reservation lands.

West from Spokane and beyond the Columbia River in Central Washington, lies the finest irrigation proposition in the West. This is the

region drained by the Yakima River and its tributaries. This is one of the two large valleys in the West where Government reports state that there is ample water for irrigation enterprises. The soil is a decomposed volcanic ash, very deep, of a gray or dun color, and is inexhaustible.

The climate in general resembles California. The winters are short and mild, autumn weather continuing until Christmas, with fresh, bright, warm days, and spring opening in February—the very finest climate for people with rheumatism, and for consumptives. The mildness of the winter, which permits delicate children to play in the open air in midwinter, is a great security against disease, the daily advantages of open-air exercise being so conducive to perfect health. Cyclones



WIND MOUNTAIN,
COLUMBIA RIVER.

or severe storms accompanied by thunder and lightning are unknown. If snow ever falls it soon disappears, as if by magic, under the warm breath of the Chinook wind.

The total rainfall in the Yakima Valley is about thirteen inches per year. While the summers are consequently long and hot, the dryness of the atmosphere prevents them from being sultry and oppressive. Neither does the soil become parched and cracked, but crops are matured naturally and rapidly.

One of the most interesting and valuable features of this region is the variety of elevation and climate found.

The elevation of Kennewick, at the foot of the valley on the Columbia River, is about 350 feet above sea level.

North Yakima, thirty-seven miles south

from Ellensburg in the Kittitas Val-

ley, and eighty-seven miles north

and west of Kennewick, is about 900

feet above the sea. Ellensburg is

about 1,500 feet above sea level, and

Prosser, between Kennewick and

North Yakima, 650 feet. These figures

will convey an idea of the general elevation of the various divisions or terraces, the gradation being quite regular down the valley.

This variation in elevation produces variation in temperature. The difference in temperature between the extreme northern and southern ends of the valley is somewhere between 10 or 12° and 20°, with the bulk



PICKING
CRANBERRIES.

of the land lying between these extremes. Thus we have the longest and warmest summers in the Kennewick country, the shortest and coolest in the Kittitas, with the North Yakima and Sunnyside districts a varying mean. This difference in climate determines to some extent the character of crops best adapted to the various localities and is of decided advantage to the country as a whole.

Thus with certain products, such as watermelons, canteloupes, berries, and early vegetables, those raised in the lower valley are considerably ahead of those in the upper portion in point of time, and are thus out of the way of those coming later from the up-stream farms. This causes a succession of crops decidedly beneficial to all concerned. The mercury in the Sunnyside district, which is a mean of the valley, rarely drops below 20—25° above zero in winter.

A study of this valley in connection with the questions of irrigation and health will thoroughly repay the time spent upon it by the eastern man who purposes moving west.

The ownership and farming of a farm in an irrigation region, where the farms vary from ten acres for the smaller to forty acres for the majority of the larger ones, will strike the average eastern farmer who has been accustomed to from 160 to 500 acres, as farming on a small scale.

This is simply the difference between *extensive* and *intensive* farming.

Instead of scattering his efforts broadcast over a wide area, he *concentrates* them upon a small farm and makes *every rood of ground do its level best*.

He requires less help, a less number of work animals, etc., and his expenses are cut down in every direction.

The one word that represents perhaps better than any other the great benefits of irrigation is *independence*.

The farmer and fruit-grower is utterly independent of rain or drouth. He is neither drowned by too much nor famined by too little rain. Right at hand is the little stream he has bought and owns, ready to be turned at his own pleasure toward whatever corner of his little domain needs it.

There is scarcely anything that will not grow here. Oats, wheat, barley, corn, potatoes, melons, vegetables, fruits of nearly all sorts, timothy, alfalfa, and clover, all do well. No absolute rule can be laid down in regard to particular crops one should cultivate. Each man should determine for himself on the ground, being governed by the circumstances of the case, including the portion of the valley in which his farm is located.

The Yakima Valley is a natural sanatorium. Dread consumption does not find the climate congenial. It is too equable and dry. Bronchitis, asthma, pleurisy, catarrh, and pulmonary and laryngeal diseases in gen-

CAPE DISAPPOINTMENT
AND LIGHTHOUSE.



STRANDED
ON THE BEACH.
CRABBING AT
LONG BEACH,
WASH.



INN COTTAGE,
LONG BEACH.



U. S. S. MONTEREY
IN WILLAMETTE RIVER,
PORTLAND.

eral, find little opportunity for working their nefarious schemes. La grippe is not common, the purity of the water and perfect drainage keep fevers at a distance, and rheumatism and neuralgia find no affinitive conditions for causing aching faces and bent-over backs.

South of the Lower Yakima Valley and west of the Columbia is a large plateau known as the Horse Heaven Country. It rises abruptly 1,000 feet above the valley, contains 300,000 acres or more of land, and is covered with bunch grass. There is very little rainfall, and yet farming is carried on to a considerable extent on the bonanza farm order, and large crops of grain are raised. It is as a grazing region, however, that it excels, and in this respect is supposed to be a horse's heaven.

On the low mountains and foothills bordering the Yakima Valley large herds of horses, sheep, and cattle are grazed. In winter they are driven down into the valley and fed and fattened, principally on alfalfa.

There are hundreds of miles of irrigation canals—many of them ten years old or thereabouts—in the valley. One can find a location to suit his fancy, it matters not how particular he may be. That part of the valley around Ellensburg is locally known as the Kittitas Valley. It is a large and beautiful expansion—a natural meadow.

THE WESTERN ZONE.

It is a long and narrow zone, lying, in Washington, along Puget Sound, the Columbia River and tributaries, and the Pacific Ocean; in Oregon, west of the Cascade range of mountains. It is as different from Central and Eastern Washington and Eastern Oregon as night is different from day.

In the western zone the full effects of the Japan current are felt. The climate is moist and warm, rainfall heavy in the valleys, and the snowfall heavy on the mountains. Vegetation is almost more than luxuriant—it borders on the semi-tropical. Forest trees grow to enormous dimensions. The finest bodies of timber—of the pine, spruce, fir, and cedar varieties—in the United States are to be found there. I have ridden through Washington forests for mile after mile, following a narrow trail twisting among the trees and ravines, and seen trees without number—thousands of them—that shot upward straighter than the traditional Indian for 100, 150, or perhaps 200 feet before putting forth a branch. An entire house of good size, and its furnishings, can be constructed from the timber contained in one of these trees.

As is to be expected there are many rivers and creeks found, rapid in their upper courses, quiet as they approach the level of the sound and sea. These streams are heavily timbered, have more or less good land along their bottoms, and are navigable, many of them, for considerable distances.

Puget Sound is a wonderful archipelago. It insinuates itself everywhere, forming isthmuses here, peninsulas there, in indefinite number, while its saline bosom is studded with countless islands.

The mountains found in this region are the grandest, highest, and most notable of any in our country. The mountains of California, Colorado, and Montana, grand as they are, will not compare with them. This for two reasons—first,

that these coast mountains stand as isolated peaks and are seen from base—sea level—to summit for every inch of them, not from an elevated plain several thousand feet above the sea; second, because they are covered with ice and snow—glaciers—and are as white as God's fleecy snowflakes, that re-blanket them each recurring winter, can make them.

The waters of the ocean teem with marine life. Fish of many varieties, oysters, clams, crabs, etc., are found in the bays of the sea and sound. The mountain streams are full of trout and the mountains of wild game.

Agricultural conditions on the coast are complicated somewhat by the necessity of clearing away the forests over wide, extended areas. The first clearing, or the cutting down of the trees on these large areas, is, of course, done by the timber companies. The large stumps and debris must then be removed by the farmer, who uses both fire and explosives to accomplish his purpose. When this timber land is cleared it makes good agricultural land.

There are, however, extensive tracts in the valleys of the coast that require little or no labor in preparing them for farms.

The islands of Puget Sound are valuable agricultural tracts and are rapidly being settled and turned into fruit farms and gardens and grass fields. Within the last few years large numbers of small fruit farms—five to twenty acres in size—have been started in the localities bordering the sound. Many of those living in the cities have bought these small ranches, planted them to orchards, and expect eventually to make



HOP DRYING HOUSES, LARGEST HOP RANCH IN WASHINGTON.



UNION STATION, PORTLAND, ORE.
FINEST PASSENGER STATION WEST OF ROCKY MOUNTAINS.

them their homes. Within four or five years these orchards begin to bear heavily, and then the salaried clerk, artisan, etc., can retire to his farm or country residence and literally live under his own vine and fig tree. Others buy larger tracts and farm them as does the farmer in the Red River Valley, as a business, except that here the prune, plum, apple, cherry, small fruits, and nuts replace the wheat raised in the former locality.

As the region east of the Cascades is better suited to some particular fruits and products, so the country west of the mountains is especially favorable to certain productions.

Many varieties of fruits, vegetables, and cereals thrive equally in both sections. Plums, prunes, nuts of many sorts, and grapes find a congenial home on the ocean side of the Cascades.

Hops are largely raised and prove highly prolific and remunerative. On many of the coast lands cranberries are a standard crop.

One important feature of the coast climate is the improvement which takes place in the old varieties of fruit, flowers, etc., and the wonderful new varieties produced. Cherries and small fruits particularly show this. It is probable that nowhere else in our country does the cherry grow to such luscious proportions as in this climate.

The oldest settled valley in this zone is the Willamette of Oregon. It is about 100 miles long and 60 miles wide, and as fertile as land can be. The river itself is navigable for river steamers for the greater part of its course. The valleys of the Columbia and Cowlitz rivers have much cultivable land. Thousands of acres of orchards have been planted in these valleys within recent years. Portland, the largest city on the North Pacific Coast, is situated near the junction of the Columbia and Willamette rivers, and ocean vessels ascend both rivers to the city, and the output of the Willamette Valley is sent to the ends of the earth.

On Puget Sound are Seattle and Tacoma, two flourishing cities, and the peer of cities of equal size anywhere in the east. The foreign trade from these three cities to and from China, Japan, Australia, etc., is very large and increasing.

Many a farmer from the Eastern States, tired of the cold, wintry region of his birth, has settled most satisfactorily the question of a genial climate and comfortable home by removing to the warm, sunny, moist latitude of Western Washington or Oregon, where fruit-raising or farming on a soil of inexhaustible fertility makes it not much more than child's play.



A CANOE TRIP THROUGH THE PARK REGION



BE really frank and accurate, it was not a canoe voyage, but—it might have been. It was a roomy, stanch, first-class rowboat that was used. The results were the same, plus, perhaps, a little more comfort, and besides, it sounds better to use the word canoe. In the hope of attracting attention to a most delightful outing, one that can be

taken by a man and his wife, glad to escape for a time to the hills and woods and to pitch a tent upon the shores of a beautiful lake, or by a party of young men, or by a miscellaneous company chaperoned by some warm-hearted mother or discreet, elderly sister, I recount here a ten days' outing in the well-known Park Region of Minnesota.

Science tells us that this region was once covered by an enormous glacier. When it melted and receded it left a rolling country full of holes and hills. The holes are nearly all filled with water—lakes; the hills covered with timber. There are 10,000 lakes there, many of them connected by small streams, others apart and alone. The Northern Pacific Railway runs directly across this region. On a branch line running south west from Wadena are Clitheral, Battle Lake, and Fergus Falls, all important lake points for summer tourists and anglers. On the main line are Perham, Frazee, Detroit, and Lake Park, surrounding which places for miles in every direction, lakes by the hundred are found. Detroit lies well up toward the summit of the divide which separates the Lake Park Region from the Red River Valley, and is nearly 1,400 feet above sea level and about 650 feet higher than St. Paul. It has a peculiar advantage for a trip of the sort mentioned, being situated upon Detroit Lake, which, by means of a narrow, sinuous stream, the Pelican River, is connected with a series of lakes south of it to the number of ten or twelve. This fact has been taken advantage of by a company who have dredged out the river for a portion of the distance, built a lock at one

point where the difference in level between two lakes necessitated it, and have provided a little steamer which makes several trips each day between Detroit and the lower lakes during the summer.

In the future another lock will be built and more dredging done, and several more and larger lakes will be added to the scheme. The tourist can then enjoy an inland lake excursion rather unique in its way. This extended trip it was which I took in a small open boat.

Arrangements were made for me by Mr. J. K. West of Detroit, who placed his own boat at my disposal. Our party consisted of three—the writer, his wife, and Mr. Haskins, a resident of Detroit, who went along as oarsman and cook. Haskins was used to roughing it, was a western hunter and trapper style of a man, whose hair reached to his shoulders, and he was familiar with the lakes to be visited. As it turned out he was a good cook and a congenial fellow, and by his good nature and willingness to work early and late added materially to the pleasure and success of the trip, a fact which those who have had experience in outings where the guide or cook was an important personage will appreciate.

There were one or two places where meals could be obtained, but otherwise we must supply our own provisions and sleep in tents. We outfitted at Detroit and pulled out from the boat landing on Detroit Lake one fine morning into a choppy little sea.

Mr. West had determined to see us safely on our way, and as it was deemed best to send our camp outfit by wagon to our first camping spot, he assumed the role of guide and oarsman for that day and Haskins drove the team and wagon.

An hour's rowing was sufficient to cross Detroit Lake to the outlet at Pelican River.

We then rowed leisurely through the little stream, which was bordered by swamp grass and willows. The ground sloped upward from the river and occasionally a farmhouse was seen. Where the roads crossed the stream, bridges were carried high enough overhead to enable the excursion steamers to pass beneath. This shining lane of water through the rank grass and swaying willows was in pretty contrast to the broad lake.

After crossing Lake Muskrat, one of the inferior lakes, another stretch of river was meandered and we reached the lock. Before us lay Lake Sally, a beautiful sheet of water about three miles long. Entering the lock, the upper gate was closed, the lower one opened and we descended in a few minutes to the level of Lake Sally. Our course was obliquely across it to Fairhaven Beach, where we had arranged to

have dinner. En route we visited one of several mineral springs in the locality.

Fairhaven Beach is a spot of exceptional advantages. Not only is it beautiful for situation, but it is upon a narrow, wooded point between Lakes Sally and Melissa, so that it matters not from which direction the wind blows, the guests find that one or the other of the lakes is always smooth. The Pelican River connects the two, so that one can quickly and easily row a boat from rough to calm water.

Melissa's shores have many summer cottages, owned by residents of neighboring cities.

After dinner we again embarked and pulled through the river, a tortuous little stream, to Lake Melissa. This lake is about the size of Lake Sally, quite different, however, in contour. Of the upper series of lakes, Lake Sally is perhaps the most attractive. Detroit Lake is larger and more irregular in contour, and at the eastern end will rival Sally. Melissa is more regular in outline, and a belt of timber nearly incloses it. Lake Sally is a lake of more contrasts. Seen from Fairhaven Beach it presents an exceedingly pleasing aspect, with its alternates of heavy massed timber, and open, green, black, or yellow fields, as depends somewhat upon the season and forwardness of crops and plowing. On the slopes farmhouses can be seen, partially hidden by timber or standing in the midst of the fertile fields about them. Lake Sally has a finer beach than Melissa, but the cottages on the latter face the rising sun, and have not, therefore, the afternoon glare of the water.

A half hour's pull and we had crossed Lake Melissa and entered what was about half and half a river and pond. A dam at Buck's Mill has raised the water in the Pelican River several feet, so that it overflows contiguous lowlands. Floating bog—masses of thin, mucky, black soil, from which grows a rank grass, sometimes several acres in extent—floats about as the wind propels it. Many trees, drowned by the overflow water, stretch out their dead, leafless arms in a mute, imploring way.

At Buck's Mill it was necessary to portage, but as there was no camp luggage to be unloaded it was an easy matter to lift and drag—principally drag—the boat across the land and launch it in the shallow waters of the river below the dam. And here we had the laugh on our oarsman. For a quarter of a mile and farther, the river below the dam was too shallow to float the boat. Deep holes were followed by sandbars and these again by holes, so that it was now float and now drag. There was no help for it, so that our guide and friend manfully took off his shoes and stockings, and, as in boyhood, rolled his trousers

up to his knees and pushed and floated the boat down to where the stream became navigable, while the passengers trudged afield.

The stream now made amends by winding in the most attractive way among the broad acres of water-grass that waved and billowed as the breeze struck it. For mile after mile we twisted this way and that, with meadows on one side, bluffs on the other, and an occasional house in sight to remind us that we were not lost. Vistas, charming and varied, broke upon the sight, in which rolling fields and bunches of woodland played important parts, while the winding stream, now deep, now shallow, was a source of constant pleasure.

At length, emerging from a field of wild rice we shoot forth upon Little Pelican Lake.

It is a beautiful sheet of water, its shores bold and heavily timbered. It is the hour of closing day and we follow the path of the sinking sun, which leaves a long, tapering, comet-like trail over the softly rippling water.

The general aspect is wilder than heretofore. Quiet broods over the scene, broken only by the weird quaver of a loon. We seem suddenly to have entered another world.

It was on this lake that we were to make our first night's bivouac. Rousing ourselves from sentimental reveries we endeavored to catch the



1. THE SPRINGS AT CLUB HOUSE, DETROIT LAKE.

2. BELOW DETROIT LAKE.



blaze of a camp fire on the shore, but could see none. Rowing slowly we halloed again and again until at last an answering call directed our course to where Haskins was.

Our aid had reached the spot somewhat later than expected, and consequently had not accomplished a great deal in arranging camp. As it was dark and Mr. West was to return that night, supper was rather a

hurried affair and was taken somewhat on faith. After we had returned to Detroit I learned that friend West had had serious and gloomy doubts as to what our gastronomical experience was to be, basing his fears upon that haphazard meal. We soon relaxed the set lines of his face, however, when our expected bewailings became praises.

Supper over, West started home with the team, and those remaining set camp to rights for the night. Tents were raised, and from some haycocks at hand an important contribution toward soft beds was obtained.

During the night the wind blew furiously, but the day following dawned gloriously. From our tree-fringed camp we looked out upon a lovely sheet of water, a mirror of nature's, not a ripple disturbing the sleepy calm of its silvery surface. A few rods away lay Pelican Lake, the largest and finest one of the upper series of lakes. The road by the side of which we were camped ran along a narrow point between the two. After breakfast we broke camp and rowed slowly to the outlet of the lake. Passing under a bridge we found ourselves on Pelican Lake. After a short circuit we landed, climbed a high point that commanded a good view of the lake and sat down and viewed the scene. The lake is a fine body of water. The shores are pleasantly relieved from monotony by gently curving slopes being followed by bold bluffs; open, plowed fields by green fields, approaching the harvest time, or by patches of dark woodland. Long, wooded points push far out into the lake, forming between their sheltering arms, bays of calm water, even though the lake may itself be rough. From where we sit we look down upon a shallow spot where huge boulders lie sunning themselves above the water. A fish—a large one apparently, perhaps a sturgeon—is having great fun down among the big rocks. He splashes the water about and leaps and dives and raises a great commotion. From this circumstance we call this elevation Sturgeon Point, among ourselves.

One of the highest bluffs, Bare Bluff, lies off to our right, fringed thinly with trees on its crest, but its side toward the lake bare and yellowish gray.

Embarking again we row down to the outlet of the lake on the eastern side. There we find a camping spot sheltered from the wind by trees and high banks, and withal somewhat secluded. As we purpose remaining here for two days or more we take possession. We call the spot Boulder Point because of its prominent location and the great boulders that line the water's edge. When camp is arranged it is a charming spot. At night we sit by the camp fire and Haskins recounts hunting adventures and I tell of mountaineering experiences. Or, we row about the moon-rippled waters and troll for fish—and catch 'em, too.

During the time spent there we explored the nooks and crannies of the lake and rode about on a homemade steam launch owned by a settler on the lake shore. Butter and eggs and vegetables we obtained from those who lived hard by, and fish we caught as we needed them.

We saw a beautiful sunset one evening while camped there, one peculiar in its pearls and grays and orange tints. It reminded me of Bradford's paintings of arctic scenes. After the sun had, as we supposed, finally disappeared, through some peculiar arrangement of the clouds it reappeared as a monstrous globe of fire. It was a blood-red disk of great depth of color and its effect as it o'erspread the water was indescribable.

" Fiercely the red sun descending,
Burned his way along the heavens,"

I had never seen so strongly exemplified before.

Beyond Pelican Lake our route seemed to take us more and more out of the world. And yet it did not. At intervals we saw evidences of humanity in waving grain-fields or an occasional house. From Pelican Lake the river meandered into Fish Lake, and then wound in a shining stretch for many miles to Lake Lizzie. Our exit from Fish Lake was through an expanse of rushes where there was no channel. We simply poled, and pushed, and rowed when there was clear space for it, and finally came out into clear water. That ride between Pelican Lake and Lake Lizzie was by all odds the finest piece of river navigation on the trip. How the little stream did try to run toward all points of the compass! It was deep, it was shallow, it was wide, it was narrow, it rippled over pebbly beds, it sluggishly dragged along over deep, dark pools; it ran between low-lying, sedgy banks, it scraped the sides of overhanging bluffs, it was shadowed by trees, it was bathed in warm sunlight. And every freak of its freakish spirit we more than enjoyed. At one locality the ducks flew up and away again and again, just far enough ahead every time to keep out of gun shot. At another, we came upon a cow deep in the water, cooling her udder, and just this side of her we suddenly discovered a wire fence across the stream, strung there to prevent her and her friends from trespassing on forbidden territory. We soon worked under the fence by carefully lifting the strands of wire and ducking our heads. Sis' cow, as Uncle Remus would say, thought to race us through the water, but came out a poor second.

After another interval of unadulterated enjoyment we came to a bridge. It was too low for us to row under, and how we did dislike to unload, lift and drag the boat across the land and then reload it! By good maneuvering we managed to squeeze the boat under the obstacle

by unloading a portion of its freight. Soon thereafter we debouched upon the sun-washed surface of Lake Lizzie.

The water here was pea-green in color, evidencing shallowness. It was a marked contrast to the deep green of the other lakes. Its shores were for the greater part well wooded, and a few houses were seen at wide intervals. The lake was rather oblong in shape, and the afternoon was well gone when we reached its southern end. Midway were two islands, fairly large, one of bold, rocky front and covered with a variety



of foliage. Elms, ashes, box elders, and cottonwoods were the more prominent. The other island was also heavily wooded but flat-topped.

How the sun beat down upon us that day! Out upon the lake there was not the slightest protection and our faces were of the color of boiled lobster. But we enjoyed it and had become sufficiently hardened by this time to endure it with but little discomfort. Haskins rowed steadily all day with but one brief stop at one of the islands, and another stop at noon for luncheon.

We found the lower end of Lake Lizzie one vast field of rushes. Among them were long lanes and wide bays of water, so that we were not impeded by them. Large numbers of mud hens were floating among these rushes. Our course lay toward the southeastern part, where a narrow channel led into Lake Crystal.

When we first obtained a glimpse of this beautiful lake it seemed as if it was truly what its name implied—a great crystal. There was not a breath of wind, and as we floated slowly out over huge boulders which rose nearly to the surface—for there the water was shallow—it seemed unreal, as if it were other than water, a plain of silver.

A BIT OF
PELICAN
RIVER.

The lake seemed rather oval in contour, and there was apparently no sign of civilization anywhere upon its borders. Heavy woods, except at a few spots, added to the feeling of isolation.

As soon as we had progressed far enough upon the glassy surface to observe the lake in its entirety, I was impressed with the description of Lake Otsego, by Cooper, in "The Deerslayer," and the name "Glimmerglass" came instantly to mind. The utter absence of ripple or wave caused the reflection to be supremely perfect. Not only was the lake utterly unlike any yet seen, but the effect caused by the solitude, reflection, and the general conditions surrounding us as we floated idly upon the crystal sea, charmed, captivated by Nature's wholesome, pervading witchery, was so different from any hitherto experienced as to awe us and cause our conversation to be restrained and hushed.

We decided to bivouac for a night upon so restful a shore and turned our prow toward a timbered, yet open spot, that commanded a fine view of the lake.

As the sun glided gently adown the western horizon, the flames of our large camp fire leaped to touch its expiring rays. As the night drew on, the fire's incessant crackle made sweet music for our ears, and its warm light illumed the forest aisles and cast their ruddy glare out upon the now blackening waters.

Tired with our day's long ride and sunburning, as we reclined upon the cool earth we felt indeed,

" There is a pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society where none intrudes."

Soon after landing we had made known to us the fact that humanity was nearer us than we knew, by unmistakable sounds from a hidden farm house on the farther shore. Now other sounds became audible. Far out on the water the cries of a pair of loons went up into the night, and nearer at hand the night birds called to each other in soft love notes. A leaping fish splashed the waters of the lake, and the faint bark of a dog and the lowing of a cow came faintly from a distance.

There was a plentiful supply of dead and dry logs, and we were generous in supplying our fire with material.

We were tired, very tired, and we enjoyed the relaxation that came with the fire and night, after our hot supper was eaten, and our stimulating coffee drank from plain tin cups. And when we threw ourselves upon our blankets to sleep, how restful and comfortable they seemed!

The following day was spent in slowly rowing about the lake and



1. THE LOCKS AT LAKE SALLY.
2. FAIRHAVEN HOUSE.



3. BATHING SCENE, FAIRHAVEN BEACH.

4-5. PELICAN LAKE.



catching a few fish for our frying pan. Toward the middle of the afternoon we reloaded the boat and set off down the lake.

Our little boat had now carried us across nine lakes, large and small. Lake Franklin, to the west of Lake Crystal, we did not visit. There was an entire absence of sameness in these lakes, and the farther down the chain we rowed the more attractive they grew.

In transferring ourselves from Lake Crystal to Lake Lida this rule held good. Lida was the queen of all. It seemed to be by far the largest lake, and as we first saw it, and afterward, also, it seemed peerless.

A half-hour's row took us to the end of Lake Crystal. There it was necessary to make a land portage. This portage was about 100 yards wide, over quite an elevation. As good luck would have it, a farmer's boy chanced to come along the road which ran between the lakes, just as we reached it in reconnoitering the ground. He had a good team, and we engaged him to drag the boat across the portage. This was done in a few minutes, saving us much time and labor. We then slowly rowed along the hither shore, seeking a good camping spot. It was now evening. Not a house was in sight. The farther shore, dim and distant, bore high hills, which really had the effect of distant mountains of the lesser sort. The surface of the lake was like glass. Not a ripple marred the beauty of the silent sea. The reflections seen were rare revelations of that witching process of nature. The farther shore, heavily timbered and irregular, was exquisitely reproduced in the water. On the nearer shore there were tremendous boulders, and lo! as we looked, each one became a double boulder. I never saw more perfect reflections. Not a sound was heard, save the sound of our voices and the faint plash from our lazily dipped oars. The idea of a far-off mountain solitude prevailed.

Here was, indeed, the place for an ideal camping and outing. And how we enjoyed it! Imagination can better picture our relaxation and enjoyment than words can tell it. Fishing, rowing, sleeping, bathing, resting — these will perhaps sum it up.

Our last night's camp gave us rather an unusual experience.

We had decided that we wanted to reach Fairhaven Beach the next day, if possible. This necessitated a full day's hard work, and to be prepared for it we bivouacked on a sand ridge between Lakes Lida and Lizzie. The ridge was only a few feet high and not very wide, but it necessitated a portage, as the creek between the two lakes was small and shallow. The portage was made the evening previous to departure, and everything put in readiness for an early start in the morning. Our tents were set up upon the sand and we essayed to sleep.

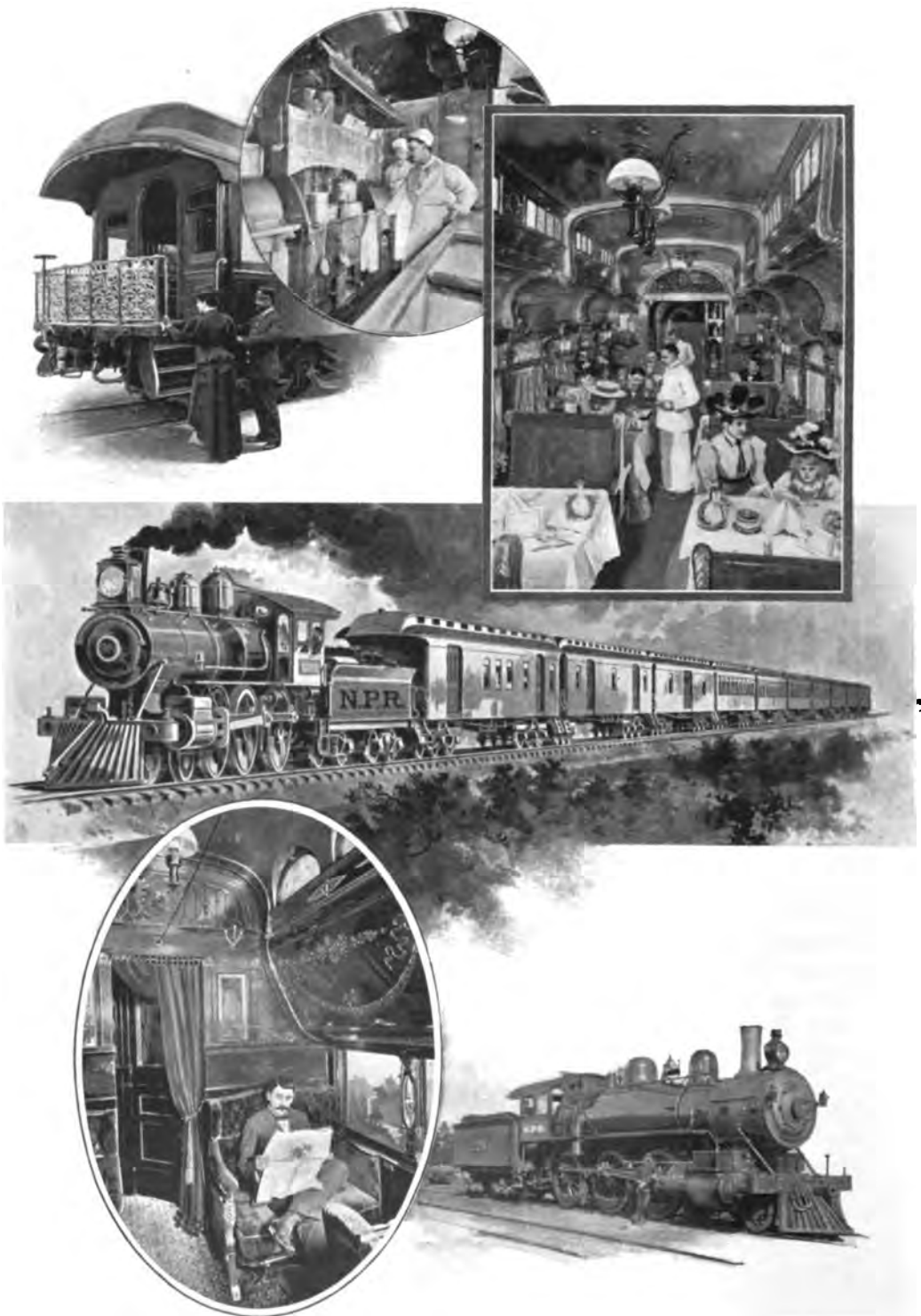
But — the mosquitoes were there. It was the only night of the outing that proved disagreeable, and we were glad to be up and off at 4

o'clock in the morning. At the start another unique experience awaited us. The shore of the lake was a mass of dead, rotten rushes many feet deep. The footing was by no means firm, and the water near shore was shallow. The boat was placed as near the water as possible, loaded, the female contingent placed aboard, and then Haskins and myself, with shoes and stockings off and trousers rolled up, pushed and pulled the boat out to water sufficient to float it. We sank to our knees at each step, but laughed and made the best of it. Once afloat, we rinsed our legs, donned our shoes and stockings, and enjoyed a ride the length of Lake Lizzie before the sun was more than out of his bed.

We reached Pelican Lake by noontime, got a good dinner at a farmhouse, then placed our boat on a wagon, placed ourselves in the boat, and were then transported six miles over a beautiful, rolling country to Lake Melissa, and reached Fairhaven Beach at 4 o'clock in the afternoon, just twelve hours after starting from Lake Lida. That night we slept indoors and made up for sleep lost the night before.

The next day we started for Detroit. At the foot of the lock between Lakes Sally and Muskrat two or three black bass were foolish enough to swim about in plain view. The fishing tackle was taken out for the last time, and for half an hour we flopped black bass from the water to the high bank at a rapid rate. Then, with a sigh for what we were leaving behind, we rowed slowly through river and lake to Detroit. At the Hotel Minnesota we exchanged the garments of the fields and lakes for the habiliments of a more exacting society and returned to St. Paul, thankful for what we had been permitted to enjoy at Dame Nature's hands.

During the summer of 1898—May 15 to September 15—Mr. W. S. Becker, of Hotel Minnesota, Detroit, will maintain on Sturgeon Point, twelve miles by road from Detroit, a comfortable fishing camp for hotel guests. The regular hotel charges—\$8 to \$10 per week—will cover an outing at the camp, except a small charge for transportation. Fishing tackle, bait, and boats furnished free. A small launch will be kept on the lake and the camp will accommodate from twenty-five to thirty persons.



NORTHERN PACIFIC TRANSCONTINENTAL EXPRESS.



YELLOWSTONE NATIONAL PARK



AS now generally known, Yellowstone Park is principally located in Northwestern Wyoming. There is a narrow strip in Montana, on the north, and one in Idaho, on the west.

As established by law, its area is 3,412 square miles. On the northwest, north, east, and south it is hemmed in by high mountain ranges, whose highest peaks attain an altitude of from 10,000 to 12,000 or 13,000 feet above sea level. Between these ranges the Park plateau is an undulating one, from 7,200 to 8,300 feet elevation above the sea. It is a region of much rain and snow fall, and the forest development is great and the park flora unusual and varied. The great continental divide extends from the southeastern corner northwesterly across the Park, and the tourist crosses it on the way from Upper Geyser Basin to Yellowstone Lake, amidst a region of wild grandeur and primeval beauty.

In a general and superficial way, the region is not unlike a hundred other places of equal area in mountainous localities. It is in its special characteristics that it assumes preëminence and importance.

If I were asked to specify in a word the predominant features of the Park, I think I should use the word, comprehensiveness. In the strange, unique, educative, unusual, marvelous freaks or exhibitions of nature found there, no other locality of equal or even greater area in the world, within reasonable limits, compares with it. Its comprehensiveness is amazing. It is, indeed, the World's Wonderland, not ours alone.

ITS HISTORY EPITOMIZED.

The ancient history, so to speak, of the Park dates back to the earliest years of this century, to the celebrated expedition of Lewis and Clark.



JAMES
BRIDGER.

The modern history is contained within the last thirty years. One of the members of the Lewis and Clark expedition was a man named John Colter. He was one of the nomadic trappers and mountaineers of the old days, and appears, withal, to have been a good deal of a man. Without doubt he was the first white man to see any of the phenomena of the region now known as Yellowstone Park. When the before-named expedition was nearing St. Louis on its return, in 1806, Colter obtained his discharge, and with two friends made a bee line, figuratively speaking, for the headwaters of the Missouri River. He explored, in his day, a large section of the eastern Park region; discovered what is now Jackson Lake, south of the Park; Yellowstone Lake, the Grand Cañon, and Mammoth Hot Springs, of the more important localities. Returning to St. Louis, he imparted to Captain Clark much information, which was incorporated upon the Lewis and Clark map of 1814. One nearly tragic episode in this man's life that occurred on the Jefferson River, west of the Park, is found in Chapter XV of Irving's "Astoria."

James Bridger was another of the bright and shining lights of western frontierism. For long years no man, possibly excepting Kit Carson, was better known over an extended region than was "Jim" Bridger. He was the discoverer of Great Salt Lake, and a mountaineer of unsurpassed ability. He was in the West as early as 1820, and died in Missouri in 1881. Bridger's knowledge of the Yellowstone region was thorough and very complete. His stories, of great accuracy, were completely disbelieved, as the idle tales of a Munchausenish trapper, and the papers refused to print them. Then indeed did the old fellow give them fairy tales, woven from the depths of a vivid imagination. He lived to see his former statements verified by indisputable authority.

Between the era of the explorations of Colter and Bridger, and the years 1869, 1870, and 1871, there were several parties penetrated this land of geysers and cañons, but none of them seriously impressed the public with what was to be found there. The DeLacy party missed a

glorious opportunity to immortalize itself. It evidently failed to appreciate the importance of its discoveries.

In 1869 Messrs. Folsom, Cook, and Peterson spent thirty-six days exploring the Park country. They were so dumfounded at what they saw that they hardly dared to recount their adventures for fear of disbelief. Enough was told, however, to make certain the execution of a plan, the following year, long contemplated by a company of Montana gentlemen. For several years these men had intended to explore the Park country. The reports of Indian annoyances and other reasons had prevented the execution of the plan. Now, however, enthused by Cook and Folsom's narratives, they determined to be balked no longer, and, in 1870, the expedition finally started. This party was known as the Washburn party, after Gen. H. D. Washburn, Surveyor-General of Montana, who was formally made its leader. In many respects its work was the most important of all explorations made of the region. A recital of its adventures, amusing, tragic, interesting, astonishing, would require a paper in itself. It thoroughly explored the region, missing only the Mammoth Hot Springs, and completely substantiated Bridger's wonderful stories and those of his successors in exploration. The more valuable work done by it was in making known to the world the absolute fact of the existence of this remarkable land. This was done in such a manner as to paralyze adverse criticism or distrust, and settle at once and forever the whole question.

In 1871 and 1872 the region was explored by Hayden's United States Geological and Geographical Survey. This, of course, set the seal of Government approval upon previous reports.

Subsequent to the Washburn and Hayden explorations, many others were made by army officers, civilians, and the U. S. Geological Survey. General Sheridan and President Arthur, with other notables, passed through there in 1880.

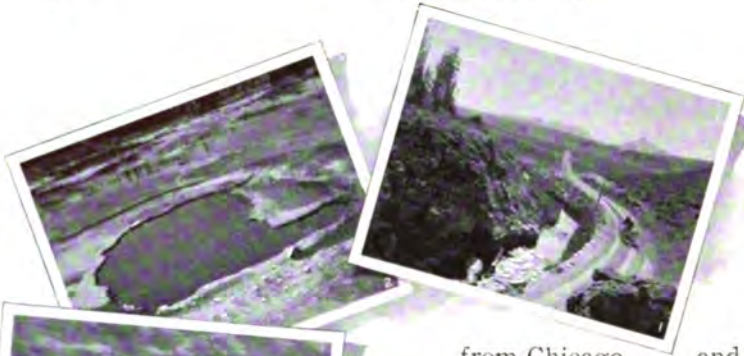
In 1883 the Northern Pacific Railway reached the Park, since which time it has been an open recreation ground to all who chose to avail themselves of it.

ITS EDUCATIONAL VALUE.

I desire to remark especially upon the educational value of a tour of the Park to teachers and scholars. It is hard to do this in the way I would like to do it. Mere words and descriptive phrases or didactic statements seem flat and tame beside the actual lesson taught by inspection.

The great Park is nearly 1,500 miles west from Chicago. The regular tourist trip gives 5½ days in the Park. This means that the round trip

1. WEST FROM GOLDEN GATE.
2. MUSHROOM SPRING, LOWER GEYSER BASIN.
3. MAMMOTH PAINT POT, LOWER GEYSER BASIN.

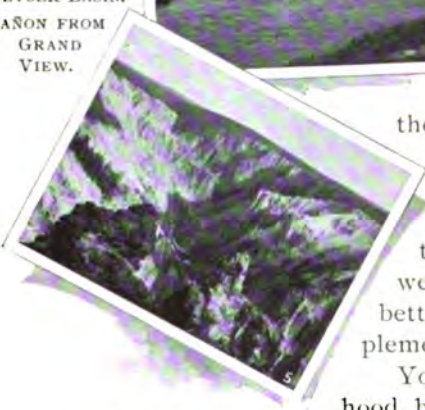


from Chicago and St. Louis will consume eleven days; from Atlantic coast cities, thirteen days. I am aware that the expense necessary to make this tour seems like a great deal for so short a time. The teacher naturally reasons that it takes a large slice out of his or her income or savings; it requires but two weeks of a two months' vacation; where can he go and what can he do for the remaining weeks, and how much money will he or she have left to apply to that time? I think that I appreciate the force of all this. I think that I also appreciate a fact that the other can not—the great educational value of the Park, and that it is worth the sacrifice if one desires to put it in that way.

4. CLIFF SPRING, UPPER GEYSER BASIN.



5. CAÑON FROM GRAND VIEW.



The teacher's calling is a sacred, a momentous one. The greater one's observation and the more extended the mental horizon, the better the teacher. "Book larnin" is all well enough, but in many ways observation is better—or, more truthfully, perhaps, each is complementary to the other.

You have read about Niagara from early childhood, but you never knew Niagara until you saw it. From earliest infancy you have been familiar with the Capitol at Washington, from pictures, but until you stood speechless before the structure you never dreamed of its magnificence.

More than either of these or a thousand other scenes and objects, Yellowstone Park needs to be *seen* to be known and understood. Why? Simply because it contains phenomena that are curious, uncommon,

occult, unrelated to things we ordinarily see and know. Analogies with things seen elsewhere are almost impossible. It is not a chapter only of a book — it is the book itself.

The majority of people who go to the Park go but once. I have no hesitancy in saying that every teacher, student, or younger scholar who goes there can well afford even strict economy and sacrifice in various ways for the gain that comes. The trip is not ended either when the Park is left behind. "How often, oh, how often," in after months and years, will the incidents and scenes of the tour come back to you! Again you will see Old Faithful play, again ride through the Golden Gate, again go into raptures over Yellowstone Lake and be hushed to awe at the grandeur of the Grand Cañon.

The book of Nature *must* be read to know and understand it, even as the volume that comes from the typesetters' hands. And a most wonderful, thrilling book is that of Yellowstone Park.

ITS GEOLOGY.

The oldest rocks of the geological series, the granites, gneisses, etc., the foundations of the earth, are found here. The great seas that once overflowed the region left sedimentary rocks thousands of feet thick. Then "The region became one of profound dynamic action and a center of mountain building on a grand scale." Great orographic movements took place, and the large rock beds were tossed up and down, wrinkled, contorted and folded and faulted.

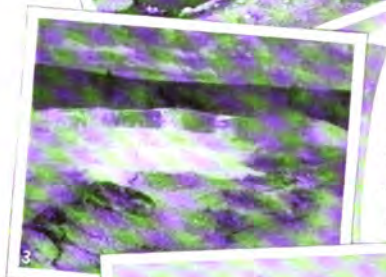
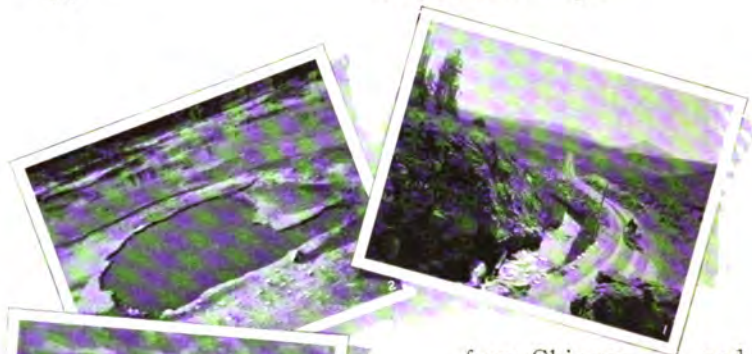
Then came the period of fire, when Vulcan reigned. The region was overflowed by the volcanic materials that poured forth.

And then came the ice age, when glaciers hundreds of feet thick and scores of miles long, plowed along over hills and through valleys, scattering their debris here, there, and everywhere.

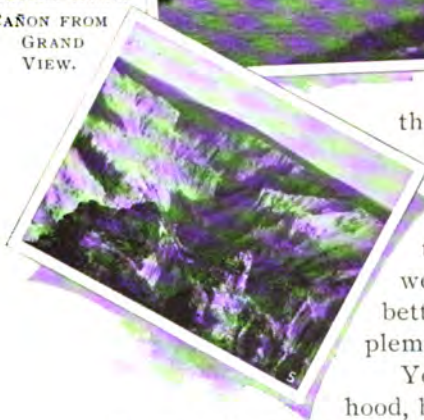
Since the glacial epoch, the hydrothermal agencies have been actively at work.

The traveler in the Park country will be interested in knowing which of the mountains were old-time volcanoes. The three principal mountains found here were also the principal centers of volcanic energy. Electric Peak, at the northern end of the Park, 11,155 feet high, was one of the greatest and earliest volcanoes. Mount Washburn, more than 10,000 feet high, near the Grand Cañon, and Mount Sheridan, 10,200 feet in elevation, south of Yellowstone Lake, were two of the later volcanoes. By far the larger part of the Park plateau, as it stands to-day, is composed of igneous rocks. The lavas were poured out in enormous quantities and very generally covered the sedimentary beds. Erosion has done its part in making the topography of the region what it now is.

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5. CAÑON FROM GRAND VIEW.



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OLD
FAITHFUL.

carving, in many cases, of a peculiar character. As the water, falling to lower levels, and even when it reaches a pool, cools, the colors become more numerous there will be seen an extraordinary variety of colors in water itself and in the mineral crystal. In some of the most striking geologic forms are seen. Descriptions of these is almost impossible. They are of a filamentary texture, and are like satin, and are almost constantly in motion, gently swaying

EXCELSIOR GEYSER
AND TWIN BUTTES.



SPRINGS AND GEYSERS.

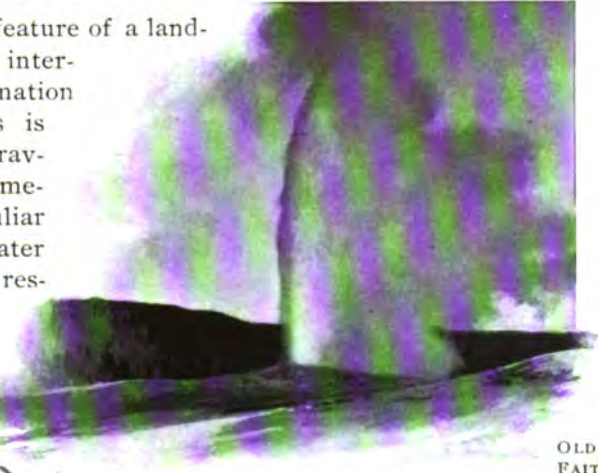
The phenomena peculiar to Yellowstone Park are not all concentrated in certain localities. The entire region swarms with them, so to speak. They line the roadsides, they dot the hills, they fill the hollows. Turning a curve in the road, a cascade comes into view; a signboard suddenly announces the fact that back among the trees is Apollinaris Spring, a spring of wonderfully delightful drinking water; leaving the forest the horses trot across a clear space and over a bridge, and Obsidian Cliff looms up ahead. Thus it goes. Scarcely a mile without something new and interesting. Singly or in groups, small or large, this feature is universal, and the more one sees it the more one wonders. The springs, almost entirely of hot water, will rouse the enthusiasm of the fair sex especially, by their beauty and delicacy of color. Whether it be Beryl Spring in Gibbon Cañon, Sunset Lake at the Upper Basin, Congress Spring at Norris Basin, or one of the large variegated pools at Mammoth Hot Springs, this striking clearness, purity, brilliancy, and delicacy is omnipresent.

The divisional line between a geyser and a spring is not always clear. Many beautiful pools unsuspected of geyser proclivities have suddenly burst forth in eruption and confounded the critics. They may, it is true, lie dormant for years, as the noted Excelsior Geyser at Midway Basin, but they have at least thus demonstrated the fact that the line between the two classes is often an uncertain one. Some springs, like the Chinaman at Upper Geyser Basin, may never, perhaps, have a natural eruption, but may erupt under artificial stimulus and when conditions are favorable. There are more than 3,600 springs in the Park. They are found by the roadside, in the valleys, on mountain sides, in cañons, alone, in groups. They are of all sizes, depths, colors, forms. In one respect I think they are all alike—they are attractive. Some are, of course, for one reason or another, more attractive than others.

While the phenomena of the Park are largely grouped in families, as it were, this is not entirely the case. The springs, for example, are the particular feature of the Mammoth Hot Springs, but at the Geyser Basins, where the geysers form the predominant feature, there are hundreds of springs, paint pots, etc. At Shoshone Geyser Basin, geysers and springs are intermingled, and along the shores of Yellowstone Lake, paint pots, mud geysers, and fumaroles are found.

At Mammoth Hot Springs, where an afternoon is spent in course of the regular Park tour, there is much variety to be found among the springs. According to the temperature of the waters there are various colors, all of them perfect, some of them of extreme delicacy of tint. The springs rise in narrow terraces on the eastern slope of Terrace Mountain.

They form a prominent feature of a landscape not devoid of other interesting features. The formation of which these terraces is composed is known as travertine, a deposition of limestone—not silica—peculiar to hot springs. The water overflows the bowls or reservoirs gently, almost dripping, forming fronts of marvelous



OLD FAITHFUL.

fretwork and carving, in many cases, stalactitic in character. As the water, in descending to lower levels, and even in the same pool, cools, the colors change. Thus there will be seen an amazing play of colors in water itself as clear as crystal. In some of the springs algæic forms are seen. Description of these is almost impossible.

They are of a filamentary texture, shine like satin, and are almost constantly in motion, gently swaying

EXCELSIOR GEYSER AND TWIN BUTTES.



VIRGINIA CASCADES.

with the slight currents which are found in some of the pools. In all, there are nearly 300 acres of these springs, terraces, caves, etc., on the side of Terrace Mountain. Interspersed among them are bits of timber, and cliffs that were once laved by hot

waters and were as beautiful as those now washed by the thermal flow, but which are now crumbling and weathered.

The tourist spends the afternoon in climbing about and viewing Cleopatra, Jupiter, and Minerva terraces, Cupid's Cave, Devil's Kitchen, Elephant's Back, Narrow Gauge and Angel terraces, Orange Geyser, Bath Lake, and other places.

All the drainage of these springs is carried away by an underground river—Boiling River—to the Gardiner River, a mile or more, and many hundred feet below them.



NATURAL STEAM HOT HOUSE AT
UPPER GEYSER BASIN.

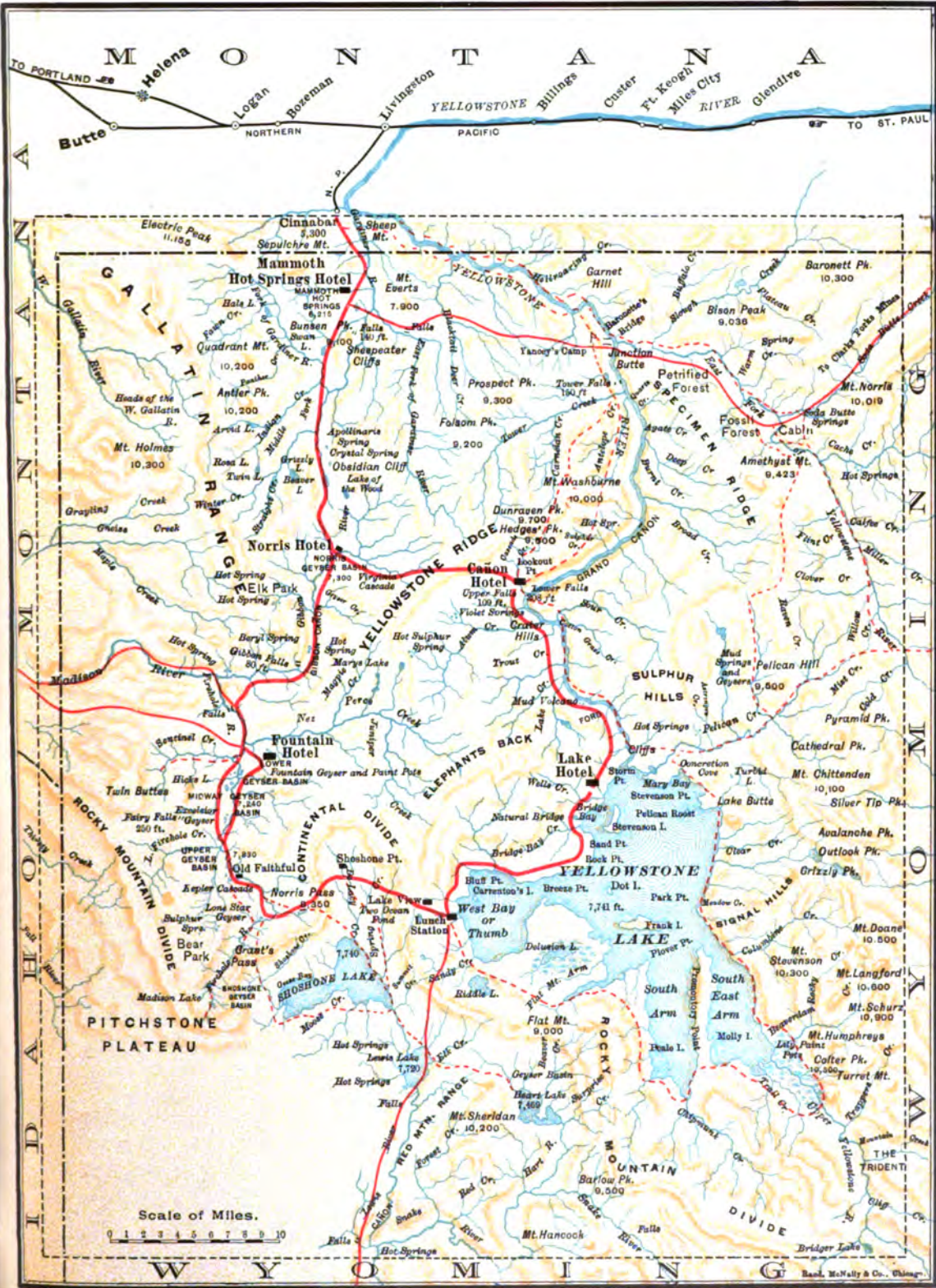
Undoubtedly the geysers are the most unusual and peculiar phenomena of the region. I looked upon them the first time with awe, almost with reverence. I do even now somewhat.

The wind bloweth where it listeth. Thou hearest the sound thereof, but canst not tell whence it cometh nor whither it

goeth. The geyser is something like the wind. Almost without warning it vaults into the air, and before surprise is over, it has gone—where? We see the sepulcher where it lies buried until the hour of its resurrection, but naught can we see of it until that time. Then it rises, but to vanish quickly.

Regarding the theory of the geysers, it seems probable that there is still something to learn about them. Whether Bunsen's, the accepted theory, will explain everything about their formation, action, etc., is, I think, not a settled fact. One thing seems certain, *i. e.*, they do not necessarily extend far beneath the surface of the ground. Surface water, percolating below and becoming heated, undoubtedly furnishes the water necessary to the geyser's life. An observer of several years at Upper Geyser Basin claims to be able to tell when the geysers, Old Faithful, the Grand, Splendid, Castle, Giant, etc., will play at their best. If the snowfall in winter, or the rainfall in spring is unusually heavy, they are more or less retarded in frequency and effectiveness. The supply of water is then too great for the amount of subterranean heat. It takes more time for the kettle to boil, and at first, therefore, the intervals are longer than usual and the strength of the eruption less. As the season progresses the action of the geysers becomes more free, more frequent, and more powerful.

Some of them throw out, during eruption, sticks, worn, bleached and with frayed ends, or occasionally small roots of trees, or small stones. Those who visit the Great Fountain Geyser—not the Fountain Geyser near the hotel—at Lower Geyser Basin, between its eruptions, will, upon walking about and over its wide basin, find scattered in the pools of pellucid



water, small, white, rounded pebbles and stones. These have been expelled from the geyser and show in their polishing and uniform sphericity the effect of constant motion and attrition. These, seemingly, are thrown out with little force, as the geyser does not play to great heights, but instead throws out an enormous and heavy, bulky volume of water, and the marble-like sphericles are found near the crater of the geyser.

Some of the geysers, undoubtedly, have subterranean connection. Others, very close together and where such connection might naturally be supposed to exist, have none whatever.

There is much individuality found in the geyser family. Some of them are wonderfully lazy, others have a surplus of energy. The smaller tots and babies are like human children, full of antics. They are impressive, and, like many a young hopeful, "show off" when least expected, and are quiet when it is desired that they exhibit their accomplishments.

Old Faithful, the Fountain, the Minute Man, and Black Growler are different types of this interesting family. The latter is the only steam geyser, pure and simple, in the Park. No one, I believe, has ever seen it when *not* in evidence. For a century, for aught we know, it has been bellying and filling the air with its roar. One would think its lungs and throat were worn out, but it gives no sign of wear and tear. Its round, beautiful steam column comes forth with tremendous energy, and it can be heard miles distant.

The Minute Man is near the Growler. It shoots up a slender, spurty stream every fifty seconds, to a height of twenty or thirty feet. It plays but for a few seconds. Indeed, it has hardly begun before it is done. It is a sort of jumping-jack geyser, full of vivacity, and should be particularly interesting to the younger element.

The Fountain Geyser is similar to the Great Fountain. It does not attain the elevation in its eruptions that some of its cousins of the Upper Basin do, but its fountain-like display is a very fine one. A great mass of clearest water is lifted bodily out of its cistern, and lashed and thrown into jets and masses of spray that leap upward and outward at all angles. The body of water tossed and pitched by the hidden spirit within, in convulsive throes strives to escape its tormentor. The jets of spray are projected from thirty to forty feet into the air, and, turning, deluge the knoll with water which runs swiftly away in streams and sheets of steaming, scalding crystal.

Old Faithful is very different from any of these. Its periodicity lengthens a little each year, but it regularly plays from every sixty-five to seventy minutes. Its eruption lasts from six to seven minutes. There is much of both steam and water thrown out, and when the wind is blowing moderately the exhibition is a beautiful one. The weight of the

water holds the column rigid and vertical for the 125 to 150 feet of its height, while the steam, wafted up and about, moves with singular dignity and majesty, at times investing the scene with a grandeur that awes the beholder to silence and wonder. An interesting feature of Old Faithful's eruptions lies in the fact that, owing to its regular and frequent playing, it is capable of great variety. On a sharp, frosty, calm morning in September, one of its grand exhibitions is a revelation. No wonder that every tourist loves the old geyser.

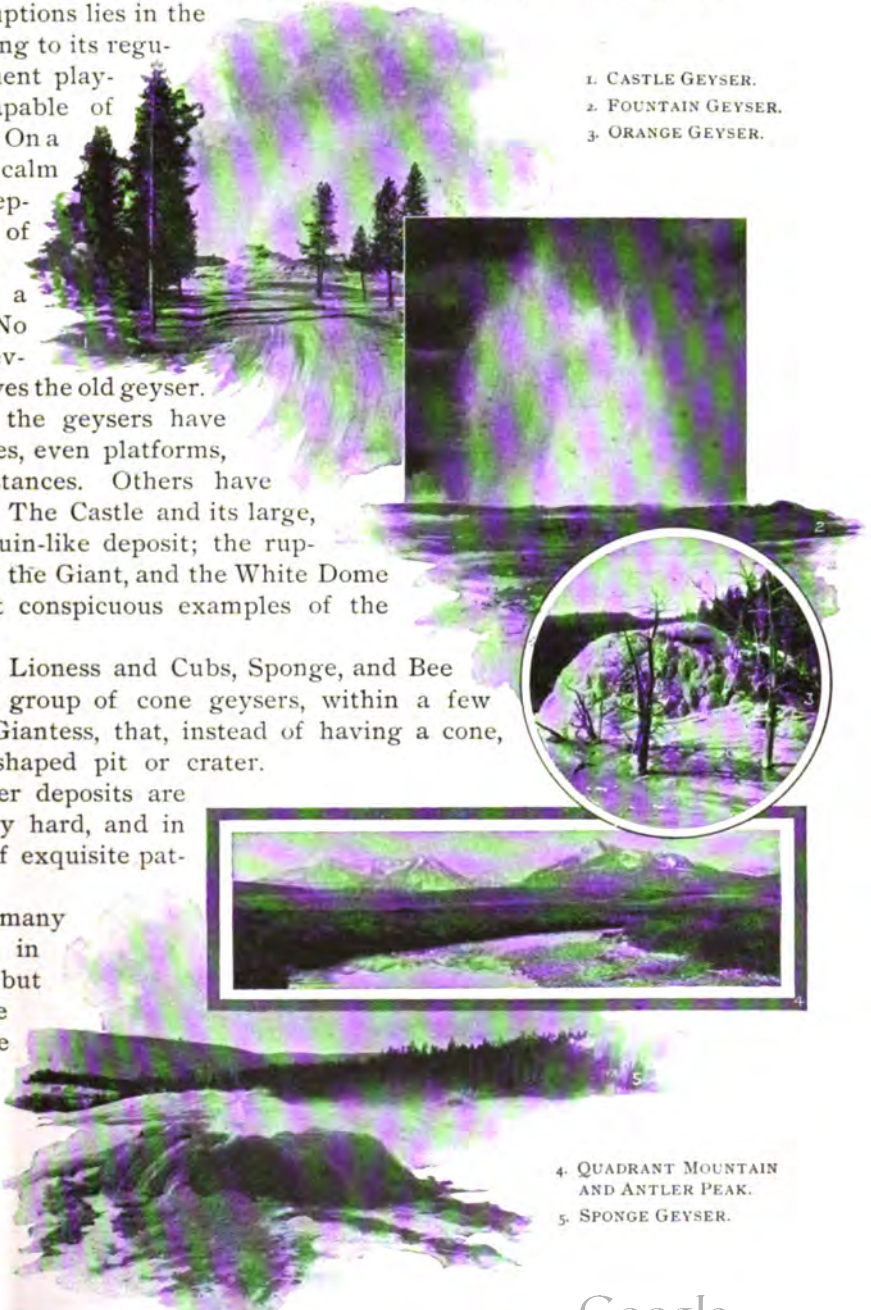
Some of the geysers have built up cones, even platforms, in some instances. Others have none at all. The Castle and its large, castellated, ruin-like deposit; the ruptured cone of the Giant, and the White Dome are the most conspicuous examples of the former.

The Lion, Lioness and Cubs, Sponge, and Bee Hive form a group of cone geysers, within a few rods of the Giantess, that, instead of having a cone, has a bowl-shaped pit or crater.

The geyser deposits are siliceous, very hard, and in many cases of exquisite pattern.

There are many geyser areas in the Park, but thus far those mentioned are the only ones accessible to the ordinary tourist.

- 1. CASTLE GEYSER.
- 2. FOUNTAIN GEYSER.
- 3. ORANGE GEYSER.



- 4. QUADRANT MOUNTAIN AND ANTLER PEAK.
- 5. SPONGE GEYSER.

CONTINENTAL DIVIDE AND YELLOWSTONE LAKE.

The ride through the Park is at all times an attractive one. Between the Upper Geyser Basin and Yellowstone Lake, where the road winds across the Continental Divide, it is especially wild and inspiring. Soon after leaving the Upper Basin, Kepler Cascade, one of the finest in the Park, is passed. It is in a cañon at the side of the road, and the coaches stop there that tourists may alight and view it.

In the midst of the mountains Shoshone Point is reached. From the Point, Shoshone Lake lies shimmering far below in the very embrace of the mountains. It is a sapphire in the midst of emeralds. Except for the road excavated along the sides of the mountains, the region about Shoshone Lake is the same wild, pristine place that it was when Colter wandered through its leafy arcades.

At Shoshone Lake there is an interesting family of geysers that some day will attract many visitors. Shoshone Lake is, itself, a spot well deserving a visit when the Government shall have made it easily accessible.

The timber and beautiful little valleys in this part of the Park are where the deer and elk love to roam in summer. Solitude broods over it, broken only by the tread of these animals through the forest, the whistle of the wind in the tree tops, the crashing of the thunder among the mountains, or the cries and songs of the birds.

The ride through this portion of the Park is one of exhilaration. The rare scenery and rarer atmosphere, the frequent changes of vista, the creeping along the mountain sides and sweeping around giant headlands, the feeling that one is indeed clear of the conventionalities of communities, and is breathing the pure air of the hills and mountains untainted by the smoke of furnaces or the gases and odors of cities, fills and thrills one.

After a ride of several hours in which one rises higher and higher on the wings of emotion and enjoyment, the climax is reached at Yellowstone Lake.

Turning from a parklike spot where clusters of trees break the line of vision, the coach approaches the edge of the plateau preparatory to descending to the lake level. The prospect opens, and over and through a fringe of trees the lake breaks suddenly upon the sight. If placid and smooth, the view is one of peace and restfulness, and as the eye scans the surroundings, noting the realm of vanishing water, the high, bare-topped mountains on the farther shore, Mount Sheridan, looming up to the south, and the foreground green and refreshing, a sense of pleasure and content steals over one.

If, as I have seen it, a storm is sweeping across the bosom of the

mountain sea and nature is in high dudgeon about something, the scene is transformed into one of anger and commotion. Far out on the water the rain can be seen driven in a black wall before the wind. The blacker clouds scud along high overhead, and the lightning's flash and thunder's crash punctuate the stillness. The lake tries to work itself into a miniature sea and evolve big white-caps, but it makes a poor success of it. In a short time the storm has passed off among the mountains, and the angry face of nature has relapsed into a broad smile at the miserable failure it made of it.

The coach ride along the shores of the lake is an unusually enjoyable one. The Paint Pots, near the lunch station, are passed, and then for miles the road is alongside and at the level of the lake. At each turn of the road, or change in elevation, a change of scene follows.

The hotel at Yellowstone Lake is near the outlet, and commands a view up the lake. For a day's rest, on Sunday, for example, this spot will commend itself to tourists.

Between the lake and the Grand Cañon the scenery is quite the reverse of that between the Upper Geyser Basin and the lake.

The road follows the Yellowstone River, crossing Hayden Valley. Two prominent objects are passed—Mud Volcano and Crater Hills. The former is a conical vent in the side of a hill, where there is a continual belching of mud. It is, in a sense, nauseating, but it is, to me, one of the most interesting objects in the Park, quite unlike anything else. It is at the side of the road and easily seen. Formerly its explosions were terrific; now they do not project the contents half-way to the top of the opening.

Crater Hills are also known as Sulphur Mountain. They consist of two low hills, between which the road runs, and of which sulphur is one of the component parts. At the base of one of them is a boiling sulphur spring, some ten to fifteen feet in diameter. It splashes and boils to a height of from two to five feet above the surface. It is rich in color, and as attractive as the Mud Volcano is unsightly. Tourists can easily see it without leaving the coach.

THE GRAND CAÑON.

The fifth day's tour of the Park leaves the tourist at the Grand Cañon Hotel in time for luncheon.

The first sight of this cañon, the wonderful handiwork of God, will, it is safe to say, upset all of one's preconceived ideas of it.

In describing the sights of Yellowstone Park I always hesitate when I come to the Grand Cañon. There are some places on earth where one feels so near to the presence of the Almighty, that it seems little less



GRAND CAÑON AND LOWER FALLS OF THE YELLOWSTONE.

than profanity or sacrilege to attempt to depict their glories. It is so here. One must, however, often attempt a task, even though it seem to be impossible to perform it satisfactorily.

Bishop Earl Cranston of the Methodist Episcopal church visited the Park in 1897. The bishop had seen much of the best scenery of this country, and his expectations were not keyed to a high pitch. How far short of the reality his anticipations were he has told us in three letters, published in the *Western Christian Advocate*. His views as to the utter futility of describing the cañon are given in the following excerpt from one of his letters:

As to the most graphic and ambitious word-painting I have seen, designed to be illustrative of this magnificent vision, I have only to say that, as a portraiture, it bears to the reality about the same relation that the printed concert program, carried home in one's hand, holds to the soulful rendering of the divinest conceptions of the masters. To be freed at once from this chief burden of my undertaking, and at the same time obtain pardon of myself for my confessed complacency before I had looked upon this matchless scene, let me write it down in all humility that no words or symbols of man's devising, no brush of his wielding or colors of his blending, can translate what God has here written. To any unbrutalized soul this revelation must be overpowering; to the refined intelligence overwhelming. The devout it fills with an amazement of rapturous awe. Hidden, like Moses, in the cleft of the rock, one sees God's glory passing by.

But, regarded simply as a physical phenomenon, I do not see how any sane person could attempt a description of it. How can any artist reproduce miles upon miles of gorgeous coloring, whose miraculous blendings are changing under every shifting of the light? How paint splendors that quiver in perpetual transformations? How describe abysmal depths, that now appear to be sinking, sinking, sinking betwixt their towering, turreted, spectral walls, the while dropping, dropping the narrowing river held in their embrace, till it seems to have been frightened into motionless silence — and then just as it is entombed in a sepulcher of rare mosaic, those same depths begin to glow again with living colors, and by some latent power of illumined space to thrust apart the rims of the awful chasm that closes them in, revealing its sides splashed with gorgeous tints that presently blaze from crag and flash from turret; the silent, buried river meanwhile rising from its swooning, and its emerald mingles with the blazing hues of the glorified formation. How paint such a vision, where relatives, proportions, lights, shades, tints, and, finally, perspective, are absolutely unmanageable! One writer says: "It is as if the most glorious sunset one ever saw had been caught and held in that awful, resplendent gorge." I can understand his "awful" and "resplendent," but what artist ever painted a sunset? With every second of time the effect changes, and before the brush can translate one entrancing combination a new glory of sky and cloud is ravishing his soul. No two sunsets are alike. Each is a series of glories. To-day's canvas can not be finished with to-morrow's brush.

So Yellowstone Cañon is never twice the same. It is an abyss of transitional splendors. One glance by daylight or moonlight from any accessible point and that vision is gone, to be not again exactly duplicated. One may generalize, may differentiate this from all other cañons, or paint fragmentary studies — that is all. No man can make plain to another's understanding what he himself does not apprehend. Entranced amazement is not apprehension, any more than rapturous worship is comprehension.

This miraculous vision can not be apprehended, as God can not be comprehended. No artist can paint the sea that engulfs him.

If we can not hope to do justice to the marvelous scene, we may perhaps be privileged to make a few statements and give a few impressions regarding it.

There are several key or vantage points along the cañon accessible to tourists. These are at the head of the Lower or Greater Fall, at Lookout Point, Grand View, and Inspiration Point. Lookout Point is the first commanding position on the brink of the cañon, near the hotel. Both Lookout and Inspiration Points are shelf projections of vertical rock, advanced somewhat into the gorge. They are railed off for the protection and convenience of tourists.

Leaning upon the railing at Lookout Point, what do we see? Two yellow, flaring walls, and in their midst a waterfall 300 feet high. Upon each wall is an infinitude of monuments, needles, towers. Here and there a razor-like precipice thrusts itself above the slope.

Over by the roadway the wall is white and crumbly, scamed, punctured, and weathered by time. Below, at its base, the slope is composed of marbled, powdery material, worn from the walls by the storms and disintegration of a century. Here a stunted tree sways in the wind, there a cave gaps from the wall. The walls are quite different. One wall is built up of large buttresses, which are in turn supported by smaller buttresses. The other is flaring, having wide areas of smooth, disintegrated granules of rock.

The action of the water is seen on all sides. Between the buttresses, and among the spires and obelisks which adorn the walls, are channels or slides formed and worn almost smooth by the swiftly descending streams after storms.

Far below me and well down in the cañon and overhanging the water is a conspicuous object. It is a blood-red obeliskine rock, or finger, in a white and yellow sea. I climb down to it, working my way along a trail at the side of a ravine, where thousands have preceded me. I reach the upper base of it. Carefully I climb up its rugged side, planting my feet in the crevices and seams and clinging with my hands to protuberant knuckles of rock. I can almost reach its sharp tip, but the wind is blowing strong, making the ascent rather dangerous, and, as I am alone, I content myself with hanging on to the rock and overlooking, for a time, the river. Then I descend, scramble around to the lower base, and sit down.

I am now about on a line with the edge of the Lower Fall. It goes pouring over the brink in never-ending volume. Its hol-



LOG CABIN STUDIO,
UPPER GEYSER BASIN.

low, sepulchral roar comes to me as music, a deep-toned diapason varied in expression by the wind. I enjoy watching the movement of the mist as it is swayed by the latter. The wind plays with it. Now it sends dense masses over against the farther wall; again, it lifts it high up, even to the cañon's brink, whence it goes ricochetting along the walls; now it drives it headlong down the gorge, and for a time I sit enveloped in its clammy folds; then it is beaten down to the river bed, where it expands and hides the river from view. What a sight! What a place! The fall roars, the sound rolls through the gorge, the wind blows. It is never quiet here; it is always sounding, sounding.

The water of the fall as it jumps into the abyss is torn into tiny crystals. At the bottom it is furiously churned.

Here at the foot of this old rock is a wonderful spot to be impressed by nature, especially if one is alone and the mind and emotions can be given full play.

The views from Grand View and Inspiration Point are the antithesis of each other. The former is but a short distance beyond Lookout Point, and is the point at which the cañon suddenly expands into nearly or quite twice the width that it has above there. The play of color is astonishing. The reds, yellows, whites, lavenders, grays, etc., are there in full strength, and the effect may be imagined. The reds and yellows are the predominant colors, and, when the walls are flooded with sunshine, one can be forgiven for at times imagining, almost, that he is gazing at a great conflagration.

From Inspiration Point, in looking up the cañon, one looks across the same expanse seen from Grand View. In addition, the Lower Fall is embraced in the picture. It appears small now, very different from the sight of it at Lookout Point, but perhaps it is all the more interesting because of that.

Below Inspiration Point, and passed by the tourist before reaching there, is a unique spot known as Castle Ruins. Here the yellows run riot. Erosion also has done some amazing chiseling, and between the sculpturing and the painting by Father Time found at Castle Ruins, the place is one of the most interesting in the cañon.

It is entirely practicable and safe for tourists to climb down and into



EAGLE NEST
ROCK.

the cañon, if they use discretion. There are many places at and beyond Grand View where this may be done, but in the localities about Lookout and Inspiration Points it is dangerous to attempt it.

From the hotel at the cañon an easy trail leads to the Lower Fall. A platform and railing enables one to stand there and watch the water pour over the brink into the gorge below. It is a great cataract, and the sound of its falling waters will be with one long after he has stood beside it. In the quiet of the night one can hear its muffled roar from his room at the hotel.

A half mile above the Lower Fall is the Upper Fall. The Lower Fall is 308 feet high, whereas the Upper Fall is but 109 feet in height. The only point of resemblance between them is that they are waterfalls. The setting of each is very different.

What a rare combination is found here! Two splendid falls and a magnificent cañon! If any one of them were found disassociated from the others it would be considered a privilege to see it. How much more to be appreciated, then, when the three are found in conjunction!

If one were to remain a week at the Grand Cañon he could find some new scene to inspire him each day. The cañon varies greatly under different degrees of sunshine and shadow. It will bear study and inspection, and well repays the tourist for the time spent in strolling along its flaming Gothic walls.

GOING TO THE PARK.

A year ago, in the parlors of the Hotel Aberdeen, St. Paul, I talked for an hour with a party of tourists from Ohio, bound for Yellowstone Park. They knew, in a general way, about the Park and its peculiar attractions. What they wanted to know, the questions they asked, bore upon the minutiae of the trip, so to speak—the thousand and one little things that occurred daily in making the grand tour.

The only railway reaching the Park is the Northern Pacific. At Livingston, Mont., 1,007 miles west of St. Paul, and 1,049 miles east of Portland, the branch line—fifty-one miles in length—to the Park diverges from the main line. The through transcontinental train leaves St. Paul at 1.30 P. M. each day, and at 10.30 P. M. the next day Livingston is reached. The east-bound train leaves Portland daily at 11.00 A. M., and reaches Livingston at 4.35 A. M. of the third day out. These trains



A TRAIN OF
PARK COACHES.

each carry a first-class Pullman sleeping-car for the especial accommodation of Park travel. At Livingston these cars are detached from the through trains, and attached to the Park train, which leaves for Cinnabar, the terminus at the Park boundary, after breakfast, each day, at 8.30 A. M. It will thus be seen that the occupants of the first-class sleeping-cars are not disturbed at Livingston when the through trains reach there.

A few days—a week, if possible—before starting for the Park, one should either write or telegraph to the passenger department of the Northern Pacific at St. Paul or at Portland, asking for such berth reservations as are desired. This will make certain the fact that sleeping accommodations will be found awaiting one's arrival at St. Paul, Duluth, or at Portland. The price of a double berth in a first-class sleeping-car between St. Paul or Duluth and Cinnabar, or between Portland and Cinnabar, is \$7 each way.



TETON RANGE.

MT. SHERIDAN AND
YELLOWSTONE LAKE.

Attached to each train is a dining-car, so that meals can be obtained at regular hours. Breakfast and dinner cost \$1 each; lunch is served *a la carte*—you pay for what you eat, and eat what you pay for.

WHEN TO GO.

The tourist season begins June 1st and ends October 1st of each year. That is to say, between those dates the Park hotels are open and the tourist coaches run. Before June 1st the roads are not in good condition, owing to snow, and spring washouts. After October 1st the weather grows too cold for comfort, and storms are liable to occur.

If one is able to go when one pleases, late June and early July would probably suit the majority of tourists best. But go anyhow, even if later in the season. The Grand Cañon is as effulgent, the Falls as majestic, Old Faithful as regular in its eruptions, Gibbon Cañon as glorious, Liberty Cap as faithful a sentinel, Golden Gate as yellow, and Electric Peak keeps as close watch over the Park in September as in June. The writer, on horseback, once enjoyed two weeks in the Park in September as much as he would had it been in July.

In going to the Park do not load yourself down with luggage. It is well to take a trunk to Mammoth Hot Springs, but leave it there. Dress warmly in good, serviceable clothing, and carry an extra suit for dinner and evening use at the hotels. A mackintosh and warm wrap, rubber overshoes, good and comfortable shoes and gloves, goggles, and a cap or hat that protects the face from the sun, are needed. Have the wraps in a shawl-strap, so that they will be at hand whenever a sudden rain or change in the weather makes them desirable.

MODES OF TRAVEL.

Beyond question the most desirable, most comfortable manner in which to see the Park is to use the regular stagecoach and hotel service. In this way the conveniences of the trip are magnified and the discomforts minimized. This tour is based upon the idea of the maximum amount of comfort and sight-seeing for the minimum amount of time and expense.

It must be remembered that the Park is far from the centers of population; that the tourist season lasts only four months, and that the expense of maintaining the hotels, lunch stations, and stagecoach equipment, including horses, drivers, etc., is very great. The Park is sixty-two miles long and fifty-four miles wide, mountainous and heavily timbered, and the winter snowfall is heavy. Manifestly, if one were to try to see everything it would require unlimited time and expense. The problem, then, is to arrange a tour that shall, within reasonable time, enable the tourist, at reasonable expense, to see the best and most important objects, so far as possible. To this end the hotels and lunch stations must be located at convenient distances apart, and where good water is procurable. The problem has been quite happily solved. Five and one-half days in the Park are required to do all this, and the expense is \$49.50 from Livingston through the Park and return to that point, including all railroad and stagecoach fares and hotel bills. The mileage made in the Park tour is as follows :

First day, Livingston to Cinnabar, by rail, fifty-one miles ; Cinnabar to Mammoth Hot Springs, by stagecoach, seven miles.

Second day, Mammoth Hot Springs to Lower Geyser Basin, by stagecoach, forty miles.

Third day, Lower Geyser Basin to Upper Geyser Basin and return, by stagecoach, eighteen miles.

Fourth day, Lower Geyser Basin to Yellowstone Lake Hotel, by stagecoach, forty-seven miles.

Fifth day, Yellowstone Lake Hotel to Grand Cañon, by stagecoach, seventeen miles.

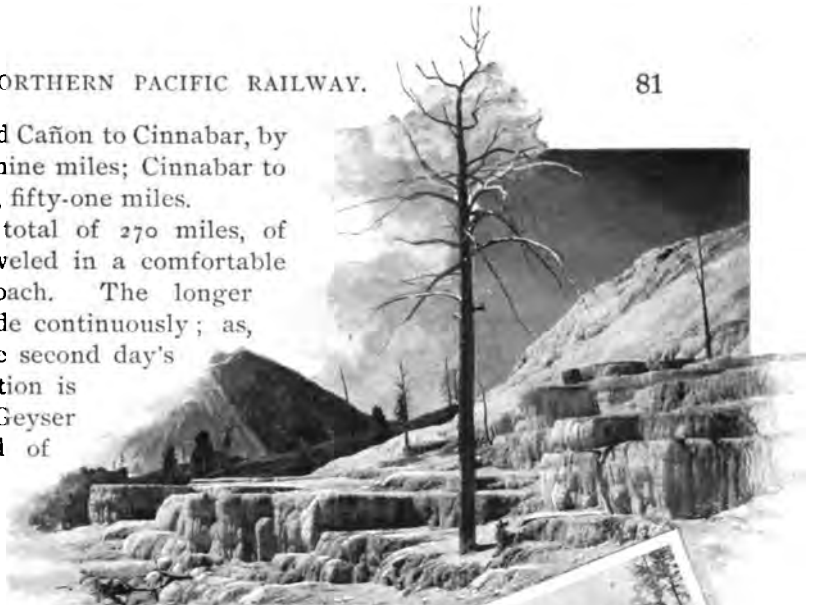
Sixth day, Grand Cañon to Cinnabar, by stagecoach, thirty-nine miles; Cinnabar to Livingston, by rail, fifty-one miles.

This makes a total of 270 miles, of which 168 are traveled in a comfortable four-horse stagecoach. The longer drives are not made continuously; as, for example, on the second day's ride, the lunch-station is reached at Norris Geyser Basin at the end of twenty miles; on the fourth day lunch is eaten at the Yellowstone Lake lunch-station, twenty-eight miles from the starting point. The lunch stations thus serve for resting spots as well.

Yellowstone Park is noted for several distinct forms of phenomena. The tour here outlined enables the tourist to see something of each class, and even different forms of the same class.

The hotels in the Park are large, comfortable, steam-heated and electric-lighted. They will each easily accommodate from 150 to 250 guests. The lunch stations at Norris Geyser Basin and West Arm of Yellowstone Lake are under canvas, and supplied with all toilet conveniences. The lunch station at Upper Geyser Basin is a wooden structure and within a few minutes' walk of Old Faithful, Bee Hive, Castle and other geysers, the eruptions from which can be seen from the building.

The stagecoaches seat from six to ten passengers each, are drawn by four steady horses, have experienced drivers, and are arranged for sight-seeing. Many of the drivers have driven in the Park for years and are familiar with every mile of road. It is entirely proper to ask them for information, or to have the coach stopped in order to get out to examine some interesting object. At many places, such as Apolli-



1. PULPIT TERRACE.
2. FIRE HOLE CAÑON
AND RIVER.



GIBBON FALLS
LOOKOUT.

naris Spring, Beryl Spring, Gibbon Fall, Keppler Cascade, Mud Volcano, Crater Hills, Shoshone Point, Excelsior Geyser, etc., the coaches always stop for the tourists to look around.

In the regulations made by the United States Government concerning travel in the Park, the coaches of the Yellowstone Park Transportation Company are the only vehicles—except those owned by individual tourists—authorized to take passengers to the Park hotels. In the usual tour, stop-overs are allowed without additional charge, arrangements first having been made with the Transportation Company at Mammoth Hot Springs. Parties may arrange for a prolonged stay in the Park at a small additional expense for the retention of a particular coach.

BICYCLING.

The wheel is becoming a more prominent feature of Park travel yearly. One of the first bicyclists in the Park was young Lenz, in 1892, in the first stage of his round-the-world tour for *Outing*, which ended so disastrously for him when near its close. The writer walked with Lenz up the long hill leading to Mammoth Hot Springs, and afterward stood with him on Inspiration Point at the Grand Cañon. Together we snapped our cameras at the glorious scene below, above, and around us. Lenz enjoyed his trip in the Park and had few adverse criticisms to make on the feasibility of the wheel tour. Since then the roads have been improved immensely, hills have been eliminated through relocation of roads, and everything changed for the better. Now, wheels are an every-day sight at all points in the Park, many tandems being seen. Generally speaking, the roads are hard, smooth, free from stones, and the streams are bridged. Dainty lakelets and springs lie beside them; or they wind alongside trout-streams and near geysers and cascades. There are a few sandy stretches and some hills. When the Continental Divide is crossed, the wearied body forgets its ills in the almost transcendent scenes that greet the eye.

White mile-posts, with distances marked plainly, are found on all the roads. Sign-posts, placed at the roadside, indicate the presence of contiguous points of interest, hidden, perhaps, amid the foliage, such as springs of delicious drinking water or a rollicking cascade.

ON HORSEBACK.

For those devoted to horseback riding no method of transportation in the Park will equal it. Nearly all the advantages of the bicycle tour belong to this, and it has some that the wheel has not. A horse will carry one up a hill or over a steep trail, ford a stream where no bridge is found, and flounder through a mud-hole; a wheel will not! Detours may be made through trackless forests where blind trails are the only pathways;

where fallen timber obstructs, and where narrow steep-banked creeks must be jumped, and rocky places encountered. With a pack-train outfit and a good guide, farewell may occasionally be said to hotels and roads, and a plunge be made into the wilds—the role of explorer being added to that of sight-seer.

For the man or woman who can ride fairly well and who enjoys tent life and loves to be cuddled to nature's bosom, a horseback expedition in this region is an ideal outing. Of



MADISON
GRAYLING AND TROUT.

course, the usual tourist routes are open to such persons, but the remote portions of the Park are also accessible. The haunts where the elk, antelope, and deer seclude themselves can be penetrated. The tent can be pitched on the shores of a quiet lake nestling among high hills; beside a trout-stream seldom visited by bipeds; in the heart of the forest, where the wind croons sweet lullabies among the trees; or in some of the remoter geyser or hot-springs basins. Breaking away now and then from the hotels and roads, the big mountains can be climbed. The great Teton Range to the south of the Park boundary, with Jackson Lake mirroring its adamant walls, is a standing invitation to the mountaineer to try conclusions with it.

In all these variations of the regular tour, the Transportation Company can be utilized. It is prepared to supply horses, guides, tents, and wagons for all sorts of outing parties, and at reasonable rates.

IN GENERAL.

At such places as the Lower and Upper Geyser basins and the Grand Cañon, the most comfortable way for the regular tourist, and for ladies particularly, to see the geysers and cañon is to use the tourist wagons at these points. The regular coaches convey passengers from hotel to hotel only. The wonders of the Upper Geyser Basin are extended over an area a mile and a half long and a mile wide. While for most people it is pleasurable exercise to walk slowly about these places, there are many to whom the tourist wagons are a great convenience. YELLOWSTONE PARK STAGECOACH.



Side-trips for tourists who stop at the hotels are numerous. From the Fountain or Yellowstone Lake hotels, one can make trips to Jackson Lake

and the Teton Range south of the Park; to Shoshone and Lewis lakes, or down the Madison River. From the Yellowstone Lake and Cañon hotels there are many varied trips. Hayden Valley is a beautiful spot to explore; the Natural Bridge, the Pelican Creek Country, and the shores of Yellowstone Lake are points of interest. From the Cañon Hotel the ascent of Mount Washburn — 10,000 feet high — is the particular side-trip taken by tourists. A good trail leads to the summit, and one can ride a horse to the top.

Trouting excursions can be made from any of the hotels. Nearly all the Park streams have trout in them. Even among the geysers, where the water is warm, trout are found. Yellowstone Lake is full of trout.

Hotel rates are \$4 per day for the first seven days, and \$3 per day thereafter. Those who desire to remain in the Park for a month or more, can, by writing to the Park Association at Mammoth Hot Springs, obtain a special rate.



AROUND
MOUNT RAINIER



THE ASCENT of Mount Rainier during the summer of 1897 by a large company, the Mazama Club of Portland, Ore., and their guests, has attracted attention to this higher and better form of outdoor recreation. Mountaineering ought to become more of a national trait with us. Properly practiced, there is little of either real danger or fatigue in it.

Our highest peaks — those which are climbed or seen from “turret to foundation stone” — are found on the North Pacific Coast. Some of the Colorado mountains — and royal old fellows they are — are as high, but before they are reached one has already ascended, perhaps while sitting in a Pullman car, several thousand feet. On the North Pacific Coast it is far different. Rainier, Hood, Adams, Baker, Shasta, each and every one of them is climbed from its very base, and the result is that 12,000 or 14,000 feet of elevation means just that, and the mountaineer ascends every foot of those distances. More than this, the northwestern mountains are covered with ice. They are the Alps of the United States. There are to be found our Blanc, Jungfrau, Matterhorn, etc. The scenery is Alpine, the flowers are Alpine, the streams are Alpine, everything is Alpine.

If it be objected that one's ambition does not lead to the ascent of high mountains, I reply that a mountain outing does not necessarily include it. Nearly all the high snow-peaks in the Puget Sound and Oregon country spring from a region that can not be surpassed for camping and outing purposes. The ascent of the peak itself may or may not be attempted, as one's inclination prompts. I purpose to give here a portion of some experiences, with the ascent of the peak left out, of an outing in Paradise Park, on the southern slope of Mount Rainier, during the summer of 1894.



MT. RAINIER.
PARADISE PARK.

Paradise Park is a wild, rolling, irregular region of from 4,500 to 5,500 feet elevation above the sea level. It is literally in the midst of the mountains. Snow-banks, green knolls, clumps of evergreen trees, falls, rivulets, glaciers, glacial streams, and flowers are a few of its attractive features. The flora seen there is astonishing. There have already been found 400 varieties of flowers, and the end is not yet. In some spots the flowers grow so thickly as to fairly form a carpet. It may be of white, or of scarlet, or of purple, or it may be one of varied hues.

The usual place to camp is at or near Camp of the Clouds. One may camp at any spot, as suits the fancy. From every point the view is on a large and grand scale. To the north, Rainier itself rises, white, high, massive, and ever and anon the boom of the avalanche reaches the ear. To the southward, the Tatoosh, a serrated and remarkable range in many respects, seems to reach nearly as far heavenward as does Rainier. The snow patches and tree clumps form great splotches upon the landscape. The park comprises many thousands of acres, and is conveniently reached by stage from Tacoma via Longmire Springs, sixty-eight miles distant, and either afoot or on horseback, from Longmire's, a distance of six miles.

The days are pleasant, the nights quite cool and sometimes *cold*.

Two or three days after we had established our camp three of us set

out across a wide snow slope to visit Paradise Glacier and Sluisin Fall. The latter was in plain view from our camp, and when the wind was favorable we could hear the muffled roar of its waters.

We started upon our tramp at 8 o'clock A. M. Our route led us at first over ridges and depressions where snow and rock alternated. We then reached a wide, semi-circular snow-field that sloped down to the Paradise River. It was bordered at its upper side by a line of cliffs over which small streams cascaded, burying themselves in the snow at the base of the cliffs. The snow was soft, and we sank into it an inch or two at each step. Its surface was seamed with tiny drainage channels which radiated upward from other and somewhat larger channels like the sticks of a fan. Underneath the snow were many rivulets, and as we trudged along we could hear them rushing swiftly beneath us. The snow over them was hard enough to bear our weight. Had we broken through it might have been fraught with serio-comic consequences.

After an hour's tramp across the snow we climbed a ridge. There we stumbled upon a flower garden — one of nature's wild mountain gardens. Beautiful flowers, modest, pure, grown not in a hot-house, but where the cold air from the snow and glacier breathed upon them. They lie close to the ground, and as we mount the crest they gleefully shake their white, yellow, blue, purple, and red petals

ABOVE THE CLOUDS
ON MT. RAINIER, FROM COWLITZ CLEAVER.

at us in warm greeting to their lonely mountain park. Scarlet painted cups, anemonies, asters, heliotropes, and a score or more of other flowers decorate the asperous ridge.

The termination of this ridge was of a knob-like sort, and commanded a pros-

PARADISE
GLACIER.

pect so wide, so splendid, so inspiring, that I named it Panoramic Point, and as such it should stand. There were higher points on the ridge, but its situation happened to be such that the view from it was simply superb. The knoll was rocky, with a few stunted pine trees and junipers scattered over it. On one side it gradually sloped down to Paradise Glacier, on the other it pitched abruptly down to the snow and ice 100 or more feet below.

At our feet, hundreds of feet below us, the Paradise River scurried away, now in a tunnel of snow, now in sunshine, toward the Tatoosh Range. The great ridges and hills, plains and cañons, timber areas and snow fields of the park, stood out like the letters on the printed page.

In one direction we can see far down the gorge of the Nesqually River, and in the deep blue beyond can discern the outlines of the distant mountains. Toward the east we can follow the line of cliffs that forms the eastern side of the Cowlitz River running southeasterly. Peak Success, the southernmost peak of the tri-peaked summit of Mount Rainier, looms up behind us, calm, white, and stately, kissed by the thin, fleece-like clouds, frayed edges of a vast body of them that slowly and sedately comes pushing up from the Nesqually gorge. The cracked ice cliffs and crevasses gleam faintly through the misty veil. Ah! but there is still more.

Away to the left — the southeast — far, far beyond the Cowlitz bluffs, rises a gigantic white dome. It forms a magnificent white island in the ether round about it. It is one of the family of great mountains of the region — Mount Adams.

And again — this time to the southwest — our eyes trace the outlines of a sharp, high, white peak. As the clouds break, it bursts full on the vision and Mount St. Helens stands revealed in its grandeur and symmetry. And is this all? Not so, not so. Quick! — look toward the south, far down across the Tatoosh, where the masses of vapor that override us “half conceal, half disclose.” For an instant only, like a half-remembered dream, there faintly pierces the mists of heaven another white, sharp, cone-like shape. It is the peerless Hood, and to-day it is etherealized. It is but a vision, but it is Hood itself. Think of it! On the flanks of Rainier, the giant of mountains, to see at the same time St. Helens, Hood, and Adams! Isn't it truly Panoramic Point upon which we stand?

But I wish to direct attention to another thing. Just across the park, so near that it seems as if one could lay the hand upon it, rises the Tatoosh Range. From wherever it is seen it commands admiration. Indeed, it divides attention with Rainier itself. The truth is, that if the Tatoosh were not there one-half the grandeur and beauty of the region would be gone. But from Panoramic Point the Tatoosh stands out as

from nowhere else. The Point is just at the right distance from the range and at just the proper elevation to see it to greatest advantage. From Camp of the Stars, Gibraltar Rock, or from the summit of Rainier, we are too high and the range appears flattened. But from where we now stand it forms a setting complete in itself. The range is from six to ten miles long and we see the whole of it. Its sides, of black volcanic rock, are very steep, and the snow lies upon them in deep, irregular masses, strangely configured. The summit is a serrated, wavy one, notched into pyramidal, turreted, castellated, jagged peaks of various sizes. At some places the snow extends almost from the tip of one of the summit's tooth-like peaks clear down to the Paradise River. At others it is piled in deep, heavy banks which never melt. Toward the upper end of the range, and far below the crest line, lies Reflection Lake. It is at the base, apparently, of one cliff, and appears to almost hang upon the edge of another.

The slopes of the Tatoosh are heavily fringed with timber, and many lakes are found slumbering in the heart of the forest.

Leaving Panoramic Point we glisten down a snow cliff, using our alpenstocks to preserve equilibrium, cross Paradise Glacier, and move on a few hundred feet to Sluiskin Fall. We are only about a mile from camp in direct line, but we have tramped between two and three miles to reach the spot.

The stream issues from Paradise Glacier, and pitches down through a narrow, dark cañon, foaming and roar-



SLUISKIN FALL,
PARADISE PARK.

ing, to the edge, where it leaps down from twenty to thirty feet to the embraces of a mass of snow and ice, where it disappears from view.

From the time the water issues from the snow above the ravine to the time it dives out of sight into the snow at the foot of the fall, it makes noise and fuss enough almost for a small Niagara.

It was named after Sluiskin, an Indian, who guided Van Trump of Yelm, Wash., and Stevens of Boston, on their ascent of Mount Rainier in 1870, the first time that white men ever stood upon the real summit.

We ate lunch among the trees above the cañon, watched a marmot scurry across the snow to his hole in the timber, heard the cries of many more, and then retraced our steps to camp.

This little excursion is one of many that may be made within the confines of Paradise Park. In no case does hard or dangerous climbing form a part of it. There are many lakes, falls, and glaciers far and near, and flowers are found everywhere

ALASKA AND KLONDIKE



THE PAGES of history are sometimes unrolled with startling rapidity. A sudden war, the climax of long-continued aggressions almost unseen by the world at large ; a revolution, the culmination of political intrigue, silently but effectively carried on ; a discovery of treasure, where none was before suspected to exist, will apparently turn the world, in whole or in part, topsy turvy, and make history faster than reliable historians can record it. The latest instance of this is found Alaskaward, on a creek, Klondike, so-called.

For years a vague idea has prevailed that there was such a region as Alaska, a land of vast dimensions, huge crops of ice, tremendous glaciers, the most glorious scenery on earth, a few Indians, and high mountains. It was, however, to most of us a sort of intangible country.

The dream has suddenly become startlingly real. A discovery of gold in the frozen bed of an arctic creek, so far from civilized communities that the news of it was a year in reaching them, has stirred the world to its depths. A stampede from remotest parts of the world is in progress to the frozen North. The old missionary hymn, slightly changed, fits the case exactly :

Each breeze that sweeps the ocean
Brings tidings from afar,
Of nations in commotion
Prepared for Klondike ore.

Within the space of a few months we have learned more about Alaska and contiguous territory than in a century before. Every man who ever visited Alaska, many of those who have thought they did, and a small army of those who *never did*, has written either a book or a newspaper or magazine article on the subject. Out of this mass of — much of it — poor

writing and uncertain statement, it is not always easy to sift the wheat from the chaff. There have been, however, a good many kernels of good grain winnowed, and our real knowledge of this region has been greatly advanced.

The great ice-box of the country is found to be something more than a refrigerator and breeder of icebergs. The recent discoveries of ore were not, however, in American Alaska, but in the Canadian Northwest Territory. This fact has emphasized the importance of the boundary lines in that region. The line between Alaska and the Northwest Territory follows the 141st meridian from Mount St. Elias to the Arctic Ocean. This line is accurately established and marked on the Pacific Coast, and on the Yukon and Porcupine rivers in the interior. The international boundary between the United States and British Columbia follows an irregular line from Mount St. Elias southward to Portland Canal on the 56th parallel of latitude. This is the line which Britain or Canada disputes. As at present maintained, it places Chilkat, Tai-ya (Dyea), Skagway, Juneau, Wrangel, etc., in American territory.

If the Canadian contention is ever allowed, the first-named three places will find themselves in Canadian territory.

Accurate knowledge of this region has not, until recently, been easily obtained. Since the Klondike discoveries, Government reports, a few magazine articles of reliability, and interviews with reputable and reliable persons have disseminated

valuable information,
not to the few,
but to the
world.



STEAMER OFF FOR
KLONDIKE PORTS.



STEAMER
CITY OF SEATTLE.

The reports of Mr. Wm. Ogilvie, the Canadian Dominion surveyor, and a man of thoroughly trustworthy and of conservative opinions, are of great value. Prof. George Davidson, for many years in charge of the U. S. Coast Survey work on the Pacific Coast, in an article in the *Overland Monthly* for November, 1897, gives, succinctly, a great deal of information.

Extended explorations and surveys on either side of the boundary line have been comparatively few, and maps, generally, are necessarily inaccurate and uncertain in many particulars. Especially will this be noticed as regards nomenclature.

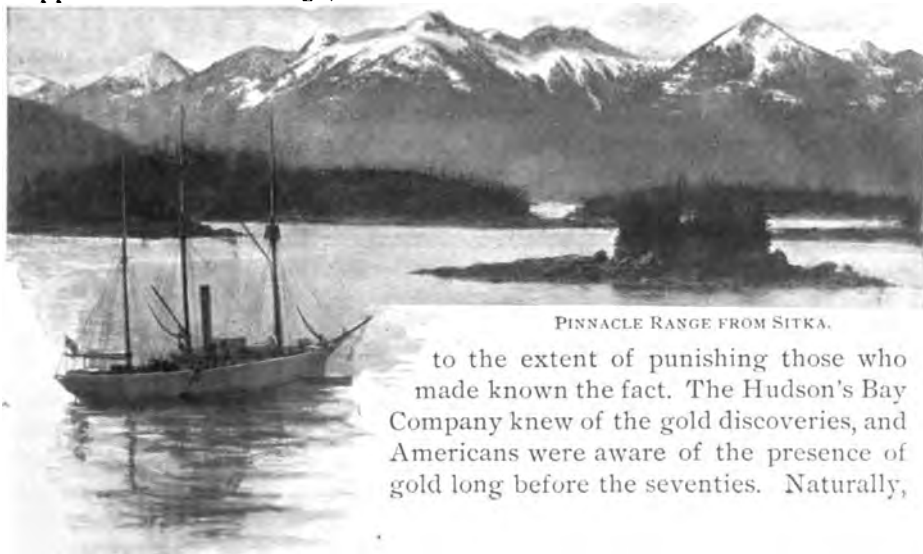


GENERAL VIEW OF SITKA
FROM BARANOFF CASTLE.

Professor Davidson gives the area of Alaska, including islands, as 579,000 square miles, or one-fifth the area of the rest of the United States, and equal to the area of France, Germany, Great Britain, Ireland, Belgium, and the Netherlands combined.

Alaska cost us \$7,200,000, and Professor Davidson figures that it has returned to us nearly \$114,000,000 to date, a fair profit on the investment, certainly.

The discovery of gold in this region is no new thing. The Russians knew of the gold placers, and, it is said, suppressed the knowledge, even



PINNACLE RANGE FROM SITKA.

to the extent of punishing those who made known the fact. The Hudson's Bay Company knew of the gold discoveries, and Americans were aware of the presence of gold long before the seventies. Naturally,

the first discoveries may have been upon the coast, but adventurous spirits of the gold-hunter sort are very soon impelled to push back into the mountains where the streams head, and where they know the richest placers are usually found.

The isolated character of the land, the long and severe winters and short summers, the irregularity and infrequency of the visits of steamers



KLONDIKERS ON
STEAMER
CITY OF KINGSTON.

and sailing craft, all of which made prospecting slow and expensive, prevented, in those early days, systematic and continuous exploration. The Treadwell Mine, near Juneau, a low-grade proposition purchased from a miner for the sum of \$400, and which has been yielding continuously \$70,000 or \$80,000 per month, stood as a standing encouragement to those of dauntless spirit and strong physique.

The topography of the country merits its attention. And here let it be remarked that, while an imaginary boundary line divides the country into two portions, there is no natural line of demarcation, in a physical sense. Alaska or Canada, Klondike or Copper River, Dawson City or Circle City, it is much the same everywhere.

The pronounced topographical feature of the region is the Yukon River. This tremendous stream has cut a channel through the very heart of the country. The river, through all its meanderings to its extreme headwaters, will measure close to 2,500 miles. Its tributaries measure 3,000 miles, according to good authority, and its drainage area is 300,000 square miles. Its sources are literally in all portions of Alaska and Northwest Territory. Its more remote sources are in the rivers and lakes just over the coast ranges of mountains along the Pacific Coast, that have become so familiar in connection with the various routes to the Klondike and interior of Alaska. In its lower courses the river is from eight to twenty miles wide; at the mouth of the Pelly River it is three-quarters of a mile wide. The larger portion of the greater river is navigable for steamers having a draft of four or four and a half feet. The upper river and many of the tributaries can be navigated by boats of very light draft.

The principal tributaries of the Yukon are the Koyukuk, Tanana, Porcupine, White, Pelly, and Lewes rivers. At the present time the Klondike River or creek is the best known. The waters of the Yukon teem with fish life. The salmon is the most valuable fish found for food

purposes. These fishes frequent the upper waters of the river as high as Forty Mile and Klondike rivers. The river both freezes and opens first on the headwaters. Navigation opens about July 1st—occasionally a little earlier—and closes from September 15th to October 1st, making the season of navigation a short one.

The country is mountainous, with apparently but limited amounts of valley land. In the interior there appear to be extended areas of swamp land. The ground is perpetually frozen to a great depth and is covered with a growth of moss peculiar to the region. Beneath this moss ice will be found.

Traveling and prospecting is very hard work. With the influx of miners, prospectors, and the necessary tradesmen, etc., it is reasonable to suppose that present conditions of life and travel will become easier from year to year. If the mining interests develop as now it seems likely they will, transportation facilities will be provided that will radically affect the region in all respects. The country is fairly well supplied with dwarfed timber suitable for fuel, cabin building, and general mining purposes, and coal is found in quantity. Strange to relate, in this frigid region, out of this frozen soil, the profusion and coloring of flowers and the variety and quantity of berry bushes growing is almost unbelievable. As partially, at least, accounting for this, it must be remembered that in summer the days are very long—twenty hours or more—the thermometer ranges high and the winds are not severe, and vegetation thus progresses rapidly.



AN ALASKAN
BELLE.



JUNEAU, ALASKA.

The agricultural possibilities of the Alaskan interior are scarcely known as yet. What seem to be reliable accounts indicate that in this respect the country is entitled to considerable credit. The conditions are peculiar, and crops, as well as men, must accommodate themselves to them, and apparently do so.

I have referred to berries. The plenteousness of them is surprising. Alaskan cranberries are a delicacy in the Pacific Coast markets. Blueberries, huckleberries, wild strawberries, raspberries, gooseberries, dewberries, red and black currants, all grow luxuriantly, as do others indigenous to the country. Oats and wheat, rye and barley, ripen in the Yukon Valley, and there are many and good varieties of grasses. Vegetables are somewhat uncertain. Cabbages and potatoes do not grow well. Lettuce, radishes, and turnips are produced successfully. While the summer and growing season lasts vegetation moves onward with tremendous strides. In many cases, however, the season is too short to mature the seeds after the plant has attained its growth, and new seeds must be imported for each season's planting.

In the Alaska Coast region, where the climate is mild and precipitation great, all root crops, including potatoes, grow prolifically.

There is undoubtedly a good field in Alaska for agricultural experiment work.

The native inhabitants of Alaska are Indians of many and unpronounceable tribal names. Whatever of savagery may have once possessed them, they are now — unless, possibly, in rare cases among some of the interior tribes — through contact with the whites, and especially the missionaries, docile and friendly. Indeed, in the rush to the Klondike and other portions of the interior, these Indians have been indispensable in packing miners' outfits and supplies across the mountain passes. They scale the roughest cliffs with huge, cumbersome packs, weighing from 50 to 75 pounds for boys and squaws, and from 150 to 200 pounds for the stronger men.

The climate of the coast is markedly different from that of the interior. The precipitation on the coast is excessive, being at Sitka, in latitude 57°, eighty-seven inches, and at Wrangel, a little lower down the coast, sixty inches per annum. In the interior the rainfall is only about one-third or one-half that on the coast. The reason for this is the influence of the Kuro-Siwo, or Japan current of warm water, a Pacific Ocean gulf stream in reality, upon the coast side of the mountains. This stream flows across the ocean northeastwardly from Japan, impinging upon the Aleutian Islands portion of Alaska, whence it is deflected down the coast to California, and finally loses itself in the broad bosom of the Pacific Ocean. The temperatures of the coast are moderate and pleasant.

In the interior the temperature ranges from 100° Fahrenheit above zero in summer, to 65° and 70°, and at times and places 75° below zero in winter.

The facts here presented will show that a great variety in all respects is found in this hitherto isolated region.

The adventurer need not necessarily incur the unquestioned hardships of a search for gold in the interior. The streams and sands along the coast have for years been yielding up the yellow metal to those who sought for it. If the coast placers have not proved Klondikes neither have life and labor been so hard pushed in the effort to find them. The old race between the tortoise and the hare may well be pondered in this connection.

The actual first discovery of gold always provokes discussion. Now that everybody can find gold in the Klondike or Yukon region, the magazines and press are full of the question as to who did really first find the metal, both in the Yukon Valley, as a whole, and the Klondike region in particular.

Since the world became afflicted with Klondicitis, the *Overland Monthly*, published in California, has given particular attention to the subject. In the October number, W. R. Quinan gives the credit for the first discovery in the Yukon Valley to one John Holt, in the year 1875, presumably near Lake Tagish. As Dr. Dall and Whymper explored the



1. TOP OF MUIR GLACIER.
2. THE ALASKAN FOREST.

3. FLOATING ICE, GLACIER BAY.

4. CHIEF KODOSHAN'S TOTEMS, FORT WRANGEL.

Yukon in 1865-6, it is almost inconceivable that they did not discover *the fact* that the gravels of the stream were gold-bearing.

George Chapman, in the September (1897) *Overland*, asserts that J. F. Butler was the first to direct attention to the Klondike. He was a California miner, and from a prospect hole on the Klondike, four miles above Dawson, early in August, 1896, he took \$10,000 in gold in ten days. On August 12, 1896, George W. Cormack made a great strike on Bonanza Creek, a tributary of the Klondike. It has also been stated that the Indians were the first to make known to



VIEW OF SKAGWAY
FROM STEAMER
CITY OF KINGSTON.

white men the fact that the Klondike and its affluents were gold-bearing, at least to any extent.

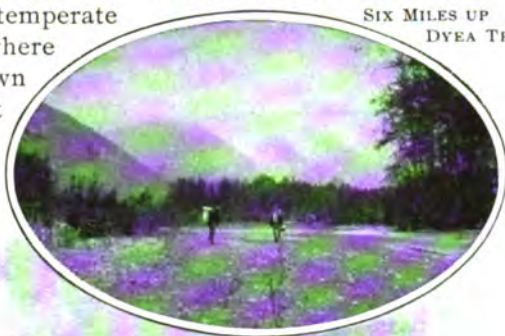
In July, 1897, the steamer *Excelsior* arrived at San Francisco, closely followed by the steamer *Portland* at Puget Sound, with news of the new

discoveries. The latter steamer brought down at least \$1,000,000 in gold, as \$970,000 were actually shipped by the banks and express companies at Seattle to the United States mints. The enormous individual fortunes made in a few days, weeks, or months on the Klondike streams, have been given sufficient publicity without enumerating them here.

The Klondike may even now be said to belong to a past era, for the reason that long ago, before we even knew that there was any Klondike, every foot of ground in the region was staked and occupied. It were as useless, perhaps even more so, for the inflowing tides of humanity to the interior of Alaska and the Northwest Territory, to head for the imme-

CONSTRUCTION
WORK ON SKAGWAY
WAGON ROAD.

diate vicinity of the Klondike streams as it would be to go to the placers of California—discovered fifty years ago—or to those of Montana, so thoroughly and successfully worked at a little later date. Those now en route to that region must go prepared to explore and uncover new Klondikes. This will prove a serious business, especially so for those unused to prospecting or mountaineering. To break away from the habitations and warm firesides of men, and plunge into an icy wilderness, working on frozen ground and in the cold waters of glacial streams, is no child's play even for the experienced prospector of temperate climes. That there are virgin fields where the golden nuggets are as thickly strewn upon the bed rock as they were at Klondike, is the universal testimony of all who are entitled to speak with authority. That they will be searched for and sooner or later discovered, is certain. Healthy men of strong physique, cheerful temperament, not predisposed to disease, ready to face hardship, discouragement, intense heat and poisonous insects in summer, and long nights and bitter cold in winter, can risk the ef-

SIX MILES UP
DYEA TRAIL.BURRO PACK
TRAIN,
DYEA POINT.PORTAGE,
LAKE BENNETT.

fort. By suitably outfitting themselves and living properly, the strong man can successfully combat nature and overcome the obstacles she has placed in his way, and enjoy life there. The same is

true of women. Each year will see the conditions of existence made easier.

There are various routes to the Klondike and Alaskan region. The longest and easiest is by steamer from North Pacific Coast ports via Unalaska to St. Michael, thence up the Yukon River, a total distance of about 4,450 miles to Dawson, and requiring twenty-nine days to make the voyage. Those using this route reach all the important points in the interior. The principal rivers of the country flow into the Yukon, and the principal towns—Weare, Fort Yukon, Circle, Fort Cudahy, Forty Mile, Dawson, Fort Selkirk, etc., are located upon that river.

The steamers on this route, both ocean and river, for the season of 1898, are expected to be perfectly adapted for the service.

There are many so-called overland routes, and new ones are being continually sprung upon an unsuspecting public.

It is probable that but three or four of them will stand the test of experience, and of these, three have their starting points at the head of Lynn Canal, nearly 1,000 miles north of Puget Sound. That the majority of the prospectors and explorers hitherto, as well as the Indians, have generally used the Chilkoot Pass, is a strong argument in favor of that route, hard as it is. The whistle of the locomotive now makes the echoes of Dyea Cañon. Where, heretofore, humanity has struggled along with aching legs and backs, staggering over the rocks of the pass, a steam tramway now "totes" both men and freight, landing them at Crater Lake on the other side. Thence the trip down the lakes and streams to the Yukon proper is made as heretofore, in boats. A railway from Dyea to Dyea Cañon, eight miles in length, connects with a steam aerial trainway across the summit, eight and a half miles long. The capacity of this line is 200 men and 120 tons of freight every twenty-four hours.

The Skagway trail via the White Pass is now also in good condition. A wagon road from Skagway to the summit of the pass has been constructed and is in successful operation. A tramway has also been built around White Rapid.

Transportation rates are reasonable and the exorbitant prices of 1897, when these routes became congested with miners, ceased when the year itself died.

From Chilkat, Pyramid Harbor, the Dalton trail reaches the Yukon River just below Five Finger Rapid and affords a satisfactory route across a low pass and over a country of easy grades, for those who prefer to travel with pack mules. This trail avoids entirely the obstacles of river navigation met with in using the Chilkoot and Skagway routes. It requires more time, however.

A route via Prince William Sound and Copper River—north of Dyea and Skagway—across the Valdes Pass, leads, it is said, not alone to the rich copper and gold fields on this river, but also to Dawson and the large affluent streams of the Yukon on the south side of the latter.

The distance from the North Pacific Coast ports to Dawson via the Chilkoot Pass is about 1,550 miles, requiring from twelve to fourteen days to accomplish it. If the Skagway trail is used, the distance is slightly greater. Where the Dalton trail is used the pack-train travel aggregates about 310 miles. In using the Skagway or Dyea trails, there are several portages and rapids encountered on the lakes and upper rivers. Those



1. CRATER LAKE, DYEA TRAIL.
2. FIRST CROSSING, DYEA RIVER.
3. CAÑON ON DYEA TRAIL.
4. WASHING OUT GOLD.

unaccustomed to river boating should on no account attempt to run the rapids, but, instead, make portages.

Mining in this region is beset with unusual difficulties. The ground being continually frozen, the usual explosive agents are useless. A system of thawing the ground is necessary. Thus far primitive methods have proved the best. Fires are built on the ground, thawing it thus a few inches; the gravel is shoveled out and the opera-

tion repeated until the shaft reaches bed rock. Drifting on the bed rock is carried on in the same manner. The accumulation is left on the dump until summer—the burning taking place in



winter— when it is washed out and the gold particles collected. The results are satisfactory, but more rapid methods of thawing the ground are hoped for in the future.

Other localities in the interior of this country toward which attention is being directed are the Teslin, Pelly, White, Indian, and Stewart rivers in Northwest Territory; Miller Creek, Forty and Sixty Mile creeks and others along the boundary; Tanana and Koyukuk rivers, Little Munook, Beaver and Birch creeks in Alaska.

Along the Alaska coast, the neighborhood of Cook Inlet and Prince William Sound is acquiring a greater reputation than it has heretofore held, although much gold has been mined there. The Klondike discoveries seem to have stimulated exploration on the coast. Unfortunately, reliable information regarding these coast fields is scarce. The Copper River country is attracting attention. This river flows into the ocean just south of Prince William Sound. Its headwaters are far back across the mountains. The river seems impossible of navigation near the coast, according to what seem the most trustworthy reports. Rapids and cañons beset it and the current is swift. It is claimed that the Styx Indians use a route overland from the coast that reaches Copper River at a point above the obstructions mentioned. This route leaves Valdes Bay, an arm of Prince William Sound, at Copper City, and, via the Valdes Pass, follows a good trail overland to the river. This route the Indians have used, so it is said, for many years, and for the season of 1898 we are promised a good complement of guides, well-built stations, and an improved trail.

Not only has gold been found in this region, but there are also large deposits of copper.

Steamers ply regularly between North Pacific Coast ports and the Prince William Sound ports.

It must be remembered, in considering life and work in the Alaskan regions, that, while the exactions are at present severe, each year will lessen them.

Siberia, a much larger and as cold a country, supports a population of several millions. There they have large towns and cities, with comfortable dwellings, and fine cathedrals and public buildings. When time enough has elapsed to allow the construction of good buildings, trails and roads, and persons are enabled to keep permanently occupied, life in interior Alaska will be divested of most of the uncomfortable and forbidding conditions that now attach to it.

“Given companionship, abundant occupation, regular habits, and abundant food, and the would-be citizens of Alaska have nothing more to fear from the darkness of the long winters than have the inhabitants of St. Petersburg, in latitude 60°, or of Archangel, on the White Sea, in

latitude 65°—farther north than Dawson— or of great numbers of the inhabitants of Norway and Sweden," as Mr. Stretch writes in the *Mining Journal*. With the rapid influx of population now promised, we may look to see existence in Alaska take on a somewhat more roseate hue than now, and also see this hitherto forgotten portion of our domain assume a position commensurate with its real value.

NORTHERN PACIFIC RAILWAY.

Rates and Arrangements for the Tourist Season of 1898.

MINNESOTA SUMMER RESORTS

During the summer season the Northern Pacific Railway will sell round-trip excursion tickets from St. Paul or Minneapolis to Glenwood (Lake Minnewaska) at \$5 25; Battle Lake, \$7.50; Fergus Falls, \$7.50; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan (Devil's Lake), \$18.65; Winnipeg, \$22.50. From Duluth to Deerwood, \$3.80; Battle Lake, \$7.50; Fergus Falls, \$7.50; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan, \$18.65; Winnipeg, \$22.50. From Ashland, Wis., to Battle Lake, \$9; Fergus Falls, \$9; Perham, \$9.25; Detroit Lake, \$10.65; Minnewaukan, \$20.15; Winnipeg, \$22.50. Good going to Minnesota resorts one day (from Ashland two days), to Minnewaukan (Devil's Lake) and Winnipeg two days from date of sale. Good to return on or before October 31st.

YELLOWSTONE PARK RATES

The Northern Pacific Railway will sell round-trip excursion tickets from May 29th to September 28th (both dates inclusive) at the following rates:

A \$47.50 round-trip ticket, St. Paul, Minneapolis, or Duluth to Livingston, or Mammoth Hot Springs and return, returning same route, or via Billings to the Missouri River. These tickets are limited to thirty days going, ten days returning, final limit, forty days.

A \$5 ticket, Livingston to Mammoth Hot Springs Hotel and return, including rail and stage transportation.

A \$49.50 ticket, Livingston to Cinnabar and return, Cinnabar to Mammoth Hot Springs, Norris, Lower and Upper Geyser basins, Yellowstone Lake, Grand Cañon, and Falls of the Yellowstone and return, including rail and stage transportation, and five and one-half days' accommodations at the Association hotels.

The \$5 and \$49 50 tickets on sale at eastern and western termini between dates first named above, at Livingston May 31st to September 30th, both dates inclusive, are good if used in the Park any time between June 1st and October 6th, both dates inclusive, and do not require identification of purchaser.

By payment of \$22 at Mammoth Hot Springs Hotel, to the cashier of the Yellowstone Park Association, and of \$22.50 to the manager of the Yellowstone National Park Transportation Company, having his office in this hotel, tourists not provided with regular Park tickets can secure transportation and hotel accommodations for the regular five and one-half days' tour.

The hotel service in the Park is now very complete. Tourists can stop at any of the principal points of interest with the assurance that comfortable accommodations will be supplied them.

MONTANA AND EASTERN WASHINGTON POINTS

The Northern Pacific Railway has on sale, at greatly reduced rates, round-trip excursion tickets from St. Paul, Minneapolis, or Duluth to Billings, Springdale, Livingston, and Bozeman, Mont.; Helena and Butte, Mont. (choice of routes returning, via Northern Pacific or Great Northern Railway lines); Missoula, Mont.; Spokane, Wash. (choice of routes returning, via Oregon Railway & Navigation Company and its connections, or via the Great Northern, or Northern Pacific lines); Medical Lake, Pasco, Kennewick, and Toppenish, Wash.; Nelson, Trail, Rossland, Ainsworth, Kaslo, and Sandon, B. C.; and Coulee City, North Yakima, and Ellensburg, Wash.

These tickets are of iron-clad signature form; require identification of purchaser at return starting point.

Any of the above tickets may read to return via Billings to the Missouri River.

NORTH PACIFIC COAST EXCURSIONS

A \$90 round-trip individual excursion ticket, St. Paul, Minneapolis, or Duluth to Tacoma, Portland, Seattle, New Whatcom, Vancouver, or Victoria, is on sale daily at points first named and by Eastern lines.

Tacoma, Seattle, New Whatcom, Victoria, Vancouver, or Portland tickets, at above rates, will be issued, going via Northern Pacific, returning via same route, or Great Northern, or Soo-Pacific to St. Paul, Minneapolis, or Duluth; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; Portland tickets will also be issued, returning via Oregon Railway & Navigation Company and its connections to either Omaha or Kansas City, or to St. Paul via Sioux City.

Above tickets limited to nine months from date of sale, good, going trip, sixty days to any one of North Pacific Coast termini named returning any time within final limit.

ALASKA EXCURSIONS

An excursion ticket will be sold from Eastern termini named to Sitka, Alaska, at \$170, which rate includes meals and berth on the steamer. Tickets on sale May 1st to September 30th. Limit, nine months. Going to Tacoma, sixty days, returning within final limit, holder to leave Sitka on or before October 31st. Tickets will be issued to return either via the Northern Pacific, Soo-Pacific, or Great Northern lines to St. Paul or Minneapolis, or via Canadian Pacific Railway to Winnipeg or Port Arthur. Usual stop-over privileges granted. Steamer accommodations can be secured in advance by application to any of the agents named below. Diagrams of steamers at office of General Passenger Agent at St. Paul.

"TO THE WESTWARD"

The Alaska Commercial Company's steamer Dora will sail from Sitka to Unalaska, in Bering Sea, 1,300 miles distant, on or about the 1st of April, May, June, July, August, September, and October, stopping at Yakutat, Prince William's Sound, Cook's Inlet, Kodiak, Karluk, and Unga. Close connection is made with Pacific Coast Steamship Company's vessel City of Topeka at Sitka. The steamer Dora has accommodations for twenty-six cabin passengers. Round trip is made in from twenty-five to thirty days, three days of which time are spent at Unalaska. Round trip from Sitka, including berth and meals on boat, \$120. (There is also steerage rate of \$50 for round trip, there being accommodations for thirty-five passengers.)

CALIFORNIA EXCURSION RATES

The Northern Pacific Railway will sell round-trip excursion tickets from St. Paul, Minneapolis, or Duluth as follows.

To San Francisco, going via the Northern Pacific, Seattle, and steamer, or Portland and the Shasta Route, or the ocean to San Francisco; returning via rail or steamer to Portland, or via steamer to Seattle, and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River, or via rail or steamer,

Portland and Huntington to the Missouri River; or returning by the southern lines to Council Bluffs, Omaha, Kansas City, Mineola, or Houston, at \$103.50; to New Orleans or St. Louis, at \$109.50.

To Los Angeles, going via Portland and Shasta Route, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Billings or Huntington to the Missouri River, at \$122.50; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$113; to St. Louis, at \$119.

To San Diego, going via Portland and rail through Los Angeles, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings or Huntington to the Missouri River, at \$129; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$110.50; to St. Louis at \$125.50.

Tickets via ocean include meals and berth on steamer.

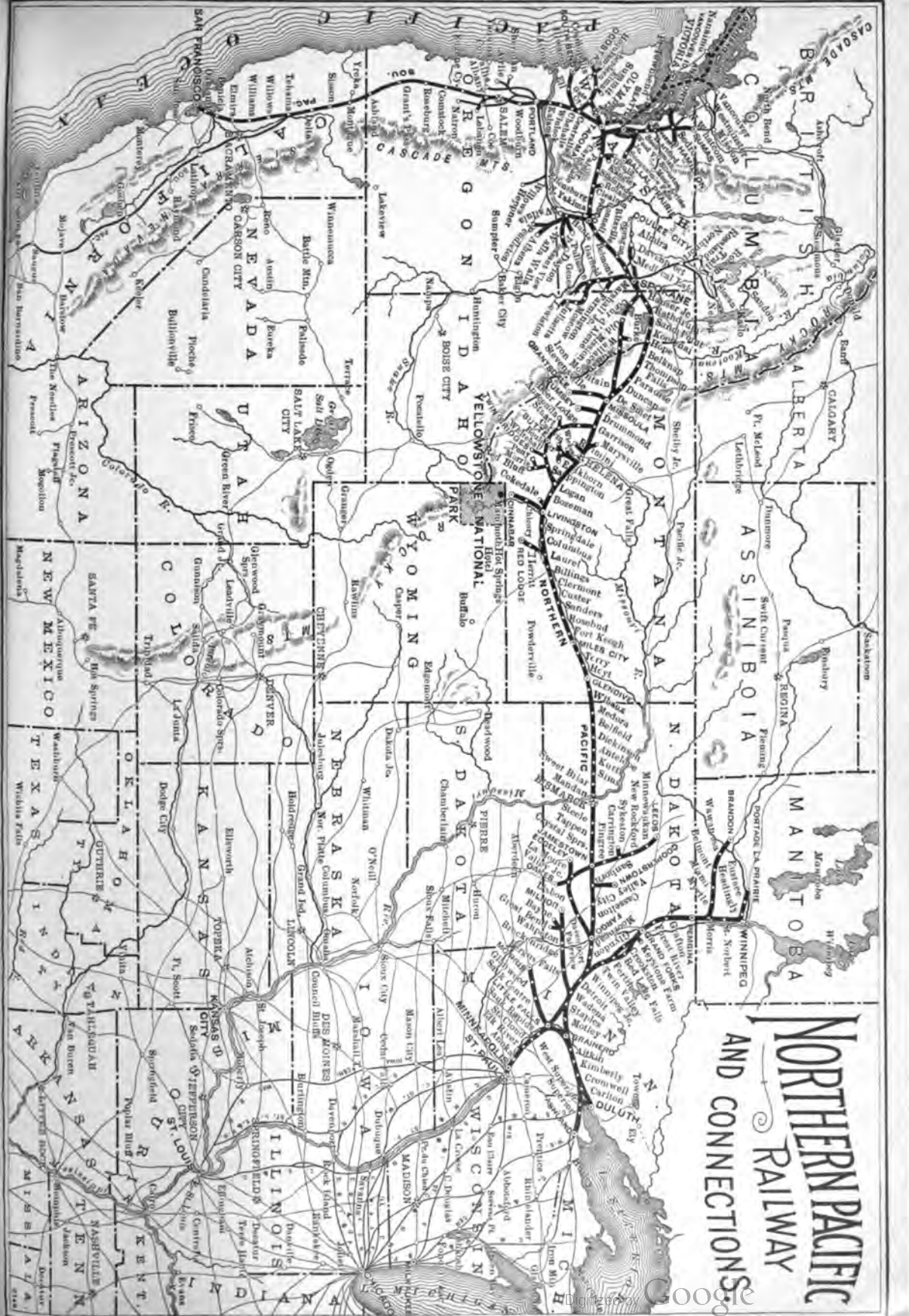
At the eastern termini of the southern transcontinental lines excursion tickets will be sold, or orders exchanged, for tickets to San Francisco, returning via either the Shasta Route, the all-rail line to Portland, or the ocean and the Northern Pacific to St. Paul, Minneapolis, or Duluth, at a rate \$13.50 higher than the current excursion rate in effect between Missouri River points, Mineola, or Houston and San Francisco. The steamship coupon includes first-class cabin passage and meals between San Francisco and Portland.

Return coupons reading from Missouri River points to Chicago or St. Louis will be honored from St. Paul or Minneapolis, either free, or with a small additional charge, according to route.

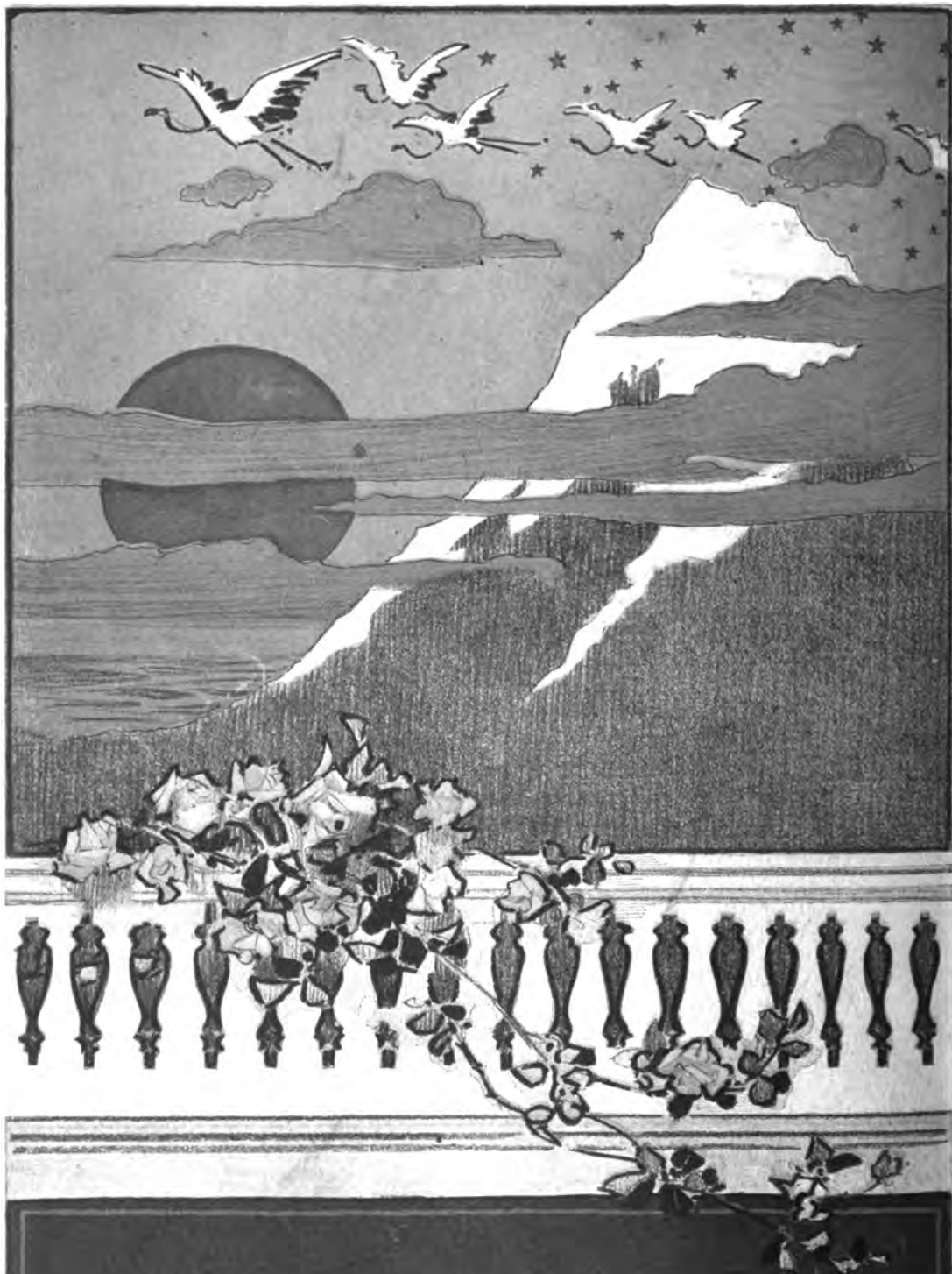
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NORTHERN PACIFIC RAILWAY AND CONNECTIONS

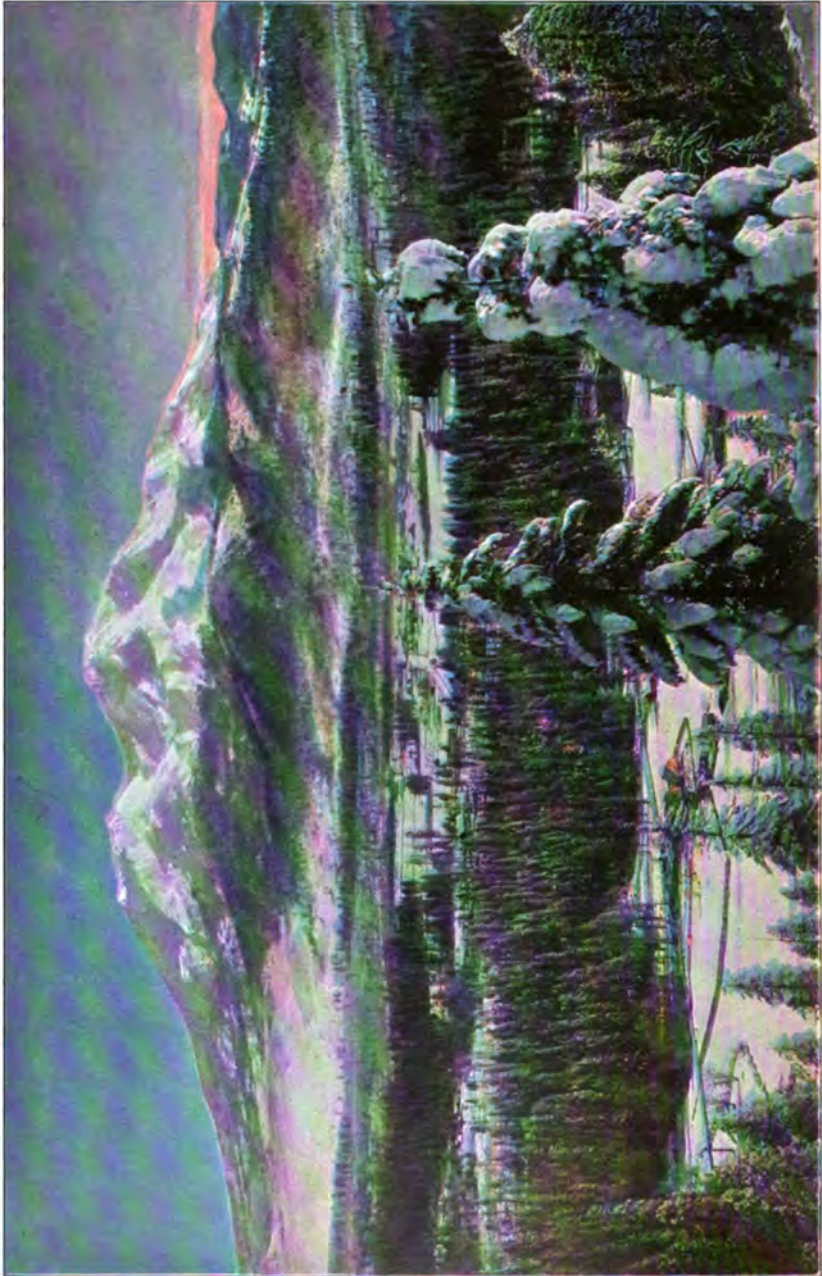


WONDERLAND '98

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WONDERLAND '99





Mt. Shasta, after the First Snow.



WONDERLAND '99



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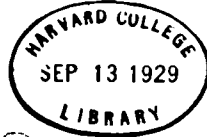
NORTHERN
PACIFIC
RAILWAY



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By CHAS. S. FEE, General Passenger and Ticket Agent
Northern Pacific Railway
St. Paul

FRED LOCKLEY
RARE WESTERN BOOKS
1243 East Stark St.
PORTLAND, ORE.



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MINNESOTA LAKE PARK REGION



THE LAKE PARK REGION—yes, that exactly expresses it.

A region of lakes plus a region of parks equals a Lake Park Region.

To accurately define this region—well, there are things to do which might be easier. In a general way it is in Central Minnesota, but there are a large number of stragglers on the outskirts, lakes that were not content to be with the others, but must needs, it seems, go off and flock, as it were, by themselves.

Really, there is not a lake to each inhabitant of Minnesota, but one might well be pardoned for so thinking, after once having made the acquaintance of this beautiful lake country.

One can not go even a few miles in any direction from St. Paul or Minneapolis without coming upon these water gems. As the line of the Northern Pacific is followed, they become more numerous.

After the latitude of Little Falls and Brainerd is reached, these lakes are found in increasing number, but more particularly to the westward, where the heart of the Lake Park Region lies.

Eastward from Brainerd, on the line to Duluth and Superior, in the immediate vicinity of Aitkin and Deerwood, is found a collection of lakes set down among the hills and trees in an almost ravishing manner. The glacier that extended thereabouts must have been one that had an eye for the beautiful, for it did its work with a most surprising idea of the fitness of things. It certainly intended to be well spoken of after it was dead and gone.

The lakes at the points named are great summer resorts, especially for Duluthians and Superiorites.

LEECH LAKE.

North from Brainerd, on the Brainerd & Northern Minnesota Railroad, is the large, beautiful body of water known as Leech Lake.

It has recently been the center of much excitement because of a collision between United States troops and a small number of Indians. The Pillagers who caused the trouble were a small part of the tribe, and they lived on Bear Island and vicinity, remote from the agency and from Walker, the summer resort on the western side of the lake. A large number of these Indians live in a quite civilized



*Serpent Lake,
Deerwood, Minn.*



*A Deerwood
Cottage.*

manner, and the life, pursuits, and characteristics of the Leech Lake red men form some of the most attractive features of summer life at this fine resort.

Leech Lake is very large, and surrounding it in all directions are hundreds of smaller lakes.

The lake is divided into two parts, a long, narrow arm on its western side, separated from the larger and main lake by a narrow strait.

There are several steamers on the lake and many rowboats.

The fishing is superb, pike, bass, and muscallonge being the more important species found.

The other neighboring lakes are also plentifully stocked with fish.

In the marshy grounds, found at some points on the lake shore, ducks abound during the season.

The shore line is an extensive one, and for the most part high and well timbered, thus being suited to camping.

Camping outfits may be obtained at Walker, and there are many points or heads that form simply ideal camping spots.

There are new and modern hotels at Walker, and also a new sanitarium supplied with all modern conveniences in this line.

The climate of Leech Lake is one of the finest for those suffering or threatened with pulmonary troubles. The pine and other

NORTHERN PACIFIC RAILWAY.

evergreen forests, and the purity of the atmosphere and water, conduce to make Leech Lake a most desirable retreat for those who prefer health and genuine pleasure to fashionable resorts. This is particularly true of those who live in the neighborhood of the large Northwestern cities, and to whom the expense of an outing is something to be carefully considered.

DETROIT LAKE.

On the main line of the Northern Pacific, about two hundred miles northwest from St. Paul, is the town of Detroit, on a beautiful lake of the same name.

This lake is but one of a myriad — as at this point we are in the heart of the Lake Park Region — roundabout. The country is full of them. A land of low, rolling, timbered hills, with hollows and basins in which lie beautiful lakes, stretches in all directions. As might be expected, these lakes are of all varieties as regards size, general characteristics, color of water, etc. An ideal trip, as I know from experience, is to take a row-boat and camping outfit and spend a fortnight in going from one to another through the streams that connect them.

Fishing, camping experiences, bathing, and life in the pure open air inject new vim and enjoyment into one's existence.

Good hotels are found at Detroit and on the shores of lakes Sally and Melissa, just below Detroit Lake.

The Hotel Minnesota, at



*The Old and
The New
At Leech Lake.*



*A Leech Lake
Lord and
His Castle.*



*Old "Bugs" Residence, and
Battlefield at Leech Lake*

Detroit, and the Fairhaven House, at Fairhaven Beach, make special efforts to cater to summer travel. Between these places a little steamer runs during the season, making several trips a day. The trip is an unusual one in some respects, and very enjoyable.

Through passengers on Northern Pacific trains holding tickets good for stop-over, who desire a few days' recreation and fishing in one of the most beautiful lake regions in this country, can stop at Detroit, en route, and thus enjoy themselves.

OTHER LAKE RESORTS.

The Fergus Falls branch, leaving the main line of the railway at Wadena, runs southwesterly, tapping the lake country some distance south of the Detroit lakes. Here again the country is of the same general character as before noted, and equally beautiful. At some points one

On Lake Sybil.



may see from fifteen to thirty, or even more, bodies of water glistening like silver, without, scarcely, moving from his tracks.

A Minnesota Landscape.

The best points for recreation in this portion of the Park Region are at Clitheral, Battle Lake, and Fergus Falls. Battle Lake is one of

Lake Melissa.



the largest lakes in this locality and has for years been a summer home for many from the land of the southron. The lake affords fine boating, and as for fishing, one has a score of lakes to choose from, all within easy distance of the town.

Between Wadena and Detroit are Perham and Frazee, and west of Detroit is Lake Park, near which good fishing and chicken and duck shooting can be found. A new hotel at Perham, where there are many beautiful lakes and very fine fishing, will doubtless cause this to become a favorite place for sportsmen and anglers.

At Lake Park the western edge of the Park Region is reached and passed.

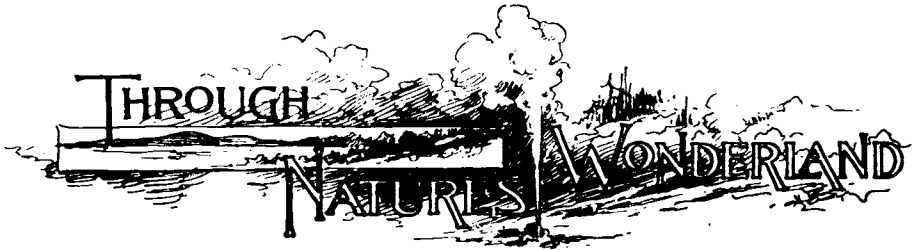
North of Brainerd and below Leech Lake is Kabekona Camp on Woman Lake. This is a desirable place for those willing to forego regular hotels and who can enjoy a more rustic, log cabin existence among the pines, and yet be thoroughly comfortable.



*Alone with
Nature.*



Ojibwa Cemetery, Cass Lake.



THE ENTRANCE to the heart of Wonderland is through an enormous gateway. The gateway, or opening, was made by a river, through a mountain wall, and it is known as The Gate of the Mountains.

Through this gateway pours the river, fresh from the eternal snows far back in the mountains; from the great lake, a vast reservoir into which the melting snowbanks drizzle in a million streamlets; from the wondrous canyon between whose divinely sculptured and colored walls it throws itself in an ecstasy of fury. Beside the stream lies a railway, which, following it in its sinuosities, leads the pilgrim to the very border of Wonderland. As the river flows out of the mountain gate into the broad, unpent valley, it seems to sing, in the words of Colonel Norris, whose name is indissolubly connected with Wonderland, of the region it is leaving far behind:

"I sing in songs of gliding lays
Of forest scenes in border days;
Of mountain peaks begirt with snow,
And flowery parks, pine-girt below;
Of goblins grim and canyons grand,
And geysers spouting o'er the strand;
Of Mystic Lake, of Wonderland."

After having passed through The Gate of the Mountains one is in Paradise—Valley, for such is the name of the beautiful valley which stretches up to the portals of Wonderland. The farther one invades these precincts, the more one comes to feel that the valley is rightly named. The great mountains, the very temples of the gods, loom high above. Mighty canyons, rock-ribbed, ragged, gloomy, forest-garbed, deep, and fascinating, have been gouged from their very vitals. From out these latter the mountain streams rush, singing songs of deliverance as they dance adown the long, sweeping slopes

to the mightier river. In their courses the streams have been harnessed by man, and their fructifying influences are seen in the broad fields of waving grain and alfalfa that checker the slopes.

Mountains, fields, streams, river, trees, slopes, form truly enough such a picture that the thought of Paradise is borne in upon one.

The scene changes! The mountains crowd together, the valley contracts, the rocky sides of the former rise high above, the river is throttled by craggy canyons and rushes madly along far below us—we are in a wild eyrie where the echoes of the iron horse's brazen throat reverberate among the crags and cliffs. Sweeping through this scene of wildness we reach the threshold of the Wonderland of Wonderlands, Nature's greatest Wonderland—

YELLOWSTONE NATIONAL PARK.

The scene here hinted at is that beheld by the tourist as he rides from Livingston, on the main line of the Northern Pacific, up the valley of the Yellowstone to Cinnabar, the terminus of the National Park branch line at the northern edge or boundary of the great park.

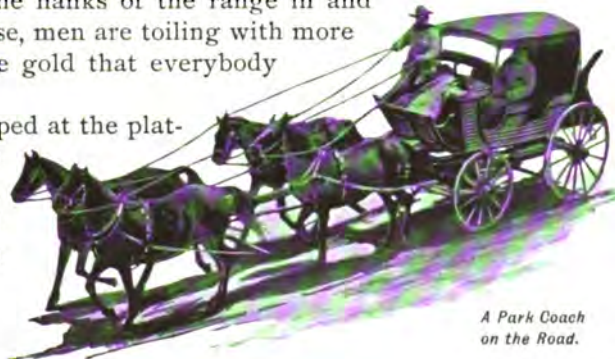
The valley is indeed one to rouse enthusiasm. At two places it becomes constricted, forming small but rugged canyons that but pave the way for the grander visions which, in the days to follow, are to break upon the eye.

Well up the valley, Emigrant Peak, a noble, snow-dappled peak of august mien, stands sentinel, thrusting his crown above brawny shoulders to a height of 10,629 feet.

Just before reaching Cinnabar, Cinnabar Mountain, famous for its Devil's Slide, is rounded. Soon there comes into view the giant peak of the region, Electric Peak, which, with its 11,155 feet of altitude, may well be termed the guardian peak of the park. Facing it, but of lower altitude, stands Sepulchre Mountain, a rough, imposing mountain, the origin of its name involved in obscurity.

On the opposite side of the valley rise the sister peaks of Emigrant Peak and its companions, the range, the Absárika, swinging to the eastward and forming the eastern boundary and mountain wall of the park. High up on the flanks of the range in and about the town of Crevasse, men are toiling with more or less of success for the gold that everybody covets.

But our train has stopped at the platform at Cinnabar. We step from the cars, ready, with our hand-bags and bundles, for the next move on the program.



*A Park Coach
on the Road.*

FIRST DAY'S RIDE.

*Hymen Terrace,
Mammoth Hot
Springs.*



Soon there come prancing around a corner six splendid horses, drawing behind them a huge Wonderland stage coach. Another appears, and, if necessary, still others come swinging up to the platform to transport the waiting throng on to Wonderland. How the people scramble aboard!

Some climb up the sides of the coaches to the broad, open seats on the roof, where they will obtain, as they ride along, unobstructed views of the landscape. Others, less agile or venturesome, clamber into the interior

of the coaches, satisfied with less elevation, less sun, and nearly as much advantage in sight-seeing.

The bags and valises

*Narrow Gauge
Terrace,
Mammoth Hot Springs.*

are strapped on the trunk racks behind the vehicles or thrown into the boots, the conductor calls out "all set," the driver tightens the reins, speaks to his horses, and the stage is off and away, over the hills bound for Mammoth Hot Springs, seven miles distant.

After a short ride, a collection of low and in some cases mud-roofed houses is seen. Through the heart of the little frontier town, Gardiner, the coaches carry us, when, swinging at right angles, we are soon skirting the Gardiner River, a typical mountain stream with which one falls in love



*Gardiner River
Canyon.*

*Liberty Cap,
Mammoth
Hot Springs.*



*Bath Lake,
Mammoth
Hot Springs.*

at first sight. For several miles, first on one side then on the other, of this torrential, beautiful river, the coach is slowly dragged up an ascending grade. The stream is beset with bowlders against which, over which, under which, yea, through which, as one will easily see, the tremendous current dashes in a chorus of sound and a mass of spray. It is a royal trout stream and the heart of the angler leaps within him even as does the trout itself leap within the boiling waters.

This stream of turmoil and fascination gathers its streamlet threads from widely extended sources. Much of it comes from the northern slopes of some of the mountains about the Grand Canyon, Observation Peak, Storm Peak, etc. Another branch swings around Bunsen Peak, forming an elongated horseshoe, and insinuates its watery tentacles among the slopes of Electric Peak—the south side—Quadrant Mountain, and Antler Peak. A sub-system of this branch stream—the Middle Gardiner so called—extends southward from the toe of the horseshoe, past Obsidian Cliff and Beaver Lake to the region about Roaring Mountain, nearly to Norris Geyser Basin.

The scenery along the Gardiner is striking. The dun-colored clay and conglomerate walls rise in massive, buttressed slopes surmounted by palisades, to a height of a few hundred feet on one side and 1,000 and 1,200 feet on the other. The eastern walls are by far the finer. Spires and pinnacles have been eroded from the soft earthen slopes and form conspicuous objects. The most striking and noted is Eagle Nest Crag, a solitary rounded column upon the inaccessible apex of which is perched an eagle's nest. Yearly, the parent birds raise broods of young eagles, whose protruding heads can frequently be seen and whose plaintive cries are plainly heard.

Soon after crossing the stream for the last time a sharp ascent is begun. This continues until the hotel plateau is reached at Fort Yellowstone. As the coaches mount the grade the outlet of a river is seen on the western bank of the Gardiner. The rocky ground there is more or less broken and quantities of steam arise. This river flows from the hot springs of the terraces at Mammoth Hot Springs, underground through the hill over which the road winds.

In olden days this was a favorite camping spot. The hot water made bathing agreeable, culinary and laundry work easy, and if one was inclined, he could easily catch his trout in the Gardiner and then, swinging his line, plunge the victim into Boiling River and cook his fish, all at one operation—so they say.

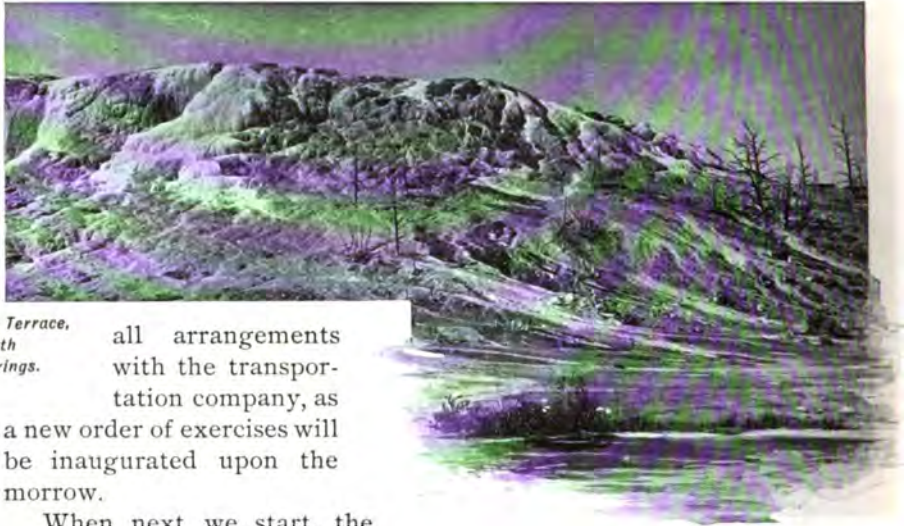
Passing Fort Yellowstone when the plateau is reached, the coaches are whirled swiftly across a geyserite or travertine plaza, upon which the fort or cantonment—and it is one of the best posts in the country—

fronts, to the hotel, a mammoth structure which commands a fine view to the south.

At last we are fairly within the great Yellowstone Park — the heart of Wonderland.

From the time our train started from Livingston until it again sets us down there, six days will have passed. When we leave the coach at the hotel the first half of the first day has passed into history. The afternoon will be spent in clambering over the parti-colored terraces of Mammoth Hot Springs.

After the tourist has registered, retired to his or her room, performed the usual ablutions, and shaken off the dust of travel from one's garments, luncheon is eaten. It is then customary to make



*Jupiter Terrace,
Mammoth
Hot Springs.*

all arrangements with the transportation company, as a new order of exercises will be inaugurated upon the morrow.

When next we start, the coach, horses, and driver to which we are assigned become ours for the entire round of the park. It is advisable, therefore, if particular acquaintances or friends desire to ride in company, to explain this to the powers that be, that such an arrangement may be effected.

By the time this matter has been attended to, the voice of the guide is heard announcing that all is ready for the event of the day — the visit to the formation, as it is termed.

To the right, from the hotel front, rises Terrace Mountain. At the extremity of the plaza and at the base of the mountain as viewed from there, and a part of the mountain, rise the wonderful terraces. Even at this distance they present a remarkable appearance. As we approach them the singularity of their origin and appearance becomes more and more pronounced; but as we climb the slopes and view the pools of rainbow-colored waters, and examine

the terrace fronts with their infinite patterns of etchings and bead work, we stand in open-eyed amazement at what seems a miracle of creation.

Whether we stand in front of the terrace walls and examine the exquisite chased work, built up by minute accretions from the hot waters as they trickle slowly down ; whether we stand on the heights above and gaze upon acres of water

divided and subdivided into many-shaped basins, and so brilliantly colored as to seem impossibly colored, or whether, as we climb higher and are transfixed, almost, at the beautiful, delicate, fragile, and algæic forms seen—it is all the same, we now begin to understand what the word Wonderland means, and are pre-



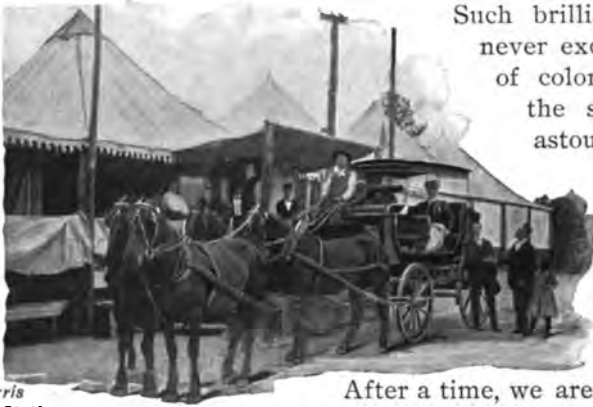
In Golden Gate Canyon.

pared for whatever we may stumble upon, and ready to admit that the half has not been told and can not be — seeing only, if not believing, is certainly understanding.

The water found in these pools varies in temperature, but it is all hot. Some of the pools are very small, others almost lakelets.



*Obsidian
(Natural Glass)
Cliff.*



At Norris
Lunch Station.

Such brilliancy of coloring was never excelled, and the variety of color, sometimes even in the same pool, is simply astounding. What one sees here is found upon successive terraces on the mountain side, and is reached by easy gradations and by using foot paths or trails.

After a time, we are somewhat bewildered as to where we are, whether in the infernal regions; with the ancient deities; in a zoölogical garden; among Egyptian queens and mummies; where angels tread, orange trees bloom, or where railways are being built, or Cupids shoot arrows. Our confusion arises in this wise. At the beginning of our sight-seeing we come upon an old mummy—it surely must be—called Liberty Cap, and not far away Cleopatra's Shade is supposed to be watching over one of the pools. A little farther and lo! We find terraced altars to Jupiter and Minerva. Soon the Devil's Kitchen is found with a ladder leading down—into the cave. We mount higher and climb upon the Elephant's Back and tramp all over him and he doesn't budge. Now we come out upon the terrace where the Angels are supposed to promenade; and a little way beyond, Narrow Gauge Terrace stretches before us, but we find no railway track there. At the end of it all stands Orange Geyser, and in the meantime we have passed Cupid's Cave, where he lies darkly hidden, and Bath Lake, where Cleopatra, the Cupids, and Jupiter, Minerva, and the Angels can go in bathing, after sundown, according to the Yellowstone Park regulations.

By the time we have made the usual rounds we are somewhat tired it is true, but what a time we have had, what sights seen, what an initiation into Wonderland it has been. So we trudge down the well-beaten trail, trodden by thousands before us, and hie ourselves to our rooms at the hotel, lie down, take a little nap, perhaps, and get up refreshed and ready for dinner.

SECOND DAY'S RIDE.

The following morning, breakfast eaten, we board the coaches for our second day's sight-seeing. Waving our adieus to those who throng the hotel piazza to see us depart, we wind along the base of the terraces we yesterday climbed, say *au revoir* to Liberty Cap, and, horses on the trot, swing down the grade toward Bunsen Peak,

As we ride past the terraces, they exhibit new beauties seen only from the southern side and at their bases. The significance of the name Pulpit Terrace, applied to one of them, now appears in full force. The delicate creamy and chocolate tints, the stalactitic fronts, fashioned much after the old-fashioned pulpit, afford a new pleasure as we slowly pass by them.

As we ride along we look out upon the landscape with interest. To the left, long, low lying, capped with dusky palisades, is flat-topped Mt. Everts. Straight ahead rises Bunsen Peak, apparently barring our progress. Between the two is a divide, green and more or less wooded, through which flows the Gardiner River and its affluents.

Over in those hills are things worth seeing, had we but time to linger and search them out.

But now, as we slowly climb a long, winding grade, our attention is attracted by a strange assemblage of forms. We think of goblins, Hendrik Hudson and his nine-pins bowlers, and are almost prepared to see another Rip Van Winkle rise up.

It is really not to be wondered at that one's imagination conjures up all sorts of freakish images, for these uncouth, fantastic rocks, tumbled about and standing at all angles, may well stir the imagination to remarkable efforts. But they are only rocks, quaint and very interesting, but harmless.

Aha! ahead of us is quite a different object. Are we entering dungeon walls, and is this a sentry at our left who is to hand us over to the guard?

Look again.

Ah! now I see; this must be the Golden Gate of which I have heard. Yes indeed, and a wonderful mountain gate it is. That so-called sentry is but a column of rock about twelve feet high which was once a part of the wall at the right.



*Dewey Geyser (New),
Upper Geyser
Basin.*



*Vixen
Geyser,
Norris
Geyser
Basin.*



*New Crater Geyser,
Norris Geyser Basin.*



Head of Gibbon Canyon, Yellowstone Park.

Man with his dynamics divorced them and thus added additional interest to this fine little canyon. It is not a long canyon, but there is an investment of \$14,000 of Uncle Sam's money right here, in making it a highway that we can ride through in safety.

On one side of the road the solid yellowish wall rises 200 feet and more; on the other side there is an artificial retaining wall made by human hands, formed from rocks taken from the other wall.

The road twists about so that we obtain many and interesting views of the gorge.

And now to cap the climax, we come full upon a beautiful, filmy cascade, Rustic Fall, at the very head of the canyon. Down it glides, coming from the wide, green valley that now opens before us, into the rocky, gloomier shadows of the gorge, where it burrows beneath the spawled rocks at the bottom of the ravine.

A moment's stop to admire the cascade and we rumble on again.

What a change!

Mountains *and* mountains, valley, stream, and lake, all are seen at a glance.

This is Swan Valley, and the mountain range is that of the Gallatin.

To the north, our old friend Electric Peak shows us his southern face, and forms the closure of the valley in that direction. A noble peak it is, easily the first in the region.

Nearly opposite us as we emerge from Golden Gate rises Quadrant Mountain; then comes Bannock Peak hard by, but a little farther west; and then to the south, and nearer us again, towers Antler Peak. Just south of Antler Peak—once known as Bell's Peak—there formerly ran what is known as the Bannock trail. This trail was made by Bannock Indians in 1878, and in this vicinity followed Indian Creek to or near its confluence with the Gardiner River. The trail seems to have crossed the latter stream about where the bridge spans it, then to have run north to Bunsen Peak, and, turning south and east, to have wound along the southern side of the mountain past the Middle Gardiner River Fall.

While riding along here note carefully the aspect of the range, especially from a backward glance; look back upon it as the coach passes onward, from time to time. When returning to Norris from the Grand Canyon, and when least expecting it, this range suddenly comes into view, and if familiar with the peaks one can then instantly recognize them.

We now bowl along right merrily, and soon reach Apollinaris Spring where all good tourists alight and quaff a deep draught of this delicious water.

Twelve miles from our starting point of the morning we reach another of the peculiar wonders of the region—the celebrated cliff of natural glass, Obsidian Cliff. This is indeed a natural, volcanic glass, and was once used by the Indian tribes of this region as material for arrow heads. For some distance we ride along a glass road, built or surfaced from fragments of obsidian. Be sure and get out of the coach and examine the glass boulders, and be careful not to cut your hands in so doing.

At the base of the cliff and lying for some distance along the road is Beaver Lake. The irregular, narrow dam made by the beavers is readily traced across the valley. Well over toward the other shore, and entirely surrounded by water, is a conical beaver house said to be still inhabited by many of these ingenious creatures.

A few miles farther on rises a hill of baked, bleak aspect, high-sounding name, and disappointing in its reality. This is Roaring Mountain, which roars so gently that one hears no sound, but only sees a little steam issuing forth. But if this is unsatisfactory, not so with Twin Lakes a little farther along.



Bears
Yellowstone
Park.

We are charmed now and are quick to see the peculiar color of the water and the striking difference, in this respect, of the two lakes. Twins,

yet not of the same color. As often as I have seen them this difference is always found.

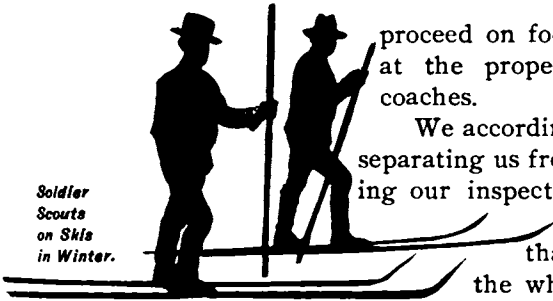
Well, well, well! Here is the Devil again. Yesterday we saw his Kitchen, and here is his Frying Pan. And how it does sputter and boil! If he is around, he has slunk away among the thickets and is watching us covertly, himself safely hidden from view. This is the first evidence we see—and interesting as such—of the proximity of the geyser and allied phenomena.

The Frying Pan and some minor springs of like nature, which are now occasionally seen, are forerunners of Norris Geyser Basin, which we soon reach.

Twenty miles traveled since breakfast, and now that we think of it we *are* hungry.

The coach draws up to the platform. Larry, the host, welcomes us in true Hibernian style, and we wend our way to waiting rooms and lavatories, and then sit down at long, camp-like tables and are astonished at the quantity we are able to eat.

After luncheon we find that it is customary for the tourist to



Soldier Scouts on Skis in Winter.

proceed on foot to the geyser basin itself, and at the proper time be picked up by the coaches.

We accordingly walk over the short distance separating us from the steam-baked region awaiting our inspection. A few minutes suffice for

us to stand upon an elevation

that commands a view of nearly the whole of Norris Geyser Basin. A

strange sight greets us. The sounds might

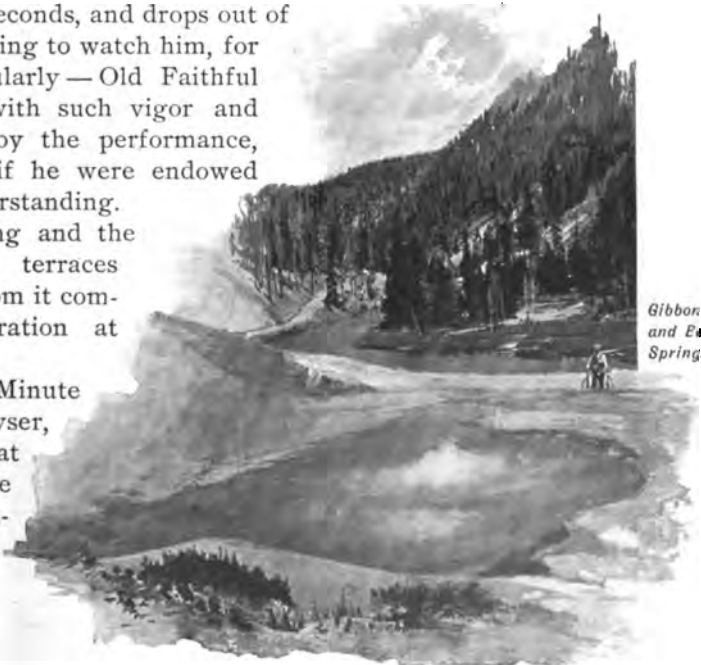
remind one of an orchestra, the sights of a menagerie possibly, there is so much capering and noise.

Away ahead is a fellow bellowing like a buffalo bull. He is always bellowing. I have known him for years and he is continually filling the air with his roarings. You can hear him long before you can see him. On a calm day I have heard the Black Growler's—for such is he called—trumpet note two or three miles away. This geyser is, considering all things, the most noted one of this basin. First, because it is the only steam geyser, wholly so, in the park; second, because it is in continuous action and thus is seen by every tourist that visits the basin.

Farther over on the "formation"—the Growler being right at the roadside—is a youngster that, like the Growler, is always "showing off." This one is nimble footed and jumps or dances about like a veritable jumping jack. It is the Minute Man, and punctually to the dot, every fifty seconds, he leaps to his feet, dances for a few seconds, and drops out of sight. It is amusing to watch him, for he plays so regularly—Old Faithful not more so—with such vigor and seems to so enjoy the performance, as to appear as if he were endowed with human understanding.

Congress Spring and the beautiful marble terraces across the road from it command our admiration at once.

Down near the Minute Man is a new geyser, born in 1898, that performs much like the former. An attempt has been made to name it



Gibbon River and Beryl Spring.

*Cascades
of the
Firehole.*



*Firehole
River Falls,
Looking up River.*

the Dewey. If achievement goes for anything, it is by no means worthy of the name.

There are many springs, pools, and geysers at Norris, but the latter, or at least the larger and finer ones, may not play during the time the tourist remains there. The two finest geysers, and noble fellows they are of their kind, are the New Crater and the Monarch. The former plays every half hour, approximately, the latter, at intervals of about twelve hours, to a height of 100 feet. Leaving this spot we follow the left bank of the Gibbon River, passing numbers of incipient geysers, or fumaroles, perhaps. These are on the very banks of the river, some of them at the edge of the water. They are extremely interesting and some of their cones finely colored.

For the first mile or two the river forms a series of rapids quite unlike any seen elsewhere in the park, and very beautiful.

Pushing out from the timber we emerge into the Gibbon Meadows, a fine expanse of park and meadow at the head of Gibbon Canyon.

This canyon, while lacking entirely



*An Old
Monarch.*

the vivid coloring of the Grand Canyon, is in its way a very fine one. At some places its walls rise to the height of 2,000 feet above the river, and present an admirable palisade effect, with gigantic buttresses and sharp pinnacles. The canyon is a winding one with a general swing to the westward. The softening note in the scenic symphony is the river. It is a clear, limpid stream of varied characteristics, and compels one's attention even though other and more stupendous features of the canyon loom up before us.

Soon after entering the canyon Beryl Spring is passed. This is a forerunner of what is coming later on at the Geyser basins. It is a beautiful, violently boiling pool of gloriously blue water that well deserves our encomiums.

Just about half way through the gorge Gibbon Fall is reached. This is usually much admired, but while quite different from the other park falls and of undoubted individuality, I have never myself been particularly impressed by it.

The remainder of the drive through the canyon is a very pleasant one, as is also the road across the wooded plateau to the Firehole River. The Cascades of the Firehole are seen at the very point where road and river meet. The water goes leaping and tumbling down a narrow, black gorge, forming a fine cascade. Just above the cascades is a beautiful island that at once appealed to my love of camp life as it formed an ideal spot for a camp and camp-fire. That I was not the first one who had thus felt the temptation is shown by the following excerpt from "Wonderland Illustrated," by Harry J. Norton, and published at Virginia City, Montana, in 1873:

"Just above the cascades, and directly opposite a small almond-shaped island, we relieved the pack-horses of their burdens and camped for the night. Two of the party, more romantically inclined, had crossed over to the little island and built their camp-fire beneath the shadows of its many trees."

Perhaps I may yet do the same.

From this point to the crossing of the Nez Percé Creek the ride is one of the finest in the park. For nearly the entire distance the Firehole River is at our right and the mountains rise at our left. The road is a splendid one, the scenery of the same sort.

We arrived at the Fountain Hotel in time for dinner, and here one should certainly remain at least one day, if one wishes to see some of the finest goods in the geyser line that nature carries in stock.

It is, of course, always possible for the tourist to see the Fountain Geyser and the Paint Pots, in the usual course of the tour. The Mammoth Paint Pots as these are called, as contrasted with others

at Yellowstone Lake more particularly, are most interesting, and the Fountain Geyser is one of the very finest in the park. But a mile and a half from the hotel, to the eastward, tucked away in a little pocket among the hills, lies a basin that contains an aggregation of pools, geysers, springs, etc., that every visitor to Yellowstone Park should see. There will be seen the first example, as the tour runs, of a geyser cone, where the geyser is a regularly playing geyser, not one by courtesy as is the Orange Geyser at Mammoth Hot Springs.



*Looking into the
Great Crater of
Excelsior Geyser.*

Such a one is the White Dome. It has built up a large, circular, white, siliceous dome that is a very conspicuous object. The geyser plays, though not to a great height, many times a day. There too, is the Great Fountain, a larger and grander duplicate of the Fountain. It plays at intervals of ten or twelve hours, and the display is one that will never be forgotten.

In this basin lies Firehole Spring or Lake, a lovely body of hot water with a strange, probably gaseous phenomenon, that produces a remarkable effect. Then, strung along a little creek, lies a collection of springs, small, but of varied character that challenges one's admiration to the fullest degree. Unless one remains a day at this point, it is not possible to fully examine these objects.

THIRD DAY'S RIDE.

We are up and off betimes the following morning, for to-day we are to "beard the lion in his den," actually — only it is a geyser lion — see the geysers in all their glory. Between the Lower and Upper basins, the distance is nine miles. About half way lies Midway Geyser Basin, formerly known as Hell's Half Acre. There are here three objects to be inspected—the crater of Excelsior Geyser, Prismatic Lake, and Turquoise Spring.

The greatest interest in this spot centers, not so much in what it is, as in what it has been. The crater, an enormous one, is interesting truly enough. Turquoise Spring, a beautiful, hot pool of turquoise blue water, about 100 feet in diameter, entrances us; Prismatic Lake, a large spring, also hot, some 250 or 300 feet wide and 400 feet or more long, fairly carries us off our feet. But when we remember what Excelsior Geyser was when its fit of rage came on in 1888, we feel, after all, that beautiful and wonderful as it all is even now, our chief interest is still in the fact that Excelsior was the greatest geyser that the world ever knew, and that it is liable at any time to repeat its unequaled series of eruptions. With the greatest respect we doff our hats to the mighty monarch that was, and drive on.



*Cone of the
Giant Geyser,
Upper Geyser Basin.*

After a time, having passed numerous springs, pools, and some geysers—the latter not playing—by the roadside, we descend a small hill, make a turn, and reach a bridge over the Firehole River. Even as we are fairly upon it, we hear an explosive noise at our left, and then a swishing sound, and lo! as we turn toward it, Riverside Geyser is in full play. We leap from the vehicle, rush to the railing, and watch the glorious spectacle.

The water is thrown out in crescentic or arched shape, and when at its full power the water arch spans the stream, the entire volume

being thrown into the river. Great quantities of beautiful crystal beads fly centrifugally from the arch and a beautiful rainbow is always seen, unless the day be very cloudy.

For five minutes, ten minutes, the eruption goes on before any diminution of force is appreciable. The height of the water arch reaches from seventy-five to ninety or 100 feet, and a large quantity of steam escapes at the time of eruption. The display is usually ended in fifteen minutes.

The Riverside is one of the few geysers that has an indicator that foretells the time of eruption. I have sat for an hour and more on the geyser's cone and watched the progress of events up to the grand finale.

Just beyond the point where we halted to see the Riverside, we reach two very strange looking objects. We soon ascertain that we are looking upon the cones of the Grotto and Giant geysers.

These geyser cones are worth an examination. They have been built up by the deposition of the silica in the waters, and the Giant has undoubtedly, at some time, blown out a portion of its cone by an unusually terrific explosion. The Grotto cone is the most unique one in the park. The eruption from it, however, is a somewhat indifferent one, ranging from fifteen to thirty feet in height and lasting half an hour or more. The Giant's display is one of the grandest, but it plays but twice a week.

Not far from these two geysers and across the road are the Splendid, Daisy, and Dewey. The former is one of the six or seven finest geysers in the basin, playing to a height of 200 feet, but it is somewhat irregular in its action. The Daisy plays many times each day but throws its fountain-like stream to but moderate heights. The Dewey is a new geyser, playing from a small crater surrounded by grass, and is a dainty, modest fellow like its prototype, the Admiral.

After walking about the geyser community, we return to the coach and are whirled onward. En route we drive close to Castle Geyser, one of the great captains. It has the finest, largest cone of any geyser in the park, and its eruption, which takes place at least once or twice a day, is a fine one indeed. The Castle emits large quantities of steam, and there is usually quite a commotion going on down in its bowels. A climb about its cone will repay one and can be made without danger when the period of eruption is not near.

From where we stop a general view can be had of much of the basin. Old Faithful, the Cascade, Bee Hive, Lion, Castle, and Giantess when it plays, can be seen to advantage when their eruptions take place. Farther away the Grand and Economic can be seen.

The latter geyser is a great favorite with tourists. It throws water to a height of thirty feet only, but it plays every few minutes and is withal such a dainty sort of a geyser, that tourists will stand for a long time and watch it.

The Cascade, just below Old Faithful, gives an exhibition just about as often as the Economic and expels its contents to about the same height. It, however, hurls upward a much greater quantity of water.

The Lion gives a rather airy, fanciful exhibition, in which steam plays an important part, and it is a much less dangerous Lion than the beast of the jungle.

Old Faithful is the traveler's delight. It can always be counted on; that is much! its display is always a fine one, and it is maintained year in and year out with, perhaps, more regularity, not only as to time but also as to character, than any geyser in the park.

Old Faithful, the Cascade, Economic, Daisy, and Riverside, tourists can expect to see in action, and there are others nearly as certain to be thus seen.

In a retired valley a little way back from the geyser village, are some pools or springs that are among the largest and finest in Yellowstone Park. Out of many, large and small, there are three that, once seen, will ever recur to memory.

The Black Sand Spring is a beautiful turquoise-blue pool having an outlet like unto a variegated ribbon.

Emerald Pool is another and larger, of a perfect emerald-green, that draws the most extravagant exclamations from spectators.

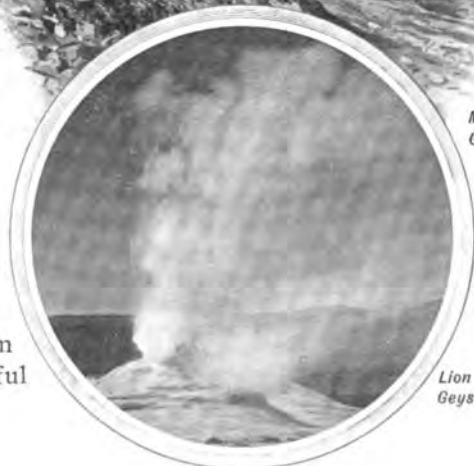
Sunset Lake, the largest of them all, is the most superb and beautiful



*Old Faithful,
Distant View.*



*Mortar
Geyser.*



*Lion
Geyser.*

example of brilliant and varied coloring that was probably ever seen, not in the park only, but anywhere else.

Collectively these pools place this small, hidden valley as far ahead of any other similar area in the park as the adjoining geyser plain is ahead of all other geyser basins.

Our ride homeward to the Fountain Hotel, late in the day, for dinner and a night's rest, finds us in an eminently reflective mood, and rounds out our third day's sight-seeing.



*Economic
Geyser —
One! Two!!*



*Economic
Geyser —
Three!!!*

FOURTH DAY'S RIDE.

Our fourth day's journey is begun by retracing yesterday's route to the Upper Basin. As we ride through the latter, we are given a farewell salute by the Economic, Cascade, or Old Faithful; or, possibly, one of those not before seen makes amends by some lofty tumbling.

We cross the Firehole River and then wind through the forest to Kepler's Cascade. The coach stops, we get out, carefully pick our way to the edge of the black, narrow, rough, and frowning chasm, and watch the water as it comes leaping, tumbling, jumping, falling, madly and with froth and foam, down the lava slide.

It is one of the wildest spots that we see, and so different from the geysers near by that we have forced upon us once more the contrasting, antithetical character of much of the park scenery.

We follow the Firehole River in its charmingly winding course to where Spring Creek joins it. There we bid farewell to it — we have seen so much of this clean, sparkling stream that we feel loath to say good-bye — and turn up the narrow mountain defile of the little creek.

It took lots of money and much labor to make the road over which we now roll so easily. The creek had the right of way, and seriously



*Grotto Geyser,
Upper Geyser Basin.*

objected to being made to play second fiddle to man's notions and uses. But, by dint of persistent effort and good engineering, the stream was finally prevailed upon to stay in the new channel provided for it at many places,

and with the flying years the road has developed into a serviceable one, as well as an interesting one scenically.

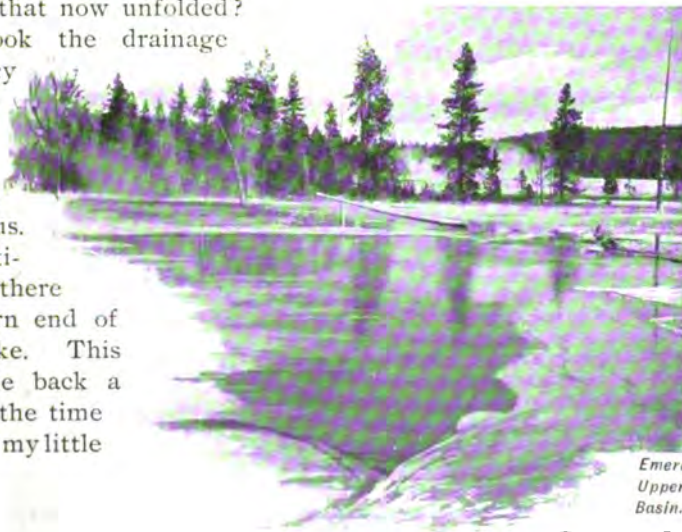
We are now climbing the Continental Divide. We reach it at a narrow spot in the mountains, retired, silent, hemmed in by cliff walls, known as Craig Pass. At one side of the roadway is a small pond—Isa Lake—covered with water lilies. The whole makes a very effective bit of landscape. At Isa Lake we are 8,240 feet above the sea, nearly 850 feet above the Upper Geyser Basin, and more than 500 feet above Yellowstone Lake, which we shall ere long see.

We now descend Corkscrew Hill—well named—cross Heron Creek, ascend another mountain, the road scarped from its woody side, and suddenly stop at Shoshone Point.

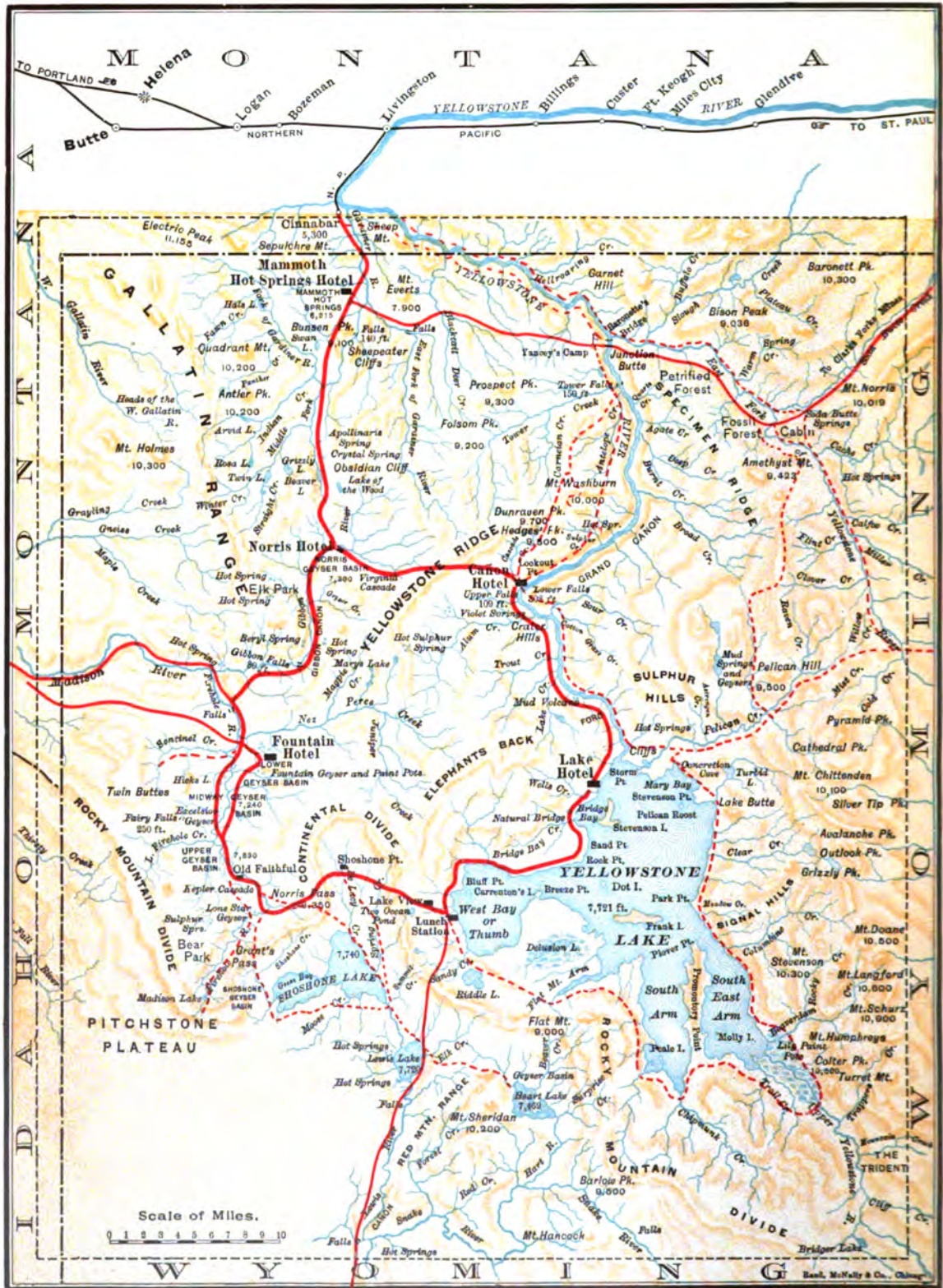
Now look with all your eyes, for where will you soon see another such view as that now unfolded?

We overlook the drainage basin of DeLacy Creek, and the mountains, black with heavy timber, rise all about us.

That beautiful lake down there is the northern end of Shoshone Lake. This view takes me back a few years to the time when I pitched my little



*Emerald Pool,
Upper Geyser
Basin.*



shelter tent on its shore. On yon farther shore I rode my horse along its sandy beach and in its waters, as we followed the dim trail across the mountains.

And see! away in the distance, how clear and martial-like the Three Tetons rise. Great mountains, those fellows! Twice only has the largest, the Grand Teton, been climbed. That highest, index-finger-like peak is about 13,700 feet high.

We now ride onward, feeling that we have had a vision that one of the old prophets might have enjoyed. Again we cross the Continental Divide, then whirl down into a beautiful park country, and, without warning, Yellowstone Lake bursts on the sight. After Shoshone Point, it is vision piled on vision.



Our afternoon ride along the western shore of Yellowstone Lake is one of the restful sort, with a continually changing panorama of water and mountains.

We close our day's experiences by arrival at the fine hotel at the outlet of Yellowstone Lake, go to our room, and take a nice nap before dinner.

From our hotel windows we overlook the full twenty miles in length of the beautiful lake, a wonderful mountain sea.

FIFTH DAY'S RIDE.

We sleep later than usual this morning, as the coaches do not start as early as heretofore, our ride being a short one.

The peaceful, restful atmosphere at this spot makes us long to remain another day.

Soon after resuming our "go-cart" we come to the Yellowstone River, and we follow its left bank for the greater part of our ride.

Mud Volcano is soon reached, and we leave the coach and go up to the mouth of the black, slime-plastered pit. Unattractive, it yet holds us with its spell, and we gaze in a weird, fascinated sort of way at the sepulchral thing.

Belch, belch, belch, it goes day and night, trying to throw off from its Plutonic stomach the heavy load that oppresses it. While we are glad to see *one* Mud Volcano, we are thankful that there is only one.

Hayden Valley, which soon spreads before us, breaks the uncanny spell cast by the volcano. The square miles of waving grass, the flowers, the shining river, the encircling mountains, make us long to remain for a time and enjoy the wholesome, clean prospect. What fun 'twould be to go cantering on horseback over the wide plain, and let the breezes tan our cheeks and the pure atmosphere of the mountains fill our lungs with a new and life-giving ozone.

As we progress we behold a Siamese-twin-like hill toward which the road leads. Sulphur Mountains, or Crater Hills, the driver says it is. The word mountain applied to these puny hills, scarce 200 feet high, strikes the ludicrous side of our nature when we raise our eyes and cast them upon the real, sure-enough mountains on every side.

No harm done, though, and we forget all about it when we ride up to Chrome Spring, a wonderful vat of boiling sulphur some 15x20 feet in diameter. It boils like a caldron, and this lovely one would just suit Macbeth's witches.

Now we have reached the rapids of the Yellowstone River, and then comes the Upper Fall. It is a glorious cataract. In 1873 Rev.

E. J. Stanley visited the park; he was one of the park pioneers. In "Rambles in Wonderland" he describes his trip, made, of



1. Cascade Falls and Bridge at Grand Canyon.

2. Isa Lake and Continental Divide.

3. At Hot Spring Cone, Yellowstone Lake.



3



*In Hoodoo
Land.*

course, on horseback when there were no roads. He says of this fall:

"One can stand upon the very brink of the precipice, and also descend to the foot, where he will soon be drenched with spray. In the presence of such wonders, hours seemed like moments; and from a rock protruding nearly midway over the cataract, almost forgetting that I was alone, long after our party had gone, I sat and watched the descending waters, listening to the song of the cataract, and admiring the lovely rainbows playing upon the snow-white vapor, reluctant to depart, and regretting the shortness of my stay."

I can heartily endorse what Mr. Stanley says. I have sat on that rock more than once, and for many hours in the aggregate, and I never tire of that beautiful snow-white spray and those sparkling rainbows.

Full of the roar and grandeur of the cataract, and fuller of expectation of what is to come, we regain the coach and roll onward.

We reach the junction of the roads, cross the bridge over Cascade Fall, and climb the hill to the Canyon Hotel. Our first glimpse of the famed canyon is obtained as we ascend the hill. It comes upon us like a whiff of fresh, invigorating air on a sultry day. We hold our breath—and our tongue as well—as the scene slowly passes, and wait with impatience for the time when we shall stand on the brink of those grand old walls.

Lunch is over and we seat ourselves in the easy tourist wagon for a ride along the brink of the canyon. This ride costs an extra dollar, but I am glad of the privilege of paying it, for it makes sight-seeing easier, and I want to see, see, see, this afternoon, and it saves time as well.

We trot down a gentle incline through the open, pass through a fringe of trees, turn to the left, and, almost in a twinkling, we see before us, below us, at our side, it seems at the instant all around us, an enormous fissure, gorge, canyon, chasm, any one or all of these, in our bewilderment. And that isn't all.



*Hotel at
Grand Canyon.*

We have had some idea of what a canyon is. We have seen pictures of them, of many of them in different parts of the West — yes, even of this one — but who under the heavens could form from pictures an idea of what yawns before us? Photography is completely impotent to convey to one's mind any true idea of what the eye sees here.

The great chasm, simply as a terrific gash across the face of the earth, is awful. But one scarcely has time to dwell on the enormity of the tragedy. A Limner divine, a Sculptor with the genius of omniscience, has tinted and fashioned the walls of adamant, until the tragic has been veiled in a marvel of form and color.

I have time and again written of this wonderful scene, but it is a thankless task, and each time grows more so. I will, however, state a few plain facts and quote from other pens the impressions which others have received here.

There is a looseness of statement, even in the guide books, regarding height of falls, general elevations, etc., in the park. This is largely owing to a desire to tell a big story without much regard to actual facts. The U. S. Geological Survey — not the old Hayden Survey — which has recently surveyed and mapped the park, gives the utmost depth of the canyon at 1,200 feet. Likewise the Upper Fall is 109 feet, the Lower Fall 308 feet high.

The Hayden Survey figures are by no means correct, in the light of recent and more scientific determinations.

Charles Warren Stoddard visited the park in its earlier years as a park, when the accommodations and roads were far different from



*Near View of
Lower Fall of
the Yellowstone,
309 feet high.*

what they now are. In the *Ave Maria*, Notre Dame, Ind., he writes of what he saw, and this is in part what he says of the Grand Canyon. He approached it by trail, searching for a point that would give the supreme view, if such there were:

“I found it at last, but shall never know how I found it. The trail plunged into a little hollow and twisted about



Lower Fall and Canyon from beyond Point Lookout.

among rocky angles — writhed, I might say, as a snake writhes when it has suffered a wound. Then it climbed a sudden steep, and, having reached the top of it, came all at once to an end. There was a rock to sit upon, and a dwarfed, storm-tangled tree that made a kind of shelter over it. There was a ledge just large enough for a footstool, and there below me yawned the Grand Canyon of the Yellowstone. A painter may depict it, yet it seems to me that he should limn it upon a translucent surface with trans-



Point Lookout from below.

parent colors, and that it should be lit with a strong light thrown from the rear.

"No rugged walls here. Every height is finely, almost sensuously, molded; a few sharp, fir-backed ridges soften by the color, which seems fairly to stream from them — flamingo wings, or folds of scarlet satin, not handsomer. Remember that the eye is dazzled by a light which is peculiar to the Grand Canyon — a kind of permanent sunset, or afterglow; that all the richest and the most delicate shades of ochre are here blended and resolved into one another. On the top of the canyon a waterfall plunges headlong into an abyss 300 feet below, and fills it with so dense a volume of spray that the face of the cliff streams constantly. There are traces of green there — the loveliest green conceivable — the green of celery tips, moist and dripping.

"Above this green the walls, otherwise bare, are clothed with small clusters of trees; their green is luscious and dewy. Then nothing but color — color upon color, umber and amber of every conceivable shade. There are rocks of the richest vermilion hue, and patches of softest pink — pale rose tints as exquisite as a blush. There are spires and minarets, and stalagmites and crystallized peaks, all running the gamut of flesh tints, and all bathed in loveliest light. The effect is dazzling. Such pale cream-colored walls, that seem to flush while you look at them, and to turn pale if you look steadfastly. Lustrous walls, filling the chasm with a radiant atmosphere which is indescribable, incomprehensible, and inconceivable; and at the bottom of them all a slim, green, frothing stream, that seems to be hastening to hide itself away out of the almost insufferable splendor of that ravishing ravine.

"When I rose from that eyrie my brain reeled. I was ready to hurl myself into the abyss, and might have done so had I not hastened back into the wood; for upon the narrow top of a slender pinnacle towering some hundred feet above the stream below — yet I looked down upon it — was a nest of eagles, crying with a piercing cry as the parent birds sailed majestically to and fro. When I turned away, half fearfully, my eyes were full of blinding color and wild forms, and I could think of nothing but of some imaginary chasm in the planet Saturn, and of eagles nursing their young upon inaccessible heights, bathed in unspeakable glory."

There are four special points from which the sight-seer views the canyon: One, is standing in the canyon beside the Lower Fall and at the level of its brink; another, is at Point Lookout, on the canyon's brink, a little way below the Lower Fall; a third, at Grand View, where the whole scheme of color is unfolded to view, and where the canyon is widest; the fourth, at Inspiration Point, two miles below Point Lookout, and where a fine double view — one up, the other down the canyon — is had.

Don't ask me which view I treasure the most—don't do it, for I can not tell. I am held as in a thrall at all of them; each one speaks of the divine, and that is enough.

One more quotation from A. W. Upson, in *Field and Stream*, and I leave the theme:

"That night at sunset two persons were sitting on the rock spire overhanging the Great Falls. To westward the heavens were all aflame; to eastward spread the Joseph's coat of the canyon walls. We leaned against the yellow limestone and were still; what were we to speak when the Great Architect was talking? My companion was a Japanese student, full of the poetry of his people. As we rose to go he stood pointing to the sunset, his dark face outlined against the yellow light in the eastern sky:

"They say my land is the Land of the Rising Sun. For a million years this has been the Land of the Setting Sun. The sunsets of the Past are dissolved on these long walls; they are the colors of all the Yesterdays."

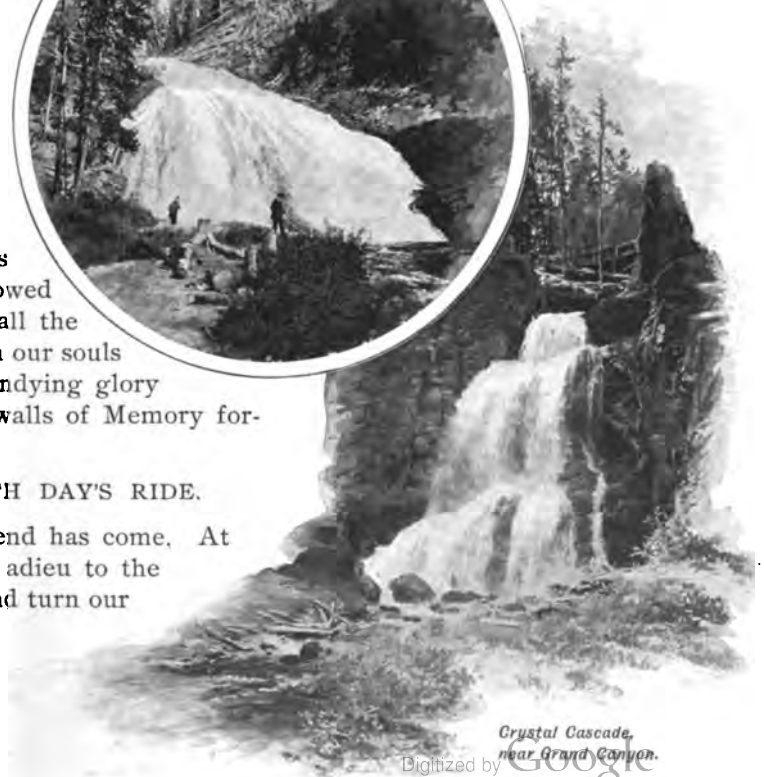
"I raised my hat for a final salute to the majestic falls and impulsively flung it up into the mellowing twilight. For an instant it spun in mid-air over the brink of the highest foam crest, then whirled away into the abyss, falling, falling, till the mists rose up and swallowed it. And just then the tip of the loftiest pine, which had been gilded with a level bar of fire, lost its light, and we knew that this day also was swallowed in the mist with all the yesterdays. But in our souls it has dissolved undying glory that renders the walls of Memory forever luminous."

SIXTH DAY'S RIDE.

And now the end has come. At 10 o'clock we bid adieu to the glorious canyon and turn our faces homeward.



Virginia
Cascade.



Crystal Cascade,
near Grand Canyon.

Through the forest we roll toward Norris Basin, passing the Devil's Elbow, a sharp turn around some stalwart rock spires, and Virginia Cascade. Then our route retraces what we have before seen.

As we leave behind these scenes, now almost sacred, we muse and then regret—regret that we had not arranged to spend at least another week here, and see more of what we have seen, and search out much that we have not seen.

There are so many side trips that can be made, so much to study, such comfort and health in this elevated region, that now, when it is too late, we see where we made a mistake in not planning for a two-weeks' trip, especially when the transportation costs no more. Well, there is this silver lining to our cloud: We *can* take the trip over again and spend a month, if necessary, then.

And that is just what we determine to do some other year. So we reach Mammoth Hot Springs in a happier frame of mind, eat our last dinner in the park, mount the out-going coach, and end our sixth and last day of our park tour by stepping into the Pullman sleeping car at Cinnabar and being whirled homeward at forty miles an hour.



THE GALATIEN VALLEY



WHenever I begin a research into Northwestern history for a bit of information or a few facts, there follows such a fascination that I always wish I could throw writing to the winds, and continue my reading and poring over ancient volumes and chronicles.

The history of no Northwestern State is, perhaps, more replete with incidents of a startlingly dramatic and tragic character than is Montana. Its mountainous character, its strong and warlike Indian tribes, the early fur trade and traders, the discovery of gold and silver that brought to it in hordes, a cosmopolitan and independent population, all combined to produce in Montana a phase of civilization that required peculiar treatment.

The so-called vigilante days are apt to be considered by the unthinking, as indicative of a life of bloodshed and outlawry existing throughout the length and breadth of the Montana of that day. Such an idea is a mistake and an injustice to the people of Montana. The vigilante experience was not only confined to a comparatively limited area of the territory, but was merely an episode, an incident in the progress and growth of the region. There were too many, who had braved dangers almost unspeakable to found the commonwealth, to allow their labor to come to naught and its fame to be tarnished by a set of outlaws. In the scattered state of its population however, it became necessary, finally, to have recourse to a method which only the peculiar state of affairs justified, to cut out the fester. This done, the object accomplished, and for the purpose, too, of aiding law and order, the latter resumed normal and full sway and effect and the plague spot vanished to return no more.

The civilization of those days was of all sorts and characters. It was, outwardly, not of the sort found in courts and drawing rooms. Gold tinsel and that sort of frippery was conspicuous by its absence. Often, a skin suit covered one's nakedness and the language heard

would be a jargon of Indian, Spanish, French, and English. But the stuff of which heroes are made was there, and when occasion demanded it showed forth. But there were others also, men educated and refined, gone West to grow up with the country.

Two frontiersmen who were noted men in the early days of Montana, and particularly in that part of it known as the Gallatin Valley, were James Bridger and John M. Bozeman. Bridger was a typical mountaineer and plainsman, and no better guide, over a large extent of the West, could be found. He lived to a ripe age, and passed away in 1881. He served as guide to many expeditions to Montana and the West, both military and civilian.

Bozeman went to Montana in 1862, and in 1864 led a large train into Montana from Missouri. Bridger at the same time was conducting another train to the same region, though by a different route. Bozeman traversed what is now known as the Bozeman Pass, into the Gallatin Valley, and Bridger entered the valley via Bridger Creek.



*Threshing
in Gallatin
Valley.*

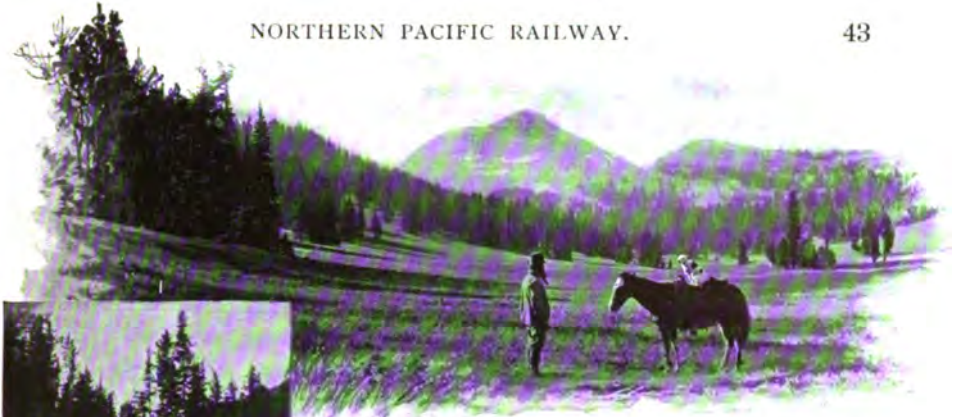
These entrances to the valley are within a few miles of each other. In 1867, Bozeman was killed by the Blackfeet Indians in the Upper Yellowstone Valley.

The names of both these men are appropriately perpetuated by the Bridger Creek, Bridger Mountains, Bridger Peak; and Bozeman Pass, Bozeman Creek, and the City of Bozeman, all in and about the Gallatin Valley.

This valley is one of the two best-known valleys of Montana. It seems never, at least within the present century, to have been the abiding place of any Indian tribe. It appears to have been that dark and bloody debatable land—common to every section of our land in its frontier days—where all the tribes struggled for the mastery. Here the Blackfeet, the Bannacks, the Nez Percés, the Crows, and others met in bloody warfare. In time this ceased, the Indians that were left were kept upon their reservations, white settlers poured in, and peace and prosperity were found within its borders.

When Lewis and Clark emerged from the Canyon of the Missouri, from the high ground at the Three Forks they gazed upon a scene of great loveliness.





Three large, green valleys, through which flowed, three fine streams, stretched to the horizon. Which stream was the largest, and what should they be called were questions that must be determined. Each stream was ascended far enough to settle the question of comparative volume, and they were designated as follows: To the westernmost and largest the name of Jefferson was given, in honor of Thomas Jefferson, then President; to the easternmost the name Gallatin, after Albert Gallatin, the famous Secretary of the Treasury; to the middle stream the name Madison, after

James Madison, then Secretary of State, and Jefferson's successor as President.

Unlike—unfortunately in many cases, and unjustly—many names given to geographic features by Lewis and Clark, these names have been retained for these streams and valleys.

The Gallatin Valley is hemmed in on the northeast by the fine range of the Bridger Mountains, on the east

1. Three Rivers Peak, Gallatin Range, Montana.

2. Twin Falls (70 feet each), on Middle Creek, Gallatin Range.

3. Northern Pacific Railway and Gallatin River, near Logan, Mont.

and south by the finer Gallatin range. The latter is a specially fine range with high, strongly marked peaks more or less covered with snow the year around. On the other side of this range lies the Yellowstone Park.

The Gallatin River, a short distance above its mouth, divides into the East Gallatin and the West Gallatin. The former draws its supply of water from the Bridger range principally; the latter from the Gallatin range, its extreme headwaters being found in the Yellowstone Park.

The general elevation of the valley is about 4,500 feet, and its shape is a vague oblong. Its principal towns are Logan, Manhattan, Belgrade, and Bozeman, the latter having a population of about 4,000 and being the county seat of Gallatin County. The great fertility of this valley is well known, especially in the far Northwest. Like

nearly all Montana valleys, agriculture, in its widest meaning, has not

progressed far enough to enable

it to be known precisely, what

branches of it will prove the

most successful. The Mont-

tana Experiment Station is

located at Bozeman, and

under the enlightened man-

agement of Prof. S. M. Emery

and his assistants, is rapidly

developing this proposition.

It is largely the usage in this

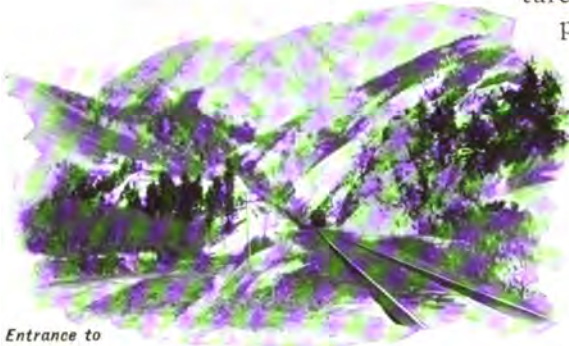
valley—as it is also in so many others in the Northwest—to raise small grain almost solely.

The usual custom here, is to summer fallow the land every third year; sometimes it is done oftener.

The Experiment Station people seem to have satisfied themselves that by a proper rotation of crops—the same old story—this practice is entirely unnecessary, especially in the case of small farms.

Clover grows splendidly, alfalfa does well, and the Canada field pea is a great success. These crops used rotatively enable the entire farm to be cropped continuously, and at the same time the soil becomes enriched.

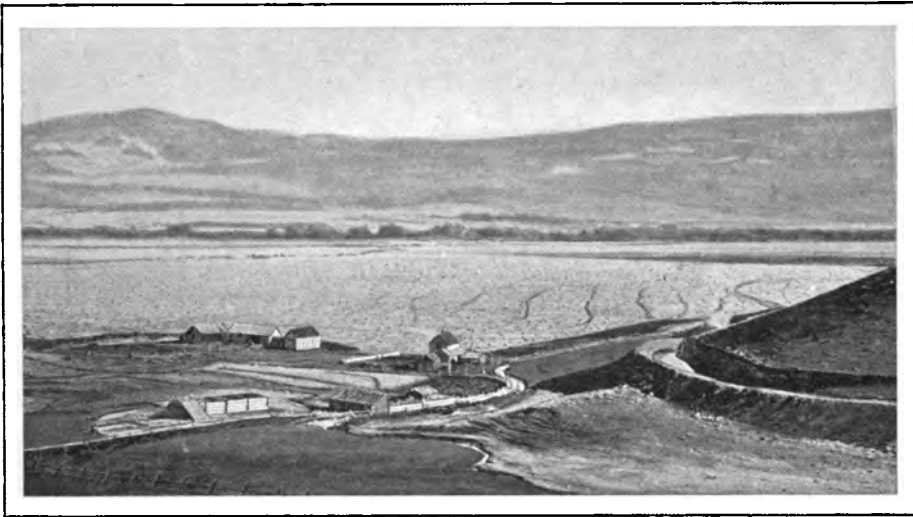
In developing the agriculture of these Montana valleys, much, in the line of local conditions and peculiarities, must be considered. The small grains and vegetables are common to all of them. The same may be said, practically, of the small fruits. But what particular small grain is best adapted to each particular valley, depending upon its soil, character of the streams from which the irrigating waters come, elevation above sea level, prevailing winds, topography,



*Entrance to
Rocky Canyon,
near Bozeman,
on Northern
Pacific Railway.*

and location and character of markets, is an important question that reaches to every farmer's pocket-book. It applies just as certainly to all departments and products of the farm, as well as to grain. In the case of the Gallatin Valley, barley seems to be the cereal *par excellence*, at least in certain portions of it. It yields on an average more than fifty bushels per acre, and is of such superior quality that large quantities of it are exported to Europe.

The problem of fruit culture presents, perhaps, greater difficulty to the farmers here than any other. This subject is being attentively studied throughout Montana, and the Experiment Station has exhaustive experiments under way in relation to it. But each valley must, to a degree, work out its own problem.



Irrigated Barley
Farm, Gallatin
Valley, Mont.

The Bitter Root Valley, where horticulture has made much progress, is of an average elevation of 1,000 to 1,200 feet lower than the Gallatin. Manifestly, what might thrive in the former might prove an utter failure in the latter and *vice versa*. Then again, the Yellowstone Valley, much lower than either of the others, presents certain climatic conditions that render results obtained in them not necessarily to be relied upon as criteria for the latter.

Along the banks of the Gallatin River from Bozeman to the junction of the three forks of the Missouri, there are wide, level bottom lands. Above these come fertile bench lands, which gradually slope upward to the acclivities of the Bridger and Gallatin ranges.

The valley, including both bottom and bench lands, aggregates about 1,000 square miles, and has a slight fall of about sixty feet to the mile, thus rendering it easily susceptible to irrigation, with a minimum tendency to soil washing.

Irrigation is more or less necessary in the Gallatin Valley, as in all other Northwestern valleys east of the Cascade range. On the bench lands near the mountains, crops grow un-irrigated, and even down in the valley one or two irrigations per season are usually sufficient.

The supply of water is almost unlimited, and, coming from the



Old Mill in Gallatin Valley, Still Standing Built in 1868 or 1869.

Noon at Manhattan Farm.



mountains near by, is greatest when most needed, and the loss by evaporation is least.

One of the most important irrigation schemes of Montana is that of the West Gallatin Irrigation Company of New York and Brooklyn. The headquarters of this company are at Manhattan, and in connection with the Manhattan Malting Company, its affairs are managed by Mr. George Kinkel, Jr. The Irrigation Company have a high line canal fifty-seven miles long, and also the necessary laterals.

The West Gallatin River, from which this canal draws its supply of water, has an estimated discharge of from 125,000 to 250,000 miner's inches per second, depending upon the season. As there are now not more than 25,000 inches of water withdrawn from the stream, it will readily be seen that a water famine is impossible.

The Malting Company have a farm of 13,000 acres devoted to barley. In connection therewith, they have an enormous elevator and malting works.

A large paper mill, controlled by Eastern and Montana capitalists, is under process of construction at Manhattan. The barley straw will be used in the manufacture of the paper.



Product of Gallatin Valley.



THE VALLEY OF THE BITTER-ROOT

A BEAUTIFUL FLOWER, a beautiful river, a beautiful valley, a magnificent mountain range—such is the Bitter Root. The flower, which gives name to the rest, is a small plant that blooms in June, common to many of the Montana valleys. It seems to thrive more especially in the Bitter Root Valley, and this circumstance has given to the valley its name.

The petals are of a beautiful, delicate pink or rose color; the root is edible, that is, it was formerly, at least, much used by Indians and mountaineers for food, but it is very bitter. The Indians dry it, and in this state it will keep for years.

The botanical name of the plant is *Lewisia rediviva*; the Snake Indians, Granville Stuart says, call it Konah; the Flathead, or more correctly, Selish, Indians characterize it by the word Spitlem.

The Bitter Root is the State flower of Montana, and it is entirely worthy of the honor thus shown it.

The Selish Indian name for the Bitter Root River is Spitlem seulkn, the water of the Bitter Root, and the valley is called Spitlemen, the place of the Bitter Root.

The old trappers called it the Bitter Root; the Jesuit Missionaries, who reached the valley early in the forty's, called the stream St. Mary's, and established at the present town of Stevensville, St. Mary's Mission. At that time and for many years thereafter, the Selish, or Salish Indians lived in the valley. More recently they removed to the Jocko reservation across the Mission range.

The river takes its rise in the Bitter Root range of the Rocky Mountains about one hundred miles south from Missoula. Here the range swings back upon itself forming a large pocket or cul-de-sac. From the slopes of this pocket the drainage is collected into beautiful, sparkling mountain streams that soon combine into the main river, which is constantly and largely augmented as it courses down the

valley. At Missoula it forms a junction with the Hellgate River, from which point the name Missoula is given to the stream.

The Bitter Root Valley is of the same approximate length as the river. It varies in width from a few miles at some places to ten or twelve miles at other points. The valley is bordered on the west by the high and majestic range of the Bitter Root, which not only protects the valley from the cold, western winds, but supplies it with innumerable streams of the purest crystal water.

The range is a very lofty one and the snow lies among its higher recesses the year round.

In writing of the valley and its possibilities, the river, valley, and range are all to be considered as common and inter-related parts of the problem.

No one can ride up this splendid valley, even once, and not be pro-

*On the Trail of the
Mountain Goat.*



foundly impressed by it. As I have made this trip in successive years and noted the improvements and increased subjugation of the valley to agriculture, I have not only been impressed, but conviction has been enforced, that even those who were living there but faintly conceived the future greatness of this paradise of valleys.

*Home of the
Rocky Mountain Goat,
Bitter Root Range.*

And let me say right here, that the true way to see the Bitter Root Valley, as indeed most valleys, is to drive out over it and see the individual ranches. In the Bitter Root one may, however, obtain a per-

fect *tout ensemble* effect from the railway train, as the valley slopes quite rapidly from the mountains to the river.

The soil of the valley is not all of the same character. There are wide zones where it is very rich and of good depth, there are other, rather limited, areas, where it is shallow and more or less barren.

Just what can and what can not be raised here, the people resident do not themselves know as yet. They are now raising crops that a few years ago were deemed impossible, so that they are more or less puzzled and are prepared to believe that almost anything that water, air, and soil will produce can be raised here.

The principal attention of the settlers is now given to orcharding and raising hay. Orchard growth, particularly in the extensive way in which it is now practiced, is in its youth. Hay farming has been carried on for many years, the proximity of important mining camps giving an impetus to it. Timothy and clover grow luxuriantly. I have never seen finer clover fields than the Bitter Root Valley shows. It is almost a

question, if clover and weeds were sown together, whether the clover would not choke out the weeds. The clover does not run out for years. What the limit is does not seem to be known. This statement will, perhaps, strike the Eastern farmer as verging closely upon a careless handling of the truth, but it *is* an indisputable fact. Alfalfa is raised to some extent, but clover seems to be a preferred crop at the present time.

The yield of hay is from two to four tons per acre, and it brings from \$7.50 to \$10.00 per ton on the cars at way stations, baled. The timothy hay is raised principally, perhaps, at the present time, on the extreme bottom lands near the river. Clover is grown, to a great extent at least, on the bench lands.

Dairying and poultry raising would seem to be most productive branches of farming, where butter costs 40 cents per pound in winter and 20 cents in summer, and eggs sell for the same prices, exactly, during the same seasons. Little



In the Cedars,
on Moose Creek,
Bitter Root Range.



"Mountain Spirit" Falls,
on Moose Creek, in
Bitter Root Range.

effort, however, seems to have been made to develop these lines here, but it would seem as if a great field was open to the right person or persons. The mining markets of Butte, Helena, Marysville, Phillipsburg, Wallace, and a score of others, form the finest and most stable

of markets at top prices for such products.

Stockraising has not received the attention it ought either.

Those who are successful in this branch of farming will find a splendid field here to work in.

Water, grasses, grain, climate, and markets all combine to make success inevitable to the right man.

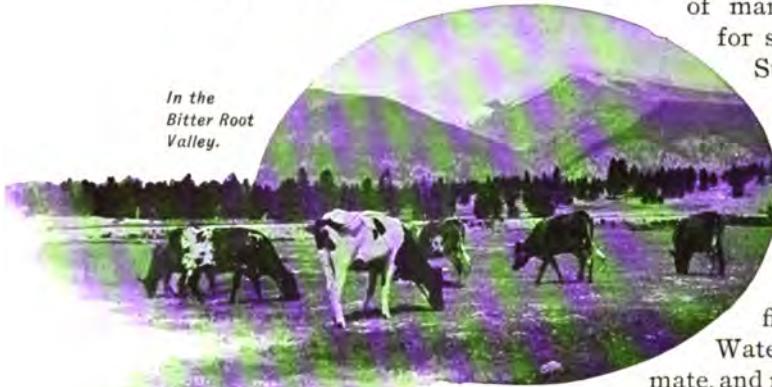
Grain and vegetables grow finely and are raised in large quantities, but there seems to be at the present time more profit in other crops.

There is, undoubtedly, more money invested here in orchards than in any other department of farming, more, *perhaps*, than all others combined. I have ridden along a highway, near Hamilton, which ran through the heart of *one* ranch that contained 48,000 trees. This is one of the two or three largest, but there are large numbers of ranches containing from 1,000 to 3,000 trees, and they extend from Missoula to Grantsdale and beyond. Most of these orchards are young, many of them just coming into bearing, but the next two or three years will witness an output of luscious fruit from here that will prove a delightful surprise to Easterners.

The valley seems to be specially favorable for apple raising. In the opinion of competent judges, it is not improbable that it will soon produce the best apples in the United States. The area planted to apple orchards is very large and it is steadily increasing.

While Bitter Root favorites in the markets of Montana, and have been sold more or less in Manitoba, North Dakota, and Minnesota, it was only in the year 1898 that they were first shipped

apples have for years been



In the
Bitter Root
Valley.



Orchard in the
Bitter Root Valley

to the older apple centers. A noteworthy instance of this was a shipment of ten car loads of Alexander apples, for a beginning, to Southern Illinois.

But they raise other fruits than apples in this beautiful valley. All small fruits, it goes almost without saying, grow to perfection. Plums and grapes are perfectly at home; cherries nearly burst with joy and fatness, they grow so fast and so easily, and life is such a dream to them; prunes grow so thickly that it is hard to believe one is not gazing upon a new variety where they grow like grapes, in clusters.

Last summer I drove through the pines following a mere trail of a road, climbing higher and higher. The pine needles formed a carpet

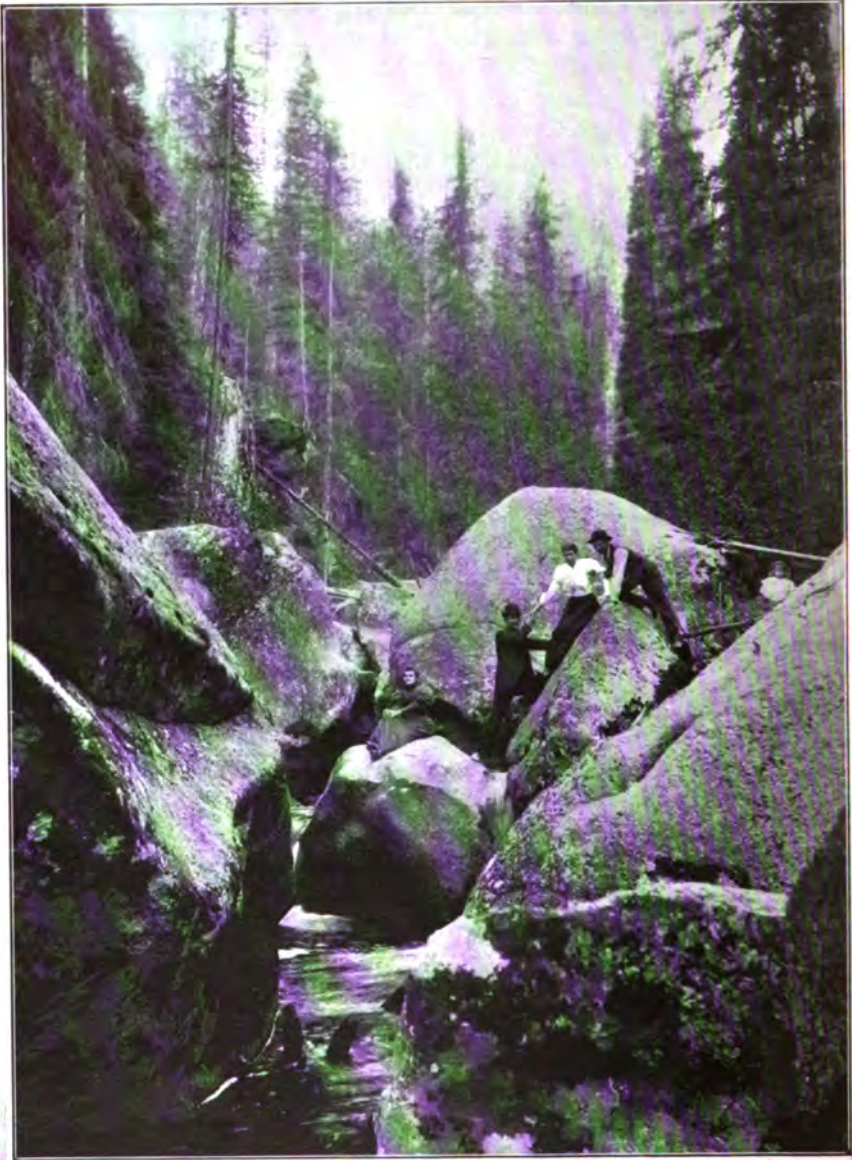


Hooked (on the Bitter Root).



For Health and Happiness.

about us, the streams from the canyons went gurgling toward the river, and the mountains rose grandly, now in front now at one side, as the road twisted hither and thither. I was searching for a certain ranch and found it at the very edge of the slope, where the mountains rose abruptly to the height of 3,000 or 4,000 feet. Here, at a lovely spot overlooking the great valley below, a poor man had made his home and, after clearing out the pine trees and burning the stumps, had planted an orchard. He was compelled to work for others much of the time in order to procure money to support life. But as fast as possible he licked his ranch into shape, and now could see the beginning of the end. I found him gathering and packing Alexander apples, and luscious fruit it was.



Lolo Hot Springs, near Lolo Pass.



In Lolo Canyon.

He filled our pockets and we filled our mouths as he told his story. The orchard looked splendidly, everything was neat, and bore an air of thrift. Along the mountain we traced his main irrigation canal, and here and there—

owing to the steep slope — iron pipes descended, the laterals that distributed the water to the ranch. I told him I understood he raised fine peaches up there on the foothills. He replied that he did, but was afraid that all had been picked. He led the way to the peach trees, and finer, healthier looking ones I never saw. But we were indeed too late to see the peaches. The children had picked the last lone peach. I had, however, heard them described by others, and this it was that had led to my trip. I could readily believe what I had heard, after once seeing the apples and the peach trees. Afterward I saw other peach trees, with late, unripened peaches on them.

A few years ago these people would themselves have scouted the idea of being able to raise peaches.

As yet the Bitter Root orchards are singularly immune from disease. The leaf ophis has, however, appeared, and doubtless in time the usual diseases will have to be fought.

An important feature of this valley, as it appears to me, is that the latitude and elevation together produce the climate that is just needed to perfect the apple, both as regards flavor and color.

The percentage of loss in newly planted trees is small.

What will surprise the Eastern farmer or orchardist is the character of land which is best adapted to fruit. The highway along the large ranch, heretofore referred to, was piled high upon each side with bowlders, large and small, taken from the land. The superintendent estimated that it would require several thousand dollars more to clear the land as it should be and was intended to be cleared. This, of course, is ranching on a large, expensive scale. This *rocky* bench land, however, is the most desirable fruit land and that which is in greatest demand. The land is cleared of bowlders more or less gradually, and several years may be taken in which to do it effectually, the trees meantime being planted and growing thriftily. The bowlders are used for fences, corrals, foundations, etc., which last forever.

All the land is not of this character, however, and a purchaser can suit his own taste and financial condition here as elsewhere.

Irrigation is necessary in Bitter Root Valley farming, but it is unusually easy and inexpensive. Fewer large canals are necessary as there are so many small lateral streams from the mountains. These can be easily diverted by small companies, or even by individuals, and, owing to the angle and uniformity of slope, are carried here and there with little expense or physical difficulty.

The larger canals are generally owned by those having large tracts of land, and, in most cases, are taken out from the Bitter Root River.

The valley is well timbered and the mountains are heavily clothed with forests. The latter add not only a wonderfully picturesque

element to the landscape, but furnish also some of the finest big-game hunting in the West.

Historically, the Bitter Root Valley is not unknown. Besides the interest that attaches to it from the Jesuit Indian Missions established by De Smet, Ravalli, D'Aste, and others, there are other incidents both anterior and subsequent thereto. Lewis and Clark, in their great expedition of 1804-1806, passed down the valley from the region of the Big Hole country to where the Lolo Creek debouches into the valley and main stream. This creek they followed to the divide and then crossed to the Clearwater River. On their return from the Pacific Coast they retraced this route to the Bitter Root Valley, where the party divided, Clark returning eastward via their old route, the Bitter Root Valley and Jefferson River, Lewis striking a new trail north and northeastward to the Missouri River.

At various times between 1850-1862, Capt. John Mullan, U. S. A., was engaged in exploration and construction of a military wagon road between Fort Benton, Mont., on the Missouri River, and Wallawalla, Wash. The Bitter Root Valley and vicinity were thoroughly explored by him, and the road, when constructed, passed across the foot of the valley where Missoula now is, thence up the Hellgate and Little Blackfoot rivers, and across the Rocky Mountains at Mullan's Pass. When the Northern Pacific Railway was constructed, it crossed the range at the same point and followed Mullan's wagon road to the Bitter Root Valley. Mullan's survey was one of the most thorough and valuable that the Government ever made in the old days, and his wagon road is still in use at many points.

In the Nez Percé Indian war of 1877, Chief Joseph and his tribe, in their celebrated retreat before the United States troops, crossed the Bitter Root range via the Lolo Pass and trail, passed up the valley to the Big Hole, where the battle of that name was fought, and then pushed eastward into Yellowstone Park and thence on to the north.

The routes of Lewis and Clark and Chief Joseph, through Lolo Valley and over the mountains bordering it, coincided in many places, and the trail is still visible at many points.



PURPOSE, in the few pages devoted to this chapter, to call attention to some of the scenic features along the Northern Pacific Railway.

The Lake Park Region, through which the road winds across the greater part of Minnesota, is mentioned in another part of this brochure.

Leaving the Park country, the main line of road stretches straight across the Red River Valley. The man or woman who has never seen a wheat field containing more than a few hundred acres, will look with astonishment upon the fields here, which extend both north and south farther than the eye can see. The train goes rushing along at fifty miles an hour, and yet there seems to be no end to the vast grain fields that meet the vision. In unending, continuous iteration they fly past, wonderful pictures of changing green, if in early summer, or of gold in the fall. Not all of it, of course, is held under one ownership, but there are many large tracts of 1,000 acres or more owned by single individuals, and there are many farms that range from 2,500 and 5,000 acres, to 10,000, 15,000, 20,000, or even more, in area.

In the autumn of 1898, I was riding eastward on the transcontinental express. On the train there was a prominent physician of New York City, who was returning home from an extended tour.

He had but recently visited the Yosemite and was even then fresh from Yellowstone Park. On this particular morning we arose before the train had reached Casselton, and I was thus enabled to point out to him the well known bonanza farm owned by Mr. Dalrymple of St. Paul. As the train rushed through it, the wide spreading, yellow fields of grain, much of it harvested and in shock, reached north and south as far as one could see. The various clusters of buildings denoting the center of each superintendent's district, came into view and then quickly vanished to the rear. My friend

became greatly enthused and interested, more so, perhaps, than when gazing into the depths of the Grand Canyon of the Yellowstone. It was, indeed, a sight to move one. Human brains and ingenuity were seen at work there transforming a great unproductive waste, as it once was, into a source of food supply that might, perchance, succor some poor community in the United States, China, Ireland, or Egypt from starvation. And besides, it was a wonderful picture as well.

The view of this valley from the train, at any time, is a very interesting one. In late fall and early spring it is of an army of plowmen turning millions of black furrows. In summer it is of a

An Army of Reapers.

After the Noonday Meal.



Clinching the Harvest.

vast expanse of waving green, and later a yellow sea spreads out on all sides, with long lines of reapers cutting and binding it into golden sheaves.

If one wishes to study Northwestern wheat farming, one should stop at Fargo or Casselton on the main line, or take the branch line at Winnipeg Junction and go to Crookston, Grand Forks, Grafton, or Winnipeg, in Manitoba, the terminus of this branch, and the chief city of Manitoba.

West of Red River Valley comes a rolling country known as the Coteau country. This extends to the Missouri River and its chief cities are Valley City, Jamestown, and Bismarck. This region is

quite a contrast to the flat valley country left behind, and the towns named, with others on a branch line extending north from Jamestown to Lake Minnewaukan, are good points from which to hunt ducks and especially wild geese.

West of the Missouri River, after traversing a rolling prairie country, the unique region known as Pyramid Park is reached. This land of cliffs and colors, transformation scenes, and battlemented crags, is bisected by the Northern Pacific Railway.

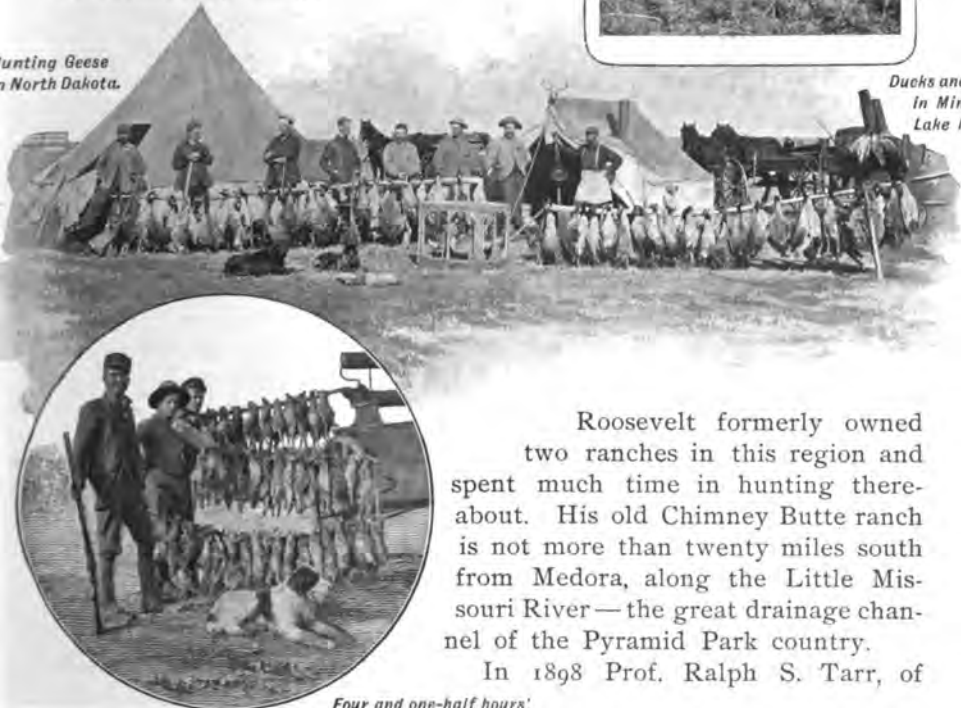
It reminds one of the great red rock and canyon regions of Colorado, Arizona, and Utah. It is really a little wonderland of itself, and it is not so limited in area either.

Years ago, two prominent men made this region known the country over, at least at that time. These men were the Marquis de Mores and Theodore Roosevelt. The former established at Medora — named after his wife and situated in the heart of the region — an elaborate cold-storage plant, which, however, proved a failure. The tragic death of de Mores in the Far East, a year or two ago, will be recalled by many.



*Hunting Geese
In North Dakota.*

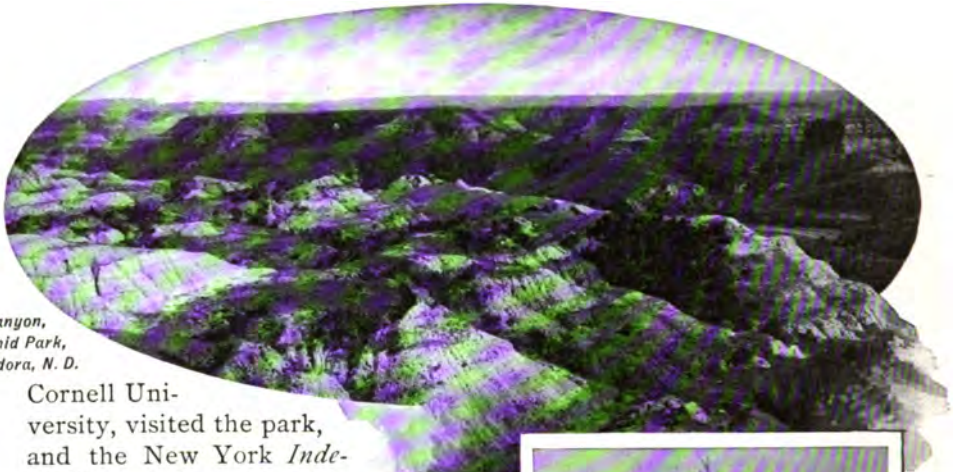
*Ducks and Geese
In Minnesota
Lake Region.*



Roosevelt formerly owned two ranches in this region and spent much time in hunting thereabout. His old Chimney Butte ranch is not more than twenty miles south from Medora, along the Little Missouri River — the great drainage channel of the Pyramid Park country.

In 1898 Prof. Ralph S. Tarr, of

*Four and one-half hours'
Sport with Grouse, near
Glendue, Mont.*



*Cedar Canyon,
in Pyramid Park,
near Medora, N. D.*

Cornell University, visited the park, and the *New York Independent* of Sept. 22, 1898, contained from his pen the only up-to-date article on this subject, from a scientific standpoint, that I have seen, of late years. I quote briefly from him:

"The forms are weird, and often fantastic. One passes them by in such quick succession that a glimpse only is possible, for the eye has not time



*Home from
the Hunt.*



to appreciate the details, so that the mind receives a general impression of a panorama of marked interest and variety.

"Very few people take the time to become better acquainted with this region, though many pass through it to spend time in seeing vastly less interesting places beyond. A stop of a few days at Medora, with a ride or two out among the hills, will repay any one interested



*Campfire Dreams,
Camp Life, and
Camp Fare, Pyramid Park.*

in nature. Not only is the variety of land form remarkable, but the geological history of this sculpturing is also interesting.

"One who takes a drive into these so-called Bad Lands will have his attention called to the 'scoria' rocks which abound there. These scoria layers are very striking, because on account of their hardness they are often found capping and causing buttes. The scoria layers are highly colored, often some shade of red; and they add markedly to the beautiful variety in color effect that one notices in the Bad Lands. Besides being highly colored and very hard, the rock is often clinkery, full of holes, and quite like many lavas in appearance, though sometimes the appearance is rather that of slag.

"One can prove for himself what it is by visiting one of the burning coal mines where scoria are even now being formed. In these places one may see a fire, set, perhaps, by Indians, or by a prairie fire started by lightning, or, possibly, set afire by spontaneous combustion. For years, since long before white men visited this region, these fires have been burning summer and winter, until now most of the lignite has been burned out of the dry hills which have been stripped and exposed to the air by the action of the rains.

"In such a place one sees a hill, cracked and fissured, with jets of sulphurous smoke issuing from the crevices, telling of the fierce fire that is raging within. It is not perfectly safe to walk about on this cracked surface, but by exercising care one may approach near enough to some of the cracks to look into the fiery furnace and see the white-hot glow of the coal and the inclosing rocks, heated to a white heat like that of a blast furnace.

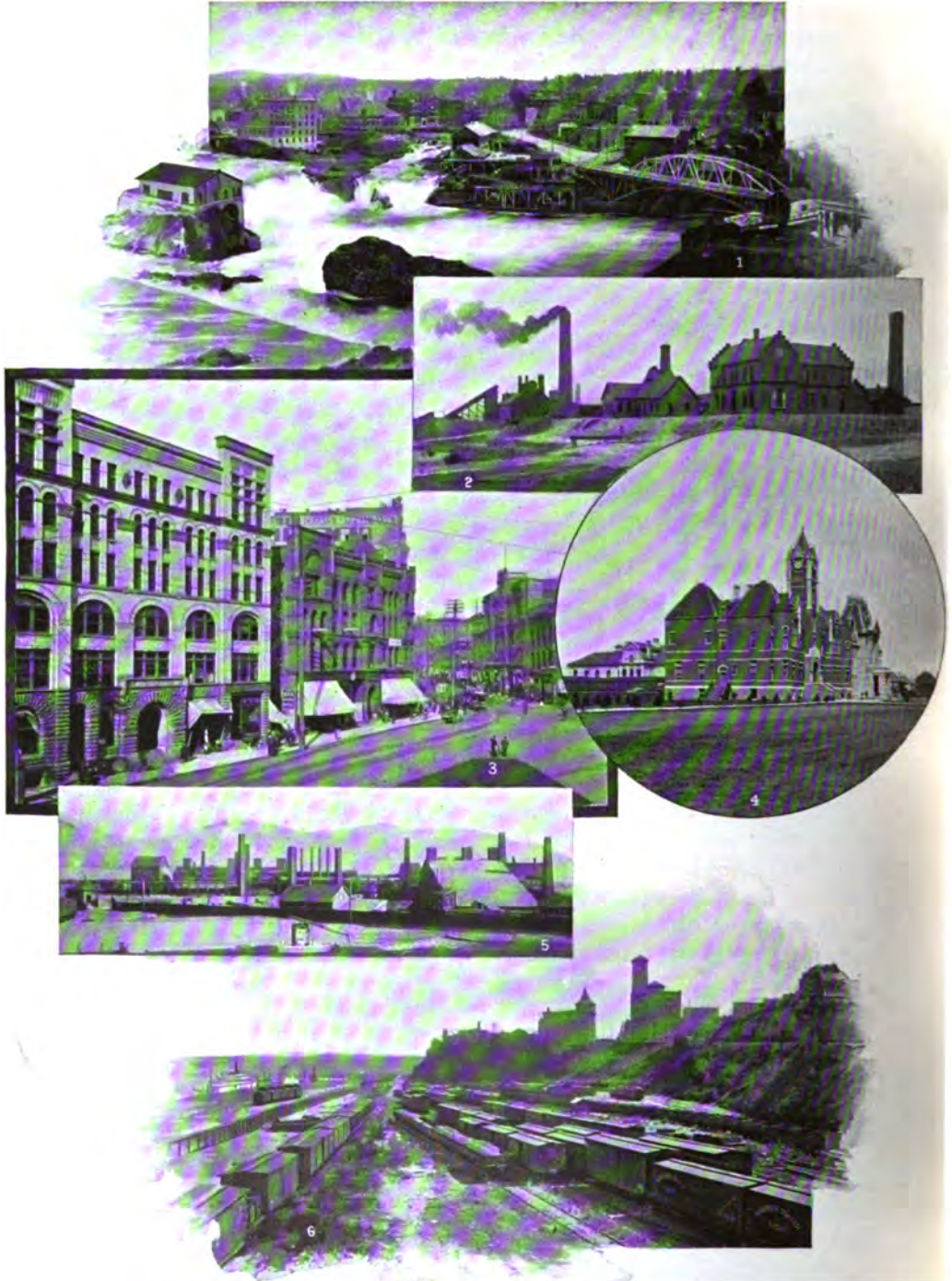
"If one has the good fortune to visit the Bad Lands as the guest of the Eaton brothers (near Medora), he not only sees the wonders and beauties of the Bad Lands, but he receives an impression of ranch-life and a ranchman's hospitality which will never leave him."

Beyond the Pyramid Park country the railway traverses a rolling, upland prairie that supports large herds of cattle, and then descends the little valley of Glendive Creek to Glendive, on the Yellowstone River.

The high lights, or colors, of the Pyramid Park land, are wanting in the palisades and bluffs, that, to greater or less degree, bound the valley of the Yellowstone River for 340 miles. Instead, neutral, dun, buff, and related shades predominate.

Near Glendive the striking architectural character of the cliffs will be noted. Erosion is a wonderful agent in the scarping and modeling of a land, and well, indeed, has it done its work here, and with gracefulness as well.

The Yellowstone Valley forms an agreeable picture in the traveler's memory, with its wide, green bottom lands; the light green



1. Spokane Falls, Spokane.

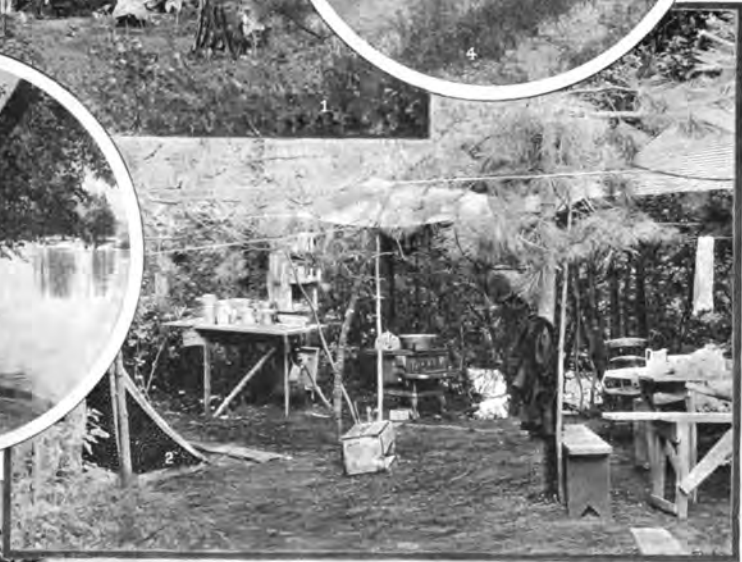
2. East Helena Smelter, Helena, Mont.

3. Pioneer Place, Seattle.

4. Court House, Winnipeg.

5. The Parrot Smelter, Butte, Mont.

6. Railway Yards, Tacoma.



1. Camp on the Rattlesnake—Reception Room.

2. Dining Room and Kitchen.

3. Along the Missoula River.

4. On the Hellgate River, Montana.

5. On the Clearwater River, Montana.

river that swings from side to side of it as it pleases; the gray, gabled cliffs, and its historic incidents. When the Northern Pacific surveyors were locating the road through the Yellowstone Valley, a military escort was necessary for protection from Indians, while now, hundreds of thousands ride through the valley on railway trains and scarcely an Indian is seen, and when one is found he is of the tamest sort.

At the head of the valley the first ascent of the Rockies begins. The road crosses the range via the Muir Tunnel under the old Bozeman Pass, at an elevation of 5,565 feet, and then follows Rocky Canyon to the Gallatin Valley.

From the foot of this valley the road follows the Missouri River, from its initial point as the Missouri, for many miles. The canyon of the Missouri, while not a deep, profound one, is very interesting, and full of striking views.

Between Helena and Spokane the traveler may be assured of a scenic feast.

Twice more the Rockies are climbed, at less elevations than at Bozeman Pass, and the long, solid, vestibuled train swoops down picturesque canyons and beside mountain rivers amid a wonderful unfolding of nature.

Leaving Helena, the capital of Montana, the mid-rib of the Rockies is ascended to Mullan Pass, where, through the Mullan Tunnel, the range is again overcome. The Hellgate Canyon, through which the train finally works its way out of the range, is full of rugged cliffs and fir-decked slopes which rise thousands of feet overhead.

If one elects, the route via Butte and Anaconda can be used, the same mountain range being crossed, and after leaving Butte, the beautiful Deer Lodge Valley is traversed to Garrison, where the main line is reached at the head of Hellgate Canyon.

At Missoula, a broad, lovely mountain valley at the confluence of the Hellgate and Bitter Root rivers, spreads before us. To the southwest rises Lolo Peak, to the northwest Mt. Missoula, well-defined, graceful peaks of the Bitter Root range. At the mouth of Hellgate Canyon is Jumbo Mountain, bearing a wonderful likeness to a reclining elephant.

Beyond Missoula, the Rockies are climbed for the third time, the pass, the Coriacañ Defile, being a low, easy, and rather picturesque one.

Then the Flathead Indian Reservation is traversed at its southern border, and the lodges or tepees of the Indians are seen here and there over the valley and prairie.

Rev. E. A. Schell of the *Epworth Herald*, Chicago, writes of a ride through this section of the country, in 1898, as follows:

“From Missoula to Spokane is one of the most interesting railroad journeys in the whole West. The Northern Pacific track follows the headwaters of the Columbia. The great shaggy mountains unroll before the eye like a panorama. Shapely pines, almost as large as those which keep guard at the entrance of Yosemite, lift their fronded crests and rock back and forth, swayed by the gentle urgency of the wind. Sky as blue as the bay of Naples smiles down upon the river beneath. Festoons of honeysuckle and wild grape vines deftly conceal the rugged, forbidding rocks. The river sweeps placidly on or whirls in violent eddies, and twice breaks into cascades—beautiful as Schaffhausen on the Rhine. The great engine winds the sinuous length of the track, panting like a spent race horse, while now and then an Indian fishing in a brook, or traveling a lake, makes us wish to take a vacation and compete with him for the finny beauty that

Northern Pacific
Railway and Shore
of Lake Pend
d'Oreille.

sports almost in open view.”

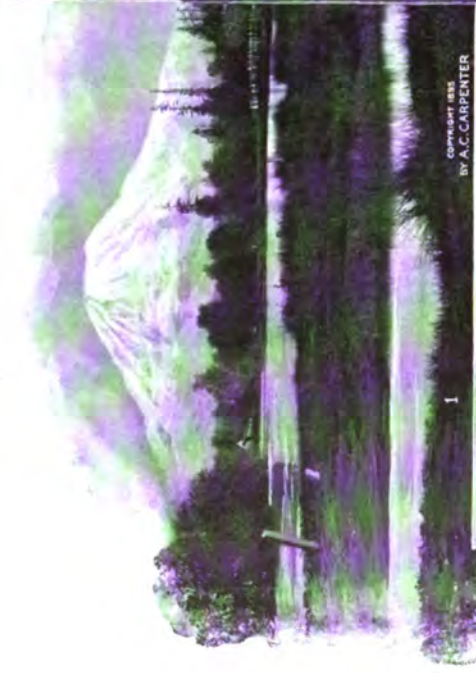
One of the special features of this particular ride is Lake Pend d'Oreille, one of the most beautiful lakes of the West and one whose glories are largely, as yet, unsung.

The Northern Pacific trains skirt the northern end of the lake for many miles, giving a fine opportunity of seeing the mountain-girt sea.

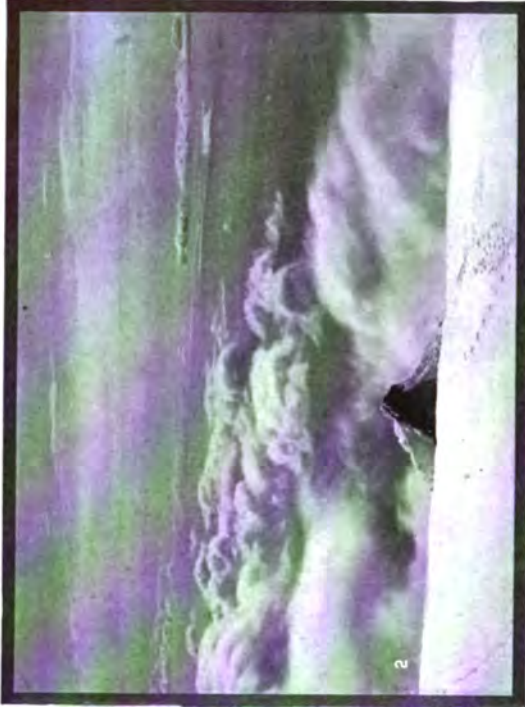
Frank S. Gray, in the *American*



Early Morning,
Lake Pend d'Oreille.



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By A.C. CARPENTER



1. Mount Rainier, from Tacoma.

2. Top of Mount St. Helens,

Showing mouth of Columbia River and clouds hanging over the Ocean.

3. Tatoosh Range,

From below Camp Muir, on Mount Rainier, showing Mount St. Helens in the distance.

4. Mount Adams, as seen from near Portland.

Angler for October, 1898, thus describes an interesting point on the lake:

“About a mile north of the lime kilns, on the same side of the lake, is one of the most picturesque and wonderful sights on the lake. It is called the Blue Slide. The mountain bordering the lake here has crumbled and sends its avalanches of bowlders down thundering and splashing into the lake. From a boat at its base on the water you look up an incline seemingly as smooth as a floor, pitched at an angle of 30° for 2,200 feet; and rising above is the precipice itself for another thousand feet; a mixture of clay and granite, interspersed with iron, giving it a reddish tinge, while the Slide, covered with the falling clay, is a mild blue. Large pine trees grow to the very edge above the precipice, and their tops seem lost in the purple tint which seemingly covers the distant mountains and high peaks. Lake George, New York, has hitherto held the palm for having the finest scenery, but when Pend d'Oreille has been more thoroughly visited, New York must yield to Idaho.”

The crossing of the Cascade Mountains between Spokane and Puget Sound is a more eventful one than the crossing of the Rocky Mountains. The scenery is of a much grander character and shows at once that a far different climate prevails. There is evidence of much more moisture and the foliage is heavier and richer in tone.

The passage of this range will arouse one's enthusiasm to a high degree. If one knows where to look for it, and the day is clear, Mt. Rainier may be seen as it towers skyward, clad in its majestic robes of white, the grandest mountain spectacle, probably, on earth.

The Stampede Tunnel, across the Cascades, is about two miles in length and is the only one of any consequence to be found here. There are no snowsheds either.

The gorge of the Green River, a beautiful trout stream, is full of wild mountain beauty. This stream is followed by the train in its exit from the mountains.

The Puget Sound country, wherever one finds it, is a lovely region. Vegetation luxuriates; the atmosphere is moist, soft, and balmy; the skies are of the purest blue; the clouds on the mountains roll up in great phalanxes, majestic and dignified; the waters of the Sound are like glass, and nature seems to have taken one long, unending holiday.

Great mountain peaks, covered with ice and snow, rise above the clouds, and magnificent forests cover the hills, ravines, and lower mountains. Trees of pine, fir, and cedar, 200 or even 300 feet high, are not uncommon.

From Tacoma and Seattle a splendid vision of Mt. Rainier is obtained; between Tacoma and Portland, Mts. Rainier and St. Helens

are seen, and at one point there is a distant view of Mt. Adams. At Portland, St. Helens, and Hood the ethereal mountain, furnish a grand mountain picture. These mountains are the glory of the coast. They

are gigantic cones, formerly living volcanoes, now encased in an armor of ice. Rivers of ice, glaciers, flow from them, and the Sound country is watered by the melting glaciers.

Remember, traveler, that these vast domes of glittering whiteness, as you see them, are an unusual spectacle. Not as to grandeur or sublimity, but as to elevation, I now mean.



Northern Pacific
Railway Transfer
Steamer,
Across Columbia River
at Kalama.



The Heart of
the Olympics.

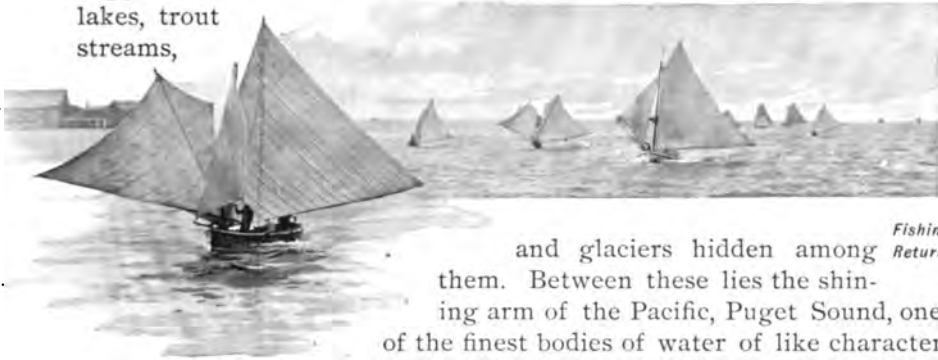
We say Pike's Peak is 14,147 feet high, that Mt. Rainier's summit is 14,532 feet above sea level, and we mean the same thing, i. e., are speaking in terms of a common unit. When you *see* Pike's Peak and Mt. Rainier, however, you will at once discover that the *impression* given is an erroneous one, and that the view of the former can not compare with that of the latter. Why? Because in one case you see the full elevation, the full height of the mountain; in the other you see less than two-thirds of it. Rainier rises *from the sea level*, Pike's Peak from a plain itself more than 5,000 feet above the sea. As we *see* them, one is a dwarf, the other a giant.

If the tourist, while on the Sound,



Logging Scene in
Puget Sound Forest.

takes the delightful ride by the steamer City of Kingston from Seattle or Tacoma to Victoria, he will be regaled by a scenic feast indeed. The Cascades, with mighty Rainier at one end and cold, snow-white Baker at the other, rise to the east, covered with well-nigh impenetrable forests. To the west are the Olympics, a range of less altitude than the Cascades, but of equal grandeur and ruggedness, and with lakes, trout streams,



*Fishing Boats
Returning Home.*

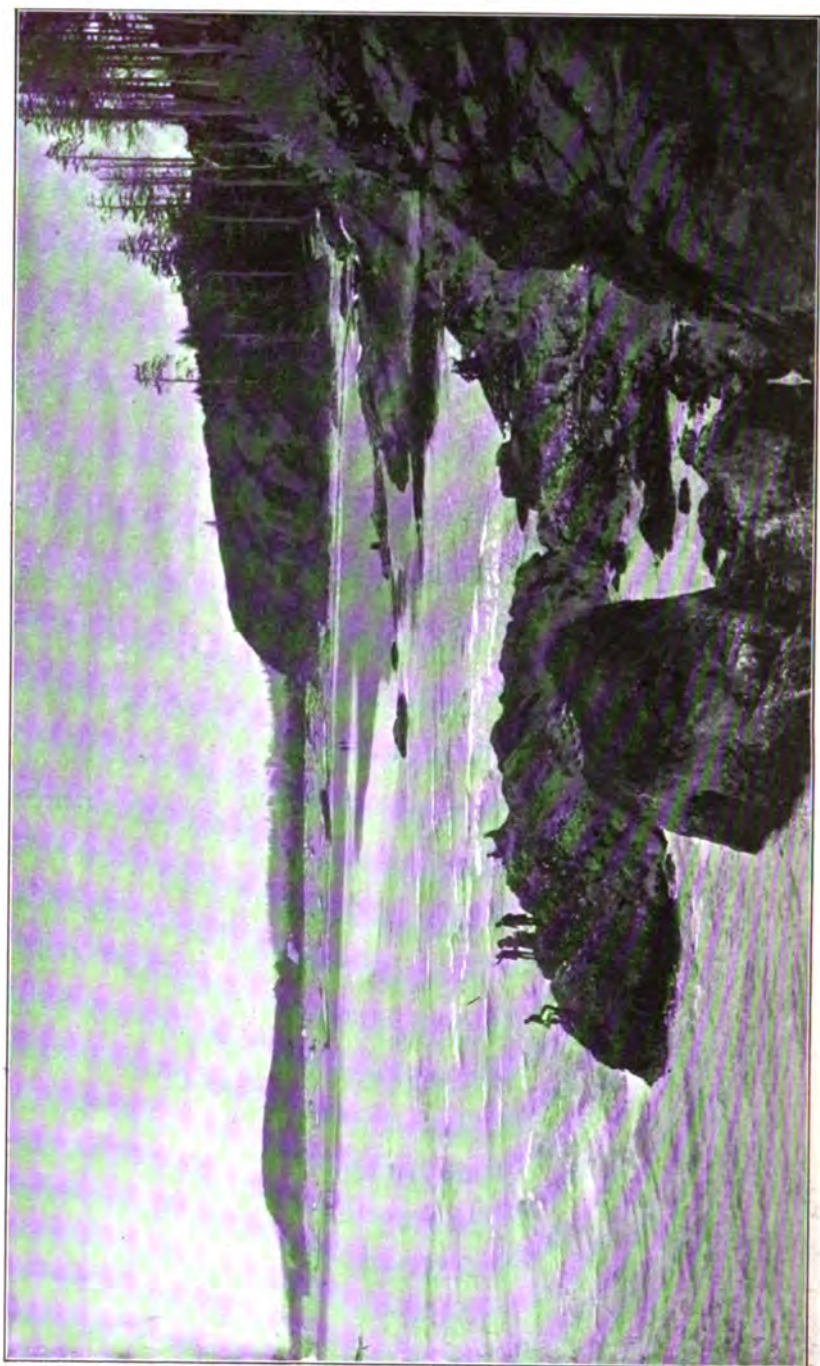
and glaciers hidden among them. Between these lies the shining arm of the Pacific, Puget Sound, one of the finest bodies of water of like character on the globe. The Sound has many long, finger-like arms that form important commercial water ways for the shingle and lumber industry.

There are many beautiful islands that are rapidly becoming transformed from wild wastes into fruit ranches and farms. The cities of the Sound—Victoria, Port Angeles, New Whatcom, Port Townsend, Seattle, Olympia, and Tacoma—furnish trade marts for the products of these fertile lands and also for the fish products of the waters of the Sound.

When the train reaches the Columbia River, the traveler looks upon one of the great rivers of the world. He realizes it, too, as he is ferried across it—the entire train—upon a mammoth ferry boat. It is an arm of the sea. Upon its rapid, seething current war ships that were with Dewey at Manila, and with Sampson at Santiago, have been borne. The commerce of the world sails up its deep channel. It washes an enormous area, and how it teems with historic incident. Visions of Vancouver, Captain Gray, Astor,



*United States Warships, Philadelphia, Bennington, Monadnock, and Monterey,
In Port Angeles Harbor, 1898.*



North Pacific Coast Scene.

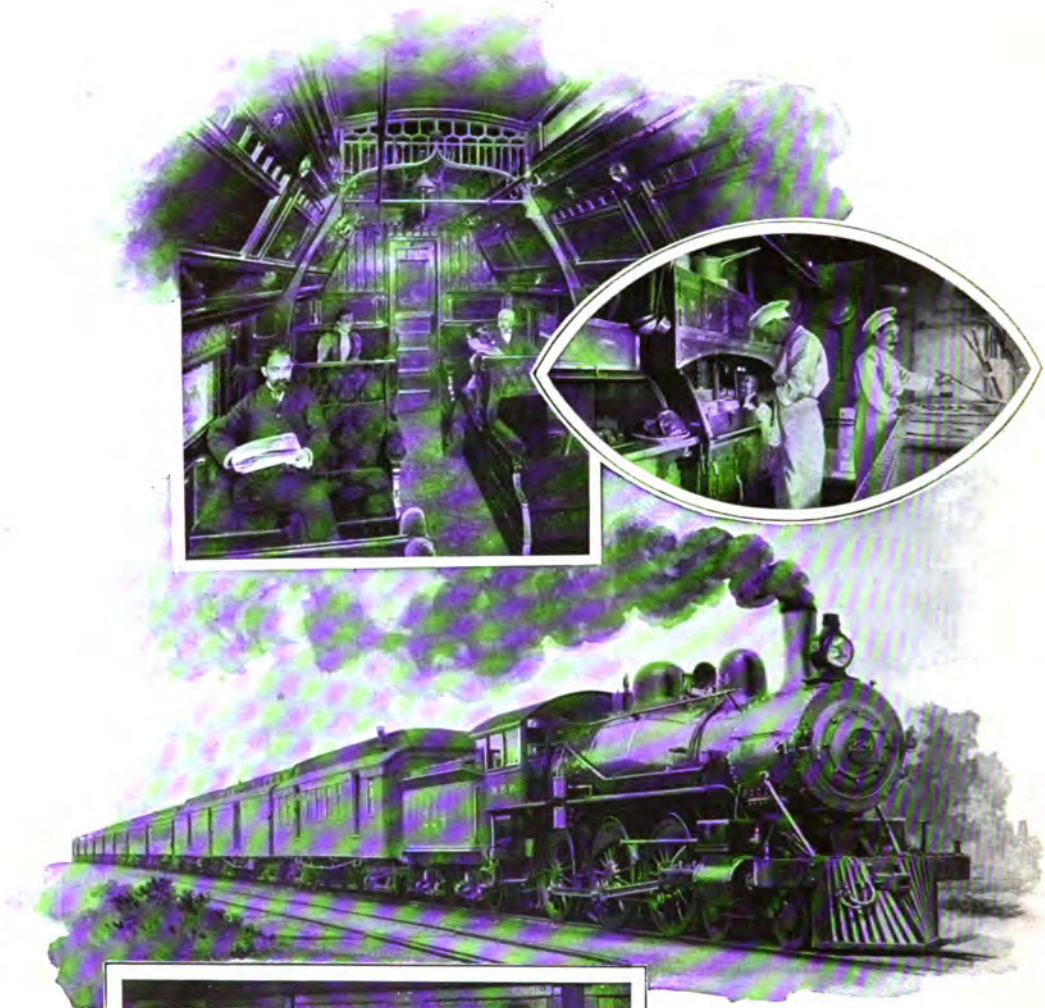
and Lewis and Clark rise before us, to say nothing of a lot more of Englishmen, Spaniards, Frenchmen, and Russians, some born in the flesh and some undoubtedly mythical, who sailed up and down the Oregon and Washington coast on discovery bent.

The left bank of the Columbia and then that of the Willamette, the old Multnomah of early days, is skirted to Portland — the largest city of the North Pacific Coast.

These Pacific Coast cities are a revelation to the Easterner whose ideas of Western civilization are usually crude.

Great commercial centers are Portland, Tacoma, and Seattle. The commerce of the world comes to, and goes from, their water fronts. Cargoes of tea, lumber, flour, and wheat, pass to or from them in large quantities; the finest lumber and shingle mills in the world are tributary to them; large fish canneries add to their wealth; all the municipal improvements are found; educational institutions and hospitals are noted, and the people do business in magnificent blocks and stores, and live in refined, elegant houses.

If the citizen of Massachusetts wishes to know the reasons for the Western man's strong views in favor of territorial expansion, let him visit these cities and see what they have done and are doing to conquer, commercially, the regions across the sea.



*Northern
Pacific
Transcontinental
Express.*

THE LEWISTON REGION



THE JUNCTION of the Snake and Clearwater rivers in Idaho is one of much historic interest. The route of Lewis and Clark, after they had crossed the Bitter Root Mountains in 1805, was down the Clearwater, or Koos-koos-kee River as they called it, to the junction with the larger stream. The Snake River they called the Lewis, after Captain Lewis himself. Neither of the names given by Lewis and Clark held, it will be seen, but were displaced by names that might with equal propriety be applied to a hundred other streams in the West.

As some compensation or recognition however, the town that afterward sprang into existence at this very point was named

LEWISTON.

We now jump over a period of thirty years to 1835, when Rev. Samuel Parker of Ithaca, N. Y., under the auspices of the Presbyterian Church, decided to establish missions among the Cayuse and Nez Percé Indians, the one in the Wallawalla, the other in the Clearwater Valley. In 1836 Rev. H. H. Spalding and wife arrived, and, at Lapwai, twelve miles above Lewiston, laid the foundations for a mission on Lapwai Creek.

In 1839 the first printing press used west of the Rocky Mountains was brought from the Sandwich Islands to this mission, set up, and the first publication issued from this press was a small volume of twenty pages in the Nez Percé language.

In the early sixty's the gold hunters invaded the region and out of this invasion Lewiston was born. Idaho became a territory in 1863, and for a year or two Lewiston was its capital.

In 1877 came the Nez Percé Indian War, when a few hundred of these Indians, under Chiefs Joseph, Looking Glass, and White Bird, furnished occupation to all of the United States Army in the Northwest that could be utilized, under General Howard, and Gibbon, Sturgis, and Miles, in the effort to head them off and capture

them. This was at last effected near the British boundary line in Montana, hundreds of miles from where the trouble began.

During the retreat, Looking Glass had been killed, and before the surrender was consummated, White Bird and more than one hundred escaped during night and safely reached Canadian territory.

This retreat or march of Joseph's showed generalship worthy of Xenophon in the Retreat of the Ten Thousand, or of Stonewall Jackson in some of his brilliant strategic movements.

Strange as it may seem, Lewiston has not, until within a few months, had direct railway connection with the outside world. A stage line, in one direction, surmounting 2,000 feet of mountain wall; the Snake River—the very route used by Lewis and Clark—in another direction, have been its means of contact with the rest of humanity.

The Snake River drains an enormous area. Nearly the whole of Idaho, and portions—more or less extensive—of Wyoming, Utah, Nevada, Eastern Oregon, and Washington, pour their waters into the Pacific Ocean through the Snake River. Its ultimate head streams come from the southern portion of Yellowstone Park, in close proximity to the headwaters of the Yellowstone River, that flows in an opposite direction to the Gulf of Mexico.

The figure that this river, with the Columbia from the junction, cuts on the map, is almost the counterpart of the constellation Ursa Major, or the Dipper, the Columbia River being the handle.

The Clearwater River is formed from the melting snows and springs of the Bitter Root range and its western foothills in Northern Idaho.

The Snake and Clearwater rivers carry off the entire drainage of Idaho, save only a small part of it in the extreme northern end of the State north of the 47th parallel.

The junction of these streams, Lewiston, is practically the head of navigation of the Snake River.

The Clearwater River is navigable during the boating stage of water for 100 miles, more or less, above Lewiston.

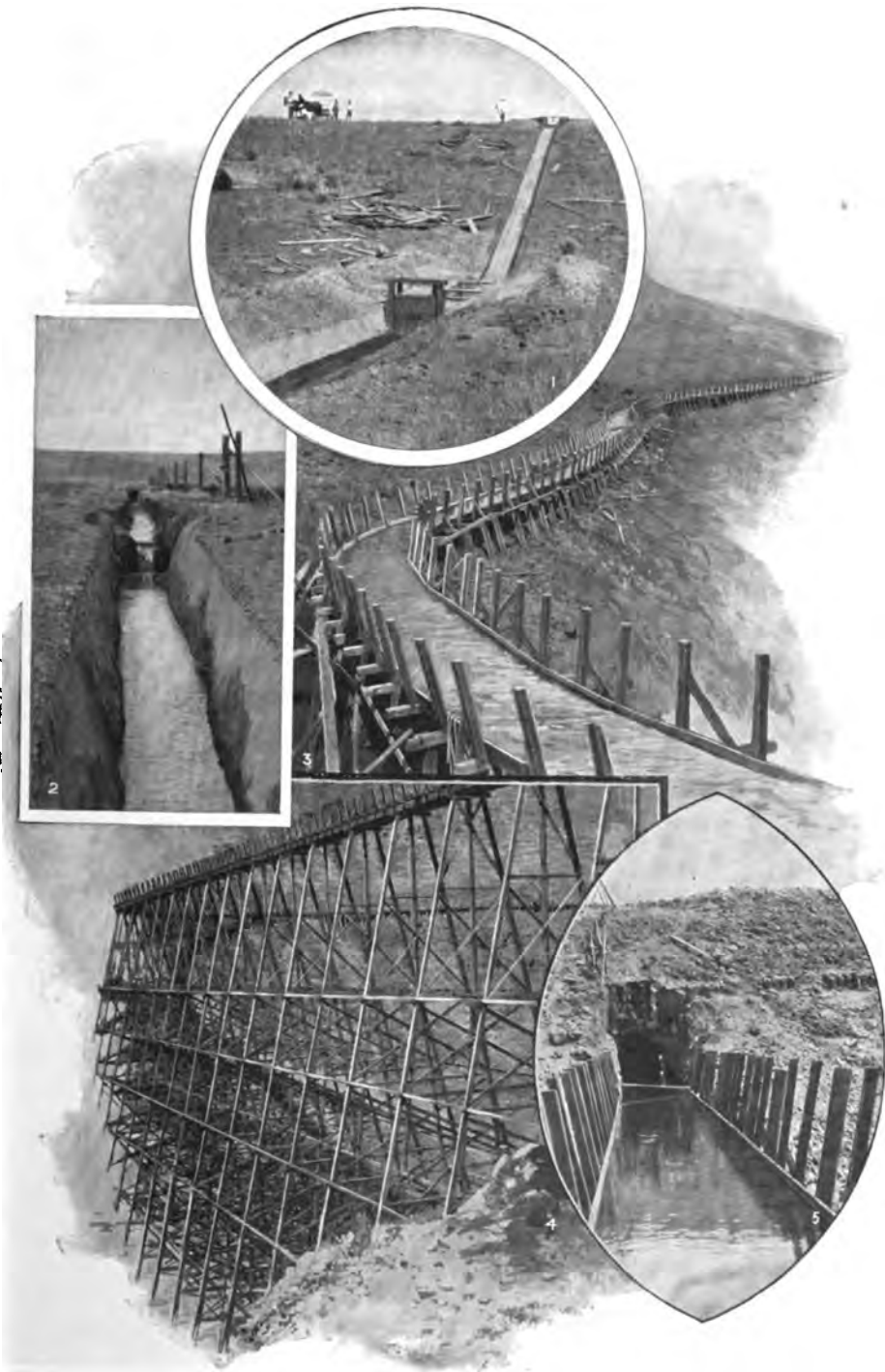
The Lewiston or Snake River country is closely linked, in most of its characteristics, with the Palouse country to the north, and the Wallawalla region to the west. Necessarily there are minor differences, but a discussion of one would pretty nearly do for all.

The Palouse country is crossed by the traveler who goes from Spokane to Lewiston, as the Palouse and Lewiston branch line of the Northern Pacific cuts through the heart of the Palouse region.

The latter is a very rolling, gray-soiled country, with interminable fields of grain extending on every side during the growing season.



*Snake River Ferry
at Lewiston.*



VINELAND IRRIGATION SCENES.

- | | |
|---|--|
| 1. Down-hill Lateral from Main Canal. | 3. Irrigation Canal Flume on Hillside. |
| 2. Irrigation Canal. | 4. Irrigation Flume across Ravine. |
| 5. Irrigation Canal (partly filled) and Tunnel. | |

The railway twists like a snake through the land, because, it is compelled to, owing to the rolling character of the latter. At Vollmer, Wash.—this line follows quite closely the Idaho-Washington boundary line—the railway strikes the Potlatch River which it follows to the Clearwater, and thence down the latter stream to Lewiston.

The Palouse country is more rolling than the Lewiston, the latter partaking more of the character of a plateau country. The same soil, products, climate, etc., are common to both. Both have, until recently, been given over almost wholly to grain production. Orchard-
ing has now taken a firm hold in both regions, and the fruits of the Palouse and Lewiston countries are now known from the Pacific to the Atlantic Ocean.

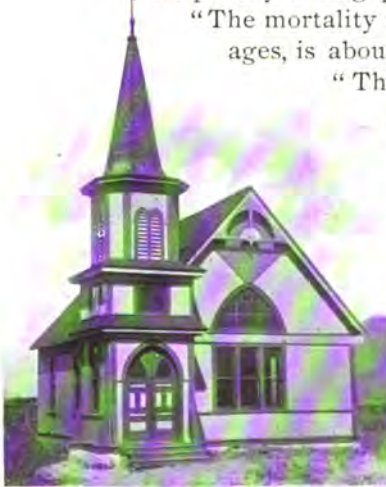
Climate and health are two prime factors of importance in any community or region. Doctor Schaff of Lewiston, in a paper before the Idaho State Medical Society, made the following statements, among others, based upon a residence of fifteen years at Lewiston :

“Bronchial asthma is practically unknown in this locality, I having never seen a case during my residence in Lewiston, though frequently seeing persons with former history of asthma.

“The mortality from pneumonia, including all varieties and all ages, is about one-half of 1 per cent.

“That the comparative immunity of this place from pulmonary disease must be largely due to climatic conditions I think no one will question, but in just what way the climate influences lung integrity I am unable to more than conjecture. The points of difference between this climate and that where pulmonary diseases most largely prevail are : The small amount of rainfall, the small number of cloudy days, low altitude, the strong air currents carrying but little moisture during the warmer months, and infrequency of sudden changes in the winter, with its dry air which seldom moistens except when chinook winds prevail.”

The altitude of Lewiston itself is less than 700 feet above the sea;



M. E. Church,
Vineland.



A Vineland Cottage.



the plateaus of the region rise from 1,500 to 3,000 feet above the river valleys. It will at once be seen, that this range in climate and altitude not only has a great bearing upon health, but also vitally affects the raising of fruits, affording room for the widest latitude not only in variety, but also as to sequence of crops during the season.

The truth is that the people of the Northwest are still studying the primer of agriculture. What possibilities are before them are not yet known. While the orchards here are still confined almost entirely to the low valleys, where the area of cultivable lands is limited and irrigation easy, a beginning has been made on the plateaus, and the future will, I am sure, develop that at least certain varieties of fruit can be raised there with certainty and profit. I saw upon the plateau above Lewiston, a cherry orchard, in the midst of wheat fields so extensive that I could not see the beginning or ending of them. These trees could not be irrigated, and the owner informed me that his crop had averaged from 200 to 250 pounds of cherries per tree, which he sold for 3 cents a pound *on the trees*.

The plateaus are immense wheat fields. As in the Wallawalla region land in crop one year is summer fallowed the next year.

I rode up to Mr. Small's ranch, on the plateau above the Clearwater River, one day to see a combined harvester and thresher in operation. I had heard of these machines for years, but had never seen one.

Arrived at the ranch we found the harvester beginning the second round of a fresh field.

Invited to mount the machine we complied and witnessed the working of it in all its ramified parts. To the right was the standing grain; at our left, the bags of threshed wheat were being automatically dumped in triplets on the ground, ready for shipment to elevator or mill. One minute, probably, sufficed to complete the process.

The machine was drawn by thirty-two horses hitched six abreast, with two of them in the lead. These two were the only horses driven, the others following them like well-trained animals.

There were large, iron band brakes attached to the five or six wheels under the machine, and if the horses attempted to run, or if there was any clogging or an accident happened, an application of these brakes brought the machine to a standstill instantly.

It required five men to handle the harvester. One, the driver, sat well in front of it; a second man handled the brakes; a third manipulated the knives, raising or depressing them as the nature of the ground made necessary; a fourth attended to the grain spout and sewing of the sacks when filled, and the fifth seemed to be a sort of general superintendent. This machine is so constructed that it can



*Bradshaw Plum,
near Lewiston.*

accommodate itself to sloping ground even where the angle is 45° inclination, the body of it, the thresher proper, being maintained in a horizontal position.

The superintendent stated that they could cut and thresh from thirty-five to forty acres per day, and in doing this would travel about sixteen miles. The straw is deposited on the ground behind the harvester in a continuous yellow wind-row.

About all the available land in the Clearwater bottoms near the town is now devoted to fruit ranches. Across the Snake River in Washington, the Lewiston Water & Power Co. have one of the prettiest irrigation propositions to be found anywhere.

It consists of several thousand acres of almost entirely level land, irrigated by water carried from Asotin Creek, sixteen miles distant. All that the settler has to do is to buy what he wants, build his house, and start to work. This company is now constructing a high bridge across the Snake River between Lewiston and Vineland, the latter being the name given to their holdings.

In riding over Vineland in 1898, it seemed as if everything that could possibly be grown in the ground was to be found there.

Vegetables make as remarkable a growth as does grain or fruit.

Let me, right here, quote Prof. Thos. Shaw of the Minnesota Experiment Station, as to his observations on the Lewiston country.

"The shipping season in the Lewiston country begins with June. The reference is to fruits grown on trees, rather than small fruits. Of course small fruits are in the market much earlier. Some varieties of cherries are in the market about the end of May. Mr. Porter began shipping the famous Bing cherry on June 7th. This cherry is black in color, is larger than the Royal Ann, and is so firm that it can be shipped in good form from ocean to ocean. The apricot season begins about July 4th, and, like the cherry season, lasts about a month. The variety known as the Moorpark is considered the best for shipping. The peach season also begins about July 4th, and in the several varieties thereof continues until about October 20th. The prune and plum season begins say with August, or a little earlier than that, and covers several weeks. Grapes are almost ready on the arrival of August. The best early variety is the Violet Rose, now at its prime. It's a white grape, with immense clusters but is



Residence of L. A. Porter, near Lewiston, Idaho.

a little tender about shipping. The Muscat, in season in September, is one of the best flavored and it ships well. It is a raisin grape and white in color. The Tokay, wine colored, is excellent for shipping, but is really not a good table grape, and the Black Hamburg, an enormous bearer, has also a host of friends. The Bartlett pears are now (middle of August)

in season. The Flemish Beauty soon follows. The Idaho pear is even larger than the Bartlett,

is of finer grain, and is by many thought to have a better flavor. The season for apples lasts from July to January. The orchardists of Idaho are thus gathering in their harvest from June until November, and the returns for apples continue to come in during much of the winter.

“What may be termed diversity in fruit growing has been found much safer than making one or two varieties the sole dependence. Mr. Porter grows all the varieties of fruit named. There is thus ample opportunity to give each its proper share of water, and at the right time. It is possible, also to properly harvest each fruit when in season, and it is a great advantage in shipping, since many buyers will order car-load lots made up of two or three varieties of fruit, who would not do so if only one variety could be furnished. Diversity in fruit culture, therefore, is the correct idea, as well as diversity is farming.

“What is usually known as the Snake River country is all adapted to fruit growing of the character just described.

“To give an idea of the very large number of good varieties of fruit that may be grown by our orchardist, it may be mentioned that fifty-four varieties of

Three-year old "Idaho" Pear Tree, Lewiston Valley.



Peach Tree 15 months old, Lewiston.

grapes are now growing in Mr. Porter's vineyard, and nineteen varieties of peaches. The adaptation of the region to a varied production in the fruits and products that have been grown and that may be grown is very wide. Almonds, soft shelled and hard, flourish. The same is true of many kinds of nuts, including English walnuts. Peanuts may be grown with much success, and the production of sweet potatoes is almost fabulous. One specimen from Lewiston, exhibited at a fair in the West, is said to have been three feet long, and to have weighed six and one-half pounds. Chestnuts are a decided success. Filberts do not appear to have been tried. But to grow these crops successfully in the valley land, much water must be applied because of the hot sunshine, notwithstanding the considerable rainfall in spring and autumn.

"The aggregate of fruit to be shipped out of this neighborhood and lower down the Snake River is put for this year's (1898) crop at 160 carloads. In 1884, only fourteen years ago, there were but two orchards of any considerable size. About 1,000 acres are now devoted to fruit culture."

The Mr. Porter mentioned is L. A. Porter, who has probably the finest and largest fruit ranch in the Clearwater Valley. I, myself, had the privilege of plucking fruit from Mr. Porter's vines and trees, after Professor Shaw was there, and enjoyed it so well that I hope to repeat it.

The statement is made—whether true, I know not—that in 1838 a Nez Percé chief planted some apple seeds and that from the resultant trees crops of apples are still produced.

It is said that the largest and finest body of standing white pine now in this country is to be found along the Clearwater River, in the western foothills of the Bitter Root range. This belt of magnificent timber has been prospected by timber experts who say that its value is incomputable. The building of the Northern Pacific line from Lewiston eastward up the Clearwater, now in progress, will bring this vast body of pine into market.

Within a few miles of Lewiston lies the former rich and beautiful reservation of the Nez Percé Indians. A few years ago it—500,000 acres—was purchased by the United States Government and thrown open to settlement. Much of it has been occupied by whites. The Nez Percé is no ordinary Indian. Haughty and exclusive, they disdain to this day intimate contact with the whites, although friendly with them. Neither wealth nor position gives the white man entrée to the sacred precincts of the Nez Percé 400. The Indians have become citizens of the United States and have taken their lands in severalty.



Cherokee River.

Bird's-eye View of Lewiston, Looking Southeast.

Snake River.



In 1860 the region west of the Bitter Root Mountains and between the North Fork of the Clearwater River and the Salmon River was the home of the Nez Percé Indians. The lines of communication found were Indian trails which threaded the canyons, climbed the mountains, wound through the forests, and traversed the wide prairies. Not a mile of railway had been constructed in the Middle West and Northwest.

Early in the 60's an army of gold-seekers fresh from California and Nevada spread over the country prospecting for the yellow metal. The Indian trails were their roads, and the country prospected was in great part contiguous to these trails. In the region mentioned, and upon the fringes of it, many mining camps sprang into existence which soon bore national reputations. Warrens, Alton, Dixie, Florence, Elk City, Mount Idaho, Grangeville, Pierce City, and Oro Fino, from South to North, were the most prominent. Some of them had populations of from 5,000 to 10,000.

In the state of the country, at that time, mining methods were crude, and the mining entirely of the placer sort, and profitable only where very rich deposits were found. No attempts at ledge mining were made, nor indeed were possible, with any shadow of success.

During those years of activity in this region, it is estimated that \$100,000,000 were extracted from the Pactolian sands and gravels—Wells, Fargo & Co.'s Express alone having carried out \$40,000,000 in gold dust and nuggets.

Finally, the army of gold-hunters departed for other fields; the towns dwindled, in some cases, to nothing; the land was forgotten, save as the home of the Indians.

By a series of treaties the reservation was contracted until finally it has been thrown open to settlement, the Indians themselves taking lands in severalty. In the meantime settlers drifted in and took up desirable ranches along the streams, and showed that for grain and fruit growing the whole land was a paradise; railways were constructed, and in 1898 the town of Lewiston was connected by the Northern Pacific with Spokane; Idaho had wisely built good wagon roads, at enormous expense, in lieu of the old trails; the cost of

living had greatly decreased. Again the prospector, goaded on by recollections of the rich old placers and the changed conditions of life there, had begun to search for the ledges, the matrices from whence the sands had derived their richness. *And they found them.*

Buffalo Hump, a characteristic mountain about 8,800 feet above sea level, that in 1862 was the scene of mining excitement, has again taken the lead in what may prove to be the most stupendous affair of the kind the world ever knew. As before indicated, it was inevitable that the craze of '62 would be a superficial, transitory one. The present outlook is that the region will become a permanent mining camp, eclipsing all others. W. Clayton Miller, a well-known mining engineer, states that he never before found such a showing for gold, and adds: "General physical conditions, as well as geological, all tend to permanency."

The Hump country is a well-timbered, well-watered, mountainous one, now reached only by trails from the nearest towns. The general elevation is from 6,000 to 6,500 feet, probably. Grangeville is about 50 miles away to the northwest; Elk City, 25 miles northeast, and Florence, 25 miles to the southwest. Badger is in the heart of the country, 13 miles from the Hump. Good roads will necessarily be built from these points to the mines during the coming season.

Lewiston, the terminus of the Northern Pacific Railway's Palouse-Lewiston branch from Spokane, is from 125 to 160 miles from the Hump, depending upon the route taken, and is connected by good wagon road with Grangeville, Florence, Elk City, and Badger. The Northern Pacific Clearwater River extension is being rapidly pushed and will be completed to Stuart, 60 miles distant, during the year. Another extension is being carried forward up Lapwai Creek some 15 miles, from North Lapwai. These lines will probably be extended in the future. First-class six-horse stage coaches leave Lewiston daily for the Buffalo Hump region.

The country rock found here is altered granite, the ore being similar to that of the mother lode of California. The ore fissures run north and south and are easily traced for 10,000 feet at least. There are many ledges from ten to thirty feet wide.

It is stated upon unquestioned authority, that a property here, upon which not more than \$5,000 had been expended by the original owners, was sold to expert mining men of Spokane for a sum exceeding half a million dollars. Other prospects have changed hands at enormous profit to the locators. Certain it is that the old, experienced, conservative miners are the very men whom the Hump discoveries have startled the most, and who are preparing to invade the region in large numbers as soon as the snow melts so that they can do so.

Buffalo Hump and the surrounding country will out-Klondike Klondike unless all signs fail.



THE southwestern corner of Washington lies a valley well and favorably known throughout the Northwest for its climate and richness of soil. It is the Wallawalla Valley, and the region is known in a general way as the Wallawalla country.

This valley is about fifty miles long and forty miles in width. To the east and south the Blue Mountains hem it in; to the west and north it extends as a rolling plain to the Columbia and Snake rivers.

Like so much of this part of the Northwest, the soil found here is of decomposed lava and consequently very rich and fertile.

This region, together with the Palouse country and Lewiston plateau is noted, or perhaps, more correctly speaking, *has* been noted for the great crops of wheat raised. In this respect it bears the same relation to this part of the Northwest that Red River Valley does to Minnesota and the Dakotas. Here also one will find farms, each containing several thousand acres, though they are not as large as the great bonanza farms the Red River country boasts. Here also, until recently, single crop farming has been the rule. Wheat and wheat only has been raised year in and year out. I sometimes think that it is almost a misfortune that wheat farming is so easy a task and that the crop almost invariably brings spot cash.

Within recent years, though, it has been demonstrated that fruits can be grown on this volcanic soil as well and profitably at least, as can grain. As a result orchards of vast extent are now to be found all over the Wallawalla country, and the region is becoming as favorably known for fruit as for grain. It is not, perhaps, too much to say, that the Wallawalla Valley has been the nursery, so to speak, for a large area in Oregon, Washington, Idaho, and Montana. That is, that the experiments tried and successes attained have set an example in practical horticulture for the rest.

The farmers of each section of our country farm after their own peculiar notions. The Eastern farmer does many things quite at variance with the custom in Minnesota and North Dakota. The Red River Valley farmer has his way of doing some things, which would not comport with the ideas of the Washington and Idaho farmer. The latter has methods of his own which the Dakotan would not countenance for a moment. These differences are, perhaps, mainly attributable to climate, the size of farms, or both.

The Eastern farmer is probably the more scientific, as he ought to be. But in many ways, particularly in the use of machinery, he would be astonished beyond measure at the Western farmer.

The general farmer of the Wallawalla country believes thoroughly in wheat, first, last, and all the time. Apparently, the theory, and more yet, the practice of rotation of crops, has no place in his bible of farming.

Irrigation cuts little figure in general farming in this region. During the rainy season the soil stores sufficient moisture to mature crops, *under the system carried on here*. Under this system, one-half of a man's farm lies idle—is summer fallowed—each year. That is to say, it requires two seasons' rains to mature one season's crops. There are those, well versed in these matters, who insist that this is unnecessary, that the farmer here is cheating himself out of the use of his land without any reason for it. Proper rotation of crops is stated to be the remedy. Irrigation of grain, as it is raised now, would practically be impossible. It would seem as if the simple remedy pointed out were worth trying thoroughly, if all of one's farm could thus be cultivated continuously.

In the summer of 1898 Prof. Thomas Shaw, of the Minnesota Experiment Station, one of the ablest agriculturists of our country, made an extended trip through the Northwest. He recorded his impressions and observations in numerous letters published in the *St. Paul Pioneer Press*. I make extracts from his letters on the Wallawalla country, as being much more valuable than anything I can record:



Combined Harvester
and Thresher.

"Wallawalla is so named from the waters which are so abundant in it. Many rivulets run over the surface, but there are good reasons for believing that many more run beneath the ground. In much of the valley, water abounds at less than ten feet from the surface. It is abundant and oftentimes flows in currents, as though the waters from the mountains were percolating through the lava soil and sub-soil found everywhere in the valley. It is the abundance of these waters which makes irrigation so easy in many parts of the same. Little streams meander along the rows of trees that line many of the streets, and the trees, because of their abundance and beauty, lend a charm to the city which does not characterize all towns in the dry sections of Eastern Washington and Oregon.

"The soil of the Wallawalla Valley is a study. It is what men call a gray, volcanic ash. It is a lava soil, and in many places is said to be of unknown and almost interminable depth. It is exceedingly rich in potash and phosphoric acid, and, indeed, in everything that is good. The soil is easy of cultivation. When the farmer wishes to increase his crop he sends the plow a little deeper, and thus the process could go on and on indefinitely could any means be devised of bringing up the under soil from a point below the depth which is ordinarily reached by the plow.

"The day of our visit in Wallawalla was very warm. We were told that a combined header and thresher was at work some seven miles southward from Wallawalla. We decided to go and see it. On the way toward the foothills the Oregon line was passed. The ranchman, Mr. —, was in his storehouse stacking his sacks of wheat. He came with smiling face. Why shouldn't he? He had 600 to 700 acres of wheat. The major portion of it was yielding over sixty bushels to the acre. The market price at the time was 65 cents per bushel at Wallawalla. We told the ranchman that we had come to see his machine at work in the field.



A Wallawalla
Home.

He said, 'I will go with you.' We had no sooner started than I asked, 'How far is it to the field where the machine is working?' He replied, 'About three miles,' and during the entire distance we were going through fields of wheat. I said, 'How many acres in your ranch?' He answered, 'Only 1,500.' I asked, 'What is the size of the average ranch?' He answered, 'About 600 acres.' I then questioned, 'What is the price of farming land?' He said, 'From \$30 to \$60 per acre.' The question then followed, 'Are the farms getting larger or smaller?' He replied, 'They are getting larger.'

"The idea ought not to be cherished that the wheat fields of Wallawalla always yield sixty bushels per acre. This is a remarkable wheat year for all the Western country. We were on a good ranch owned by an intelligent ranchman. But those soils produce on an average from twenty to thirty bushels per acre almost every year. As a rule, however, but one crop is taken in two years. The rotation is the bare fallow and wheat in a seldom interrupted alternation. No fertilizer is ever applied. The conviction seems deep-rooted in the minds of the ranchmen that wheat will never fail in the Wallawalla country. They



Threshed and Sacked.

are confident in the belief that they live in a land that will grow undiminished crops of wheat until time shall be no more. So far as wheat culture is concerned they are invulnerable in the idea that the thing which hath been is that which shall be.

"The ranchmen deserve much praise for the way in which they manage their bare fallows. The wheat growers of our own Red River Valley could profitably take a lesson from their book. They plow the land from February onward. As soon as they plow, they harrow. Then they use a cultivator with knives which cut off the weeds. The harrow and the cultivator are used in succession or alternation, as necessary, and as often as six to ten times in a season. As a result the fallows are beautifully clean, and so are the crops of wheat. Only three pecks per acre are sown, as the grain stools very much, and when over-thick it draws too strongly on the moisture in the soil. It is not the strength of the crops nor the number of the heads that produces the large yields, but rather the perfect filling of the grain."

It is a moving sight to look over this valley, where one is able to obtain an unobstructed view. The entire landscape, it would seem, is laid off mathematically into squares, rectangles, and triangles, like a blackboard in a schoolroom during a recitation in geometry. But here the forms remain, they can not be rubbed out, they mean something, practically. They are large fields, brown, green, gray, and yellow. Fields of growing wheat, fallow fields, fields of ripening

grain, pasture lands brown or green according to the season. These patchwork fields are not controlled by hills or hollows, save as to appearance. They cover the flat places, the hidden recesses, they climb the slopes of the Blue Mountains even to the summit line, at many places.

The grain in the bottoms ripens earlier than that on the mountain sides, and one may thus imagine what a variegated, speckled look the landscape wears. It is fascinating.

These enormous grain fields are harvested by machinery commensurate in size. In some cases headers, which cut the grain but little below the head, are used. Large wagons accompany these, into which the cut heads are carried and are then hauled away. The ordinary reaper and binder, I was informed, is being increasingly used, but on a large farm it requires many of them to accomplish much. The combined harvester and thresher is the king of harvesters, and it seems to be generally used, on the largest farms at least. It is drawn by twenty-six or thirty-two horses, cuts a wide swath, cuts and threshes the grain at the same time, and finally sacks it and dumps it upon the ground all ready for shipment. It is a wonderful machine; wonderful in the ingenuity which invented it, wonderful in its work, and I might add, wonderful in its cost.

But if there are big wheat fields in Wallawalla Valley, there are likewise big orchards.

Doctor Blalock of Wallawalla is, probably, the father of orcharding in this region. One afternoon I rode out with him to his orchard of 640 acres, a few miles west of the town. It was a sight of sights. The Doctor has some 60,000 trees, a whole army corps of them, of various sorts.

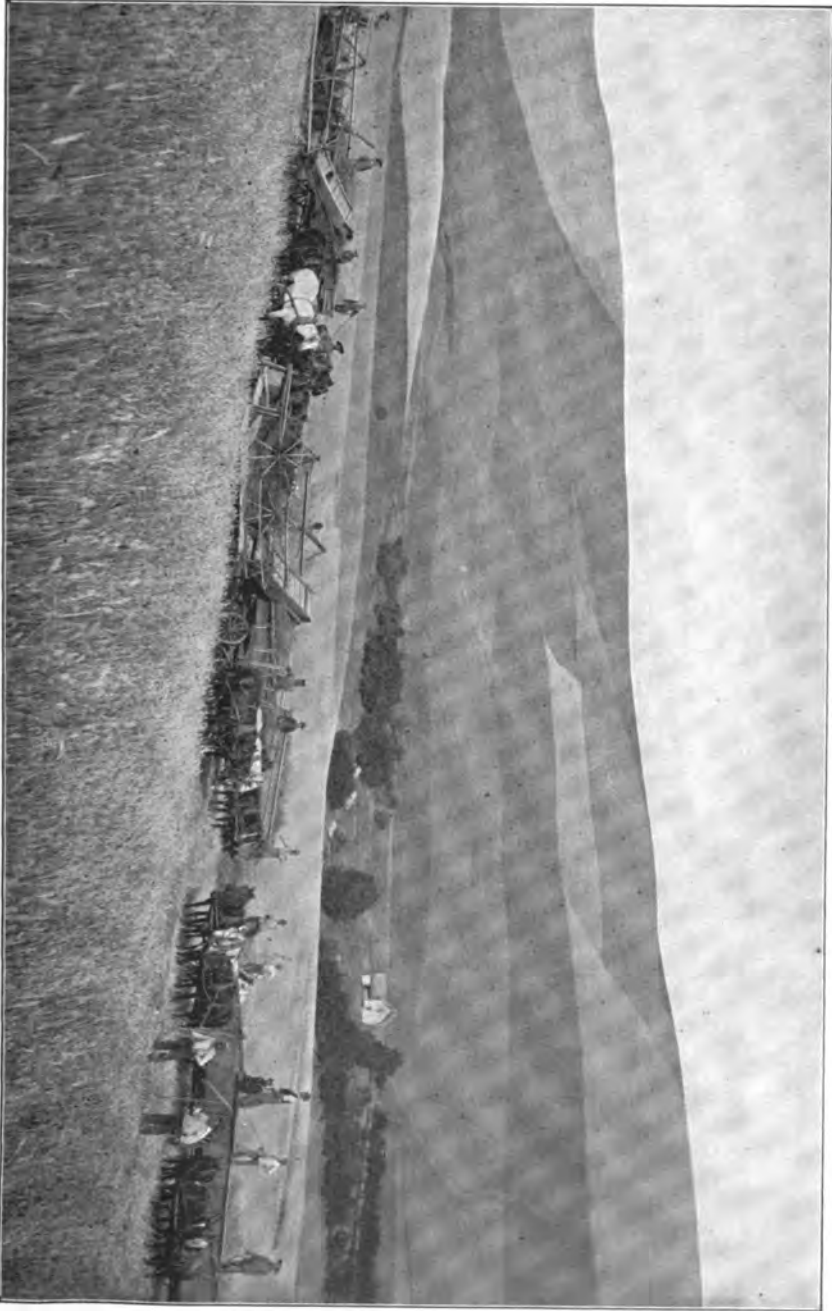
I happened upon him at the season of prunes. His packing house was a human hive of industry, of both sexes.

The prunes, unripened of course, and fairly well assorted, were hauled to the house upon a low, horse carryall. They were then placed conveniently in the packing room and a regiment, more or less, of girls were quickly at work further assorting and packing them in the baskets and cases for shipment. As soon as these were ready, a man took them and nailed up the boxes or crates and they were hauled to the refrigerator freight cars waiting for them on the railway siding in the orchard. From there they went flying eastward in fast time to the large cities, even as far as the Atlantic Coast.

The trees were laden, too heavily I thought, with the almost ripening fruit.

It was easy to see that one engaged on such a scale in fruit raising must necessarily conduct a many-sided industry.

While the grain fields are not irrigated, unless it be in rare instances, the orchards of Wallawalla are. It is no small matter to

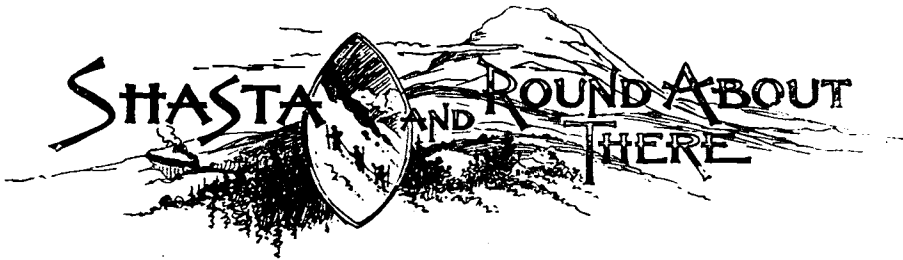


Headers at Work in Waikawika Country.

irrigate a section of land planted to orchard, when the water supply and all the minutiae of irrigation are considered. There are a good many orchards here, but, luckily, the Blue Mountains supply running water enough to irrigate them.

The Wallawalla region proper was one of the portions of the old Oregon country, where agriculture was earliest practiced. The Hudson's Bay Company had posts at Fort Vancouver, on the Columbia River; at Fort Wallawalla—now Wallula—at the junction of the Wallawalla and Columbia, and at Fort Colville, north of the present city of Spokane, in the Colville Valley. These people carried on agriculture as well as the trade in furs, and raised, as early as 1828, we know, 700 bushels of wheat at Fort Vancouver. In 1829 there were sixty to seventy acres under cultivation at Fort Colville. In 1833 John Ball raised a crop of grain at Oregon Falls, Ore. In 1834 James K. Townsend, in his narrative, relates seeing several hundred acres under cultivation at Fort Vancouver, and remarks that "Indian corn does not flourish as well as at Wallawalla," etc. In 1835 Rev. Jason Lee and associates began cultivation of the ground at their Methodist Mission on the Willamette River. In 1836 Mrs. Dr. Whitman wrote from Fort Vancouver, that the Hudson's Bay Company had that year 4,000 bushels of wheat, 4,000 bushels of peas, 1,500 to 1,700 bushels each of oats and barley, besides potatoes, turnips, poultry, cattle, sheep, and hogs. She adds that Doctor McLaughlin promised to loan them enough to make a start in planting at their mission as soon as it should be established, which was soon located within four miles of the present town of Wallawalla. We thus see that the reputation of the country as an agricultural one is an old and justifiable one.

The town of Wallawalla is the metropolis of the valley. It has a population of several thousand, is well built, having houses showing refinement, stores and business blocks of brick, wide streets, and it apparently does a large business. In the suburbs is a military post, Fort Wallawalla, and it has also Whitman College, a prosperous Congregational institution. The College was established as a memorial to Dr. Marcus Whitman, the well-known Missionary, massacred in 1847 at his mission a few miles west of Wallawalla.



SHASTA AND ROUND ABOUT THERE

THE WISE traveler, the *truly* wise one, who migrates to California during the winter, will, no matter by what route he enters the Golden State, be sure to leave it by the Shasta-Northern Pacific Route. In making this assertion we naturally assume that he or she is an intelligent traveler anxious to see all that it is possible to see upon such a trip.

Alta—Upper—California is what the State used to be called, in the old days when they lived in adobe palaces, and when one man owned all the vast region that another could ride over between sunrise and sunset, in contradistinction to Baja—Lower—California, as the region south of California, or Lower California, was known in the same old days. Our Upper California, or the northern half of the State of California, is markedly different from the southern part.

Not to see Northern California is like reading a book half through and then casting it aside. Then across the line lies Oregon, with its great fruit ranches, and Mt. Hood; and then comes Washington, with Mts. Rainier, Adams, and Puget Sound. Eastward the route turns through the great Northwestern States, and the tourist stops en route and visits the wonder of scenic wonders—Yellowstone Park. Yes, indeed, the wise tourist and traveler when preparing for his California trip, takes good care to see that the return coupons of his ticket read via the Shasta-Northern Pacific.

The journey by rail from San Francisco, northward, can not be duplicated, from a scenic standpoint, in this country.

The tourist boards the floating palaces of the Southern Pacific Company, at the Market Street Wharf, and is ferried across the beautiful bay to Oakland, where he steps from boat to train. At 8 p. m. the train “pulls out” and is soon flying along the bay shore through Oakland, past Berkeley, the seat of the University of California, and other suburban towns to Port Costa.

Here the entire train is run on to the steam ferry-boat *Solano*, and ferried across the strait of Carquinez to Benicia.

Well on to twenty years ago, it was something of an event in the writer's life, when, soon after the *Solano* was put into commission, he was thus ferried across this same strait. At the time, the boat was the largest ferry-boat of the kind used; this may still be the case.

We are now in the valley of the Sacramento River, the great river of California. As we see it here, close to tidewater, it is a sluggish stream a mile or two wide. But just wait until morning when we are upon the headwaters of the stream, where it pours through the canyon it has cut in the Cascades near Mt. Shasta, and then say what you think about it. Here it is a big river given over to commerce, there—but, as I said, wait! I shall dwell but little upon that part of the State passed over during the night. We are sound asleep in our Pullman berths and not supposed to know anything about country or scenery.

THE SACRAMENTO RIVER.

Morning finds us well up toward the Oregon line ready for such sight-seeing as few are privileged to see. By the side of the track flows a beautiful mountain stream. Clear as crystal, pure as the mountain snows which feed it, it is at the same time a delight to the tourist and an aggravation to the angler—as long as he can not whip its riffles. What stream is it you ask—back comes the reply, the Sacramento, and you are dumbfounded.

The two great mountain ranges of California are the Sierra Nevada and the Cascade. West of these and contiguous to the Pacific Ocean are what are generically known as the Coast ranges. They bear different specific names, and while rugged, more or less austere types of mountain building, they do not compare in immensity and general elevation with their two sister ranges to the east.

The Sierra Nevada range is about five hundred miles in length. The Cascade range is somewhat longer. Between the two, which are in the same axial plane, there is an interval where these ranges break down. This space is somewhat filled by offshoots or foothills from the two ranges and also by a portion of the Klamath Mountains, one of the divisions of the Coast range which parallels for some distance the Cascades. One of the finest subdivisions of the Klamath

Mountains is the Siskiyou range, well to the north. These three ranges, the Sierra Nevada, Siskiyou, and Cascade bear an important relation to the Shasta-Northern Pacific Route, especially the last two, for really we see but little of the first named.



Tavern of
Castle Crag.



*Castle
Crag.*

Among the hills and mountains which fill the interval mentioned the Sacramento River has its birth. It is born of the snows which whiten the mountains, or of the myriad springs which themselves come from the snows. After its long, attenuated, liquid fingers are joined into one arm sufficiently large to fight its way through great obstacles, it goes pushing out from the mountains singing peans of victory. It is a water acrobat, and the way it twists and turns upon itself as it has worked its passage through the hills is a revelation. Among its mountain wilds it is a rushing, pure stream of aqueous crystal, and it is thus that we see it as we get our first whiff of mountain air and our first view of the stream, the morning after leaving San Francisco.

In its long, long journey to the sea the river takes unto itself many others flowing from the mountain ranges upon each side of its great valley. The result is, that what upon its headwaters is a stream of but moderate volume, becomes, in the neighborhood of Sacramento City and near the sea, a stream of enormous size. It is, therefore, no wonder that he who after seeing the river near Suisun Bay next catches a glimpse of it in its mountain canyon, hears with incredulity that it is the same stream.

If ever there was made in California a region for man's delectation and happiness, it is that one beginning with the Upper Sacramento River and extending beyond Shasta and over the Siskiyou into Oregon. The morning finds us anywhere between Redding



*Castle Dome at
Castle Crag.*

and Delta, depending upon how well we obey that injunction of childhood,

“Early to bed, early to rise.”

Near Castella the first grand view of Castle Crags bursts upon us, but at Delta, if the day be conducive, a glimpse of Shasta, the great mountain, may first be had.

CASTLE CRAGS.

At Castle Crags one may well be pardoned for an over exuberance, a boiling over of enthusiasm. The lover of nature is here in Nature's stronghold. A beautiful mountain stream, a fine hotel situated in a charming spot, and mountains big and little, wide and high, wild and ragged, timbered and bare, rolling up and up in one grand majestic upheaval, and holding in their granite arms beautiful little valleys and openings—what more can one ask? Whether we ask it or not, we have something more—*the Crags*. And *such* crags!

What a grand, spectacular procession they make, rising high above all else away up into the cloudless blue of the firmament, or perchance, their granite fingers touched by the caressing clouds that hold close communion with them.

And what visions one may have of this array of castellated spires! Upon warm, summer days, when the sun casts upon them his enfolding rays, they seem like bright, shining spirits of the air bathed in radiance and marching to glory. Then, when the clouds hover near and the sun has withdrawn his warmth and light, how cold, ghostly, and terrible they seem aloft there, so far from us and so uncompanionable. Then, too, they change form

Ni-tale Falls,
McCloud River.



and mood as we change position. As the train moves along we seem to be standing still, and they become a marching army of stone giants. Seen from the train, they thus form a magnificent spectacle, now hidden by the trees, now bursting into full view. It is a spectacle full of inspiration, of grandeur, and none will more thoroughly enjoy it and live upon it than he who has roamed the mountains, stood upon their topmost pinnacles, and thanked God for the privilege. Such an one will take these grand, glorious old crags to his heart at once, and gaze upon them and drink in their inspirational beauty, until the flying train blots them from sight.

If, however, one may remain a day or more at the Tavern of Castle Crag, he may, indeed, become *en rapport* with these stupendous pinnacles—aye, even climb the old trail to them. There he can study them at close range, admire their rugged lines, measure their tremendous proportions.

The old crags have some border history connected with them, too. The story has been well told by Joaquin Miller in "The Battle of Castle Crags."

At the base of what is now called "Battle Rock," a bloody battle once raged between a few whites and Shasta Indians on one side, and the Modoc Indians on the other. Deadly was the fray, and fearful the execution. Then the crags resounded with white men's yells and Indian war whoops, and blood flowed like red wine. But the handful of Indians and whites were victorious, and the tribes were taught such a lesson that a general outbreak that had been threatened was averted.

In this region, among the shadows of the very crags themselves, Capt. George Crook took the first lessons in Indian fighting that afterward made Gen. George Crook such a successful and famous Indian fighter.

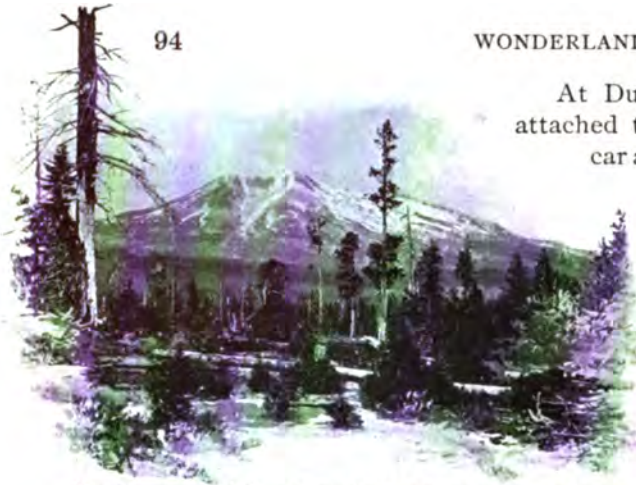
From Castle Crag Tavern a trail runs to the crags, making it an easy matter to visit them.



"Shasta Soda Springs," Cal.
(Spring of Natural Soda Water.)

ALONG THE SACRAMENTO.

Leaving the crags alone in their glory, we follow the winding Sacramento farther into the depths of the mountains. Now and then we catch glimpses of Shasta. All along this part of the river are outing spots, more or less rustic in character.



*Mount
Shasta.*

At Dunsmuir an observation car is attached to the train. The sides of the car are open, affording unobstructed views in all directions.

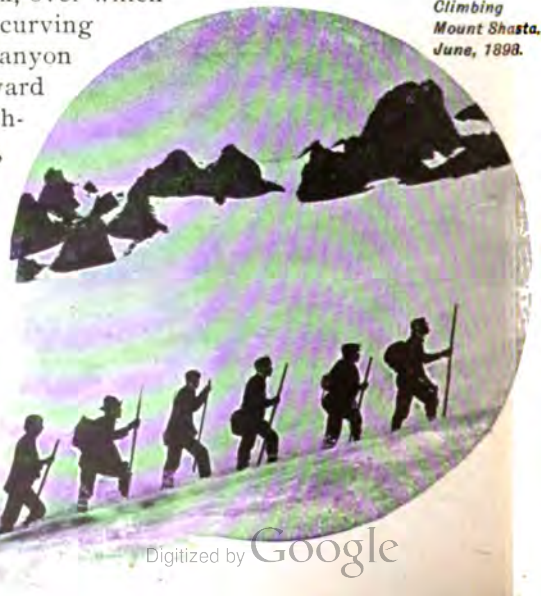
At Shasta Springs we are treated to an innovation in railway travel, and to a most refreshing sight and experience as well. Here we find a never-failing fountain of soda water right at the station platform. The train stops, the passengers rush out with cups, bottles, glasses, etc., to imbibe the delicious, effervescent fluid, and to carry some of it away to drink on the cars as the train moves on.

Down from the plateau above tumbles a foaming cascade. At the bottom, in the center of the stream itself, a fountain has been arranged that throws a beautiful plume of soda spray high in the air. A few rods below is another, and yet farther down the track Mossbrae Falls burst forth from the hillside and form a lovely series of cascades, a perfect water bouquet. No one who has seen Shasta Springs will forget it.

Not long after leaving Shasta Springs the road crosses the stream, which is becoming, gradually, a little smaller, and, hugging the mountain side, slowly ascends the canyon wall. As the train climbs the ascent, pulled by two or three locomotives, the view becomes something very fine. For some time, as we rise higher and higher, the river is in sight, no matter which way the train turns. There, at last, far beneath, we see it for the last time, as it goes rushing down the gorge with the shining track, over which we have but recently come, curving beside it. The brink of the canyon is gained, our course is northward now, and we turn our eyes north-eastward to catch our first full, unobstructed view of Shasta, the mighty monarch.

SHASTA.

Have you ever climbed a mountain? Not a *hill*, but a real, big, tremendous mountain, where lungs and legs are



*Climbing
Mount Shasta.
June, 1898.*

worked to their utmost endurance for hour after hour, in order that you may cry Excelsior upon the summit that has towered ominously above you. If you have, you know how the sight of a mountain like Shasta, or Hood, or St. Helens, affects one who is to any degree experienced in mountaineering.

It is becoming quite common nowadays to climb mountains by means of railways of various sorts. Well! for those who like *that* sort of mountaineering, I suppose it is better than none at all. I have done too much of the real thing, however, to take kindly to it myself. I have an idea, that no one, save a genuine mountaineer who reaches the tops of the old storm-swept peaks in the good old-fashioned way, quite understands and appreciates what he sees after he reaches there.

When the traveler going northward reaches Sisson's, he is in the immediate vicinity of the first of the grandest set or array of peaks in the United States, from the mountaineer's point of view as well as the tourist's.

Shasta is the first of the great glacial peaks of the Cascades. As the train runs northward, one scarcely grows dim on the horizon in one direction before another looms up on the opposite horizon.

Shasta, Hood, St. Helens, Rainier, Adams—what a galaxy of snow kings they make, to say nothing of others nearly their equals. Straight from the ocean's level they rise, and their aggregate height is more than 62,000 feet—nearly twelve miles.

Each of these giant peaks is strongly individualized. The differences in elevation can not be easily distinguished by the eye, but the differences in contour and figuration can be.

Of all these peaks, Shasta is the second highest. It rises nearly 11,000 feet above the valleys at its base, and its total elevation is 14,350 feet above the level of the sea. It is reckoned by geologists as a typical volcano, and rises among the mountains that congregate about it, as Lincoln, for example, towered above his contemporaries. Its upper, steeper slopes, average 35°, and its basal diameter is seventeen miles.

Shasta seems to be one of the least difficult of the white cones of the North Pacific Coast to climb. This fact should render it a favorite with amateur climbers, especially, and particularly so, because at Sisson's, parties can so easily outfit themselves, are so near the mountain, and find a good trail leading to it.

There are five glaciers on Mt. Shasta. They extend from the northwestern corner of the mountain around to the eastern side. While these glaciers are not large, as glaciers go, the largest being something more than two miles long, they are regular glaciers, having crevasses, moraines, etc., and the ice is several hundred feet thick.

A peculiarity of Shasta is the drainage, which comes almost entirely

from the eastern side of the mountain, having its sources in the glaciers, or the springs which derive their life from them. The cause for this is found in the southwesterly winds of winter, which drive the snow around to the northeastern side before it finds lodgment. Shasta, as it appears from Sisson's, is well described by Clarence King in his "Mountaineering in the Sierra Nevada." He climbed the mountain in 1870, and says:

"Shasta, from Sisson's, is a broad, triple mountain, the central summit being flanked on the west by a large and quite perfect crater whose rim reaches about 12,000 feet altitude. On the west a broad, shoulder-like spur juts from the general slope. The cone rises from its base 11,000 feet in one sweep."

From all accounts, Shasta is by no means a difficult mountain to climb. My own impression, from what I could see of the mountain from Sisson's, twelve miles distant, was that I would rather ascend Shasta twice or thrice than Rainier—which I climbed in 1894—once. King, who is an old and experienced mountaineer, says regarding this point:

"There is no reason why any one of sound mind and limb should not * * * * be able to make the Shasta climb. There is nowhere the shadow of danger, and never a real piece of mountain climbing—climbing, I mean, with hands and feet—no scaling of walls, or labor involving other qualities than simple muscular endurance."

If the day upon which one stands on Shasta's summit be clear, one can sweep a wide circumference with his vision. To the north, the Cascades lie, with Mounts Pitt, Jefferson, and the Three Sisters as the predominant peaks; to the east, the eye rests upon the alkaline deserts of Western Nevada; southeast and south, the Sierra Nevada lies, its granite peaks piled, one upon another, in glorious confusion; to the west, are the many interlacing ridges and canyons of the Coast ranges, while here and there, in all directions, dropped down among the wild, riotous babel of mountains and hills, are picturesque lakes, secluded and restful, and warm valleys laughing with their rich harvests. Shasta, high and lordly as it is, is yet a peak that the "tender-foot" may not hesitate to "tackle" with a competent guide.

THE SISKIYOU.

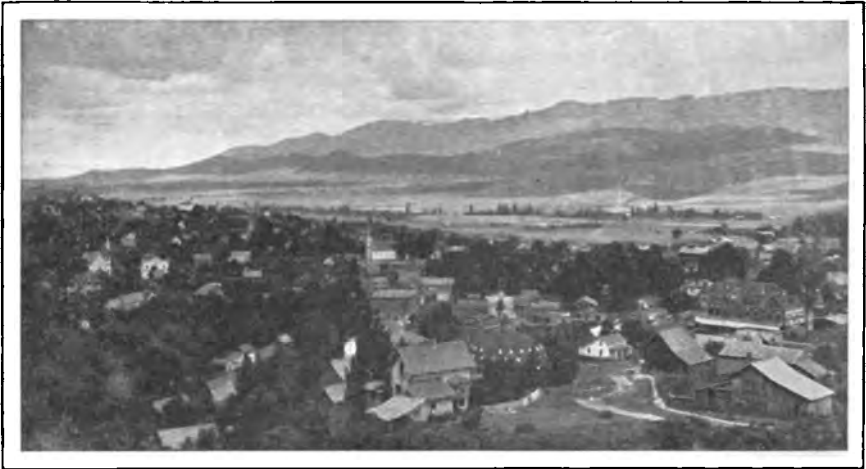
On the western flanks of Shasta, as the train runs northward, one will see a prominent black butte, conical in shape. It is noted on the maps as Muir Peak, but is known in general nomenclature as Black Butte. The butte is one of the landmarks of the region, and the traveler sees it from all angles within an arc of 180 degrees, as the track hugs it persistently and seems loath to leave it. The butte, while not being particularly noteworthy either as to actual or relative elevation, is a very striking and conspicuous object.



1. *Castle Lake and Mount Shasta, near Sisson.* 3. *Black Butte and Stuart's Lake, near Sisson.*
2. *Sacramento Canyon, from Artist's Point, near Castella.* 4. *Mount Pitt, Oregon.*

Swinging to the north-northwest, we soon come to the base of the Siskiyou range. I think no one will take exception to the statement that the crossing of this range is by all odds the transcendent charm of the Shasta part of the Shasta-Northern Pacific Route.

The usual features of mountain engineering are seen here; long curving approaches; heavy grades; a pathway gouged out of the sides



*Ashland,
Southern Oregon.*

of reluctant mountains, trestles across wild ravines; a few tunnels; a train pulled by two or three locomotives. Of course there are the mountains, but somehow they are different from other mountains. Mountains are really pretty much the same wherever you find them. They are much like people, of the same general character with specific or individual differences.

I have mountaineered from the British Columbian line nearly to the Mexican border, and have seen all sizes, classes, and sorts of mountains. I have been among mountains far more rugged and incredibly higher than the Siskiyou, but there is a charm, a fascination, about this range where the Shasta Route crosses it, that is unusual, wonderful, and, to me, rather hard to analyze.

The range is rugged, and yet devoid of that angry, harsh aspect usual to that class of mountains, which often has a repellent effect upon one. On the other hand, there is nothing of the effeminate, if the word can fit the case, about it. There seems to be a rare and most unusual blending of the stern, rasping type of mountain, with that of the softer, graceful sort, that produces a type, decidedly new, pleasing, and inspiring.

The geological character of a range, and climate are two important factors in configuration and expression. I do not know what the geology of the Siskiyou is, but I suspect that that, conjoined to a

moist and warm climate, are responsible for the peculiar character and charm of this region.

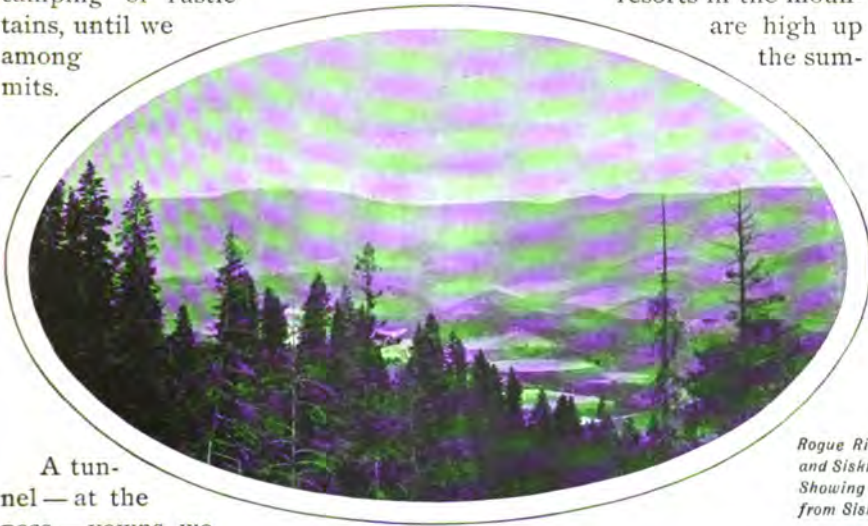
After a series of gradual approaches, the real foothills and flanks of the range are encountered by the train. No more play or dodging the issue now.

There are the mountains, go at them!

In a long, sweeping curve, the train goes at them sure enough; then swerving to the left, almost parallels its course for a time, swings again, this time to the right, squirms about until it gets "head room" well back on the long slope, describes a semi-circle, still to the right, and now finds itself high above its former line, and overlooking a long line of shining, twisting rails, with a right of way ahead that is moderately straight, but of heavy grade.

Seated in the open observation car, we look out over the wide scope of mountain and valley undisturbed by dust and cinders. The engines, tugging away for dear life, are wood burners and there are therefore no cinders, and the slow speed precludes any annoyance from dust.

Higher and higher we get, stopping now and then at little stations, camping or rustic resorts in the mountains, until we are high up among the summits.



A tunnel — at the pass — yawns, we

turn with a last, lingering look toward Shasta now far behind and towering like a giant in air, a darkening and closing in and we are in the tunnel, crossing the range.

In a few minutes we emerge and now go swinging down in steady, rhythmic motion into the valley of the upper Rogue River. If we were pleased on the other side of the range, we are entranced now.

The descent of the Siskiyou into the Rogue River Valley is the superlative of railway mountain scenery. The range, on that side—

*Rogue River Valley
and Siskiyou Range,
Showing Rainstorm,
from Siskiyou Pass.*

the Oregon side—is much finer, the engineering is bolder in conception, the view incomparable.

We look *out* over a waste of mountains, are not so hemmed in as is usual. As usual, also, we see the same objects from changing positions. It is interesting to locate a particular point, as a prominent butte, at one place, with a signal flag flying on its summit, and then note how we swing about it and see it now on one side, now on another.

Now the engines are holding back as hard as they pulled a while ago.

When the Rogue River Valley comes well *into* view, it will arouse all the latent enthusiasm one possesses. I never beheld such a view elsewhere, nor expect to see such another. It is not possible to describe it. It is one of the few scenes where words are impotent to convey an idea of it, where the poverty of expression is absolute. The most effective and eloquent statement I can make is that one sits in wrapt silence before it, a tense, unmindful-of-all-else expression upon one's face. The scene seems to be not of the earth, we feel as if translated.



GOLD AND GLACIERS

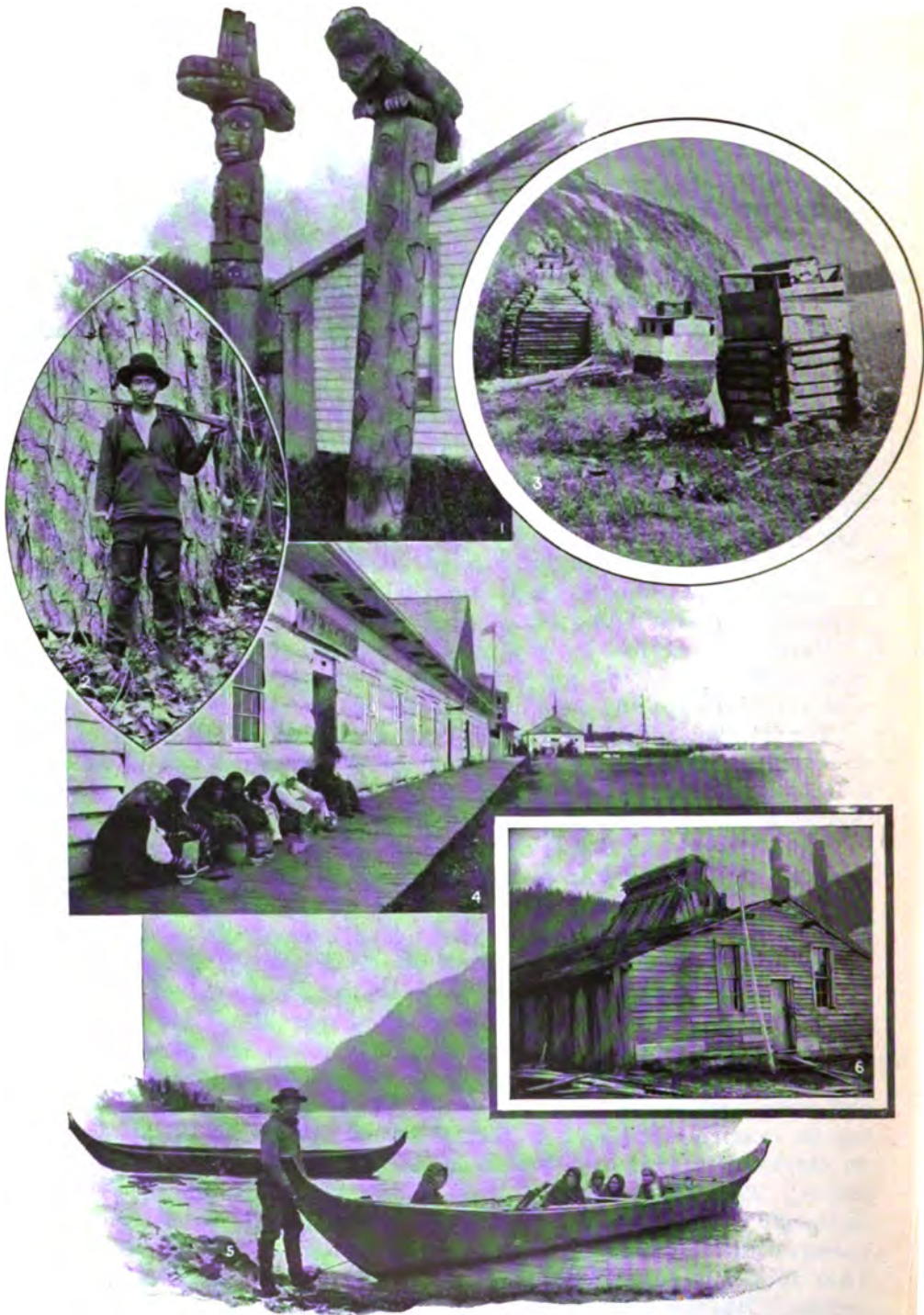
WE ALL KNOW more about Klondike and Alaska than we did a year ago. The army of invasion that last year climbed over the passes and sailed up the Yukon to attack the placers of the far Northland have been heard from. Some returned full-handed, some came with moderate returns, but many of them came back empty-handed and disappointed. This was inevitable.

There were thousands who were stampeded into that invasion who never should have gone, who were in no sense fitted to cope with the hardships and conditions of life certain to be met.

The transportation companies, in their literature on the Klondike, stated the conditions plainly, so that those who went did so with full knowledge of them. In "The Key to Klondike," published by the Northern Pacific Railway Company a year ago, I said:

"The country is wild, rough, and makes great drafts on one's vitality. Strong men and women, who properly care for themselves, can live well and in comfort. * * * * The country is covered with snow and ice most of the year. The many rivers are rapid streams, the mountains are rough, and prospecting means hard work."

In "Wonderland '98" I wrote: "Those now en route to that region must go prepared to explore and uncover new Klondikes. This will prove a serious business, especially so for those unused to prospecting or mountaineering. To break away from the habitations and warm firesides of men and plunge into an icy wilderness, working on frozen ground and in the cold waters of glacial streams, is no child's play even for the experienced prospector of temperate climes. That there are virgin fields where the golden nuggets are as thickly strewn upon the bed rock as they were at Klondike, is the universal testimony of all who are entitled to speak with authority. That they will be searched for and sooner or later discovered, is certain. Healthy men of strong physique, cheerful temperament,



1. Chief Shake Totems, Fort Wrangel.
2. An Alaskan Guide.
3. Tahetan Indian Graves, Stickeen River.
4. Main Street, Sitka.
5. Long Jim and his wives, Alaska.
6. Oldest Rancherie in Fort Wrangel, Alaska. Over 150 years old.

not predisposed to disease, ready to face hardship, discouragement, intense heat and poisonous insects in summer, and long nights and bitter cold in winter, can risk the effort. By suitably outfitting themselves and living properly, the strong man can successfully combat nature and overcome the obstacles she has placed in his way, and enjoy life there."

The same is true to-day. To use a slang expression, Alaska and the Klondike have come to stay. While we unquestionably know more about the country than we did a year ago, yet our knowledge even now is extremely vague.

In a general way, some parts of it that then were thought to promise well, now seem to be of little value from the mining standpoint. While the year's production of precious metals seems to aggregate about \$20,000,000, no *striking* new discoveries have been reported.

It is, perhaps, too early to know, from the testimony of those who have spread over the Alaskan region within the past year, what the real



Steamer at Mulr Glacier, Alaska.

prospect is. New and remote localities have been penetrated by these prospecting regiments, and most of those who really have any information of consequence have not yet returned.

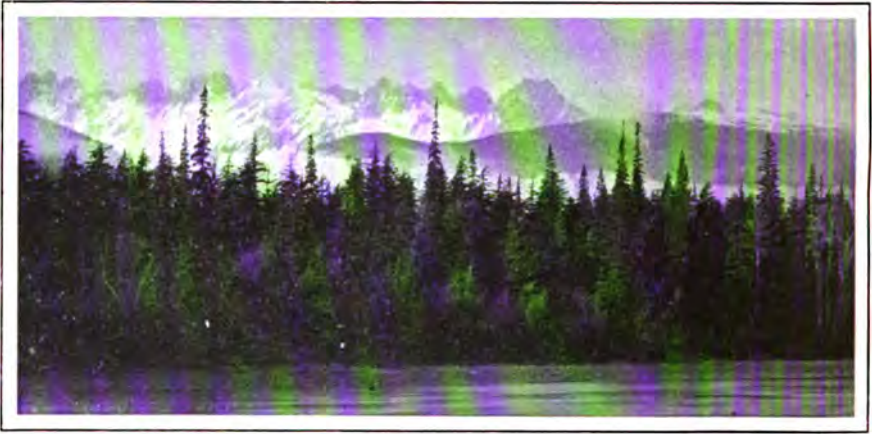
There is little doubt that gold in large quantity exists in that country, but the land is not one to be exploited in a day or a year.

The means of transportation into these countries are improving. A railway is now in operation across the White Pass and it will be continued on to Lake Bennett and thence to Fort Selkirk. Steamers now ply the waters of several of the Upper Yukon lakes. The Yukon River fleet of steamers, via St. Michaels, has been largely increased, and the dangers so prevalent from famine a year ago, at Dawson and along the Yukon, seem to have been dissipated.

The grandeur of the tourist trip to the Alaskan fjords and bays has lost none of its attractions. It still remains the finest and, in many ways, most instructive tourist trip in the world. The inland

passage here means immunity from sea-sickness, that great disturber of ocean pleasure trips. Steamers for all Alaskan and Klondike points leave Tacoma, Seattle, and Victoria at frequent intervals, and passage can be arranged through Northern Pacific Railway agents in any part of the United States and Canada.

Several good steamers now carry tourists to the principal towns glaciers, etc., on the coast at a somewhat reduced rate of fare as compared with former years. The round trip from Puget Sound points occupies about eleven or twelve days. The steamers stop at Fort Wrangel, Juneau, Sitka and other interesting points, and give one an opportunity to see the natives, totem poles, the great glaciers, use the kodak, and enjoy themselves generally.



Recreation Range, Alaska.

NORTHERN PACIFIC RAILWAY

Rates and Arrangements for the Tourist Season of 1899.

MINNESOTA SUMMER RESORTS During the summer season the Northern Pacific Railway will sell round-trip excursion tickets from St. Paul or Minneapolis to Glenwood (Lake Minnewaska) at \$5.25; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$7.85; Backus, \$8.35; Walker, \$8.65; Bemidji, \$10.10; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan (Devil's Lake), \$18.65; Winnipeg, \$22.50. From Duluth to Deerwood, \$3.80; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$6.90; Backus, \$6.90; Walker, \$6.90; Bemidji, \$6.90; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan, \$18.65; Winnipeg, \$22.50. From Ashland, Wis., to Battle Lake, \$9; Fergus Falls, \$9; Pine River, \$8.40; Backus, \$8.40; Walker, \$8.40; Bemidji, \$8.40; Perham, \$9.25; Detroit Lake, \$10.65; Minnewaukan, \$20.15; Winnipeg, \$22.50. Good going to Minnesota resorts one day (from Ashland two days), to Minnewaukan (Devil's Lake) and Winnipeg two days from date of sale. Good to return on or before October 31st.

YELLOWSTONE PARK RATES. The Northern Pacific Railway will sell round-trip excursion tickets from June 12th to September 12th (both dates inclusive) at the following rates:

A \$47.50 round-trip ticket, St. Paul, Minneapolis, or Duluth to Livingston or Mammoth Hot Springs and return, returning same route or via Billings to the Missouri River. These tickets are limited to thirty days going, ten days returning; final limit, forty days.

A \$5 ticket, Livingston to Mammoth Hot Springs Hotel and return, including rail and stage transportation. On sale June 14th to September 14th (both dates inclusive).

By payment of \$22 at Mammoth Hot Springs Hotel, to the cashier of the Yellowstone Park Association, and of \$22.50 to the manager of the Yellowstone National Park Transportation Company, having his office in this hotel, tourists can secure transportation and hotel accommodations for the regular five and one-half days' tour.

MONTANA AND EASTERN WASHINGTON POINTS The Northern Pacific Railway has on sale, at greatly reduced rates, round-trip excursion tickets from St. Paul, Minneapolis, or Duluth to Billings, Springdale, Livingston, and Bozeman, Mont.; Helena, Butte, and Anaconda, Mont. (choice of routes returning, via Northern Pacific or Great Northern Railway lines); Missoula, Mont.; Spokane, Wash. (choice of routes returning, via Oregon Railway & Navigation Company and its connections, or via the Great Northern, or Northern Pacific lines); Medical Lake, Pasco, Kennewick, and Toppenish, Wash.; Nelson, Trail, Rossland, Ainsworth, Kaslo, and Sandon, B. C.; and Coulee City, North Yakima, and Ellensburg, Wash.

These tickets are of iron-clad signature form; require identification of purchaser at return starting point.

Any of the above tickets may read to return via Billings to the Missouri River.

**NORTH PACIFIC COAST
EXCURSIONS**

A \$90 round-trip individual excursion ticket, St. Paul, Minneapolis, or Duluth to Tacoma, Portland, Seattle, New Whatcom, Vancouver, or Victoria, is on sale daily at points first named and by Eastern lines.

Tacoma, Seattle, New Whatcom, Victoria, Vancouver, or Portland tickets, at above rates, will be issued, going via Northern Pacific, returning via same route, or Great Northern, or Soo-Pacific to St. Paul, Minneapolis, or Duluth; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; Portland tickets will also be issued, returning via Oregon R. R. & Navigation Company and its connections to either Omaha or Kansas City, or to St. Paul via Sioux City.

Above tickets limited to nine months from date of sale, good, going trip, sixty days to any one of North Pacific Coast termini named, returning any time within final limit.

**ALASKA
EXCURSIONS**

An excursion ticket will be sold from Eastern termini named to Sitka, Alaska, at \$150, which rate includes meals and berth on the steamer. Tickets on sale May 1st to September 30th. Limit, nine months. Going to Tacoma, sixty days, returning within final limit, holder to leave Sitka on or before October 31st. Tickets will be issued to return either via the Northern Pacific, Soo-Pacific, or Great Northern lines to St. Paul or Minneapolis, or via Canadian Pacific Railway to Winnipeg or Port Arthur. Usual stop-over privileges granted. Steamer accommodations can be secured in advance by application to any of the agents named below. Diagrams of steamers at office of General Passenger Agent at St. Paul.

**"TO THE
WESTWARD"**

The Pacific Steam Whaling Company's steamer Excelsior will sail from Sitka to Unalaska, in Bering Sea, 1,300 miles distant, on or about the 1st of every month, stopping at Yakutat, Prince William's Sound, Cook's Inlet, Kodiak, Karluk, and Unga. Close connection is made with Pacific Coast Steamship Company's steamers at Sitka. The steamer Excelsior has accommodations for 100 cabin passengers. Round trip is made in from twenty-five to thirty days, three days of which time are spent at Unalaska. Round trip from Sitka, including berth and meals on boat, \$125. (There are also steerage accommodations for 150 passengers.)

**CALIFORNIA
EXCURSION RATES**

The Northern Pacific Railway will sell round-trip excursion tickets from St. Paul, Minneapolis, or Duluth as follows: To San Francisco, going via the Northern Pacific, Seattle, and steamer, or Portland and the Shasta Route, or the ocean to San Francisco; returning via rail or steamer to Portland, or via steamer to Seattle, and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; or via rail or steamer Portland and Huntington to the Missouri River; or returning by the southern lines to Council Bluffs, Omaha, Kansas City, Mineola, or Houston, at \$103.50; to New Orleans or St. Louis, at \$109.50.

To Los Angeles, going via Portland and Shasta Route, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Billings or Huntington to the Missouri River, at \$122.50; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$113; to St. Louis, at \$119.

To San Diego, going via Portland and rail through Los Angeles, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via

Billings or Huntington to the Missouri River, at \$129; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$119.50; to St. Louis at \$125.50.

Tickets via ocean include meals and berth on steamer.

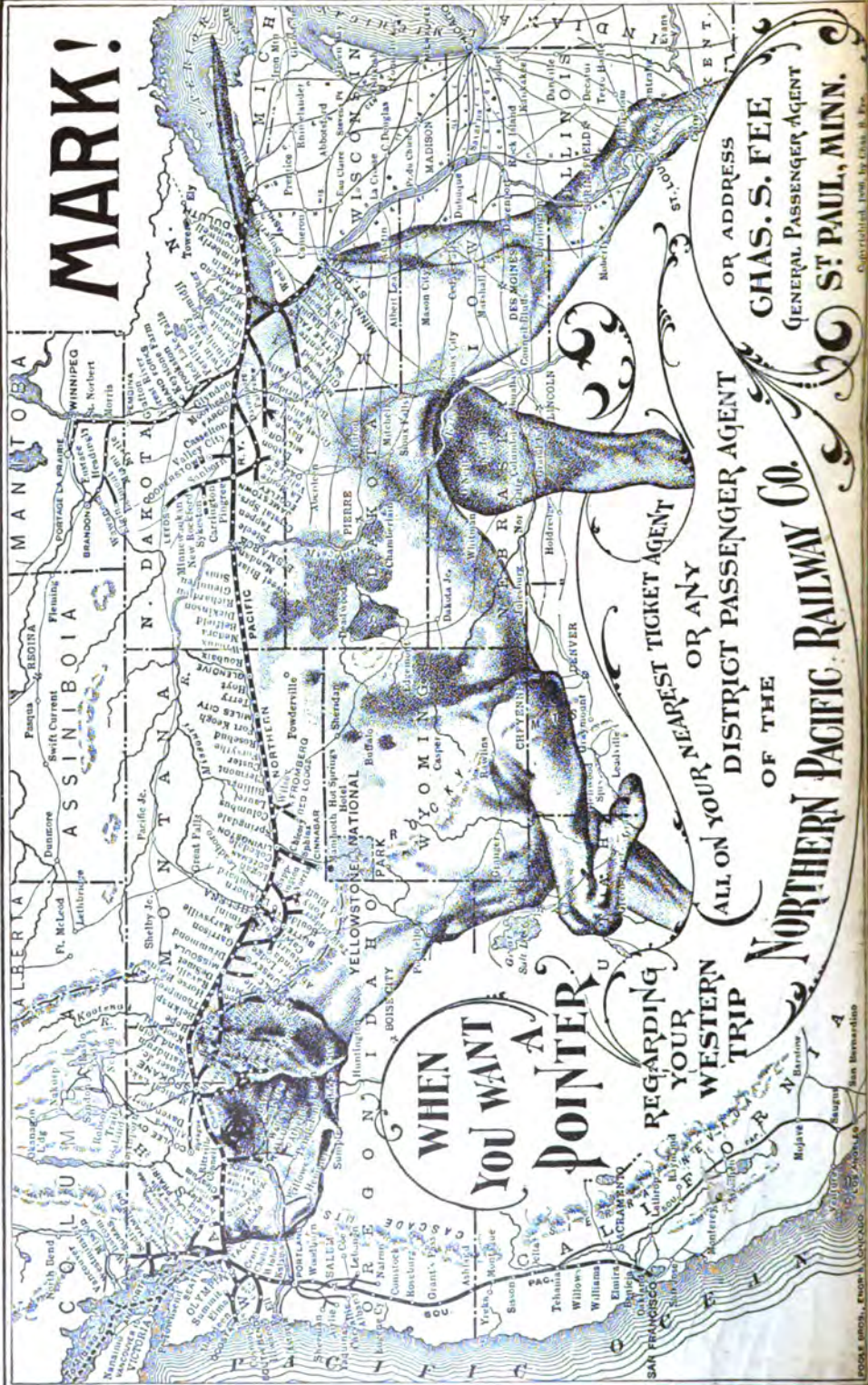
At the eastern termini of the southern transcontinental lines excursion tickets will be sold, or orders exchanged, for tickets to San Francisco, returning via either the Shasta Route, the all-rail line to Portland, or the ocean and the Northern Pacific to St. Paul, Minneapolis, or Duluth, at a rate \$13.50 higher than the current excursion rate in effect between Missouri River points, Mineola, or Houston and San Francisco. The steamship coupon includes first-class cabin passage and meals between San Francisco and Portland.

These excursion tickets allow nine months' time for the round trip; sixty days allowed for west-bound trip up to first Pacific Coast common point; return any time within final limit.

GENERAL AND DISTRICT PASSENGER AGENTS.

BOSTON, MASS.—230 Washington Street.	District Passenger Agent.
H. W. SWEET	
BUFFALO, N. Y.—215 Ellicott Square.	District Passenger Agent.
W. G. MASON	
BUTTE MONT.—Cor. Park and Main Streets.	Acting General Agent.
W. H. MERRIMAN	
CHICAGO—28 South Clark Street.	General Agent.
F. H. FOGARTY	
C. G. LEMMON	District Passenger Agent
CINCINNATI, OHIO—32 Carew Building.	District Passenger Agent.
I. J. FERRY	
DES MOINES, IOWA—593 West Locust Street.	District Passenger Agent.
G. W. JONES	
DETROIT, MICH.—153 Jefferson Avenue.	District Passenger Agent.
W. H. WHITAKER	
DULUTH, MINN.—Spalding Hotel.	General Agent.
R. A. EVA	
HELENA, MONT.—Main and Grand Streets.	General Agent.
A. D. EDGAR	
INDIANAPOLIS, IND.—42 Jackson Place.	District Passenger Agent.
J. E. TURNER	
LONDON, ENG.—142 Strand.	European Tourist Agents.
H. GAZE & SONS	
MILWAUKEE, WIS.—377 Broadway.	District Passenger Agent
C. C. MORDOUGH	
MINNEAPOLIS, MINN.—19 Nicollet Block.	City Ticket Agent.
G. F. MCNEILL	
MONTREAL, QUE.—116 St. Peter Street.	District Passenger Agent.
THOMAS HENRY	
NEW YORK CITY—319 Broadway.	General Agent Passenger Department.
W. P. MERSHON	
PHILADELPHIA, PA.—47 South Third Street.	District Passenger Agent.
I. M. BORTLE	
PITTSBURG, PA.—1118 Carnegie Building.	District Passenger Agent.
ED. C. SCHOEN	
PORTLAND, ORE.—255 Morrison Street.	District Passenger Agent.
F. O'NEILL	
E. L. RAYBURN	Traveling Passenger Agent
SAN FRANCISCO, CAL.—638 Market Street.	General Agent Passenger Department.
T. K. STATELER	
SEATTLE, WASH.—First and Yesler Avenues.	General Agent.
I. A. NADEAU	
SPOKANE—Riverside and Howard Streets.	General Agent.
JNO. W. HILL	
ST. LOUIS, MO.—210 Commercial Building.	District Passenger Agent
P. H. NOEL	
ST. PAUL, MINN.—5th and Robert Streets.	City Ticket Agent
O. VANDERBILT	
ST. PAUL, MINN.—4th and Broadway.	District Passenger Agent
G. D. ROGERS	
TACOMA, WASH.—925 Pacific Avenue.	General Agent.
A. TINLING	
TORONTO, ONT.—No. 6 King Street West.	District Passenger Agent.
G. W. ACCASKEY	
WEST SUPERIOR, WIS.—(Depot).	Assistant General Agent
F. C. JACKSON	
WINNIPEG, MAN.	General Agent
H. SWINFORD	
PORTLAND, ORE.—255 Morrison Street.	Assistant General Passenger Agent.
A. D. CHARLTON	
ST. PAUL, MINN.	Assistant General Ticket Agent
A. L. CRAIG	
CHAS. S. FEE	General Passenger and Ticket Agent
J. M. HANNAFORD	Third Vice-President.

MARK!



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A
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YOUR
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DISTRICT PASSENGER AGENT
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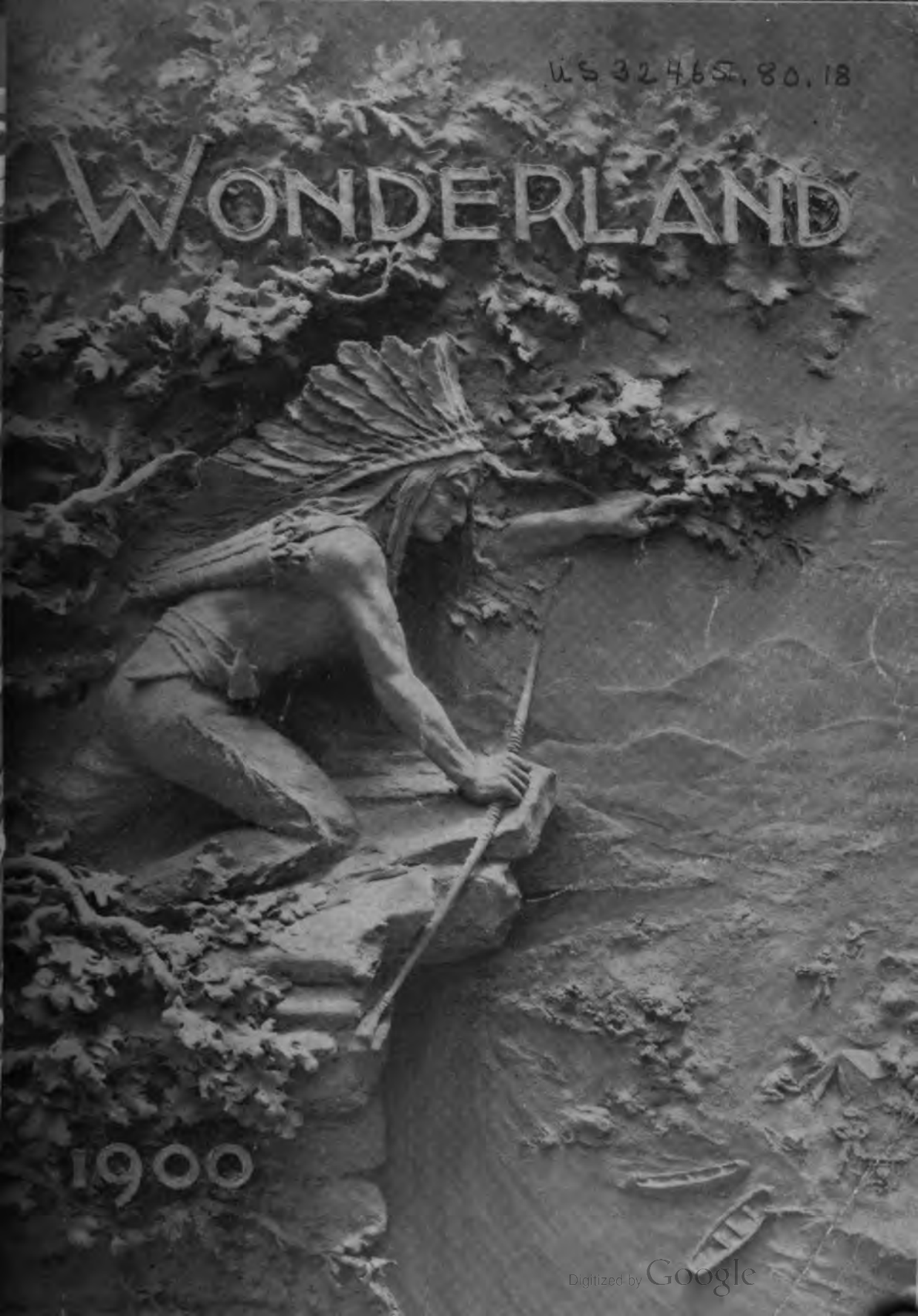
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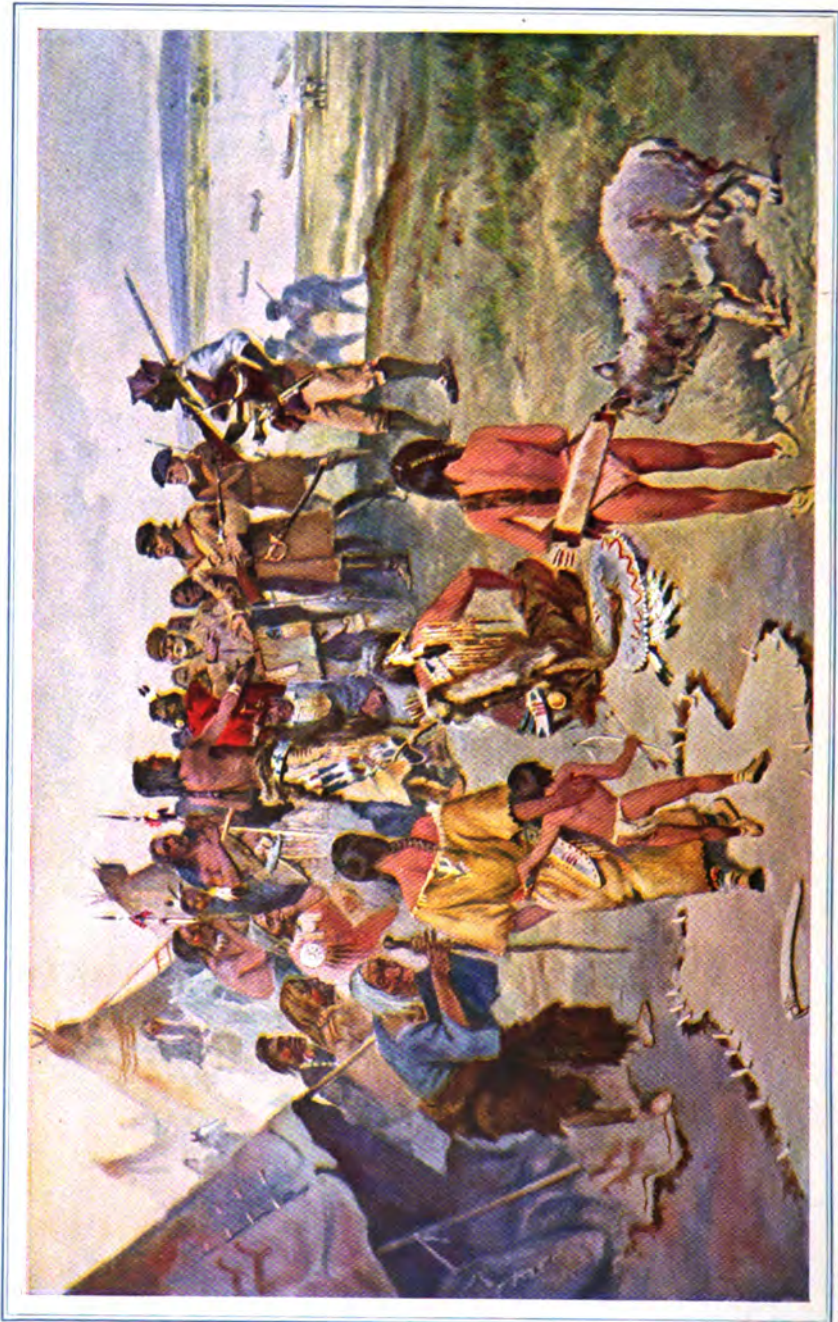
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WONDERLAND



1900



Lewis and Clark Meeting the Mandan Indians.

From a painting by C. M. Russell, reworked by John V. Sweeney.

Wonderland 1900

BY
Olin D. Wheeler.

ILLUSTRATED

DESCRIPTIVE OF THE
REGION TRIBUTARY

TO
THE

**NORTHERN
PACIFIC
RAILWAY**

AND INCLUDING
MORE PARTICULARLY
THE STORY OF

**LEWIS & CLARK'S
GREAT EXPLORATION
OF THE NORTHWEST**

IN 1804-1806



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BY
CHAS. S. FEE.
GENERAL PASSENGER
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LOUISIANA PURCHASE.

IN 1801 Thomas Jefferson was inaugurated the third President of the United States.

Mr. Jefferson, a man of strong and lovable character, seems to have been allowed by Providence to do several things to entitle him to the eternal plaudits and gratitude of his countrymen. To bear the honor of drafting the Declaration of Independence were, methinks, enough for one man. But the fates were kind to the Sage of Monticello, and he was permitted to be a leading figure in another matter that, as the years roll on, seems destined to enroll his name almost as high on the scroll of fame as did the writing of the immortal Declaration. This was the purchase of Louisiana and its later exploration by Lewis and Clark.

It is not improbable that in history Jefferson's reputation will stand higher because of the exploration than on account of the acquisition. Although the two are now almost indissolubly connected, the former seems to have been peculiarly an idea of Mr. Jefferson's own, whereas the purchase itself was the result of a concatenation of fortuitous circumstances. Fate was the chariot and Napoleon Bonaparte the charioteer. Mr. Jefferson, 'tis true, played an important role in the drama, but so did Monroe, and Livingston, and Marbois, and Talleyrand.

Louisiana was a French possession originally, through La Salle's discoveries in the seventeenth century. In 1762, by a secret treaty, France conveyed Louisiana to Spain. It had been an expensive and troublesome province, and France was glad to be rid of it. In 1800, nearly forty years later, another secret treaty retroceded the country to France. Our relations at that time with both Spain and France were decidedly strained, the free navigation of the Mississippi River being a particularly troublesome question with the former.

Jefferson saw plainly that we must obtain certain territory on and adjacent to the mouth of the Mississippi River.

No man dreamed of such a thing as the purchase of Louisiana, let alone suggesting its possibility. *The vast region was virtually thrown at us by Napoleon.*



Jefferson.

When Mr. Jefferson began negotiations for the purchase of the desired territory—New Orleans and the Floridas—it was with Spain, which was supposed to own it. When subsequently it was ascertained that Spain had secretly reconveyed Louisiana to France, it was a complete surprise to the United States negotiators.

War between France and England being now—1802—almost certain, negotiations were transferred to France and pushed energetically, \$2,000,000 being the sum our negotiators were authorized to give for the territory desired.

Livingston, our Minister to France, was reinforced by James Monroe, a man eminently qualified for his extraordinary mission.

Monroe reached France April 7, 1803. Apparently the stars in their courses fought for us, for on April 30th the treaty transferring all of Louisiana to us for \$15,000,000 was signed, and was at once sent to Washington for ratification. Congress ratified it October 17, 1803, and on December 20th following, the French colors came down at New Orleans and the stars and stripes went up in their stead, and the Mississippi ran its course to the sea wholly through American territory.



Monroe.

Before Mr. Monroe reached France, Napoleon, with consummate astuteness, had decided to dispose of *all* of Louisiana instead of the insignificant portion we were trying to buy. To Talleyrand and Marbois, his Ministers of State and Treasury, he had said: "I know the full value of Louisiana, and I have been desirous of repairing the fault of the French negotiator who abandoned it in 1762. A few lines of treaty have restored it to me, and I have scarcely recovered it when I must expect to lose it. But if it escapes from me, it shall one day cost dearer to those who oblige me to strip myself of it, than to those to whom I wish to deliver it. The English have successively taken from France, Canada, Cape Breton, New Foundland, Nova Scotia, and the richest portions of Asia. They shall not have the Mississippi, which they covet. * * * I have not a moment to lose in putting it out of their reach. * * * I think of ceding it to the United

States. * * * They only ask of me one town in Louisiana, but I already consider the colony as entirely lost; and it appears to me that in the hands of this growing power it will be more useful to the policy, and even to the commerce, of France than if I should attempt to keep it." And again, "I renounce Louisiana. It is not only New Orleans that I will cede, it is the whole colony without any reservation. * * * To attempt to retain it would be folly. I direct you to negotiate this offer with the envoys of the United States. * * * I will be moderate in consideration of the necessity in which I am of making the sale." This determination to hasten matters is shown in the words to the Ministers: "Irresolution and deliberation are no longer in season. Do not even await the arrival of Mr. Monroe. Have an interview with Mr. Livingston this very day."

When the proposition to sell this vast domain was laid before the American diplomats they were naturally rather staggered.

They at once rose grandly to the occasion, however. In those days of slow-sailing ships and no cables, they must themselves, unadvised by Jefferson and his Cabinet, assume the responsibilities of the moment and act one way or the other — either accept or reject. Like brave patriots they did this, accepted, and closed the bargain.

After a little haggling as to price, the matter was easily arranged, and thus England was prevented from seizing New Orleans and Louisiana in the great war that immediately followed, and the United States obtained a future empire.

Marbois, a personal friend and admirer of Monroe, and also a warm friend of our country, was an important adjunct in the negotiations.

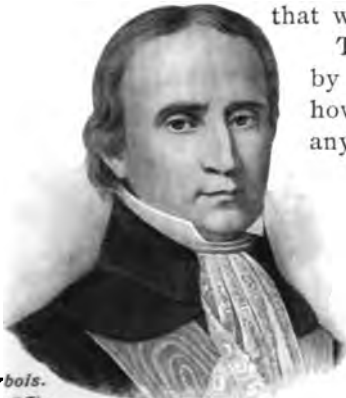
When Napoleon was informed of the conclusion of the treaty he said, "This accession of territory strengthens forever the power of the United States; and I have just given to England a maritime rival that will sooner or later humble her pride."

This brief recital shows the important figure cut by the French Emperor himself in the affair, and how, as a matter of fact, we drifted into it without any preconceived intention on the part of Jefferson or anyone else.

And what of the country? There was great uncertainty at the time, and there is now to many, as to what we actually obtained. We did *not* buy the Oregon country. United States Land Commissioner Hermann gives the area



Napoleon.



Marbois.
From "The Louisiana Purchase,"
by permission
of Binger Hermann.

of the purchase as 883,072 square miles, or 565,166,080 acres, an area somewhat less than that of the original thirteen States. Roughly, the eastern limit followed the Mississippi from its mouth, north to the forty-ninth parallel at the Lake of the Woods; the forty-ninth parallel constituted the northern boundary, which extended to the Rocky Mountains; the western line ran south along the summit of the Rockies to the head waters of the Arkansas River in Colorado, thence down the Arkansas to the 100th meridian, thence south to the Red River, thence down that river to the ninety-fourth meridian, thence south along that meridian to the Sabine River, thence down the Sabine to the Gulf of Mexico, while the Gulf itself formed the southern line.

The Louisiana Purchase was larger in area than Great Britain, France, Spain, Germany, Portugal, and Italy thrown into one. Out of it have been carved entire, Arkansas, Missouri, Iowa, Nebraska, North and South Dakota, and Indian Territory; nearly all of Louisiana, Oklahoma, Kansas, Wyoming, and Montana; about two-thirds of Minnesota, and one-third of Colorado. In 1890 the population within its limits exceeded twice that of the United States at the time of the purchase. To-day it is the greatest mineral, grazing, timber, and corn and wheat region of the United States.

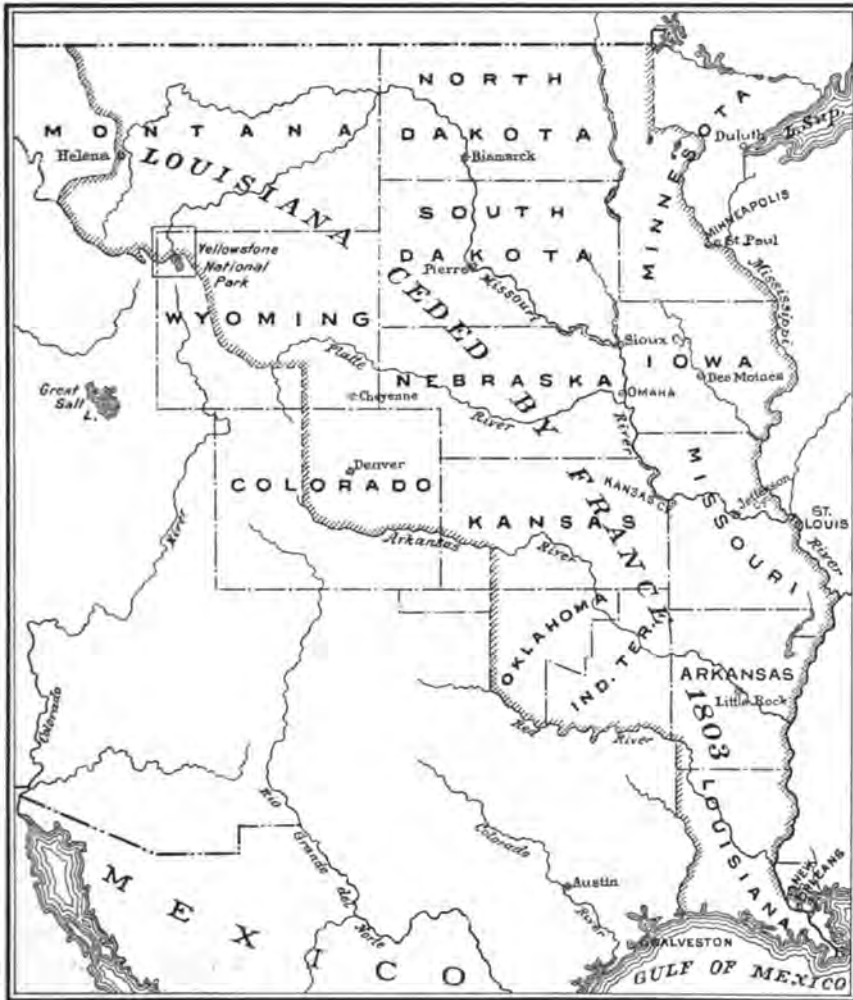
This then was the country that Lewis and Clark were to explore.

BLAZING THE WAY.

I have said that the idea of this exploration was original with Mr. Jefferson. He explicitly states in his memoir of Captain Lewis that, when resident in Paris, he induced one John Ledyard, a well-known citizen of Connecticut, to attempt an exploration across the Northwest. Ledyard fell in with the idea, through Jefferson obtained Russian credentials, and started across Russia and Siberia, whence he was to cross the Pacific to Nootka Sound and thence, via the Missouri, continue on across this country. After he was well started the Russian government reconsidered its decision and compelled Ledyard to return.

In 1792 Jefferson enlisted the American Philosophical Society in the matter, and although Captain Lewis then begged the privilege of going, a French botanist, André Michaux, was selected and he started on the journey. He went as far as Kentucky when *he* was recalled by the French Minister, and thus ended the second attempt.

In January, 1803, before we had purchased Louisiana, Jefferson sent a confidential message to Congress which resulted in an appropriation of \$2,500 for this exploration, *across the country of a foreign power* — at that time France. Within three months (about) the country belonged to us, so that, actually, the exploration became one of our own territory. This fact was, however, not known here until July, and Jefferson's instructions regarding the expedition were drawn upon the theory that the country belonged to France.



The Louisiana Purchase.
 From "The Louisiana Purchase," by permission of Binger Hermann.

Jefferson's message to Congress, partially quoted in Coues' Lewis and Clark, published by Francis P. Harper, New York, is a peculiar one, and well worth reading. The estimate for expenses upon which the appropriation was based is in Lewis' handwriting and was probably his own idea of what would be needed. Here it is:

Mathematical instruments.....	\$ 217
Arms and accoutrements extraordinary.....	81
Camp equipage.....	255
Medicine and packing.....	55
Means of transportation.....	430
Indian presents.....	666
Provisions extraordinary.....	224
Materials for making up the various articles into portable packs.....	55
For the pay of hunters, guides, and interpreters.....	300
In silver coin, to defray the expenses of the party from Nashville to the last white settlement on the Missouri.....	100
Contingencies.....	87
Total.....	\$2,500



* Capt.
Meriwether
Lewis.

In planning for the leadership of this immortal expedition, Mr. Jefferson had, this time, no hesitancy in granting Captain Lewis' request to be trusted with its direction.

William Clark, a friend of Lewis, was selected for the position of second in command.

It is generally supposed that Clark was an army captain, as was Lewis, but Coues shows that this was not the case. It would seem that it was intended that he should be so commissioned, but in some manner not disclosed, when his commission was issued, March 26, 1804, it was as a second lieutenant of artillery, not a captain of engineers, as Clark had expected.

From a military point of view, therefore, he was quite subordinate to Lewis, but in the conduct of the expedition he was co-equal with him, as had been promised. He had formerly been an army captain and the title still clung to him, which has added to the confusion as to relative rank.

Jefferson's instructions to Captain Lewis were lengthy and comprehensive. They evince not only a deep regard for the complete technical success of the enterprise, but an almost fatherly interest for the comfort and safety of those engaging in it.

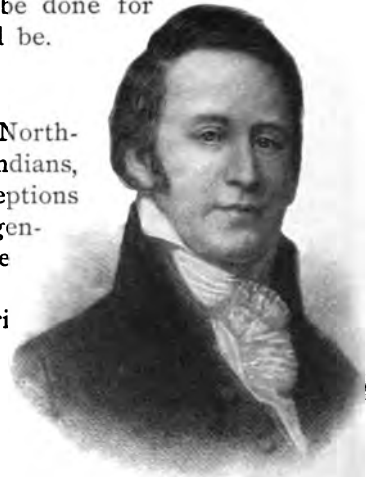
Briefly, some of the objects were to explore the Missouri and Columbia rivers and their principal branches; take astronomical observations for latitude and longitude at important points; make a study of the Indian tribes; observe the character of the country passed over, its fauna, flora, geology, and meteorology. Lewis was particularly enjoined to treat the Indians with kindness and consideration.

The facsimile of Jefferson's letter of July 4th, written subsequent to his letter of general instruction, will show the determination of the President that all that could possibly be done for the success and comfort of the party should be.

LEWIS AND CLARK'S ROUTE.

It must be recalled that in 1804-1806 the Northwest was a wilderness given over to the Indians, fur traders, and wild beasts. With few exceptions the water courses, valleys, mountains, and general physical features of the country were unknown and unnamed.

The expedition ascended the Missouri River from its mouth to Fort Mandan, north of Bismarck and Mandan, N. D., where they spent the winter of 1804-5. They then



* Capt. William Clark.

* From "Coues' History of Lewis and Clark's Expedition," 1893, by permission of Francis P. Harper.

Dear Sir

Washington. U.S. of America. July 4. 1803.

In the journey which you are about to undertake for the discovery of the course and source of the Mississippi, and of the most convenient water communication from thence to the Pacific ocean, your party being small, it is to be expected that you will encounter considerable dangers from the Indian inhabitants. should you escape those dangers and reach the Pacific ocean, you may find it imprudent to hazard a return the same way, and be forced to seek a passage round by sea in such vessels as you may find on the Western coast. but you will be without money, without clothes, & other necessaries; as a sufficient supply cannot be carried with you from hence. your resource in that case can only be in the credit of the U.S. for such purpose I hereby authorize you to draw on the Secretaries of State, of the Treasury, of War & of the Navy of the U.S. according as you may find your draughts will be most negotiable, for the purpose of obtaining money or necessaries for yourself & your men: and I solemnly pledge the faith of the United States that these draughts shall be paid punctually at the date they are made payable. I also ask of the Consuls, agents, merchants & citizens of any nation with which we have intercourse or amity, to furnish you with those supplies which your necessities may call for, assuring them of honorable and prompt reimbursement, and our own Consuls in foreign parts where you may happen to be, are hereby instructed & required to be aiding & assisting to you in whatsoever may be necessary for procuring your return back to the United States. And to give more entire satisfaction & confidence to those who may be disposed to aid you, I Thomas Jefferson, President of the United States of America, have written this letter of general credit ^{for you} with my own hand, and signed it with my name.



To
Capt. Meriwether Lewis.

Jefferson's Letter of Credit to Lewis.

proceeded to the Three Forks of the Missouri, near the present town of Logan, Mont., thence up the Jefferson branch, across the Continental Divide at Lemhi Pass, and attempted to descend the Salmon River. Repulsed, they crossed the Bitter Root range northward into the Bitter Root Valley, descended the latter to the mouth of Lolo Creek, followed the creek westward to the divide, crossed the range a second time to the Clearwater River, followed down that stream to the Snake River, thence down the Snake to the Columbia, and thence to the Pacific. Near the mouth of the Columbia, on Lewis and Clark's River, not far from Astoria, they passed the winter of 1805-6.

On the return they retraced their outgoing route to the mouth of the Wallawalla River, from which point they "cut across lots" overland to Lewiston, at the junction of the Snake and Clearwater rivers. They then, practically, retraced their old route across the mountains to the mouth of Lolo Creek in the Bitter Root Valley. There they divided their forces, Clark returning, with some variation of route, to the Three Forks of the Missouri, while Lewis struck out northeast across the mountains via Hellgate and Big Blackfoot rivers, and Lewis and Clark's Pass, to the Great Falls of the Missouri. At that point Captain Lewis subdivided his party, and while Sergeant Gass and his sub-party proceeded down the river with the luggage, etc., Lewis and the others made sundry explorations northwest on the head waters of Maria's River, joining Gass later at the mouth of that stream. From there they floated down the Missouri to the mouth of the Yellowstone, near which they rejoined Captain Clark and party, who had crossed the Rockies from the Three Forks to the Yellowstone River, and then followed down that stream. United again, they pursued their course down the Missouri to St. Louis, where the expedition was disbanded.

It will be seen that much of the region explored by Lewis and Clark is now largely tributary to the Northern Pacific Railway. In places the rails almost literally follow Lewis and Clark's trail.

The exploration was a remarkable one, not more in its important achievements than in minor details, management, progress, and results. It may well be regarded as our national epic of exploration.

The expedition started from the mouth of Wood (Du Bois) River, opposite the mouth of the Missouri, in Illinois, May 14, 1804, and reached St. Louis on its return September 23, 1806, thus consuming in its work two years, four months, and nine days. During this time not one disagreement or clash of authority occurred between the leaders, a remarkable record. There was but one death, that of Sergeant Floyd on August 20, 1804, although there was much sickness. There was but one suggestion of mutiny, and this on the part of one man only, who, besides being promptly punished, afterward fully atoned for his fault. There were two attempts at desertion, one of which was successful; in the other case the man was promptly disciplined and discharged from service. Through all their vicissitudes and dangers there was but one really serious accident as I recall, Captain Lewis being accidentally shot through the thigh when well on the way home. He recovered before reaching St. Louis.

Although their route was through an Indian country entirely, and the Indians were in most instances the wildest of nomads, in some cases never having seen a white man, yet there was but one serious difficulty with them, and then it was necessary to kill two Indians. Their almost uniformly kind reception by, and treatment of, the

Indians, and their absolute and utter dependence upon them, time after time, for food with which to save themselves from starvation, furnishes perhaps the most caustic and cutting criticism that can be made upon the Government's subsequent treatment of the red man.

Heroes are not all of the martial sort. It required, perhaps, a more sturdy type of heroism for these men to penetrate an unknown wilderness than for Wolfe to climb the Heights of Abraham, Thomas to hold on at Chickamauga, Pickett to charge Cemetery Ridge, Dewey to steam past Corregidor Island, or Hobson to blow up the Merrimac.

LEWIS AND CLARK'S ITINERARY, TABULATED.

MONTH.	YEAR.	PLACE.	Miles from m'th of Missouri River.	REMARKS.
May 14 ..	1804	Left mouth of Missouri River	0	
June 26 ..	1804	At mouth of Kansas River	340	
July 21 ..	1804	At mouth of Platte River	600	
July 30 ..	1804	At Council Bluff	650	<i>Not Council Bluffs, Iowa.</i>
Sept. 20 ..	1804	At Big Bend of Missouri River	1,172	Below Pierre, South Dakota.
Nov. 2 ...	1804	Arrived at Fort Mandan	1,600	Below Knife River, North Dakota,
April 7 ...	1805	Left Fort Mandan	1,600	where they passed winter of 1804-1805.
April 26 ..	1805	At mouth of Yellowstone River	1,880	
June 2 ...	1805	At mouth of Maria's River	2,521	
June 16 ..	1805	At Portage Creek, Gt. Falls, Mont... ..	2,575	
July 25 ..	1805	At Three Forks of Missouri River		Gallatin Valley, Montana.
Aug. 12 ..	1805	At head waters of Missouri River ..	3,096	"Fountain," or spring, at head of Jefferson Fork (Beaverhead) of Missouri River.
Sept. 9 ...	1805	At mouth of Lolo Creek		Bitter Root Valley, Montana.
Oct. 10 ...	1805	At mouth of Clearwater River	3,567	Idaho.
Oct. 16 ...	1805	At mouth of Snake River	3,721	
Oct. 30 ...	1805	At Cascades of Columbia River	3,950	
Dec. 7 ...	1805	Arrived at Fort Clatsop	4,135	On Lewis and Clark River, Ore.,
March 23 ..	1806	Left Fort Clatsop	4,135	where they passed winter of 1805-1806.
April 27 ..	1806	At mouth of Wallawalla River		Washington.
June 30 ...	1806	At mouth of Lolo Creek.		
Aug. 3 ...	1806	At mouth of Yellowstone River		Captain Clark's party via Three Forks.
Aug. 7 ...	1806	At mouth of Yellowstone River		Captain Lewis' party via Great Falls, Montana.
Sept. 23 ..	1806	Arrived at St. Louis.		

PERSONNEL OF THE EXPEDITION.

It is safe to assume that particular care was taken in the selection of those composing the expedition. There were few lapses from duty, and the chronicles and results of the exploration show that the members were persons of manly, rugged character, generally—yes, even the squaw—and equal to situations of delicacy and responsibility. A few of these persons should be specially mentioned.

First, of course, come the leaders. Captain Meriwether Lewis was a Virginian of distinguished Scotch ancestry, born in 1774, and,

therefore, thirty years of age when he assumed command of the expedition.

Lewis' early life was of a nature that prepared him in several ways for the successful direction of such an exploration.

In due time he entered the army; he became President Jefferson's private secretary, and was given command of the Louisiana expedition of exploration.

Upon his return he was made Governor of Louisiana, which position he held at the time of his death.

The most interesting question in connection with Lewis now is regarding his death. Did he commit suicide, or was he murdered?



Monument to Governor Meriwether Lewis.

Erected in 1848 by the Legislature of Tennessee, on the spot where Lewis died, October 11, 1809.

It has been supposed that he committed suicide at an obscure tavern in Tennessee, on the old military road known as the "Natchez Trace," which extended from Nashville, Tenn., to Natchez, Miss., and seems to have been one link in a system of "traces" or primeval roads, from the Atlantic Coast settlements to the interior of the West and South, in the earlier settlement of the country.

President Jefferson evidently considered this the manner of his death; but it does not appear that special effort was made to determine the fact. Lewis was said to be subject to hereditary hypochondria, and at the time he died he had some dispute with the Government about his accounts.

The taverns or stations on those primitive roads were lonely, rude affairs, and at least in some cases were said to be controlled by robbers and ruffians. Such was the case with the Grinder stand, where Lewis died, and where he was supposed to have killed himself in one of his periods of depression. This spot was some sixty to seventy miles southwest from Nashville, and the remains of the tavern are still visible.

Lewis was buried there, and in 1843 the Tennessee Legislature formed Lewis County, in Captain Lewis' honor, and in 1848 it appropriated \$500 to erect a monument over his grave. His remains rest in the center of this county.

In 1891, Mr. James D. Park, a lawyer of Franklin, Tenn., who had been investigating the subject, publicly combated the suicide theory, and stated that Lewis had been murdered and robbed by Grinder himself. The report of the Monument Committee to the Tennessee

General Assembly in 1849-50, announcing the erection of the shaft, referring to Lewis' death, says: "It seems to be more probable that he died by the hands of an assassin," and it appears as though this might be the feeling of those living near where the tragedy occurred.

Mr. Verne S. Pease, in an article in the *Southern Magazine*, and copied into the *Army Magazine* in 1894, where I saw it, argues against the suicide theory; but whether from original investigation, or based on Mr. Park's or someone else's researches, does not appear.

Hoping to gain more light on the subject, I wrote to Mr. Park, and received in reply a letter from his father, Dr. J. S. Park, announcing his son's death in 1897. I quote a sentence: "The further my son investigated the matter the more certain he believed that Lewis was murdered."

Mrs. Caroline D. M. Goodlett of Nashville, Tenn., a descendant of Captain Lewis, writes me an interesting letter regarding Lewis' ancestry and life. Regarding Lewis' death, I quote from the letter as follows:

"Of course it will ever be shrouded in mystery, but my father, Mr. Charles Meriwether, visited his aunt, Meriwether Lewis' mother, about 1820. She was then eighty years old, but remarkably vigorous in mind and body, rode around the country on horseback like a girl, my father said, and was fond of talking of her son. She said his letters, written to her before starting on his trip home were full of love and affection, and so hopeful of a good time with his old friends, that *she never entertained the idea for a moment* that he had committed suicide. The theory that the family have ever advanced is that he was murdered by his Spanish servant who was traveling with him on horseback, to take charge of his baggage and to care for his horses. We suppose that traveling together for a long

distance, it is probable that Meriwether Lewis, being of a social and confiding nature, had spoken to the Spaniard of the valuable papers and maps he was carrying to Virginia, and



* Mandan Indians.



* Mandan Village and "Bull" Boats.

* From "Travels to the Interior of North America in 1832-3-4." By Maximilian, Prince of Wied, 1843.

knowing that the Governor of the State would not travel without plenty of money, that the avaricious and treacherous nature of the servant got possession of him and he determined to possess himself of what valuables Captain Lewis had. The servant was never afterward heard from, nor were the papers.

"Why should a man in the zenith of his glory, with everything to live for, looking forward to a visit to his beloved mother, sure of a warm welcome from his patron and dear friend, the President, and of the grateful appreciation of his countrymen, kill himself if he was sane? His family can attest to the fact that there was no insanity in his branch of the family.

"As a child he was remarkable for his fine common sense.

"I will relate a little incident that happened when he was nine years old: The settlement near Charlottesville, Va., was expecting to be attacked by some hostile Indians, and all the able-bodied men had gone in search of them, and the women and old men and children, afraid to stay in their houses, went down into a deep wood to camp. While sitting around the fire an Indian arrow was shot into the camp; in an instant all was confusion, women screamed and clasped their children in their arms, for they knew that the Indians could see them and the darkness hid the Indians. Meriwether Lewis, with the foresight of an experienced Indian fighter, jerked up a bucket of water and put out the fire, and then they fired off their guns and drove the Indians off."

Mr. R. T. Quarles, corresponding secretary of the Tennessee Historical Society, and also a descendant of Captain Lewis, corroborates Mrs. Goodlett's statement that the family belief is that Lewis was murdered by his body servant, stating that not only did the Captain have in his possession quite a sum of money, but also family jewels of far greater value.

The query naturally suggests itself, might there have been, after all, a suddenly formed conspiracy *between the servant and Grinder* to assassinate Lewis and divide the spoil?

The story is inconclusive. Both theories are largely based upon circumstantial evidence, more or less at second hand, and the matter can not, now, be absolutely determined. Personally, I can not resist the feeling that, as the evidence is weighed, the theory of murder will find more believers than the other.

Dr. Coues ably discusses the question of Lewis' death in his edition of Lewis and Clark. It is supposed to have occurred on October 11, 1809, Lewis being at the time thirty-five years of age.

The illustration of the Lewis monument accompanying this narrative is from a photograph furnished by Doctor Park.

The monument is made of Tennessee marble, is twenty and one-half feet in height, and the broken column is two and one-

half feet in diameter at the base. On each side of the plinth there is a different and appropriate inscription.

William Clark (Clark erroneously spelled with a final e usually) was also born in Virginia, in 1770, and was therefore four years older than Lewis. He came of a distinguished family, his brother, Gen. Geo. Rogers Clark, of the Revolution, being the most conspicuous member of it aside from William himself. His parents moved to Louisville, Ky., when he was a lad. In 1791 he entered the army, from which he retired in 1796 because of ill health. During this time Lewis for a time was a subordinate under Clark.

Clark resigned his commission upon his return to St. Louis in 1806. He was almost immediately made a brigadier general of the militia of Louisiana and Indian Agent for Louisiana, by Jefferson.

After Lewis' death he became, in 1813, Governor of Missouri Territory, which position he held until the Territory became a State, in 1820. He subsequently held many and various important Federal positions in the West, and died on September 1, 1838, at the age of sixty-nine years.

It was a rare combination that met, in Lewis and Clark, and to this fact the grand results of that exploration are due.

Of the four sergeants, Ordway, Pryor, Floyd, and Gass, little is known except of the last two.

Charles Floyd, a Kentuckian of good family, died and left a journal which was found in 1893, and then accidentally, by Reuben G. Thwaites, secretary of the Wisconsin Historical Society. This journal, which has been published in pamphlet form, while being a valuable one, is a curiosity. It is full of original orthography and syntax, as indeed were the journals of both the captains.

Patrick Gass, the sergeant who succeeded Floyd, kept a journal which, after being purged of its orthographic kinks by a Scotch-American pedagogue, was first published in 1807 and passed through many editions.

Upon the disbandment of the expedition in 1806, Captain Lewis gave Gass a certificate testifying to his high character and efficiency.

Gass lived to be ninety-nine years old, dying in 1870 at Wellburg, W. Va., after a life of a decidedly variegated sort.

John Colter, a thoroughly reliable man, yet not more so than several others, will live in history after they are forgotten.

After Colter left the explorers at the Mandan towns in 1806, he made an extended trip to the head waters of the Yellowstone River. This resulted in his being the first white man, as the record stands, to explore any part of what now constitutes Yellowstone Park. Colter's route, as charted on Clark's map of 1814, is susceptible of various constructions. He seems to have passed along the west shore of Yellowstone Lake—Lake Eustis of Clark—and the north side of the Grand Canyon. If he expatiated upon what

he saw, his tales were probably discounted at 99 per cent, as were James Bridger's later on, and no mention made of them in print.

Colter was also the hero in a tragic episode, on the head waters of the Jefferson River, where a companion trapper was murdered by Indians, himself finally escaping almost miraculously.

The story is related by Bradbury, an English naturalist, in his "Travels in the Interior of America," published in Liverpool in 1817. Irving gives the story in "Astoria;" Chittenden rehearses it in "The Yellowstone National Park," and the writer has related it in "Indian-



* Fort Clark.

land and Wonderland," published by the Northern Pacific Railroad, in 1894.

Colter is best known as the discoverer of Yellowstone Park and for the adventure referred to.

Sacajawea, "the Bird Woman," and wife of Chaboneau, the interpreter, filled an important place on the expedition. Although only a squaw of the Shoshone tribe, captured when a child and carried as a slave to the Mandan country and purchased by Chaboneau for a wife, she was one of the immortal spirits of the party. She canoed and trugged and climbed as well as any man in the outfit, interpreted when her husband couldn't, and at critical points gave suggestions and advice which the chivalrous captains weighed at its true value. They were not afraid to frankly acknowledge their debt to her, and they speak most highly of her in referring to their parting at the Mandan towns in 1806.

This woman should have a granite shaft taken from her native hills, erected in her memory on that limestone hill at the Three Forks of the Missouri, where every traveler on the Northern Pacific trains could see it and be reminded of what we owe to a poor Snake

* From "Travels to the Interior of North America in 1832-3-4." By Maximilian, Prince of Wied, 1843.

Indian squaw, who never received a cent from a civilized nation for all that she underwent in 5,000 miles of wanderings.

The two Fields brothers, Kentuckians, were particularly useful men to Lewis and Clark, as was also Shields, skilled as an artificer. Shannon, a Pennsylvanian, was another valuable man and was of higher social standing than any of the others. He rendered efficient aid, too, in the preparation of the report, and eventually rose to be United States Attorney, State Senator, and Judge.

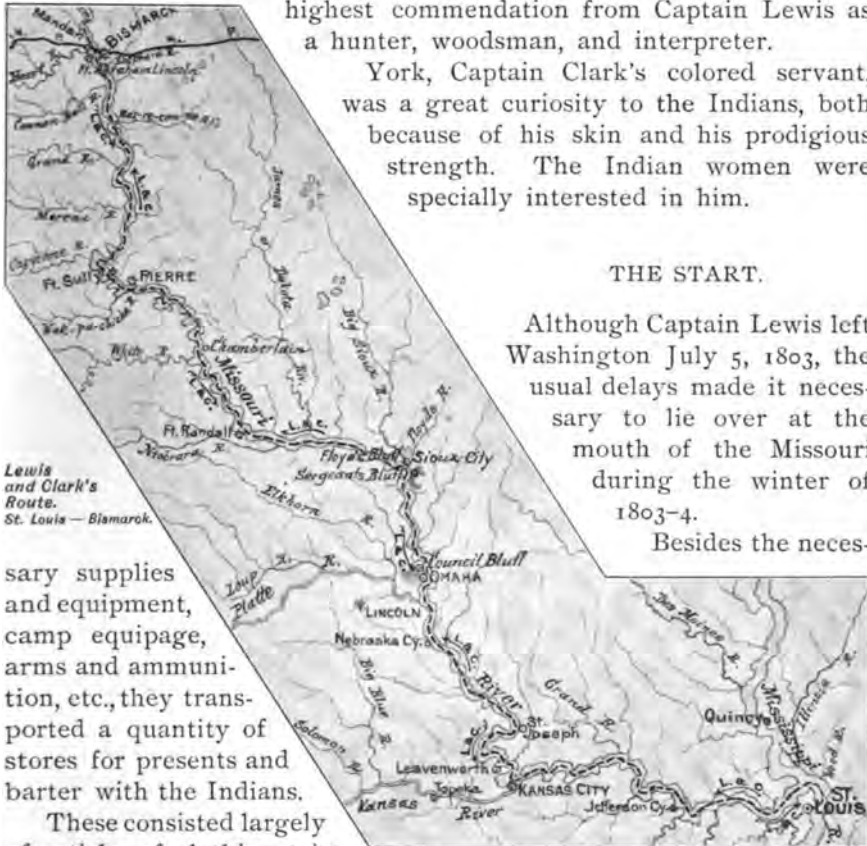
Drewyer, a half-breed, was a crack hunter, and received the highest commendation from Captain Lewis as a hunter, woodsman, and interpreter.

York, Captain Clark's colored servant, was a great curiosity to the Indians, both because of his skin and his prodigious strength. The Indian women were specially interested in him.

THE START.

Although Captain Lewis left Washington July 5, 1803, the usual delays made it necessary to lie over at the mouth of the Missouri during the winter of 1803-4.

Besides the neces-



sary supplies and equipment, camp equipage, arms and ammunition, etc., they transported a quantity of stores for presents and barter with the Indians.

These consisted largely of articles of clothing trimmed and colored to attract the savage eye, beads, looking-glasses, paints, flags, knives, tomahawks, medals, etc.

Of supplies, they, of course, could not take along enough to last them for the entire trip, as will be seen. Their hunters were expected to supplement these with game killed.

There were three sizes or grades of medals—one, seemingly the largest and the preferred one, "a medal with the likeness of the President of the United States;" the second, "a medal representing

some domestic animals;" the third, "medals with the impression of a farmer sowing grain." A description and illustrations of the first are given further along, the medal itself having been, as will be explained, taken from the grave of an Indian chieftain on the banks of the Clearwater River in Idaho. These medals were given to chiefs only.

It is not, perhaps, improbable that certain beads, a hatchet, etc., in my possession, obtained from Indian sepulchers along the Clearwater and Columbia rivers may, some or all of them, have been distributed by Lewis and Clark.

The means of transport were three boats; a keel-boat or batteau, fifty-five feet long, drawing three feet of water, having "one large square sail and twenty-two oars" for motive power; and two open boats, "periogues"—mackinaws—one propelled by six, the other by seven oars. The large boat was quite an affair, having a forecastle and cabin, and so arranged that in case of attack those on board might fight under cover. Two horses were also "to be led along the banks of the river, for the purpose of bringing home game, or hunting in case of scarcity."

In order that a detailed and complete record of the expedition might be preserved, an elaborate itinerary and notes were scrupulously kept by the principals. It is known, too, that Sergeants Ordway, Floyd, and Gass kept journals. It would appear from the Preface to Gass' Journal (Philadelphia edition, 1810) that the captains "enjoined upon the several persons belonging to the corps, who were considered capable, to keep journals, and every necessary information and assistance [was] given them for that purpose." Captain Lewis states that seven of the men kept journals, but he does not name them. Frazier was one, but neither his nor Ordway's journal was ever published. At length everything was ready, the ice in the Missouri gone, and on Monday, May 14, 1804, they started up the river.

Starting late, they made but a few miles the first day. If Gass is to be taken as a criterion, that first camp was one of sober reflection. He says: "Here we had leisure to reflect on our situation, and the nature of our engagements; and, as we had all entered this service as volunteers, to consider how far we stood pledged for the success of an expedition, which the Government had projected, and which had been undertaken for the benefit and at the expense of the Union; of course of much interest and high expectation."

Their journey up the river was a steady one, though delays from sunken logs, sand bars, and head winds were frequent. The hunters skirted the country for game, and they traded and powwowed with the Indians. At one point they exchanged two quarts of whisky for four deer, with the Kickapoos.

On July 21st they passed the Platte River, and on July 30th

reached Council Bluff, where they held a council with the Otoe Indians. Council Bluff was a high bluff north of Omaha, on the Nebraska side — “south” of Lewis and Clark — of the river, not, as commonly supposed, where Council Bluffs, Iowa, now stands. At this council, quite a ceremonious affair, they made their first distribution of presents, including a first-grade medal to the grand chief, two second-grade medals, and two of the third grade. In addition there were distributed some paints, garters, powder, whisky, etc. At this point we first hear of a wonderful “air gun” that was a “great medicine” to the Indians whenever its occult powers were shown. I have seen no description of it, and there is no mention of it in the enumeration of supplies, etc., but its effect upon the “untutored mind” was instantaneous and lasting.



*Sergeant
Floyd's
Grave at
Sioux City,
Iowa.*

On August 19th, Sergeant Floyd was taken seriously ill with “Biliose Chorlick.” He grew worse, and on the 20th died. He knew he must die, and said, just before he passed away, “I am going away; I want you to write me a letter.”

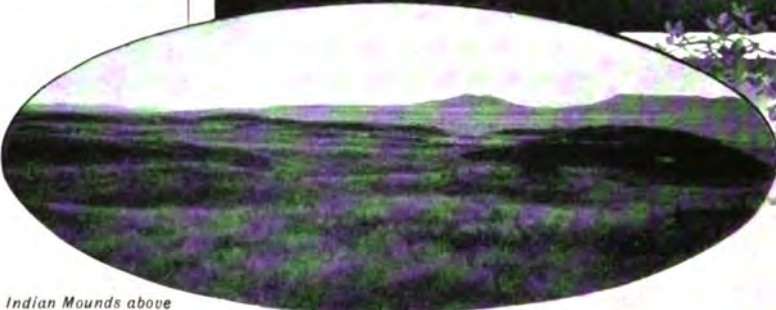
He was buried on the summit of a prominent bluff near the mouth of a small river, now a park within the present limits of Sioux City, Iowa. The names Floyd's Bluff and Floyd's River attach to them to-day. Sergeant's Bluff, named in honor of Floyd, is still farther down stream. Floyd “was buried with the honors of war, much lamented, a seeder post with the name Serg't C. Floyd died here 20th of August,



The Scene of Floyd's Grave before the Removal of the Remains.



*Near Fort Mandan, of
Lewis and Clark.*



*Indian Mounds above
Bismarck, N. D.
Site of Old Mandan Village.*

*Missouri
River
from Opposite
Fort Clark,
Showing
Elm Point.*



*Northern Pacific Bridge, Bismarck.
Showing Site of
Old Fort Abraham Lincoln
at End of Distant Bluff.*

1804, was fixed at the head of his grave." Two years later, on their return, the expedition found that the grave had been tampered with, presumably by Indians, and they rearranged it. In 1857 the Missouri had so washed away the bluff that the coffin projected, and some of the bones had fallen into the river. A reinterment took place, the new coffin being made from black walnut trees growing at hand.

On August 20, 1895, the ninety-first anniversary of his death, imposing ceremonies were held about Floyd's grave, and the place of interment permanently marked by a large stone slab suitably

inscribed. His remains were reinterred in two earthenware urns. The original place of interment is now entirely washed away.

On August 28th, Reed, the deserter, who had been brought in on the 18th, was tried, sentenced, and punished—leniently. He had “to run the gantlet four times through the Party and that each man with nine switches should punish him, and for him not to be considered in future as one of the Party.”

They proceeded without mishap through the Sioux country, with which tribe they held a council, and

their journey was enlivened with many interesting sights and experiences. It seemed at one time as if a conflict with the Teton Sioux was unavoidable, but it ended in an Indian feast and ball to the explorers.

On October 13th, Private Newman was tried by

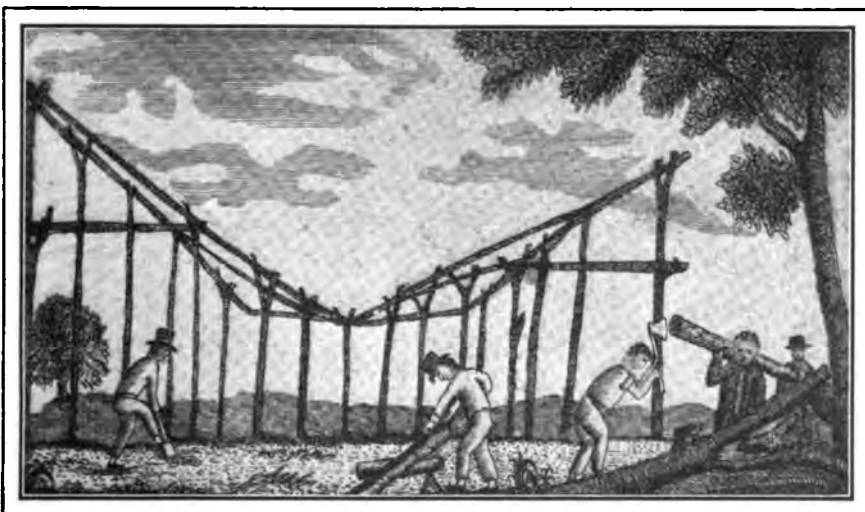
a court-martial of “nine of his Peers” for “mutinous expressions,” and sentenced to

“seventy-five lashes and [be] Disbanded the party,” and after dinner on the 14th they halted on a sand bar and executed sentence. Newman tarried with them, made himself very useful, and was virtually forgiven, but was not permitted to go beyond Fort Mandan.

October 21st they passed the Heart River. At this point are now the towns of Bismarck and Mandan, N. D., on either side of the Missouri River, joined by a costly steel bridge across which the Northern Pacific Railway trains run. Just below Heart River are the remains of Fort Abraham Lincoln, Custer's old post.



* Indians
Hunting
the
Bison.



Captain Clark and His Men Building a Line of Huts.— See Note (†), Page 76.

The weather now grew cold, snow fell, and they pushed along to reach winter quarters, among the Mandan Indians. They passed many old Mandan villages, and the Mandans themselves, clad only in their royal dignity and breech-clouts, were quite in evidence. October 26th they

reached the Mandan towns, and two or three days were occupied in more or less ceremonial visits, which culminated in a council on the 29th.



* *Bison Dance of the Mandans.*

FORT MANDAN.

In the meantime they were also seeking a suitable location for winter quarters. This was found on the east bank of the river, some six or eight miles below the mouth of Knife River and about four miles below the Indian towns. At this point they found heavy timber, from which they constructed their huts and stockade, Fort Mandan. They began felling trees on November 2d, moved into their cabins November 16th, completed them November 20th to 27th (accounts vary slightly),



* *Interior of Hut of a Mandan Chief.*

began building the stockade December 1st, completed the fortification December 24th, and the stars and stripes were hoisted over it for the first time on Christmas day, 1804.

The timber used was mostly cottonwood and elm. The weather became very cold, the river froze over, and work was suspended for days at a time.

Lewis and Clark's description of their fort, which is practically duplicated by Gass, is as follows:

"This place, which we call Fort Mandan, is situated on a point of low ground, on the north [east] side of the Missouri, covered with tall and heavy cottonwood. The works consist of two rows of huts or sheds, forming an angle where they join each other; each row containing four rooms of fourteen feet square and seven feet high, with

* From "Travels to the Interior of North America in 1832-3-4." By Maximilian, Prince of Wied, 1843.

plank ceiling, the highest part of which is eighteen feet from the ground. The backs of the huts form a wall of that height, and opposite the angle the place of the wall is supplied by picketing. In the area are two rooms for stores and provisions. The latitude, by observation, is $47^{\circ} 21' 47''$, and the computed distance from the mouth of the Missouri is 1,600 miles."

Here, some sixty miles above Bismarck and Mandan, were five villages of Mandans, Minnetarees or Grosventres, and Ahnawhaways or Hidatsas, ranging from the Knife River down to near Fort Mandan. In number there were probably more than 4,000 all told. The report speaks of them as about 1,000 men — warriors — strong.

These people cultivated the fields, had horses, lived in comfortable houses, and in a good hunting region. Their lodges were similar to those of the Arikaras', which are described by Gass as follows:

"In a circle of a size suited to the dimensions of the intended lodge, they set up sixteen forked posts five or six feet high, and lay poles from one fork to another. Against these poles they lean other poles, slanting from the ground, and extending about four inches above the cross poles; these are to receive the ends of the upper poles, that support the roof. They next set up four large forks, fifteen feet high and about ten feet apart, in the middle of the area, and poles or beams between these. The roof poles are then laid on, extending from the lower poles across the beams which rest on the middle forks, of such a length as to leave a hole at the top for a chimney. The whole is then covered with willow branches, except the chimney and a hole below to pass through. On the willow branches they lay grass and lastly clay. At the hole below they build a pen about four feet wide and projecting ten feet from the hut, and hang a buffalo skin at the entrance of the hut for a door. This labor, like every other kind, is chiefly performed by the squaws."

The winter passed pleasantly, although there was much cold weather. Much time was given to hunting — principally the deer, elk, and buffalo — a rendezvous hunting camp being established some thirty or forty miles below Fort Mandan, on the Missouri. Their hunting expeditions extended still farther south, even below Mandan and Bismarck. At the very point where the Northern Pacific Railway bridge spans the river, there was a buffalo ford in the olden time, and when the railway company located its bridge, their engineers merely followed the lead of the buffalo engineers.

A great change has taken place in the country since Lewis and Clark and the Mandans lived there. The few Indians there are left, are on a reservation farther west, at Fort Berthold; farms and towns, flocks and herds, dot the prairie where the Indians lived and hunted, and steamboats have succeeded the Indian canoes and Lewis and Clark's periogues.



**Winter Village of Minnetarees, in Lewis and Clark's time.*

The remains of Indian villages are still to be seen. About ten miles above Bismarck one of these collections of mounds is found, on a bluff overlooking one of the most beautiful stretches of the Missouri, just below Square Buttes.

There are eighteen or twenty of these mounds, most of them well defined, and generally more or less circular in form. They form a semi-circular arc, with the river as a chord, and are now more or less merged

together into an irregular ridge. These mounds have been dug over and over, yet I was able to find among them many shards and arrow points and knives.

It is not possible that a vestige of Fort Mandan remains. On the return of the expedition in 1806, under date of August 17th, the Lewis and Clark itinerary says: "In reaching Fort Mandan we found a few pickets standing on the riverside, but all the houses except one, had been burnt by an accidental fire." [Coues, footnote.]

What the "accidental fire" left, the remorseless river unquestionably took long ago.

The character of the Missouri along here is well known for the rapid cutting of its banks. Both Lewis and Clark, and Gass give examples of this. A century has given ample opportunity for that one hut and those few pickets to have been insidiously undermined and carried away by the stream.

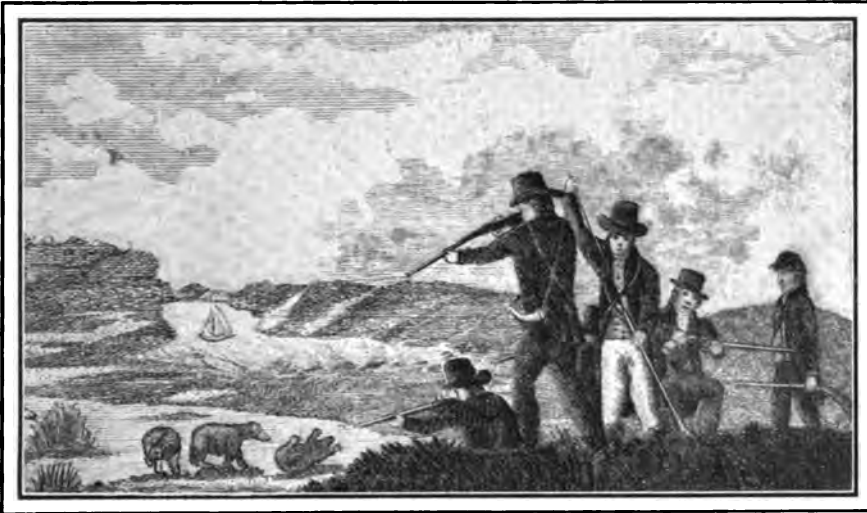
As I stood on the high bluffs of the river at this point and over-



Captains Lewis and Clark Holding a Council with the Indians.— See Note (†), Page 76.

* From "Travels to the Interior of North America in 1832-34." By Maximilian, Prince of Wied, 1843.

looked the scene, I was profoundly impressed. To the north the distant valley of Knife River, deep green with heavy foliage, led down to the Missouri; to the south the rough, bluffy ground near me grew rougher and bluffer as it reached a big bend, and the irregular, grayish, ash-colored cut bank seemed like that of a prodigious railway cut; the great river, in a wide, swollen flood, rolled on as it did a hundred years ago, and in broad, massive curve swept around a low point on the opposite shore, when, in a mood of inconstancy, it whirled back again in the other direction, and, as sure as fate, there is that "bluff of coal" mentioned by the explorers,



Captain Clark and His Men Shooting Bears.—See Note (+), Page 76.

standing out strong and plain as a guide to us. Those were the limits—the "bluff of coal" to the south, the Knife River to the north, and between them were the old Mandan villages, now gone for aye.

There extends for one and one-half or two miles a flat, heavily timbered bottom—Elm Point it is now called, and down at the lower end of it was where old Fort Mandan stood, and with our glasses we can make out, on the opposite shore, all that is left of Fort Clark, a trading post built after Lewis and Clark's time and of which but a trace remains.

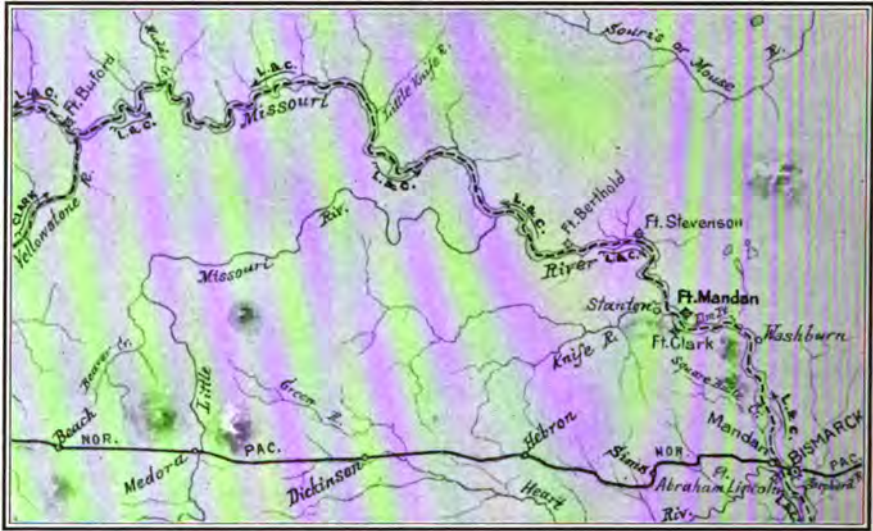
No large timber can be seen for a half mile or more at the lower end of Elm Point, and I am told that most of the timber in the bottom is now elm, hence the name of the point. The illustrations, from photographs taken under disadvantages, will indicate something of the topography at the present time.

Through Mr. Joseph H. Taylor of Washburn, N. D., a resident and editor in the country, we knew it was useless to search for relics, and the overflowed bottom would otherwise have prevented.

An interesting description is found in Lewis and Clark's journal, of the Mandan and Arikara method of glass bead manufacture, which knowledge these Indians obtained from the Shoshones.

UP THE MISSOURI RIVER.

Early in April, 1805, preparations were begun for their departure from Fort Mandan. Boxes were packed with curios and specimens



Lewis and Clark's Route. Bismarck—Mouth of Yellowstone River.

of various sorts collected during the winter, which were to be forwarded to President Jefferson. Among these were a pair of stuffed antelopes, skins of the white weasel, red fox, yellow bear, white hare, and marten; mountain sheep and elk horns; articles of Indian dress, and a few live specimens of squirrels, magpies, etc.

The batteau returned to St. Louis accompanied by thirteen persons, all told, ten of them attaches of the expedition.

The number continuing up the river was thirty-two, embarked in "six small canoes and two large periogues." The canoes had been made during the winter from large trees.

Late in the afternoon of April 7, 1805, both parties bade farewell to Fort Mandan and to each other, and started on their respective journeys, one to home and civilization, the other out into the unknown. April 11th the explorers left behind the last of their Indian friends, and on April 13th they saw large flocks of swans and geese, the latter causing comment from the fact that they nested in the tops of high trees.

It is a singular fact that, after leaving the country of the Man-

dans, although the expedition passed through the territory of several



Crooked Fall (just below Rainbow Fall).



Missouri River, Looking Down Stream from the Great Fall.

presumably hostile Indian tribes, they never saw an Indian until they reached the Continental Divide near the head waters of the Columbia—Lemhi—River.

On April 26th they reached the mouth of the river known

among the French and Indians as the Roche Jaune or Yellow Rock. Lewis and Clark rendered this into English as *Yellow Stone*, and as



Rainbow Fall, Missouri River. Colter Fall in Distance.



Great Falls of the Missouri. Rock Point at the Right below the Falls is Where Captain Lewis Wrote His Description.

the Yellowstone River it stands to-day, together with its derivatives, Yellowstone Valley and Yellowstone Park. May 8th they passed Milk River, and on June 2d camped at the mouth of Maria's River, named by Captain Lewis after a cousin of his, Miss Maria Wood. He



Black Eagle Fall, in its Natural State, when Lewis and Clark Saw it.

says: "I determined to give it [the river] a name, and in honor of Miss Maria W——d called it Maria's River. It is true that the hue of the waters of this turbulent and troubled stream but illy comport with the pure celestial virtues and amiable qualifications of that lovely fair one; * * *" The gallant captain was human, and set a fashion that many explorers and geographers have since followed. The river is now charted as Marias.

At this point they were greatly perturbed as to which direction to take—follow the Maria's River, which ran from the northwest, or the other stream, from the southwest. They were *making* geography, and in the scant knowledge of that day it was a serious matter to decide which of these streams was the true Missouri. The northern branch was the narrower but deeper stream.

They spent several days in examining both streams, Gass and two



Lewis and Clark's Route. Mouth Yellowstone River—Great Falls.

men being the first, from his account, to ascend the true Missouri above this point. This examination, however, only confused them the more.

Finally, both Lewis and Clark concluded, tentatively, that the southern branch was the main stream, but all of their men thought differently. They here *cached* some of their supplies and heavy luggage and one of the periogues, and on June 11th Captain Lewis and four men set out in the van, up the southern branch. Captain Clark and the remainder of the company followed leisurely.

That afternoon Captain Lewis, who was suffering from dysentery, became seriously ill and was compelled to encamp. Having no medicines with him, he took some chokecherry twigs and boiled them, making "a strong, black decoction of an astringent, bitter taste." At sunset he took a pint of the liquid, and drank another pint an hour afterward. This produced the desired effect, and in the morning he was quite well. This incident shows into what emergencies they were sometimes thrown and how successfully they met them. On June 13th the doubt as to the true course of the Missouri was dispelled. That day Lewis reached the Great Falls of the Missouri, and on June 16th the main party reached the mouth of Portage—Belt Mountain—Creek, below the falls.

THE GREAT FALLS OF THE MISSOURI.

We have now reached what may be termed an epoch in the progress of the exploration. They have met their first real difficulty, and in some way it must be overcome.

Captain Lewis had, previous to Clark's arrival, carefully examined the entire succession of falls and cascades found here, and had seen that a portage was an absolute necessity. Indeed it was with great exertion that they were able to navigate the river to the mouth of Portage Creek. On the 15th, Gass says: "We proceeded on as usual, but had the most rapid water I ever saw any craft taken through." Captain Clark carefully surveyed and staked out a portage line on the east or "south" bank, which measured more than seventeen miles. In order to lighten the work, they searched for trees large and round enough from which to make wheels to place under their periogue and canoes, so that they could be dragged across the plain. They, luckily, found *one* cottonwood tree below Portage Creek, measuring twenty-two inches in diameter, which answered the purpose.

The portage occupied the time of most of the party from June 21st to July 2d, and was fatiguing work in the extreme. The axles and tongues of the so-called "waggons" were weak and some of them broke. The vehicles had to be dragged by hand across an uneven country, where the prickly pear abounded, and the buffalo had so tramped the wet earth that it had dried into hard, sharp points, so that, being in their moccasins, the men's feet suffered greatly.

Yet there was no complaining. The plains were, at first, covered with thousands of buffalo, and the hunters kept the party well supplied with fresh, nourishing meat.

The bears were numerous and savage, and attacked the men upon all occasions. Captain Lewis at one time plunged into the river to escape from a bear, and there were several other narrow escapes. At another time a terrible hailstorm nearly caused fatalities, and a cloudburst, pouring down through a ravine in which Captain Clark and others had taken refuge, nearly overwhelmed the entire party, which included the negro York, and Sacajawea the Indian woman and her papoose.

If the region about old Fort Mandan has been much changed since Lewis and Clark wintered there, the reverse is true of this spot. The geological conditions are radically different, and, save as the city of Great Falls and its smelters are now to be found here, there is, with one exception, practically no change.

Beginning below Portage Creek, there is a constant succession of rapids and falls to the mouth of Medicine — Sun — River, where the city of Great Falls now stands. In this distance of twelve to fifteen miles there are four principal falls, besides several

smaller ones. The total fall of the river between the first rapid and the foot of the Great Fall is, by recent measurements, somewhat more than 400 feet. The heights of the larger falls, as given by Lewis and Clark, are: Black Eagle, 26 feet; Rainbow, 48 feet; Crooked, 19 feet; Great, 87 feet. In addition, there are several from four to ten feet in height. I believe these figures are not those used at the present time, but they are close to the truth.

Lewis and Clark knew of these falls through the Indians, and are supposed to have been the first white men to see them, or at least to publicly describe them. Lewis' discovery was rather a dramatic one. At a distance of seven miles, he first heard the sound of them, then saw a column of spray. Hastening toward it, he became certain from the increasing thunder of the cataract that he was near the Great Fall of the Missouri. He describes it as follows:

"The hills were difficult of access, and 200 feet high; down these he hurried with impatience, and seating himself on some rocks under the center of the falls, enjoyed the sublime spectacle of this stupendous object, which since the creation had been lavishing its magnificence upon the desert, unknown to civilization.

"The river, immediately at its cascade, is 300 yards wide, and is pressed in by a perpendicular cliff on the left, which rises to about 100 feet, and extends up the stream for a mile; on the right the bluff is also perpendicular for 300 yards above the falls. For ninety or a hundred yards from the left cliff, the water falls in one smooth, even sheet, over a precipice of at least eighty feet. The remaining part of the river precipitates itself with a more rapid current, but, being received as it falls by the irregular and somewhat projecting rocks below, forms a splendid prospect of perfectly white foam, 200 yards in length and eighty [feet] in perpendicular elevation. This spray is dissipated into a thousand shapes, sometimes flying up in columns of fifteen or twenty feet, which are then oppressed by larger masses of the white foam, on all which the sun impresses the brightest colors of the rainbow. As it rises from the fall it beats with fury against a ledge of rocks, which extends across the river at 150 yards from the precipice. From the perpendicular cliff on the north, to the distance of 120 yards, the rocks rise only a few feet above the water; * * * between them and the perpendicular cliff on the south the whole body of water runs with great swiftness. A few small cedars grow near this ridge of rocks, which serves as a barrier to defend a small plain of about three acres, shaded with cottonwood, at the lower extremity of which is a grove of the same tree, where are several Indian cabins of sticks; below the point of them the river is divided by a large rock, several feet above the surface of the water, and extending down the stream for twenty yards. At the distance of

300 yards from the same ridge is a second abutment of solid perpendicular rock about sixty feet high, projecting at right angles from the small plain on the north for 134 yards into the river. After leaving this, the Missouri again spreads itself to its usual distance of 300 yards, though with more than its ordinary rapidity."

The captain was "disgusted with the imperfect idea" of his description, but it is exceedingly accurate, even to this day. I sat on an eminence on the east—Lewis' south—side of the stream for an hour, studying the scene with a copy of Lewis' description in my hands. I overlooked the entire fall and a long stretch of river below. There was the ledge of rock stretching across from the west—north—bank, on the high rock at the extremity of which Lewis sat and penned his description; just back of the ledge still can be seen the cottonwood plain, and yet farther down is the "second abutment of solid perpendicular rock." If Lewis could reseat himself there to-day he would scarcely have to change his writing an iota. The rocks hold the river level, and there is but slight erosion.

The Rainbow Fall also greatly impressed Lewis. To me, the Great Fall, although the highest, was less interesting, in some respects, than either the Crooked or Rainbow Falls. The former runs in all directions, up stream, down stream, sideways, lengthways—and *every other way*. The latter is a dignified, noble cataract extending clear across the stream in the most regular form of any of them. It can be viewed full in front or in profile, as the fall is at the head of a bend.

The Black Eagle Fall derived its name from the fact that on an island at the foot of the fall, "on a cottonwood tree, an eagle had fixed her nest, and seemed the undisputed mistress of a spot, to contest whose dominion neither man nor beast would venture across the gulfs that surrounded it. * * * "

In July, 1860, Capt. W. F. Reynolds, United States Engineer Corps, was at this point, and referring to this spot says: "A remarkable fact is that the eagle's nest, described in 1805, * * * still remains in the cottonwood, on the island, in the stream, and as we came within sight a bald eagle of unusual size was perched in the tree by its side, * * * and from its known longevity it may have been the identical eagle that Captain Lewis made historical more than half a century ago."

In 1872 Thomas P. Roberts, making a reconnoissance of the Upper Missouri River, was here, and reports this incident:

"On a little island below these falls—Black Eagle—stands a portion of a large cottonwood tree, the top apparently having been blown off. Among the branches still remaining is a black eagle's nest. When I first approached the place, riding, * * * an old eagle sailed out directly toward me and soared immediately over my

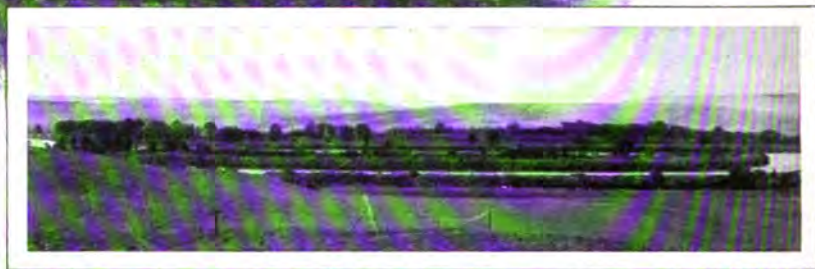
head. * * * It alighted on a jutting rock within a hundred feet of me. * * * As I had a good opportunity to judge the age of the bird, his feathers being soiled, torn, and otherwise old looking, I came to the conclusion that probably he was the same eagle * * * seen by Lewis and Clark in 1805."

Interesting coincidences to say the least.

The island, tree, and bird are gone now. Civilization has wrought its perfect work, and a dam, power-house, footbridge, and a huge smelter have usurped the eagle's erstwhile stronghold.

The "large fountain boiling up underneath the rocks," of "a bluish cast," mentioned in the explorers' journal, is still in full flow. It is to-day as wonderful a sight as it was in 1805.

End of Portage of Lewis and Clark at White Bear Islands.



White Bear Islands, Looking Across Stream. This Overlooks Site of Lewis and Clark's White Bear Island Camp.

WHITE BEAR ISLANDS — GATE OF THE MOUNTAINS — THREE FORKS OF THE MISSOURI.

The camp of the expedition at the end of their portage was opposite three islands. This camp and the islands are known in the annals of the party as *White Bear*, because these animals were so numerous thereabout and were found on the islands. I understand the white bears are still to be found in this part of Montana.

Through the kindness of Mr. Paris Gibson, the "father" of the flourishing city of Great Falls, I was enabled, without loss of



White Bear Islands. Above Series of Falls of Missouri River just above Medicine (Sun) River. Looking Up Stream.

time, to find the "draw" or coulee down which the explorers descended to the White Bear camp. There can hardly be any mistake made in the identification of this old roadway, for it naturally, so to speak, identifies itself. There has, I take it, been slight change here. The illustrations given show the present appearance of the spot.

At this point it became necessary to construct additional canoes. The only timber at all suitable was found some miles distant up the Missouri. To this place Captain Clark and a force of men went on July 10th, being followed in a few days by Captain Lewis and the remainder of the party. On July 15, 1805, the regular journey was resumed. As they now expected to meet the Shoshone Indians at any time, a party proceeded by land also, led by one of the captains. They soon reached the mountains, and their passage through them impressed them profoundly. "For five and three-quarter miles these rocks rise perpendicularly from the water's edge to the height of nearly twelve hundred feet; * * * the rocks approach the river on both sides, forming a most sublime and extraordinary spectacle; * * * nothing can be imagined more tremendous than the frowning darkness of these rocks, which project over the river and menace us with destruction," are some of the expressions used.

One of the most enjoyable river rides I ever took was my ride through this glorious canyon, the "Gates of the Rocky Mountains" of Lewis and Clark, with Messrs. Hilger and De Camp, in a flat-bottomed rowboat. We went in the contrary direction from the one the explorers did, and were impressed, as they were, by the great heights and the magnificent panorama that unfolded itself.

We could follow their description easily. The "high rock in a bend to the left," where they emerged, is just as high to-day as it was then; the spot where they encamped "after dark," in the heart of



The Heart of "The Gate of the Mountains," Missouri River.

Rock mentioned by Lewis and Clark, at the South End of the "Gate of the Mountains."

the canyon above an island, is a beautiful camping ground now, above which the gray canyon walls rise in herculean proportions; vaults, domes, and pinnacles.

The mysterious explosions in the mountains here heard by Lewis and Clark, like unto artillery firing, I am told are still to be heard.

This canyon is now a pleasure resort for the people of Helena, some eighteen miles distant. At its

entrance Mr. Hilger has a fine ranch and a little steamer that makes

excursion trips through the canyon, and the casual visitor to the capital of

Montana should not fail to enjoy this great

treat. Lewis and Clark say: "At a mile from the Gates a large creek * * * empties behind an island,***"

to which they gave the name Potts, after one of their men. Doctor Coues identifies this with Big Prickly Pear Creek farther along.



Along the Missouri River between "Gate of the Mountains" and "Three Forks."

The island is there, and *the creek is there*, just as Lewis and Clark state, even if the maps do ignore it, and it is *not* Big Prickly Pear Creek either.

If the Doctor had visited Hilger's Ranch when he was in Helena the mystery would have been explained. Just below Hilger's house a magnificent spring bursts from the ground and pours forth an enormous quantity of water that, as it flows into the Missouri, is a large stream, as Lewis and Clark say. As it doesn't run for more than a quarter of a mile at the outside, and does *not* extend up the valley, the cartographers naturally do not plat it. But such as it is, it *is* there, and the explorers were misled by its appearance at the river.

If they did not see Big Prickly Pear Creek, neither did they discover Multnomah River later on, although twice passing it.

The expedition is now nearing a beautiful spot — the Three Forks of the Missouri. For more than a hundred miles here, along the banks of the main stream and the Jefferson Fork, Lewis and Clark's trail is paralleled by the rails of the Northern Pacific Railway, and towns, villages, and ranches are found where solitude then reigned. Beyond the wide expanse of the Missouri Valley, after leaving the Gates of the Mountains, the mountains close in again and form the Canyon of the Missouri, which extends in varying width, and with

fine walls richly colored, clear to the Three Forks. Near the afterward well-known Confederate Gulch, Sacajawea, after years of captivity among alien tribes, like McGregor, found herself on her native heath again, greatly to the delight of the party.

On July 25th, Captain Clark, with Chaboneau and others, now in advance and afoot, reached the Three Forks, and after a short halt proceeded up the Jefferson for twenty-five miles. Clark was worn out and sick; Chaboneau was "unable to proceed any further," and they camped. The sharp stones and the prickly pears had cut and blistered their feet, and they deserved a rest. On July 27th the main party reached the forks, and on a beautiful spot on the Jefferson just above them they camped and remained until July 30th. Their camp was at the spot where Sacajawea and her tribe were encamped when she was captured by the Minnetarees.

The entire party were impressed with the scene at this point. Others have since been. The wide spreading valleys of three large streams, expanding fan-like as they retreat to the horizon and presenting a grassy, timbered expanse, with snow-tipped mountains far beyond, will challenge anyone's admiration.

A careful examination of the three streams was made, and they were much perplexed as to how to proceed in the matter of nomenclature. The streams are, to the casual eye, of about the same size, and it is perhaps not surprising that Lewis and Clark gave to each of them a new name, above the junction, especially as their measurements showed little difference in their relative volume.

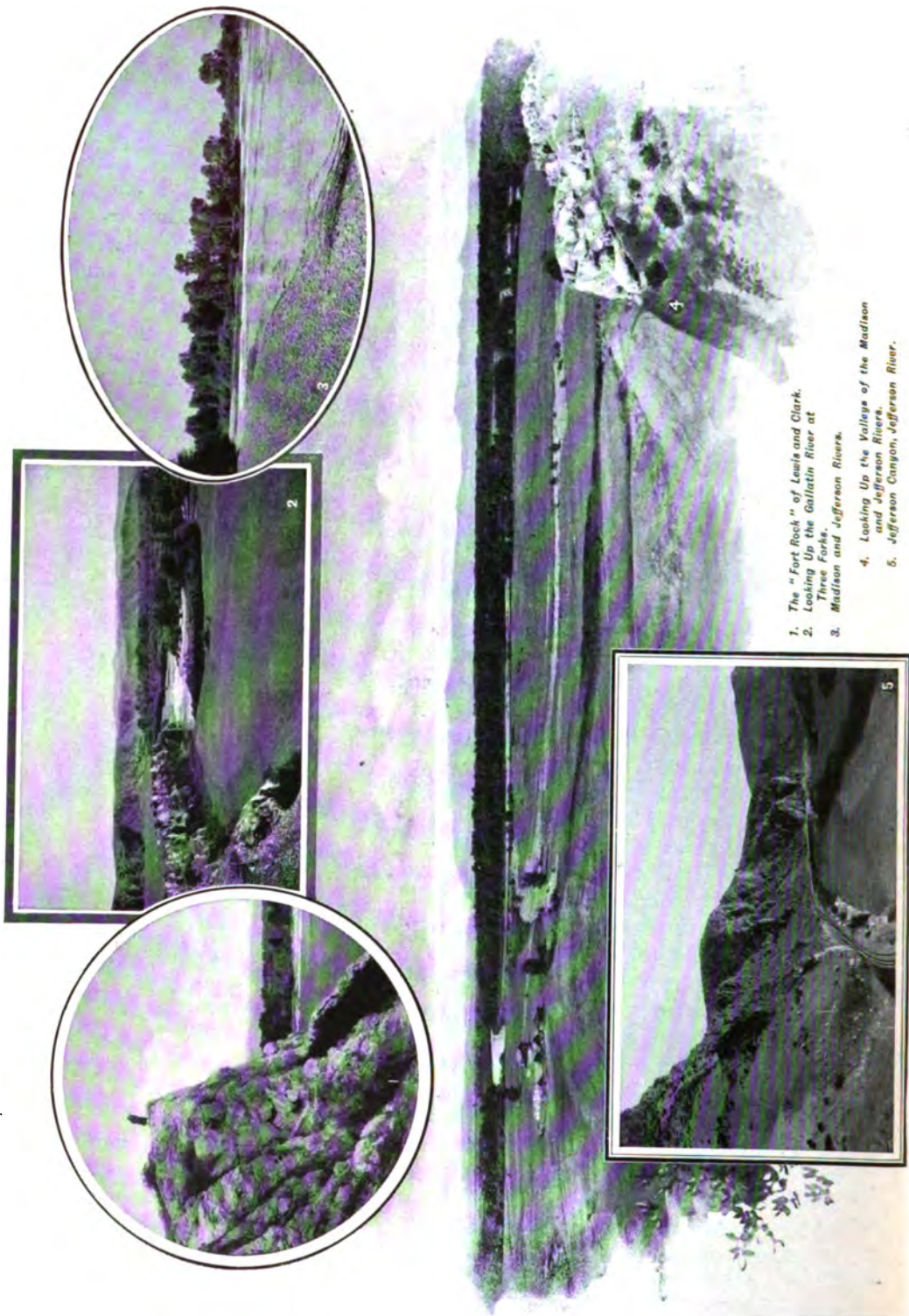
The result of their deliberations, made known August 9th, was to consider the western branch as probably the largest stream, and to this was given President Jefferson's name; the middle fork was named after Secretary of State Madison, and the eastern branch was called Gallatin, in honor of the Secretary of the Treasury.

Their manner of applying names was, almost invariably, in the possessive; these rivers became, therefore Jefferson's, Madison's, and Gallatin's rivers. The possessive form was long since discarded.

The journal says: "Between these two forks—Gallatin and Madison—and near their junction with that from the southwest, is a position admirably well calculated for a fort. It is a limestone rock of an oblong form, rising from the plain perpendicularly to the height of twenty-five feet on three of its sides; the fourth, toward the middle



*Temporary Sweatbath House
and Indians Cooling Off.*



1. The "Fort Rock" of Lewis and Clark.
 2. Looking Up the Gallatin River at
 Three Forks.
 3. Madison and Jefferson Rivers.
 4. Looking Up the Valleys of the Madison
 and Jefferson Rivers.
 5. Jefferson Canyon, Jefferson River.

Three Forks of the Missouri River.

fork, being a gradual ascent, * * * with a fine greensward, * * * level, and contains about two acres." In a footnote on this, Doctor Coues suggests, very naturally, that here is where Manuel Lisa built his well-known fort, in 1808, since washed away by the Madison. Lisa's fortification, which Mr. Peter Koch of Bozeman informs me *is* undoubtedly destroyed, was a short distance south of this spot, which is an exceedingly prominent hill, from which a fine view is obtained over the three valleys. I stood upon this "lime-stone rock" in 1898, and saw it three or four times from the car windows of Northern Pacific trains in 1899, when it was also photographed for me.

Judging from the explorers' notes, there has been little change in this immediate locality since 1805. Farther up the valleys it is quite different. Farms and towns are more abounding there, and the white man pastures his sheep, horses, and cattle on the bottoms and hills, and cultivates the fields.

Many mining centers are found, and the mountains are yielding up their riches.



Group of Flatheads (Ootlahshoots).

ACROSS THE CONTINENTAL DIVIDE.

July 30th the party resumed their journeying, up the Jefferson, naming many of the side streams after their men, and others after various attributes that Lewis supposed Mr. Jefferson possessed in remarkable degree, as witness: "I called the bold rapid an [and] clear stream, *Wisdom*, and the more mild and placid one which flows in from the S. E., *Philanthropy*, in commemoration of two of those cardinal virtues, which have so eminently marked that deservedly selibrated character through life." Philosophy River had already been named after another attribute of "that illustrious personage, Thomas Jefferson."

These three rivers, the *Wisdom*, *Philanthropy*, and *Philosophy*, are now charted as the *Big Hole*, *Ruby* or *Stinking Water*, and *Willow Creek*.

Progress up the Jefferson and its continuation, the *Beaverhead*, as it is now known above the *Big Hole* and *Ruby* rivers, was rather slow and laborious as the river became shallower.

Captain Lewis and several men marched by land as scouts, hoping to meet the Indians and procure horses.

August 11th Lewis saw an Indian, but was not able to overtake him, nor was it until the 13th, after they had passed the Continental Divide, that they did find a band of natives.

They were kindly received and smoked the pipe of peace together.

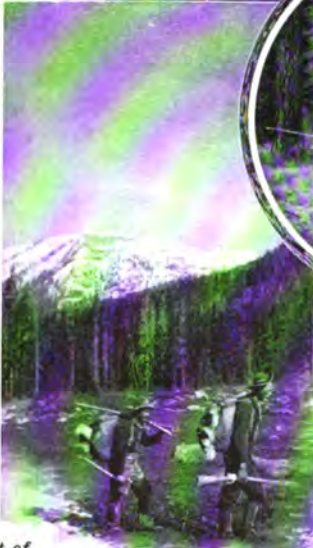
Sacajawea and her spouse Chaboneau were with the canoe party under Captain Clark. As they drew near the Two Forks, or Shoshone Cove, as they termed the mountain valley just above the forks, the squaw began to dance and point ahead. Captain Clark then saw the Indians, with Captain Lewis, approaching.



The Clearwater River, Idaho.



On the Head Waters of the Clearwater River.



Heart of the Bitter Root Mountains.



An Oldtime Cabin on South Fork of Clearwater River.

An Indian woman drew near, who, recognizing Sacajawea, the two embraced most affectionately. She was a former companion captive, taken at the time that Sacajawea had been, but had escaped and returned to her own people. In the council which followed, Sacajawea began to interpret, when she discovered that the chief, whose words she was translating to the explorers, was her own brother. An affecting scene, that came near to breaking up the council, occurred. The poor squaw evidently rejoiced at being again among her kith and kin. Her own relatives were nearly all dead.

On August 17th the whole party were united and with the Indians, at the junction of the Red Rock, or southeastern, and the Beaverhead or western, branches of the Jefferson River. At this point the expedition was about seventy-five miles a little west of south from where Butte, the greatest mining camp in the world and a city of 50,000 people, now stands. The waters of the Upper Wisdom or Big Hole River are now carried in a flume and canal over the divide to Butte.

Through the kindness of the Shoshones, horses were obtained, and having cached their canoes and some supplies they proceeded across the mountains—Bitter Root—via Lemhi Pass (which should be called Lewis and Clark's Pass) to the Indian encampment, on the head waters of the Columbia River. In a short time it was ascertained, after a thorough and heart-breaking reconnoissance by Clark, that the descent of the Columbia—Lemhi and Salmon and Snake—was absolutely impossible, either by canoes or horses.

They had now reached the *crucial period* of the journey. Were they defeated or repulsed? Their supplies were low, they themselves exhausted, and a fearful range of mountains surrounded them.

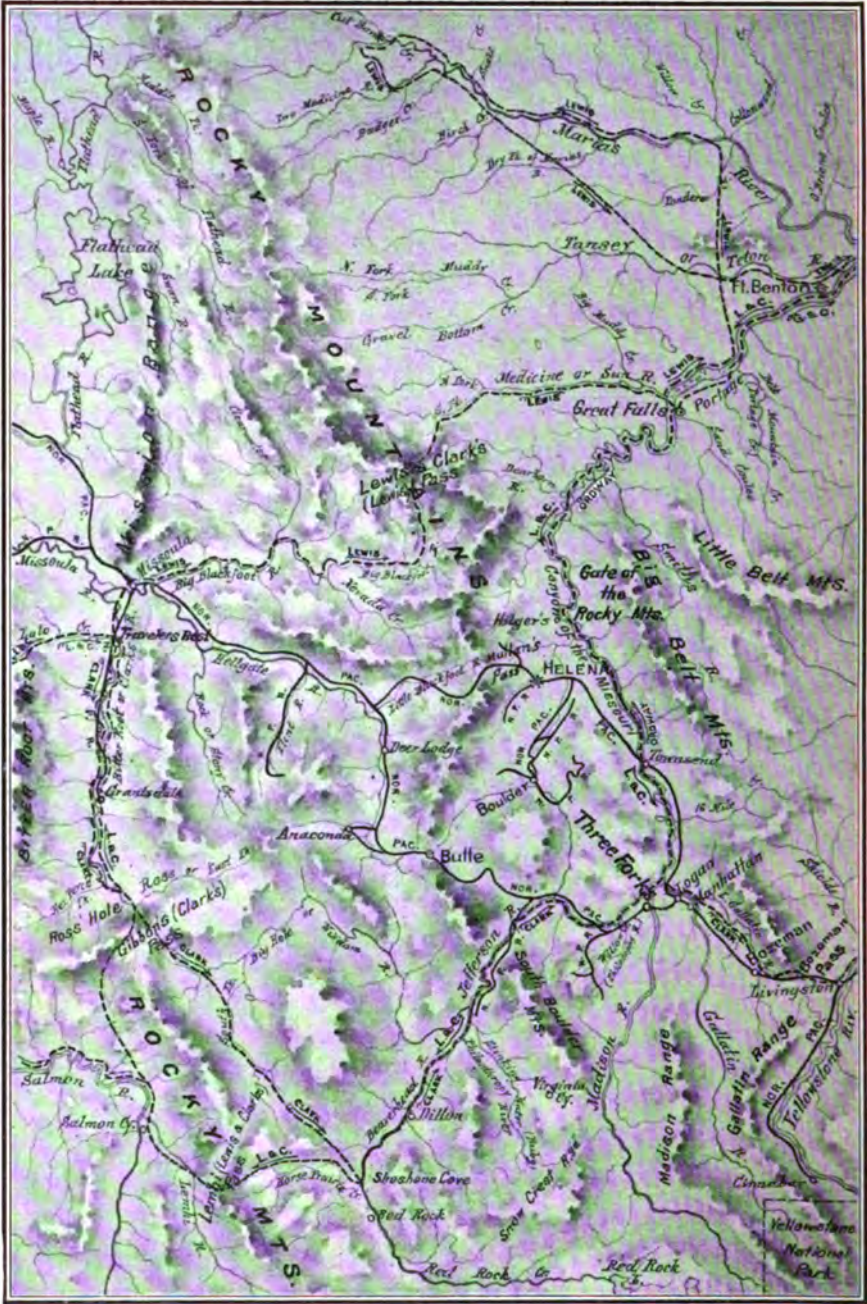


Ross' Hole.
Looking
North.

The squaw Sacajawea had proved a valuable acquisition to the explorers. Here they procured another Indian, a guide, equally valuable. An old man, thoroughly conversant with the country, had guided Clark down the Salmon River, and now agreed to lead them northward to try the northern Nez Percé trail.

On August 30, 1805, they were again ready to proceed. Their route now was entirely by land trail, and a rough one it proved to be. They had obtained from the Shoshones twenty-nine horses, not quite one for each person. The old Indian guide led them down the Lemhi River to below where it changes its name to Salmon, and thence north and over a terribly rough mountain country, across a part of which they had to cut their own trail, on to the head waters of the Bitter Root River, or as they then called it, Clark's River, to a valley, now known as Ross' Hole.

Ross' Hole is a beautiful park spot about two miles long by a



Lewis and Clark's Route. Great Falls — Bitter Root Range and Return.

mile in width, some thirty miles above and south from Grantsdale, the terminus of the Bitter Root Valley branch of the Northern Pacific Railway. It is right in the angle formed by the main Bitter Root Range and a spur of the Rockies, extending northeastward toward Anaconda. Sula is its post office, and there are several families living there and on Ross' Fork and affluent creeks.

At this point they met the first members of an Indian tribe whose virtues and unwavering fidelity and friendliness to the whites seem almost like fiction. Lewis and Clark knew them as Ootlashoots; we know them as Flatheads, more correctly, Selish or Salish. The term Flathead, applied to *them*, is a horrible misnomer, apparently without foundation in fact. The Indians' reception of the party was cordial and friendly to a degree. The explorers' account of it is rather brief. Learning from Major Catlin, of Missoula, that I could obtain from an old and reliable Indian, François, on the Flathead Reservation, the Indian story of this meeting, I wrote my friend Father Daste, a priest who has been long in the country, at St. Ignatius Mission, and asked him if he could obtain the story for me. With a change here and there, I let Father Daste tell the story in his own words.

“ST. IGNATIUS MISSION, Sept. 5, 1899.

“I had three days ago the chance to see, at the agency, the old Indian, François Saxà, and asked him to tell me what he had heard the old Agnes, the wife of Chief Victor and stepmother of Charlos, relate about the first meeting of the Flathead Indians and the explorers, Lewis and Clark. You know that this man, François, while living in Bitter Root Valley, enjoyed the enviable reputation among the settlers of being a truthful man, on whose words they could always depend. He said he remembered very well what the old Agnes related to the Indians about that historical meeting.

“The Flathead Indians were camping at Ross' Hole, or Ross' Fork, at the head of Bitter Root Valley, when one day the old chief, *Three Eagles*, the father of Chief Victor and grandfather of Charlos, left the camp to go scouting the country, fearing there might be some Indian enemies sneaking around with the intent to steal horses, as it was done then very frequently. He saw at a distance Lewis and Clark's party, about twenty men, each man leading two pack horses, except two, who were riding ahead, who were Lewis and Clark. The old chief, seeing that these men wore no blankets, did not know what to think of them. It was the first time he had met men without blankets. What kind of beings could they be? The first thought was that they were a party of men who, traveling, had been robbed by some Indians



Nez Percés
of the
Present
Day.



Lolo Creek
(Travelers
Rest).

of their blankets. He went back to his people and, reporting to them what he had seen, he gave orders that all the horses should be driven in and watched, for fear the party he had seen might be on a stealing expedition. He then went back toward the party of strange beings, and, hiding himself in the timber, watched them. When they came to the open prairie he noticed that they traveled slowly and unconcerned, all together, the two leaders going ahead of the party and looking

around, as if surveying the country, and consulting with their men. He thought within himself: These must be two chiefs; but what can they be after? To make things more complicated for the old chief there was a colored man in the party. What can this man be? When the Indians were going to the buffalo hunt they had a custom, if any sign would appear of some of their enemies being hiding around, to have a *war dance* to encourage one another to fight and be brave. For this dance the Indian warriors would paint themselves, some in red, some in yellow, and some in black, etc., and from the color each had chosen to paint himself his name was called. This black face, thought the old chief, must surely be a man who painted his face black in sign of war. The party must have had a fight with some hostile Indians and escaped from their enemies, losing only their blankets. Seeing that the strangers were traveling in the direction of his camp, the old chief went back to his people and told them to keep quiet and wait for the party to come near. From the easy and unconcerned way the strange beings were traveling, the Indians inferred that they had no intention to fight or to injure them.

Hence, when they saw the strangers advancing, in the same manner, toward them, and were already near their camp, the Indians did not move, but kept watching. When the two leaders of the party, coming to the Indian camp, showed friendship to the Indians, there was a universal shaking of hands. The chief then gave orders to the Indians to bring in the best buffalo hides, one for each man to sit on, and the best buffalo robes also, one for each man to use as a blanket. Then the two



Old Lewis and Clark Trail
at Lolo Hot Springs, still used.

leaders, observing that the Indians were using, for smoking, the leaves of some plant, a plant very much alike to our tobacco plant, asked for some and filled their pipes; but as soon as they tried to smoke, they pronounced the *Indian tobacco* no good. Cutting some of their tobacco they gave it to the Indians, telling them to fill their pipes with it. But it was too much for them, who had never tried the American weed, and all began to cough, with great delight to the party. Then the two leaders asked the Indians for some Kin-nikinnick, mixed it with the tobacco, and gave again to the Indians the prepared weed to smoke. This time the Indians found it excellent, and in their way thanked the men whom they now believed a friendly party. On their side the whites, seeing the friendly dispositions of the Indians, decided to camp right there, and they began to unpack their horses, giving the Indians to understand that they also had blankets in their packs, but that they used them only to sleep in, and gave them back the robes. The Indians were soon out of their wits when they saw some of the men packing on their shoulders pretty good sized logs for their camp fires, and conceived a great idea of the power of the white man. All went on friendly, and after three days they started off, directed to Lolo Fork's trail by the Indians, as the best way to go the Nez Perces' country.

"I am, yours respectfully, J. DASTE, S. J."

This account appears to agree well with what the explorers state, and is interesting as giving the Indians' view of the event.

The expedition obtained additional horses from the Selish, and then, leaving Ross' Hole, crossed the mountains into the main Bitter Root Valley, down which they journeyed to Travelers Rest—now Lolo—Creek, which they reached on September 9th, and where they remained until September 11th.

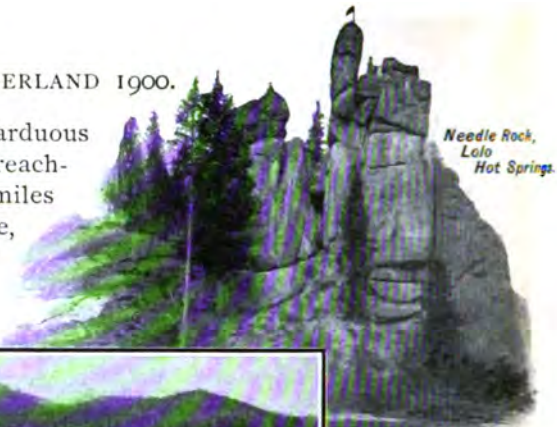
Travelers Rest was quite an important point in the expedition, as will be seen later. It was about twelve miles south from Missoula on the main line of the Northern Pacific, near a station on the Bitter Root branch now known as Lou-lou.

The journals of both Lewis and Clark, and Gass unite in pronouncing this a very poor valley—the "soil poor and gravelly." That poor, rocky, gravelly soil produces the finest of fruit. The valley is now well peopled, and the Bitter Root branch of the Northern Pacific Railway does an enormous business in hauling timber, fruits, hay, etc., to the mining camps of Idaho and Montana.

Leaving Travelers Rest, the explorers followed the creek of that name, now known as Lolo Creek, to its head in the region about the Lolo Pass of the Bitter Root range. They were again to try conclusions with this truly terrific maze of mountains, try to force a passage where Nature seems to have said "thus far and no farther."

They followed the creek bottom part of the way, but were forced

to the mountains, making it an arduous passage on the whole. Upon reaching the Hot Springs, a few miles below the Continental Divide, the old guide lost the trail for a time. After finding it they pushed forward, and crossed the divide without particular difficulty. From September 14th to 22d, inclusive, they were badly tangled up, among the mountains. While they were



*Needle Rock,
Lolo
Hot Springs.*

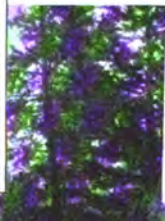


*Birdseye View
Lolo Hot Springs,
from Needle
Rock.*

*Old Trail
Leading
from Glade
Creek to
Colt Killed
Creek
across the
Mountains.
Not Used Now.*



*Two Miles Below
Lolo Springs.
Lewis and Clark
Camped about Here.*



not absolutely beaten back, as they were on the Salmon River, their progress was very slow, and made under almost incredible difficulties. Along their route there was little game, they killed their horses for food, their pack animals wandered, and some of them were abandoned or lost; the trail was a terrific one; the weather cold, with rain or snow, and they were ahungered more than once. Yet they pushed on with grim determination, and finally worked clear of the mountains and found a haven among the Chopunnish or Nez Percé or Pierced Nose Indians, where all speedily became sick because of the change to a root diet. After satisfactory powwows with the



*Northern Pacific Railway Party in Camp at Glade Creek.
Old Trail Runs alongside the Tent.*

Indians they established a camp at the forks of the Koos-koos-kee—Clearwater—where they constructed log canoes to transport them down the Koos-koos-kee, the Lewis—Snake—and the Columbia rivers to the ocean.

The region in which the explorers now found themselves is to-day, as it was then, the home of the Nez Percé Indians. With, I think, but one exception, these royal representatives of the red men have always proved as friendly to the whites as Lewis and Clark found them. That exception was in 1877, when from the general region of Lewis and Clark's Camp Chopunnish of 1806, Chief Joseph began the Nez Percé war.



Lewis and Clark's Route. Bitter Root Range—Columbia River.

Now these Indians have their lands in severalty, and their farms extend all along the Clearwater and its affluent streams, and occupy the fertile plateaus high above them. As useful and respectable members of "society" they average much above the ordinary Indian.

This section is now quite well settled by whites, too. Lewiston, at the junction of the Clearwater and Snake rivers, is one of the wealthiest places of its size in the country. Clarkston, on the Snake River, opposite Lewiston, is a new town with prospects. Oro Fino, Pierce City, and Weippe, not far from where Lewis and Clark made their canoes, are prosperous towns. South from Lewiston are Grangeville, Florence, Elk City, and other mining towns, and surrounding them are rich, perhaps phenomenally rich, mining districts, of which Buffalo Hump is the most prominent one. Out of this region, since the early '60s, have been taken more than \$100,000,000 of gold.

The plateau agricultural lands are remarkably rich, averaging

forty to sixty bushels per acre for wheat. Both the plateau and bottom lands are developing into one of the choicest fruit regions in the United States.

North, in the country drained by Colter Creek, or the Potlatch River, one will now find vast areas of wheat fields, and interspersed among them paying fruit ranches. The towns lie thick there also, and Spokane, 144 miles from Lewiston, is the seat of empire. And Lewis and Clark had lived on dried camas roots and dried salmon.

DOWN THE COLUMBIA.

On October 7, 1805, the party, physically much stronger, started upon the last stage of their outbound journey. Their horses, numbering thirty-eight, were branded and placed under the care of two Indian brothers and another Indian, the son of a chief, until they should return for them. Their canoes were, after the fashion of the red men, burned out of trees, and proved fairly equal to the task of navigating the rapids and eddies of the Columbia.

On October 8th, they passed a large creek on the right, to which they gave the name of Colter, after John Colter, heretofore referred to. This creek, like so many streams and objects named by Lewis and Clark, has lost that name and is now known as the Potlatch River. The Spokane-Lewiston branch of the Northern Pacific Railway follows the stream for some distance and to its junction with the Clearwater River, and then continues down the left bank of the latter to Lewiston.

From the mouth of the Potlatch, the Clearwater extension of the railway follows the right bank of the Clearwater up that river beyond the farthest point reached by Lewis and Clark.

Just beyond the mouth of the Potlatch, when grading for the railway embankment, it became necessary to cut through the nose or end of a hill spur. Unexpectedly, an Indian grave or two was uncovered. Almost immediately, Mr. Lester S. Handsaker of Mr. Andrew Gibson's engineering corps, located at the spot, discovered this fact, and at once, March 1, 1899, began an examination of the graves. Beads, brass and copper ornaments, arrowheads, knives, hatchets, an old flintlock musket, a sword, etc., were brought forth, the metallic articles greatly rusted and decayed. An old hatchet



Jefferson Medal. Given to a Chief by Lewis and Clark.



Reverse of Jefferson Medal.

given the writer by Mr. Handsaker has the handle entirely gone, and a bayonet is rusted to probably one-half its original size. Mr. Handsaker, in his rummaging, found something carefully wrapped in many thicknesses of buffalo hide. Unwrapping it, he uncovered one of the *Lewis and Clark medals of the Jefferson medallion grade*. This proved that the grave from which it was taken was that of a chief. The captain had distributed several of the medals—of the three grades—to chiefs in this vicinity and along the Snake River. In Governor I. I. Stevens' report on the Pacific Railroad surveys occurs a passage in reference to one of these same medals. George Gibbs, in his report to Capt. Geo. B. McClellan—General McClellan afterward—who had charge of a branch of Stevens' work, under date March 4, 1854, says: "At the crossing of the Snake River, at the mouth of the Peluse [Palouse], we met with

an interesting relic. The chief of the band, Wattai-wattai-how-lis, in coming to visit Captain McClellan, exhibited, with great pride, the medal presented to his father, Ke-powhkan, by Captains



Mouth of
Potlatch
River
(over
Colter
Creek).

Lewis and Clark. It is of silver, double, and hollow, having on the obverse a medallion bust, with the legend,

'TH. JEFFERSON, PRESI-

DENT OF THE U. S., A. D. 1801,' and on the reverse the clasped hands, pipe, and battle-axe, crossed, with the legend, 'PEACE AND FRIENDSHIP'." This well describes this grade of medal. The medallion portrait is of Jefferson, of course, and the medal is two and one-eighth inches in diameter. The one found at the Potlatch, when I saw it, bore slight traces of its long entombment.

Doctor Coues mentions two other medals found, one at Fort Clatsop, and the other at the mouth of the Wallawalla River.

Looking Up
the Clear-
water (Koo-
Koo-Kee)
from the
Mouth of
the
Potlatch.
* Showing
also Chief's
Grave from
which Medal
was Taken.

At the mouth of the Potlatch, Neeshnepahkeekook had his village, and in the vicinity were the villages of Weahkoonut, Hohastilpilp, and Tunnachemootolt. To each of these chiefs a medal of some sort was given.

The party's progress down the river was punctuated by a canoe striking a rock now and then on a rapid, when the men would wade ashore, repair the canoe, and launch forth again. The Indians, of different tribes, were found on either bank at frequent intervals, and more or less barter, present-giving, and council-holding was indulged in.

At the junction of the Koos-koos-kee and Kim-oo-e-nim — Clear-water and Snake — rivers they identified the latter as the stream upon whose head waters — Lemhi — they had encamped when among the Shoshones.

The Snake was called by Lewis and Clark the Lewis River, and this name should have been perpetuated.



This branding iron, used by Lewis and Clark, was found in 1892 on one of the Sepulchre or Memaloose Islands in the Columbia River, three and one-half miles above The Dalles. It is now in possession of Mr. Geo. H. Himes, Assistant Secretary Oregon Historical Society, Portland, Ore.

The dimensions of the face are $4\frac{1}{8}'' \times 4\frac{3}{4}''$ over all; the hollow panel is $2\frac{1}{4}'' \times 4\frac{1}{8}''$, $\times 1\frac{1}{8}''$ deep; the bottom, $2\frac{3}{4}'' \times 4\frac{1}{8}''$. The panel upon which are the words — reversed, of course, as in all set type — "U. S. Capt. M. Lewis," is $1\frac{1}{2}''$ wide by $\frac{3}{16}''$ thick.

The hollow interior was, evidently, to be filled with such additional letters, marks, or devices as the occasion demanded, as our movable type hand stamps now are. The back was fashioned for a handle that could be clamped, and this was attached to the instrument by the round lugs at the ends, much as the handle of a modern carpet sweeper is. Its use was undoubtedly to brand horses, canoes, saddles, utensils, etc. Under date of October 5, 1805, both Gass and Lewis and Clark speak of branding their horses when leaving Canoe Camp on the Koos-Koos-Kee.

On October 16th the Columbia proper was reached, and on October 22d they arrived at the Great Falls of the Columbia, now known as Celilo Falls.

Before reaching the Great Falls they saw Mount Hood twice, and also, as they supposed, Mount St. Helens. As regards the latter they were undoubtedly mistaken, it being Mount Adams instead. Fremont made the same mistake as doubtless did others in early days, for peculiar reasons.

The great expedition has now reached the most imposing and tremendous portion of the Columbia River, and, from the standpoint of navigability, the worst.

The stretch of water from the Great or Celilo Falls to the Cascades is, scenically, of the superlative degree. The black lava palisades rise in noble terraces, towers, and chimneys, farther down becoming merged in the overtowering range. The frozen product of the volcano runs athwart the stream and seemingly, also, with it, forming a series of gigantic

obstructions, across and through which the river has eaten its way in a succession of rapids, swirls, falls, and cross currents.

The Great Falls, at moderate or low water, forms, at the southern shore, a fine fall of twenty to forty feet in height, the remainder of it being one of the most amazing, irregular cascades, extending entirely across the Columbia. Be-

low the Falls the river divides into

various channels, and the lava is formed more or less into islands, and among them the water seethes and boils as if stirred by the furies. Most of these islands are repositories of the Indian dead. Memaloose Islands they are called, Sepulchre Island, so called by Lewis and Clark, being the best known. On this island a white man also lies buried, with a rather imposing stone monument over his remains. Some of these islands have thus been filled to overflowing. The stream for many miles below the Dalles is known as the Dalles, and is a great attraction to sight-seers.

To portage around the entire obstructive portion of the river here was impossible. The explorers therefore portaged around the Falls, and, dangerous though it was, boldly navigated the Dalles, and successfully. Just below where Dalles City now is they halted for a few days at what they termed Fort Rock.

This piece of river, especially at the Cascades, may very appropriately have been called Robbers' Roost, Rogues' Canyon, or Freebooters' Pass. The Indians here seem to have been pretty generally possessed of the devil, and harried every exploring or trading party that passed down the stream in early days. Numbers alone seem to have been the only thing that prevented or lessened wanton insult and injury, while even then stealing and pilfering were successfully practiced. Lewis and Clark's experiences were mild, compared with those who came later.

November 1st the party succeeded in passing the



The Cascades of the Columbia River, or Great Rapids of Lewis and Clark.



Great Falls of the Columbia (Celilo Falls).



The Dalles of the Columbia River.

Cascades, by portage of course, and were now fairly within the depths of the Cascade Range.

I do not find, so far as I have been able to examine, that Lewis and Clark ever used the term Cascade in connection with this range, and seldom, indeed, the word itself. "Rapids" and "shoots" are generally used when rapid water is referred to, and as to a name for the range itself, none seems to have been even suggested. At one place they say, "of that chain of mountains in which Mounts



Astoria and Tongue Point.

Hood and Jefferson are so conspicuous, * * * " as if the idea of naming it was farthest from their thoughts. A cursory reading of Parker's "Journal of an Exploring Tour," etc., edition of 1844, does not find the word used, nor does the map, bearing date 1838, show it. Fremont—1843-44—uses, at one point, the words, "The Cascade or California range." Later, he says: "We were now approaching one of the marked features of the lower Columbia, where the river forms a great *cascade*, with a series of rapids. * * * The main branch of the *Sacramento* River and the *Tlamath* issue in cascades from this range, and the Columbia, breaking through it in a succession of cascades, gives the idea of cascades to the whole range, and hence the name of the CASCADE RANGE. * * *"

John Lambert, one of Governor Stevens' topographers in 1854, had a somewhat different idea as to what suggested the name, as the following will indicate:

"Going down the Columbia, the reason of the Cascade Mountains being so named becomes apparent on the steep sides of that tremendous chasm * * *. Foremost among the wonders that attract the admiring gaze of travelers are the numerous and beautiful little falls which pour from every crevice, at every height, and frequently from the very mountain top. * * * As many as twelve of these

fairy cascades can be counted within view in a single reach of the river. Some, descending from hanging rocks, are dissolved in spray less than half way down the fall; others steal down the crooked crannies of the mountain, never actually leaving their steep channels in which they glisten like a snow-wreath; and not a few seem as though they were frozen on the mountain side, so regular and imperceptible is the motion of the water, and a telescope is necessary to prove that they really are what they barely seem to be. Most of them are but tiny threads of foam; but on turning a projecting and sheltering cliff, there is found another little beauty in a nook adorned by groups of evergreens, where the water pours over a broader ledge, and spreads into a veil such as Undine might have worn; gently waving with the undulations of the air, every drop yet appears so distinctly to the eye that we pause, though vainly, to hear it plashing on the rocks beneath."

Whoever, if anybody, formally suggested the name, or whether, like Topsy, it just "grewed" from either or both of the foregoing ideas, Lambert's description is a very effective one of the many beautiful cascades that go tumbling down the sides of the cliffs.

The most beautiful and conspicuous of these is Multnomah Falls, said to be more than eight hundred feet in height, a long, attenuated, filmy spray thread that pours over the mountain with a grace and gentleness almost indescribable. The other more noted cascades are Bridal Veil, Latourelle, Horse Tail, and Oneonta.

In some respects there is but little change, in others much, to be noted here since Lewis and Clark passed along. The great scenic features remain, and it is to-day the greatest water course of the country in this respect, far exceeding the famed Hudson. The Indians are few and far between; numbers of them still live about the Dalles, in squalor, and bury their dead on the islands as of old.

The Cascades are now navigable, engineering science having built locks around them, and steamers now carry enthusiastic tourists to and from Portland and Dalles City. On the south bank too, now, is found a railway line connecting the Inland Empire which Lewis and Clark traversed, with Portland and tide water.

Two objects along this section of the river that always attracted attention from explorers and traders, were the submerged forests above, and the Indian sepulchers just below, the Cascades. The submerged forests are indeed interesting, and can be seen to-day. Lewis and Clark make no extended allusion to them. Parker, Fremont, Gibbs, Newberry, and others refer to them, and were generally of the opinion, as were Lewis and Clark, that they were caused by landslides from the mountains damming the river at the Lower Cascades. The trees stand in their natural positions, and Parker estimated their height to be from twenty to thirty-five feet.



1. Castle Rock (Beacon Rock of Lewis and Clark) Columbia River.
2. Tongue Point (Point William of Lewis and Clark).
3. Multnomah Falls, more than 800 Feet High.
4. Baker's Bay from Ilwaco.
5. Cape Disappointment and Light House, showing Mist caused by dashing of Waves against the Rocks.
6. Mount Coffin, Columbia River.
7. Saddle Mountain, from Columbia River.
8. Rooster Rock and Camping Spot of Lewis and Clark.
9. Cape Horn, Columbia River.

Latterly, scientific men have accounted for this phenomenon by two other theories. Captain Dutton claims it to be due to "an uplift" of the mountain country, some five and one-half miles wide, across the stream, which dammed and gradually raised the river above the obstruction. Mr. Emmons of the United States Geological Survey, refers favorably to an Indian legend that a natural bridge once existed here, across which the Indians of distant generations crossed the river dry-shod. He thinks the lava stream spread across the river, resting on an unstable, friable conglomerate, which in time was eaten away by the water, leaving a natural lava bridge, which eventually tumbled in and formed the dam. Writing to my friend, Mr. G. K. Gilbert, also a geologist of the United States Geological Survey, regarding this phenomenon, he replied that, after considerable study of it, based upon his own independent observations, in 1899, he "was satisfied that Newberry had given the true explanation."

The Indian graveyard existed for many years on the north bank of the river. Lewis and Clark speak of it as "an ancient burial place." The "vaults" faced to the east, and the doors were "decorated with the rude pictures of men and other animals." The vaults contained bodies wrapped in skins, "tied with cords of grass and bark," with brass kettles, baskets, frying pans, bowls, hair, medicine bags, etc., hanging above them. Ross Cox, in his "Adventures on the Columbia River," 1831, written as of 1812, verifies Lewis and Clark's description, and says that the excavations were "closely covered with pine and cedar boards, and the top boards sloping to let off the rain. * * * Several of these boards are carved and painted with rude representations of men, bears, wolves, and animals unknown. Some in green, others in white and red, and all most hideously unlike nature."

Major O. Cross of the United States army, in 1849, wrote of these graves that they were "in a large, dense grove of hemlock and fir trees, whose limbs spread a shade over the whole spot, almost excluding the light of heaven, * * * which seemed, in defiance of the foliage, to shed its rays now and then upon the tombs of the dead. * * * Heaps of bones of all sizes and ages were lying about, and * * * all shapes, as far as the head was considered, for these people have a singular fancy, peculiar to themselves, of flattening the forehead. * * * Many of these skulls had been removed and scattered through the woods by persons, whose curiosity being satisfied, had dropped them where the wagon wheels had pounded them into dust."

Time, a railroad, and excavation by the whites have about obliterated this old sepulchral spot. The writer was presented with a beautiful string of the blue and white beads so prized by the natives, that were taken from this place.

In passing down, and again up the Columbia, the captains noted most of the affluent streams, the islands, and many of those striking headlands, cliffs, and palisades that now so delight the traveler. In the mutations of time nearly all these names have been changed, to our shame be it said. Thus, Beacon Rock has become Castle Rock; Diamond Island, Government Island; Wappatoo Island, Sauvie's Island; Point William, Tongue Point, etc. Lone Rock, rising from the middle of the river, near Cape Horn, was noted, but Cape Horn itself seems to have been passed without comment. They camped one night under the lee of "a high projecting rock, * * *" which, from its location, would appear to be Rooster Rock, and they described Mount Coffin, below the mouth of the Cowlitz River. Pillar Rock, a black rock rising from the river, but of smaller size than Lone Rock above, is noted, and from above that rock they are supposed to have seen "the Ocean, this great Pacific Ocean which we have been so long anxious to see, and the roaring or noise made by the waves breaking on the rocky shores * * * may be heard distinctly." When, last summer, from the pilot-house of a Columbia River steamer, I strained my eyes in what I felt was a vain endeavor to see the Pacific, on the shore of which I had stood the day previous, at Cape Disappointment, and appealed to the captain in the matter, he replied that the "ocean" could *not* be seen from there, but that *during a storm* the breakers *could* be heard. No storm is noted by Lewis and Clark at this point.

Below Cathlamet the river widens, and above Astoria and Tongue Point it is about nine miles across, and at the bar, between Point Adams and Cape Disappointment, it is six or seven miles wide, so that, while a wide expanse of water was undoubtedly visible, it seems doubtful whether the explorers really saw the ocean, or, perhaps, even heard its "roaring."

Before reaching Pillar Rock they saw, to the southwest, Saddle Mountain, a characteristic peak and one of the most conspicuous landmarks of the Lower Columbia.

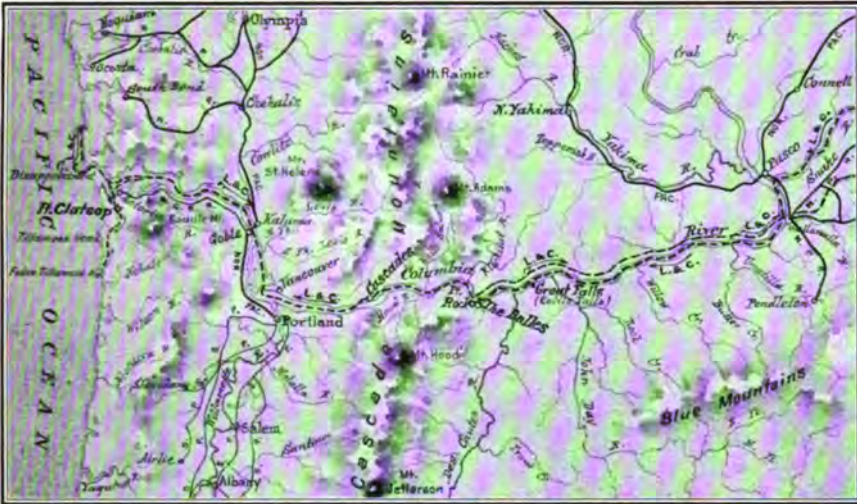
From November 8th to December 7th, 1805, the party were coasting the shores of the river and ocean, when the weather allowed, and seeking a spot for a permanent camp for the winter.

As the Columbia, in 1804, was a great waterway for the savage, so to-day it is for the men of civilization. The villages of Indians, thick with vermin, have vanished, and the villages of the palefaces have succeeded them. The canoes of the red men are rotted and gone, and the electric-lighted floating steam palaces of the whites now plow the waters of the great river.

Upon the broad bosom of the stream and its affluent, the Multnomah — Willamette — is now carried on a vast commerce, not alone provincial but world-wide in its scope. Along the banks of

both streams the Northern Pacific trains rush, and two cities, Portland and Astoria, climb heights where Lewis and Clark saw naught but gloomy forest.

The bar of the Columbia has been shorn of its terrors, and lighthouses now throw their beams across its boiling waters to guide the mariner to port. But otherwise the great mountains and the river are much as they were a hundred years ago.



Lewis and Clark's Route. Columbia River—Fort Clatsop.

FORT CLATSOP.

The privations the explorers endured hereabout were constant and hard, and endurable only because they had become inured to them.

They rounded Cape Disappointment, at whose base Fort Canby is now located, and proceeded up the coast some distance on a reconnoissance, and finally established themselves for the winter on the south side of the Columbia, about six miles below where Astoria now stands, on the river Netul—now Lewis and Clark River—an affluent of the Columbia. The north shore along which they coasted is now a well-known summer resort, Long Beach.

At Tongue Point, Lewis and Clark's Point William, and "a very remarkable knob of land * * * four miles round * * * while * * not more than fifty yards wide," they camped "on a beautiful shore of pebbles of various colors" and were rainbound for ten days. This was facing the site of Astoria, and the Government now has a hydrographic station there. The beautiful pebbles are still there, too.

The site of their winter encampment, which they called Fort Clatsop, after a neighboring tribe of Indians, was a good one. It was some thirty feet above high tide and commanded a good view

down the Netul River toward the bay—an expansion of the Columbia, now Young's Bay—into which it debouched. Fuel and water were at hand, and game, the proximity of which was the particular reason that caused them to locate there, very plentiful at first.

They at once began to construct their huts, and completed them December 24th, the same date as that on which they completed Fort Mandan one year before. The huts were seven in number, and appear to have been comfortable habitations.

The winter was a wet one. Gass, under date of April 8, 1806, when on their return, writes: "Some of the men are complaining of rheumatic pains, which are to be expected from the wet and cold we suffered last winter, during which, from the 4th of November, 1805, to the 25th of March, 1806, there were not more than twelve days in which it did not rain, and of these but six were clear."

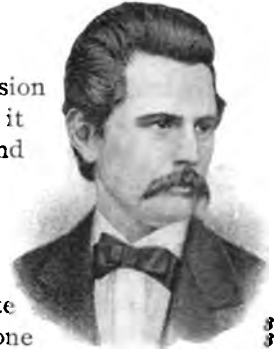
They passed the time in various useful diversions, stockading their fort, bartering with the Indians, studying natural history, ethnology, etc., and naturally there was much hunting, of elk principally, for food and skins. Toward spring the elk became shy and left the region, thus hastening the party's departure.

Gass kept an inventory that shows that between December 1, 1805, and March 20, 1806, they killed 131 elk and twenty deer, and that there were on hand 338 pairs of "mockasons."

Their relations with the Indians, particularly the Clatsops, were of the friendliest sort. To Comowool, Chief of the Clatsops, they bequeathed Fort Clatsop when they abandoned it.

In 1899 I visited the site of old Fort Clatsop. There were with me, Wm. Chance, Judge J. Q. A. Bowlby, Geo. W. Lounsberry, Geo. Noland, and Silas B. Smith, all of Astoria and vicinity, and Geo. H. Himes and Geo. M. Weister, of Portland. Several of these were old residents, and thoroughly familiar with the early history of the region. There is, evidently, no question as to the point we visited being the identical spot where the fort stood, although there is now nothing to indicate it except Lewis and Clark's own description as to its location.

The Mr. Silas B. Smith mentioned is a grandson of the old Clatsop chief Comowool. He has hardly reached middle age as yet, and as a young man was educated in New Hampshire. He is a practicing attorney at Warrenton, Oregon. I append herewith a memorandum relating to Lewis and Clark, Fort Clatsop, Chief Comowool, etc., kindly given me by Mr. Smith. I have but slightly



Silas B. Smith.



Mrs. Helen Smith.
(Daughter of Chief Cobaway-Comowool.)

curtailed this memorandum, as it is all interesting, and some of it, perhaps, of considerable value.

“Concerning the arrival of the Lewis and Clark expedition at the mouth of the Columbia River in November, 1805, and their sojourn at Fort Clatsop the succeeding winter, as usual, more or less tradition was handed down by the Indians to their descendants, of the doings and characteristics of the people who had come among them.



Site of Fort Clatsop



Site of Fort Clatsop, and Netul River.



Ruins of Salt Cairn used by Lewis and Clark.

“At that time Cobaway — Kōb-ah-way — was the principal chief of the Clatsop tribe of Indians, within whose territory Fort Clatsop was established. Lewis and Clark erroneously gave the name of the chief as *Comowool*—that arose no doubt from the indistinct manner in which the Indians pronounced the name; according to their pronunciation the ‘b’ in the name is but faintly sounded.

“On the eve of their homeward journey Lewis and Clark presented their stockade at Fort Clatsop to Cobaway, and also left with him a copy of the certificate announcing their arrival at the mouth of the Columbia River, to be given



Tillamook Head and Light House.

to the captain of the first vessel that should arrive at the river. Cobaway, with his family, occupied Fort Clatsop as a fall and winter residence, that being the season for good fishing on the Netul River.

"The chief had three daughters that arrived at womanhood, and all married white men for husbands. The eldest, Kilakotah, finally became Mrs. Louis Labontie, and the two were among the first settlers of the Willamette Valley, Labontie crossing the continent in 1811 with Wilson P. Hunt. The second, Celiast, became Mrs. Solomon H. Smith. Her Christian name was Helen. With her husband they were among the earlier settlers in the Willamette, finally becoming the first agricultural settlers west of the Coast range of mountains, settling and opening up a farm on Clatsop Plains, Clatsop County, Ore., in August, 1840. Her husband crossed the continent in 1832 with Capt. Nathaniel Wyeth, and taught the first schools on the north-west coast, teaching at Fort Vancouver and in the Willamette country in 1833 and 1834.

"The third daughter, Yaimast, became Mrs. Joseph Gervais. Gervais also came with Hunt in 1811, and was, I think, the first settler on the French prairie in the Willamette. This is the same man after whom the town of Gervais, in Marion County, Ore., is named.

"Kilakotah's first husband was W. W. Matthews, a clerk of the Astor expedition. He died in New York. Their one daughter, Ellen, was the first child born of white parents in the Oregon country so far as we know, the date of birth being July 1, 1815.

"Cobaway's descendants now live in four States—California, Oregon, Montana, and Canada—are too numerous to mention, and all are drifting away from his race.

"My mother, Celiast Cobaway, the chief's second daughter, lived until June, 1891, and always maintained that she remembered the time of Lewis and Clark's arrival, and also seeing the men. Mother said that in one of the houses they used was the large stump of a tree, which had been cut smooth, and which was used as a table. The tree had been cut down and then the house built, enclosing the stump.

"The Indians here used to tell of the remarkable marksmanship of Captains Lewis and Clark with firearms, and of the surprises they used to give the savages by the wonderful accuracy of their shots. The Indians would notice some waterfowl sitting far beyond the range of bow and arrow, and would ask one or the other of the captains if he could hit it with his rifle; a trial would generally bring down the bird, sometimes even just clipping off its head. Of course such feats would impress the Indians with the remarkable qualities of the white men.

"An Indian youth, Twiltch by name, used to assist at Fort Clatsop in the hunting of elk and other game, and was there taught

the use of firearms, in the handling of which he became proficient. I knew him in his later years, and in my earlier acquaintance with him he stood at the head of the hunters of his tribe, and more particularly in the art of elk hunting. It was always his boast that he was taught the art by Lewis and Clark. He seldom went out without securing an elk, and he would tell his people that he had the power to charm the game, and they were not able to get away from him, and his usually good fortune induced a good many of them to believe him. He lived until somewhere in the later '50s.

"The Indians inhabiting the upper part of Young's River Valley and the upper Nehalem Valley were known as the Klatskanin people. It was claimed by Chief Cobaway that these people were disposed to attack the encampment at Fort Clatsop, and it was only through his influence and constant dissuasion that they were restrained, and no violence committed.

"Lewis and Clark speak of the Indians bringing 'shanataque' and 'culhoma.' The first should be shanatawee. It is the root of the edible thistle; the first year's growth of the thistle, that has one straight root something like a parsnip. They gather and cook them in a pit with hot rocks and grass, the whole being covered with dirt and left in that manner over night; when taken out the roots are of a dark purple color, the starch in the root has been converted into glucose, and it is tender, sweet, and palatable. 'Culhoma' should be culwhayma. It is the root of what is popularly known as the wild blue *lupine*. The root grows two or three feet long and about one inch to an inch and a half in diameter. This is cooked generally in hot ashes, as we would roast a potato in ashes, and it tastes something like a sweet potato. They also speak of a berry something like the 'Solomon's Seal,' which the Indians called 'Solme.' In this they made a mistake, and made a wrong application of the name Solme. Solme is the wild cranberry and nothing else. It is not the 'Solomon's Seal,' nor any variety of it.

"They also state that the Indians near Tillamook Head called the Columbia River 'Shocatilcum'; that upon inquiry of them as to where they got the wappatoes, they gave this name, meaning the Columbia River. They entirely misunderstood the Indians' meaning. This is very easy of explanation. The wappatoes used here are obtained from Cathlamet Bay, above Tongue Point on the Columbia River. *Shocatilcum* was the chief of the Cathlamets; at that time his tribe was Shocatilcum's people, and when the Clatsops were asked where they got the wappatoes, they pointed over toward the Columbia and said '*Shocatilcum*,' meaning only that they had got them from Shocatilcum's people. They had known of Shocatilcum for a long time and supposed everybody else knew of him, too.

"I wish to state this proposition, which can not be overthrown,

that the Indians in this Northwest country, extending as far back as the Rocky Mountains, never name a river *as* a river; they name localities. That locality may be of greater or less extent, and they may say this water leads to such a place, or it will carry you to such and such a place, but never name a stream.

"I know of some very good people who are hunting for the Indian names of the Columbia and its tributaries, and some who have even told me that they had found the name of the Columbia; but it is a mistake, an entire mistake, for it is not in the book, and they are simply chasing a 'Will o' the wisp.'

"SILAS B. SMITH."

Before reaching Fort Clatsop the explorers' supply of salt had run low. In selecting the winter's encampment, proximity to the seacoast was an important factor, as it was necessary to evaporate the sea water to obtain salt.

Soon after the site of Fort Clatsop was selected, a party was sent to establish a salt camp. This was done at a point southwest from the fort, distant, as they traveled, as I understand it, some fifteen miles. The salt-making was rather a serious business. They were obliged to keep fires burning under their *five* kettles, not *one*, as Harper & Bros.' small two-volume edition of Lewis and Clark states (see Coues' Lewis and Clark, p. 739), night and day, and they finally evaporated about twenty gallons of salt of a fair quality.

With several of the party heretofore mentioned, I also visited what is supposed to be the rock cairn where this process was carried on.

I quote Mr. Smith anent this also :

"Mother often told of Lewis and Clark making salt near Tillamook Head, at the place now known as Seaside [a pleasant summer resort]; but she used to tell this long before the place was called Seaside. The name Seaside was given by Ben Holladay in 1872, when he built his hotel there and called it the 'Seaside House'; then the name Seaside was given to that section. Previous to that the Indian name of the place was Necotáht.

"I remember also hearing some white men and Indians, in the fall of 1849, who went to Necotáht, say on their return that they saw the place where Lewis and Clark made salt near Tillamook Head. My mother used to tell of their salt-making when we didn't have any of the works of Lewis and Clark to consult, but simply tradition. It was generally understood among whites and Indians here as long ago as I can well remember that the place of salt-making by Lewis and Clark was near Tillamook Head.

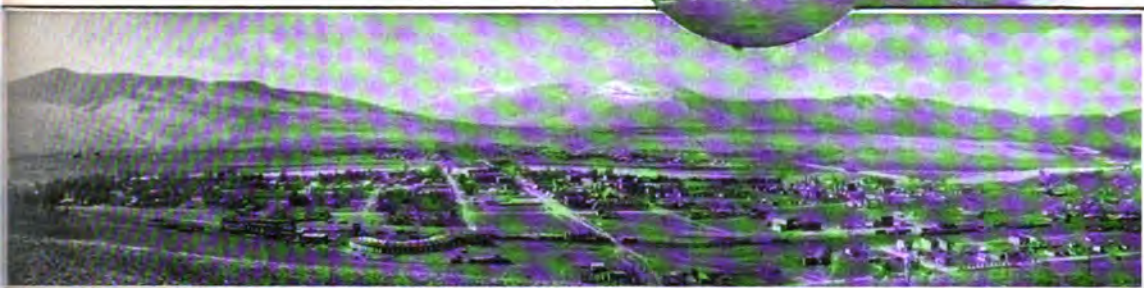
"Mr. A. J. Cloutrie, a resident at the Seaside since 1856, stated to me more than thirty years ago, that the stone arch where Lewis and Clark made salt was not far from his residence, and proposed to show it to me if I wished to see it; that was in my younger

days, and I did not care much about seeing it, so we didn't go. From all these traditions and circumstances, I am well satisfied that the cairn which I visited near Tillamook Head, in company with Mr. O. D. Wheeler, of the Northern Pacific Railway; George H.

Lolo Peak.



Junction of the Clearwater and Blackfoot Rivers, Montana.



Bitter Root River.

Missoula and Foot of Bitter Root Valley.—Looking South.

Himes, Secretary of the Oregon Historical Society, and others, on the 28th of August, 1899, was the identical structure where Lewis and Clark's men manufactured salt from sea water in the winter of 1805-6.

Hellgate River in Foreground. Lolo Peak in Background. Captain Lewis followed Bitter Root River down to Junction of Hellgate, then followed up the latter Stream along the Foreground of the Picture and through Hellgate Canyon. The Route of Lewis and Clark across the Mountains was along the base of Lolo Peak. Travelers Rest or Lolo Creek following the base of the Mountains to the right.



On the Blackfoot River.

"On this visit we had for guide one Mr. John Hall, a

son-in-law of the above-mentioned Mr. Cloutrie, and to whom Mr. Cloutrie, before his death, had pointed out the stone structure as the salt-making pit of Lewis and Clark."

While of course it is not now possible, probably, to determine this question, actually and by direct evidence, I see no special reason to doubt that the cairn visited was what it is claimed to be.

It is certainly an ancient structure, and now much overgrown by dwarf pines or similar trees, so that it was difficult to photograph it. Its size is commensurate with the five kettles that were used in the salt-making.

HOMeward BOUND.

On March 23, 1806, at 1 P. M., Fort Clatsop was abandoned, and the expedition turned their faces homeward. The day before, they formally gave to Comowool their "houses and furniture," in return for his kindness and hospitality, and bade him farewell.

Not knowing what their fate might be on their return journey, and not having been able to apprise the President of their progress,

they wrote a notice, and left several copies of it with Comowool and others, posting one at their quarters also, in order that the world might some day learn of them, and their whereabouts be at least partially established. One of these notices did eventually reach Philadelphia by way of China. This paper read as follows :

“The object of this NOTICE is, that through the medium of some civilized person who may see the same, it may be made known to the informed (sic) world that the party consisting of the persons whose names are hereunto annexed, and who were sent out by the Government of the United States, in May, 1804, to explore the interior of the Continent of North America, did penetrate the same by way of the Missouri and Columbia rivers to the discharge of the latter into the Pacific Ocean, where they arrived on the 14th of November, 1805, and from whence they departed the... (23d)... day of March, 1806, on their return to the United States by the same route they had come out.” — [Coues, p. 903.]

The same party that on April 7, 1805, started westward from Fort Mandan, now began the return journey; not one was missing.

They arrived at the Dalles on April 15th. On the way they accidentally heard from two strange Cashook Indians of the existence of the Multnomah — Willamette — River. Clark immediately set out to explore it, going up nearly to where Portland now is. He found that islands had hidden it from them as they had gone up and down the Columbia. During this trip he saw and named Mount Jefferson of the Cascade Range. He also saw, at one time, as so many have since, those five white-robed giants, Mounts Rainier, St. Helens, Adams — unnamed then — Hood, and Jefferson. At the Dalles they abandoned canoe transportation and proceeded by land, having obtained a few horses. They reached the mouth of the Wallawalla River, under the lead of a good Chopunnish guide, on April 27th. Obtaining more horses there, they pushed on eastward across the now well-known Wallawalla country, a great and noted wheat and fruit growing region, and on May 5th reached the junction of the Clearwater and Snake rivers. They then proceeded, with numerous chiefs, camping en route at the mouth of Colter's Creek or the Potlatch River, up the Clearwater to a point on the north or east

bank at the mouth of Lawyer's Canyon Creek, as it is now called, and to which Doctor Coues gives the appropriate name of Camp Chopunnish. They reached this place May 14th, and because of the snows on the mountains, remained there until June 10th.



*Nex Perce Teepees, 1800.
On Ross Fork of the
Bitter Root River.*

NORTHERN PACIFIC RAILWAY.

Upon their first attempt to cross the range, they were beaten back by the wintry cold and deep snow on the higher slopes. They then procured some Chopunnish guides and on June 24, 1806, once more essayed the passage of the mountains. The Indians took them steadily along, although Jordan was a hard road to travel, and on June 29th they were once more at the Lolo Hot Springs, and on June 30th reached their old camp at the mouth of Travelers Rest or Lolo Creek in Bitter Root Valley.

My attempt to explore Lewis and Clark's trail across the Bitter Root Range was frustrated by stormy weather. I ascended Lolo Creek to the Hot Springs, and then went beyond the Lolo Pass to the extreme headwaters of the Clearwater on what was supposed at the time to be their Glade Creek, where I camped. From there I pushed several miles farther into the range over a very old and disused trail, supposed to have been the one Lewis and Clark used.

Since studying their detailed report as given by Coues, and after a rough platting of Lewis and Clark's courses through here, I am considerably puzzled as to their route and as to where I camped.

While the present old and well-known Lolo Indian trail undoubtedly marks in a general way the route used by Lewis and Clark, from a number of considerations I am led to doubt exceedingly, whether, as a matter of fact, they used more than a small-part of this trail as it now runs.

DIVISION OF THE EXPEDITION—CAPTAIN LEWIS' ADVENTURES.

We have now reached another important stage in the annals of the expedition.



Waugh's Cabin on Camp Creek. Just at Foot of Mountain below Gibbon's Pass.



Old Trail on Divide above Waugh's. Actual Summit of Gibbon's Pass.



Old Trail along the Ross Fork that Lewis and Clark used. Taken at a point just before it climbs the Mountain leading to Ross' Hole.

The worst is over; although not yet where the waters run Atlanticward, they have but a short road to the Missouri, and an easy one, as the Indians inform them. While they, of course, do not know just what is before them, they *do* know that the worst obstacle of their outbound journey, the Bitter Root range, has been successfully overcome, and that they are nearing the buffalo country, where food and raiment may be had for the shooting.

At Travelers Rest the most important segregation of the exploration takes place.

Captain Lewis, nine men and five Indians, on July 3d, follow down Clark's—Bitter Root—River to its junction with the Hellgate River, thence via that stream to the entrance of the Cokalashkit—River of the Road to Buffalo—or Big Blackfoot River, which they follow to the divide, now called Lewis and Clark's Pass (although Clark himself never saw it), thence north across country to the Medicine—Sun—River, which they followed down to their old camp at the White Bear Islands.

There were no special incidents connected with this trip; the Indians left Lewis at the junction of the Bitter Root and Hellgate rivers—about where Missoula now is—with feelings of fast friendship on both sides; the trail was an easy one, game plentiful, and “all went merry as a marriage bell,” with no Waterloo at the end.

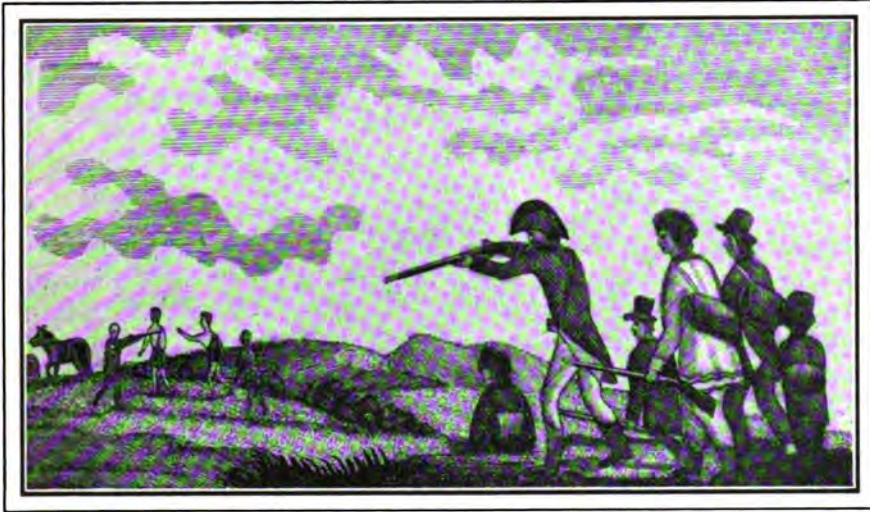
At the Great Falls—White Bear Islands camp—Captain Lewis subdivided the party, he with three men going with horses to explore Maria's River and Valley, while Gass with five men remained to attend to the portage around the Falls.

The Captain's route lay to the northwest, across the Tansy—Teton—River to the upper Maria's, the north or Cutbank fork of which they followed across the present Blackfeet Reservation nearly to the mountains, without seeing a soul. Retracing his steps to the main or Two Medicine River fork, this was followed to its junction with the Cutbank. Near there they met eight mounted Indians, on a hunt, with whom they camped overnight. In the morning, when the Indians tried to steal both their arms and horses (and nearly succeeded), they attacked them—four against eight—recaptured their arms and most of their horses, and in the melee killed two Indians. The other Indians escaped, and Lewis, knowing that two large bands of the tribe were not far distant, ordered his men to their horses and they executed a Lochinvar quickstep. At two o'clock the next morning they were 100 miles from that spot and near where Fort Benton now is, at the mouth of the Teton River.

Hastening forward down the Missouri River at daylight, in order to warn Gass and his party, now, presumably, at the mouth of Maria's River, they had traveled twenty miles—making 120 miles in about twenty-four hours—when they heard the sound of rifles. Hurrying

to the river bank, they saw—not Indians, as they probably feared, but Sergeant Ordway's party, who had come down the Missouri with the canoes used by Captain Clark, from the Three Forks of the Missouri. At the mouth of the Maria's they found Gass and the horses, and, opening their caches, they loaded their luggage in their canoes, gave "a final discharge to our horses," *i. e.*, turned them loose on the prairie, and on July 28th started down the Missouri River. They passed the mouth of the Yellowstone August 7th.

This unfortunate escapade of Captain Lewis is said to have roused an enmity among the Blackfeet tribe that, at least until recent years,



Captain Lewis Shooting an Indian.—See Note (+), Page 76.

never slumbered, and which cost the lives of many white men. This was the only serious difficulty the expedition had with Indians.

CAPTAIN CLARK'S PARTY—DOWN THE YELLOWSTONE.

And what of Captain Clark and his men all this time?

After Captain Lewis had set out on July 3d *down* the Bitter Root or Clark's River, Captain Clark with the remainder of the outfit, twenty men, one squaw and one pappoose, started *up* the river along its western bank. The printed journals give the number of men as *fifteen*, but Dr. Coues clearly shows this to be an error. They traveled thirty-six miles that day, and on July 4th made thirty miles, reaching the forks of the stream and camping on the Nez Percé fork. The country over which they traveled is now covered with vineyards, orchards, and clover fields, with patches of wild or pine timbered land alternating. One orchard alone contains 48,000 apple trees.

Continuing, the party crossed the mountain eastward by the Indian trail to Ross' Hole, and then turned southeastward and followed the

Indian "road" across the divide to the waters of the Wisdom—Big Hole—River and thence to Shoshone Cove, where their canoes and some supplies were cached.

It was a delightful experience for me, in 1899, to follow up this beautiful river valley with a wagon and camp outfit to Ross' Hole, and then over the divide. There now exists a line of continuous, though in the upper valley somewhat sparse, settlement, clear to the foot of the divide. We camped one night in the angle formed by the Nez Percé and Ross' Fork branches, near where Captain Clark bivouacked on the night of July 4, 1806. On Camp Creek, above Ross' Hole, on our return, the wagon broke down, evidently within a short distance of where Clark slept the night of July 5th. Mr. Waugh's comfortable log cabin stands not far from where the old Indian lodge pole trail crossed the mountain to Wisdom River. The trail over which Lewis and Clark entered the valley in 1805, farther south, can be faintly traced along the mountain's side, and it reaches the valley a mile or two south from Waugh's.

A good wagon road now leads up the valley, but at places the Indian trails can still be seen. This is notably so near Rye Creek, and farther up where the valley becomes a canyon. The old trail avoided the last few miles of Ross' Fork below Ross' Hole, because of its rough character. The point where it ascended the mountain, at the end of the wagon bridge across Ross' Fork, near Wildes Spring, is plainly visible and it is still used. The scenery of the upper valley is very fine and wild. At Rye Creek we stumbled upon the summer tatterdemalion lodges of three old wrinkled Nez Percé squaws, part of a band that had come in over the Southern Nez Percé trail.

Camp Creek obtains its name from the fact that the Indians formerly used it, as well as Ross' Hole, as a favorite camping ground.

The "jintle slope" of Captain Clark over the mountain to Wisdom River, hardly strikes one as expressing the situation. But contrasted with their trail over the range from which they had come, this characterization will be understood as a comparative one.

The old lodge pole trail over the mountain was a characteristic one, wide and winding. At the summit, as is usual, it scattered into many parallel trails. At places it now

forms part of the wagon road. I rode for a mile or more beyond the pass and found the descent on the east much more "jintle" than on the western side. All over the mountain the girdled and bark-stripped pine trees are a mute testimony to



Threshing Scene near
Bozeman, Mont.



**Main Entrance to
Rocky Canyon,
near Bozeman, Mont.**

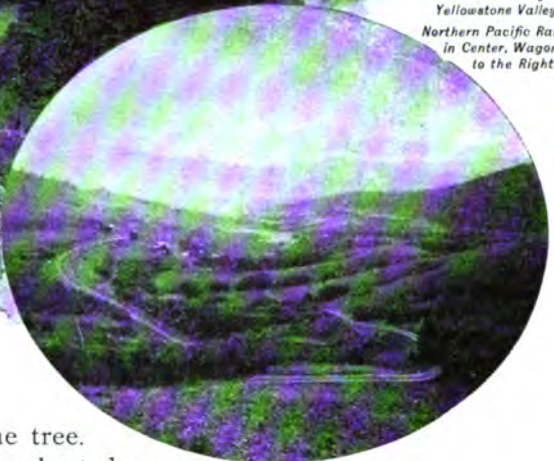
the presence of the Indians, who habitually ate the delicate inner lining of the tree.

This pass is known and usually charted as Gibbon's Pass. This is all wrong and utterly unjust, and a reflection upon our methods of nomenclature as well. General Gibbon undoubtedly crossed it in his pursuit of Chief Joseph in 1877, but Clark had gone across there seventy-one years before, and Clark's Pass it should be called. As Clark never saw Lewis and Clark's Pass, 120 miles farther north, so Lewis never saw Gibbon's or Clark's Pass. As a matter of fact, as Doctor Coues has pointed out, the present Lewis and Clark Pass to the north, should be called Lewis' Pass; Gibbon's Pass changed to Clark's Pass, and Lemhi Pass known as Lewis and Clark's Pass.

From Shoshone Cove Captain Clark retraced his old route down the Jefferson River to the Three Forks, arriving there July 13th. Sergeant Ordway and nine men were here detached to take the canoes down to the Great Falls and rejoin Captain Lewis, which, as we have seen, they did successfully.

No time was lost here, for on the day of arrival Ordway and the boat party started down the Missouri, and Captain Clark and the remainder, eleven men, the squaw and her child, together with fifty horses, moved eastward. Captain Clark once more strikes out into the unknown, following the clear, rapid running, beautiful Gallatin River. Once more, too, Sacajawea proves herself a jewel. In this locality she could orient herself wherever she might be, and she unerringly pointed out the direction and pass to be taken, which was at the head waters of the East Gallatin River. There are three passes here, and this is the southernmost one.

Clark's route lay up the present Gallatin Valley, one of the most



**From Bozeman Pass,
Looking East.**

**Captain Clark passed
down this Valley to the
Yellowstone Valley.**

**Northern Pacific Railway
in Center, Wagon Road
to the Right.**



*Livingston,
Mont., and
Yellowstone
River.*

*Here
Captain Clark
first struck
this River
in 1806.*

fertile vales of the Northwest, a veritable granary indeed, through Logan, Manhattan, and Bozeman, towns on the main line of the Northern Pacific Railway, to a well-defined "gap." This "gap" or pass lies just to the north of Rocky Canyon, through which the railway now runs, and can be identified in a moment by one studying the ground. Here the valley trails converged and, following the canyon or gap, crossed the summit, at the Bozeman Pass, just under which the railway now runs in a tunnel but slightly beneath the surface, another case of following the buffalo and Indian engineers. The proprieties would not have been violated if this had been called Sacajawea's Pass.

Down a gentle slope and over a pleasing prospect they then wound eastward, until within a few miles they reached the Yellowstone River, near the present town of Livingston.

Their route now lies down the beautiful Yellowstone Valley, then a wilderness. Between Livingston and Glendive, three hundred and forty miles, the Northern Pacific Railway follows this stream, made ever memorable by Clark's historic journey. Now it is a valley of enterprising towns and fertile farms, while the wide stretches on either side of the bottom lands are pastured by herds of cattle and sheep, as in Clark's day they were by the buffalo and antelope. Big Timber, Billings, Forsyth, and Miles City are the more prominent towns.

At Big Timber are two streams, Big Timber and Boulder creeks flowing into the Yellowstone from opposite directions. Clark, by a happy thought, called these streams Rivers Across.

On July 18th one of the men so injured himself as to make it impossible for him, temporarily, to proceed on horseback. On the 19th, therefore, it was decided to construct two canoes from cottonwood trees in the bottom. The trees were small; the canoes, when

finished, being twenty-eight feet long, sixteen to eighteen inches deep, and sixteen to twenty-four inches wide.

These home-made boats were lashed together, and they answered the purpose so well that they were used almost to the end of the journey at St. Louis.

This Canoe camp, or Camp Cottonwood as Coues calls it, seems to have been not quite half way between Columbus and Laurel on the Northern Pacific, and not far from the western line of the Crow Indian Reservation.

By the time of departure, July 24th, the injured man had recovered. The party was here subdivided, Sergeant Pryor and three men continuing down stream with the horses, while Captain Clark with the others proceeded with the canoes.

On his way down the Rochejaune or Yellowstone, Clark seems to have noted all the important streams and topographic details, as Coues' footnotes in his edition of Lewis and Clark show.

The Lewis and Clark report was not published until early in 1814, Clark having the direction of the publication of the report after Lewis' demise.

From one source and another Clark picked up much valuable and *correct* geographic and scientific information, and his map of 1814 shows that some of it was acquired subsequent to the years of the exploration, during his residence at St. Louis.

POMPEY'S PILLAR.

On July 25th the party were overtaken by a severe storm. "As soon as it ceased they proceeded; and about four o'clock,



Lewis and Clark's Route. Three Forks—Mouth of Yellowstone River.



Iron Screen over Captain Clark's Name.

*Placed by
Northern Pacific
Railway.*

soil on the top is five or six feet deep, of good quality, and covered with short grass. The Indians have carved the figures of animals and other objects on the sides of the rock, and on the top are raised two piles of stones.

"From this height the eye ranged over a wide extent of variegated country: on the southwest, the Rocky Mountains covered with snow; a low mountain about forty miles distant, bearing S, 15° E; and in a direction N, 55° W, at the distance of 35 miles, the southern extremity of what are called the Little Wolf Mountains. The low grounds of the river extend nearly six miles to the southward, when they rise into plains reaching to the mountains, watered with a large creek; while at some distance below a range of highland, covered with pine, stretches on both sides of the river in a direction north and south. The north side of the river, for some distance, is here surrounded by romantic jutting cliffs; these are succeeded by rugged hills, beyond which the plains are again open and extensive. The whole country is enlivened by herds of buffalo, elk, and wolves. After enjoying the prospect from this rock, to which Captain Clark gave the name of Pompey's Pillar, he descended and continued his course."

Almost ninety-three years to a day from the time that Captain Clark stood on the top of Pompey's Pillar, Mr. Huffman, of Miles City, and I stood there and looked upon the scene that the Captain describes. The river, with its "romantic jutting cliffs" and its beautiful foliage, still flows swiftly by; indeed, it was just after a

after having made forty-nine miles, Captain Clark landed to examine a very remarkable rock situated in an extensive bottom on the right, about 250 paces from the shore. It is nearly 400 paces in circumference, 200 feet high, and accessible only from the northeast, the other sides being a perpendicular cliff of a light-colored, gritty rock. The

W^m Clark
July 25[#] 1806

Clark's Signature, Pompey's Pillar.

time of high water, and the wavelets lapped the base of the rock; the "250 paces" were reduced to nothing. The rock stands as of yore, scarcely changed, and must still be climbed "from the northeast." The "two piles of stones" are now one, and that evidently of modern raising. Fifteen minutes' walk to the south across a wide, level, grassy bottom is the Northern Pacific railway track and the station of "Pompey's Pillar."

Mr. Huffman and I climbed all around and over the rock, and his camera caught it from different positions for reproduction in the present narrative.

In his note book Captain Clark says: "I marked my name and the day of the month and year" [on the rock] which Doctor Coues reproduces in a footnote.

The place where Clark cut his name is where the rock finger is seen on the right in one of the illustrations.

When the Northern Pacific Railway was being constructed, Col. J. B. Clough, the engineer of the Yellowstone Division, saw that Clark's name was

Pompey's Pillar
to the South.
Point at right
of Rock
is where
Clark
cut his
name.



Yellowstone River. Looking West from Pompey's Pillar.

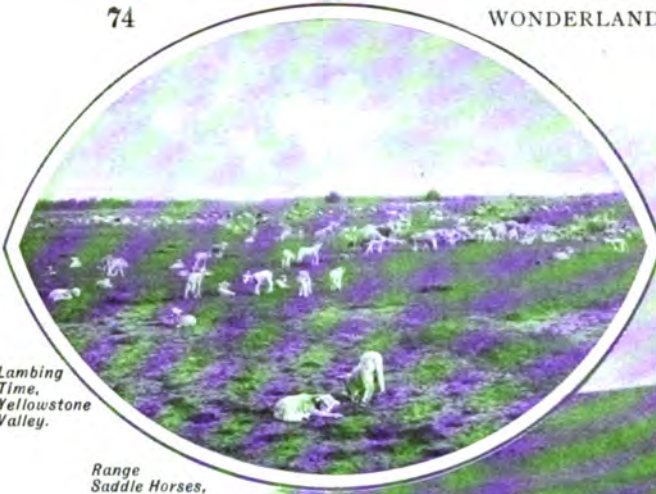
being rapidly effaced, not alone by time but by vandals. He, in behalf of the railway company and under Mr. Villard's instructions, had a heavy double iron screen 30½x24 inches in size, made and sunk firmly into the rock with lead, so as to entirely



Yellowstone River. Looking East from Pompey's Pillar.



Pompey's Pillar from Railway Track.



*Lambing
Time,
Yellowstone
Valley.*

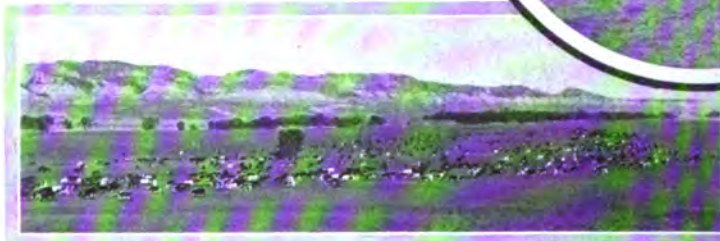
*Range
Saddle Horses,
in Rope Corral,
Yellowstone
Valley.*

cover
and protect
the spot. One
illustration shows
the inscription before the screen
was placed, another shows it as it
now appears.

Clark's name is now hard to decipher. The irrepressible fool has been here, and has scratched and cut



*Fording the River,
Yellowstone Valley.*



*Cattle Herd in
Yellowstone
Valley.*

his various names all around it, and even over some of the letters and between the lines.

The Indian pictographs were not easily found, and had not Mr. Huffman and I both been somewhat familiar with such things, I doubt if we could have discovered them.

The only ones we saw were immediately about Clark's inscription

itself, but they are now so nearly effaced by weathering as to lose most of their detail. The scratched names and dates other than Clark's range in date from 1843 to 1899.

The gallant captain first called this Pompey's *Tower*, and it is so given on his map of 1814. He afterward refreshed his memory, probably, regarding the historic pile at Alexandria, Egypt, for which it was undoubtedly named, and which it does not in the least resemble, and then corrected his text.

Various stories are prevalent in Montana regarding this rock. A common one is that it was so called after Clark's negro servant, York, whose name is erroneously supposed to have been Pompey. Another is that it was named after a Yellowstone River steamboat hand named Pompey, who died and was buried on top of the rock, and that an inscription to that effect is found on the side of the pillar. We found no such inscription, and Clark's journal settles the question of name anyhow.

Two creeks flow into the Yellowstone at this point. One, on the south, appears to be nameless, although considerable of a creek; the other, on the north, meanders through a lovely valley, and was named by Clark "Baptist"—should be Baptiste—Creek, after Baptiste Lepage, one of his men. Baptist Creek has become Pompey's Pillar Creek.

THE BIG HORN RIVER AND BEYOND.

On July 26th the party reached the Big Horn River and camped on it a short distance above its mouth, from which point Clark ascended the stream on foot for at least seven miles.

In 1807 Manuel Lisa established a frontier trading post or fort at the junction of the Yellowstone and Big Horn rivers.

Just seventy years and one month from the time that Clark stood on Pompey's Pillar and looked over the silent and attractive landscape around him, a terrific battle was in progress on the Big Horn, or more specifically, its tributary, the Little Big Horn River, and at the day's ending Gen. Geo. A. Custer and five companies of his regiment lay stark in death, while the Indians under Sitting Bull were glorying in their victory. Just seventy years and one month from the time that Clark was walking up the banks of the Big Horn, a steamer with United States troops on board was working its way up the stream to join forces with those who, the day previous, but as yet unknown to them, had been done to death.

The party now descended the river rapidly, but were bothered by the pesky buffaloes. "I was obliged to land to let the buffalow cross over, notwithstanding an island of *half a mile in width* over which this gangue of Buffalow had to pass," says the Captain, as per footnote in Coues' volume III. [p. 1165]. These animals were to

be seen in vast numbers, and there were also elk, big horns or mountain sheep, and bears, the last very large and ferocious. This "buffalow" crossing was some miles below the present town of Glendive.

On August 3, 1806, they reached their old camp at the junction of the Yellowstone and Missouri rivers, near where Fort Union was afterward established and about where Fort Buford now stands.

The place was unendurable on account of mosquitoes, and they proceeded slowly down the Missouri until, on August 12th, they were rejoined by Captain Lewis and his men from Maria's River.

In the meantime, on August 8th, Sergeant Pryor and his party overtook them, minus the horses. Poor Pryor had had hard luck. Only two days after separating from Captain Clark, the Indians had stolen all their horses and left them afoot on the plains. One night, too, a wolf sneaked into camp and bit Pryor's hand and was killed by Shannon. Unhorsed, these men packed what they could on their backs across the country to the Yellowstone near Pompey's Pillar.

There, after the Indian fashion, they made "bull boats," or circular boats made of buffalo skins, seven feet three inches in diameter, sixteen inches deep, and capable of carrying several men, and in these they successfully floated down the river.

The day before Captain Lewis overtook Captain Clark, Cruzatte, a near-sighted, one-eyed man, in hunting had mistaken Lewis for an elk and shot him through the thigh, inflicting a painful though not dangerous wound.

On August 14th they arrive again at the Mandan villages, and here the disintegration of the expedition begins.

Colter wishing to return West to hunt and trap, applies for his discharge, which he receives, together with ammunition, etc., from his comrades, and then departs with best wishes from all.

Here, too, Chaboneau, the interpreter, and Sacajawea, the Bird Woman, and her pappoose, sever their connection with the party. Chaboneau's wages amounted to \$500.33, including the value of a lodge and horse. His squaw received nothing.

August 17th the homeward course was resumed, and on September 20th, below the Osage River, they saw unmistakable evidences of their approach to civilization: "As we moved along rapidly we saw on the banks some cows feeding, and the whole party * * * raised a shout of joy at seeing this image of civilization and domestic life."

At twelve o'clock, noon, September 23, 1806, they rounded to at St. Louis, "and having fired a salute, went on shore and received the heartiest and most hospitable welcome from the whole village." And now they are enrolled among the immortals.

NOTE. * From an old print (or illustration) from "A Journal of the Voyages and Travels of a Corps of Discovery," etc., by Patrick Gass, published by Mathew Carey, Philadelphia, 1810. (The titles of plates marked * are referred to in the foregoing note.)



IT'S a long story, much longer than I shall attempt to tell here. It compasses more than a half century of time, includes in its annals men eminent in financial, military, and political circles in their day, many of whom became indelibly associated with the history of the country in connection with the enterprise referred to.

The story is that of the Northern Pacific Railroad and its successor, the Northern Pacific Railway.

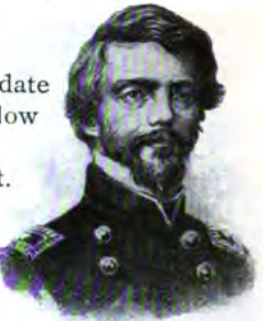
It is, probably, not known to the general public that the first Pacific railway contemplated was a northern and not a southern line; actually, to a great extent, the route upon which the Northern Pacific was subsequently constructed. There was a good reason for this. The purchase of Louisiana in 1803 and the expedition of Lewis and Clark in 1804-6 through that territory to the North Pacific Coast, made the public familiar with that region. This knowledge was increased by the operations of the old fur companies; notably, perhaps, by those of the Hudson's Bay Company and by Astor's attempt to found an American company at Astoria, at the mouth of the Columbia River. The Missouri and Columbia rivers, almost interlocking at their head waters among the Rocky Mountains, were thought to furnish an easy, natural line for railway construction. That the first road, the Union and Central Pacific, was not built along the northern route was owing to pregnant political conditions at the time.

The real promulgation of the idea of a Pacific railway seems to have been in a newspaper article by Dr. Samuel B. Barlow, a physician of

Granville, Mass., in 1834—perhaps earlier, as the date of the paper is not definitely known. Doctor Barlow advocated the northern route.

Ten years later the idea was taken up in earnest. Then Mr. Asa Whitney espoused it with remarkable vim and in face of ridicule and profound discouragements. He sank his fortune in the scheme and died a poor milkman, but not until he saw the public aroused to the importance of the enterprise.

A fact in connection with both Barlow's and Whitney's advocacy of the railroad, especially so of Whitney's, of timely interest now, was the prospective trade of this country with China and Japan, pointed out



Gen. Isaac I. Stevens.

as one of the important results of the project.

This argument can now be thoroughly appreciated, for this



1. Josiah Perham,
First President, N. P. R. R.
2. Frederick Billings,
Fifth President, N. P. R. R.
3. Henry Villard,
Seventh President, N. P. R. R.
4. Charles S. Mellen,
Second President, N. P. Ry.



trade, great now as compared with Whitney's time, is a bagatelle to what it will become with commercial expansion worked out.

In 1835 Rev. Samuel Parker, a Presbyterian clergyman of Ithaca, N. Y., made a missionary trip across the continent and down the Columbia. In an interesting volume recounting his adventures and observations he boldly says: "There would be no difficulty in the way of constructing a railroad from the Atlantic to the Pacific Ocean."



Jay Cooke.

It seems to me, however, that the *germ* of this idea was publicly enunciated years before any of the before-named individuals gave expression to it. In the Twenty-ninth Congress, first session, House of Representatives, Docu-

ment No. 173, (1846) there is printed a memorial of Robert Mills, "submitting a new plan of roadway." This roadway was possessed of such advantages over railroads and canals, "that it must eventually be substituted in their place," in the interests of economy, etc., in "a system of intercommunication with Oregon and a commercial highway to the Pacific Ocean." This particular roadway is neither here nor there, but in Mills' memorial occur these words: "The author has had the honor of being, perhaps, the first in the field to propose to connect the Pacific with the Atlantic *by a railroad from the head navigable waters of the noble rivers disemboguing into each ocean.* (Italics mine.) In 1819 [nine years prior to the first railroad construction in this country] he published a work on the internal improvement, of Maryland, Virginia, and South Carolina, connected with the intercourse of these States with the West." In this memorial there is a lengthy extract from that work. It appears that Mills' idea in 1819 was to use, apparently because of expediency and less expense, the Missouri and Columbia rivers as far as possible, and connect their head waters *by a railroad.* While this is by no means the Pacific Railroad idea in its entirety, it seems to me that it exists in embryonic form at least, and that Mills should receive his just credit for it.

Whitney nearly succeeded at one time (1848) in having a bill passed by the United States Senate favorable to his project.

Following Whitney's abortive efforts, Edwin F. Johnson, a native of Vermont, became the next apostle of the enterprise. Johnson was an engineer of splendid reputation, a practical railway builder, had studied the subject thoroughly, was convinced of its wisdom and practicability, and was able to give to the whole movement an impetus it had not before possessed, and to place it upon a much higher plane in public discussion and estimation.

Johnson seems to have been primarily responsible for the inauguration of those great expeditions known as the Pacific Railway Surveys by the United States Government in 1853. At that time, however, the feeling between the North and South upon the slavery question was at white heat, and political considerations came in to complicate the question. Congress, therefore, made appropriations for five expeditions to explore the West to the Pacific Coast, along the lines of the 32d, 35th, 38-39th, 41-42d, and the 47-49th parallels of latitude, to determine the question of the best route for a transcontinental railway.

These surveys and explorations were under the control of the War Department. Many of the ablest engineers of the army were detailed to duty in connection with them. The names of many men, who figure in the Pacific Railway reports (of which there were some thirteen large volumes, illustrated with cuts of scenery, Indians,

WONDERLAND 1900.

maps, profiles, etc.) as lieutenants and captains, were not long afterward known as generals in the great Civil War.

At the head of the War Department was Jefferson Davis, later the President of the Southern Confederacy.

On Detroit Lake, Minn.

We are here concerned with the exploration of the 47th and 48th parallels only. In charge of this survey was Gov. Isaac I. Stevens of Washington Territory. He had been an army officer in the Mexican War, a member of the United States Coast Survey, and was an energetic, able man, and he conducted this exploration with consummate ability. Stevens became a brigadier general in the Civil War and was killed in 1862, at the battle of Chantilly, Virginia. Captain George B. McClellan of Stevens' party became General McClellan of the army of the Potomac; F. W. Lander became General Lander, and he too lost his life in the earlier years of the war; Lieutenants Cuvier Grover and Rufus Saxton, Jr., both were known as Generals Grover and Saxton. Lieutenant and then Captain Mullan, one of Stevens' engineers, built the well-known Mullan wagon road between Wallawalla and Fort Benton, across the Rockies at Mullan Pass, where the Northern Pacific crosses the main range.

The reports of the various expeditions were sent to Congress in 1855, and from that time to 1861, the breaking out of the Civil War, the subject was debated and *billed* and *resolutions*, without anything of consequence being done toward actually beginning construction.

In 1862, political exigencies necessitated the immediate building of *one* road that must necessarily touch California. This of course



Chippewa Indians at Leech Lake, Minn.

precluded the northern line from receiving attention, and the result was the construction of the Union and Central Pacific railroads.

From 1862 to 1867 the Northern Pacific project passed through a period of great travail. Various schemes that, practically, all came to naught, were proposed and considered.

The act of Congress incorporating the Northern Pacific Railroad Company passed the House of Representatives May 31, 1864, and was signed by Schuyler Colfax as Speaker. It was approved by Abraham Lincoln, as President, July 2, 1864. In the list of incorporators were names of men from Maine to Minnesota, Oregon, and California, noted in military, commercial, and political circles.

Among them were John C. Fremont of New York, J. Edgar Thompson of Pennsylvania, U. S. Grant of Illinois, Alexander Mitchell of Wisconsin, H. M. Rice of Minnesota, John A. Bingham and S. S. L'Hommedieu of Ohio, Thomas E. Bramlette of Kentucky, and J. C. Ainsworth of Oregon.

In 1867 some of the ablest railroad men of the country became interested in the matter, and surveys for location were ordered and begun under Edwin F. Johnson as chief engineer.

The roseate hue imparted to affairs was to a great extent illusory, as actual construction was not begun until 1870. In the meantime various schemes were advanced for financing the road. Congress was besieged for additional aid, and finally a bill was passed in 1871 allowing the company to mortgage its road and land grant.

An important episode in the history of the road should here be referred to.

During the Civil War the banking firm of Jay Cooke & Co., of Philadelphia, as financial agents had performed almost impossible things in floating the various bond issues of the Government. The firm had thus become the most noted banking house in the country. Mr. Cooke added to his own reputation as a banker that of a most liberal public citizen and philanthropist. He was disposed to do, in a small as well as a large way, many things that endeared him to people and made his name a household word. As it happens, the writer, as a lad, had an experience of this sort with Mr. Cooke.

Living at the time in one of the lake



*In Pyramid Park,
North Dakota.*

cities of Northern Ohio, where Mr. Cooke's aged parents resided, I had occasion, as a messenger in a telegraph office, to deliver a telegram to Mr. Cooke, upon one of the latter's visits to his parents. It was soon after a new issue of fractional paper currency, so common in those days, had been made. The gentleman being out for a short time, I was engaged in the interim in conversation with his mother. When he entered I handed him the message, had him sign his name in the messenger book, and was turning to go, when he pulled out his pocket book, fat with crisp, new currency, and taking



Lake Pend d'Oreille,
Idaho.

between his thumb and finger what he could conveniently, without counting it he threw it into my cap. This was not an isolated

case, but was characteristic of the man, as I well knew from the experiences of others.

Mr. Cooke's success with the government loans made those in control of the Northern Pacific in the later '60s anxious to have his firm perform the same office for the railway company. After extended negotiations, and a thorough examination along the proposed route of the railway by Mr. Cooke's engineers, his firm assumed the relation of financial agents to the company in 1870.

They advertised the road and country most thoroughly, and their statements relative to the general character of the Northern Pacific region for settlement, etc., were remarkably true and accurate, as time has amply demonstrated.

As stated, construction began in 1870, but before touching upon that phase of the enterprise, let us briefly glance at the country as it was before the iron horse penetrated the prairies and mountains.

The six States and Territories which the Northern Pacific was the more particularly to pass through or touch had, in 1870, a population of something more than 600,000, of which Minnesota alone contained nearly seventy-five per cent, or considerably more than 400,000. This population was not in a chain or line of continuous settlement. Far from it; save the older and larger communities in Eastern Minnesota, it was, for the greater part, in the form of isolated hamlets and towns, with wide intervals of plain, mountain, and prairie, roamed by the Indian, buffalo, elk, and deer. In some parts of the Rocky Mountain region there were a few mining camps and frontier towns.

Washington and Oregon combined had only about 120,000 souls congregated mostly on the shores of the Pacific. Over the illimitable plains, between the two mountain ranges, and again east of the Rockies, there were a few trading posts, frontier forts, and Indian agencies. There was, practically, not a farm in the

Red River Valley, not a sheep or a steer grazing on the Montana plains, and



Trouting in Rosebud Creek. Beartooth Mountains, Montana.

the great stretch of country, of which Spokane is now the metropolis, was

"A wide domain of mysteries,
A land of space and dreams—"



The Mission Range, Montana.

All communication was by steamboat up the unimproved rivers for hundreds, or even thousands, of miles; by stage coach, and slow-

Hellgate Canyon. Entrance from the West. N. P. Ry. Track along the River.

moving prairie schooners. The conditions surrounding railway construction were different from those in the East. Here the railway must be the pioneer, the settler the follower. And thus it remains, largely, to this day.

Construction began at a point in Minnesota, about twenty miles west from Duluth, in the summer of 1870, the first rails laid costing



*Dr. Thayer's Buggy
Thirty Years ago.
Used in construction
of N. P. Ry.
and owned by
T. H. Canfield.*

\$90 a ton laid down at Duluth. During the same year grading was carried on between the Columbia River, below Portland and Puget Sound, and early in 1871 there were twenty-five miles of completed railway in Washington.

In Minnesota the rails were laid, in 1870, to Brainerd, on the Mississippi River; in 1871 the line was completed across the beautiful Lake Park region of Minnesota,

now the summer resort of thousands, to Fargo, on the Red River. In 1872 construction was pushed and when the financial crash of 1873 came, the rails had been laid across the Dakota prairies to Bismarck, on the Missouri River, and also between the Columbia River and Puget Sound at Tacoma.

The Northern Pacific was hard hit in the panic of 1873, and moved along in an indifferent sort of way until 1875, when, under a plan matured by Frederick Billings, a director, the company passed into bankruptcy and was immediately reorganized in better shape than ever, with C. B. Wright of Philadelphia as president.

Some statements taken from the annual report of 1876 may prove interesting.

The gross earnings were about \$850,000. There were of

Completed railway	555 miles
Locomotives	48
Passenger cars	22
Freight and miscellaneous cars	1,230

There were 13,000 persons who held stock in the company, scattered over the entire country. The population east of the Missouri River within the limits of the Northern Pacific land grant was 30,000, as against say 4,500 in 1870.

In 1875 the wheat crop raised on lands tributary to the railway—east of the Missouri River of course—amounted to 500,000 bushels, as against nothing in 1870. This was an average of about twenty bushels per acre, thus representing 25,000 acres cultivated.

During the time that Jay Cooke & Co. were advertising the Northern Pacific country and its possibilities, many attacks were made through the press and otherwise upon their statements, and much honest skepticism existed as to whether the country was really of any value.

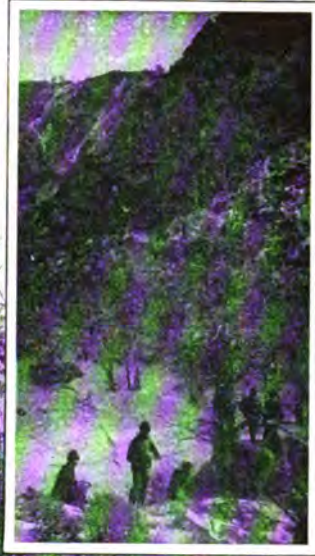
Certain of the Northern Pacific directorate had determined that they themselves must furnish incontestible evidence that the country was a valuable one agriculturally. In pursuance of this plan, Mr. T.

H. Canfield purchased 5,500 acres of land at Lake Park, Minnesota; Mr. Charlemagne Tower, 3,000 acres at Glyndon, Minn.; Messrs. Benjamin P. Cheney and Geo. W. Cass, 6,000 acres at Casselton, Dakota — now North Dakota — and these farms were at once broken up and put under expert cultivation. The result of this experiment showed that the Lake Park region of Minnesota and the Red River Valley contained the finest wheat lands of the world. This is a fact to-day, and its demonstration then influenced a tremendous and steady immigration to this section in the years immediately following.

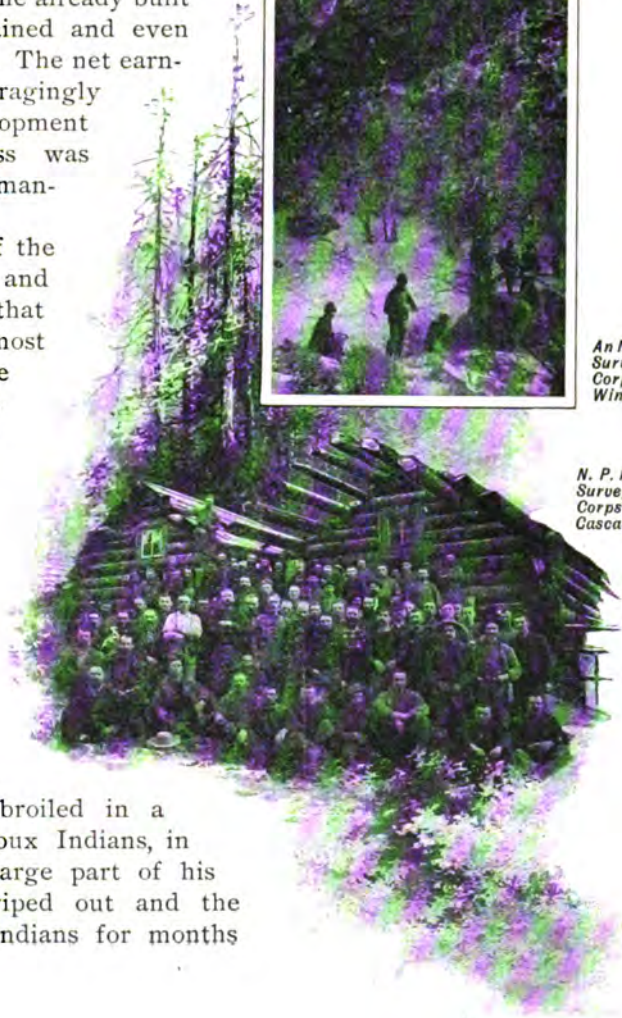
During the next five years little was done in the way of extensions. The times were not propitious for it. The general *morale* of the line already built was splendidly maintained and even considerably improved. The net earnings steadily and encouragingly increased and the development of the local business was wisely fostered by the managers.

Upon completion of the road between Fargo and Bismarck it was found that the traffic there was almost entirely confined to the summer months. The line was therefore not operated in winter. It was feared that, in addition to the small amount of business offered, the delays and expense of operation, because of severe storms and drifted snow, would entail grievous losses.

The year 1876 had seen the country embroiled in a bitter war with the Sioux Indians, in which Custer and a large part of his command had been wiped out and the troops kept chasing Indians for months afterward,



An N. P. Ry. Surveying Corps in Winter.



N. P. Ry. Surveying Corps in the Cascades.

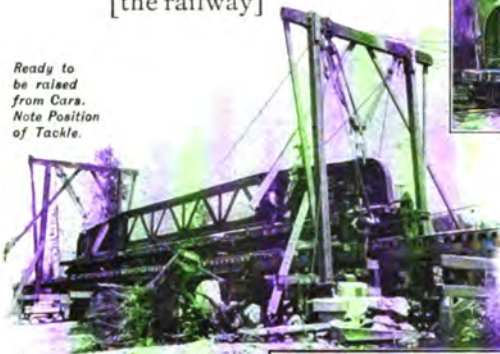
Fort Abraham Lincoln, from which Custer had started on his campaign, was within sight of Bismarck. North and South of Bismarck along the Missouri River were other forts. It was important that the government be in as close rail and telegraphic communication as possible with these posts. The War Department therefore requested the company to operate the line during the winter of 1876-77, and this was done. A paragraph taken from the annual report for that year reads as follows: "We are gratified to be able to report that the traffic upon it [the railway]



One Hundred Foot — 28 ton — N. P. Ry. Bridge Span on three Cars.

On Cars.

Ready to be raised from Cars. Note Position of Tackle.



Raised from Cars by Locomotive at one end and by Hoisting Engine at other. Note Position of Tackle.



regarding extreme difficulty to be encountered in the winter from snow on this northern route, thus dispelled twenty-three years ago, unlike Banquo's ghost, remains down. There are good and scientific reasons why, as is the fact the trouble should be less than it is in warmer latitudes.

In 1877, at which time the management of the property was placed in the hands of H. E. Sargent, a railway man of ripe experience, a direct connection was secured into Minneapolis and St. Paul. In 1879 the line between Brainerd and Fargo was relaid with steel rails which cost nearly \$45 per ton.



Lowered from Cars to Bridge Piers.

NORTHERN PACIFIC

In 1879 construction was again begun and the line pushed rapidly westward from Bismarck across the elevated plains, a splendid grazing country, of Dakota and Eastern Montana. At the same time work was also being energetically carried on in Eastern Washington from the Columbia River at Wallula eastward. From this time to August 22, 1883, construction was continuously and unremittingly forced along, although under great obstacles at times. This work was prosecuted in Wisconsin, Minnesota, Dakota, Montana, Idaho, Washington, and Oregon, and in many or all of these commonwealths at the same time. It comprised main line construction, branch lines or feeders, bridges, shops, office buildings, mammoth ferryboats, telegraph lines, and the usual minor appurtenances. It included, contemporaneously, work on the plains, in valleys, among mountains.

Important items were the construction of the Bismarck bridge across the Missouri River, a steel and iron structure of three main spans, 1,400 feet long, 50 feet above high-water mark, and costing \$1,000,000; a transfer ferryboat on the Columbia River, 320 feet long, having three tracks and a capacity of twenty-seven freight cars, and costing \$347,000; the completion of the Bozeman Tunnel, 3,610 feet, and the Mullan Tunnel, 3,847 feet long, both across the Rockies.

During this period of rapid railway building there had been some changes of administration. At the annual meeting in 1881 several of the oldest and most prominent directors resigned and



Reducing a Grade. Last Train over OLD Main Line. New Track Been in Cut before Leveling, etc.



Track Grading.



Track Laying.



Track Grading. End of a Dump.



Northern Pacific Stone Ballasted Track

were succeeded by entirely new men, among whom was Mr. Henry Villard. to this, become inter-enterprises on the and had obtained con-



new men, among whom Mr. Villard had, prior ested in railway Northwest coast trol of the Oregon Railway & Navigation Com-pany. He then organized another company, the Ore-gon & Transcontinent-al Company, and having also quietly obtained a control-ling interest in the Northern Pacific, trans-ferred the practical control of both the old roads to the new



Styles of Northern Pacific Railway Bridges.

company, and be-came at the same time presi-dent of the Northern Pacific.

Upon the completion of the Northern Pacific in August, 1883, Mr. Villard made it the occasion of a grand celebration. Many distinguished men were invited, comprising not only influential men in commercial, professional, and political life in the United States, but also men of note from abroad. Three hundred and fifty guests journeyed in three special trains from St. Paul and one train from Portland, and on September 8, 1883, the last spike was driven at Gold Creek, in Hellgate Canyon, Montana, amid salvos of artillery and a display of oratory. This *last* spike was the iron spike that had *first* been driven years before when construction was begun. Prominent among those present were William M. Evarts as orator, Secretary of the Interior H. M. Teller, and General U. S. Grant.



The following tables, abstracted from the annual reports of the company, show the steady growth of the infant now arrived at maturity :

TABLE OF EARNINGS AND EXPENDITURES.

YEAR.	GROSS EARNINGS.	Improvement and Betterment Expenditures.	New Equipment Expenditures.
1875-76.....	\$ 850,000.00		
1879-80.....	2,230,181.81	\$ 302,930.27	\$ 212,032.72
1882-83.....	7,855,459.26	2,013,966.61	1,604,916.37
1883-84.....	12,603,575.58	866,038.06	5,594,672.49

TABLE OF EQUIPMENT OWNED, ETC.

YEAR.	Locomotives.	Passenger, Baggage, Express, Etc Cars.	Freight and Miscellaneous Cars.	Miles of Road Operated.	REMARKS.
1875-76.....	48	56	1,196	555	
1879-80.....	71	45	1,751	722	
1880-81.....	104	68	3,021	754	
1882-83.....	289	174	7,500	* 2,166	* About.
1883-84.....	391	283	10,149	2,459	

During this period of rapid railway building, opening up new and fertile vales to the settler, who was following both the course of empire and Horace Greeley's advice, farms were opened, towns built, cities increased in population, and the business of the company rapidly augmented.

In 1881-82, the road carried 19,466 passengers; in 1883-84, 716,000; in 1876-77, there were transported 1,500,000 bushels of wheat; in 1882-83, 5,100,000 bushels; in 1880-81, there were shipped from the cattle ranges, 9,200 cattle; in 1883-84, between 30,000 and 40,000, while there were carried *into* Montana 40,000 head of young cattle for breeding purposes.

The sales of land were:

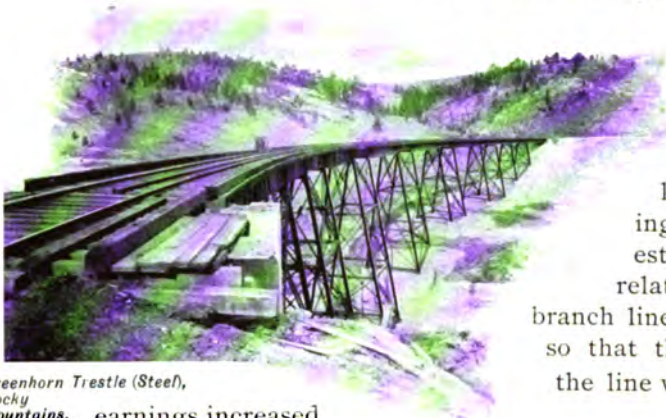
YEARS.	ACRES.
1876-77.....	271,000
1877-78.....	750,000
1882-83.....	534,000
1883-84.....	478,000



Trestle before Filling.



Same Trestle Filled.



Greenhorn Trestle (Steel),
Rocky
Mountains.

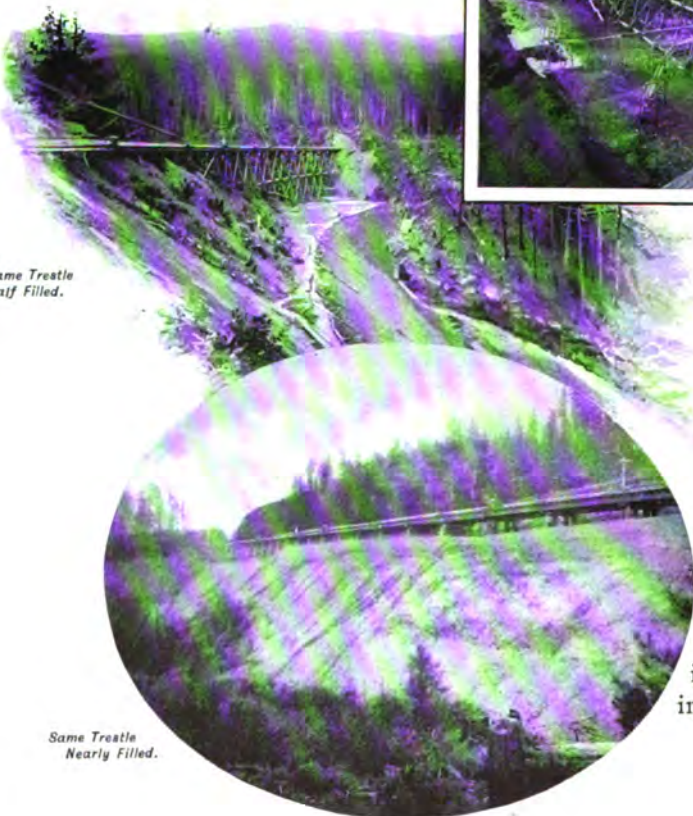
earnings increased annually until for the year 1891-92 they reached nearly \$25,000,000. At the same time, however, the bonded indebtedness was largely increased, necessi-

From 1884 to 1891 the Northern Pacific prospered. The country was rapidly settled and the live stock, timber, mining, and agricultural interests increased, *pari passu*, relatively. The mileage of branch lines was increased yearly, so that the original mileage of the line was now doubled. The

Filling a
Trestle in
the Cas-
cades.



Sluicing Down the Mountains and filling Trestle
by Means of
Giant Nozzles.



Same Trestle
Half Filled.

Same Trestle
Nearly Filled.

tating a heavy addition to annual interest charges. These, with other necessary pledges, now aggregated an onerous "fixed charge" against the property, which, however, had theretofore been met. Now came a decline in business, culminating in the financial

stringency of 1893, and the company was face to face with another crisis. There was but one way to meet it and that was—a receivership. In August, 1893, the company was for the second time placed

in the hands of receivers, in which condition it remained for about three years.

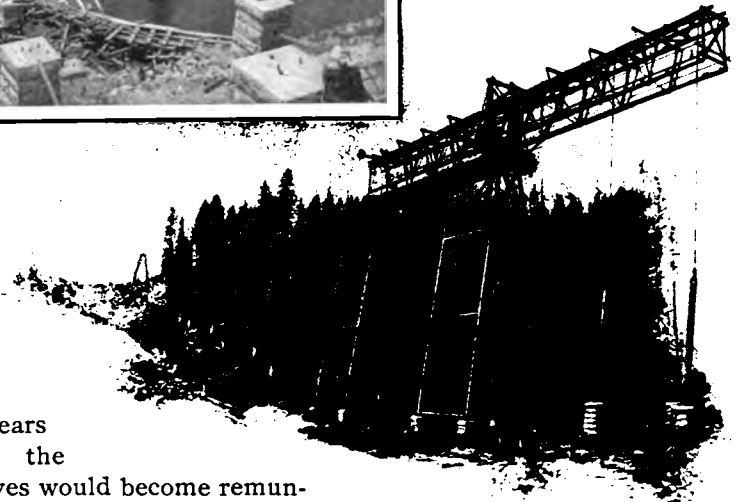
It should be remarked that the building of the branch lines was necessarily under



Constructing
"Granite
Trestle"
(Steel),
Idaho.
Showing Piers.

the same conditions as was main line construction. These lines must be the pioneers; immigration must wait upon them. This meant that several years would pass before the branches in themselves would become remunerative, although adding much, in the meantime, to the tonnage and revenues of the main road. They were in advance of the period, and time must elapse before the country grew up to them.

That this policy was a wise one has been fully demonstrated. When the panic came, however, and with it receivers, it was at once seen that a complete readjustment of finances and securities must be made. During the years of construction interest rates were high, and the company's bonds and stocks bore interest at the rate of 6 per cent and a small portion of them at 7 per cent. With the decline in income the interest and other fixed charges did not



"Granite
Trestle,"
showing
Traveler
at work.



1. *West-Bound Transcontinental Express near Butte.*
2. *East-Bound Transcontinental Express. On Stone Ballasted Track, going 70 Miles per Hour.*
3. *A Freight Train Climbing the Rockies. Three Locomotives Attached.*
4. *East-Bound Northern Pacific Railway Transcontinental Train. Rounding Jumbo into Hellgate Canyon.*
5. *Transcontinental Express. Crossing Marant Trestle, Rocky Mountains.*



decline, and this fact, making yearly deficits certain, forced the receivership. These branches being, most of them, constructed under separate charters, passed at first into separate but sympathetic receiverships, but finally all lines were merged into one receivership.

Under the receivers, the improvement of the property, previously begun, was wisely continued. This consisted of grade and curve revisions, substitution of steel for wooden trestles, filling in with earth of many bridges and trestles, widening the railway embankment and thoroughly ballasting same, replacing old with new and heavier steel rails, lining tunnels with concrete, together with the replacement of old by new and heavier motive power.

Prior to the receivership, there had been eleven quarterly dividends paid upon the preferred stock, amounting to more than \$3,600,000.

September 1, 1896, the receivership terminated, and the Northern Pacific Railway Company succeeded, through foreclosure proceedings, to the property and franchises of the Northern Pacific Railroad Company, with E. W. Winter of St. Paul as president.

Things seemed auspicious for the new company. The financial tidal wave that had played havoc with so many large business enterprises all over the country was receding; the company's finances seemed to have reached a rational basis, and the fixed charges to be reduced to a figure easily within the power of the company to meet; business was good and the earnings large; the physical condition of the property in better shape than ever before.

The debit side of the ledger showed capital assets (real estate, track, terminals, equipment, etc.) of nearly \$308,000,000, and miscellaneous assets (various funds, securities, etc.) of \$13,000,000, or a total of almost \$321,000,000. The liabilities consisted of capital stock, mortgage debt, and bonds of the old company assumed, amounting to \$316,000,000, and general and contingent liabilities (pay rolls, taxes, accrued interest, and certain reserve funds) of nearly \$4,500,000. The "fixed charges" had been scaled down to about \$6,000,000 annually, while the gross earning for 1896-97 (ten months only) were nearly \$15,000,000. The securities previously bearing interest at 6 or 7 per cent, now bore interest at 3 or 4 per cent.

The anticipation has proven true, and prosperity has followed the fortunes of the new corporation. Earnings have constantly increased and comparative operating expenses decreased; new and valuable extensions have been made, and all the feeder lines attached to the old company have been purchased by the new at remunerative figures; extensive improvements have been made to the property, and large accretions to the motive power.

In 1897 President Winter was succeeded by Mr. Charles S. Mellen. It is the continuing policy to apply the most economical methods of administration and operation known to the science of railroading.

In 1871 General George W. Cass, the third president of the Northern Pacific, used the following language: "The Northern Pacific Railroad can be operated and maintained at a less cost than any other railroad across the continent north of the parallel of thirty-three degrees for obvious and well-known reasons. * * * There is no problem to solve as to the success of the road after it shall have been completed. The only question after that event will be how any intelligent man of this age should ever have had any doubt about it." In this statement General Cass, an extremely conservative man of the old school, exhibited wonderful prescience.



First Locomotive on N. P. Ry.

The following table shows the fluctuations of "percentage of operating expenses to gross earnings" and how the rigid application of economical methods has verified General Cass' prophecy. The remarkably low percentage shown in the last two years has attracted attention from railway managers all over the country.

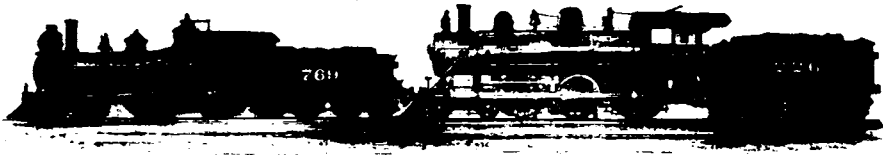
YEAR.	Per Cent of Operating Expenses to Gross Earnings.	YEAR.	Per Cent of Operating Expenses to Gross Earnings.
1879-80 (10 months)	60.	1894-95	65.
1884-85	53.	1897-98	47.
1889-90	58.	1898-99	47.

To show in a concrete and condensed manner the effect of improved methods of railroading, I give in tabular form certain results covering the three years of operation of the new company.

TABLE OF EARNINGS, OPERATING EXPENSES, MILEAGE, AND DIVIDENDS — 1896-99.

YEAR.	Gross Earnings.	Operating Expenses.	Net Earnings.	Dividends Paid.	Operated Mileage of Road.
1896-97	\$14,941,818.22	\$ 9,155,872.67	\$ 5,785,945.55	4,379.95
1897-98	23,679,718.31	11,095,370.91	12,584,347.40	\$3,000,000.00	4,349.98
1898-99	26,048,673.75	12,349,452.21	13,699,221.54	4,600,000.00	4,634.93

The following table shows the amounts expended for the years 1896-99 for new equipment:



*Old and New
Style Passenger
Locomotives.*



*Newest Style
Passenger Engine.*



*6 — Mountain Pusher.
18 — Freight Engine, Latest Style.*

*224-220 — Passenger Engines, Simple.
170-186 — Passenger Engines, Compound.*



Old and New Style Freight Locomotives.

A Family of Engines.

TABLE OF EQUIPMENT PURCHASED.

YEAR.	Loco- motives.	Passenger, Baggage, Etc., Cars.	Freight, Etc., Cars.	COST.
1896-97.....	6	250	\$ 232,029.01
1897-98.....	18	100	278,011.33
1898-99.....	23	30	2,226	1,728,175.97
Total.....	47	30	2,576	\$2,238,216.31

Electric-Lighted
Dining Car.

In addition to this equipment, a much larger number of locomotives, cars, etc., are annually rebuilt at the company's shops. On June 30, 1899, there were in service 570 locomotives, 482 passenger train cars, 20,583 freight train cars, and 2,531 miscellaneous cars.

The following table may prove of interest:

TABLE OF TRACK RENEWALS, ETC.

ON MAIN LINE.	1896 / 1897	1897 / 1898	1898 / 1899	Total, Three Years.
Track relaid with 72-lb. steel rails—Miles.....	106	196	251	553
Track ballasted—Miles.....	112	300	440	852
New cross-ties laid.....	1,408,363	1,273,671	1,081,039	3,763,073
New side tracks—Miles.....	13	32	53	98
Track embankment widened—Miles.....	112	300	655	1,067
Fence constructed along right of way—Miles.....	107	587	260	954

On June 30, 1899, of the 4,635 miles of Northern Pacific track proper, operated, 1,885 miles were laid with steel rails weighing either seventy-two or sixty-six pounds to the yard.

During the three years under consideration, 829 bridges and trestles were replaced by earth embankment, and fifty-two by steel structures. The aggregate length of these was nearly 25.5 miles. In 1890 there were 144 miles of bridges and trestles; on June 30, 1899, there were 10,941 bridges, trestles, and culverts, of an aggregate length of about eighty-six miles. Of this number 3,375 were steel, iron, or stone, solid and permanent structures.

One of the most interesting phases of railroading is that

relating to motive power and the movement of traffic. Here money is quickly made or lost. A locomotive is a fascinating piece of machinery. The tremendous speed of modern passenger and the tremendous power of modern freight locomotives, and the wonderful refinements of mechanical engineering necessary to accomplish the results obtained, seem like tales from Gulliver or Jules Verne.

Stating it broadly, the object of cutting down grades, reducing curves, and increasing motive power is to enable engines to haul heavier trains continuously, from end to end of the railway. Manifestly a certain engine can haul a heavier train over one hundred miles of level road than over a hundred miles where heavy grades are encountered. Uniformity, therefore, means a saving in operating expense and an addition to revenue.

Another important aid to the accomplishment of this object is in the building of larger freight cars. Where, a few years ago, these cars ranged in capacity from 20,000 to 40,000 pounds, they now range from 40,000 to 70,000, and 100,000 pounds. Such improvements have been made in car construction that this greatly increased capacity is obtained with very little increase, comparatively, in the dead weight of the car itself. This results, of course, in a much greater tonnage carried per car, and, with the factors before mentioned added, in a greater tonnage per train.

That is to say, that with grade and curve reductions, heavier motive power, and larger cars, larger and heavier trains are pulled by a given engine, and a less number of trains is therefore required to do the same amount of business, and the live or paying train tonnage is greatly increased while the dead weight or non-paying train tonnage is, comparatively, greatly decreased. Or, briefly and technically, the train *tonnage* is increased while the train *mileage* is decreased



Palace Sleeping Car.
Electric Light.



Observation
Car.
Recessed End.



Tourist
Sleeping Car.

which means that the income per *train* goes up and the expense per train *ton* goes down.

To the accomplishment of this result railway managers have, in late years, been forced to assiduously address themselves owing to the great reduction in freight and passenger rates.

The two tables following show the economic effects of this effort to increase the train load, etc. Where it has been impossible to so reduce grades and curves as to allow a train of certain size and weight to be hauled continuously by one engine, the obstacle is overcome by using a helper engine or engines for short distances, and thus the train is kept unbroken.

TABLE OF LOCOMOTIVE TONNAGE, WESTBOUND.

DIVISION.	TERMINI.	MILES.	GRADES.	Tons Hauled in 1893 per Train.	Tons Hauled in 1897 per Train.	Tons Hauled in 1899 per Train.
<i>Dakota</i>						
First District.....	Fargo—Jamestown.	92	Light.....	840	1,200	1,350
Second District....	Jamestown—Mandan	107	Moderate....	700	1,000	1,350
<i>Yellowstone</i>						
First District.....	Mandan—Dickinson	110	Heavy.....	425	675	1,350
Second District....	Dickinson—Glendive	106	Heavy.....	425	750	1,350
Third and Fourth Districts.....	Glendive—Billings..	226	Light.....	625	850	1,200
<i>Montana</i>						
First District.....	Billings—Livingston	115	Light.....	650	1,000	1,350
Second District....	Livingston—Helena..	123	Mountain....	750	1,000	1,150
<i>Rocky Mountain</i>						
First District.....	Helena—Missoula...	125	Mountain....	875	1,050	1,050
Second District....	Missoula—Hope.....	173	Mountain and Moderate..	400	900	1,050

The above table shows the average number of tons in a freight train hauled by one engine, over the stated divisions, for the years given. The comparison is an interesting one, and is representative of the whole road. The divisions noted are consecutive and embody all the variety in grade and curvature to be found on the line. In

order to accomplish the results attained, engines are specially designed and built to meet the requirements of the particular divisions to which they will be assigned.

For example, a very much heavier engine is used on the first and second districts than upon the third and fourth

*New Style
N. P. Ry.
Coal
Elevator
and Bins.
Side View.*



districts of the Yellowstone division, while on the first district of the Montana division still another class of engine is employed.

The foregoing table relates to the dynamic feature of the problem, the one following to its economic phase.

TABLE OF ECONOMIC RESULTS DUE TO IMPROVED METHODS OF OPERATION, ETC.

YEAR.	Average Mileage Operated.	Total Miles Run By Freight Trains.	Average Paying Tons Per Train Mile.	Amount Received Per Mile of Trains Run	Amount Received Per Ton Per Mile.
1890.....	3,585	8,414,961	130	\$1.84	\$0.014
1895.....	4,469	7,189,057	164	1.84	0.011
1897.....	4,367	6,410,861	184	2.12	0.011
1899.....	4,579	6,595,298	278	2.95	0.010

It will be seen that, with an increase in operated mileage, the total miles run by freight trains has greatly *de*creased, while the train load and revenue received has steadily *in*creased.

The revenue per *ton* however, as will be seen, has *de*creased. Had the amount received per ton in 1890 been maintained in succeeding years, the figures in next to the last column of the last table would have been as follows:

1890.....	\$1.84
1895.....	2.40
1897.....	2.58
1899.....	3.89

The fact that in the face of a *de*creasing income per ton, the amount received per train mile has steadily *in*creased, is an eloquent commentary on the economic operation of the road.

It is a striking fact that the approximate saving to the company, in dollars, of grade reductions, etc., since 1895, equals the amount of dividends declared on both the common and preferred stock in 1899. That is to say, these dividends are virtually the result of the aforesaid economies.

Through all its vicissitudes the land grant of the Northern Pacific has been what may well be termed a sheet anchor. Receiver Rouse well said: "The relation of the land grant has been, from the inception of the enterprise, a most important element in its career. The possession of the great territory granted by the government has always been used to justify a claim for credit on behalf of the securities of the corporation," and, it may be remarked, successfully. The approximate number of acres earned by construction of the road was nearly 47,000,000. On June 30, 1899, there were still unsold 23,500,000 acres. It will be seen at a glance that a tremendous population will eventually be maintained here.

On June 30, 1899, the operated mileage of Northern Pacific and proprietary lines was 4,962.52 miles. The main line, in two stems, extends from St. Paul and Minneapolis, Minn., through St. Cloud and Little Ashland, Wis., prior, Duluth, and Staples; thence Moorhead, Fargo, Bismarck, Dickinson, Miles City, Billings,



Falls, and from through Superior, Brainerd, to west through Jamestown, Glendive, Livingston, Helena, Butte,

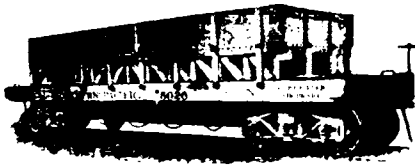


Missoula, Spokane, North Yakima, Ellensburg, Seattle, and Tacoma, to Portland, Ore. The most important branch lines extend from Wadena, Minn., southwest to Fergus Falls and

- Northern Pacific Furniture Car.*
- Capacity 60,000 lbs.*
- Logging Car, Pacific Coast.*
- Weed Burner.*
- Northern Pacific Stock Car.*
- Rodger Ballast Car.*
- Northern Pacific Freight Car.*
- Northern Pacific Grader.*



beyond; from Winnipeg Junction, Minn., through Crookston, Minn., and Grand Forks and Grafton, N. D., to Winnipeg, Manitoba, at which point other ramifications are found; from Fargo, N. D., southwest to Edgeley; from Jamestown, N. D., north to Leeds; from Livingston, Mont., south to Yellowstone Park; from Missoula, Mont., northwest to Wallace, in the Cœur d'Alene country, and south to Hamilton and Grantsdale, in the Bitter Root



Valley; from Spokane, Wash., south through the Palouse region to Lewiston, Idaho, and water and Buffalo country; from Pasco, south into the Walla country; from Seatonh to the international



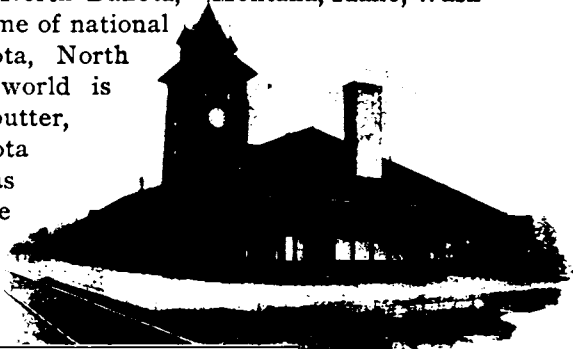
the Clear-Hump Wash., walla, tle, Wash., national

And what has the railway done for the country? The population of 600,000 in 1870 had become nearly 2,400,000 in 1890, and it



will now aggregate at least 3,000,000. Four large cities on the eastern border, St. Paul, Minneapolis, the Superiors, and Duluth; four in the middle zone, Butte, Helena, Anaconda, and Spokane, and four on Pacific tide water, Victoria, Seattle, Tacoma, and Portland, have risen to great commercial centers.

The iron mines of Wisconsin and Minnesota and the gold, silver, copper, and coal interests of North Dakota, Montana, Idaho, Washington, and Oregon have become of national importance. From Minnesota, North Dakota, and Manitoba the world is supplied with its choicest butter, wheat, and flour; the Dakota and Montana ranges pasture as fine sheep and cattle as the eastern markets supply; the fruits of Montana, Idaho, Washington, and Oregon



Northern Pacific Railway Station, North Yakima, Wash.

have a national reputation and are now shipped to feed the bluestockings and bean eaters

of the far-away East and Boston. During the year 1899 Minnesota, North Dakota, and Montana shipped 159,000,000 bushels of wheat; Washington and Oregon raised, for the same year, 48,600,000 bushels of the same cereal; and Montana, the greatest copper region in the world, produced precious metals to the value

of more than \$51,000,000 during 1898.

Between Tacoma and Seattle, and Victoria, B. C., the Northern Pacific Railway Company operates the steamer Victorian, an exceedingly popular steamer, and first-class in every respect, to take care of the growing local traffic on Puget Sound.



Northern Pacific Railway Station, Little Falls, Minn.



Northern Pacific Railway Station at Fargo, N. D.

On the shores of the Pacific a great commerce has sprung up, and the wheat of interior Oregon and Washington is carried to the Puget Sound and Columbia River ports, from whence it is shipped as flour to Australia, Hawaii, Japan, China, South America, etc.

Washington timber and shingles are being shipped in train loads across the continent, and also to foreign countries, and North Pacific Coast fish canneries ship their products in every direction.

In the beginning of this article it was stated that the Oriental trade was, from the first, considered an important matter. I wish to emphasize this. From the inception of the enterprise to the present time, through all changes of management, the development of the Asiatic commerce has been looked forward to, and fostered.

In 1860 Mr. Aldrich, from the Committee on Pacific Railroad, reported to the House of Representatives that the Northern Pacific route would be the shortest line across the continent and also the shortest *combined land and water route* between Europe and Asia. He called particular attention to the trade that was to be expected in teas, spices, furniture, silks, and goods of cotton manufacture.

Upon the completion of the Northern Pacific Railroad immediate steps were taken to stimulate this trade with the Orient, and in 1892 the Northern Pacific Steamship Company was organized. This was the third Trans-Pacific Company established on the Pacific Coast and the first one operating between Puget Sound

ports and China and Japan, and to its efforts is due almost

entirely the upbuilding of this commerce on the North Pacific Coast. Not until 1896 did another line engage in the Puget Sound-Asiatic trade, and then the current of Oriental commerce, like the Japan Current or Kuro Siwo itself, was flowing tranquilly across the Pacific to the shores of Puget Sound, and without any flourish of trumpets. The convergence of meridians



N. P. Trans-Pacific Steamer and Dining Saloon on same.

renders the Northern route much the shortest between United States ports and Yokohama and Kobe, Japan; Shanghai, Hongkong, and other ports in China, and the Philippine Islands, and the land-locked harbors of Puget Sound are of great depth and have ample wharf facilities.

The imports are principally tea, silk, curios, matting, and straw braid. The exports consist of cotton, cotton goods, tobacco, machinery and hardware, wheat, flour, lumber, etc. The first cotton shipments via any Northern route for any oriental port were made over the Northern Pacific Railway, and this line was the *pioneer* of all lines in tobacco shipments.

The wheat, flour, and lumber are shipped mostly from Washington and Puget Sound, although considerable flour has been shipped at various times from North Dakota and Minnesota.

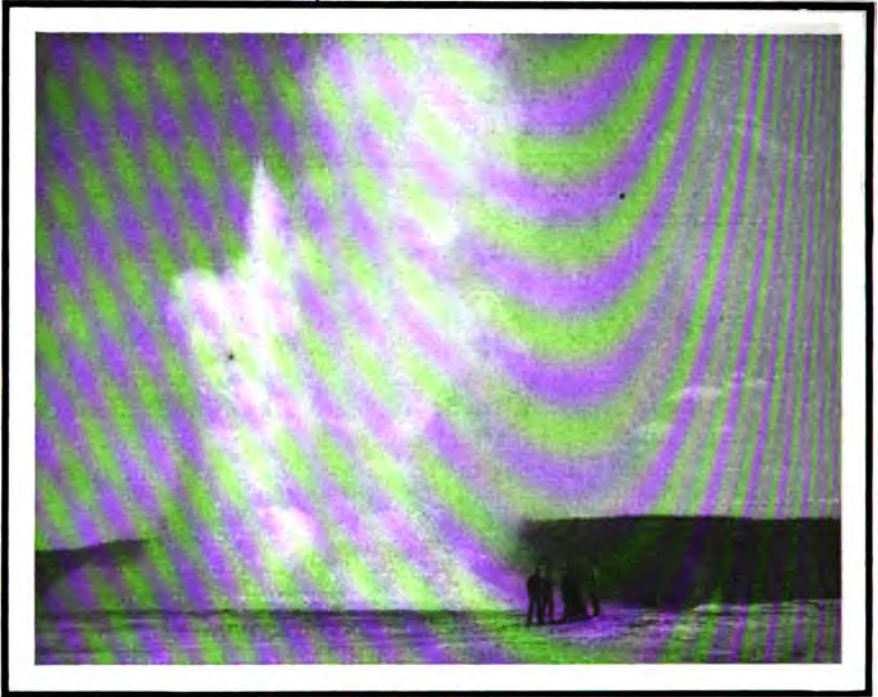
From year to year there is of course more or less fluctuation in this commerce. The varying conditions of the trade itself, the changes in tariff, rates, etc., affect it, and during the last year or more the Spanish-American and Philippine wars have considerably disturbed it. Another factor that has greatly reduced the amount of the business in recent years, is the depreciation of silver. Japan being on a silver basis, this had the effect of doubling the cost of exportations to that country and of course thus reducing the volume of exports.

From an east-bound tonnage of about 14,000 tons carried by the Northern Pacific in 1893, this traffic has increased to much more than double that amount in recent and favorable years. From 110 tons of west-bound tonnage in 1895 the road now transports from 12,000 to 20,000 tons per annum, depending upon the fluctuations of commerce.

It should be understood that this does *not* include the oriental shipments that originate on, and are destined to, North Pacific Coast points and which constitute by far the larger part of the steamships' cargoes. It covers simply the *overland* oriental tonnage.

My tale is told. I hope that it will serve to faintly indicate what it means to plan, build, and equip a great line of railway such as the Northern Pacific, across mountains and—at the time—unproductive plains.

NEW
FOUNTAIN GEYSER



*Plays from three
vents to a height of 100 to 200 feet, for
an hour at a time.*



IT IS now just thirty years since it became actually and generally known that such a place as Yellowstone Park existed. The stories of the old mountain men and trappers, vague and indefinite as they were in many details, were not accepted at par by the public.

In 1870, however, the question was determined forever by the now well-known Washburn expedition which made an extensive exploration of the country.

Until the year 1882 it was considerable of an undertaking to visit the park. In 1882-83 the Northern Pacific Railroad was completed to Livingston and Cinnabar, at the park boundary.

Since the railway reached the park, between 100,000 and 150,000 people from all corners of the world have visited the strange land, and gone home thrilled and mystified by what they have seen.

It is safe to say that ninety-nine per cent of those who have visited this spot have hoped that they might see it again, and many have, indeed, thus seen it. Two years ago, while in the park, I met a physician of Chicago who had just finished the park tour, but, not satisfied with the time given to it, was on the way around a second time, in more leisurely fashion, and how he was enjoying it. Some weeks later, in a Pullman, I met a lady from New York who had prolonged her stay at the Grand Canyon to three or four days, and, full of enthusiasm, regretted her inability to repeat the trip.

In 1899 I made my fifth trip to the park. I can truthfully and, to myself, surprisedly say that no one trip revealed to me the grandeur of the park as did the last one. I had scarcely conceived the cumulative effect of these visits, repeated at different seasonal times and with various means of transportation.

Those who have made repeated visits to Niagara Falls, who have viewed the great cataract from all points, and at different times and seasons, who have lingered about it and studied it, are they who have best caught the spirit of the place, who know it the best, and who enjoy it the most.

It is so with Yellowstone Park—those who love it best, who talk of it in the most glowing terms, are they who, seeing the most of it, know the most of it, having absorbed its beauties as one absorbs the beauty of a fine painting, or of a superb piece of statuary, by much study of it.

By arranging for stop-overs, which can be done at no additional

expense for transportation, the tourist can

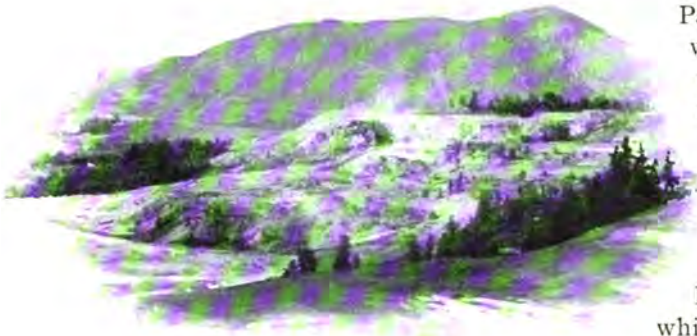
see more thoroughly the objects seen in the usual tour, and may also explore many places impossible to see in a limited period. The geysers, with a few exceptions, like ourselves, are not always punctual to the minute or hour, and an extra hour or two, or a day at the right time and place, may result in adding immensely to one's enjoyment.

There is something in this great park to appeal to everyone, something to measure up to each man's and each woman's capacity for appreciation of scenic beauty and grandeur.

I conceive that those who stand unmoved at the flight of a geyser—for I understand that there *are* a few such—may find a supreme delight in watching the bears near the hotels, in their frolics; that those unable to appreciate the marvelous beauty of Emerald Pool, may enjoy the ride through Gibbon Canyon; that the man who may not relish the climb among the Hot Springs terraces, may find great sport in catching trout in Yellowstone Lake.

As I stood on the railway platform at Livingston last summer, a tourist, just going into the park, approached me. He was an elderly man with silver hair and beard, a fine-looking gentleman.

Pointing to the Crazy Mountains, seemingly in the clear morning light close at hand, he asked:



*Terraces at
Mammoth
Hot Springs,
and
Bunsen
Peak.*

NORTHERN PACIFIC RAILWAY.

"How far away are those mountains?"

"From thirty to forty miles," I replied.

"Well, I declare," said he, "it seems as if you could walk right out to them. I am from New York State, but I never saw real mountains like those. How high are they?"

"Three thousand to five thousand feet above us."

"Is that snow on them?"

"Yes, there is always some snow there, a little more than usual this year though."

He looked at them intently, absorbed in the thoughts passing through his mind. For sixty years or more he had lived, and was now seeing things about which he had read, but had never fully understood. Now that man, even if he failed utterly to grasp the meaning and enjoy the sight of the greater things in the park, the canyons, geysers, etc., was going to get his money's worth out of the mountains and lakes and rivers, and flowers and animals, and to return home and regale his neighbors with tales of Wonderland.

The ordinary tourist spends five and one-half days in the park. This enables him to see, to a greater or less degree, dependent somewhat upon himself, the more pronounced features of it.

There is, however, no compulsion about this. One can take as much time as one wishes, and thus travel as leisurely as desired. No one need be rushed through Wonderland. The usual tour is the result of years of experience, taking into consideration—a very important item—the question of expense for the average person.

MAMMOTH HOT SPRINGS.

At this place, known also as Fort Yellowstone, the ingoing and outgoing streams of tourists meet. The afternoon's climbing over the terraces opens the vision somewhat, and after viewing Jupiter and Pulpit terraces, Liberty Cap, Giant's Thumb, Cleopatra, Narrow Gauge and Angel terraces, Bath Lake, Orange Geyser, etc., one begins to understand what Wonderland means. If an extra day is spent here, a ride on horseback or a walk

to Gardiner Canyon and Fall, three miles away to the south, will prove to be time well spent. This canyon ranks next to the Grand Canyon, and the Fall is a gem. Electric Peak or Sepulcher Mountain can be climbed from here, but a guide will be needed, and the ascent of the former peak means a good stiff bit of mountaineering.



Cleopatra Terrace.



*Devil's Kitchen.
Mammoth Hot Springs.*

THE GEYSERS.

At Norris Geyser Basin, the first geysers—not the best—are seen. En route, beginning with Golden Gate, some interesting scenery has been passed. The Gate is a short canyon pass between Bunsen Peak and Terrace Mountain, where the road is a blasted, an artificial one, entirely.

The canyon walls are vertical and imposing for their height, some three hundred feet. Emerging from the canyon a wide, grassy valley, Swan Valley, spreads before us. The Gallatin Range, with Electric Peak to the north, rises just beyond it.

Through open valley and stretches of timber, beside gurgling streams where the trout hide, past ravishing lakes, at the base of the wonderful Obsidian Cliff, the road winds to Gibbon River, on the bank of which stands the collection of tents constituting the lunch station, and just beyond, over a little divide, lies the Norris Basin.

The hour and a half passed here is full of fresh, interesting experiences. There are several geysers here, and if only they will perform while we linger, we will remember this basin kindly. The Monarch is the greatest geyser here, and its display a fine one.

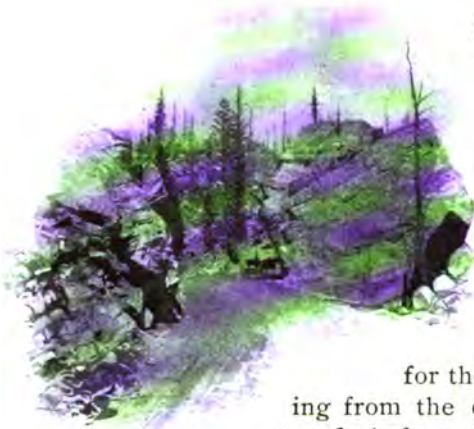
The Minute Man plays continuously at intervals of fifty seconds. The old Black Growler in 1899 subsided to a great extent, another steam geyser breaking out close by and draining its reservoir.

Congress Spring, Hurricane Geyser, the Devil's Ink Pot, New Crater Geyser, etc., are prominent objects here.

The afternoon's drive is through Gibbon Canyon and alongside the river of the same name, thence by the side of the Firehole River to the Fountain Hotel. At this excellent hotel the tourist remains two nights, as usually planned.

The Great Fountain Geyser, one of the largest and finest geysers in the whole park, is situated about a mile and a half distant from the hotel, and is surrounded by many other pools and springs of exquisite character.

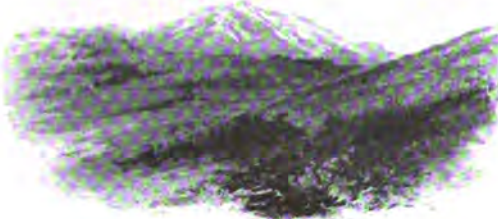
The Mammoth Paint Pots and Clepsydra Geyser are on either side of the Fountain—not Great Fountain—Geyser. The former



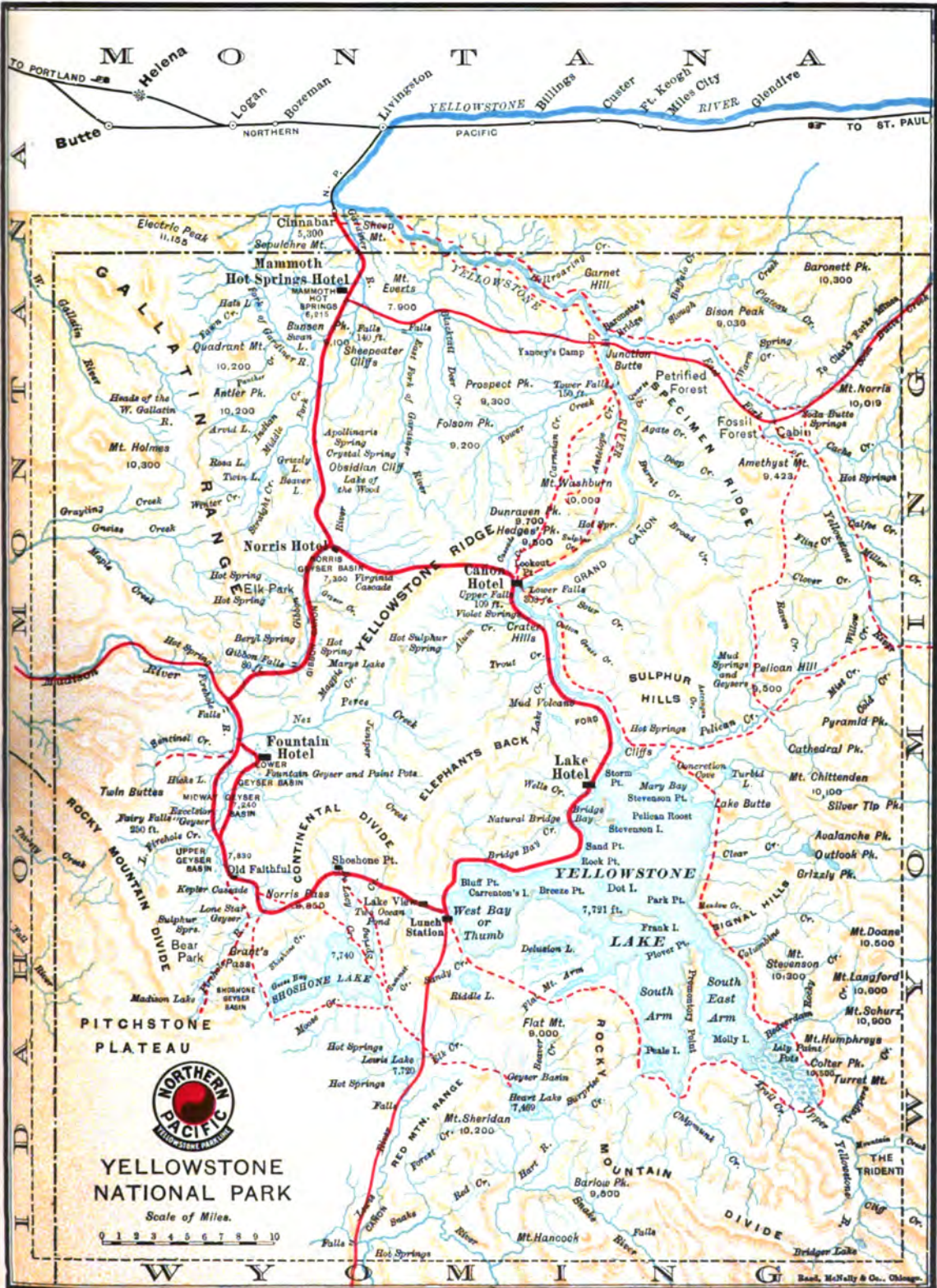
At
Silver Gate.
Near
Mammoth
Hot Springs.



In
Golden
Gate.



Electric Peak.



are curious mud or clay deposits of variegated and delicate colors, and always boiling. The latter is one of the superb geysers, playing from four vents and to moderate heights, but is an infrequent performer.

Four miles away lies Midway Geyser Basin, where Excelsior Geyser, Turquoise Spring, and Prismatic Lake are found. Excelsior Geyser, as is now well known, has not been in eruption for many years.

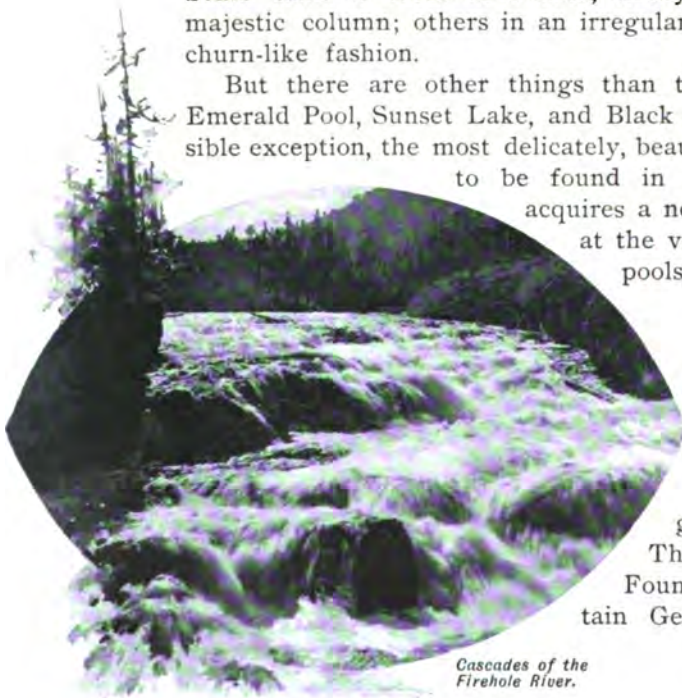
The Upper Geyser Basin is the goal of the tourist, so far as the geysers are concerned. There are here about a dozen geysers that expel the contents of their reservoirs to heights ranging from one hundred to two hundred and fifty feet. There are as many more that play to elevations less than one hundred feet. This family of geysers is like a large family of children; a strong family resemblance runs through all of them, but individually no two are much alike.

The Castle has a very large, castellated, siliceous cone; the Grand has none whatever, nor is there any resemblance in their eruptions. The Oblong and the Giantess each expel their contents from deep, pit-like reservoirs, but there the resemblance between them ends. The Bee Hive and Old Faithful each have cones, as entirely unlike as are their splendid columns of water and vapor. Some throw the water as straight in the air as a tree stands; others hurl it out at various angles, or even in arches. Some send it forth in a solid, steady, majestic column; others in an irregular, churn-like fashion.

But there are other things than the geysers here. Emerald Pool, Sunset Lake, and Black Sand Pool are, with one possible exception, the most delicately, beautifully colored bowls of water to be found in the park. The word *color* acquires a new significance as one stands at the verge of these truly heavenly pools, shut in among mountains.



Firehole River Crossing at Excelsior Geyser.



Cascades of the Firehole River.

A NEW GEYSER.

To those conversant with the park it is well known that changes to a greater or less extent are continually taking place among the geysers and springs.

The particular attraction at the Fountain Hotel has been the Fountain Geyser, near the hotel. This



*Devil's
Ink Pot.
Norris
Geyser
Basin.*

Fountain Geyser's eruptions. The new geyser is not yet old enough so that its periodicity and peculiarities are

fully known. Its eruptions, however, are more stupendous and much beyond those of any other geyser which the writer has seen. Excelsior Geyser at Midway Basin, the greatest geyser — when it plays—in the world, is closely approached by this new giant, in both the magnitude and the grandeur of the display.

The geyser is rather spurty in character, and when in full operation plays from three orifices. In its general action it is not unlike the Fountain or the Great Fountain. It will boil furiously and throw the water quite regularly to a height of ten to fifteen feet. Then, becoming semi-quiet for a few moments, it will again break loose, and simply hurl into the air, with almost inconceivable force, a solid body of water of immense bulk, to a height of fifteen to thirty feet. Then changing again it will send upward an enormous volume of water to a height of 100, 150, or even, in exceptional spurts, 200 feet.

After a period of momentary quiescence, the geyser will often break out with a violent explosion, when the scalding flood, transformed into millions of white, beautiful beads of crystal and spray, is sent in all directions, to all heights, at all angles, from the three apertures. The water is all torn to pieces and is thrown out and comes down in a perfect avalanche. The geyser then is a very leviathan at play. It throws out pieces of geyser formation, bits of trees, and geyser eggs, as they are called, small, white, rounded, polished stones.

When the eruption ends it comes abruptly, at once, not as the Great Fountain's, with a series of dying, tremendous throbs, as if its great heart were broken. The eruption ceases, the great body of water drops rapidly down into the central cistern and runs into it from the geyser knoll in pretty little cascades, until the surplus is thus carried away and the water level outside of the basin is lowered. Then it is all over.

At times there are large quantities of steam which float away



*Fairy Falls.
Near Lower
Geyser Basin,
Yellowstone
Park.*

in beautiful vapory forms and often obscure the higher levels of the water column.

YELLOWSTONE LAKE AND GRAND CANYON.

Leaving the geysers, the tourist crosses the Continental Divide twice and then comes out upon the shore of Yellowstone Lake.

This drive is one that will be remembered. The road, well made and well kept, winds among the mountains and, notably at Shoshone Point, affords some pictures of mountain scenery that will live forever.

After leaving the lunch station on the west arm of the lake, the road skirts the western shore for nearly the entire distance to the Lake Hotel, as it is known colloquially.

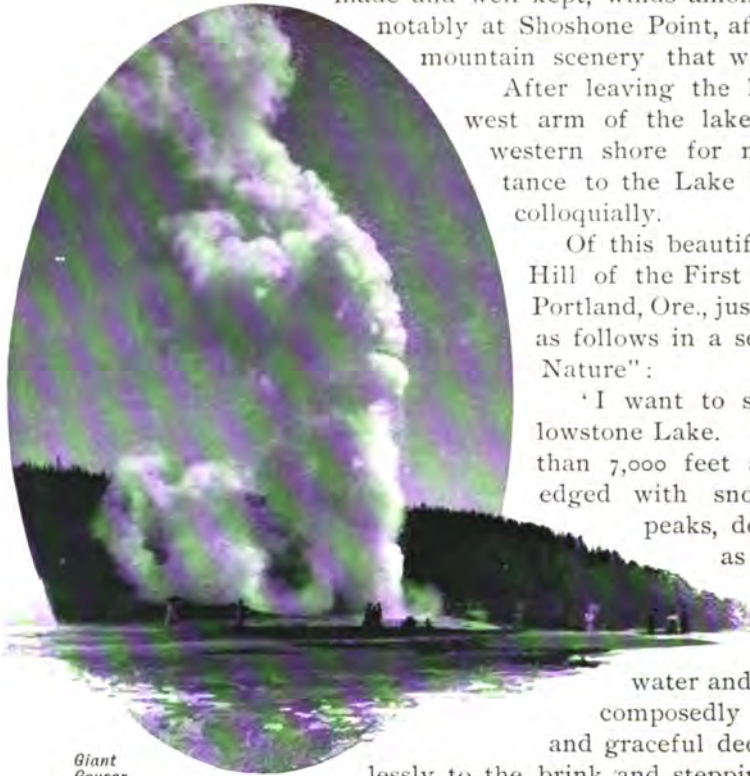
Of this beautiful lake Rev. Dr. E. P. Hill of the First Presbyterian Church, Portland, Ore., just after seeing it, spoke as follows in a sermon on "Beauty in Nature":

'I want to say a word about Yellowstone Lake. Think of a lake more than 7,000 feet above the sea level, edged with snow-capped mountain peaks, dozens of them, almost as high as Mount Hood.

Think of standing on the shore of that superb body of water and seeing bears walking composedly through the forests and graceful deer coming down fear-

lessly to the brink and stepping in without thought of danger, as if the day promised by the prophet had come, when man and beast of forest shall dwell together. The lake looks like a pavement of lapis lazuli. The mountains are covered with pink and purple and gold. The sky is an ocean of lavender, in which great white ships are sailing off to the city of God. Do you wonder that we said one to another, 'Down there in the cities, where sin and sickness and sorrow stalk the streets, and men are engaged in their never-ending strife, we have seen the world as man has transformed it. Here, in this place of peace and purity and beauty, we see the world as God made it.'

The hotel is situated near the outlet of the lake, and the fishing, either in the lake or the river, is something phenomenal.



Giant
Geyser.

Leaving the lake, the tourist passes Mud Volcano, and Chrome Spring at Sulphur Mountain, and approaches that rare combination the Upper Fall, the Lower Fall, and the Grand Canyon. The falls are between a quarter and a half mile distant from each other, and each is within walking distance of the Canyon Hotel. The Upper Fall is 109 feet high, the Lower 308 feet, and there is not the remotest similarity between them.



Regarding the Canyon let me again quote from Dr. Hill:

“And now I want to say a word in regard to the Grand Canyon. You stand on Inspiration Point and look down 100, 200, 300, 1000 feet, and there, away below, is a green ribbon, worked in and out as if to hold together the lower edges of the canyon’s walls. It is the Yellowstone River. You look off toward the south and see, in a sort of recess, a little column of white. It is the Great Fall of the Yellowstone, 308 feet high. You examine the slanting walls of this tremendous canyon and you see such a display of color as the eye of man never looked upon. Someone has said that it looks like a blown-up paint shop. Just there to the right some huge pots of white and yellow and red paint have been tipped over, and it has flowed right down in parallel streaks to the water’s edge.

Firehole Spring, Lower Geyser Basin. White Dome Geyser in distance.

Farther along is a gigantic tower carved out of a solid crimson rock. Here to the left all along are turrets and castles and cathedrals, there a Parthenon, over there St.



Fan Geyser.

Cascade Geyser.

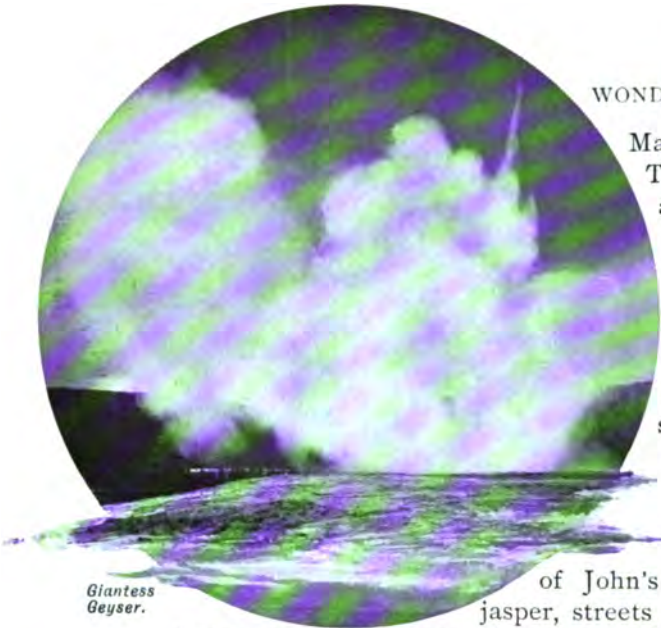
Daisy Geyser.

Oblong Geyser.

WONDERLAND 1900.

Mark's glittering in gold, there Taj Mahal, as white as spotless alabaster. Colors green and brown and saffron and orange and pink and vermillion and russet cover every rock until the scene is bewildering. What shall one say as he looks upon such a scene? Nature teaches us about God. Then the Grand Canyon has been cut and painted by the divine hand as if to give us some idea

of John's vision of heaven. Walls of jasper, streets of gold, gates of pearl, foundation stones of emerald and sapphire, and topaz and amethyst. Yes, they are all there. Who can look upon such a scene and say there is no God and no heaven?"



Giantess Geyser.

BEARS IN THE PARK.

It is probably true that the bears constitute one of the very interesting features of this great park, to most tourists. It is well known that the park is a home for all animals. The protection of the Government is thrown about them, and as a result the antelope, deer, elk, buffalo, bears, etc., are free to wander as they please, unrestrained through fear of men and dogs. The bears especially seem to recognize the fact that there is no danger.

At each hotel and lunch station the refuse from the tables is deposited in a pile at a distance from the buildings or tents. These heaps are frequented by the bears and become their feeding grounds. As regularly as twilight comes so comes bruin.

Then, too, do the tourists troop out, armed with cameras, to watch the bears as they eat and scramble and growl. There is no danger, for the animals are very suspicious, and at the first unusual movement, on the part of a man or woman, will scamper off.

The larger number of the bears are of the black and brown species. There are, however, a few silver tips or grizzlies.



Tourists at Sulphur Mountain

NORTHERN PACIFIC

At Norris Geyser Basin, where tourists can not remain over night, bruin flourishes. Stopping there once by special dispensation, with Larry, the Irish genius of the place, I went out in the evening to see him. As we approached the brow of the bluff below which he was supposed to be, we moved very stealthily. It was of no use. Scarcely had we gotten around the corner of the icehouse before the bears saw us. With a "woof" three of them, large black fellows, whirled and scuttled away into the timber and the night. Another scurried along through the high swamp grass toward the Gibbon River. We could easily follow him with the eye, and as he reached the river he plunged



A Fossil Tree.

Yellowstone
Park.



Glmpse of
Yellowstone
Lake
and the
Mountains.

right into the cold water, swam and waded across, climbed the opposite bank, and, reaching the road, waddled down it toward the woods. The soldiers there saw him, halloed at him, and, turning he again made for the river, swam it, and struck a bee line, or a bear line perhaps, for the dark shelter of the trees, where the others had refuged.

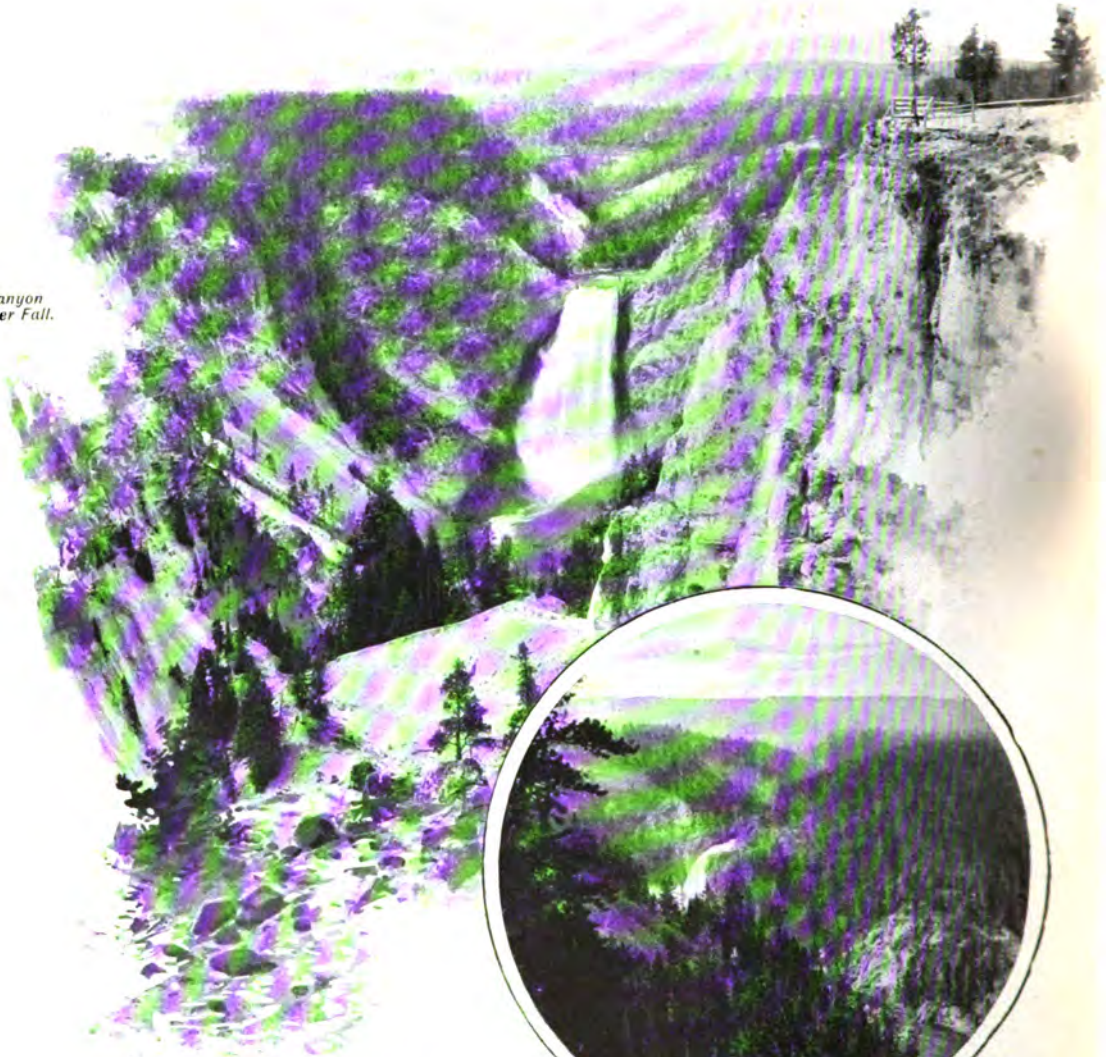
At the Fountain Hotel the tourists first see the bears. There are several of them, most of them large, and they are very patient with tourist photographers. They come down from the timber and sprawl over the heap of empty cans and refuse, eating like so many pigs. They keenly watch their audiences, and usually at the least suspicious sound or motion make off into the woods.

Last summer I saw one monstrous black fellow there, apparently very hungry and docile. A large crowd was scattered around and six



Grand Canyon Wall.
At Tower Fall.

*Grand Canyon
and Lower Fall.*



*Upper Fall from
Trail to
Lower Fall.*

NORTHERN PACIFIC

or seven kodak fiends were slowly surrounding him. He had not been able to approach very near to the refuse heap and was in a great quandary as to what to do. He wanted to go and eat his supper, but was afraid to venture. As the men drew gradually nearer, the expression on his face was ludicrous. It said as plainly as A, B, C: "Go away and let me alone; you are a big nuisance." After



standing it for a time he finally turned slowly about and walked off in the most deliberate, disgusted manner imaginable and was soon lost to sight. Sitting on the hillside back of the Canyon Hotel one evening with a friend, we were

"What Did You Say?"

suddenly surprised by two grizzlies who, instead of coming, as we expected, in a suspicious, stealthy manner, came over the hill and down the trail on a keen run—bear run.

It was for all the world as if they were trying to



A Tame Cub.

Bears Having their Photographs Taken.

catch a train that was just ready to start. When they reached the garbage, they rose up on their haunches, looked around at the spectators, sniffed the air, and then turned to the business in hand. After eating for a few moments, the

At the Evening Meal.



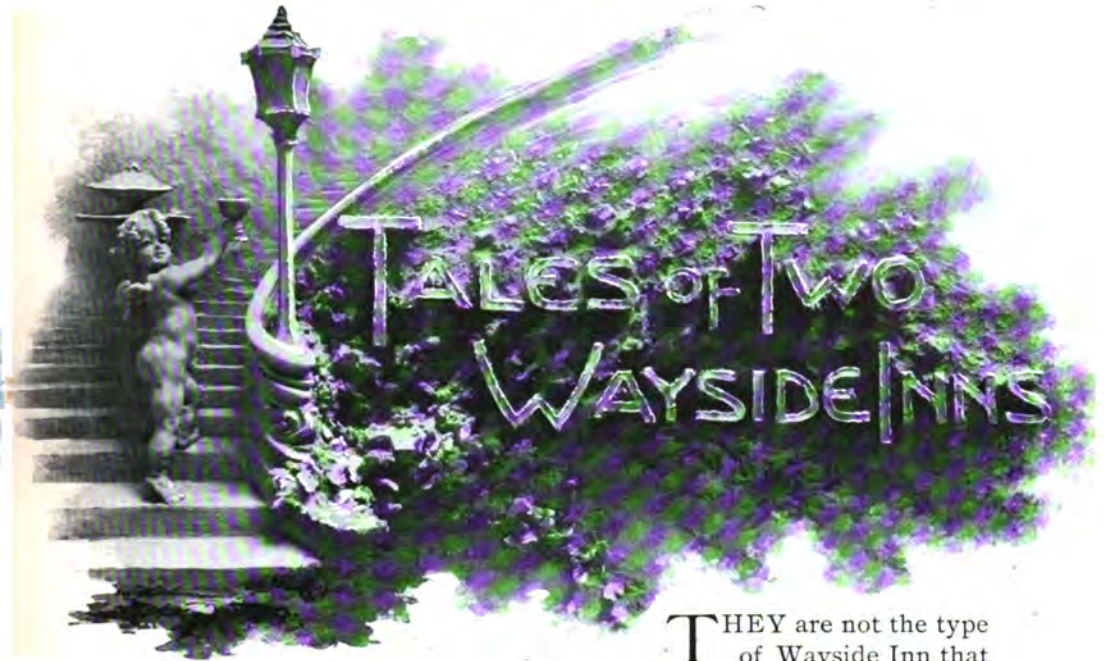
smaller one did something not in keeping with the other's notions of propriety, or deference perhaps, and the latter gave him a ringing blow with his paw about the head.

Every few moments they reared up and looked about them, and finally suddenly whirled around and tore up the trail as if the Old Nick was after them. They were frightened away by the noise of a cow bell on a horse not far away that was being driven in to the corral.

Another evening, at the Upper Geysers Basin, several of us were sitting on the ground near the Daisy Geysers, waiting to see its eruption at night. It was quite dark. Turning our heads, we saw a huge, black shape moving toward us, and but a few rods away. It was a black bear. He came unconcernedly on, and, seeing us, edged away a trifle, and passed by on the other side of the geyser.

Sometimes the bears are seen early in the morning. I once ran across one thus at the edge of the Grand Canyon.

I do not wonder that those who have never seen bruin in his wild state enjoy seeing him here. He is a comical, interesting fellow, and a harmless one.



THEY are not the type of Wayside Inn that Longfellow so delightfully describes. Although each is built in the old colonial *way*, neither was "built in the old colonial day;" there are no "weather stains upon the wall," there are no "stairways *worn*, and *crazy* doors," no "creaking and uneven floors," and no "Red Horse prances on the sign." But although decidedly modern, these inns, there are resemblances to the dear old Sudbury Inn of the poet. There are "chimneys huge," and "around the fireside at their ease" there sit "groups of friends"

" Who from the far-off noisy town
Had to the Wayside Inn come down."

THE RAVALLI.

The first of these inns is in one of the loveliest valleys of Montana—the Bitter Root Valley.

From the wide verandas of the Ravalli, one of these inns, the Bitter Root range, possibly the roughest, wildest, most unscalable of the sub-ranges of the Rockies, is seen in all its grandeur.

Here is where Father de Smet, the grand old missionary of the '40s, first permanently set up the cross among the Flatheads or Selish Indians, and established the missions among them. Here is where Chief Joseph, the Stonewall Jackson of the Nez Percés passed in '77 on his magnificent retreat before Howard.

The Bitter Root River and affluent streams abound in trout; the mountains are one of the few big-game preserves to be found in the

West to-day. Bear, deer, elk, moose, and above all, the white goat, frequent its granite hills and recesses.

Agriculture? Ride through the valley and see the thousands of acres of clover and alfalfa, and the hundreds of thousands of apple, peach, pear, cherry, and plum trees.

The Ravalli is located at Hamilton, and in plain view from one of its verandas is Marcus Daly's great Montana stock and fruit ranch, which comprises thousands of acres.

The hotel is a three-storied brick structure, having unusually large rooms and verandas, and in its equipment and



*Parlors,
Ravalli
Hotel.*



The Ravalli.

appointments it is a complete surprise to one not familiar with it. The same may be said of its cuisine. Bitter Root Valley is noted throughout Montana for the superior quality of its garden products, and after one has tested them at the Ravalli one is not surprised at this.

Hamilton is situated forty odd miles up the valley from the main line of the Northern Pacific at Missoula. For those who are traveling in a leisurely manner for pleasure, or who, making the



Lobby, Ravalli Hotel.

transcontinental trip, desire a quiet, retired, homelike place, with modern accommodations at reasonable prices, with pure mountain water to drink and mountain air to breathe, the Ravalli and Hamilton can be unhesitatingly recommended.



*Camping in the
the Bitter
Root Valley.*

The hotel is named after Father Ravalli, who is one of the strong historic figures of the country. A Jesuit priest, he followed De Smet to the valley a half century ago, wrought a lifetime in Montana, Idaho, and Washington, and died without again seeing his native land, Italy. This good missionary was also versed in architecture, medicine, the sciences, and in mechanics. Many an old-time pioneer, having no affiliation with the Catholic Church, has blessed the priest for his ministrations as a physician.

A large part of his work was given to the St. Mary's Mission at Stevensville, about half way between Missoula and Hamilton, and there he lies buried. During those early days the Selish Indians lived in the Bitter Root Valley, and as Ravalli's work was largely amongst them, the naming of the hotel after him was a proper and graceful act.

The old name of this valley, the river, and the mountains, was St. Mary's, after the Virgin Mary.

Notwithstanding that the Bitter Root range will tax the wind and muscles of the lustiest of mountaineers to climb among its defiles, canyons, crags, and precipices, yet it is easily accessible by well-worn trails. Back in its piny recesses there are camping spots *par excellence*, where the mountain brooks, breaking wildly from rock-bound gulches, meander through beautiful parks set down at the feet of gigantic granite peaks. At such Elysian spots Nimrod for a time pitches his white tent, and as the mood seizes him, throws his line for trout, knocks over fool hens with a club, or climbs far up the heights to beard the bearded goat, he of the white, long-haired hide, and small, black, tapering horns. Innumerable mountain streams break forth from the snow-capped range, and add their volume to that of the river. Each of these streams is a trout-man's paradise. There is no need of climbing away up into the heart of the range simply to find trout, unless you also desire to experience the change and delights of a camp life for a time. The trout can be found without the climbing, and that not far away.

Take my word for it, and arrange, on your western trip, to stop at Missoula, board the Copper City Limited for Hamilton, and enjoy the restful pleasures of the Ravalli, and the hunting and fishing you will find there.

THE TAVERN OF CASTLE CRAG.

Add another thousand miles to your journey, friend. Leave the Bitter Root and its brother Rockies behind, cross the Cascades, run down from Portland over the unrivaled Shasta Route until you find yourself entangled in a maze of sublime peaks—sharp, abrupt, castled, granite crags— healing springs, and gleeful, dancing mountain streams. There, in the midst of it all, among the trees, in the depths of the mountains, nestles this tavern, and to the north Shasta, the high, white-robed, mountain saint of the region, looks gravely down upon it.

If you walk to the tavern from the station, you follow a winding path lined with cork trees and flanked on one side by a lawn, in which are fruit trees with fruit free to you. If you ride, you enter a large carryall, drawn by a pair of sleek, white horses, that you instinctively know are peculiarly fitted to the place.

You are wonderfully impressed with this nook in the mountains. It is eventime; the tavern and its wide, spacious verandas are resplendent with incandescent lights. The feeling that you are welcome here takes hold of you, and it isn't lessened by the crackle of the pine logs in the big fireplace, once you have passed the portal.

And now to your room for the night. Along a broad hall, and you are ushered into as spick and span and homelike a room as one ever needs or finds in any hotel. You throw open your window, so that the soft, balmy air, impregnated with the elixirs of the forest, may come in, throw yourself upon your royal couch, and—sleep.

Don't miss an early rising, and then throw open the blinds and look out upon the crags—Castle Crags, from which the spot takes its name. Over the tops of the trees you see them peeping furtively down at you, and the sun strikes them sidewise, lighting them up with an ineffable glow.

You breakfast in a large dining-room, plain yet attractive, and with lots of elbow room. Everything is on a broad, open scale here. Money has not been expended lavishly, but certainly not parsimoniously, and no attempt at spread-eagleism has been made.

Now you enact the role of explorer, and as you stray here and there, to the donkey pasture, the chalybeate spring, etc., exploring nooks and making turns about the grounds, laid out in great taste, you feel that you have wandered into a lost corner of the old Eden.

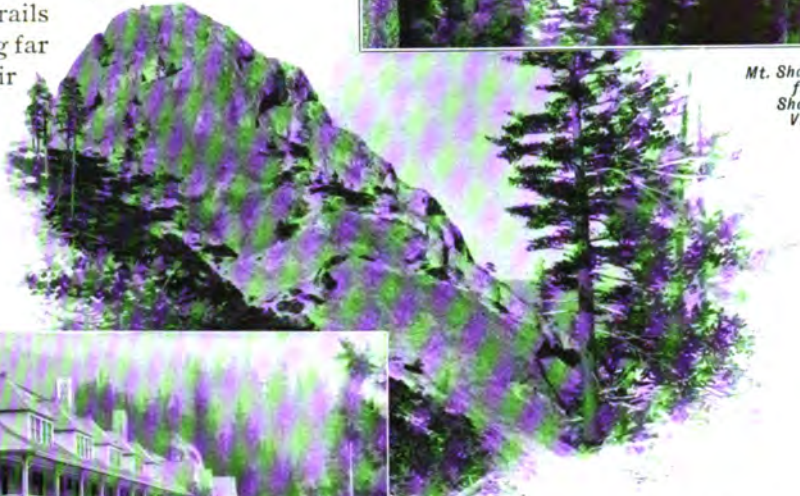
You are plumped down in a picturesque nook in the mountains. You wouldn't be surprised to see a file of Shasta Indians emerge from the forest on yonder trail, it would be so in keeping with

the surroundings. But much as the redman battled with the white here in days long gone by, he is no longer in evidence.

The Sacramento River, a clear, beautiful trout stream, circles around the spot on two sides; the mountains rise about and above us, with trails leading far up their



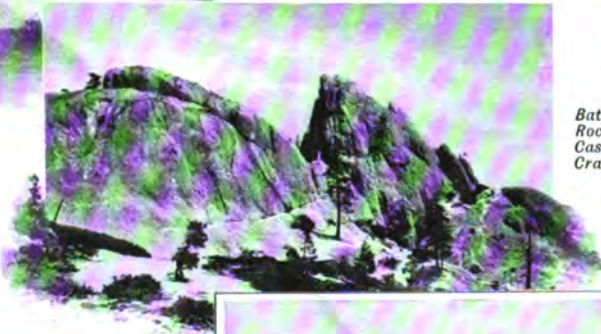
Mt. Shasta from Shasta View.



Castle Dome of Castle Crag.



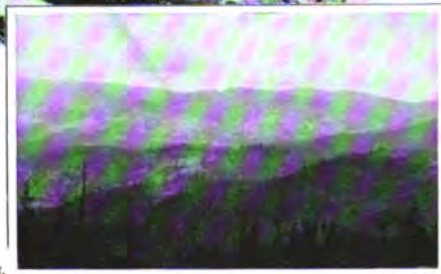
The Tavern of Castle Crag.



Battle Rock of Castle Crag.

timbered slopes. The great feature of the spot though is that which gives name to it—the Castle Crag.

At first you look up at them with a superficial, passing interest, just as you have at a thousand other objects in nature. Then you look again, and again, and again.



View in Siskiyou Mountains.

From Siskiyou Pass, elevation 4,100 feet.

If you are climbing, you stop and look at them ; if you are sauntering along the tree-fringed walks with the Craggs at your back, you turn again and again to see them ; if you are sitting in your room or promenading the vine-shaded porch, you stop to gaze at them. You soon find that they are the center and circumference of everything hereabout ; that they fascinate you ; that their orbit, so to speak, is a large one. Then there is Shasta. It is miles away, and is seen from nearly all points. At some it is quite subordinate to the Craggs, at others it divides with them the attraction. As you see it from the tavern through a notch in the mountains, it seems as if it were suspended by an invisible cord from heaven.

From Shasta View we get a fine view of the mountain and also a rather peculiar one of the Craggs. That trail will take us there in a few minutes of easy climbing — let us go.

Now seat you down on this rustic seat by the big pine.

Below us the Sacramento winds drowsily along ; a house or two is seen through the trees ; a bit of green meadow and a piece of red roadway add variety to the background ; the railway curves through the middle of the picture—a deep hole in the mountains. Beyond the farther end, where the river and the rails are first seen, as they burst through the gap, stands Shasta, a score of miles away and rising, rising from a long, wide slope of glebe and timber, green and black, into the silent, whitened, majestic pile that God has fashioned it. The timbered parts are somber and heavy, while the snowy peak rises above them, always white, and where the sun glints upon it, it gleams with an intense brightness.

From here the north end only of the Craggs is in sight. A half-dozen of them stand immovable beneath the heavy clouds, gray and immaculately clean after last night's pouring rain.

From the View, the Craggs appear to possess more individuality than from below. There are not so many of them, and they stand out more as individuals, as units, than they do when so massed together. You cast your eye now on Shasta and now on the big Craggs, and between them you have hard work to decide which impresses you the more, and one usually will decide that both do.



ALASKA continues to be the cynosure of those who watch with interest the development of a little-known region, as well as of those who are anxiously looking for a country where they can get rich quickly. It is, without much doubt, going to continue to interest both classes.

As is now pretty generally known, the word Alaska covers an enormous extent of territory, and one that contains much besides glaciers, high mountains, and a few Indians. Exploration there is hard, slow work, even though prospectors by the thousands, miners, and U. S. Geological Survey parties are engaged in it.

Our outside knowledge of discoveries is apt to be at least a year old when we first hear of them, and what was bonanza last year may be borrasca this year.

The work done within the past two years in improving and enlarging routes and means of transportation has been effective. The horrors of the White and Chilkoot passes have been annihilated by the construction of a railway between Skagway and Lake Bennett. The lakes and stretches of navigable water on the upper Yukon now have steamers plying there, and the places of portage have ample facilities for rapid and easy transportation around them.

Explorers' and prospectors' camps are now scattered over a wide area, making one's chance for life under adverse circumstances much better than formerly.



*Cradling
on the Beach
at home.*



*The Miner's
Bivouac.*



*A Handful
of Cape
Nome Gold.
Valued at
\$320, from
No. 1, below
on Anell Creek.*



*Steamer
"Queen"
at Muir
Glacier,
Alaska.*

Some new localities are proving greater attractions than Klondike. Such are Lake Atlin, Porcupine District, Prince William's Sound, Copper River, and Cape Nome.

Cape Nome, near St. Michaels, has recently acquired a wonderful notoriety, and people are flocking there in large numbers. Reliable accounts indicate that it is the largest placer field ever discovered. The situation is a peculiar one. The sea beach or tide lands can not be staked or claimed, but one may select each day a spot where he wishes to wash for gold and take out what he can. The next day he may work the same spot again or move elsewhere, and someone else may work that particular field, and thus it goes. At low tide men will thus take out with the shovel and rocker from \$5 to \$10 worth of gold per day. Mining rules are established, and all are protected in their rights. The lands back from the sand beach are moss grown, but are said to be rich in gold, as are the streams flowing into the sea.

The Copper River country has had some hard things said of it within the past year, but recent reports would show that it may not have deserved them. Trails are being made that avoid the Valdes Glacier, and it is stated that a railroad across the country to the upper Yukon and Dawson may soon be built. The interior country is stated to be rich in copper, while gold may perhaps be found in paying quantities. The Chittyna, Kotschina and Tanana rivers are the fields which are now being assiduously prospected. Coal is stated to have been found, some of it said to be a good anthracite, and if so this will simplify the fuel question, particularly when the establishment of smelters is to be considered.

The summer tourist trip to Alaska still remains the finest in the world. The steamship accommodations are, as they have heretofore been, first-class, and the round trip of about eleven days between Tacoma and Seattle, and Sitka, is educative and pleasurable to the highest degree.



Totem.



Totem.

NORTHERN PACIFIC RAILWAY

Rates and Arrangements for the Tourist Season of 1900.

MINNESOTA SUMMER RESORTS

During the summer season the Northern Pacific Railway will sell round-trip excursion tickets from St. Paul or Minneapolis to Glenwood (Lake Minnewaska) at \$5.25; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$7.85; Backus, \$8.35; Walker, \$8.65; Bemidji, \$10.10; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan (Devil's Lake), \$18.65; Winnipeg, \$22.50. From Duluth to Deerwood, \$3.80; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$6.90; Backus, \$6.90; Walker, \$6.90; Bemidji, \$6.90; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan, \$18.65; Winnipeg, \$22.50. From Ashland, Wis., to Battle Lake, \$9; Fergus Falls, \$9; Pine River, \$8.40; Backus, \$8.40; Walker, \$8.40; Bemidji, \$8.40; Perham, \$9.25; Detroit Lake, \$10.65; Minnewaukan, \$20.15; Winnipeg, \$22.50. Good going to Minnesota resorts one day (from Ashland two days), to Minnewaukan (Devil's Lake) and Winnipeg two days from date of sale. Good to return on or before October 31st.

YELLOWSTONE PARK RATES

\$5 TICKETS.—On sale at Livingston, Mont., June 14 to September 14, 1900, inclusive. The \$5 ticket includes railway and stage fares Livingston to Mammoth Hot Springs and return.

\$47.50 TICKETS.—A \$47.50 round-trip ticket from St. Paul, Minneapolis, or Duluth to Livingston or Mammoth Hot Springs and return, will be on sale at points named from June 12 until September 12, 1900. Limit, good going thirty days, returning ten days; final limit, forty days. The return portion of ticket must be signed and stamped at Livingston, Cinnabar, or Mammoth Hot Springs, and presented on train on or within one day of such date. Stop-over allowed within limit of ticket.

\$49.50 TICKETS.—The \$49.50 ticket includes railway and stage fares Livingston to Cinnabar and return, stage Cinnabar to Mammoth Hot Springs, Norris, Lower and Upper Geyser Basins, Yellowstone Lake, Grand Cañon, and Falls of the Yellowstone and return, and five and one-half days' board at the Park Association hotels. On sale at Livingston June 14 to September 14, 1900.

\$44.50 RATE.—By payment of \$22 at Mammoth Hot Springs Hotel to the cashier of the Yellowstone Park Association, and \$22.50 to the manager of the Yellowstone National Park Transportation Company, having his office in this hotel, tourists not provided with regular park tickets can secure transportation and hotel accommodations for the regular five and one-half days' tour.

Tourists who are not going west of Livingston should purchase the \$47.50 tickets to Mammoth Hot Springs and return, as the round-trip rates to Livingston and Mammoth Hot Springs are the same, while the rate from Livingston through the Park and return is \$5 higher than the rate from Mammoth Hot Springs.

\$105 TICKET.—This ticket covers rail transportation from St. Paul, Minneapolis, Duluth, or the Superiors to Cinnabar, stage transportation Cinnabar to Mammoth Hot Springs, Lower Fountain and Upper Geyser Basins, Yellowstone Lake, Grand Cañon, Falls of the Yellowstone and Monida, six and one-quarter days' board and lodging between Cinnabar and Monida, and rail transportation from Monida, either via Oregon Short Line R. R. and Union Pacific to Missouri River points, or via O. S. L. R. R. to Ogden, any line Ogden to Denver, thence via either the B. & M. R. R., Union Pacific, A., T. & S. F. Ry., or Missouri Pacific Railway to Missouri River terminals.

This ticket will be on sale June 12th to September 12th, and will be limited to thirty days going to Mammoth Hot Springs and thirty days returning, with final limit of sixty days from date of sale.

\$85 TICKET.—This ticket covers rail and stage transportation only (no meals or lodging being included therein) for the same tour as the \$105 ticket. Limits, selling dates, and other conditions, except as noted, will be same as for \$105 ticket.

The trip through the Park must be completed by September 19, 1900.

MONTANA AND EASTERN WASHINGTON POINTS

The Northern Pacific Railway has on sale, at greatly reduced rates, round-trip excursion tickets from St. Paul, Minneapolis, or Duluth to Billings, Springdale, Livingston, and Bozeman, Mont.; Helena, Butte, and Anaconda, Mont. (choice of routes returning, via Northern Pacific or Great Northern Railway lines); Missoula, Mont.; Spokane, Wash. (choice of routes returning, via Oregon Railway & Navigation Company and its connections, or via the Great Northern, or Northern Pacific lines); Medical Lake, Pasco, Kennewick, and Toppenish, Wash.; Nelson, Trail, Rossland, Ainsworth, Kaslo, and Sandon, B. C.; and Coulee City, North Yakima, and Ellensburg, Wash.

These tickets are of iron-clad signature form; require identification of purchaser at return starting point.

Any of the above tickets may read to return via Billings to the Missouri River.

NORTH PACIFIC COAST EXCURSIONS

A \$90 round-trip individual excursion ticket, St. Paul, Minneapolis, or Duluth to Tacoma, Portland, Seattle, New Whatcom, Vancouver, or Victoria, is on sale daily at points first named and by Eastern lines.

Tacoma, Seattle, New Whatcom, Victoria, Vancouver, or Portland tickets, at above rates, will be issued, going via Northern Pacific, returning via same route, or Great Northern, or Soo-Pacific to St. Paul, Minneapolis, or Duluth; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; Portland tickets will also be issued, returning via Oregon R. R. & Navigation Company and its connections to either Omaha or Kansas City, or to St. Paul via Sioux City.

Above tickets limited to nine months from date of sale, good, going trip, sixty days to any one of North Pacific Coast termini named, returning any time within final limit.

ALASKA EXCURSIONS

An excursion ticket will be sold from Eastern termini named to Sitka, Alaska, at \$150, which rate includes meals and berth on the steamer. Tickets on sale May 1st to September 30th. Limit, nine months. Going to Tacoma, sixty days, returning within final limit, holder to leave Sitka on or before October 31st. Tickets will be issued to return either via the Northern Pacific, Soo-Pacific, or Great Northern lines to St. Paul or Minneapolis, or via Canadian Pacific Railway to Winnipeg or Port Arthur. Usual stop-over privileges granted. Steamer accommodations can be secured in advance by application to any of the agents named on appended list. Diagrams of steamers at office of General Passenger Agent at St. Paul. Steamers call at Glacier Bay during June, July, and August only.

CALIFORNIA EXCURSION RATES

The Northern Pacific Railway will sell round-trip excursion tickets from St. Paul, Minneapolis, or Duluth as follows:

To San Francisco, going via the Northern Pacific, Seattle, and steamer, or Portland and the Shasta Route, or the ocean to San Francisco; returning via rail or steamer to Portland, or via steamer to Seattle, and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River; or via rail or steamer Portland and Huntington to the Missouri River; or returning by the southern lines to Council Bluffs, Omaha, Kansas City, Mineola, or Houston, at \$103.50; to New Orleans or St. Louis, at \$109.50.

To Los Angeles, going via Portland and Shasta Route, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Billings or Huntington to the Missouri River, at \$122.50; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$113; to St. Louis, at \$119.

To San Diego, going via Portland and rail through Los Angeles, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings or Huntington to the Missouri River, at \$129; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$119.50; to St. Louis at \$125.50.

Tickets via ocean include meals and berth on steamer.

At the eastern termini of the southern transcontinental lines excursion tickets will be sold, or orders exchanged, for tickets to San Francisco, returning via either the Shasta Route, the all-rail line to Portland, or the ocean and the Northern Pacific to St. Paul, Minneapolis, or Duluth, at a rate \$13.50 higher than the current excursion rate in effect between Missouri River points, Mineola, or Houston and San Francisco. The steamship coupon includes first-class cabin passage and meals between San Francisco and Portland.

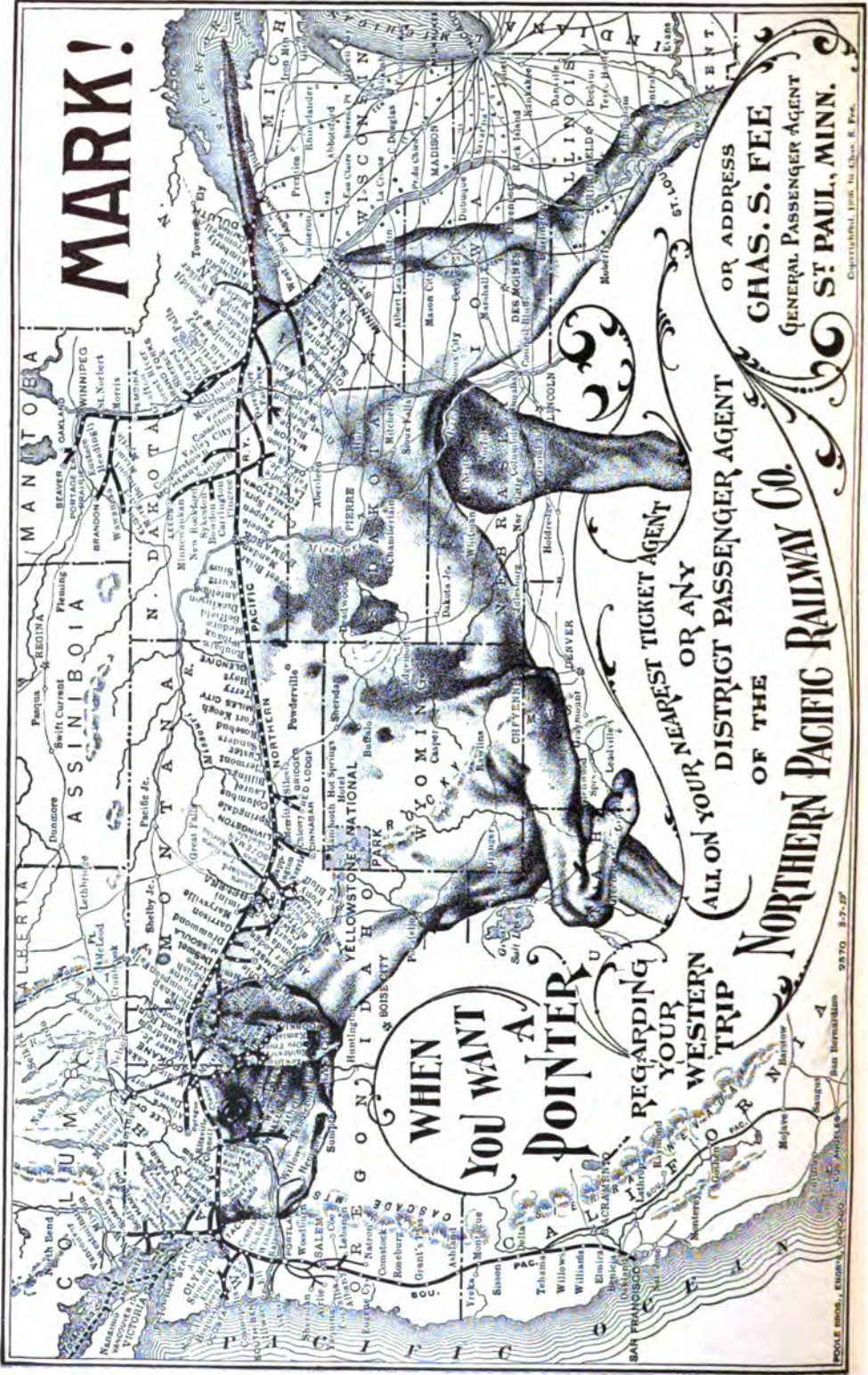
These excursion tickets allow nine months' time for the round trip; sixty days allowed for west-bound trip up to first Pacific Coast common point; return any time within final limit.

NOTE.— Double daily transcontinental passenger train service commencing April 29, 1900. Reserve your accommodations on the "NORTH COAST LIMITED"—the most complete railway train in the country.

GENERAL AND DISTRICT PASSENGER AGENTS.

BOSTON, MASS.—230 Washington Street. C. E. FOSTER	District Passenger Agent.
BUFFALO, N. Y.—215 Ellicott Square. W. G. MASON	District Passenger Agent.
BUTTE, MONT.—Cor. Park and Main Streets. W. H. MERRIMAN	General Agent.
CHICAGO—208 South Clark Street. F. H. FOGARTY	General Agent.
C. A. MATTHEWS	District Passenger Agent.
CINCINNATI, OHIO—32 Carew Building. J. J. FERRY	District Passenger Agent.
DES MOINES, IOWA—503 West Locust Street. GEO. D. ROGERS	District Passenger Agent.
DETROIT, MICH.—153 Jefferson Avenue. W. H. WHITAKER	District Passenger Agent.
DULUTH, MINN.—Spalding Hotel. R. A. EVA	General Agent.
HELENA, MONT.—Main and Grand Streets. A. D. EDGAR	General Agent.
INDIANAPOLIS, IND.—42 Jackson Place. J. E. TURNER	District Passenger Agent.
MILWAUKEE, WIS.—377 Broadway. C. C. MORDOUGH	District Passenger Agent.
MINNEAPOLIS, MINN.—19 Nicollet Block. G. F. MCNEILL	City Ticket Agent.
MONTREAL, QUE.—116 St. Peter Street. G. W. HARDISTY	District Passenger Agent.
NEW YORK CITY—319 Broadway. W. F. MERSHON	General Agent Passenger Department.
PHILADELPHIA, PA.—711 Chestnut Street. I. M. BORTLE	District Passenger Agent.
PITTSBURG, PA.—305 Park Building. ED. C. SCHOEN	District Passenger Agent.
PORTLAND, ORE.—255 Morrison Street. F. O'NEILL	District Passenger Agent.
E. L. RAYBURN	Traveling Passenger Agent.
SAN FRANCISCO, CAL.—638 Market Street. T. K. STATELER	General Agent Passenger Department.
SEATTLE, WASH.—First Street and Yesler Avenue. I. A. NADEAU	General Agent.
SPOKANE—Riverside and Howard Streets. JNO. W. HILL	General Agent.
ST. LOUIS, MO.—210 Commercial Building. P. H. NOEL	District Passenger Agent.
ST. PAUL, MINN.—5th and Robert Streets. O. VANDERBILT	City Ticket Agent.
ST. PAUL, MINN.—4th and Broadway. CHAS. C. TROTT	District Passenger Agent.
H. W. SWEET	Traveling Passenger Agent.
TACOMA, WASH.—925 Pacific Avenue. A. TINLING	General Agent.
TORONTO, ONT.—No. 6 King Street West. G. W. MCCASKEY	District Passenger Agent.
VANCOUVER, B. C.—419 Hastings Street. J. O. McMULLEN	General Agent.
WEST SUPERIOR, Wis.—(Depot). F. C. JACKSON	Assistant General Agent.
WINNIPEG, MAN.—(Depot). H. SWINFORD	General Agent.
PORTLAND, ORE.—255 Morrison Street. A. D. CHARLTON	Assistant General Passenger Agent.
ST. PAUL, MINN. A. L. CRAIG	Assistant General Ticket Agent.
CHAS. S. FEE	General Passenger and Ticket Agent.
J. M. HANNAFORD	Third Vice-President.

MARK!



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REGARDING
YOUR
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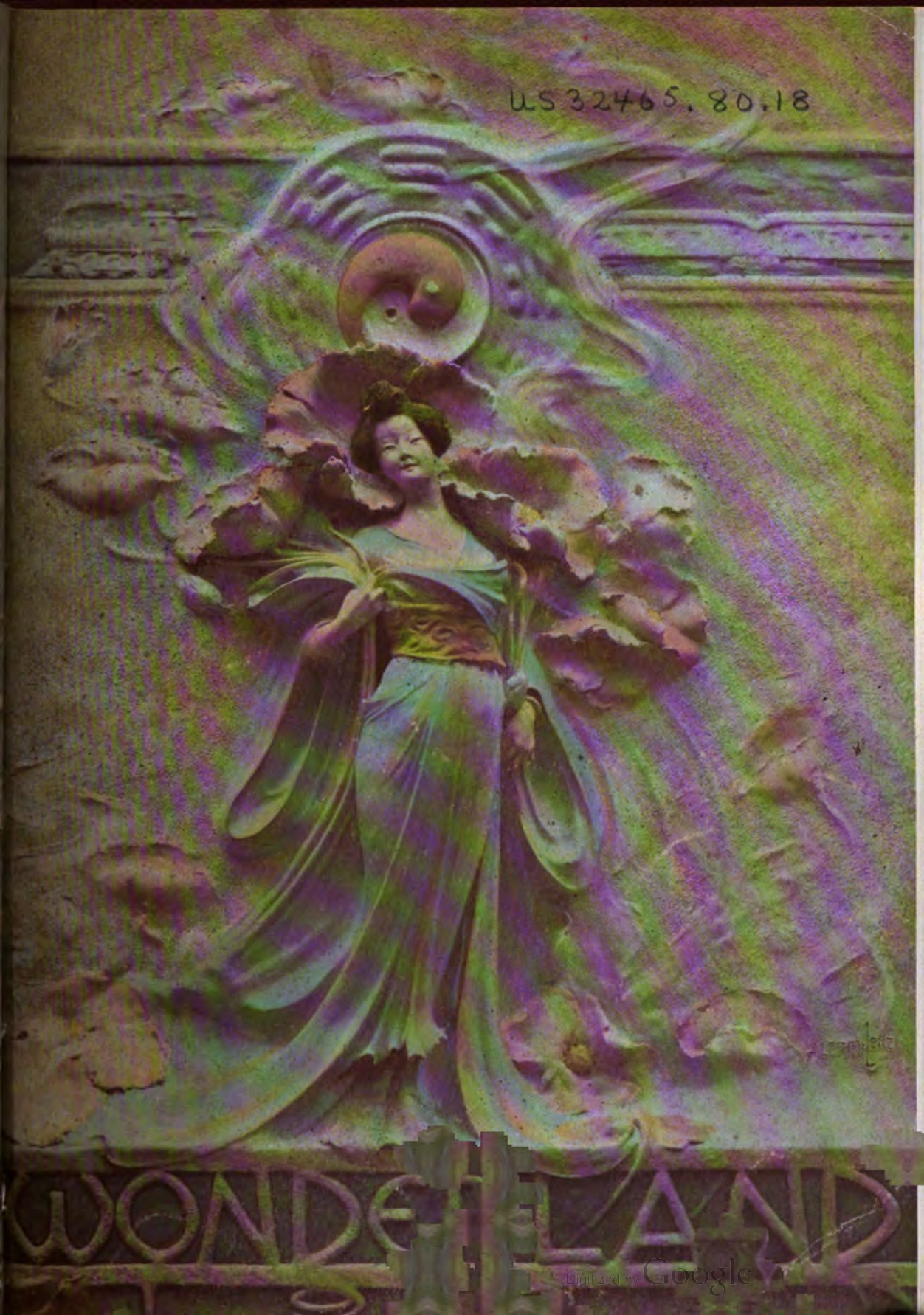
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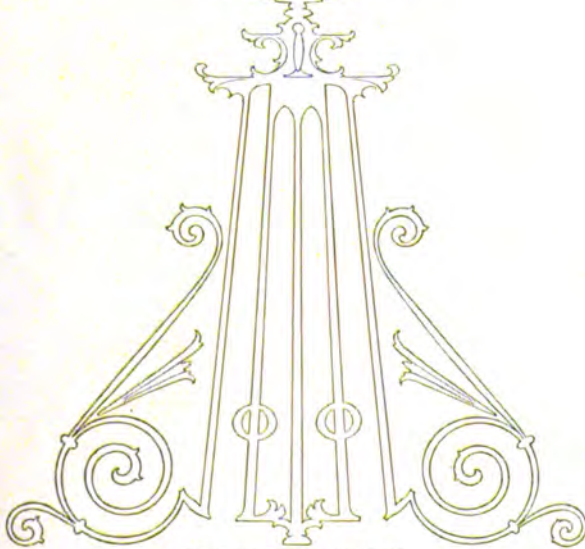
WONDERLAND



CUSTER'S LAST STAND

WONDERLAND

1901
BY
OLIN D. WHEELER

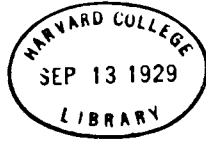


ILLUSTRATED

Descriptive of that portion of *The NORTHWEST* tributary to *The NORTHERN PACIFIC RAILWAY*, and particularly relating *The HISTORY* of the *UNIQUE TRADEMARK* of *The NORTHERN PACIFIC* and describing *YELLOWSTONE PARK* and *CUSTER BATTLEFIELD*


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GENERAL PASSENGER AND TICKET AGENT
NORTHERN PACIFIC RAILWAY,
ST. PAUL, MINN.

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1243 East Stark St.
PORTLAND, ORE.



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OF SIX CENTS IN POSTAGE STAMPS.

THE HISTORY OF A TRADE MARK



MANY have wondered whether the peculiar design used as a trade-mark by the Northern Pacific Railway Company was adopted by them in a haphazard manner, or whether a real significance attaches to it; whether it is simply an ingenious geometric device, or whether in its origin, meaning, and adoption there is hidden a story.

It is not a creature of accident—in the sense referred to—and there *is* a tale and history back of it.

It is not hard to relate its origin; it is easy to tell the story of its adoption; but when it comes to conveying to the general reader a clear idea of its original and ancient meaning, a somewhat difficult task confronts the relator, for reasons which will appear.

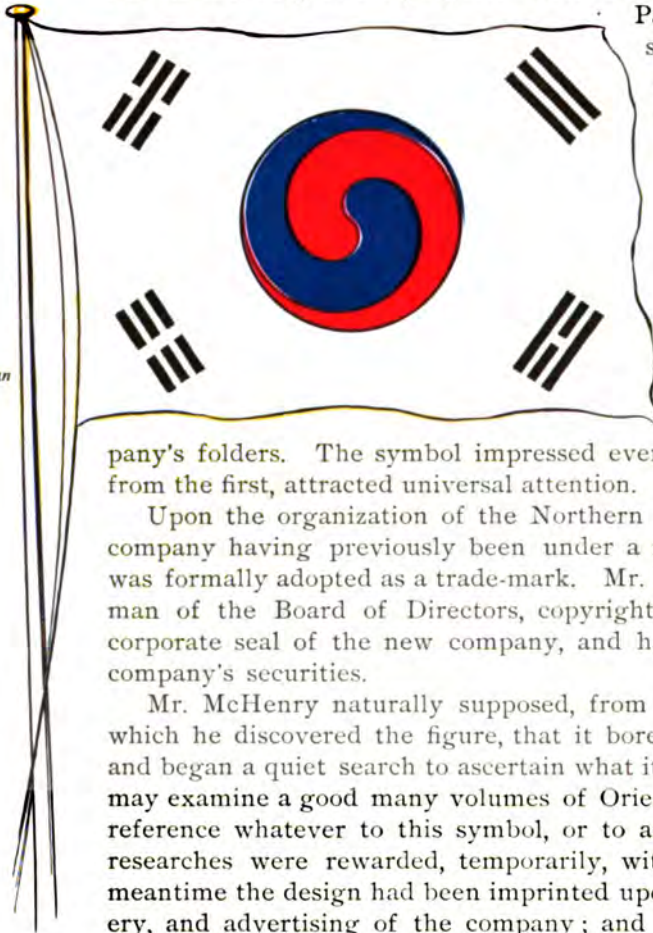
The original symbol, of which the trade-mark is an adaptation, is Chinese in invention. The diagram itself was evolved in the eleventh century A. D., but the ideas which it represents date back to more than 3,000 years before the Christ child was cradled in the manger at Bethlehem. It is really, therefore, more than 5,200 years old, and may, indeed, be much older. It is known as the Great Chinese Monad, or more commonly, perhaps, as the Diagram of the Great Extreme.

ITS ADOPTION.

The design was discovered and adapted to its present use in 1893. Mr. E. H. McHenry and Mr. Chas. S. Fee, then, as now, the Chief Engineer and General Passenger and Ticket Agent of the Company,

respectively, are principally to be credited with its discovery and adoption.

The Northern Pacific was in search of a trade-mark. Many designs had been considered and rejected. Mr. McHenry, while visiting the Korean exhibit at the World's Fair, was struck with a geometric design that appeared on the Korean flag. It was simple, yet effective—plain, yet striking. At once the idea came to him that it was just the symbol for the long-sought-for trade-mark. With but slight modification it lent itself readily to the purpose. After Mr. McHenry returned to St.



The Korean Flag.

Paul, Mr. Fee sent to him several designs bearing on the trade-mark idea, for elaboration in his drafting-room. Mr. McHenry added to them the Korean figure. Mr. Fee was at once impressed with this, added the words "Yellowstone Park Line," and sent the trade-mark forth into the world emblazoned upon the com-

pany's folders. The symbol impressed every one favorably, and has, from the first, attracted universal attention.

Upon the organization of the Northern Pacific Railway—the old company having previously been under a receivership—the design was formally adopted as a trade-mark. Mr. Edward D. Adams, chairman of the Board of Directors, copyrighted it, adopted it for the corporate seal of the new company, and had it engraved upon the company's securities.

Mr. McHenry naturally supposed, from the circumstances under which he discovered the figure, that it bore an Oriental significance, and began a quiet search to ascertain what it was. As it happens, one may examine a good many volumes of Oriental lore and discover no reference whatever to this symbol, or to anything like it, and these researches were rewarded, temporarily, with little success. In the meantime the design had been imprinted upon the documents, stationery, and advertising of the company; and from the windows of its ticket offices in all the large cities between the Atlantic and the Pacific the unique device attracted the attention of the passer-by.

ITS HISTORY AND MEANING.

It may be that the fact that the trade-mark was first seen on the Korean flag diverted investigation, at the start, into rather unproduc-

tive channels. The symbol is not original, apparently, with the Koreans, but was appropriated by them from the Chinese.

The first authentic and definite information, in detail, relative to the Monad came from Rev. W. S. Holt, D. D., of Portland, Ore. Mr. Holt had been, for twelve years, a Presbyterian missionary in China, and was familiar with the symbol and its meaning there. As he was walking along the street he noticed the trade-mark painted upon the windows of the office of the company. It struck him as peculiar, and entering the office he made some inquiries, and then, in conversation with Mr. A. D. Charlton, Assistant General Passenger Agent, informed him of the general character and meaning of the design. Through Mr. Holt's efforts much additional information of value was secured, and now that a start was made in the right direction, investigation was also successfully pushed through other channels.

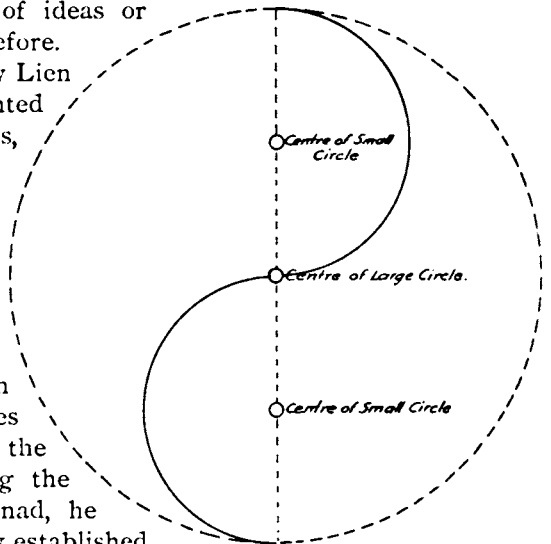
At first sight the figure appears to be rather an involved one. An analysis of it soon corrects this impression. It is really quite simple. On the vertical diameter of a circle, inscribe on opposite sides of this diameter and one above and one below the center thereof, semi-circles having diameters of one-half the larger diameter, or the radius of the large circle, and the symbol is outlined.

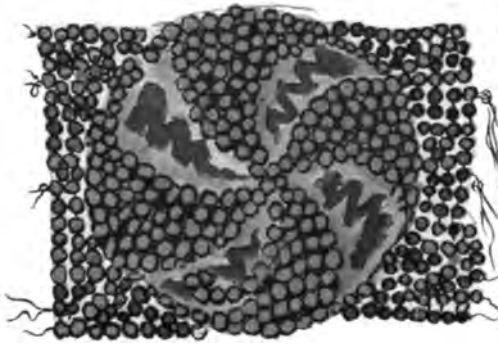
As previously stated, the symbol itself may be said to be an ideographic or pictographic representation of ideas or principles enunciated many centuries before.

In A. D. 1017 a young Chinaman, Chow Lien Ki, was born. As a young man he delighted in nature, and roamed the hills and dales, and to this we owe the existence of the trade-mark, and Chow Lien Ki the fame to which he attained.

One day in his rambling he found a cave. The cave ran through a hill and had an entrance on each side of it. Both entrances were double crescent shaped, but the cave itself was round as a moon inside. Out of these crescentic entrances and the moon-shaped cave he evolved the diagram that has become noted among the Chinese. This diagram, the Great Monad, he used to illustrate a system of philosophy established by Fuh Hi more than 3,000 years B. C., and, of course, 4,000 years before Chow found his wonderful cave.

From the mysteries of an ancient Chinese philosophy it has now been dragged forth to illustrate the modern American system of transportation. It has, so to speak, leaped across a gulf of nine centuries,





Sample of Bead Work of American Plains Indians, exhibiting crude resemblance to Monad and Tah Gook.

become a modern invention, as it were, and now does duty as the trademark of the Northern Pacific Railway Company.

But what was the strange philosophy that such a symbol was designed to illustrate, and how did it illustrate it?

This involves a plunge into the sea of metaphysics, from which let us hope to emerge "clothed and in our right minds."

We can hardly explain the ratiocinations of this young Chinaman's mind by which he came to believe that the figure really did represent what he intended it should, but we can at least try to state the case as lucidly as it will allow, and let the reader draw his own conclusion. It will be noticed that, however much the Chinese may deserve to be called heathen, they could, even in Fuh Hi's time, hold their own in abstruse speculation. Rev. Dr. W. A. P. Martin, evidently a close student and an authority on things Chinese, observes in his "The Chinese" (p. 277) that the Jesuits long ago pointed out that the only way in which Europeans could claim preëminence over the Chinese was in their mathematical knowledge and "the verities of the Christian faith."



Design found on Pueblo (Zuni) Indian Pottery, resembling Tah Gook.

Fuh Hi's philosophy is stated as follows: "The Illimitable produced the Great Extreme; the Great Extreme produced the Two Principles; the Two Principles produced the Four Figures," and from the Four Figures were developed what the Chinese call the Eight Diagrams of Fuh Hi, in 3322 B. C., according to the chronology of Doctor Legge, the best-known English sinologue.

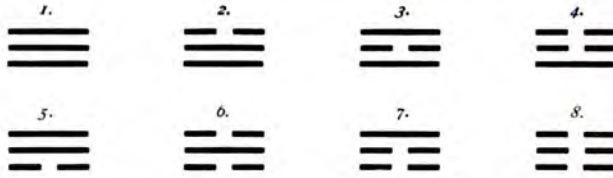
The Two Principles, which the Chinese say were produced by the Great Extreme, are represented thus:



From these Two Principles the Four Figures were produced by placing the Two Principles first over the one and then over the other, thus:



By placing each of the Four Figures under each of the Two Principles in succession, the Eight Diagrams were formed, thus:



Triskelion Carved in Ash-Wood, from Scotland, showing resemblance to Tah Gook.

To the ordinary person this will seem perfectly meaningless, or more, arrant nonsense. To the Chinaman it has great significance. To us the Two Principles, Four Figures, and the Eight Diagrams are more likely to appear to be an ingenious combination or arrangement of the letters L and M of the Morse telegraphic code, had that been known to Fuh Hi.

In formulating a statement regarding this remarkable philosophy, Mr. Holt quotes from Choo Foo Tsz — a noted interpreter of, and commentator upon, the Confucian classics in the twelfth century A. D. — as follows :

“The Great Extreme is merely the immaterial principle; it is found in the male and female principles in Nature, in the five elements, and in all things. From the time the Great Extreme came into operation, all things were produced by transformation. The Great Extreme has neither residence, form, nor place which you can assign to it. If you speak of it before its development, then, previous to that emanation it was perfect stillness. *Motion and rest*, with the male and female principles of Nature (Force and Matter), are only the descent and embodiment of this principle. It is the immaterial principle of the two Powers, the four Forms, and the eight Changes of Nature. We can not say that it does not exist, and yet no form of corporeity can be ascribed to it. It produced one male and one female principle of Nature, which are called the Dual Powers.”

It would appear that the two central and peculiar figures of the trade-mark were meant by Chow Lien Ki as substitutes for, or a more graphic representation of, the Two Principles themselves. I have seen no clear statement on this point, but infer that his inventive mind saw a more forceful way of picturing the ideas to be represented by them than the bare lines themselves did.

These Two Principles in Chow's figure — the white and black or red and black commas or tadpoles, as you wish, of the trade-mark — are known as the YANG and YIN, and in the original they have a small black eye in the white or red, and a white eye in the black portion. These eyes are intended to show, according to Rev. Doctor



Adaptation of the Tah Gook found in Anam.

Du Bose, that there is a male germ in the female and a female germ in the male principle.

Although the Two Principles, or the Dual Powers as they are also called, are now almost universally understood in China in a phallic or sexual sense, Doctor Martin insists that the primitive meanings were :

Yang, Light, and Yin, Darkness, and that philosophically they stood for certain positive and negative forces. As, however, they stand for the creative principle in every sense of the word, the phallic signification attached to them would seem to be a corollary of the meanings *light* and *darkness*.

In stating that the Yang and Yin stand for light and darkness and the sexual or creative idea, practically about all that there is to say as to the original notion and its pictorial expression has been said. The expansion or elaboration of the idea, however, is quite another matter, and the changes have been rung upon it in every conceivable



Shell Disk found in a Mound of the Mound Builders in Tennessee, resembling Tah Gook.

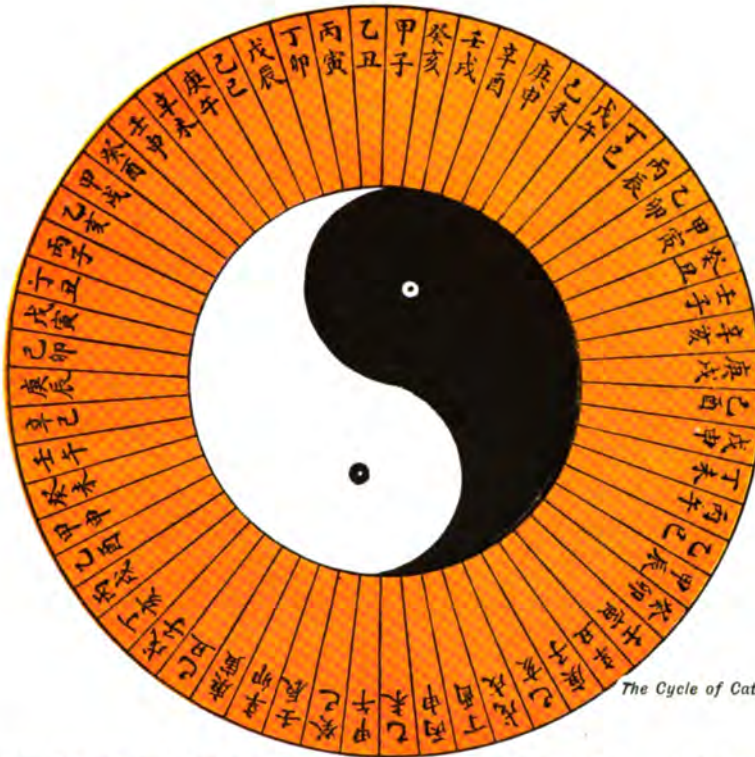
form.

Dr. S. Wells Williams, Professor of the Chinese Language and Literature at Yale College, in remarking upon Chu Hi's (not Fuh Hi) philosophical notions, well says, regarding the universal application of the Dual Powers, or Yang and Yin: "His system of materialism * * * allows scope for the vagaries of every individual who thinks he understands and can apply it to explain whatever phenomena come in his way. Heat and cold, light and darkness, fire and water, mind and matter, every agent, power, and substance known or supposed, are regarded as endued with these principles, which thus form a simple solution for every question. The infinite changes in the universe, the multiform actions and reactions in Nature, and all the varied consequences seen and unseen are alike easily explained by this form of cause and effect, this ingenious theory of evolution."

This expresses it in a nutshell. It were easy to quote page after page of varied renderings of the idea to fit pretty nearly everything under the sun. A few of these are here reproduced. Those who are given to such speculations will read them with interest; others, while looking upon them as vagaries and curiosities, will see how pervasive among the Chinese are the ideas symbolized by this peculiar trade-mark.



Prehistoric American Indian Emblem, showing resemblance to Chinese Monad.



The Cycle of Cathay.

The Chinese cycle consists of sixty years, each with a separate name. Their names are here ranged in the outer circle, and read from the top towards the left hand. The present year (1896) is the thirty-second of the seventy-six cycle from the beginning of the cyclic era. The figures in the inner space are the dual forces, Yin and Yang, symbolized by darkness and light, which form the starting point of Chinese philosophy.

To quote again from Doctor Williams: "Heaven was formless, an utter chaos; the whole mass was nothing but confusion. Order was first produced in the pure ether, and out of it the universe came forth; the universe produced air, and air the milky way.

"When the pure male principle Yang had been diluted, it formed the heavens; the heavy and thick parts coagulated, and formed the earth. The refined particles united very soon, but the union of the thick and heavy went on slowly; therefore the heavens came into existence first, and the earth afterward. From the subtle essence of heaven and earth, the dual principles Yin and Yang were formed; from their joint operation came the four seasons, and these putting forth their energies gave birth to all the products of the earth. The warm effluence of the Yang being condensed, produced fire; and the finest parts of fire formed the sun. The cold exhalations of the Yin being likewise condensed, produced water; and the finest parts of the watery substance formed the moon."

NOTE.—The above illustration and explanation are taken from "The Chinese," by Rev. Dr. W. A. P. Martin.



General Ticket Offices :

- (1) at Portland.
- (2) at Tacoma.
- (3) at Spokane.
- (4) at Seattle.



TICKET OFFICES

NORTHERN PACIFIC
MARK LINE

General Ticket Offices:
 (5) at Duluth.
 (6) at Minneapolis.
 (7) at Chicago.
 (8) at Indianapolis.
 (9) at Philadelphia.



SHOWING TRADE-MARK



It is not difficult to detect, in the foregoing, a striking similarity to the "nebular hypothesis" of the present-day astronomy. A glance at a statement of this theory will disclose the resemblance at once.

Sir John F. Davis, in his "History of China," quotes from the commentator Choo Foo Tsz, already mentioned, as follows:

"The celestial principle was male, the terrestrial female; all animate and inanimate nature may be distinguished into masculine and feminine. Even vegetable productions are male and female, as, for instance, there is female hemp, and male and female bamboo. Nothing exists independent of the Yin and Yang.' Although the Chinese do not characterize the sexes of plants, and arrange them systematically as we do after Linnæus, they use the above phraseology in regard to them; nor do they confine it to the vegetable and animal creation only, but extend the same to every part of Nature. Numbers themselves have their genders. A unit and every odd number are male; two and every even number, female.

"The above might, with no great impropriety, be styled 'a sexual system of the universe.' They maintain that when from the union of the Yang and Yin all existences, both animate and inanimate, had been produced, the sexual principle was

conveyed to, and became inherent in, all of them. Thus heaven, the sun, day, etc., are considered of the male gender; earth, the moon, night, etc., of the female gender. This notion pervades every department of knowledge in China. It exists in their theories of anatomy and medicine, and is constantly referred to on every subject."

Doctor Martin says (p. 126, "The Chinese"): "*Woo Kieh* produced *Tai Kieh*, *Tai Kieh* produced *Yin* and *Yang*, and these dual principles generated all things. This is the lucid cosmogony of the Chinese, and it adds little to its clearness to render the above terms, as they are usually translated, by the 'great extreme,' the 'male and female powers,' etc." Again, he says (pp. 162-3): "The common statement given in Chinese histories may be freely rendered in the following form: 'The indefinite (1—*Woo Kieh*) produced the finite or definite (2—*Tai Kieh*), the elements of Nature as yet in a chaotic state. This chaos evolved the principle of *Yang*, or light. The *Yang* produced *Yin*, i. e.,



darkness followed in the way of alternation ; and the *Yin* and *Yang* (3) together produced all things from the alternations of day and night, and the succession of the seasons.' ”

Commenting on this, he says: “Commencing with this simple idea, the *Yin* and *Yang* have been gradually metamorphosed into mysterious entities, the foundation of a universal sexual system, and incessantly active in every department of Nature—at once the fountain of the deepest philosophy and the aliment of the grossest superstition.”

Without dipping deeper into this recondite discussion, an idea has been given, I hope, of the significance of the Great Monad, or the Trade-mark, to the 400,000,000 of Chinese.

Metaphysicians have noted a parallelism between the Yang and Yin and the mundane egg of the Egyptians ; have seen coincidences between it and its philosophical elaboration and the philosophies of still other nations, Persia, India, etc., and even between it and the Christian Scriptures.

The symbol is very generally used by the Chinese in the ordinary affairs of life. It is suspended over the doors of residences as a charm ; it is used to ward off evil influences ; it is much used by fortune-tellers and necromancers. The Japanese form of the Monad is also used as a symbol of good luck.

A common form in which it is found is shown in the illustration on the following page, where will be seen the *Tai Kieh*, or Yang and Yin, with the eyes surrounded by the Eight Diagrams.

The symbol was obtained from a Chinese store in Portland, is circular, and measures five and one-eighth inches in diameter, the Yin and Yang in the center measuring two and one-eighth inches across. The design is most commonly seen, though, on a board six to eighteen or twenty inches square, or one foot wide by two feet long, having the Eight Diagrams painted around it, as in the illustration of the circular Monad, so as to leave the Great Extreme in the center, which is used as a charm to ward off evil spirits. In this country these charms can be found in great numbers in some of the mercantile houses on Second Street, in Portland, and in similar establishments in San Francisco. The small ones can be carried around, while the larger ones are placed over doors and at other conspicuous places as a guard against evil spirits.

The Yin and Yang in the figure here shown are black and red ; the field surrounding them is green, and the Eight Diagrams are raised characters gilded.



As the Chinese use the figure, the colors of Yang and Yin are not important. While red and black are common, so also are white and black—used also by the Northern Pacific in one-color work—and red and green.



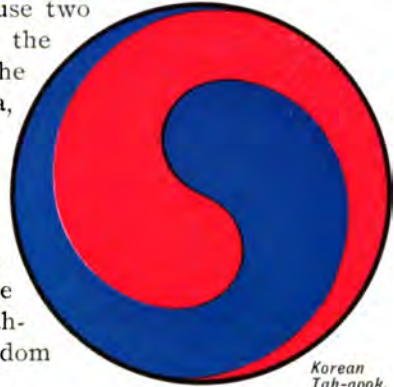
*The Great
Chinese Monad.
Used as a Charm
by the Chinese.*

THE KOREAN TAH-GOOK.

Although the trade-mark is of Chinese origin, it was, as stated, first seen by a Northern Pacific official on the Korean flag. There seems to have been perfect free trade between the Orientalists, at least so far as philosophic ideas and symbols go. The emblem is found not only among the Koreans, but also in Japan. In Korea it is known as the Tah-gook—the Korean pronunciation of Tai Kieh—and its meaning

is practically identical with that in China. It is the national emblem of Korea.

The word Korea, Mr. Holt says, is derived from Kao, the first king, "Kaoli" being the form in which it appears among the Koreans. The Koreans, in speaking of their country, also use two Chinese words, "Chao Sien," pronounced by the Koreans, "Chosen," and meaning "before the dawn," or "morning calm." The name Korea, rather freely translated, means, therefore, "the land of the morning calm," from all of which is evolved our word Korea. The two principles of Nature—the Yang and Yin of the Chinese—are represented by red and blue in the Tah-gook. Red is the royal color; blue is the color of the east, the morning. The Tah-gook, therefore, to Koreans, means "The Kingdom of the Morning."



Korean Tah-gook.

The Koreans arrange the Yang and Yin horizontally or angularly instead of vertically. The Japanese use three heads instead of two, and the colors are red, blue, and green. The Japanese, the common people at least, regard the symbol with superstitious awe, and it is made in silver discs the size of a half-dollar and carried in the sleeve of the "kimono" as a charm.



Chinese Monad.

Mr. Forster H. Jenings, late of the Korean legation at Washington, says of the Tah-gook, after a careful investigation of Korean classical works: "It is found on graves dating back thousands of years B. C., and in every kind of climate, from the rattan groves of Anam to the icy shores of Yezo in the north of Japan. In the various countries the shape of the symbol has undergone but little change." Mr. Holt mentions having seen the

Eight Diagrams that usually accompany the Chinese emblem engraved on eight large and very ancient stones within the city limits of Hang Chow, China.

The eyes of the Yang and Yin in the Chinese Monad are wanting in the symbols as used by other nations.

In Korea the use and meanings of the Tah-gook seem nearly or quite as diffused and various as those of the Tai Kieh in China. On the Korean national flag the red and blue (Yang and Yin) are found upon a white field.

Accompanying this paper are certain illustrations drawn in colors, and kindly furnished by Mr. Jenings. Some of these are of the Monad and Tah-gook and its modifications in the east; others are of ancient drawings of other countries resembling them, more or less;



Modification of Chinese Monad, as used in Japan.

while still others show a similarity in design to the eastern figures, in the work of our own American Indians.

This is not the place for discussing these drawings, and the question as to whether the recurrence of the scroll or spiral is anything more than a very natural and varied use of a simple, easy, and ornamental geometric element is one for ethnologists and archæologists. As used here the designs afford a curious and interesting comparison for the general reader. In the reports of the United States Bureau of Ethnology many instances can be found of the use of the spiral in ornamentation by the Pueblo Indians of the Southwest, and shell ornaments covered with them have been taken from mounds made by the Mound builders, as shown in one of the illustrations.

Enough has been written to show the wide influence exercised among Oriental peoples by the Monad, Tai Kieh, Tah-gook, or Trade-mark, however one wishes to speak of it; how it permeates all life, actually and practically; how beautifully it lends itself to the mysteries of eastern philosophical speculation.

But note how appropriately it takes its place as the symbol or trade-mark of a great transportation company. Light and darkness, force and matter, motion and rest, fire and water, all are contained within this mysterious figure—and all are so closely related in the calling for which the emblem stands. Day and night the great freight and palatial passenger trains of the Northern Pacific Railway, through the agency of fire and water, are now in rapid motion and again at rest throughout the mid-continent region of the great republic of the Occident.

Where could a more appropriate emblem for a great transportation company be found than in this design? "Motion and rest," "force and matter," of which the figure conceives, are most effectively exemplified and manifested in the pursuit which it symbolizes. It would almost seem that Chow Lien Ki, with the far-seeing vision of the Yang and Yin, looked forward to that time in the nineteenth century when the Northern Pacific Railway, in need of a device emblematic of its calling, would be drawn to "The Diagram of the Great Extreme" formulated by himself and which had been awaiting its coming for five thousand years.

It would thus appear that one of the great transcontinental railway companies of the United States has, by the adoption of its unique trade-mark, linked closer together the old Chinese and Korean civilizations with the newer one of America; that the steel rails of the Northern Pacific, in connection with the steamships of its copartner in commerce, the Northern Pacific Steamship Company, have established a new bond between the young republic and the old empire, the Occident and the Orient.

There is still another and an interesting phase of the subject.

Mr. Sam Loyd, the puzzle genius of New York City, in a letter to Mr. McHenry, calls attention to the facility with which this emblem lends itself to the working out of geometric problems and puzzles. I call attention to one only, but that is peculiarly significant, considering the use made of the Monad by both the Chinese and Japanese.

It will be recalled that they use the symbol to ward off evil, etc., or in other words to bring them good luck.

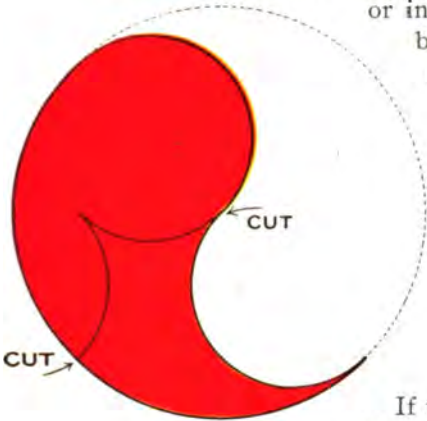


Fig. 1.

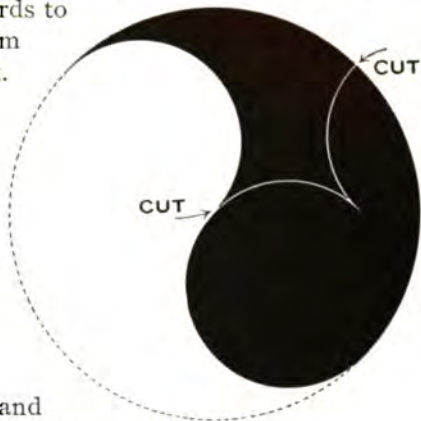


Fig. 2.

If the Yang and Yin are cut—in two strokes each—as shown in figures 1 and 2, and the pieces rearranged or refitted, as shown in figures 3 and 4, it will be seen that the Chinese emblem of good luck becomes, at once, the Yankee symbol of good luck, the *horseshoe*, of which there are, of course, two in each Northern Pacific trade-mark.

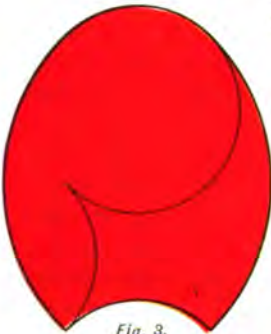


Fig. 3.



Fig. 4.

Mr. Loyd states also, that he knows that the method in vogue of covering *base-balls*, the peculiarity of which has doubtless attracted universal attention, was suggested to the patentee by the Yang and Yin of the Monad or trade-mark.



The "North Coast Limited"

IT is amazing, when one stops to consider, the progress that has been made in passenger railway travel within the last quarter of a century. Nor has this progress been confined to any one thing: Rails, roadway, engineering, motive power, rolling stock, stations, mails, eating, sleeping, methods of handling tickets and baggage, deportment of employes; in fact, everything connected with train operation and equipment has been pretty nearly revolutionized within that time.

While Pullman sleeping cars were then in quite common use, and drawing room and dining cars were by no means unknown, still, they were not the every-day part of train equipment that they now are, nor were they so well designed for the accommodation and comfort of passengers. The day of car libraries, bath rooms, buffets, compartments, vestibules, steam heat, Pintsch gas, electric lights, observation platforms, and many lesser but important improvements, was a long way in the future. The so-called "limited" trains were yet to come.

Strange as it may seem, the West was, perhaps, the leader in car and train improvement, and this position *it practically retains to-day*.

The writer well remembers his surprise, when, in 1874, having changed at Chicago from a well-known New York-Chicago line to a Chicago-Omaha road, he found the Pullman cars and employes of the latter road immeasurably superior to those of the former in comfort and courtesy.

Different kinds of trains are demanded in different parts of the country. The exigencies of traffic on different railways and in particular localities determine this. For example, the daylight run between New York and Buffalo obviates the necessity on such trains for any sleeping cars; with the fine trains on the night run between Chicago and St. Paul and Minneapolis the sleeping car, both standard and compartment, is the "paramount issue." On a transcontinental journey a still different train, in many respects, is demanded.

In the spring of 1900 the conditions of traffic on the Northern Pacific seemed to necessitate a new, thoroughly up-to-date train. Between May 1st and November 1st what was known as the "North Coast Limited" train was run *daily* between St. Paul, Minneapolis, and Duluth, and Seattle, Tacoma, and Portland, and the train — even better than in 1900 — will again be put into commission on May 5, 1901.

This train was the surprise of easterners, the pride of the Northern Pacific, and the talk of the West. It required *ten distinct trains* of eight cars each — eighty cars in all — to provide the necessary equipment, and nine of these trains were in synchronous operation a part of each day. The aggregate cost of these trains, each train being composed of new cars, was about \$800,000, and each train weighed about 500 tons. The train is equipped with broad vestibules, Westinghouse air brakes and air train signals, steel platforms, M. C. B. couplers, Gold system of steam heat, electric lights, and steel-tired paper wheels. The train covers the distance between St. Paul and Portland — 2,056 miles — without the change of a car.

The locomotives which haul these trains are the best product of the Schenectady Locomotive Works. They are of the ten-wheeled type, having six driving wheels, each of seventy-three inches diameter, which carries them nearly twenty feet at each revolution. The engines — perfect monsters — supply the steam for the dynamo and for heating the train.

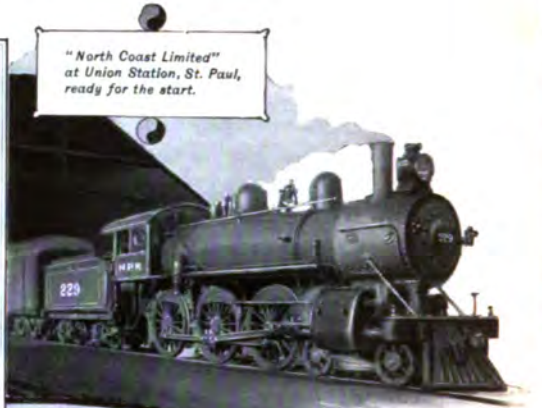
The first car is a mail car; the second, a seventy-foot-long combined baggage and express car. Here also is the large dynamo that supplies the 300 — nearly — electric lights found on the train. Storage batteries keep the lights burning during all changes of engines, and each train necessarily carries an electrician. A combination second-class coach and smoking car is followed by a first-class coach finished in mahogany, with usual modern toilet rooms, high and comfortable reversible seats, ice-water tank, etc.

We now come to one of the features of the train — the large sixteen-section Tourist Sleeping Car. This car is not common to eastern roads.

On a long across-continent journey many persons feel that they can not afford the expense of a berth in the first-class Pullman. The Tourist Sleeping Car is intended for just such. At less than one-half the cost of a regular Pullman berth, one is about as comfortably cared for, considering essentials only, in this car. The beds and bedding are good and clean — regular Pullman bedding — and the car is in charge of a Pullman porter. The seats are upholstered in olive-green leather and the woodwork of the car is finished in mahogany. There are separate toilet rooms for men and women, and the latter will be glad to know that the lavatory arrangements for them are roomy and complete. At one end of the car is a cooking range, with fire, for use



"North Coast Limited" passing through yards at St. Paul, beginning its transcontinental journey.



"North Coast Limited" at Union Station, St. Paul, ready for the start.



Rear of Observation Car of "North Coast Limited."

"North Coast Limited" under full headway, sixty miles an hour, on Yellowstone Division, Montana.



"North Coast Limited" on an up grade between Minneapolis and St. Paul.

of the occupants of the car who prefer to prepare their own meals. This car has been a most popular one on the "North Coast Limited," and its praises have been sounded far and wide.

How many among those who may read this, remember when, on a long journey, a slight delay in reaching an eating station was productive of a hard headache, or an attack of indigestion later on? Such a thing can not happen on a Northern Pacific transcontinental train. A standard Northern Pacific Dining Car is an integral part of the "North Coast Limited"—also of regular transcontinental trains No. 3 and No. 4—between St. Paul and Portland. It is an unwritten law that this train must not be behind time, but as delays will sometimes happen, even in *all* well-regulated railway families, the presence of the dining car is a guaranty of regular meals. This car accommodates thirty-six persons at a time; is supplied with electric fans for cooling the air, and the menus are full and varied. Breakfast and luncheon are served on the *à la carte* plan; dinner, *table d'hôte*, \$1.

The Pullman Standard Sleeping Cars on this train are models of their kind. Compartment cars are out of place on a trip across continent. The occupants of each car are companionable on such a journey, for the time being members of a common family, and are usually not inclined to be cloistered in small rooms where they can look out upon but one part of the landscape. For those who prefer, however, to be thus immured and segregated, each car has a stateroom or drawing room. The usual first-class Pullman furnishings and equipment are found in these cars and each section is provided with *two* electric berth lights which can be turned on or off at will.

The crowning feature of this train is the Observation Car. By common consent it outranks anything of the sort found in the entire country. It is the notable car of a notable train.

The first forty feet of the car contain a gentlemen's toilet room, two smoking and card rooms each containing six wicker chairs, a buffet, barber shop, bath room, and a ladies' toilet room, all opening on a side corridor. Then follows a space containing a library of 140 volumes and the current magazines, a writing desk and "North Coast Limited" stationery free; two open-seated sections; and, lastly, the ladies' parlor and observation room. An appreciative newspaper man thus describes the parlor and car:

"It is 9 by 22 feet and is luxuriously appointed, including, *inter alia*, fourteen handsome portable wicker chairs. They are exquisitely upholstered in plush, with colors in eye-soothing harmony with the dark-green Wilton carpets. Contrary to custom, no smoking offends the ladies. This is forbidden in their department. In ordinary observation cars, ladies are practically ostracized by the thoughtless cigar-users. Owing to the 'North Coast Limited' arrangements, fair travelers are spared this unpleasantness, happily.

"The decorations of the mahogany-finished interior car are sumptuously rich, but at no point do they overstep the bounds of good taste, and no traveler, accustomed to dainty frescoing and other varied types of home adornment, fails to express admiration at the success attending the company's efforts to duplicate the atmosphere of domesticity.

"The exterior of this car is of the standard Pullman color, as is the entire train, as familiar as the gleam of copper and gold to the Northwestern eye. The structure is begemmed with large plate windows, through which, as we have intimated, a perfect view of the country through which the train is speeding may be obtained without a particle of exertion. To the

more ambitious sight-seer, who would fain commune face to face with nature in her

various moods, the rear platform affords abundant opportunities for such pioneer spirits. It is $6\frac{1}{2}$ by 9 feet in dimensions, and is surrounded by an ornamental brass railing, and is partially enclosed by the extended sides of the car, while a pretty dome entirely covers it."

At the rear end of this car is attached a large trade-mark of the road, which is electrically illuminated at night.

To those having paid for accommodations in the Standard Pullman Sleeping Car, this car is free; other first-class passengers are privileged to use it upon payment of a reasonable charge, graduated according to distance traveled. The charges for bath, buffet, and barber shop—free of course to none—are reasonable.

During the Yellowstone Park season, June 15th to September 15th, park tourists, eastbound, use the "North Coast Limited." The only change of cars in this train, either eastbound or westbound, is made at Livingston (junction with Yellowstone Park branch), where the eastbound train drops one sleeping car and picks up another—one bound to, the other coming from, the park—the number of cars in train remaining the same.

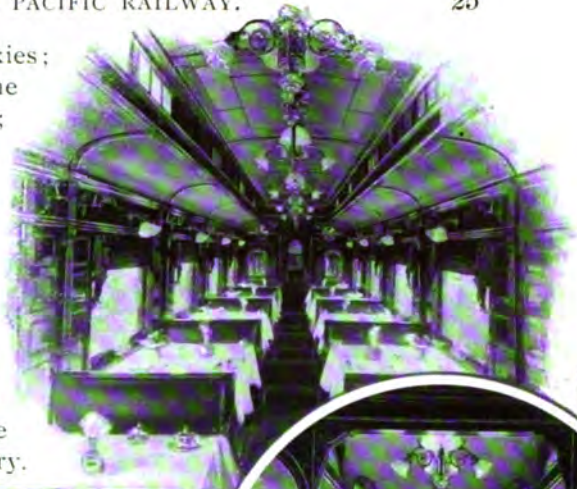
It must be remembered that the "North Coast Limited" runs through the garden and beauty spots of the Northwest.

The Lake Park Country of Minnesota; Red and James River valleys; Pyramid Park—Bad Lands—of North Dakota, a unique, wonderfully colored, spectacular region; Yellowstone Valley, 341 miles long, with the Yellowstone River in sight all the way; Gallatin

*Interior of
Tourist
Sleeping Car
"North
Coast
Limited."*

Valley, hemmed in by the Rockies; Hell Gate Cañon and river; the Jocko and Clark Fork rivers; Lake Pend d' Oreille, jeweled among the mountains; Yakima Valley, being transformed from a desert to a garden by irrigation; the Puget Sound Region; Columbia River and Willamette River valleys, all come and go panoramically. Those using this train in both directions are enabled to see almost every foot of this country.

The "North Coast Limited" passes through nearly all the important cities of the Northwest, too, between St. Paul and Portland, including Minneapolis, St. Cloud, Little Falls, Fargo, Jamestown,



N. P. Ry. Standard Dining Car.



N. P. Ry. Observation Car facing Observation Platform.
Bismarck, Mandan, Miles City, Billings, Livingston, Bozeman, Butte (connection at Logan to

Bathroom and Corridor, N. P. Ry. Observation Car.



N. P. Ry. Observation Car facing Library.



Pullman First-class Sleeping Car.

and from Helena, and at Butte or Stuart for Anaconda), Deer Lodge, Missoula, Spokane, North Yakima, Seattle, and Tacoma.

Those returning east from a winter's sojourn in California will find that this train, in connection with Shasta Route trains, furnishes the greatest ride for the money, to be found.

Besides the "North Coast Limited," during the summer season the Northern Pacific runs the "Copper City Limited" between Butte and Hamilton, Mont. This train passes through the smelting city of Anaconda, and Deer Lodge and Missoula, and up the noted Bitter Root Valley. At Hamilton, the Hotel Ravalli is one of the most restful and finely appointed hotels in the West, and in the heart of a fine hunting and fishing country.

The "Lake Superior Limited" makes its flight every day in the year between St. Paul and Minneapolis at one end of the line, and Duluth and Superior on Lake Superior. This is the popular train between these cities, and runs over the "Duluth Short Line," the old St. Paul and Duluth Railroad, now a part of the Northern Pacific System.

This train covers the distance between the Head of the Lakes—Duluth and the Superiors—and the Twin Cities, in each direction, *in daytime*. Its equipment is entirely new and consists of modern coaches, elegant parlor cars, and observation cars in no respect inferior to those

found on the "North Coast Limited." Indeed, it may be said to be a "North Coast Limited" on a slightly reduced scale.

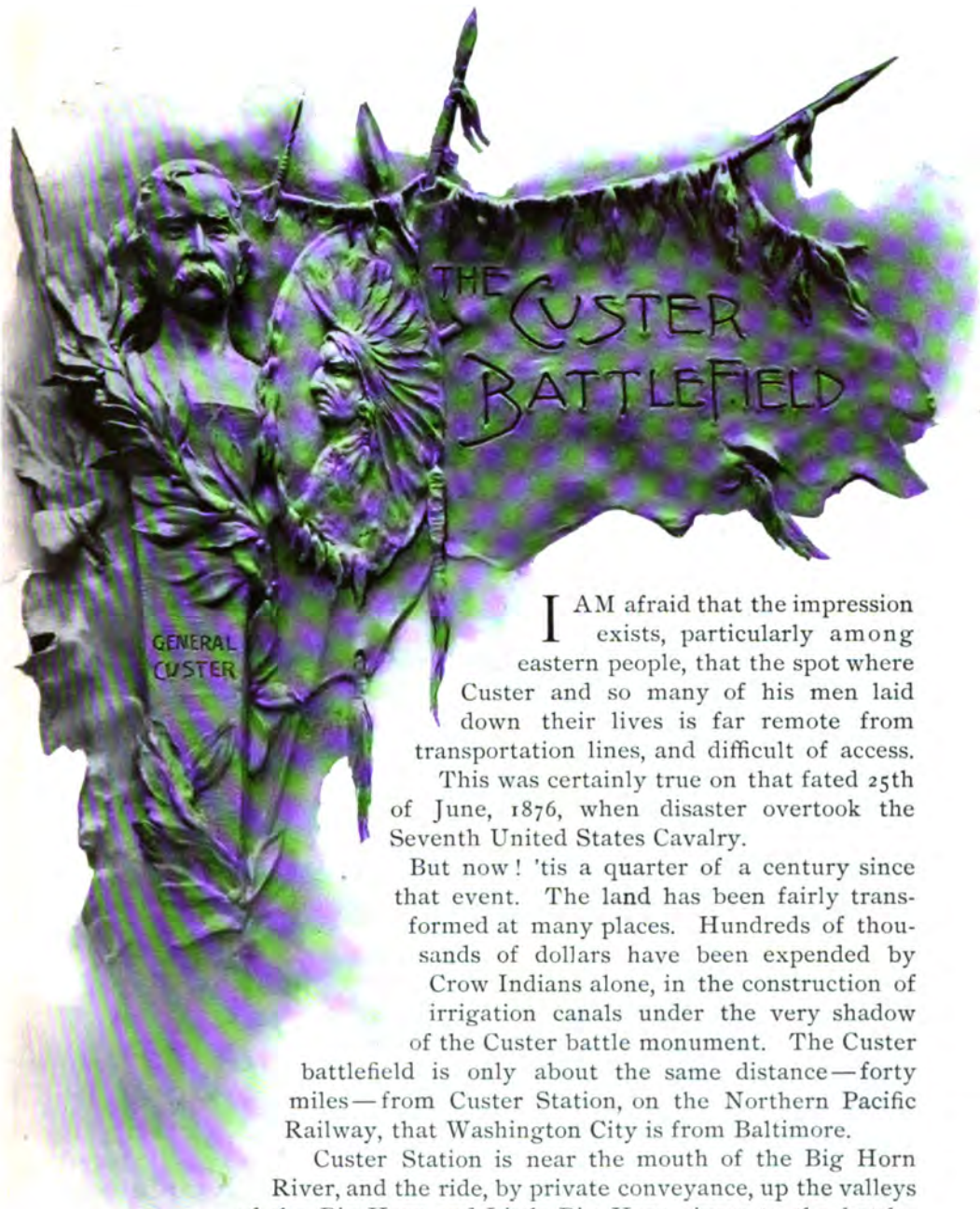
Rocky Canon,
near
Bozeman,
Mont.



Along
the
Clark
Fork,
Mont.



Entrance to
Rocky Canon,
nine miles
east of
Bozeman,
Mont.



GENERAL
CUSTER

THE CUSTER BATTLEFIELD

I AM afraid that the impression exists, particularly among eastern people, that the spot where Custer and so many of his men laid down their lives is far remote from transportation lines, and difficult of access.

This was certainly true on that fated 25th of June, 1876, when disaster overtook the Seventh United States Cavalry.

But now! 'tis a quarter of a century since that event. The land has been fairly transformed at many places. Hundreds of thousands of dollars have been expended by

Crow Indians alone, in the construction of irrigation canals under the very shadow of the Custer battle monument. The Custer

battlefield is only about the same distance—forty miles—from Custer Station, on the Northern Pacific Railway, that Washington City is from Baltimore.

Custer Station is near the mouth of the Big Horn River, and the ride, by private conveyance, up the valleys of the Big Horn and Little Big Horn rivers to the battlefield, is one of exceeding interest and, at places, of beauty. It prepares one to view the scene of such direful consequences with feelings suitable to the spot and what it suggests.

From Billings it is but a seventy-mile stretch via the Burlington Route, which there connects with the Northern Pacific, to the same spot, if one chooses to go entirely by railway.



*Frederick F. Gerard
Custer's interpreter
during the campaign
of 1876.*

*Mr. Gerard, when Custer
divided his command
into detachments just
before the fight, was
ordered to report to
Major Reno, together
with the Indian scouts,
and his life was thus,
luckily for him,
preserved.*

*Gerard was one of
those left in the river
bottom, escaping after
nightfall.*

Read the story of Terry's march and one will indeed think that it *was* a long distance from habited regions to

"That desolate land and lone,
Where the Big Horn and Yellowstone roar down their mountain path."

It was in the Centennial year; the attention of the nation was centered on that splendid exhibition at Philadelphia emblematic of our progress through a hundred years. Like a thunder-clap out of a clear sky came the tidings of an awful disaster in the far Northwest, to a man and regiment thought to be impregnable. The country was stunned, and from thousands of hearts and hearthstones there went up a silent requiem for those who slept the sleep that knows no waking, on the bluffs of the Little Big Horn, in far-away Montana.

And yet, was this surprise justified? For two or three years events had been so adjusting themselves as to bring about what actually occurred, and we were principally to blame for it ourselves, and should have easily foreseen what came to pass.

In May, 1876, a triangular campaign was inaugurated against the Sioux and allied tribes. From Fort Fetterman, Wyo., General Crook, the greatest Indian fighter of his day, marched north with 1,000 men; from Fort Abraham Lincoln, Dak., now North Dakota, went General Terry westward with another thousand; from Fort Ellis, near Bozeman, Mont., General Gibbon marched eastward with about 450 men.

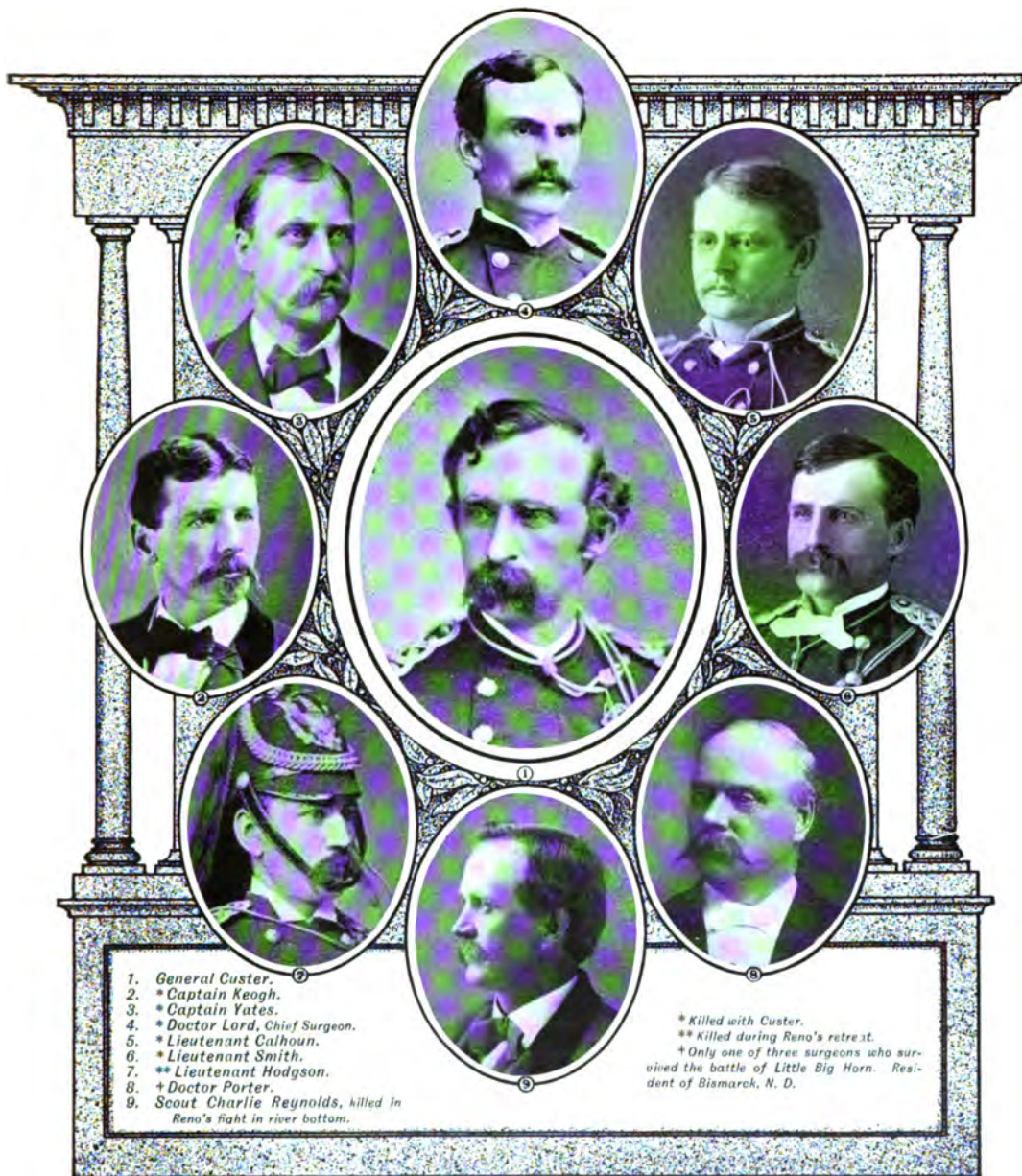
On June 17th Crook had a tussle with the Indians on the headwaters of the Rosebud River, which was in reality a defeat for him, and he withdrew southward to Goose Creek, across the Wyoming line, to await

reinforcements. The Indians opposed to him numbered at least 700, and, possibly, two or three times that number.

On the day that Crook was fighting, Major Reno with a portion of the Seventh Cavalry was scouting the country between the Powder and Tongue rivers, somewhat north-east from Crook's battle ground, while Terry, with the



*Group of Officers and
Ladies of 7th U. S. Cavalry,
taken at Fort Abraham Lincoln*



remainder of his command, had just made camp on the Tongue River about where Miles City now is. Efforts were made to get couriers through from Crook to Terry, but without success, although Reno's scouting party and Crook were within forty or fifty miles of each other at one time. Terry, Custer, and Gibbon knew nothing, therefore, about Crook's fight, and Custer never knew of it. After the battle with Crook, the Indians withdrew northward to the valley of the Little Big Horn.

Knowing of the indecisive results of Crook's operations, the

authorities and the country as a whole should not have been unprepared to hear of another possible disaster.

On June 21st Terry's and Gibbon's commands formed junction near the mouth of the Rosebud River, Terry in supreme command.

At this point a plan of campaign was adopted, and in pursuance thereof Custer and the Seventh Cavalry started, at noon of June 22d, up the Rosebud River to strike a broad Indian trail that Reno had found during his previous scout.

On the 23d and 24th this Indian road was followed westward toward the Little Big Horn, and early on the 25th the column was drawing near the Valley of the Greasy Grass, as the Indians called the Little Horn Valley.

Custer was in command of his regiment on this march, and there were twelve troops or companies, and the number of men aggregated about 550 or 600.

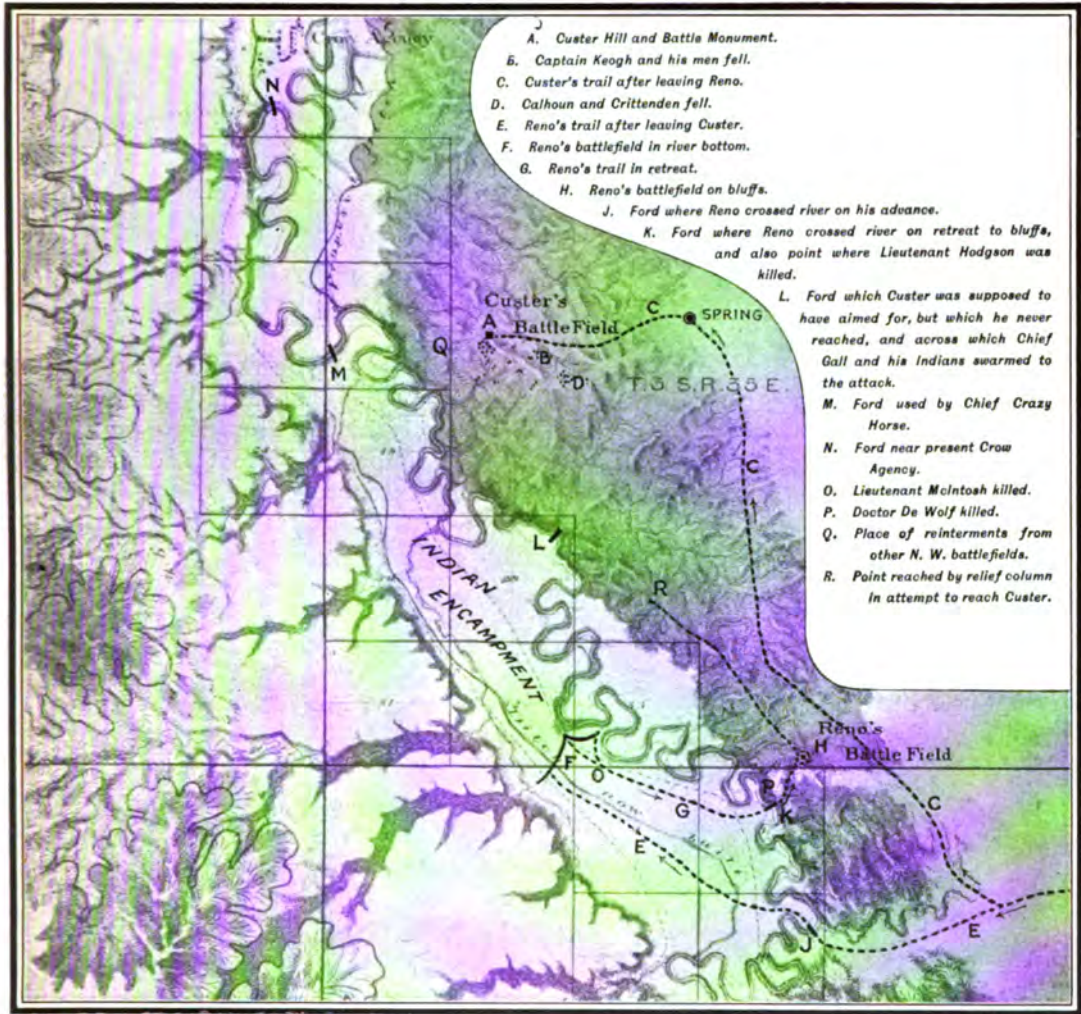
At the divide between the Rosebud and Little Horn rivers it was definitely ascertained that the trail led to the valley of the latter stream, and that the Indians were encamped there. It was also supposed by Custer and his men that their own presence was then known to the Indians, but there is some doubt as to this being a fact.

Here, about twelve or fourteen miles from the Little Horn, the command was divided into four detachments.

One battalion, under Captain Benteen, consisted of three troops, 135 to 150 men, and was sent away scouting, southwestward; a second battalion of the same size, under Major Reno, proceeded westward and, under orders, attacked the upper end of the Indian village across the river; one troop, under Captain McDougall, was detailed as escort to the pack train which carried the reserve ammunition; the remaining battalion of five troops, numbering about 225 men, Custer himself led, and after marching for some miles parallel to and near Reno's forces, he turned from the latter toward the north, expecting to find a ford somewhere, and to attack the village from another quarter, and in so doing support Reno's attack.

This division of forces, although not an unusual one under such circumstances, *was* an ill-conceived move and the results disastrous. Every man, barring possibly a few of the scouts, was an utter stranger in a strange land; Custer expected to meet from 1,000 to 1,500 Indians, and against that number his combined force, scouts, Indians, and enlisted men, did not exceed 600; this disposition of his command both lessened his striking power and rendered mutual support impossible, and as the sequel soon showed, this support was badly needed.

It must be borne in mind that the phrase "Custer Battlefield" includes three distinct fields of battle: Reno's point of attack in the valley proper, the bluffs across the river to which he retreated and



WALTER H. GRAYES, Irrigation Engineer, Crow Indian Reservation.

Map of Custer Battlefield.

where the Indians attacked *him*, and Custer's own battlefield some miles down the river from the scene of Reno's engagements.

Reno's attack upon the Indians was at a bend of the river on the west bank, about two miles from where he forded the stream. The point on the bluffs where he was besieged was from a mile to a mile and a half to the east of the scene of his first fight, and on the *east* side of the river. Custer's field of carnage was more than four miles down the stream from Reno's Bluffs, on the high ground which was a continuation of the line of hills where the Indians penned in Reno.

The river bottom at this point is generally flat, quite heavily timbered along the river, and is about two miles wide in its widest parts. The river itself, while hugging for the most part the eastern



Where Lieutenant Crittenden Fell, Showing first marker erected.

bluffs, winds in great coils in all directions and at two or three points stretches across the valley nearly or quite to the western hills. For the distance of four or five miles along the banks of the stream, and largely hidden from view by the timber, the great Indian city extended. The principal bands encamped here were the Hunkpapas, Brulés, Ogallalas, Cheyennes, Minneconjous (or Minneconjous), and Sans Arcs, with a few scattering tepees from other bands or tribes. The number of Indians at that time camped in the valley has been a fruitful theme for disputation, as indeed has nearly everything that occurred in connection with this series of battles. There were certainly 1,500



Grave of Captain Keogh, Showing first marker erected.

Where Custer Fell. (Soon after battle.) The bones are those of horses.



Lieutenant Sturgis' Grave as first marked. It is now accepted as a fact that Lieutenant Sturgis' body was not certainly found, and the identification indicated in the illustration was undoubtedly a mistake.

warriors, and there may have been twice that number, or even more. They were well armed with the most improved American rifles, bows and arrows, and their usual stone implements of war.

The western side of the valley above the bottom land is an easy rising slope to a gullied plateau some distance back. The bluffs on the eastern side and across the river are, in some cases, very



First Monument erected on Custer Hill.



steep and deeply ravined, but

scalable, though with difficulty. At other places these bluffs are earth precipices washed by the river and unscalable by white man, Indian, or four-legged brute. These bluffs, which play so conspicuous a part in these battles, are from 100 to 200 feet high for the most part, with knolls reaching 100 feet or, perhaps in some cases, 200 feet higher. They are of clay, ash gray in color, with more or less wild grass on top.

There is no regular ford that Custer could have used between the ford used by Reno in his attack and one just south of where Custer fought his battle. The one used by Reno in retreat was an emergency ford.

After Reno, in his forward movement, reached the river, forded it and watered his horses, he advanced across the valley, and in a half-hearted way attacked the Indians. He was not well fitted to lead such an attack, and his conduct that day was more like that of one bereft of reason than of a fighting major of cavalry. Had Custer himself, with his dash and bravery, led this charge at the head of his entire regiment, forlorn as was the hope, there might have been a different story to tell.

The Indians at once saw the irresolution and inability exhibited and promptly acted upon it. They immediately assumed the offensive under chiefs Gall, Black Moon, and others, and in a very short time

Custer Monument and Hill. Showing permanent monument and marble headstones. The cross marks the spot where Custer fell. About him were Yates, Tom Custer, Riley, Smith, and others.



Looking Southwest from Custer Monument. Cross shows where Custer fell. Little Big Horn River and Valley, where Indians were encamped, shown in the distance. On edge of picture the point where reinterments from various battlefields and military posts in northwest is seen.



had scattered Reno's Indian scouts, about forty in number, completely disarranged his line, and finally forced him into the timber in a bend of the stream. This was a strong position and could have been held indefinitely, but it is a serious question whether that would have been advisable.

Discipline and organization still remained, and Reno, apparently utterly demoralized himself, at last made an effort to get away.

This movement he styled a "charge." This "charge" should be studied by all students of military history, as it was probably as original, unique, and peculiar a charge as any known in military tactics. It should become immortal in our own army annals. It was led enthusiastically by Reno himself, and was directed, *not* against the *Indians*, but against the clay bluffs across the river. As the *Indians*, however, had him pretty nearly surrounded, there were necessarily and incidentally a few of them near his line of "charge," but the impetuosity of his flight was not checked, nor was he personally injured, although many who followed him were killed.

Other officers of the Seventh Cavalry usually have called this "charge" a retreat or rout. Few of the officers or men knew what was going on, and the result was that many were left in the timber, where they hid during the day, escaping later.

It was about 2 o'clock of the 25th when Reno reached the bluffs, and at about 2.30 P. M. Benteen came in from his scout, and at about 4 or 4.30 o'clock McDougall and the pack train arrived. From this time until evening of June 26th the *Indians* had this force surrounded

and under more or less constant fire, day and night. When Terry's and Gibbon's column arrived in pursuance of the prearranged plan, the Indians retreated and Reno's command was succored.

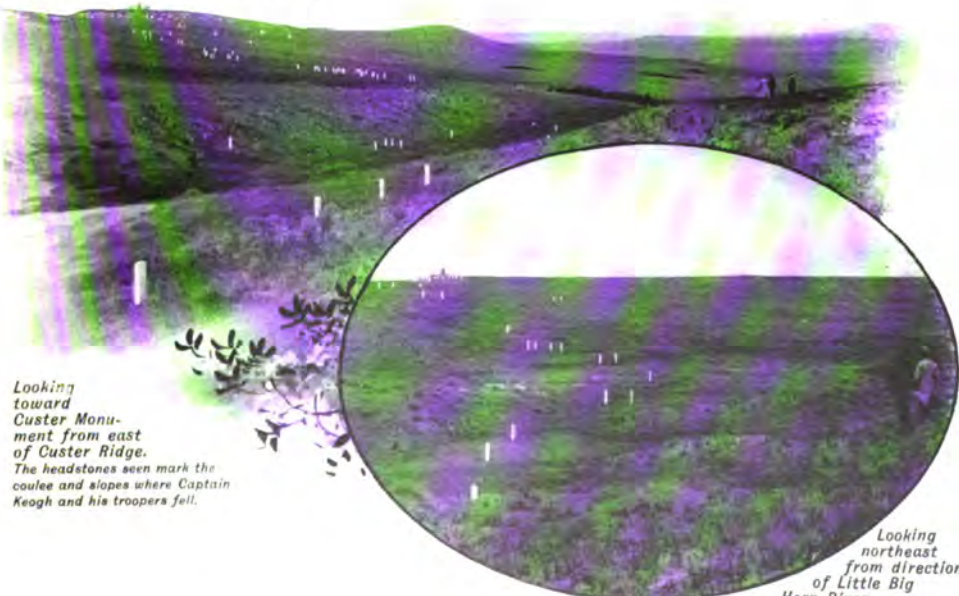
Some years since, when I rode over these battlefields, Reno's position on the bluffs was still well marked. Skulls of horses were lying about, and his lines of entrenchments were, many of them, still visible. It seemed a poor position, being dominated by higher points on nearly all sides, and these points the Indians had seized and occupied.

Why the latter did not clinch their victory over Custer by annihilating Reno's command, which they could easily have done, is one of the unsolvable mysteries.

The difficulty in reaching the top of the bluffs experienced by Reno's men in their stampede is evident at a glance, when one is standing there. The ravine up which men and horses had to scramble while Gall and his Hunkpapas were pumping cold lead into them, is one of the roughest and steepest in the vicinity, and one can readily imagine the strenuous efforts required to accomplish their purpose.

The route pursued by Custer after he left Reno has been the subject of much dispute. There seems little doubt now that he followed at first a "draw" or depression that ran behind the river bluffs. He was hidden from the Indian village and was from one-half a mile to two miles from the river. He finally came out on a higher and second line of bluffs parallel to the first or river line. He knew nothing of what was before him and we know precious little of what he did or what happened in detail, save as we get it from the Indians, and they seem to be about as diverse in depicting events as white men.

Not long after he diverged to the north he sent a courier, Theo. W. Goldin, now of Janesville, Wis., to Reno, and some



Looking toward Custer Monument from east of Custer Ridge. The headstones seen mark the coulee and slopes where Captain Keogh and his troopers fell.

Looking northeast from direction of Little Big Horn River. Custer Hill and Monument in background.

*Two Moon,
a Cheyenne
Chief, in
Battle of
Little
Big Horn.*



*Sitting Bull,
Sioux Medicine
Man, at Battle
of Little
Big Horn.*

*Rain-in-the-
Face,
a Hunkpapa
Sioux, in Battle
of Little
Big Horn.*



time afterward, another, Trumpeter Martin, to Benteen with the now famous "Benteen order," so that from these men we know his trail up to the time they left him. From Captain Godfrey, then Lieutenant Godfrey, of troop "K," we know of another point on the trail on the high ground immediately back of Custer's battlefield, which Godfrey and Trumpeter Penwell visited on June 28th after the battle.

From this high point the trail turned at right angles, westward, and led to the ridge and slopes upon which the bodies of the command were found. Just south of the termination of the Custer ridge there is a wide, shallow coulee in which there is running water at some seasons of the year, supplied by a spring at its head. This coulee leads to a ford at the river, the first one down the stream below those used by Reno. The

original theory, that Custer reached this ford and attempted to cross the river, has long since been disproved. It was a natural theory, but it was eventually found that the facts did not support it, and this remains true to-day, recent and more or less sensational statements to the contrary notwithstanding.

Below this ford about two miles is another, which, as well as the one just noted, the Indians

used in making their attack on Custer.

According to Goldin, the fight with Custer began soon after he turned westward from the high point on the back ridge.

Military men have thought that they could interpret much that occurred here from the lay of the land and the positions in which the dead troopers lay. Doubtless this is to some extent true, but from what the Indians say, and from the discrepant conclusions of officers themselves, it is open to question whether the battlefield reveals a great deal beyond the fact that the men were killed at certain points.

The Indians attacked, not from the river, but on the flanks and rear. The horses were, most of them probably, first stampeded, which insured disaster, for they carried the reserve ammunition. But few

dead horses were found, the Indians capturing the most of them alive.

At a cross ridge, facing nearly east, and the so-called Custer ford coulee, the bodies of Lieutenants Calhoun and Crittenden, with those of the men of troop "L," were found; some distance back of, and between them and Custer, near the bottom of a shallow draw, Captain Keogh and the men of troop "I" lay; along the main ridge, on both sides, but mostly on the west side, the larger number of troops "C," "E," and "F," Capt. Tom Custer, Lieutenant Smith, and Captain Yates, respectively, were killed.

This main ridge, or Custer Ridge, or Hill, as it is now usually called, is nearly three-quarters of a mile long, lies parallel to the river, and about three-quarters

of a mile from it, and runs northwest and southeast. At the northern extremity of this ridge, where the Custer monument now stands, the officers and men seem to have become bunched, perhaps drawing nearer together instinctively for companionship, as their ranks grew thinner. Here fell both the Custers, Captain Yates, and Lieutenants Smith and Reilly.

A considerable number of Smith's troop "E" were found in a gully leading down to the river from the monument. Two Moon, a Cheyenne chief who fought there, informed Hamlin Garland (*McClure's Magazine*, September, 1898) that these men left the hill near the end of the fight, after Custer had fallen.

The bodies of Lieutenants Harrington, Sturgis, and Porter (not Doctor Porter, who was with Reno and is to-day living in Bismarck, N. D.) were never identified, at least satisfactorily. A skeleton found some years after the battle, not far from the battle-ground, is said to have been identified as that of Doctor Lord. There were buried on the Custer battlefield, according to Godfrey's memorandum, 212 bodies. The total casualties, as given by him, were 265 killed and 52 wounded.

The two Indians who stand out in relief as the chief leaders that day, are Gall of the Hunkpapas and Crazy Horse of the Ogallalas. There were others who bore, perhaps, nearly as prominent parts, but these two seem to stand at the head. The generalship of the chiefs and the bravery of the warriors must be admired by friend and foe



A Band of Sioux.



Old-Time Sioux Village.

They admit that they were surprised, and under such conditions to have wrought what they did seems, notwithstanding the disparity of numbers, to have been remarkable. As to Sitting Bull, the less said the better. He was no fighter, but a wily, scheming, cunning, malicious medicine man who hated the whites with undying hatred. When the fight began with Reno's forces, he got out of the way and made tracks for the hills as fast as he could, and did not return, the more reliable Indians say, until the Custer fight was over.

The Indians' loss has never been satisfactorily known to the whites.

There has been a great deal published regarding the Custer campaign and battles, and by those who know better, that is pure fiction and exaggeration. It is too serious a subject and the truth is hard enough to discover, without covering it up with imaginative statements for the sake of sensationalism and a little cheap notoriety.

There is not space here to discuss any of the many questions growing out of these battles. If any man ever writes the *complete story* of this campaign, not only will it be mighty interesting reading, but there will be some strange revelations covering a wide range of subjects and men.

There were practically no attempts at co-operation between Custer and Reno; Custer couldn't and Reno—well, he didn't. Some of his officers, after Benteen and McDougall had joined them, tried to communicate with Custer, really in defiance of Reno's bugled orders, but it was too late—Custer and his were dead, and Captain Weir and his troop came near meeting the same fate.

As a historical fact, Reno was tried by a court of inquiry in Chicago in 1879 for his actions on June 25th, and acquitted of the charges made. The court used these words: “* * * * while subordinates in some instances did more for the safety of the command by brilliant displays of courage than did Major Reno, there was nothing in his conduct which requires animadversion from this court.” There is much discrepancy between published reports of the testimony at the Court of Inquiry and other printed articles and statements stating what occurred in Reno's command at these conflicts.

Subsequently Reno was court-martialed for another offense, found guilty and dismissed from the service in disgrace.

While Reno and Custer were battling on the 25th, the steamer *Far West*, and Terry and Gibbon with their little column of less than 500 men, were slowly working up the Big Horn River to the Little Horn. When Curley and the scouts, on the 26th, reported the annihilation of Custer, it cast a gloom, dismay almost, over the command. It seemed impossible to believe it. But there was no faltering, they pushed ahead with every likelihood of meeting the same fate, the Indians discovered their advance and, strange as it may seem, decamped without an effort to arrest it. On the morning of the 27th they relieved Reno's

troops, and then the wounded were cared for and the dead buried. The wounded were conveyed to the Far West and the steamer at once started for Bismarck and Fort Lincoln, where it arrived July 4th, and the first intelligence of the disaster was flashed over the wires.

Custer's annihilation is usually called a massacre. Was it? Reverse the result; would anyone then have heard of the massacre of Crazy Horse, Gall, and Sitting Bull and their braves? Hardly!

Tit for tat!

For days Custer had been riding day and night seeking these Indians, and spoiling for a fight. He got it—making the attack himself—but the outcome was not what he had expected. He overestimated some



Crow Indian Agency and Indian Teepees, on the Little Big Horn River, about two miles north from Custer Monument.

things and underestimated others, with the result that *he* and his immediate command were destroyed instead of the Indians. If we wish to be fair and honest in this, let us hear no more of the Custer *massacre*.

As one stands leaning against the high iron paling fence surrounding the Custer monument, one is effectively impressed with the contrast in the scene now and on that hot June Sunday when the sound, smoke, and turmoil of battle filled the air. Peaceful, quiet, and beautiful the prospect now. Down in the wide flat valley the Little Horn flows tranquilly along, and where the sun strikes it it glimmers and shines like the great scales of a huge serpent lying there in monstrous convolutions. The green, cool, dense, majestic cottonwoods follow it and mark it in its sweeping circles where the water is invisible. On each side rise the treeless hills all gullied and worn by the rains of a century. To the north, in the valley, two miles away, lies the Crow Indian Agency with the American flag flying. But that which holds us in grim fascination is the large number of small white marble grave-stones which dot the slopes. Their silent eloquence is all impressive. Words are unnecessary, imagination pictures the scene as it was twenty-five years ago.

Where each trooper fell a marble stone marks the spot, and where it was an officer the stone bears his name and rank.

Most of the officers' bodies were afterward removed, and Custer's body now rests at West Point. Lieutenant Crittenden's body lies in an enclosure over at the end of the ridge where he fell, and it is stated that Lieutenant McIntosh's body remains where it was found, and is buried down in the valley proper. I know that the spot where he fell is marked by the conventional headstone.

Traveler, visit this spot! It is worthy a pilgrimage from a distance. Take a good map of the Northwest and you will see scattered all over it little crossed sabres, signifying battles with the Indians at such points.

Forts and cantonments have been established here and there from the earliest days of the frontier, have passed beyond the period of their usefulness, been dismantled, abandoned, and succeeded by other posts, which in turn have run their courses.

Since the Custer battle, the Custer field itself, enclosed by a wire fence, has been made a national or soldiers' cemetery. From these old forts and battlefields scattered throughout the Northwest, bodies have been removed to this spot, and now occupy a considerable area of it.

From Fort Phil. Kearney, Wyo., many bodies were reinterred here, including that of Captain Fetterman, Eighteenth U. S. Infantry, who, with eighty-three others, was killed by Indians near that post December 21, 1866; among the removals from Fort Shaw, Mont., was the body of Captain Wm. Logan, Seventh U. S. Infantry, killed by a squaw at the battle of the Big Hole in 1877, between General Gibbon and Chief Joseph and the Nez Percés; from Fort C. F. Smith, Mont., the bodies of Lieutenant Sigismund Sternberg, Twenty-seventh U. S. Infantry, and others were removed, and other reinterments were made from Forts Sisseton, Totten, Pembina, Rice, Abercrombie, Stevenson, Lincoln, and Bennett in the Dakotas, and Camp Poplar River and Fort Maginnis, Mont.

There was also removed from Fort C. F. Smith a quite pretentious stone monument, some twelve feet high, erected by five companies of

the Twenty-seventh Infantry to the memory of Lieutenant Sternberg and fourteen others who were

killed by Indians at the hay fields near Fort

Smith, August 1, 1861 or 1867. Time had

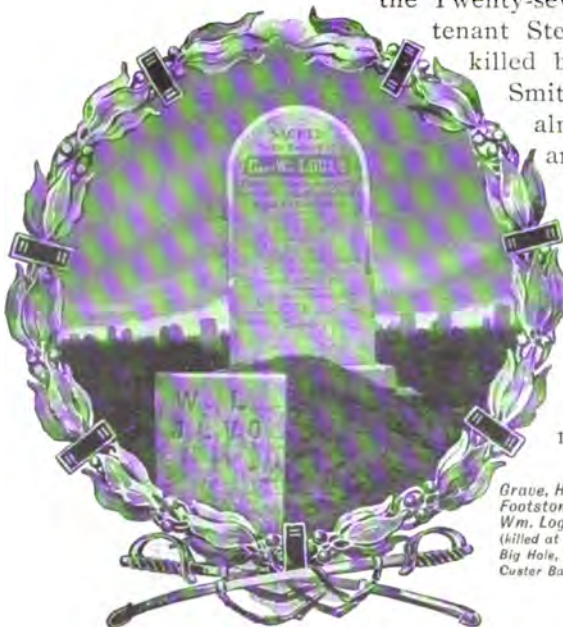
almost effaced the inscriptions on the stone

and it was uncertain what year was chiseled thereon. At the time of my visit

there were buried on the battlefield, in addition to the victims of the Custer

fight, 657 others.

As already shown, the Custer battlefield is now an epitome of all that has thus gone before; it stands now for Indian warfare in the Northwest, not alone the Custer conflicts.



Grave, Headstone, and
Footstone of Capt.
Wm. Logan
(killed at Battle of
Big Hole, Mont., on
Custer Battlefield.)

AS THE TRAIN ROLLS ON

MANY and varied are the scenes that will be unfolded. Too many to specify here, yet a few of them, mostly on the main line, I would just touch upon.

WHERE THE LAKES SHIMMER.

Among the undulations of Minnesota's prairies are thousands of lakes teeming with bass, pike, pickerel, and muscalonge. From the cars hundreds of them may be seen, and hundreds more are hidden among the glacier-made hills and the trees. Many of these lakes have become summer resorts, where hotels are maintained; at others good farmhouses will be found to accommodate those not over-fastidious in taste.

On the "Duluth Short Line," the old St. Paul and Duluth Railroad, now a part of the Northern Pacific System, are White Bear and Bald Eagle lakes, within a half-hour's ride of St. Paul. White

Bear Lake is a large and very attractive lake, the summer home of thousands of St. Paulites. It has become noted for its sailing proclivities and boasts some of the speediest, nattiest, white-winged craft of the West.

Forest Lake, Pine Lake, and Rush Lake are other hunting and fishing resorts on this line.

On a branch of the "Duluth Short Line," and near St. Paul and Minneapolis, are the beautiful Chisago Lakes, whose praises are sung by every lover of nature who has seen them. At the terminus of this branch lies Taylor's



Undressed Kids
at White Bear
Lake.

Brainerd Lumber Co.'s Plant and Logs, Brainerd, Minn.



Among Minnesota Lakes.



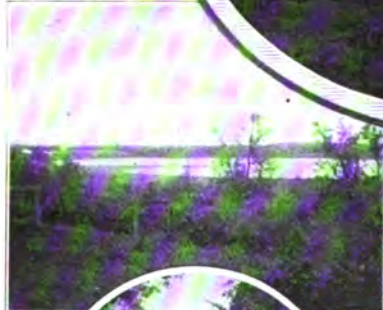
One Day at Lake Clitheral.



Devil's Chair, Dalles of St. Croix, Taylor's Falls.



Early Morning in the Leech Lake Country.



A Deerwood Landscape.



A Detroit Lake Launch.



Pukwana Lodge at Deerwood.



Bathing at Detroit Lake.

Falls and the Dalles of the St. Croix River, one of the most picturesque spots of rock and river in the Northwest, and noted, geologically, the world over. The massive trap rock is worn into fantastic shapes and profiles, while the deepest kettle-holes known have been drilled by water far down into the rocky bed.

An interstate (Minnesota-Wisconsin) park has been established here, and improvements are being made yearly.

Leading north from Brainerd lies the Leech Lake country, traversed by the Brainerd & Northern Minnesota Railway. Indians—Ojibways—lakes, pine woods, and winding streams form a paradise where health and recreation can equally be found. For tired-out persons, victims of hay fever, and those with pulmonary complaints, the region is a sanitarium.

This is all Indian country. Here in old days the Ojibway and Dakotah (Chippewa and Sioux) fought each other, the latter being finally forced to abandon the region. A large part of the country is given over to Indian reservations. One finds the evidence of the red man everywhere—in the names of streams, lakes, islands, headlands; in the legends which relate to the region; in the rude bark tepees clustered on the shores of the lakes, and in the presence of the aborigine himself. Wild, they are yet quite tame, and to see them skimming the surface of the lakes in the old-fashioned birch-bark canoe, whether the water is dimpled by the summer's breeze or the whitecaps are rolling heavily, is perfectly in keeping with the aspect of things.

Leech Lake itself is a very large lake noted for its fine fishing. Indeed the whole region has been but little invaded by the white man until quite recently.

North of Leech Lake are Cass, Winnibigoshish, Bemidji, and other lakes, while south lie Woman, Man, Pine, Gull, and Pelican lakes, and east of Brainerd are the Deerwood Lakes sparkling like diamonds and convenient to Duluth and Superior.

West of Wadena, the Fergus Falls branch leading southwest from that point, and the main line itself, cut through the very heart of the Lake Park Region, as it is termed. At Clitheral, Battle Lake, Fergus Falls—on the branch line—Perham, Frazee, Detroit and



An Old Ojibwa.



Indian Wigwam, Leech Lake Country.

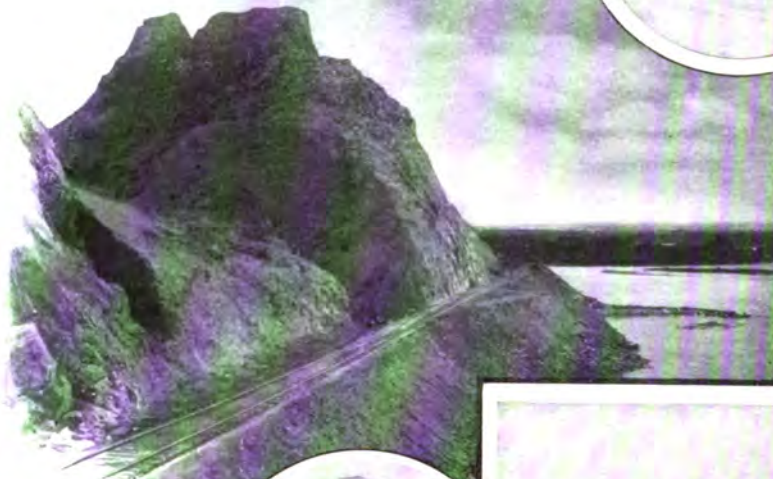


Threshing Out No. 1 Hard Wheat in Red River Valley.

Down the Missouri River. Above Bismarck and Mandan.



Carrying Home the Game. Pyramid Park, N. D.

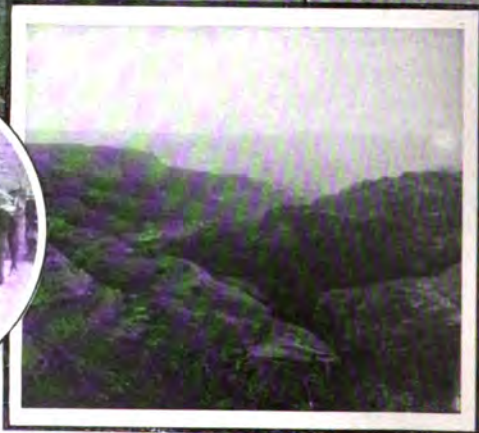


The End of the Skin. Pyramid Park, N. D.

Eagle Butte, Yellowstone River.



Still they come. Pyramid Park, N. D.



Pyramid Park Cliffs of many colors.



Cranes Shot at Dawson, N. D., in one forenoon. Heaviest, 20 pounds weight; measured 10 feet from tip to tip of wings.

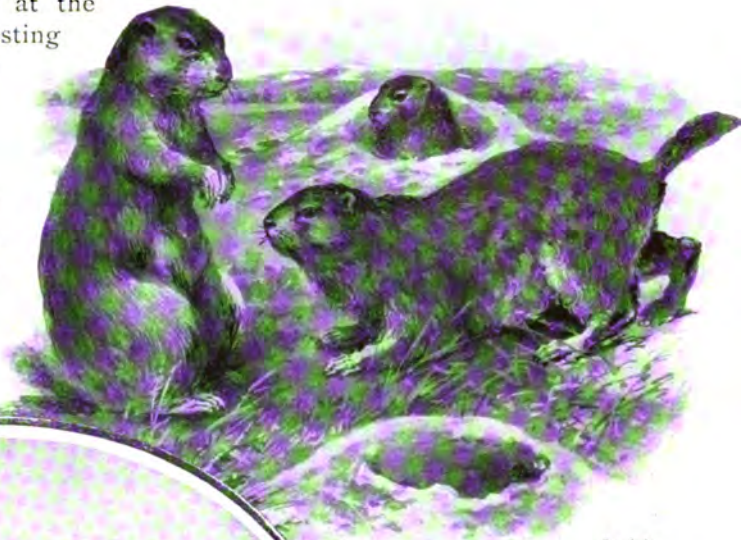


On the Range in Eastern Montana.

Lake Park the lakes lie thick among the hills. Detroit is at the head of a very interesting chain of lakes extending southward.

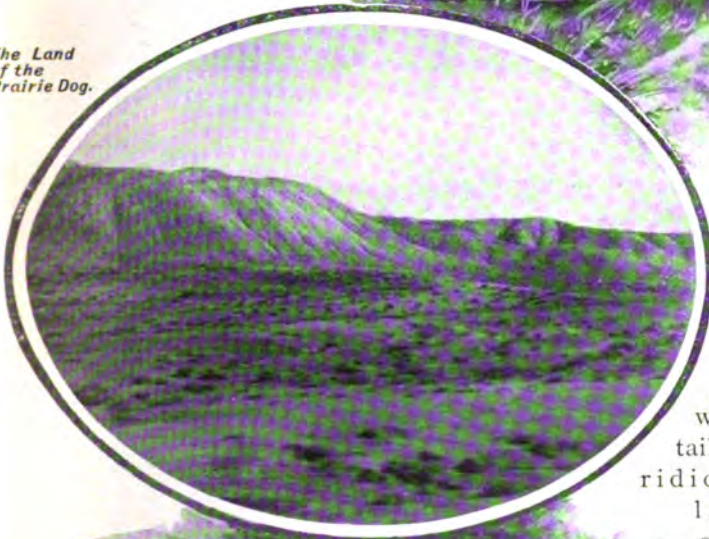
A PRAIRIE-DOG TOWN.

To one familiar with prairie dogs, a sight of a dog town is always interesting. One who has never seen these curious

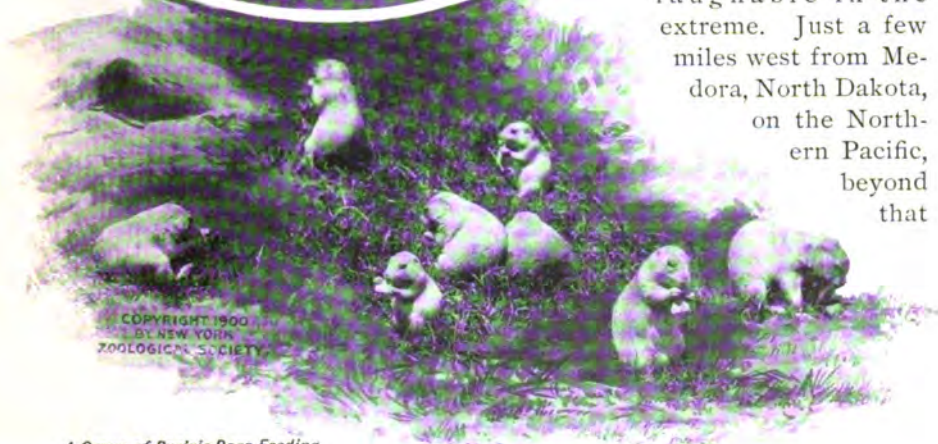


Prairie Dogs at Home.

The Land of the Prairie Dog.



creatures is always much excited upon seeing a village for the first time. The fat, sleek, pudgy little things, with their jerky stub tails, have an air of ridiculous pomposity, laughable in the extreme. Just a few miles west from Medora, North Dakota, on the Northern Pacific, beyond that



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ZOOLOGICAL SOCIETY

A Group of Prairie Dogs Feeding.

weird region known as Pyramid Park, or the Bad Lands, so called, is one of these villages. It lies close to the track, and passengers on the trains have a great treat in watching the antics of these diminutive animals.

They run impulsively from hole to hole with a sort of amble, stopping suddenly and sitting upright on their haunches. Then they place their fore paws together and near their noses, and take on an attitude of prayer or supplication, or even appear as if about to indulge in a little preaching. This is all done quicker than it can be told, and with an air of the utmost soberness and dignity. They flirt their little tails continually, jerk their heads about, give utterance at quick intervals to a sharp, saucy little bark, and will, in a twinkling, throw themselves head first into their holes, the stub tails giving a fare-well flirt as they disappear.

The prairie dog is, strictly speaking, a marmot, and not a dog, although its general appearance is much like that of a fat puppy.

Prairie dogs, or prairie marmots, are common to nearly all parts of the great western plains, and are familiar objects to all mountaineers and plainsmen.

The animal was first technically and scientifically recognized by George Ord in 1815, who gave it the specific name *Arctomys ludoviciana*. Prof. Spencer F. Baird, in 1857, gave it its present and more appropriate designation of *Cynomys ludovicianus*. *Cynomys* means dog-mouse, from two Greek words—*kuon*, dog, and *mys*, mouse. *Ludovicianus* is from the Latin word *ludovicus*, and indicates here that the species was first found or studied in the vicinity of St. Louis.

The dog belongs to the family of *Sciuride*—squirrels—which includes groundhogs or marmots on the one hand, and flying squirrels at the other end of the line.

The dogs range from thirteen to sixteen or seventeen inches in length, with tails from two and a half to four inches long.

Although the prairie dog was not christened scientifically until 1815, and later in 1857, it was known and mentioned in print several years prior to the first-named date.

As a matter of fact, Lewis and Clark saw the animal in 1804, but as there was much delay in publishing their journal, it not being printed until 1814, it gave opportunity for others to get into print ahead of them. Gass, one of Lewis and Clark's sergeants, published a journal of their trip in 1807. Under date of September 7, 1804, he records the following succinct but decidedly interesting account of what happened:

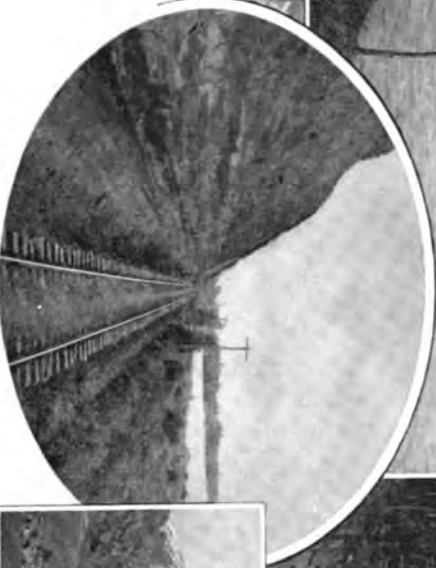
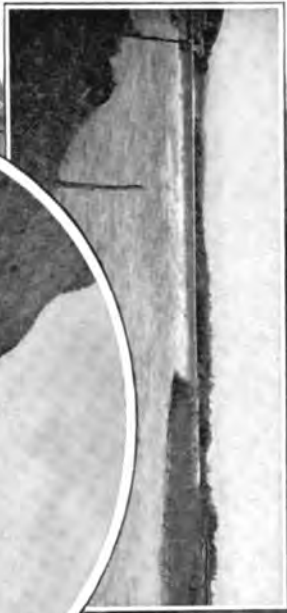
"Captain Lewis and Captain Clark, with some of the men, went to view a round knob of a hill in a prairie, and on their return killed a prairie dog, in size about that of the smallest species of domestic dogs.

"Having understood that the village of those small dogs was at a short distance from our camp, Captain Lewis and Captain Clark, with

The Rockies
South of Red
Lodge, Mont.



Tongue
River
and Dam
at head of
a large
irrigation canal,
twelve miles
above Miss
City, Mont.



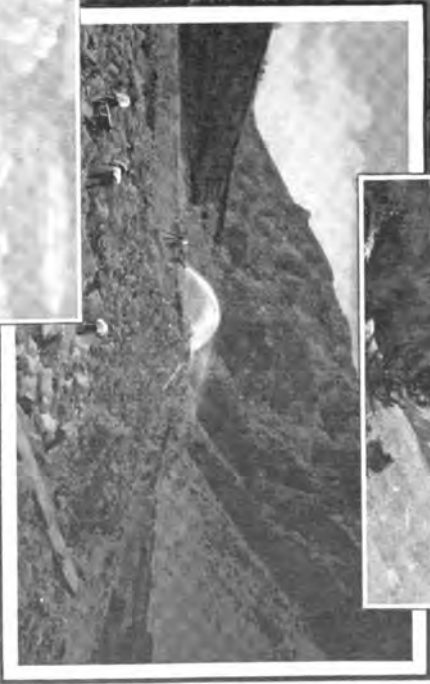
Palisades of the Yellowstone River.



Bozeman and Bridger Peak, Mont.



U. S. Government
Fish Hatchery
at Bozeman,
Gallatin Valley,
Mont.



Placer Mining
in Montana.



Him
Heap Fine
Pappoose.

all the party except the guard, went to it, and took with them all the kettles and other vessels for holding water, in order to drive the animals out of their holes by pouring in water; but, though they worked at the business till night, they only caught one of them."

Doctor Coues, in his monumental work on Lewis and Clark, anent their own description of this incident (footnote p. 111, Vol. I), says that the earliest notice he had seen of a prairie dog was in a *letter* of Captain Clark's to Governor Harrison, "dated Fort Mandan, April 2, 1805, and, I think, published in 1806."

He also states that Lieut. Z. M. Pike, who in 1805-7 made extensive explorations up the valley of the Mississippi to its headwaters and also into the interior of the country west from St. Louis, mentions the animal in his manuscripts, which were published in 1810, under date of Aug. 24, 1806. A copy of Pike's report, printed in London in 1811, now before me, appears, however, to make no mention of the dog.

Gass' account, then, would stand as the second printed reference to this animal.

Lewis and Clark's own report (Coues, 1893, pp. 110-111, Vol. I, under date of September 7, 1804, refers to the episode related by Gass, as follows:

"As we descended from this dome we arrived at a spot, on the gradual descent of the hill, nearly four acres in extent, and covered with small holes. These are the residence of a little animal called by the French *petit chien* (little dog), which sit erect near the mouth and make a whistling noise, but when alarmed take refuge in their holes. In order to bring them out we poured into one of the holes five barrels of water without filling it, but we dislodged and caught the owner. After digging down another of the holes for six feet, we found on running a pole into it that we had not yet dug halfway to the bottom. We discovered, however, two frogs in the hole, and near it we killed a dark rattlesnake, which had swallowed a small prairie dog. We were also informed, though we never witnessed the fact, that a sort of lizard and snake live habitually with these animals. The *petit chiens* are justly named, as they resemble a small dog in some particulars, though they have also some points of similarity to the squirrel. The head resembles the squirrel in every respect, except that the ear is shorter; the tail is like that of the ground-squirrel; the toenails are long, the fur is fine, and the long hair is gray."

Lewis and Clark's own published record—1814—of the animal would therefore seem to come fourth on the printed list. Carver,

who made extensive explorations in the far Northwest in 1766-1768, describes the woodchuck, squirrels, beaver, etc., but seems not to mention the prairie



*Cabinet Gorge
on Clark Fork, Mont.*



*Along the
Bitterroot
River,
Mont.*



dog, marmot, or
gopher.

*The N. P. Track follows
Lake Pend d' Oreille for
many miles.*

The prairie dogs live in underground colonies, some of them of large extent, requiring a long time, if on horseback, to ride through them. The village near Medora extends for some distance alongside the railway track, and it requires several minutes for the train to pass through it, and the car windows are always filled with laughing faces looking out at the dogs as the train speeds on.



*McDonald's
Peak.
Mission
Range,
Mont.*



*On a Montana
Trout Stream.*



A Montana Nursery.



City Hall,
Tacoma.



Billings, Mont.



Opera House,
Jamestown, N. D.



Portland, Ore., and Mount Hood.



Hope, Idaho.



Spokane, Wash.



Missoula, Mont.



Third Avenue, Seattle, Wash.

The entrances to these underground habitations are marked by mounds of earth, sometimes quite large.

Their subterranean windings or galleries are often of great extent, and it is ordinarily deemed impossible to dig down to them or drown them out, as related by Lewis and Clark.

These animals seek sandy, sterile soil in which to burrow, far from water, of which they seem to be practically independent.

The little creatures have small cheek pouches, doubtless for carrying food, and their fore paws are admirably adapted for their burrowing operations. Their bodies are quite heavily and compactly formed for their size, and they are of a pale chestnut brown, or rather tawny color.

The fact mentioned by Lewis and Clark and others, of finding snakes, owls, frogs, etc., in the holes of these animals, gave rise to a theory that these apparently antagonistic creatures lived in peace and harmony together. Scientific men assert that this is untrue; that holes that have, for any reason, been deserted by the dogs may be and are, pre-empted by the owls—who also burrow—and snakes, but that they are all at enmity with each other.

The species *Cynomys ludovicianus* is found east of the Rocky Mountains, but a family, *Cynomys Columbianus*, is found west of that range. Lewis and Clark, 1804-6, and Doctor Parker, 1838, mentioned finding them west of the Rockies.

The animals are quite difficult to capture, but have been known to become quite domesticated. In the new Zoölogical Park at New York City there is a large village.

THREE FORKS OF THE MISSOURI.

The traveler over the Northern Pacific Railway sees the Missouri River under two greatly dissimilar conditions. At Bismarck, N. D., it is crossed on a massive, three-span, steel bridge, fifty feet above high water. Here the river is a wide, muddy, eddying, deep stream—a big river. Six hundred miles westward, in Montana, as the train, running at from forty to sixty miles an hour, swings from the Gallatin Valley into a picturesque cañon, it again strikes the river exactly where it becomes the Missouri—at the junction of the Three Forks. Here the stream is a rapid, clear, narrow, and beautiful one.

Three rivers—the Jefferson, Madison, and Gallatin—form the Missouri, and these streams were named, and the actual point at which the name Missouri should apply, determined by Lewis and Clark, the explorers, after grave consideration, in 1805.

The Madison and Jefferson first form a junction, and within a mile, and right at the head of the cañon, the Gallatin joins them. The three can be seen from the car windows.



Threshing Wheat in Palouse and Clearwater Country.

The headwaters of the East Gallatin Fork of the Gallatin River rise in the interval between the Gallatin and Bridger ranges east of Bozeman. This fork the Northern Pacific Railway follows, after crossing the first spur of the Rockies between Livingston and Bozeman, through the noted Gallatin Valley, one of the finest and most fertile in Montana.

The West Gallatin Fork, much the larger of the two, has its ultimate sources in the extreme northwestern corner of Yellowstone Park. The two branches unite at, and the main river is crossed by, the railway at Logan, the junction of the Butte Air Line with the main line via Helena.

The Madison River flows almost due south for the greater part of its course to the Three Forks. A large part of its waters come from the geyser basins in Yellowstone Park, drained by the Firehole and Gibbon rivers, which together form the Madison.

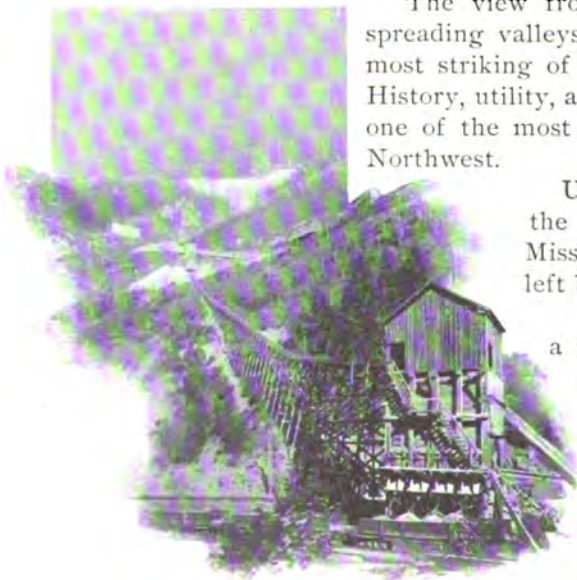
The Jefferson, under the names of the Jefferson, Beaverhead, and Red Rock rivers, follows a much more circuitous course than either of the others. Its sources are found along the Montana-Idaho boundary, just west of the Yellowstone Park and south of the upper Madison.

The view from Three Forks up the wide spreading valleys of these streams is one of the most striking of the kind to be seen anywhere. History, utility, and beauty combine to render it one of the most attractive spots of the farther Northwest.

Until almost in sight of Helena, the traveler is whirled along the Missouri, after the Three Forks are left behind.

The winding cañon, while not a grand one, is yet replete with interest.

*Standard Mine
in the
Coeur d'Alenes, Idaho.*

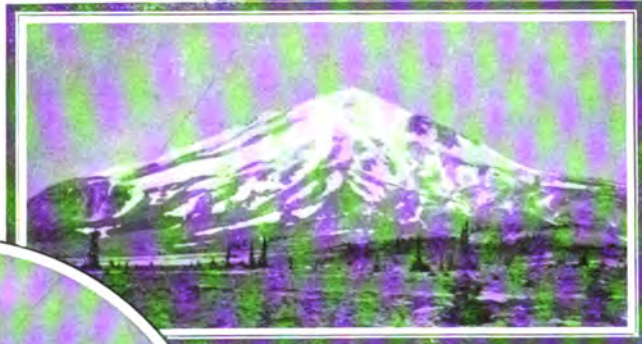


The route via Butte follows the Jefferson River to the foot of the mountains, thence across the latter by way of the Pipestone Pass.

MOUNT ADAMS.

This is one of the great snow peaks of the North Pacific coast. It is more than 12,000 feet high, and from the fact that it can all be seen it appears to be even higher. It is volcanic in its nature, conical in shape as seen from a distance, and as

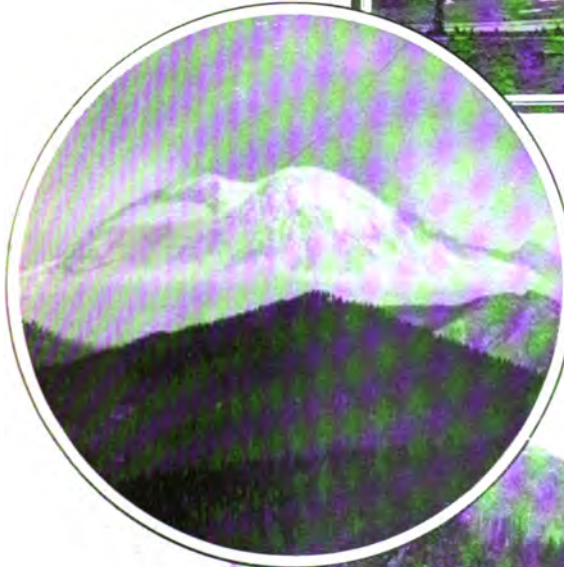
Mount St. Helens and Glaciers.
9,750 feet elevation.



white as the driven snow that covers its sides.

This grand peak is best seen from the Yakima Valley through which the Northern Pacific Railway is laid. Almost from the time the Columbia River at the foot of the valley is crossed by the train, near Pasco,

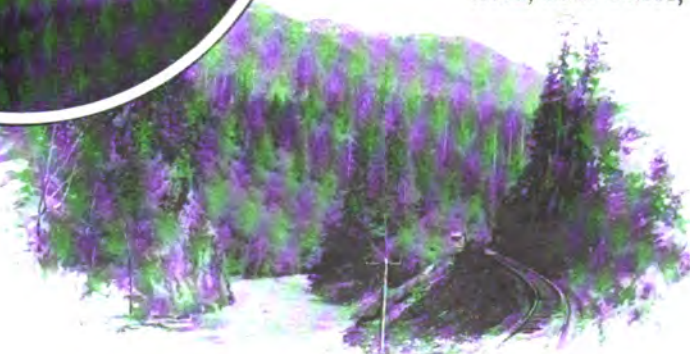
Mount Rainier.
Elevation, 14,532 feet
from Yelm Prairie.



*At Lake Crescent,
N. W. Washington.*
Reached from
Puget Sound
via Port
Angeles



*The ride
across the
Cascade
Range is
replete with
beautiful
views.*



the mountain comes into view, and it is then about 100 miles away. It appears to be a vision faintly outlined on the distant landscape. Anon, it becomes more clearly defined, assumes shape and entity as the train winds this way and that, showing it now on one side and again on the other. And all the time it looms up larger and grander until in the neighborhood of North Yakima it is seen at its best. It then stands out as a huge, white mountain giant regal in its appearance.

Adams is about midway between North Yakima and the Columbia River, and offers an enticing mark for the mountaineer who wishes to climb a mountain whose sides are covered with glaciers.

In conjunction with Mounts Rainier, Hood, Shasta, and others it forms the grandest set of peaks to be found in the United States.

The peaks of the Appalachians and of the Rockies are dwarfed by those of the Cascades, and they are to our own country what the great white ice-bound peaks of the Alps are to Switzerland.

Terminal moraines, glaciers, ice cliffs, and caves are all found on the slopes of Adams and its brothers. Alpenstocks and safety lines are needed in climbing their icy sides, and the man who stands upon the summit of one of these old-time volcanic peaks feels the true thrill of the Alpine climber as he gazes out over the vast landscape spread before him.

Adams is one of the few mountains that Vancouver did not sight and name after an English admiral or a friend of his, in 1792, while exploring the northwestern coasts.



Mount Adams in a Storm. 12,250 feet elevation.



THE Northwest is a region of great landmarks. This is equally true whether judged from a historic, economic, or scenic standpoint. Historic landmarks lie scattered over the plains of its history, even as do the great buttes and mountain peaks over the plains of nature. In the proverbially fertile and beautiful valleys, inexhaustible mineral deposits, and the graceful timber tresses of the mountains, will be found, as it were, economic landmarks of vast importance. It goes without saying that this is true from the standpoint of scenery. It couldn't be otherwise. But in addition to the great scenic landmarks there are portions of this Northwest now well known the world over that were once, and quite recently, so hidden in nature's bosom that even their whispered existence around the frontier

campfire subjected one to sarcasm and ridicule.

I purpose here to describe somewhat, from the historic and scenic point of view, one of these latter and long secluded portions of the earth's crust.

Most conspicuous among the old landmarks or beacon points in the Northwest were the Pilot Knobs or Trois Tetons, or, as we now know them, the Three Tetons, in Northwestern Wyoming. And yet at the very feet and under the shadow of these granite peaks lay, unknown and hidden for long years, the most wonderful spot in the world,

"The Land of 'Greater Glories'" of the Northwest. Tucked away in its mountain trundle-bed it slumbered on until the age was ripe for its discovery. The living tide of explorers, trappers, and emigrants surged by and beyond it, yet, providentially, not until the time came that it was safe from spoilation was the Yellowstone Park discovered, practically, and made accessible to the public.

A HITHERTO UNKNOWN EXPLORER.

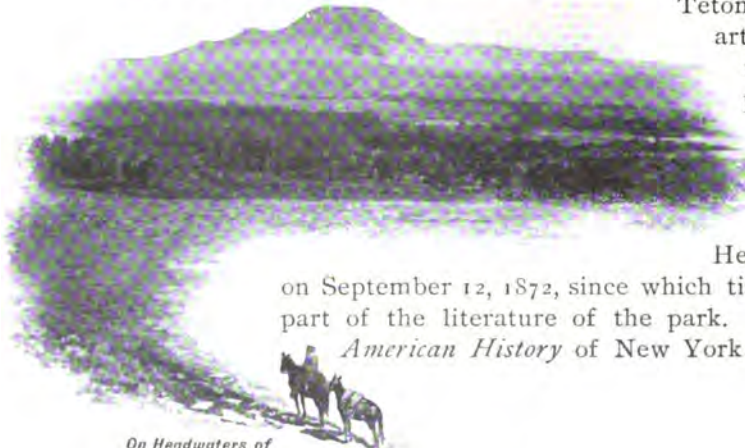
The early history of this region is now well known. There seems to be no doubt that John Colter, one of the Lewis and Clark expedition (1804-6), was the first white man of record to visit any portion of what is now embraced within or near the park boundaries. This was somewhere from 1806 to 1810, probably in 1807. James Bridger, the "old man of the mountains," saw some of the geysers about 1840-45. Captain Reynolds — not Reynolds, as usually written — was on the borders of the park-land, with Bridger as his guide, in 1860, but was unable to pierce the mountain barriers and penetrate the region itself. Captain De Lacy, in 1863, passed around Shoshone Lake and through the Lower Geyser Basin. In 1869 Folsom and Cook spent more than a month there, and in 1870 the Washburn-Doane expedition made a thorough exploration and gave us our first authentic and detailed knowledge concerning this wonderland. It is a remarkable fact that until the Washburn-Doane expedition no accounts appeared from any of these explorers that gave the public any *real* conception of what was to be found there. Even the stories of Bridger and the other trappers, who knew personally or from others of the geysers, were so told or published as to cause entire disbelief in them.

It seemed, therefore, somewhat strange that, as far back as August 13, 1842, an article accurately describing the hot springs and geysers of this region was published in the *Wasp*, a Mormon paper of Nauvoo, Ill. It is due to Mr. N. P. Langford, now of St. Paul, Minn., then of Helena, Mont., afterward the first superintendent of the park, and well known for his participation in the first successful ascent of the Grand

Teton in 1872, that this article was resurrected from its sleep and placed on the record.

Mr. Langford saw it and had the foresight to have it reprinted in the Helena (Mont.) *Herald*

on September 12, 1872, since which time it has formed a part of the literature of the park. The *Magazine of American History* of New York also published this



On Headwaters of Green River, Wyo., Showing one of the Buttes characteristic of the region. This was a great trapping ground in the early days of the fur trade.



Jackson Lake and Three Tetons.

The "Trois Tetons," or Three Tetons, are old landmarks. The Grand Teton—the highest peak—is 13,700 feet high, and has been climbed but twice.

description entire in a contribution on the "Discovery of the Park," by Peter Koch of Bozeman, Mont., printed in the June number, 1884. Both Langford and Koch obtained the original from Mr. T. E. McKoin of Townsend, Mont. There was, however, no clew to the author of this description, and efforts to discover him have been unsuccessful until now.

In the fall of 1900, one to whom the description in the *Wasp* was unknown, called my attention to an article in an old eastern publication describing the geysers, which I at once connected with the description in the *Wasp*. A few days later there was placed in my hands Vols. II and III of the *Western Literary Messenger*, published by J. S. Chadbourne & Co. of Buffalo, N. Y., in 1842-44, when this supposition regarding the article was proved correct.

This description of the geysers was first published therein on July 13, 1842, one month prior to its appearance in the *Wasp*, by which it was unquestionably reprinted without giving credit therefor to the *Messenger*. As the name of the writer was not given in the *Messenger*, the *Wasp*, of course, could not give it.

The description, it was stated, was taken from an unpublished manuscript entitled "Life in the Rocky Mountains." Following the paper on the geysers, other extracts from the manuscript were published in subsequent numbers, still without naming the writer, until on January 11, 1843, in No. 27, the serial publication of the manuscript was begun under the following heading:



An Old Fur
Caravan
in the
Snake River
Country,
Wyoming.

“LIFE IN THE ROCKY MOUNTAINS. A DIARY OF WANDERINGS ON THE SOURCES OF THE RIVERS MISSOURI, COLUMBIA, AND COLORADO, FROM FEBRUARY, 1830, TO NOVEMBER, 1835. BY W. A. FERRIS, THEN IN THE EMPLOY OF THE AMERICAN FUR COMPANY.”

Here, then, we have the mystery at last revealed.

Ferris started with a party of thirty men from St. Louis on February 16, 1830. He visited the geysers May 19 and 20, 1834.

The geyser article in the *Wasp* was undoubtedly reprinted from the *Messenger*. Two facts indicate this: First, the *Wasp* published it a month later than the *Messenger* first did; second, the Mormon excitement around Western New York and Eastern Ohio and in Illinois was then high, as an inspection of the columns of the *Messenger* shows, and many Mormons were scattered through the New York and Ohio region. Through them the number of the *Messenger* containing the description of the geysers reached Nauvoo, and seeing a good thing the editor of the *Wasp* copied the matter, seemingly without giving credit for it. The original publication of this fine description should, therefore, be credited to the *Western Literary Messenger* of July 13, 1842. In No. 25, Vol. III, January 6, 1844, the description of the geyser is repeated in the regular progress of the story, with a portion of the article as first printed left out and a few lines, material in but one sense, added.

Ferris' narrative is an intensely interesting one, and valuable as well. It will, I think, without question, satisfy many better than Irving's chronicle of Bonneville's—or Bonyville, as Ferris sometimes writes it—adventures of the same period. His descriptions of scenery, Indian fights, trapper life, with its lights and shades, and his observations of various sorts, are all vivid and well told.

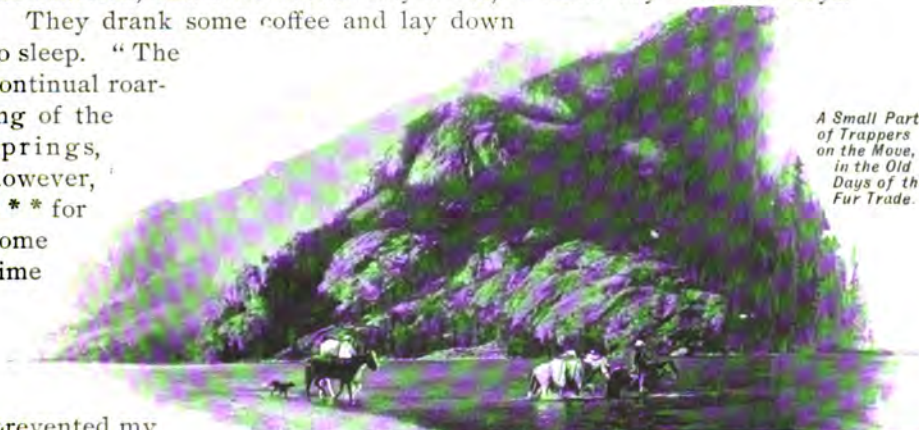
The title of the diary very accurately describes the region in which the fur companies operated. It will be remembered that in the vicinity of Yellowstone Park and the Three Tetons are found the ultimate sources of the Columbia, Missouri, and Colorado rivers, and this section was the center of operations of the fur companies.

Ferris had heard, in 1833, of the "boiling springs * * * on the sources of the Madison," having "the united testimony of more than twenty men on the subject." Nevertheless, he determined to see them himself, and prevailed upon two Pend d'Oreille Indians to accompany him. Leaving his comrades after supper, May 18, 1834, from a camp, he says, about due west from the Tetons, but distance therefrom or from any other point not stated, they traveled twenty miles and spent the night at a spring "flowing into Cammas Creek." On the 19th they proceeded, "and entered a very extensive forest called the Piny Woods * * * which we passed through, and reached the vicinity of the springs about dark, having seen several small lakes or ponds on the sources of the Madison, and rode about forty miles," a hard day's ride, he says.

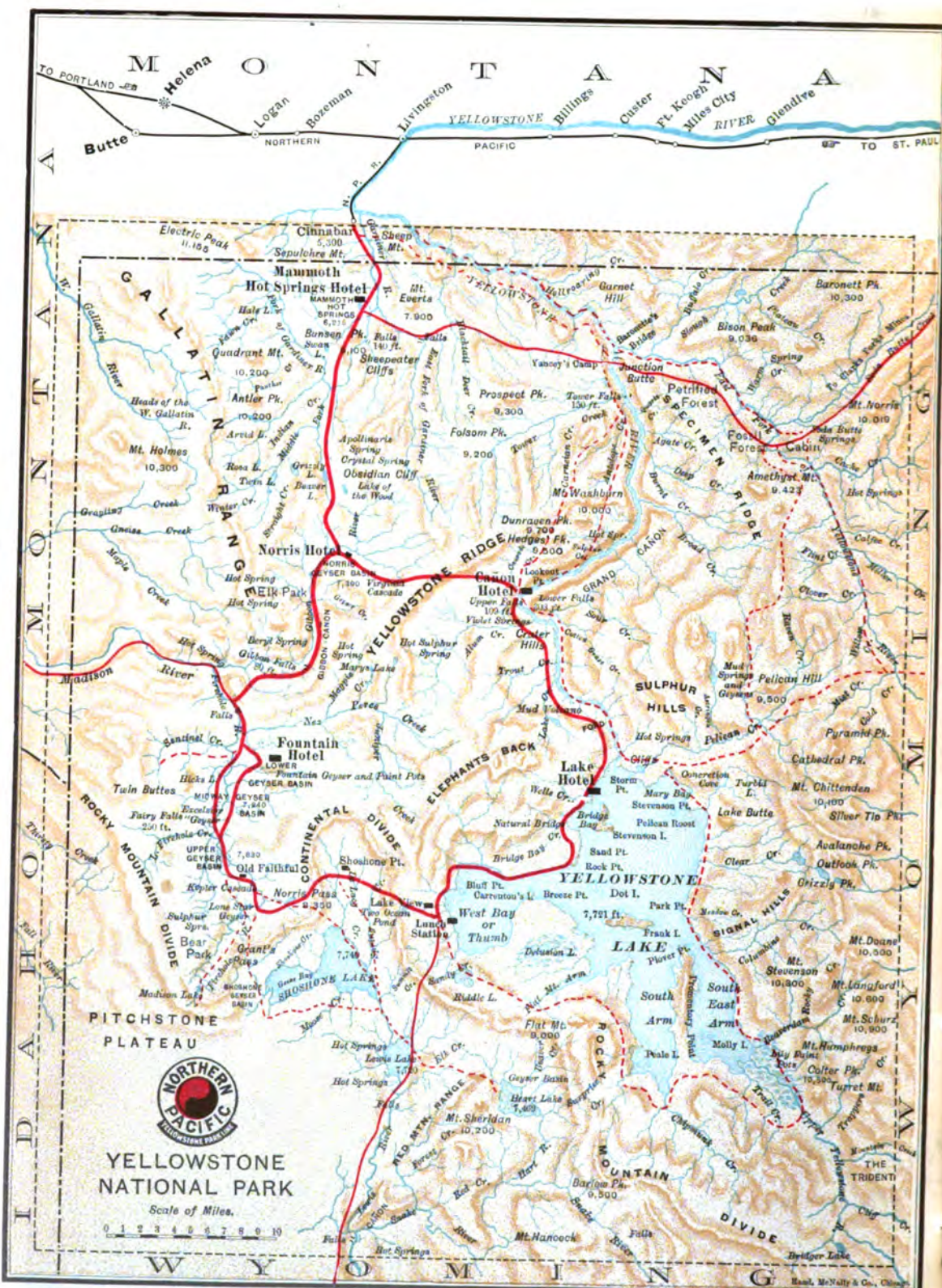
They drank some coffee and lay down to sleep. "The continual roaring of the springs, however, * * * for some time

prevented my going to sleep," and when he did slumber he dreamed of "waterspouts, cataracts, fountains, jets d'eau of immense dimensions, etc." When he arose in the morning—the 20th of May, 1834—"clouds of vapor seemed like a dense fog

A Small Party of Trappers on the Move, in the Old Days of the Fur Trade.



A Beaver Dam.



to overhang the springs, from which frequent reports or explosions of different loudness constantly assailed our ears. I immediately proceeded to inspect them, and might have exclaimed with the Queen of Sheba, when their full reality of dimensions and novelty burst upon my view, 'the half was not told me.'

"From the surface of a rocky plain, or table, burst forth columns of water, of various dimensions, projected high in the air, accompanied by loud explosions and sulphurous vapors, which were highly disagreeable to the smell. The rock from which these springs burst forth was calcareous, and probably extends some distance from them beneath the soil. The largest of these wonderful fountains projects a column of boiling water, several feet in diameter, to the height of more than 150 feet, in my opinion; but the party of Alvarez, who discovered it, persist in declaring that it could not be less than four times that distance in height—accompanied with a tremendous noise. These explosions and discharges occur at intervals of about two hours."

Ferris saw three of these eruptions, tried the temperature of the water with his hand, to his discomfort, mentions "the disagreeable effluvia continually exuding," the hollow rumbling of the rocks, and the scare of the Indians—who thought these things supernatural and that they must be near the white man's hell. The diameter of the basin into which the waters of the largest jet fell, the one above described, he states to be about thirty feet. He adds, "These wonderful productions of nature are situated near the center of a small valley, surrounded by pine-crowned hills, through which a small fork of the Madison flows."

Ferris then goes on to describe another geyser area, evidently not seen by him, as follows: "From several trappers who had recently returned from the Yellowstone, I received an account of boiling springs that differ from those seen on Salt River [which he describes in another place] only in magnitude, being on a vastly larger scale; some of their cones are from twenty to thirty feet high, and forty to fifty paces in circumference. Those which have ceased to emit boiling vapor, etc., of which there were several, are full of shelving cavities, * * * which give them, inside, an appearance of honeycomb. The ground for several acres in extent in vicinity of the springs is evidently hollow, and constantly exhales a hot steam or vapor of disagreeable odor, and a character entirely to prevent vegetation. They are situated in the valley at the head of that river, near

Signature of Warren A. Ferris.
From an Old Letter in possession of
Geo. W. Ferris, Buffalo, N. Y.

Teaching
Young Bruin
How to
Forage.



An Elk on
His Travels
Through
the Snow.



the lake, which constitutes its source." He then describes a circular cold spring on "the margin of the lake," several feet in diameter, that shoots up, at intervals of two minutes, a column of water eight feet in height, "with an explosion as loud as the report of [a] musket."

While Ferris' description of the geysers and springs will compare favorably with any that has followed it, it seems difficult to identify, positively, the localities described.

It has generally been supposed that he visited the Upper Geyser Basin of Yellowstone Park, but to me this is extremely doubtful. The place described to him *by the trappers* closely fits that spot. It is not improbable, however, that the trappers may have vaguely described *two* or more areas, or that Ferris became confused in repeating their tale; for there is no lake of consequence near Upper Geyser Basin. Yellowstone Lake is fifteen miles east, by trail, and Shoshone Lake, formerly known as Madison Lake, and which has an important geyser basin at its southwestern extremity, is nine or ten miles southeast from the Upper Basin, and both are across the Continental Divide.

Ferris mentions but one geyser of importance that *he* saw, and that had no cone. If he visited the Upper Basin, where the wonderful cones of the Riverside, Giant, Grotto, White Pyramid, Castle, Bee Hive, Old Faithful, and Lion are most conspicuous, it is inconceivable that he made no mention of them. On the other hand, his description of those geysers and springs seen by the trappers emphasizes the conic feature of that locality. The distance traveled would preclude his having reached the Norris Geyser Basin, and the descriptions scarcely apply to either Midway or Lower Geyser Basins as now known to us. However, it is nearly seventy



Soldiers
Winter
Cabin
near
Mud
Volcano.

years since Ferris was there, and some material changes may have occurred within that time, although the well-known history of the park since 1869 would indicate otherwise. It is not unlikely that he himself saw some hot-springs area now partially or wholly inactive, or one seldom, or even never, visited since the discovery and occupation of the park. Southwest from Upper Geyser Basin, near the western boundary of the park, there are several groups of hot springs, outside of the usual lines of travel.

But what he saw is really of slight consequence. That he saw the wonderful phenomena of that locality is clear, and that he described it—qualitatively, well and faithfully, is equally true; and he now stands forth in his own name as one of the earliest explorers of the wonders of the park region, and as the *first one* to have put into print a trustworthy description of them. Let him now be placed with Colter, Bridger, De Lacy, Folsom, Langford, Doane, Hayden, Norris, and others on the roll of honor of Yellowstone Park explorers.

Ferris remained at the Hot Springs but one forenoon, and on the afternoon of May 20, 1834, recrossed the "Piny Woods," camped on the plains at Henry's Fork, and rejoined his comrades the day following. His narrative shows that he continued to trap in these same general localities for a year and a half longer, and the journal abounds in beautiful description, common-sense observation, vivid characterization of their lonely wanderings, accounts of fights with the Blackfeet, feeling narration of the death and burial of loved comrades, and amusing incidents, from all of which I might quote *ad infinitum* did space permit.

Warren Angus Ferris, of Quaker parentage, was born at Glens Falls (presumably), N. Y., December 26, 1810. About the beginning of the War of 1812, his parents removed to Erie, Pa., where his father, Angus Ferris, became one of the earliest owners of vessels on the Great Lakes, and was engaged in furnishing supplies to the American army. The father died at Erie, September 10, 1813, the day of Perry's victory at Put-in-Bay, and in 1814 the widow and her two children removed to Buffalo, N. Y.

Young Warren received a good education for that day and became a civil engineer. He was evidently of an adventurous turn, and, as already shown, in 1830 joined the American Fur Company at St. Louis.

He removed to Texas at an early day, after his return from the mountains, married and brought up a family, did not serve in the Confederate army during the Civil War, being too old, and died near Dallas, Texas, February 8, 1873, nearly sixty-three years of age.

His homestead was at Reinhardt, some six miles northeast of Dallas, but there is little left to mark the home or final resting place of the wandering old explorer and pioneer. Ferris was an authority, in the section where he lived, in his profession, and was known, as one who knew him puts it, "as a man of great and varied attainments." He

found time to write a good deal for the press, concerning his wild western life and adventures. The latter seem to have taken strong hold of him, and he even indulged, occasionally, in attempts at poetry descriptive of it, which, if it lacked the proper finish, was certainly imbued with the genuine spirit and flavor.

Ferris, doubtless, had no idea that the description he penned of the geysers would eventually be resurrected and preserved; that the region itself would become one of the most noted in the world, and that his connection with it, through his writings, would also become a memorable and historical one to future generations.*

THE TOURIST AND THE PARK.

The tourist leaves the train at Cinnabar, fifty-one miles south from Livingston on the main line. There he boards the stanch, open Concord coaches, made specially for park travel. A seven-mile ride brings him to Mammoth Hot Springs, from which point the circle tour of the park is made.

On this ride, after passing Gardiner, a hamlet at the very edge of the park, the road follows the beautiful Gardiner River—what a trout stream!—past Eagle Nest Crag, the mouth of Boiling River, and Fort Yellowstone, stopping at the large hotel, which has accommodations for 150 guests.

Luncheon over, the afternoon is passed in viewing the Hot Springs terraces, the principal objects of interest there.

The following morning the coaches and tourists start for the Lower Geyser Basin. About four miles away lies Golden Gate. The Government has recently completed a new and splendid road to this point. It winds along at an easy grade and carries the tourist right through one of the most interesting fields of mammoth, angular, half-buried, silver-gray rocks one ever saw. At one point in

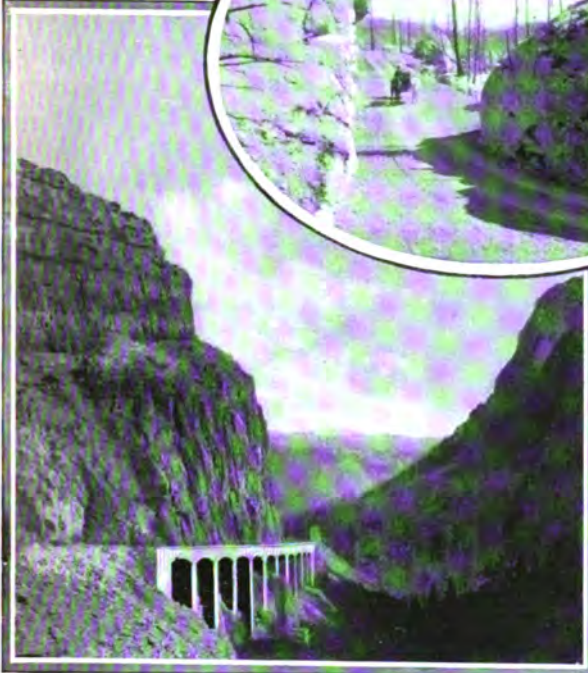
this giant's garden of rocks the road winds through Silver Gate. At Golden Gate itself great changes were made in 1900. Captain Chittenden, the engineer officer in charge of road construction, tore out the old wooden bridge or trestle there, and replaced it with a wider, more substantial structure, built upon concrete arches. Old travelers through the Gate would



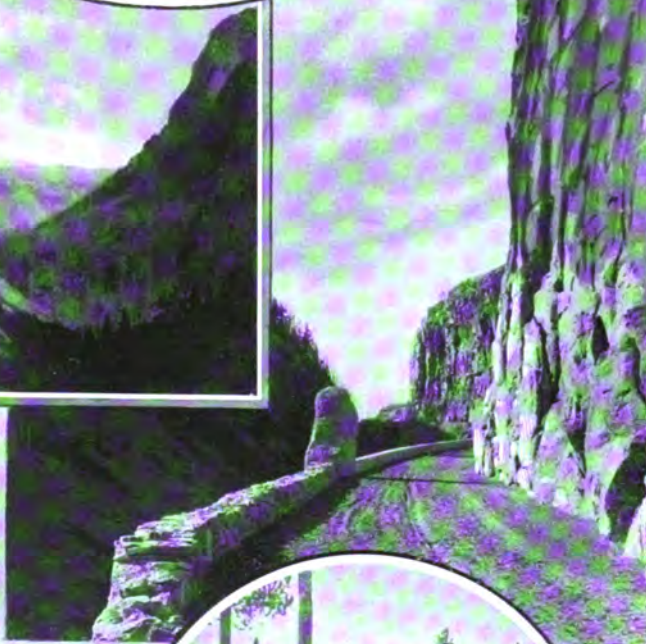
The Start Through the Park,
from Mammoth Hot Springs.

*For patient assistance in endeavoring to unearth the facts regarding W. A. Ferris' life and death, the writer is under obligations to the *Express*, Buffalo, N. Y.; Geo. W. Ferris, Buffalo, N. Y., a nephew of the old pioneer; the *News*, Dallas, Tex.; Mr. Royal A. Ferris and Judge Kenneth Foree of Dallas, and particularly so to Mrs. Mary R. Norton of Dallas and Mrs. E. H. Ferris Horner of Kaufman, Tex.

*Silver Gate,
Between Mammoth Hot
Springs and Golden Gate.*



*Golden Gate,
Showing concrete arches
of the New Bridge.*



*Golden Gate,
Showing
roadway since
reconstruction.*



*Obsidian Cliff,
A cliff of natural glass. Shows columnar
structure and glass road at foot of cliff.*



*Roaring Mountain,
Near Norris Geyser Basin.*

hardly know the place now. This wild cañon glen is one of the spots dear to the tourist, and at its upper end Rustic Fall glides gracefully over a ledge in a filmy, veil-like sheet.

Beyond lies the open, mountain-encircled Swan Valley and Lake and then comes Willow Park and Apollinaris Spring.

Twelve miles from the starting point, one of the greatest curiosities of the park is reached. Ordinarily, Obsidian Cliff would not attract one's attention, but when it is known that it is a real cliff of nature's glass and that the road at its base is a glass road, the situation is changed. Below the big cliff lies beautiful Beaver Lake with its dams and beavers.



*Mammoth
Paint Pots,
Lower
Geyser
Basin.
Showing the
boiling clay
globules.*

Then follow Twin Lakes at the right side of the road, wonderful little lakes and entirely unlike, and at the left side Roaring Mountain, which now seems to steam, not roar, as it may once have done.

Just beyond is seen the Devil's Fryng Pan, one of the first evidences the tourist sees of the peculiar hydro-thermal characteristics of the region, and not far from Norris Geyser Basin. A shallow hot-water streamlet crosses the road, and at the right, in a sandy basin in the bed of the stream, is the Fryng Pan. It consists of a limited sandy area covered by a thin sheet of water, where a continuous sizzling and sputtering similar to boiling grease in a fryng pan, is going on. The water is clear, and yet at different points green and yellowish water streamers are seen. A strong sulphurous odor is prevalent, and one is

apt to imbibe an uncanny notion of things. This feeling, though, soon wears away. The Frying Pan is by no means a prominent figure among Yellowstone Park objects, but its location impresses itself upon one so that it is probably never forgotten by the majority of tourists.

The Norris lunch station is reached at noon, and after the eatables are stowed away the tourists stroll over to the Geyser Basin itself, and, after spending an hour or more in looking upon the first geysers found en route, the coaches pick them up and the ride is resumed, this time along the banks of the Gibbon River.

The afternoon's ride is for the greater part beside beautiful streams and beneath towering cañon walls. After leaving the Gibbon Cañon and river, soon after Gibbon Fall, eighty feet high, is passed, the road reaches the Firehole River at the Cascades, which stream it follows almost to the Fountain Hotel at Lower Geyser Basin.

This hotel, one of the largest in the park, will hold 250 guests, is quite homelike, and has the natural mineral water from one of the hot springs piped to it for bathing purposes.

This basin is the largest of the geyser basins, although it does not contain the greatest number of geysers.

It will pay one to arise early in the morning, walk out to some point that commands a good view of the locality, and see the myriad streamers, columns and clouds of steam that rise from springs and pools. From all points of the basin proper and from many places in the depths of the forest that covers the hills in the distance, these white wraiths can be seen floating airily upward until finally dissipated.

Near the hotel are the Mammoth Paint Pots, a large circular basin of mushy, finely granulated clay. This has been boiling for centuries, perhaps, and in its sluggish action it produces figures of perfect clayey flowers of rare beauty.

The tourist will here see the Fountain and Clepsydra geysers, and not far away is the Great Fountain geyser. A special arrangement and trip must be made to see the latter, but it should certainly be seen.

The third day of the tour the tourist spends in viewing the wonders of Midway and Upper Geyser basins. At the former, Prismatic Lake,



*Kepler's
Cascade.*

Turquoise Pool, and the crater of Excelsior Geyser are visited; the latter is the real home of the geyser, and there are found Old Faithful, Grand, Oblong, Bee Hive, Riverside, Giant, Lion, Lioness, Castle, Giantess, and many others. Beautiful pools are scattered here and there, too, Morning Glory, Sunset Lake, Black Sand, Punch Bowl, and Emerald Pool being the more noted.

Returning to the Fountain Hotel for the night, an eruption of either the Fountain or Great Fountain geysers may usually be witnessed, sometimes by moonlight.

*Steamer Zillah, on
Yellowstone Lake.*



Yellowstone Lake and Absaroka Range East of Lake.

Early on the morning of the fourth day the coaches are off for the trip across the Continental Divide and on to Yellowstone Lake. Again the Upper Basin is traversed and then the ascent begins. Past Keppler's Cascade, along the upper Firehole River, through shady woods, up Spring Creek Cañon to Isa Lake, and the Divide is reached at an elevation of 8,240 feet above the sea. Then on to Shoshone Point, where Shoshone Lake and the Three Tetons are seen at the same time, in the distance, and again the Divide is crossed at an elevation of 8,345 feet, and the road then leads downward to the lunch station, under canvas, at the west arm of Yellowstone Lake.

Here are more Paint Pots, also Hot Spring Cone, where one catches his fish in the cold lake, cooks him in the hot water in the cone, and if he wishes, eats him, all without moving from one spot.

This lake is the highest large body of water in this country, and there is but one, or possibly two, in the world that lie at loftier altitudes, so far as known. The lake has an elevation of more than 7,700 feet, and is situated well down toward the southeastern corner of Yellowstone Park. It is a peculiarly shaped body of water about

twenty miles long and nearly sixteen miles wide, extreme measurements, with long arms and bays, and is surrounded by mountains.

Historically, the lake is one of the most interesting portions of the park. Colter, the first white man known to have been in the region—about 1807—followed around its western shore. Everts, lost on its south shore—in 1871—also tramped along its western edge and was rescued at last nearly dead, after thirty-seven days of peril and starvation; and the Washburn party—in 1871—traveled around the north, east, south, and southwestern sides of the lake.

Mount Sheridan, which from the southwest overlooks the entire lake, was named after General Sheridan, who, with President Arthur, went through the park with a large expedition; Mounts Doane and Langford on the southeast were so called after members of the Washburn party; Mount Stevenson and Stevenson Island were named after James Stevenson of the old Hayden survey.

The lake is an enlargement of Yellowstone River, which rises southeast of it, flows through it and leaves it near the Lake Hotel at the north end.

The average depth of water is about thirty feet, according to Chittenden, but at places it is several hundred feet deep. The tourist route follows the west side of the lake, and there is also a little steamer on the lake for use of tourists.

The Lake Hotel, which will easily accommodate 125 people, is really the most restful stopping point in the park tour. It overlooks the lake and mountains, and the surroundings are pleasant. A feature of all the hotels is the wild-flower decoration of the dining rooms. The park flora is very fine and varied, and large bunches of fresh flowers are placed on the dining tables each day.

The fifth day's ride is a decided contrast to that of the fourth day. No mountains to climb, and the road clings for nearly every mile of the way to the Yellowstone River.

If one is piscatorially inclined he has arisen early this day and rowed down to the outlet of the river, not far from the hotel, and enjoyed casting his line for salmon trout, which abound.

The first object, out of the ordinary, met on this day's ride, and one of the most peculiar in the park, of its kind, is Mud Volcano.

Yellowstone Park is nothing if not many-sided in its phenomena. This fact is apt to be overlooked. While the geysers are unquestionably the most peculiar of its children, and the Grand



Mud Volcano.

Cañon the most profound, the rivers, lakes, falls, valleys, mountains, springs, fish, animals, etc., are extremely important parts of the whole.

The mud springs, lakes, and pools are many and varied. They are scattered at several places in the park, and the most conspicuous of them is Mud Volcano. This is a yawning cavern in a hillside overlooking Yellowstone River, about eight miles from the hotel at Yellowstone Lake. Near it there used to be a geyser, called Mud Geyser, and the two are apt to be confounded. The geyser gave out long since. When first known, some thirty years ago, Mud Volcano was indeed what its name implies. It hurled forth nauseous showers of dirty water and mud, spattering it over the trees, rocks, and hillside in large quantities. Its retchings were violent, and it was dangerous for one to approach it.

For years it then assumed a more tranquil state, still belching, though with much less force. It then again resumed its former activity, but only for a time. Usually it is quite approachable, and although not what might be called attractive, it is still an object of interest to the park sight-seer. The volcano is forty feet wide at the mouth, tapering, conelike, to a narrow hole deep down, and running into the hill. It is but a short walk from the road, and easily visited. The coaches always stop for tourists to see it. The ride along the river is full of pleasant surprises. The road winds across the foot of Hayden

Valley, the largest valley in the park. It was formerly a haunt of the buffalo, and large herds of elk now frequent the head of it.

When thinking of Yellowstone Park, one naturally thinks more particularly of fine cañons, geysers, and waterfalls. Many of what are popularly considered as lesser objects of importance are really of great beauty and interest.

About midway between the Lake Hotel and the Grand Cañon Hotel, at the foot of Hayden Valley, stands Crater Hills or Sulphur Mountain. This is a low, double-peaked hill, at the base of which the road runs. By the roadside is Chrome Spring, a vat of furiously boiling sulphur. The spring is some ten or fifteen feet in diameter, and the sulphur is splashed about continuously, and to a height of from two to ten or twelve feet.

All the delicate shades of sulphur



A
Park
Road.



Grand Cañon Hotel.

yellow are found here, and the odor of sulphur is strong. Small cracks and holes penetrate the mountain, from which come sulphurous fumes, and sulphur crystals can be picked off the ground.

The spring is one of thousands of various kinds in the park, yet its character and marvelous delicacy of color impart to it an individuality that cause it to be always remembered.

Just beyond it is a rather large mud lake, which performs an important office right there, by the contrast afforded between lake and spring.

The coach soon reaches the rapids of the river; then quickly follow in succession the Upper Fall, Cascade Creek and Fall, a glimpse into the Grand Cañon, and then the vehicle draws up, just before luncheon, at the Cañon Hotel, capacity 250 tourists, and one is ready to view the *greatest* glory of the park, to which the afternoon is devoted.

A large number of tourists arrange to remain here another day or two. This enables them to see the cañon and falls more thoroughly, have a little fishing, and ride to the top of Mount Washburn and enjoy a view from the most centrally located and most easily accessible high mountain in the park.

The sixth day in the regular tour the coaches leave later than usual. This gives one an opportunity of going out in the early morning to Lookout Point and seeing the Cañon and Great or Lower Fall before or during sunrise, and it is a sight well worth seeing.

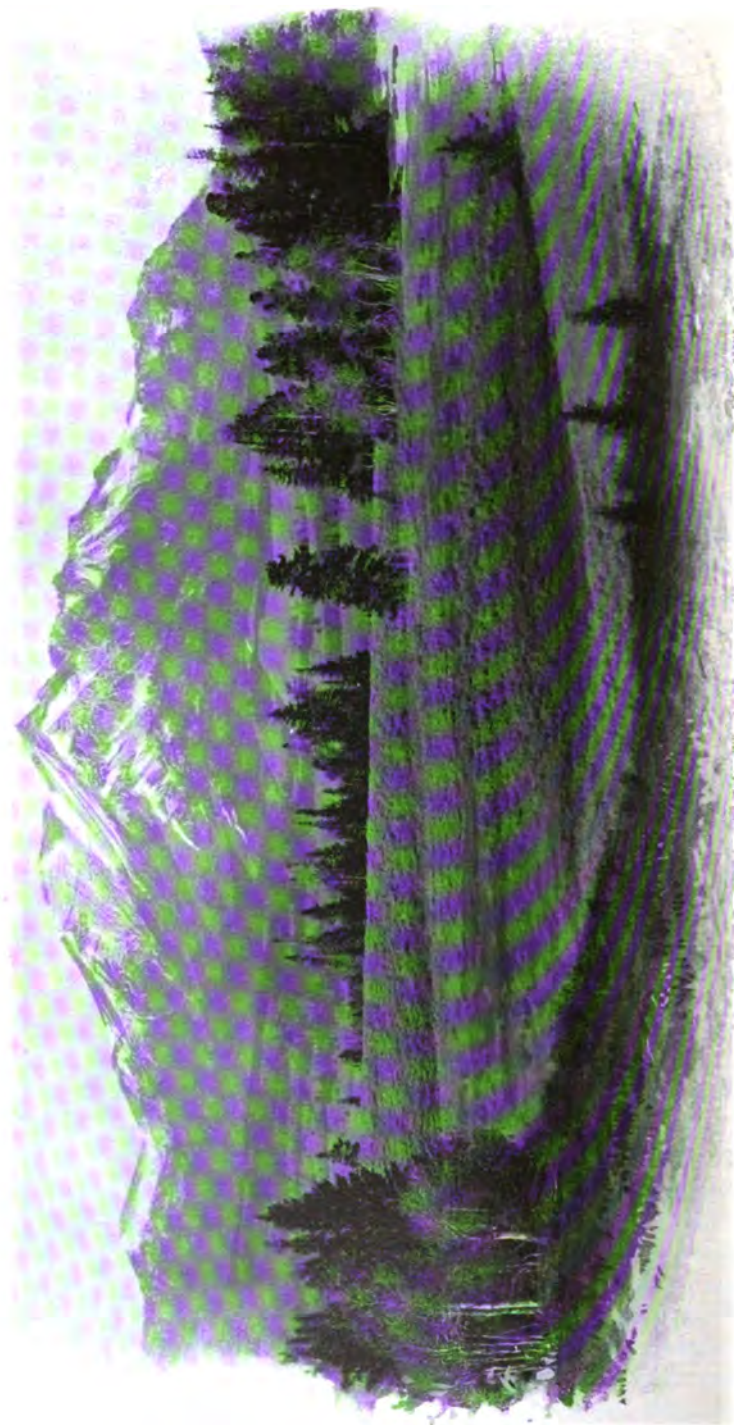
In doing this one should wrap up warmly, for the walls of the gorge are bathed in heavy mist from the falling waters.

On the return journey, after leaving the cañon, the Wedded Trees, Devil's Elbow, and Virginia Cascade are seen, and lunch time finds us once more at Norris and Larry's. The first half-day's route is then retraced, dinner eaten at Mammoth Hot Springs, and evening finds us aboard the cars at Cinnabar, homeward bound.

ELECTRIC PEAK.

In approaching Yellowstone Park from Livingston the traveler's attention is drawn to two particularly striking peaks, besides Cinnabar Mountain and the Devil's Slide, one on either side of the valley.

The first of these is Emigrant Peak, to the east and well up in Paradise Valley; the other is first seen, in anything like its grand proportions, just before reaching Cinnabar, and its name is Electric Peak. The latter is the highest of all the mountains immediately surrounding the park or which are a part of it. The height of Electric Peak is 11,155 feet above sea level. Mounts Washburn, Sheridan, Emigrant Peak, Mount Doane, etc., are all lower than this. The Grand Teton, however, some miles south of the park boundary and overlooking the beautiful Jackson Lake country, is more than 2,000 feet higher than Electric Peak.



Electric Path. From near head of Golden Gate, showing southern face. The central and pronounced ridge is the one used in making the ascent.

The greater portion of Electric Peak is north of the north line of the park. Its highest point is not far from the boundary and as the southern slope is very acute, the mountain may well be termed the great sentinel or watch-tower of the park.

From Cinnabar it will at once be noticed that a long, regular slope and spur extends northward from the apex of the peak. In ascending the mountain from this direction, one can probably ride a horse nearly to the extreme top, but this is mountaineering of a rather poor sort.

Electric Peak acquired its name in a highly characteristic and peculiar manner. In July, 1872, Mr. Henry Gannett and others of the old Hayden survey were ascending the mountain when a thunder-storm burst upon them. They were then nearly to the summit. The electricity was so strong that they heard a crackling sound as of sparks flying from a friction machine. The current began to pass through the men's bodies, a tingling sensation was felt in their fingers and heads and the tumult was deafening. One of the men was severely shocked and the party was at last compelled to retreat several hundred feet down the mountain, and even then they still felt the prickling sensations and heard the crackling of the electricity.

The whole park is interesting geologically, and this is just as true of the locality about Electric Peak as elsewhere.

An open sea once occupied this space; sedimentary rocks in great beds and in regular sequence were laid down; volcanic eruptions followed, with periods of rest and erosion between them. Following these came a glacial age when a tremendous ice sheet covered the hills and filled the valleys. One wing of it came from the Gallatin Range, of which Electric Peak is a part, and plowing eastward across Swan Valley swept over Terrace Mountain, on the eastern slopes of which the Mammoth Hot Springs are now found. Another wing came from the mountains bordering the eastern line of the park, followed down the valleys of the east fork of the Yellowstone or Lamar river and the Yellowstone River, pushed westward over Mount Everts and there joined the Gallatin Range ice sheet. From the deep bowl now formed by Electric Peak, Sepulchre Mountain, Bunsen Peak, and Mount Everts, the consolidated glacier jammed its way northward down the Gardiner and Yellowstone rivers into Paradise Valley, which is strewn with morainal débris deposited there as the glacier, known as the Yellowstone glacier, melted.

When, therefore, the tourist, standing on the ample veranda of the big hotel at Mammoth Hot Springs, looks out upon the scene before him, he really sees something more than a beautiful mountain picture, with soldiers' barracks and the spectacular hot springs in the foreground, and Bunsen Peak, Mount Everts, and the more distant peaks over near the Grand Cañon in the background. He is gazing upon a

spot where the gigantic forces of nature have fought a great fight, where a supreme struggle for mastery occurred between water, fire, and ice, and where each, in turn victor, at last gave over the conflict, and erosion, the commonest force of all, perhaps, occupies the battle-field as final master.

A suitable introduction is usually of advantage to one. Let us, therefore, endeavor to obtain one to the park by climbing Electric Peak, and from its rocky height cast our eyes over



*Steaks and
Roasts on
the Hoof.
Intended for Yellowstone
Park Hotel Guests.*

the great Wonderland somewhat after the fashion of a bird's-eye view.

We obtain good saddle horses from the transportation company and start out in the early morning, taking the old road that climbs Terrace Mountain and debouches into Swan Valley through Snow Pass. This road leads us past the Giant's Thumb, the now exquisite Cleopatra Terrace, and Orange Geyser. As we ride along, the kaleidoscopic terrace fronts, with their clouds of steam hovering above them, give a greatly changed appearance to the springs, as compared with what they are when the sun shines upon them and dissipates the steam.

After a right stiff climb over the terrace formation and through the trees, we enter Snow Pass, a short and narrow opening between Terrace and Sepulchre mountains.

We have a ride of some eleven or twelve miles ahead of us, to where we dismount from our horses and make the rest of our way afoot, and we are now fairly started.

Crossing the head of Swan Valley we ride up and on to a ridge that, with some undulations, stretches down from Electric Peak. By riding across to the farther side of the ridge, the peak comes into full view and it is an easy matter to keep it thus, and by so doing lose no time in unnecessary deviations from the straight and narrow way, for there is a dim trail to be seen here and there. We gradually rise in altitude

as we slowly ride along, and after a ride of perhaps eight miles, we are in the midst of interesting surroundings. Across the valley to the west lies the main Gallatin Range; straight ahead looms Electric Peak, in appearance like the inverted prow of a vessel; at our right, overshadowing us, rise the black, shaggy, timbered flanks of Sepulchre Mountain. At our left, far below us in the bottom of the narrow valley, which farther up becomes simply a ravine formed by the slopes of the Gallatin Range and Sepulchre Mountain, the Gardiner River dashes along. The ultimate sources of this stream are in a big amphitheater on the western side of Electric Peak. It then flows south through Swan Valley, winds around Bunsen Peak, and, turning at right angles, flows north past Mammoth Hot Springs and into the Yellowstone near Gardiner City. Up here among its free mountain wilds it is a tempestuous, brawling torrent. The warm summer sun is rapidly melting the snow banks on the mountains, and the little discolored stream is running pretty nearly banks full.



Off the Beaten Trail in Yellowstone Park.

When we reach the foot of the great peak itself, we climb, now in the saddle, now afoot, as the pitch of the trail suggests, as high up as it is possible to take our horses. It is only about 300 feet to the last stunted timber, and, dismounting, we relieve the animals of their saddles and tie them in the shade of the trees.

And now comes the real pleasure and joy of the occasion to the genuine mountaineer. There is going to be no boy's play about it. There is hard, panting, muscle-straining, leg-weary work ahead, and the soft, flabby, namby-pamby tenderfoot has no place here. But for him who can enjoy a real hard, healthy tug of war—ah! he will be in his element and enjoy the struggle he sees confronting him.

We go slowly, for it is a steep pull right from the start, and frequent doses of rest are necessary at first. Then as our breathing apparatus, heart, and muscles become accustomed to the strain, we are able to make longer distances between halts.

The real mountain climber has no false modesty about climbing slowly and stopping frequently. In this way he conserves his strength and in reality advances more rapidly, and at no risk to life or limb.

One of the most interesting things about mountain climbing is to note the unfolding of the landscape as one ascends higher and higher, and this was a feature of our climb here.

After we had reached a point a thousand feet, perhaps, above our horses,



Devil's Slide, Cinnabar Mountain, from Car Window.

we swung around to the western side of the mountain, which was a vast field of slide rock in rather small pieces, lying at a decidedly acute angle. I wouldn't do this again, for it made climbing harder than it would have been to have adhered to the ridge. But it placed us on the eastern side of a huge amphitheater, the

*Cleopatra
Terrace,
Mammoth
Hot
Springs.*



*Jupiter
Terrace,
Mammoth
Hot Springs,
from the
south.*



one in whose deep snow-banks the Gardiner River has its rise, and we overlooked its entire basin. The snow lay strewn about in deep patches and thousands of ephemeral rivulets were rushing down the slopes to the deeper channel below. The roaring of the stream was plainly audible to us, even though we were 1,200 or 1,500 feet above it.

To the south, the great parkland began to unfold itself. Swan Valley stretched far away southward, while right at our feet Sepulchre Mountain disclosed an undulatory and contrasted bit of picture land before unsuspected. Forest, lake, meadow, and cliff vied in forming a cool and cheery landscape.

Several hundred feet below the summit we reached the base of a large buttress of rock, a part of the ridge. We here left the angular slide rock and climbed up the buttress, quite vertical for much of the way, until we were again on the firm, adamantine ridge. The latter narrowed to a very knife edge. We rested again, and then started up the last 300 feet that lay between us and the top. It was "a rocky road to Dublin," but the footing was unyielding and sure. The first few yards were made sitting astride the very narrow ridge and lifting ourselves ahead on our hands, after the fashion of playing

leap frog, save that the "leaps" proper were conspicuously lacking. It was then a straight climb to the top over hard and jagged rocks and we were but a few minutes in accomplishing it.

There was no real danger in this last bit of climbing, just enough semblance of it to lend a dash of spice and variety to the sport.

The summit was a small rounded knoll as bare of life or verdure as a tree of leaves in winter. Indeed, from the spot where we had left our horses there was no green thing to be seen on the mountain except as we saw it in the slopes and gulches far below.

It was a wide scope of country that was unrolled around and beneath us. The relation of parts to a whole was patent at a glance.

From the Three Tetons 100 miles to the south, to Emigrant Peak, fifteen or twenty miles north of us, and from the Absaraka Range, east of the park, to the farther Gallatins just west of us, the land was open as a scroll.

At our feet lay Gardiner City, Cinnabar, Cinnabar Mountain with its red slide of the devil, the Yellowstone River and valley, all much flattened by our elevation. The mountains around Emigrant Peak closed the view to the far north. To the east, the peaks along the eastern park boundary stood out like whitened nodules, touched with the winter's snow as they yet were. Down in the heart of the park Mount Sheridan, Dunraven Peak, Mount Washburn, and Yellowstone Lake were all visible, while near at hand Bunsen Peak appeared like a wart or a large mole hill, and the Tetons, far away, loomed up, the great white giants of the whole region as they indeed are, always have been, and probably always will be. The geyser basins were somewhat hidden by the land waves and timber, but were it early morning or evening the steam clouds would easily have revealed their hiding places. From our perch the sides of the peak on which we stood fell away in palisades several hundred feet high, to the more natural and usual angular slopes below them.

We had climbed at least 2,000, perhaps 2,500, feet afoot, and naturally, fresh from office desks, were not hardened to such work, but an ambition of many years' standing was at last gratified and little we minded the stress and strain of the effort.

Our descent was a rapid one, straight down the comb of the ridge. At one or two places we encountered long, deep beds of snow, and we plunged through them with long strides. Our ride hotelward was a repetition of the outward one and we reached the hotel in ample time for dinner.

Twenty-two miles of riding and 5,000 feet of climbing the first day of



an outing left one a little stiff in the "jints" and muscles, but a night's rest and a morning bath rejuvenated me and I rode away southward through the park the succeeding day mounted on a good and tough bronco, and ready for a week's solid campaigning.

SPRINGS AND GEYSERS.

What a host of them there are! More than 4,000 springs and 100 geysers! They are scattered all through the park, on mountain sides, in valleys, among the trees, by the sides of streams, along the roads. They are large and small, round and oblong, with cones and without, and the hues of the water in some of the springs almost put the rainbow and sunset to shame.

The divisional line between a hot spring and a geyser is not very clearly defined, even to the scientific man. Mr. Arnold Hague of the United States Geological Survey states that "a geyser



*Pearl
Geyser,
Norris Geyser
Basin.*

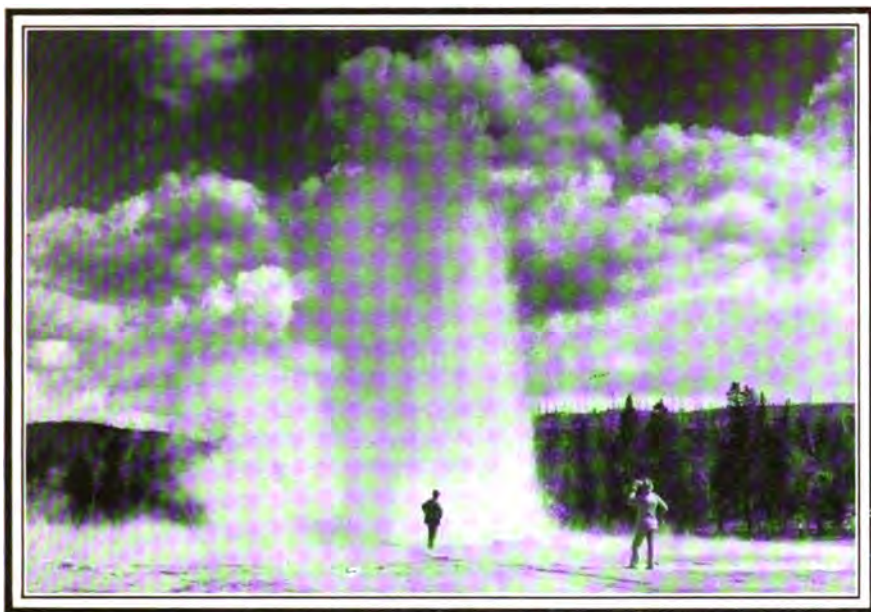
*Norris
Geyser
Basin and
Gallatin
Range.*

may be defined as a hot spring throwing with intermittent action a column of water and steam into the air." A geyser of infrequent periodicity may long be mistaken for a spring. This was the case with Excelsior, the greatest geyser in the world. Its period of inaction is a long one, many years, and when not in eruption it is simply an enormous, sluggishly boiling spring.

There are two kinds of springs, not counting the paint pots and mud springs, in the park; one calcareous where the water carries



*The Black
Growler,
a steam geyser,
Norris Geyser
Basin.*



Great Fountain Geyser, Lower Geyser Basin, Evening.

carbonate of lime in solution, the other where it contains silica. There is a great difference between them, particularly in the mechanical results. In each the water is hot, beautiful beyond statement in color, sometimes boiling, perhaps continually, perhaps intermittently, in other cases quiescent.

The calcareous waters build terraces which, where alive, present remarkably striking fronts of many colors and wondrous stalactitic effects. Where the springs are dead the terrace cliffs die and then appear as deposits of so much old dirty rotten chalk. The springs at Mammoth Hot Springs are calcareous and cover a goodly portion of the eastern slope of Terrace Mountain. They are here seen in a variety of forms and expressions, and the pilgrimage among them, beginning at the bottom and slowly ascending the terrace stairs, is a never-ending succession of surprises.

The three principal spring terraces here are Jupiter, Minerva, and Cleopatra. Above them are Angel Terrace, Narrow Gauge Terrace, and the Elephant's Back.

Jupiter Spring is the largest and is undeniably the finest. Were there nothing else here, it alone would be enough to repay one for the time spent at this point. Minerva, this Minerva, is a fickle goddess. For the past



Beryl Spring and Road in Gibbon Cañon.

two or three seasons it has been entirely inactive and consequently its beauties have vanished. Another season it may be perfectly resplendent. To make amends, however, Cleopatra has decked herself out in robes much finer than ordinary, and a view from above looking down on it, presents a sight of splendor and magnificence.

At Angel Terrace one stops and admires to the full the satiny, beautiful, flowing tresses of travertine. At the Elephant's Back and Narrow Gauge Terrace, an entirely different type of terrace is shown.

Orange Geyser serves to show what is generally considered to be the process by which Liberty Cap and the Giant's Thumb, below Jupiter and Cleopatra terraces, were formed.

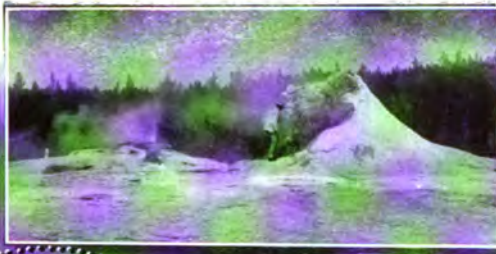
The most of the springs in the park are siliceous springs. The ordinary tourist cares little for this, however, as it is their superficial beauty that attracts him. The more conspicuous examples of these springs are Beryl Spring in Gibbon Cañon, the Sapphire, Morning Glory, Black Sand, Emerald, and Sunset Lake, at and near the Upper Basin. At Norris Basin there are one or two nice pools, and at Crater Hills, Chrome Spring, of sulphur, will excite enthusiasm. At Lower Geyser Basin there are a large number of springs and pools of various sizes and character. Firehole Lake, Surprise, Mushroom, and other pools are found near together here.

The geysers are of two kinds, those with and those without cones or elevated platforms and apertures. Of the latter the Monarch at Norris Basin, the two Fountains at Lower Basin, the Excelsior at Midway Basin, and the Oblong, Grand, and Giantess at Upper Basin are the more prominent. Of the cone geysers, the White Dome at Lower Basin, the Riverside, Grotto, Giant, Castle, Bee Hive and Old Faithful at the Upper Basin, and Lone Star Geyser, beyond the latter point, are illustrative.

The geysers are undoubtedly *the* distinctive feature of the park. They form a numerous, varied, amusing, and unique family. A description of one by no means answers for all, owing to the diversity of action in all ways. There is, for example, little similarity between Riverside and Old Faithful, the Grand and Castle, Bee Hive and Economic, Giantess and Cascade, Grotto and Lion, Daisy and Giant, all found at the Upper Basin. Each has its own individualities.

The geysers of the Fountain type eject the water in huge masses and by violent paroxysms; those like Old Faithful or the Grand send it forth in tapering columns which the wind plays with, thus adding beauty to the display.

A visitor to the park is certain to see several of the geysers in eruption. Their periodicity is, however, not absolute, and one may visit the park many times without happening to strike upon the time that some particular geyser is due to play. I had made five or six



Cone and Crater of Giant Geyser.



Tourists Watching Riverside Geyser.



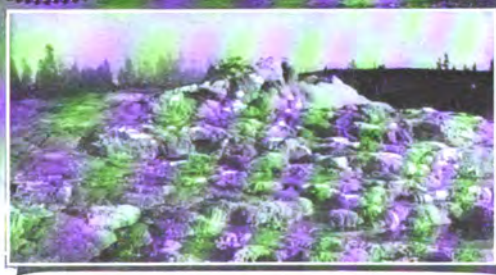
Old Faithful Geyser.



Cone of Bee Hive Geyser.



Daisy Geyser.



The formation about Old Faithful.

At the Upper Geyser Basin.

visits to Upper Geyser Basin before I saw the Giantess in eruption. It was in 1899 that I enjoyed that never-to-be forgotten sight.

On the night of July 19th I occupied a room in Mr. Haynes' studio-cottage, and very early on the following morning a rapping on the window awakened me, and I was informed that the Giantess was in full eruption. Rushing out in my pajamas, I seated myself on a bench under the trees and watched the wonderful exhibition that was going on across the Firehole River. It was a spectacular sight. The entire basin seemed to be a steaming city, and the Giantess, after its usual fourteen days of quiescence, was now the central figure in a weird scene that made one think of witches and incantations.

The steam rolled up in prodigious masses, obscuring the heavier water column, except when the wind would, now and then, blow it away and disclose the latter. Higher and higher the white vapor rose, spreading out on all sides, and drifting with the wind into and over the tree tops on the mountains beyond the geyser. The thunder of the explosions could be plainly heard, like those of artillery. The display lasted for three-quarters of an hour, and then its intensity gradually lessened, until it became an eruption of steam entirely, and beautiful beyond description. The force with which the water and steam were shot forth was terrific.

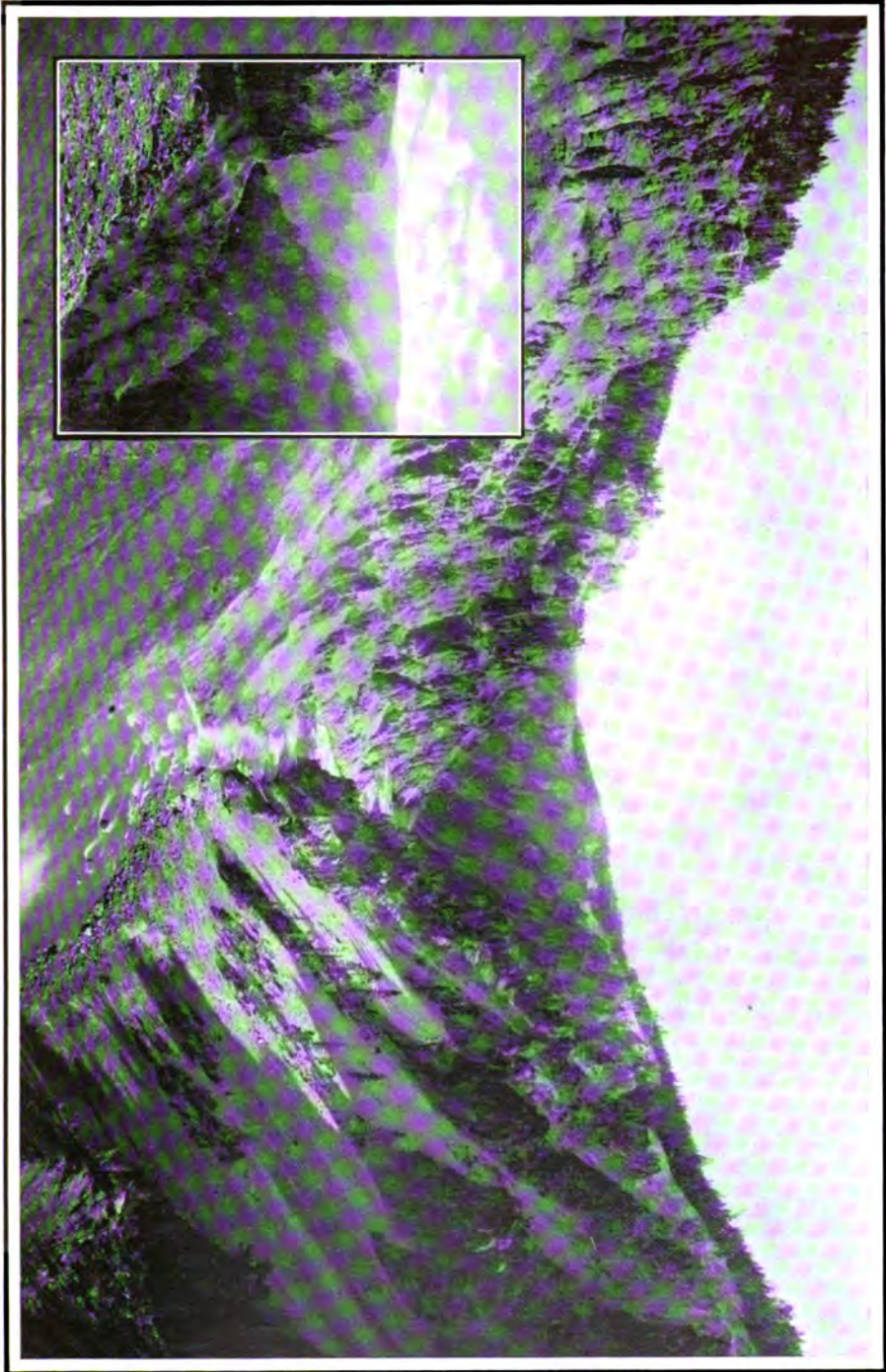
The Giantess has a fashion of ceasing from its labors for a while and then beginning again, the first eruption being the most powerful. That day I saw it in eruption three times.

Immediately after breakfast, I hastened over to the geyser, at the time of its second inning. Its massive cistern, which the day before I had gazed upon as a deep, beautiful, hot pool, was completely emptied and the steam was now rushing out with deafening roar, from its vent far down—some thirty to forty feet—at the bottom of the pit. Out on the edges of the condensed vapor curtain, a large and exquisite rainbow steadily maintained itself. Later, another eruption occurred, where there was a larger proportion of water than at the second. The water was hurled out with great force to a height of from seventy-five to one hundred feet, and, spanning the cavern diagonally from rim to bottom, there was a tiny but beautiful rainbow. The rainbow is a feature of several geysers, notably Riverside.

The Giantess was most appropriately named, and although rather infrequent in operation, it makes up for this by the grand and terrible character of its eruption. Those who happen to see it in action may be accounted lucky.

GRAND CAÑON AND FALLS.

While it is true that the geysers are the most unusual of all that is seen in the park, it is equally true that the Grand Cañon impresses people the most profoundly. It is a wonderful spot—miles of con-



Grand
Cañon
at
sunrise,
looking
east.

Grand Cañon of the Yellowstone.

centrated splendor. Its cliffs are not the highest, its length is not the greatest, its walls do not flare the widest of any cañon in the world, but as a congeries of extraordinary scenic elements it surpasses anything in the world.

At its head is a cataract nearly twice the height of Niagara. Not quite a mile back of that is another fall more than 100 feet high. Over the precipices found at these points the great river flowing from the big lake and the mountains beyond, plunges in two entirely dissimilar and majestic waterfalls. Either one of them if situated nearer to the centers of population would make the reputation of its locality. Placed where and as they are they add a strong and enduring feature to a locality already endued lavishly by nature, almost overloaded, in fact, with scenic richness.

The cañon itself, disassociated, if it were possible, from the falls, is a supremely perfect piece of creation. One might well employ all the adjectives in the vocabulary—and that they have all been so used by one or another it is no exaggeration to say—to describe it, and then the first exclamation that one would make upon standing on one of its jutting crags and overlooking the abyss for the first time would be, the half has not been told nor can it be. What then must be the effect with the addition of the two cataracts, and lying between them and at one side, a beautiful cascade, to the already matchless picture?

“The mind is overwhelmed with the grandeur and marvelous beauty of the scene, and completely captivated by the irresistible fascinations of the place,” writes Rev. E. J. Stanley, one of its earliest explorers. “Here is where the wonders of the Yellowstone receive their crown of glory. To say that we can describe their grandeur and marvelous beauty, would be to assume to correctly portray the illuminated heavens,” writes H. J. Norton. “Both of these cataracts deserve to be ranked among the great waterfalls of the continent. Every great cascade has a language and an idea peculiarly its own, embodied, as it were, in the flow of its waters. So the Upper Fall of the Yellowstone may be said to embody the idea of ‘momentum,’ and the Lower Fall of ‘gravitation,’” wrote Lieutenant Doane. “In the sunlight of the morning the place is a blaze of strange color, such as one can hardly see anywhere save in the crater of an active volcano. But as the day wanes, the shades of evening sinking gently into the depths, blend their livid tints into a strange mysterious gloom,” is the way Archibald Geike, the great English geologist, expressed it. Rudyard Kipling looked upon the scene once, and one of his observations was, “Evening crept through the pines that shadowed us, but the full glory of the day flamed in that cañon as we went out very cautiously to a jutting piece of rock—blood red or pink it was—that overhung the deepest deeps of all. Now I know what it is to sit enthroned amid the clouds of sunset.”

A tremendous stimulant to fine rhetorical description, it will be noted, are these falls and cañon, and yet every one who has ever essayed the task frankly admits defeat in the attempt to do the subject justice.

Very wonderful and exuberant are some of these flights of rhetoric. Fact and exact statement are thrown wholly aside in some cases, and fancy and imagination are given free rein in a manner that "passeth understanding." And yet, every one who stands upon Lookout or Inspiration points, or who looks out upon that riotous sea of color and sculpture revealed at Grand View, understands thoroughly just how this happens; that it is indeed hard to tell the story in words of "truth and soberness."

Let me now quote briefly from two of the most straightforward and praiseworthy descriptions I have seen in recent years. They are written by women, one from the big town of baked beans and brown bread on New England's shore, the other from the capital of that one of the galaxy of Northwestern States whose motto is "L'Etoile du Nord."

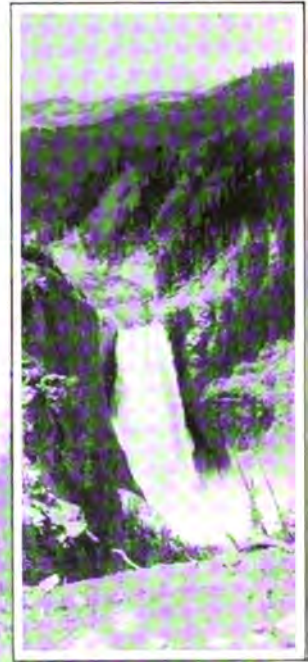
Miss Caroline T. Pillsbury of Boston, in *Boston Ideas*, pays this tribute to the spot:

"Well, the Grand Cañon really takes possession of us, soul and body—and, far from grudging its dominion, we gladly, adoringly, wonderingly throw ourselves with invigorant abandon into the welcoming arms of the atmosphere of silent grandeur that pervades the place, and know for once a restfulness born of the unconscious union consummated between man and his Maker through one of Nature's most obvious expressions of greatness. It is the one great climax of our trip—a climax upon whose pinnacle rests the radiant glory peculiar to magnificent silences, superb spaces, unspeakable infinity of color, with the royal beauty of the Creator's power fairly bursting into form and revealing the mighty love impregnating it all."

I like that, and do you wonder that some must needs go careering off into a sea of rhapsody when once fairly launched forth?

Miss Sarah A. Brooks, primary superintendent of the public schools of St. Paul, made a trip through the park in 1900 as the guest of the *St. Paul Dispatch*. Most of

The Lower Fall
from south side
of Cañon.



Tourists Climbing
in the Grand Cañon.

what she writes, that is purely descriptive of the park, is worth reproducing, but I have space for only the following brief excerpt anent the falls and cañon :

“Every view seemed the best view, revealing some new beauty of form or brilliancy of coloring. I shall not attempt to describe it. It is like describing heaven. One must behold to understand, and unless he has beheld, words can not convey a tithe of its magnificent beauty. One thing must be said: There could scarcely be an exaggeration of color in authentic pictures. Every color is represented, with shades and tints, it seems to the beholder, save blue, and that spans the yawning cavern in the blue arch of sky above. Warm springs sputter and hiss at the very foot of the Lower Fall, that splendid leap of crystal water, and every spring is a paint pot after its own design.”

As it concerns the tourist, there are about four miles of this color symphony, although the cañon is twenty miles in length. Its greatest depth is 1,200 feet, not more. There is a fine road winding along the left brink from the head to Inspiration Point and Castle Ruins. The places that project out into the cañon have good trails leading to them and they are railed about so that there is absolute safety. There are innumerable views of the cañon to be had and no two alike. Truly, it is no exaggeration to state that, so far at least, no place of equal size has been discovered in the world that commands such wealth and fullness of grandeur as this. But, as Miss Brooks says, if you wish to *enjoy* and *understand* this spot of color and sculptural magnificence, you must go and see it yourself. No one else's eyes can see it for you, or *will* see it as your own do. And *you* must go to see it, it can not come to you. God placed it where it is, in the heart of the mountains; there it will stay for all time, and if you would see it, to it you yourself must journey.



ONE OF LEWIS AND CLARK'S MEN

THE original letter, of which a facsimile is shown on the following page, office stamps and marks included, resulted in a correspondence between the writer and Mrs. Fields, and later with her son, Mr. J. T. Fields of Chillicothe, Mo., which developed facts considered worthy of publication and preservation.

"Wonderland 1900," published by the Northern Pacific Railway Company in 1900, had for its leading chapter, "On the Trail of Lewis and Clark." In the space allotted to that subject it was only possible to refer to some of the more important objects and adventures of that memorable expedition. An opportunity is now afforded, of not only chronicling to some extent the part borne by a worthy member of that immortal party, but, from his connection with some of the interesting episodes of it, to touch a little more in detail upon a few of those adventures. This will help us to comprehend more fully what those men endured, and how worthy they are of being embalmed in lasting and grateful memory.

Doctor Coues, in his complete work on Lewis and Clark, gives a roster of the expedition and, so far as known, brief statements concerning the individuals. Under the heading, "Privates (23)" on p. 254 (a footnote), the first name and notation is "William Bratton, Bratten, Brattin. No more known of him."

The different spellings given refer to the varied manner in which Lewis and Clark spell the name in their journal.

Of Bratton's earlier life, his descendants know little. He was born in 1778, in Augusta County, Virginia. He was bound out at an early age to a blacksmith, with whom he remained until he attained his majority, and he made use of the ordinary school facilities of the period. He was twenty-six years of age when he joined Lewis and Clark's expedition.

North bend, near July 23, 1804
 Chas. S. Fields

St. Louis, Missouri.

Enclosed

I have find it in a trunk
 for which send me
 "Wonderland 1804."

My father, William
 Bratton, was in that
 expedition, and as a proof
 of this which I have in
 my possession and which
 I value very highly, I have
 his discharge, a paper
 almost 100 years old, very
 yellow with age and signed
 by Meriwether Lewis Capt.

Yours

Chas. S. Fields.

After his return from that exploration he lived in Kentucky, and he was near New Madrid, Mo., at the time of the great earthquake in 1811. He was a soldier in the War of 1812, serving under Gen. Wm. Henry Harrison, was in the battle of Tippecanoc, saw Tecumseh after he was slain, and was one of those surrendered by General Winchester at Frenchtown (now Monroe), Mich., in 1813. He was married in 1819, lived for a time at Bowling Green, Ky., then moved to near Terre Haute, Ind., was the father of eight sons and two daughters—Mrs. Fields being the only surviving child—died in 1841, and is buried at Waynetown, Montgomery County, Ind.

Bratton is not infrequently mentioned by Lewis and Clark, and seems to have been one of their best men. They named a creek and a river, both in Montana, after him, the former being apparently the second creek east of the mouth of the Musselshell River, on the

north side of the Missouri River; the latter being what is now called Bridger River, or Creek, which flows into the Yellowstone River on the south side near Greycliff, on the Northern Pacific Railway. Lewis and Clark very properly honored nearly or quite all of their men by naming water courses after them, but few of those names survive, and the streams named for Bratton seem to have shared the common fate.

Those familiar with Lewis and Clark's journal know that Sergeant Floyd died on August 20, 1804, and was buried near where Sioux City, Iowa, now stands. The men of the expedition were allowed to select Floyd's successor, and Bratton was one of the three voted for, Gass being elected.

Bratton related to his family many of his adventures.

On August 4, 1804, one of the men, M. B. Reed, says Lewis and Clark, "Deserted and Stold a public Rifle, shot pouch, Powder and

St. Louis October 10th 1806.

To all whom it
may concern

Know ye, that the bearer hereof William Bratton, private in a corps destined for the discovery of the interior of the continent of North America, having faithfully discharged his duty in said capacity so long as his services have been necessary to complete the objects of a Voyage to the Pacific Ocean, is in virtue of the Authority vested in me by the President of the United States hereby discharged from the military service of the said State; and as a tribute justly due the merits of the said "Will" Bratton, I with cheerfulness declare that the ample support which he gave me under every difficulty, the manly firmness which he evinced on every necessary occasion, and the fortitude with which he bore the fatigues and painful sufferings incident to that long Voyage, entitles him to my highest confidence and sincere thanks, which it eminently recommends him to the consideration and respect of his fellow Citizens.

Meriwether Lewis Capt
1st U.S. Corp. Bratton

Bratton's
Discharge
1806,
signed by
Capt. Lewis.

Ball," and on August 7th, the leaders, "at 1 o'clock dispatched George Drewyer, R. Fields, Wm. Bratton and Wm. Labieche back after the Deserter Reed, with orders if he did not give up peaceably to put him to Death." They caught Reed, and Bratton stated that upon going

with the deserter to a stream to allow him to wash his moccasins, the latter made tentative propositions to be allowed to escape, but gave it up when Bratton informed him that if it was attempted, he would shoot him. Upon reaching the main party Reed was regularly punished.

At one point, after trading with the Indians, the latter, in large numbers, caught hold of the boats, when the party were about to depart, and not until the howitzers were turned upon them would they allow them to proceed.

This incident is readily identifiable with the serious difficulties experienced by the expedition at and near the mouth of the Teton River, near the present town of Pierre, S. D., with the Teton Sioux Indians,

*I certify that the within named Wth Bratton
has received from me all arrears of pay
cloathing and rations due him by the United
States from the date of his enlistment to the
present date*

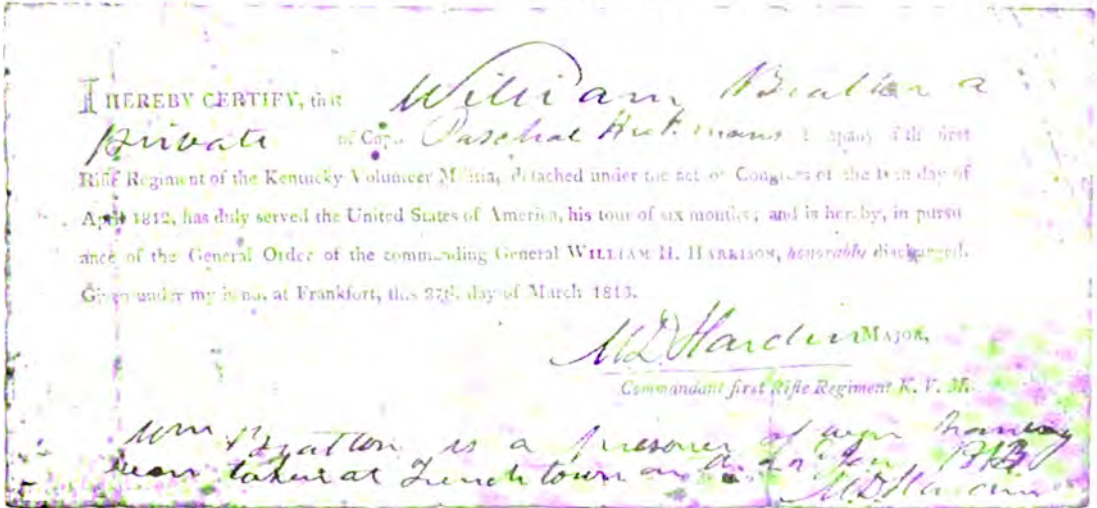
October 10th 1806 -

*Meriwether Lewis Capt
1st U.S. Exp. Snr*

*Reverse of
Bratton's
Discharge,
1806.*

when twice it appeared inevitable that they would be compelled to fire on the Indians, who, however, weakened at the critical moment each time.

It will be recalled that Lewis and Clark passed the winter of 1804-5 among the Mandan Indians, some fifty miles above the present towns of Bismarck and Mandan, N. D. The winter, a severely cold one, was passed in hunting over a wide scope of country. Much suffering was experienced, and Bratton seems to have borne his share in having his feet, fingers, and other portions of his body frozen. He was also one of those whom the bears, very savage in the region about the Great



Falls of the Missouri River, seem to have delighted in running into trees and holding there as prisoners for long hours.

Bratton's Discharge, 1813.

As Sergeant Floyd is noted as the only one of this expedition who died, so Bratton, one of the candidates for Floyd's position, stands out prominently as the only man who was seriously ill for a long time.

This experience he seems not to have related to his family, and as it was a rather remarkable one, I have picked it out from the records of the party as given by Doctor Coues.

When the expedition reached the Pacific Coast, Bratton was one of the five men sent to the seaside to evaporate the sea water in order to obtain a supply of salt.

The men left Fort Clatsop on December 28, 1805. On February 10, 1806, Bratton and Gibson were reported as quite sick, and on February 15th the men returned to Clatsop. Gibson had fever, and Bratton was suffering from lumbago, apparently. The journal of February 15th states, "Bratton is still weak and complains of lumbago, which pains him to move. We gave him barks," evidently, from what follows, a decoction made from the bark of some tree or trees and tonic in its nature. Then follow "Dr. Scott's pills" and, on March 7th, a good rubbing from a prepared liniment of alcohol, camphor, castile soap, and laudanum. The latter benefited the patient considerably for a time, but he again grew weaker, so that on March 21st, two days before the return

FAMILY RECORD.

BIRTHS.

William Bratton
 was born July 27th 1815 in survey Co. Augusta County Virginia

Record of Bratton's Birth, Written by Himself.

*Prospector's
Camp in Buffalo
Hump Country
Buffalo Hump
Mountain in
distance.*



*Elk City,
Idaho.
In heart of
Buffalo Hump
Country.*

journey was begun, his recovery was doubtful.

When the party, traveling in canoes, passed the Dalles of the Columbia River, April 15th to 21st, Bratton was unable to walk, and in going overland from the present Celilo Falls, he was the only man, seemingly, who

rode, the others going afoot because of scarcity of horses.

He made the trip successfully to Camp Chopunnish on the Clearwater River. This point was near the mouth of the present Lawyer's Cañon Creek, and the party's route up the Clearwater has

since been followed by the Northern Pacific, its Clearwater branch extending from Lewiston up to and beyond the point reached by Lewis and Clark.

Bratton regained his flesh but not his strength, and finally heroic treatment was decided upon, and, as it was a terrible ordeal, one borrowed from the medical practice of the Indians and remarkable, in this case, for its results, I transcribe from Lewis and Clark's journal their own account of it:

"Besides administering medical relief to the Indians we are obliged to devote much of our time to the care of our own invalids. The child of Sacajaweah [an Indian squaw who made the perilous journey with Lewis and Clark and proved of great value to them] is very unwell; and with one of the men [Bratton] we have ventured an experiment of a very robust nature. He has been for some time sick, but has now recovered his flesh, eats heartily and digests well, but has so great a weakness in the loins that he can not walk or sit upright without extreme pain. After we had, in vain, exhausted the resources of our art, one of the hunters [Shields] mentioned that he had known persons

in similar situations to be restored by violent sweats, and at the request of the patient we permitted the remedy to be applied. For this purpose a hole about four feet deep and three in diameter was dug in the earth, and heated well by a large fire in the bottom of it. The fire was then taken out and an arch formed over the hole by means of willow poles, and covered with several blankets so as to make a perfect awning. The patient being stripped naked, was seated under this on a bench, with a piece of board for his feet, and with a jug of water sprinkled the bottom and sides of the hole, so as to keep up as hot a steam as he could bear. After remaining twenty minutes in this situation, he was taken out, immediately plunged twice in cold water, and brought back to the hole, where he resumed the vapor bath. During all this time he drank copiously a strong infusion of horse mint, which was used as a substitute for seneca root, which our informant said he had seen employed on these occasions. * * *

At the end of three-quarters of an hour he was again withdrawn from the hole, carefully wrapped, and suffered to cool gradually. This operation was performed yesterday; this morning he walked about and is nearly free from pain."

This kill or cure process seems to have effectually cured, for Bratton rapidly recovered, and was soon able to perform his regular duties.

On the Clearwater River above Lewiston.



Ranch in Clearwater Valley, Idaho.



View of Salmon River, Idaho, from State Bridge.



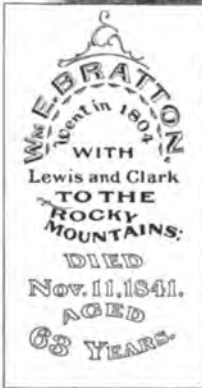
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Main Street, Lewiston, Idaho. Lewiston is the metropolis of the Clearwater Country.

His illness extended over a period of about four months, the first mention of it being February 10, 1806, and the last, June 5, 1806, but no permanent ill effects seem to have resulted.

The region where this experiment was ventured upon was then

Monument over
remains of
Wm. Bratton,
Waynetown,
Ind.



and is now the home of the Nez Percé Indians, and, until comparatively recent years, has scarcely known the white man. The advent of the railway is changing all this. The valley of the Clearwater and the Camas Prairie country, hard by Lewis and Clark's Camp Chopunnish, is a remarkably fertile and easily tilled section, and is rapidly being occupied by white men; while farther south the well-known Buffalo Hump mining region bids fair to become noted even among phenomenal mining camps.

On the return journey, after crossing the Bitter Root Mountains, Bratton formed one of Captain Clark's party down the Jefferson and Yellowstone rivers, and he thus explored in 1806 the route along which the Northern Pacific laid its rails nearly eighty years later.

No portrait of Bratton is extant. It will be noted that his connection with Lewis and Clark's expedition is recounted on his monument.

It will at once be admitted that Bratton gave a full quota of service to his country, and now, when another historian shall recount the story of Lewis and Clark and their men, it will not be necessary to place after Bratton's name the words "no more known of him."

The E in Bratton's name on the monument is evidently an error. His descendants so maintain and are ignorant as to how it happened to be placed there.



OVER THE SISKIYOU

THERE is no other trip like it in this country. Whether you go south from Portland or north from San Francisco, you are equally transfixed with astonishment and admiration. If I *had* to select the one or the other direction, I think it would be to go south from Portland. If the great army of winter tourists from the East, who winter in Southern California, knew of the wonderful scenery of Northern California, Oregon, and Washington, there would be little halting between two opinions — the Shasta-Northern Pacific route would be used by ninety-nine out of every hundred on their return home.

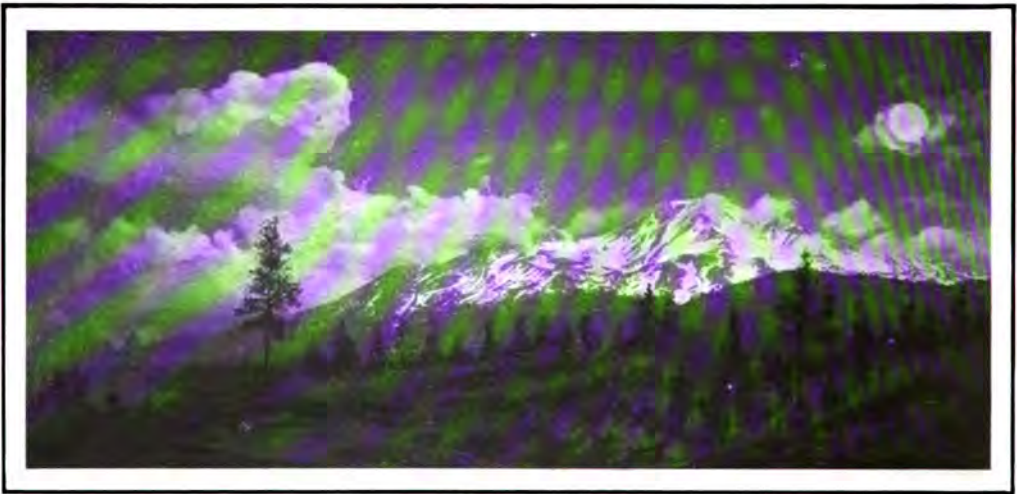
The Siskiyou — a queer yet attractive Indian name, isn't it? — Range is one of several sub-ranges that occupy the short interval between the Sierra Nevada and Cascade ranges proper. The whole region is one that abounds in fine scenery.

It is also a paradise for large game and for mountain trout. The country is sparsely settled, finely timbered, well watered, full of profound gorges and quiet valleys, and that the people of California and Oregon appreciate the wild beauty found here is shown by the fact that all along the Shasta Route through the mountains, there are resorts of one sort and another for tourists, campers, etc.

The carrying of the rails across the Siskiyou Range afforded a fine chance to display the possibilities of civil engineering. For a long time the engineer was baffled, but at length the obstacles were overcome. There was much good country in California and in Oregon on either side of the Siskiyou, and in the early days San Francisco was the important and only city, practically, of the coast, and communication across the mountains was slow and difficult. A railway became a

necessity. Now Portland, Tacoma, and Seattle are large cities to the remote north, while Salem, Albany, Eugene, Roseburg, Grant's Pass, and Ashland are flourishing smaller cities nearer the range. The ascent, going south, is begun in the Upper Rogue River Valley. The train is a long one, hauled by two or three engines, with open observation cars at the rear in the summer season. The speed is not more than ten or twelve miles an hour; one can easily talk in his usual tone of voice, and there is lots of time for sight-seeing.

As the train climbs the flank of the range, the valley below gradually unrolls and reveals a scene rarely found. I don't think anyone ever gazed upon it without being profoundly affected. Its soft, natural curves and lines are just enough broken by the accessories of civilization to accentuate and render it tremendously impressive. Then comes the wildness of the mountains; the valley is shut out; the track and



Mount Shasta by Moonlight.

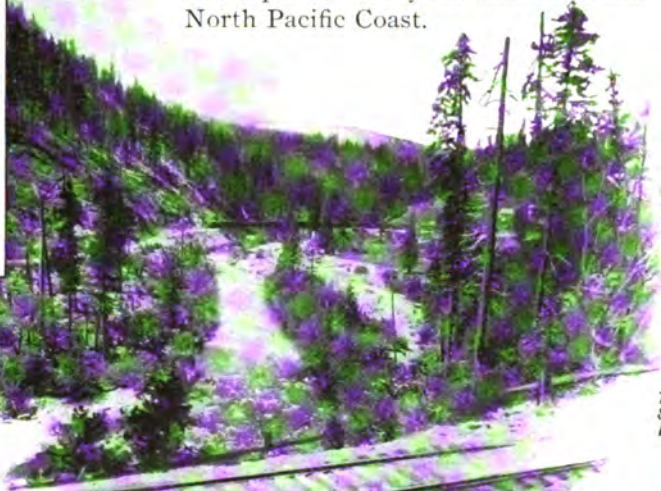
train twist along the steep flank; a few wild and rugged ravines are crossed on strong trestles; a few short tunnels, one or two of considerable curvature, add variety; prominent points are seen here one moment, there at another; and all the time we are slowly rising higher, higher, among the pines and beautiful madroña trees. We shift position from one side of the car to the other. Now we look up at the rough, jagged sides of the range, again glance down far beneath us and see two lines of shining rails, one below the other, and wonder if we have just come over them.

Then the summit and its tunnel are reached. A moment in darkness, and we emerge on the other side, the wheels click a little faster and we clatter down the mountain out of Oregon into California, with the engines holding back as hard as they tugged forward a few



At Shasta Springs. A fountain of natural soda water.

moments before. Scarcely have we cleared the tunnel's cavern before there bursts on the vision, far away to the south and left, a huge, white, domelike orb full of brightness, grandeur, majesty, and dignity. "What is it?" escapes from each lip. Some one familiar with the region responds, "Shasta," and so it is, the last one, going south, of that magnificent coterie of ice-covered peaks which charm and captivate everyone who visits the North Pacific Coast.



The Upper Sacramento River.

Let me enumerate some of them: Baker, Rainier, Adams, St. Helens, Hood, Jefferson, and last—Shasta! There are others, here and there, but these are the great monarchs, ranging from 9,750 feet elevation for St. Helens, to 14,350 for Shasta, and 14,532 for Rainier.

Shasta stands as a mighty recluse, robed about with an immaculate white toga woven from the mists of the ocean. The whole realm of mountain and valley bows humbly before this colossus. As the train somewhat swiftly speeds down the mountain in long, sweeping spirals, we keep the giant constantly in view. We have the vision before us all the afternoon, and as we drop to lower elevations and approach nearer and nearer to it, the height and magnificence of the spectacle grows on us.



The Siskiyou and Rogue River Valley with storm sweeping over them.

Shasta is one of the fine things of the passage across the Siskiyou, and the first glimpse of it from near the tunnel will never be forgotten, should one live for a thousand years. The whole scene is entrancing. The green-black forests, which in tremendous surges sweep up to where they meet the snow and glaciers, form a most conspicuous foreground or foundation for the white head and shoulders that commune with the clouds above.

When the Klamath River is reached, the Siskiyou are behind us, and new and varied beauties of river and mountain are before us. It is a wonderful journey, no part of which is finer than the crossing of the Siskiyou.

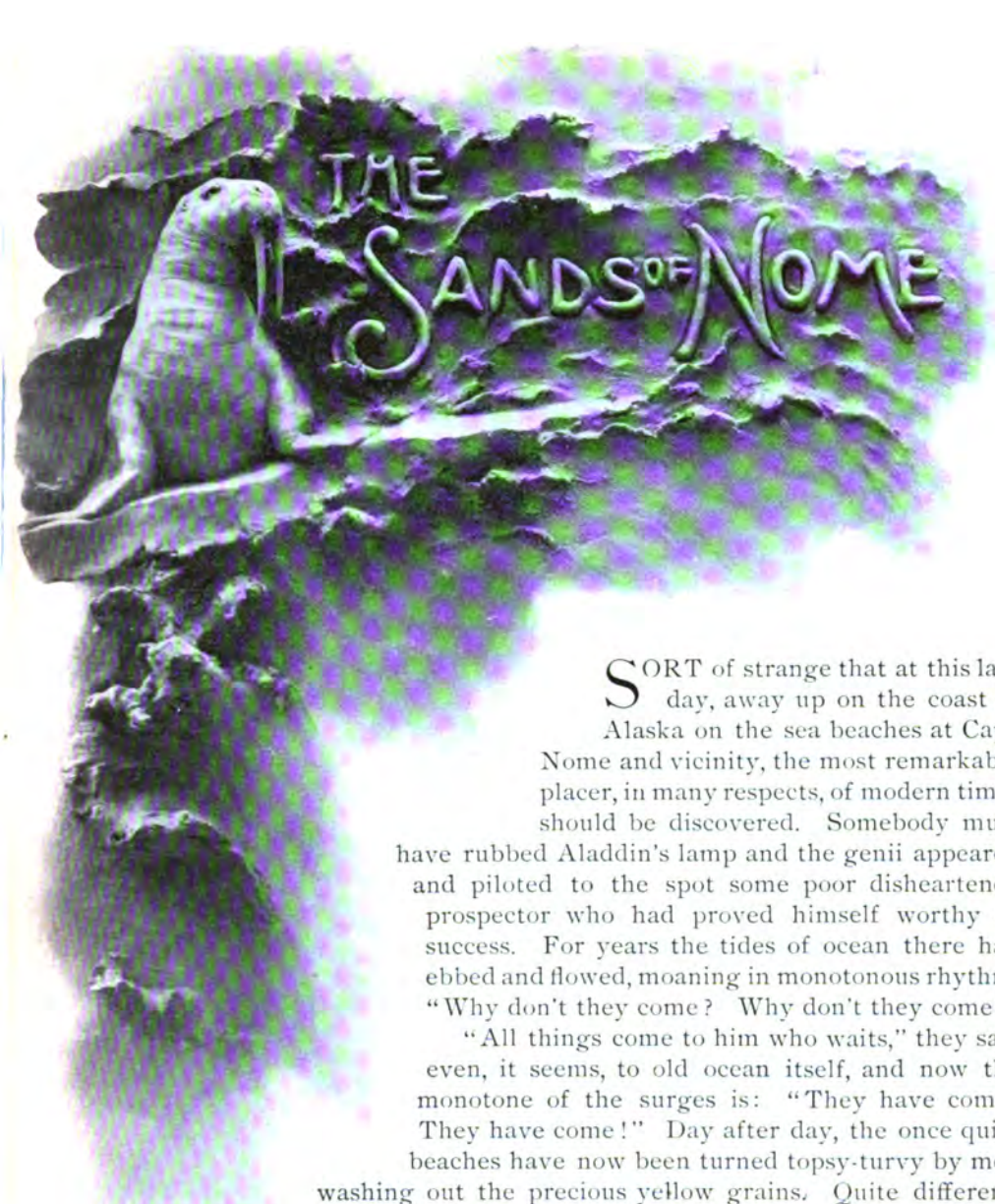
Going north from San Francisco the picture is, of course, practically the reverse of the one given.

First comes the ravishing scenery along the Upper Sacramento River, a stream too little known, and one of the purest, crystal mountain streams in the world. Chief of the glories of the Sacramento are the great granite crags, known as Castle Crags, noted far and wide on the Pacific Coast. I have thought many times that description of these was almost a hopeless task. They are *so* fine and impressive, rising so high above you in their clean, gray, cold, and august austerity that it seems almost sacrilege to write about them. One must see, *see*, see them; then one may know them. As the train slowly swings along at the base of them, the rippling river on the other side of the track, it seems as if they must break forth into speech; but a deep, lasting silence is theirs. Could they but talk, what stories of border warfare and hardship they could tell!

Until the autumn of 1900 a splendid hotel was located at Castle Crags, but fire destroyed it. As a camping spot, however, the place is a perfect one.

Beyond Castle Crags there follow rapidly other places, and particularly to be noted is Shasta Springs. Be ready to hasten to the fine spring when the train stops, and quaff the best soda water you ever tasted. Fill a bottle of it to enjoy when you are again rolling onward.

The climbing from the cañon to the realms above is a wonderful climb, from both an engineering and a scenic standpoint. Once out of the cañon Black Butte comes into view, and Shasta, and finally the Siskiyou themselves.



SORT of strange that at this late day, away up on the coast of Alaska on the sea beaches at Cape Nome and vicinity, the most remarkable placer, in many respects, of modern times should be discovered. Somebody must have rubbed Aladdin's lamp and the genii appeared and piloted to the spot some poor disheartened prospector who had proved himself worthy of success. For years the tides of ocean there had ebbed and flowed, moaning in monotonous rhythm, "Why don't they come? Why don't they come?" "All things come to him who waits," they say, even, it seems, to old ocean itself, and now the monotone of the surges is: "They have come! They have come!" Day after day, the once quiet beaches have now been turned topsy-turvy by men washing out the precious yellow grains. Quite different, this, from hard mountain-climbing among the gulches and hills where the ore has to be obtained by digging or blasting.

Verily, our old ideas of Alaska as a refrigerated, inhospitable region only will have to be changed.

We paid \$7,200,000 for this glacial land, and we have received from it to date certainly as much as \$120,000,000. And Congress higgled and haggled over the question as to whether we should buy it.

Cape Nome is a point on the north side of Norton Sound, about 125 miles beyond St. Michaels, the point of departure for the Yukon River steamers, and about 2,700 miles from Puget Sound. It is, therefore,

Shasta is one of the fine things of the passage across the Siskiyou, and the first glimpse of it from near the tunnel will never be forgotten, should one live for a thousand years. The whole scene is entrancing. The green-black forests, which in tremendous surges sweep up to where they meet the snow and glaciers, form a most conspicuous foreground or foundation for the white head and shoulders that commune with the clouds above.

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THE SANDSTONE



The sandstone is a fine-grained sedimentary rock composed of sand-sized mineral particles or clasts. The particles are cemented together by a natural process of diagenesis. Sandstone is one of the most common types of sedimentary rock. It is formed from sand grains that have been compacted and cemented together. The grains are typically composed of quartz, feldspar, and other minerals. Sandstone is used in a variety of applications, including as a building material and as a source of aggregate for concrete.



Lighters coming in from ocean vessels to beach at Nome.

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*Mouth of
Snake River,
Nome, Alaska,
looking west.*



*Front Street,
Nome, Alaska.*



*Interior of
Miners' Hut,
Nome,
Alaska.*



Views at Nome, Alaska.



*N. P. Ry.
Office,
Nome,
Alaska.*



*Beach at Nome
in Spring of
1900.*

not so much out of the world as one would think. The first discovery — by accident, as usual — was in July, 1899. In three months those Nome beaches had given up \$1,000,000. Along the coast northward the sands are more or less filled with gold, at many places being supposed to be as rich as those at



*Lighters coming in
from ocean
vessels to
beach at
Nome.*

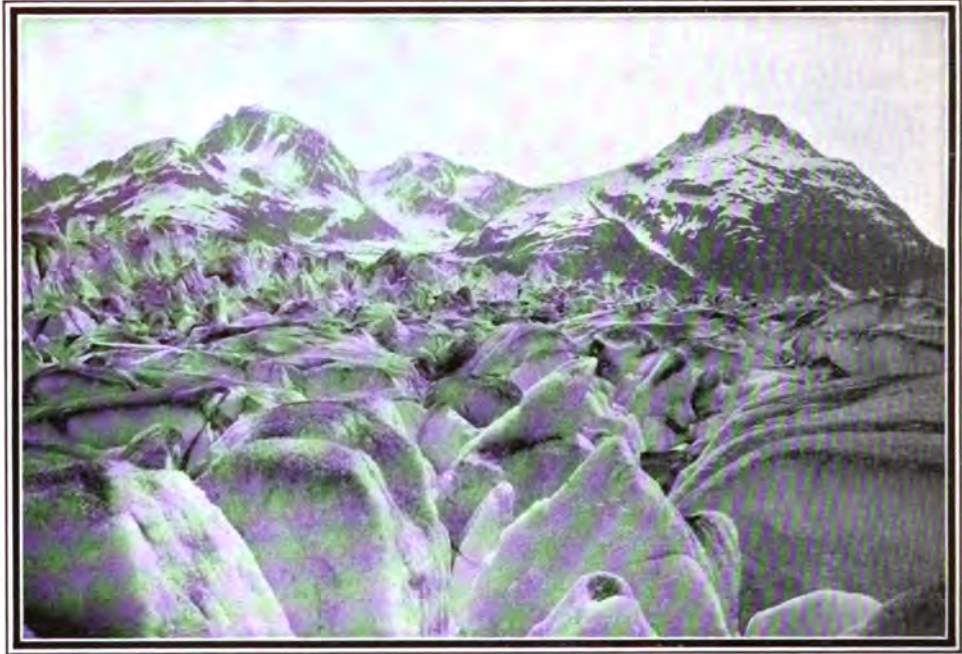
Nome. This region is entirely within American boundary lines, and steamship communication with Puget Sound ports quite frequent.

Climatic conditions are about the same as on the North Pacific coast, and clothing suitable to be worn there will answer for the Nome country.

The great significance of the Nome exploitation is in its probable effect upon the Alaskan region in general.

Alaska is probably only on the verge of its development. The land of gigantic glaciers is likely to prove a land of glittering gold as well.

Since the hegira consequent upon the Klondike discoveries great changes have come to Alaska. Little knots of prospectors have spread over it, searching out its hidden nooks and testing its ledges and streams for gold. The work is slow but the results will be valuable. Lines of railway, trails, and telegraph and telephone lines have been constructed. The Government is exploring the country, and is adding



*Top of
Muir
Glacier.
Seen by
the Tourist
on the
Alaskan
Trip.*

to our knowledge of its topography and geology. All these things mean development, and every steamer that comes to Puget Sound from the far north comes freighted with prospectors and gold.

The hardy sons of men who are camping for a time up there are doing yeomen's work. It requires fortitude and strong hearts to

develop such a land, but the ultimate results may be far greater than either they, or we, dream of. It will be found that all the ledges are not formed of gold quartz, nor all the streams of golden sands. But what has been found augurs well for the future.

There are now several lines of steamships between Puget Sound and Alaskan ports. The mere traveler and tourist may therefore make the pleasure trip to that region even



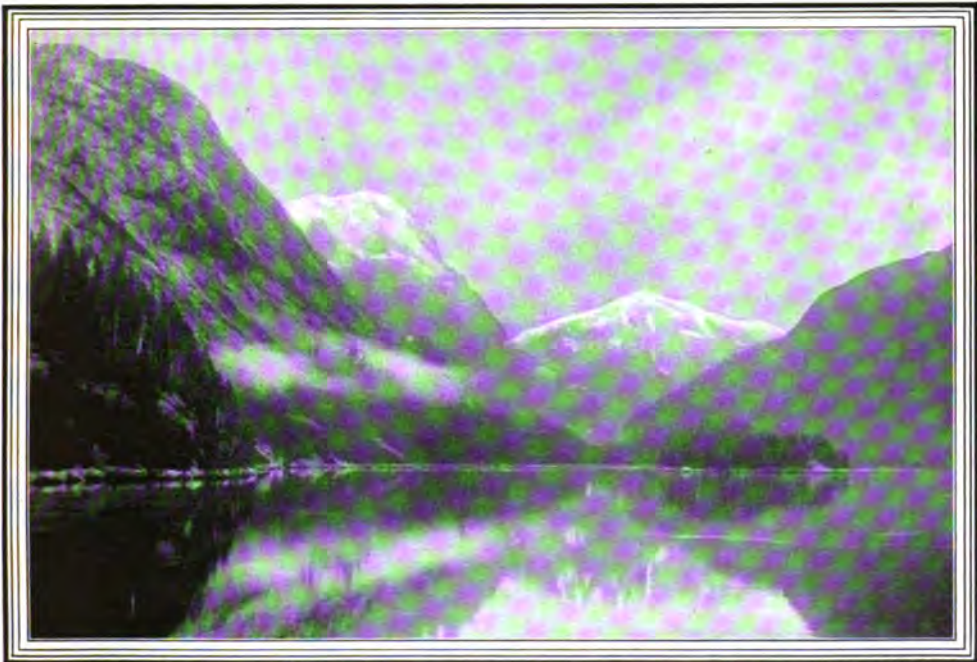
Greek Church, Unalaska, Alaska.

easier than heretofore, and gaze enraptured upon the grandest scenery of the globe, the great Alaskan mountains and their tremendous glaciers. Accommodations via these lines are entirely satisfactory, and reservations may be made through any Northern Pacific agent, east or west.

The excursion season extends from May 1st to September 30th. The steamers use the inland passage, thus avoiding the least sea sickness. Our Western Archipelago, as this is called, is destined to become one of the scenic and tourist resorts of the world. Tempered by the Japan Current, its coast climate is warm and moist, and at the feet of the great mountains and their glaciers is found a foliage almost or quite tropical in its luxuriance.

The glaciers break into the sea all along the coast, and a sight of the stupendous Muir Glacier, three miles wide, 250 feet in the air and 750 feet beneath the water, is one that can probably not be duplicated elsewhere.

The Alaskan Indians, with their curios, totem poles, quaint canoes, and primitive methods, form another interesting element in this tour of about 3,000 miles for the round trip.



Paradise Bay and Mount Emma, Alaska.

NORTHERN PACIFIC RAILWAY

Rates and Arrangements for the Tourist Season of 1901.

(SUBJECT TO CHANGE WITHOUT NOTICE.)

MINNESOTA SUMMER RESORTS

During the summer season the Northern Pacific Railway will sell round-trip excursion tickets from St. Paul or Minneapolis to Glenwood (Lake Minnewaska) at \$5.25; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$7.85; Backus, \$8.35; Walker, \$8.65; Bemidji, \$10.10; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan (Devil's Lake), \$18.65; Winnipeg, \$22.50. From Duluth to Deerwood, \$3.80; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$6.90; Backus, \$6.90; Walker, \$6.90; Bemidji, \$6.90; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan, \$18.65; Winnipeg, \$22.50. From Ashland, Wis., to Battle Lake, \$9; Fergus Falls, \$9; Pine River, \$8.40; Backus, \$8.40; Walker, \$8.40; Bemidji, \$8.40; Perham, \$9.25; Detroit Lake, \$10.65; Minnewaukan, \$20.15; Winnipeg, \$22.50. Good going to Minnesota resorts one day (from Ashland two days), to Minnewaukan (Devil's Lake) and Winnipeg two days from date of sale. Good to return on or before October 31st.

Round-trip summer excursion tickets will be sold from St. Paul, Minneapolis, or Stillwater to resorts on the "Duluth Short Line," as follows: Forest Lake, \$1; Wyoming, \$1.20; Chisago City, \$1.45; Russell Beach, \$1.55; Lindstrom, \$1.55; Centre City, \$1.60; Taylors Falls, \$1.80; Rush City, \$2.15; Pine City, \$2.55. Tickets on sale daily; limit, ten days. From St. Paul or Minneapolis to White Bear and return, 50 cents; Bald Eagle or Dellwood and return, 55 cents; Mahtomedi and return, 60 cents. Tickets on sale daily; limit, thirty days. Summer excursion rates from St. Paul, Minneapolis, or Stillwater to White Bear Lake points or Bald Eagle and return, tickets on sale week days, going and returning on date of sale, 35 cents; tickets on sale Sundays, going and returning on date of sale, 25 cents.

YELLOWSTONE PARK RATES

\$5 TICKETS.—On sale at Livingston, Mont., June 14 to September 14, 1901, inclusive. The \$5 ticket includes railway and stage fares Livingston to Mammoth Hot Springs and return.

\$47.50 TICKETS.—A \$47.50 round-trip ticket from St. Paul, Minneapolis, or Duluth to Livingston or Mammoth Hot Springs and return will be on sale at points named from June 12 until September 12, 1901, inclusive. Limit, good going thirty days, returning ten days; final limit, forty days. The return portion of ticket must be signed and stamped at Livingston, Cinnabar, or Mammoth Hot Springs, and presented on train on or within one day of such date. Stop-over allowed within limit of ticket.

\$49.50 TICKETS.—The \$49.50 ticket includes railway and stage fares Livingston to Cinnabar and return, stage Cinnabar to Mammoth Hot Springs, Norris, Lower and Upper Geyser Basins, Yellowstone Lake, Grand Cañon, and Falls of the

Yellowstone and return, and five and one-half days' board at the Park Association hotels. On sale at Livingston June 14 to September 14, 1901, inclusive.

\$44.50 RATE.—By payment of \$22 at Mammoth Hot Springs Hotel to the cashier of the Yellowstone Park Association, and \$22.50 to the manager of the Yellowstone National Park Transportation Company, having his office in this hotel, tourists not provided with regular Park tickets can secure transportation and hotel accommodations for the regular five and one-half days' tour.

Tourists who are not going west of Livingston should purchase the \$47.50 tickets to Mammoth Hot Springs and return, as the round-trip rates to Livingston and Mammoth Hot Springs are the same, while the rate from Livingston through the Park and return is \$5 higher than the rate from Mammoth Hot Springs.

\$105 TICKET.—This ticket covers rail transportation from St. Paul, Minneapolis, Duluth, or the Superiors to Cinnabar, stage transportation Cinnabar to Mammoth Hot Springs, Lower Fountain and Upper Geyser Basins, Yellowstone Lake, Grand Cañon, Falls of the Yellowstone and Monida, six and one-quarter days' board and lodging between Cinnabar and Monida, and rail transportation from Monida, either via Oregon Short Line R. R. and Union Pacific to Missouri River points, or via O. S. L. R. R. to Ogden, any line Ogden to Denver, thence via either the B. & M. R. R. R., Union Pacific, A., T. & S. F. Ry., C., R. I. & P. Ry., or Missouri Pacific Railway to Missouri River terminals.

This ticket will be on sale June 12th to September 12th, inclusive, and will be limited to thirty days going to Mammoth Hot Springs and thirty days returning, with final limit of sixty days from date of sale.

\$85 TICKET.—This ticket covers rail and stage transportation only (no meals or lodging being included therein) for the same tour as the \$105 ticket. Limits, selling dates, and other conditions, except as noted, will be same as for \$105 ticket.

For \$3 extra, the \$44.50, \$49.50, \$85, and \$105 Park tours will be made to include steamboat ride on Yellowstone Lake, from the Thumb to Lake Hotel, via Dot Island.

The trip through the Park must be completed by September 19, 1901.

MONTANA, EASTERN WASHINGTON, AND EASTERN BRITISH COLUMBIA POINTS

The Northern Pacific Railway has on sale, at greatly reduced rates, round-trip excursion tickets from St. Paul, Minneapolis, or Duluth to Billings, Springdale, Livingston, and Bozeman, Mont.; Helena, Butte, and Anaconda, Mont. (choice of routes returning, via Northern Pacific or Great Northern Railway Lines); Missoula, Mont.; Spokane, Wash. (choice of routes returning, via Oregon Railway & Navigation Company and its connections, or via the Great Northern, or Northern Pacific Lines); Medical Lake, Pasco, Kennewick, and Toppenish, Wash.; Nelson, Trail, Rossland, Ainsworth, Kaslo, and Sandon, B. C., and Coulee City, North Yakima, and Ellensburg, Wash.

These tickets are of iron-clad signature form; require identification of purchaser at return starting point.

Any of the above tickets may read to return via Billings to the Missouri River, either direct or via Denver and any direct line except the Union Pacific Ry.

NORTH PACIFIC COAST EXCURSIONS

A \$90 round-trip individual excursion ticket, St. Paul, Minneapolis, or Duluth to Tacoma, Portland, Seattle, New Whatcom, Vancouver, or Victoria, is on sale daily at points first named and by Eastern lines.

Tacoma, Seattle, New Whatcom, Victoria, Vancouver, or Portland tickets, at above rates, will be issued, going via Northern Pacific, returning via same route, or Great Northern, or Soo-Pacific to St. Paul, Minneapolis, or Duluth; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River, either direct or via Denver and any direct line except the Union Pacific Ry.; Portland tickets will also be issued, returning via Oregon R. R. & Navigation

Company and its connections to either Omaha or Kansas City, or to St. Paul via Sioux City.

Above tickets limited to nine months from date of sale, good, going trip, sixty days to any one of North Pacific Coast termini named, returning any time within final limit.

ALASKA EXCURSIONS

An excursion ticket will be sold from Eastern termini named to Sitka, Alaska, at \$150, which rate includes meals and berth on the steamer. Tickets on sale May 1st to September 30th. Limit, nine months. Going to Tacoma, sixty days, returning within final limit, holder to leave Sitka on or before October 31st. Tickets will be issued to return either via the Northern Pacific, Soo-Pacific, or Great Northern lines to St. Paul or Minneapolis, or via Canadian Pacific Railway to Winnipeg or Port Arthur, or via Billings to the Missouri River, either direct or via Denver and any direct line except the Union Pacific Ry. Usual stop-over privileges granted. Steamer accommodations can be secured in advance by application to any of the agents named on appended list. Diagrams of steamers at office of General Passenger Agent at St. Paul. Steamers call at Glacier Bay during June, July, and August only.

CALIFORNIA EXCURSION RATES

The Northern Pacific Railway will sell round-trip excursion tickets from St. Paul, Minneapolis, or Duluth as follows:
To San Francisco, going via the Northern Pacific, Seattle, and steamer, or Portland and the Shasta Route, or the ocean to San Francisco; returning via rail or steamer to Portland, or via steamer to Seattle, and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis, or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River, either direct or via Denver and any direct line except the Union Pacific Ry.; or via rail or steamer Portland and Huntington to the Missouri River; or returning by the southern lines to Council Bluffs, Omaha, Kansas City, Mineola, or Houston, at \$103.50; to New Orleans or St. Louis, at \$109.50.

To Los Angeles, going via Portland and Shasta Route, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Billings or Huntington to the Missouri River, at \$122.50; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$113; to St. Louis, at \$119.

To San Diego, going via Portland and rail through Los Angeles, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings or Huntington to the Missouri River, at \$129; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$119.50; to St. Louis, at \$125.50.

Tickets via ocean include meals and berth on steamer.

At the eastern termini of the southern transcontinental lines excursion tickets will be sold, or orders exchanged, for tickets to San Francisco, returning via either the Shasta Route, the all-rail line to Portland, or the ocean and the Northern Pacific to St. Paul, Minneapolis, or Duluth, at a rate \$13.50 higher than the current excursion rate in effect between Missouri River points, Mineola, or Houston and San Francisco. The steamship coupon includes first-class cabin passage and meals between San Francisco and Portland.

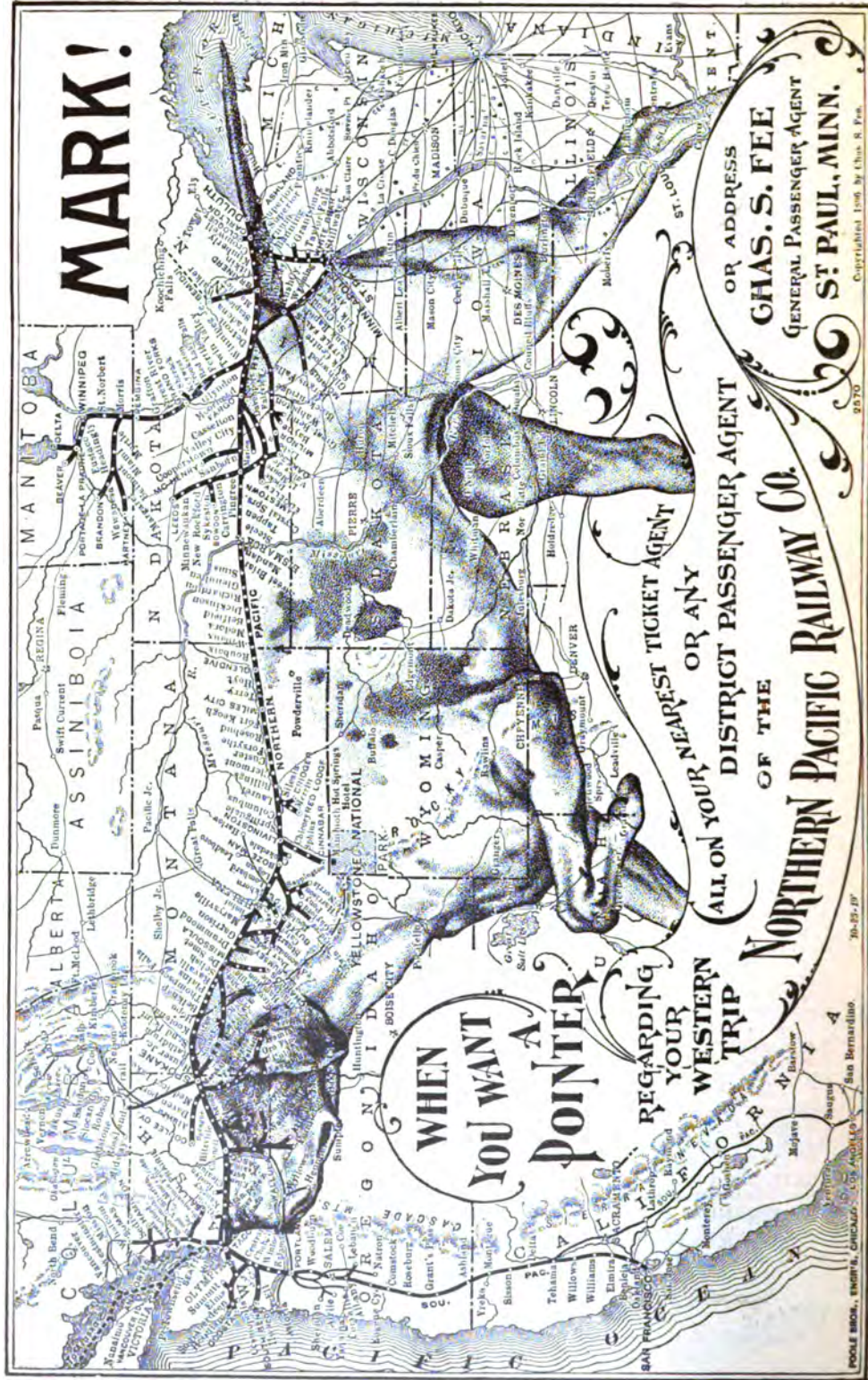
These excursion tickets allow nine months' time for the round trip; sixty days allowed for west-bound trip up to first Pacific Coast common point; return any time within final limit.

NOTE.—Double Daily transcontinental passenger train service commencing May 5, 1901. Reserve your accommodations on the "NORTH COAST LIMITED" — the most complete railway train in the country.

GENERAL AND DISTRICT PASSENGER AGENTS.

BOSTON, MASS.—279 Washington Street. C. E. FOSTER.....	District Passenger Agent.
BUFFALO, N. Y.—215 Ellicott Square. W. G. MASON.....	District Passenger Agent.
BUTTE, MONT.—Cor. Park and Main Streets. W. H. MERRIMAN.....	General Agent.
CHICAGO—28 South Clark Street. F. H. FOGARTY.....	General Agent.
CINCINNATI, OHIO—40 East Fourth Street. J. J. FERRY.....	District Passenger Agent.
DES MOINES, IOWA—503 West Locust Street. GEO. D. ROGERS.....	District Passenger Agent.
DETROIT, MICH.—153 Jefferson Avenue. W. H. WHITAKER.....	District Passenger Agent.
DULUTH, MINN.—332 West Superior Street. J. O. DALZELL.....	General Agent.
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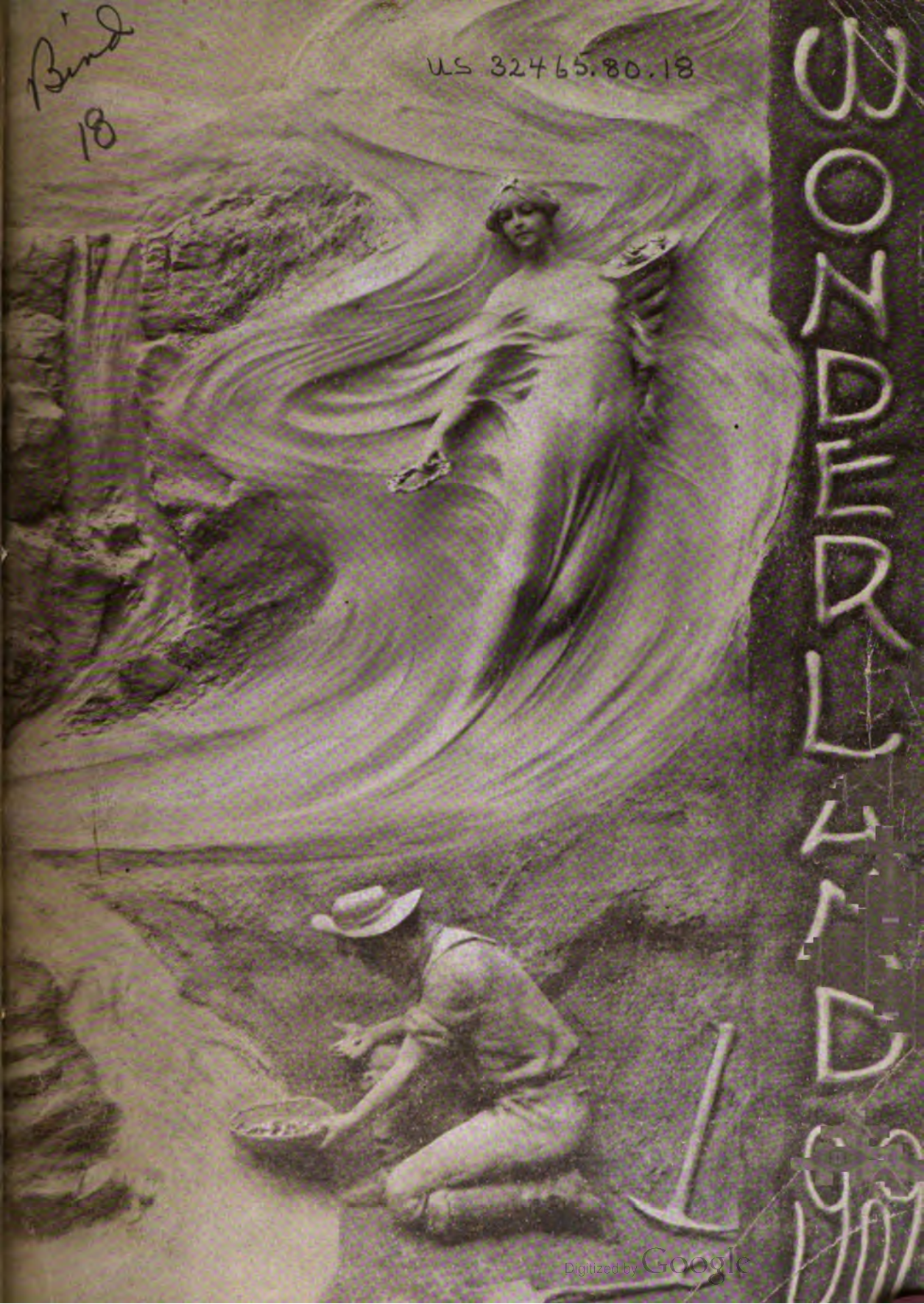
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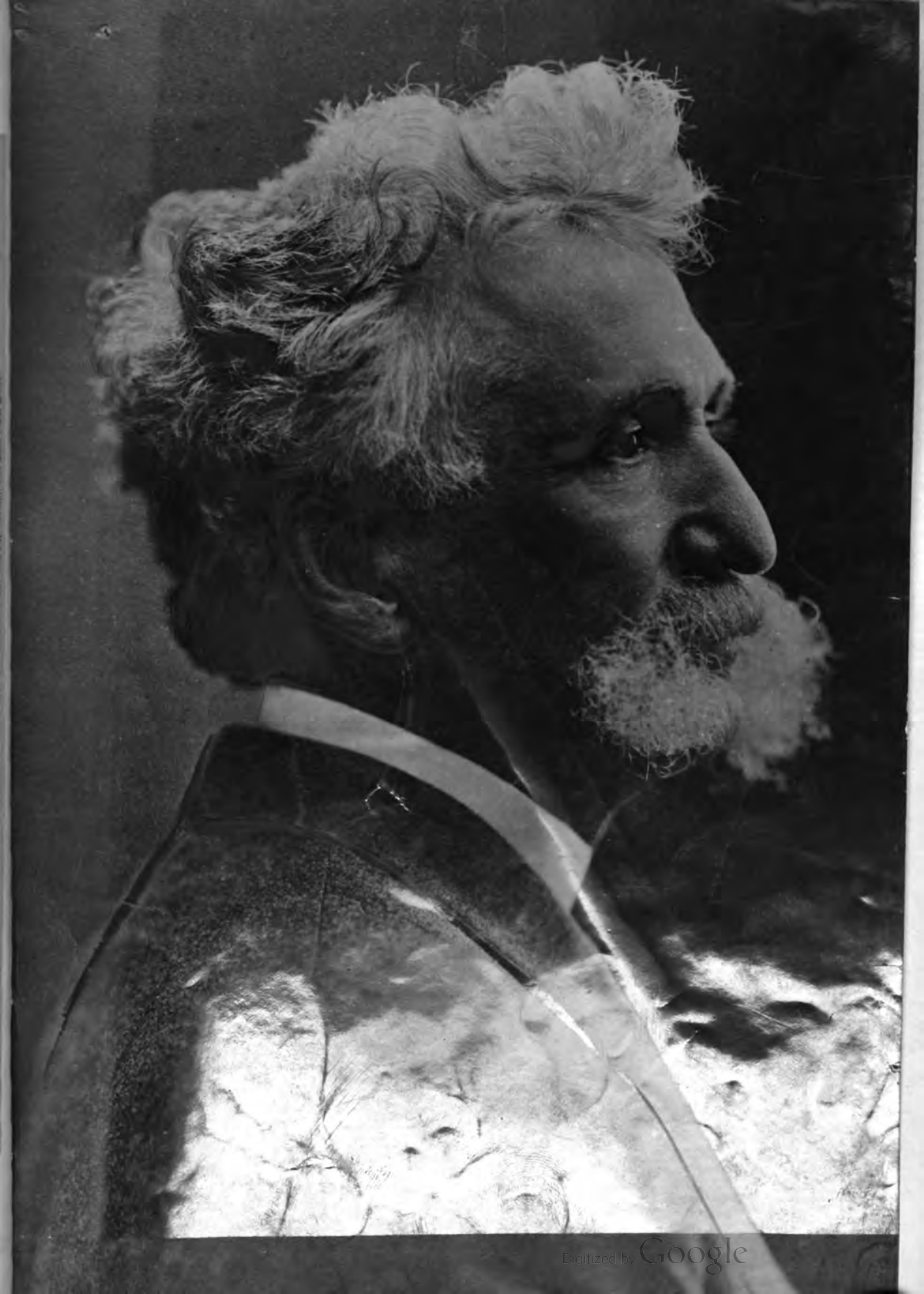
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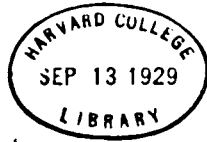
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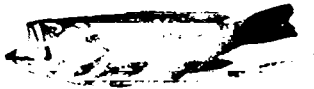
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THE MORaine OF THE GLACIER

“THIS is grand!— 'tis solemn!— 'tis an edication of itself, to look upon! not a tree disturbed even by redskin hand, as I can discover, but everything left in the ordering of the Lord, to live and die according to His own designs and laws!” Thus spake Fenimore Cooper's Deerslayer when first he looked upon the waters of Lake Otsego 150 years ago. Could Deerslayer stand to-day upon the shores of any one of a thousand Minnesota lakes, he could almost with truth and propriety repeat his statement. This, however, is but a half truth. As the region about Otsego in Deerslayer's time was debatable ground between the Delaware and the Mingo, so in later times the Minnesota lake region was common fighting ground between the Sioux and Ojibway. While all this is now changed, and in many places the white man and his civilization have dispossessed the red man, in yet other places and on other lakes the solitude is still as unbroken as when the Ojibway and Dakotah—Sioux—hunted each other's scalps. In general, however, where once the Indian and his birch bark canoe skimmed the water, the white wings of fast scudding yachts now gleam in the sunshine; where the bark tepee then stood, the costly summer cottage now stands among the same old trees; where the Indian trails once threaded the hill and forest, the white man's roads and railways now run. The old hunting grounds are transformed into farms; sheep and cattle replace the deer and elk.

One of the real beauties of this wonderful Lake Park region is the juxtaposition hinted at. A few rods, perhaps, from a lake gay with summer humanity, lies another as quiet, retired, and fragrant with

primeval conditions as it was a century ago. The mold of a century's leaves lies under foot, the reflections of a century sink deep within the waters, the solitudes of a century weigh heavily about the shores. Thus all sorts of humanity find here that which suits them best. The dreamer may dream himself away into the past, another may drink only of the present, forgetting entirely that there is any past.

A rare old land is this Lake Park region, as it is called, with its limpid Otsegos, its cooling streams, its umbrageous woods, its beautiful rolling prairies—whence came its present form? of what fashion is its architecture?

Long before the Dakotah and Ojibway crossed their war-hoops the land was one of ice. From the far Northland, sweeping all before it, came the mighty, all embracing *glacier*.

How long it covered the land, we know not, as we count cycles, but when it gave up the ghost and retreated whence it came, it tumbled its tremendous load of debris pellmell, dumped it here, there, everywhere in irregular piles. These piles are our undulating hills and knolls; the hollows between have become our shimmering lakes. 'Tis enough, and 'tis well.

Between St. Paul on the Mississippi river and Duluth at the head of Lake Superior, is a trifle more than 150 miles. In the ancient days when the wigwam of the old Arrowmaker stood beside the falls of Minnehaha, it was a common thing for the Ojibway and the Dakotah to traverse this distance, when at peace, in interchanging visits. Sometimes they strode through the mazes of the forest as did Hia-

watha, again they pushed their canoes up the streams that flowed into Gitche Gumee, portaged across the intervening divides and then drove the birch adown the swift current into the Father of Waters. Now, the business man of Duluth or the Twin Cities traverses this distance in less than five hours, on the limited trains of the Northern Pacific's "Duluth Short Line." In comparing the present with the past, we may well exclaim, "What hath God wrought!"

One day's
catch of
black bass
near
Deerwood.



He bagged
this near
Deerwood.



Portage,
near
Deerwood.

A bird's-eye view of the Lake Park region shows that the Northern Pacific literally passes through the heart of this lake land. Its "Duluth Short Line" cuts across one part of it; its line to Brainerd, in conjunction with the Minnesota & International, penetrates the very wildest and most picturesque portion; the main line, through Staples,

Wadena, and Detroit, opens up still another section, while the line running westward from Ashland, Duluth, and the Superiors, through Deerwood and Aitkin, affords still another way of reaching the glorious hunting and fishing grounds of the region.

If one were to undertake to point out the beauties of any considerable number of these lakes, varying as they do individually, it would require a volume. We, therefore, draw attention to a few of the more important.

And first a word about the great cities, the termini of this railway and the throbbing centers of action of the middle Northwest.

ST. PAUL AND MINNEAPOLIS.

St. Paul, so named from a little log chapel erected on the bluffs near the river by the Catholics in the early days and called St. Paul's, is the capital of Minnesota and a great and growing city. Its spacious shaded avenues, asphalted streets, beautiful parks, costly bridges, fine buildings and residences of refined architecture, show the accompaniments of a large city. The site is one of unusual beauty upon both sides of the Mississippi river, here flowing between noble bluffs.

A few miles up the river lies Minneapolis, St. Paul's companion city. What is said of the former may, in a general way, be said of the latter. And yet the cities are entirely different. Minneapolis lacks the St. Paul hills, has wider streets, large flouring mills that have made it noted the world over, and the fine water power of St. Anthony Falls, so named by Father Hennepin, the wandering Franciscan priest. Between the cities are the beautiful Minnehaha Falls, a most delightful spot and park, and Fort Snelling, one of the oldest and most picturesque military stations in the United States. Electric cars rapidly carry the tourist from the center of either city to these spots, or to Indian Mounds or Como Park in St. Paul, or to Lakes Harriet and Calhoun in Minneapolis.

DULUTH AND SUPERIOR.

At the northern end of the "Duluth Short Line," on the shores of mighty Lake Superior, lie Duluth and the Superiors. Here again are growing cities touching elbows, yet very different. Duluth, named after an old and early explorer, picturesquely clings to the bluffs,

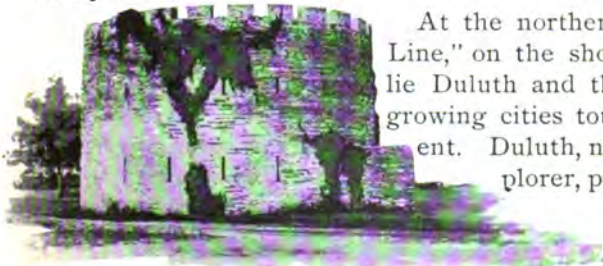


*Old
block house,
Fort Snelling.
Erected 1820.*



*Minnehaha
Falls.*

*Old
tower,
Fort
Snelling.*



while Superior spreads abroad over the flat expanse that lies back of the several bays that run in from the lake. Ambition and metropolitanism are written over every feature of each city. The immense coal docks, elevators, flouring mills, and lake vessels at the wharves and docks, and in the offing, are all that are needed to emphasize almost any statement made by the enthusiastic Duluthian or Superiorite as to



*Central Park
and
heart of
retail
business
section of
St. Paul.*

the future greatness of these Siamese-twin like cities.

Proctor Knott gave this head of the lakes region—and, indeed, Minnesota—a reputation and made it famous, by a certain humorous speech delivered in Congress long years ago when both Duluth and Superior were straggling villages. Now, the region reciprocates Knott's favor, by keeping his memory green through circulating his speech for the value afforded by its statements in a contrasting sense.

Duluth and Superior now have no need of Knott; without them Knott would be forgotten.

WHITE BEAR AND BALD EAGLE LAKES.

Just eleven miles from the Union Station, St. Paul, lies the lake known among the Indians as the lake of the White Bear. It is St. Paul's summer resort, a beautiful sheet of water entirely free from rocks, shoals, or other obstructions, and furnishing an ideal yachting course. Its dimensions—four miles long by two miles wide, covering some 2,200 acres in extent—hardly convey an idea of its apparent size. Its shore line is very irregular, beautifully wooded and turfed, and with various summer resorts and club houses dotting it. Manitou Island is an aristocratic isle of royal cottages, curving drives, and old-time trees.

The White Bear Yacht Club has, within recent years, won fame for itself and White Bear lake. Herreshoff, the celebrated builder, sent one of his boats here, only to have it defeated by boats built at Minnetonka and White Bear.

With the first betokenings of summer—April 1st to May 1st—the hundreds of St. Paulites owning summer homes at White Bear lake,

*Gates Ajar,
Como Park, St. Paul.*

hie themselves thither to remain until "school begins" in the fall. On holidays and warm Sundays St. Paul moves to White Bear and contiguous lakes. So heavy is this suburban traffic that a double track is necessary between St. Paul and the lake.

Hotels and boarding-houses are usually filled during the season. Bass, pickerel, pike, etc., are found in the lake, but boating is perhaps the chief attraction; large fleets of launches and row boats are kept for hire at reasonable rates.

The railway practically skirts the lake upon three sides. A branch line to Stillwater on the lower St. Croix river, leaving the western side of the lake at White Bear station, winds around the northern shore through Dellwood and Mahtomedi, two delightfully located lake resorts, thus bringing into communication with each other, and with the Twin Cities, the different parts of the lake.

On Sundays and holidays cyclists swarm over the cycle paths between St. Paul and the lake.

A tourist or traveler who spends a day or two in summer in St. Paul or Minneapolis should arrange to spend an hour or two, at this delightful Northwestern resort.

Only one mile beyond White Bear is a smaller, more quiet,

attractive lake where, in the olden time, the bald eagle raised its young. Here



Court House, Minneapolis.

another contingent of St. Paulites hurries at the first approach of summer. Here, too, are boating, fishing, and bathing to be found. Many who desire quiet and privacy have set up their summer household gods on the wave-rippled shores of Bald Eagle.



THERE ARE OTHERS.

Twenty-five miles from St. Paul lies Forest lake, whose name reveals the character of its shores. Between Bald Eagle and Forest lakes are many small lakes, places where one may pitch a tent and rusticate, or stop at farmhouses and "be one of the family."

In Loring Park, Minneapolis.

At Forest lake there are three hotels, as many lakes close at hand, and plenty of fish. We are now far enough away from the city so that



the fishing grows better. The lake is four miles long and a mile wide, and good bass, pickerel, and pike fishing are found. Near by, in the streams tributary to the St. Croix river, there are trout, and in the season, good prairie chicken, partridge, and duck shooting may be enjoyed. At Forest lake one is fairly surrounded by lakes, so that if one tires of one of them, another can easily be found to relieve the monotony.

Forest lake is far enough away from St. Paul and Minneapolis so that those who prefer to get as far from the madding crowd and as close to country life as possible, and yet easily and quickly reach the city when occasion demands, can each and all be satisfied.

Like the wandering Jew we move on, and a farther ride of twenty-eight miles brings us to Rush City and lake. This country is being rapidly settled, large crops of hay and potatoes are raised, and the towns are growing into cities, as many hope.

Just west of Rush City lies Rush lake, four miles in length, two miles in width. This beautiful sheet of water has a shore line of forty miles and more, and is set in a region of unusual beauty. Two smaller lakes—Goose lake being the larger—near by form with Rush lake

a trio of lakes hard to surpass for fishing and recreation. This region is largely unknown to the majority of anglers, and those who penetrate

it are rewarded in a royal way.

At Rush City a branch line extends eastward, crossing the picturesque St. Croix river and continuing on to Grantsburg in Wisconsin.



White
Bear
Yachting
Association dock.
A calm evening.



Copyright, 1901, by Crandall & Fletcher, Duluth, Minn.

Ten miles north from Rush City is Pine City. This means that here pine trees with their health-giving odors abound. The nearer we approach Lake Superior the more we penetrate a wide zone that seems to possess the qualities of a sanitarium. Although the lumbermen have created havoc in the apparently illimitable expanse of pine timber that once decked this region, there are still large areas of trees remaining.

Here, those whose lungs need the tonic properties found among pine forests, and those to whom hay fever is a hideous nightmare, may come, certain that Nature will afford relief and build them up. Here, too, they may find unbounded enjoyment and recreation among the many lakes and streams. Po-keg'-ama lake, Cross lake, Snake river, and Mission creek, are a few among many that minister to man's recreation and piscatorial tendencies. Bass, pike, and pickerel are found in the waters, and the wild fowl breed here during the season.

Northward in an air line the train flies, through Hinckley—the tragic scene of that terrible forest fire, and now spreading itself in new clothes and hiding the scars that that fiery baptism inflicted—on through other towns and a land where lakes lie scattered like drops of dew upon the grass—on, across and by the side of Kettle river, to where the road curves northeastward toward mighty Superior. Here, among others, are two large lakes, Sturgeon and Moose lakes, well stocked with the finny tribes and standing lures to the angler.

For the entire 150 miles of this line of railway, lakes are found in nearly every depression. They reach far back from the railway, those mentioned being but typical of thousands of others.

At Wyoming, twenty-nine miles from St. Paul, a branch line diverges, reaching the St. Croix river at Taylor's Falls. Midway between Wyoming and Taylor's Falls lies what, I believe, is conceded to be the gem system of lakes of this immediate region. There are five of them, a cluster of Nature's emeralds known collectively



Yachting on White Bear lake.

as the Chisago lakes, individually as Green, Big, Lindstrom, Chisago, and Sunrise lakes.

Nature has been lavish in her favoritism hereabouts. Standing upon some commanding point, one follows, with the eye, a bending shore line black green with the cool woodland whose roots drink the



At
Lindstrom,
on Chisago lakes.

refreshing waters that, like a silvery sheen, flash and play in the sunlight, receding and still receding into distance until hidden behind some other wooded crest. Deep bays indent the periphery of the lake, forming cool retreats where lovers delight to linger and pluck from the black ooze the water lilies that fleck the broad acres of the surface.

A field, a herd of cattle, a tapering spire, the flashing oars of a far-away boat, an humble farmhouse, a bit of railway track, an island, each and all throw variety into the scene and, in autumn, the play of color upon the slopes and hilltops intensifies one's longing that it might last forever, that life might be one long holiday.

It is difficult to depict in cold type and descriptive phrase the innate charm of this series of lakes. There are some bits of landscape so winsome and soul-reaching, if I may thus use the expression, and yet, when analysis is attempted, so subtle and elusive, that one can not express wherein lies the charm that casts so deep a spell.

The wielder of the rod finds every opportunity for gratifying his passion on the Chisago lakes. If for any reason the finny tribes of one lake are in league against him, those of another will give him all the fighting he wishes. The water fowl, geese, mallards, teal, etc., hatch their young here, and the shot gun as well as the rod is a part of one's outfit.

Man has aided nature by constructing hotels at which the world-weary from the great cities may sojourn, and *rest, REST, REST*. Chisago City, Lindstrom, and Center City are points at which the tourist may stop.

Most of these lakes are either connected by small streams that a row boat or canoe can be taken through, or are so near together that short and easy



Black
bass,
Chisago
lakes.



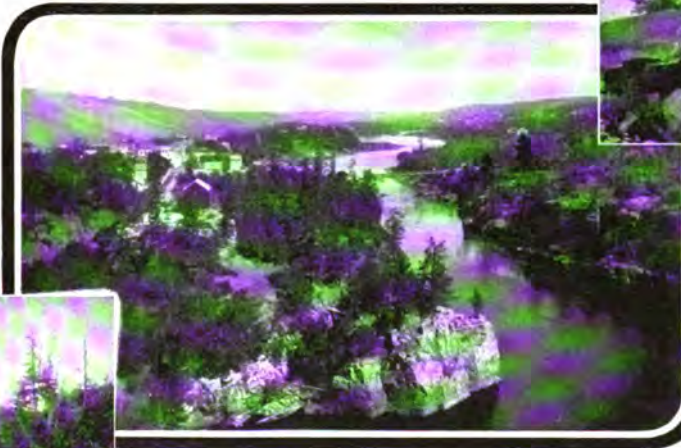
portages will enable one to transfer himself and belongings from one to another.

If one desires, the hotels can be forsaken for a time and camp life substituted. Camp life on Minnesota lakes, under Minnesota skies, is deserving of consideration.

DALLES OF THE ST. CROIX AND INTER-STATE PARK.

The terminus of the lateral road that leaves the "Duluth Short Line" at Wyoming is in the midst of a region very attractive to scientific men, because of its geologic interest. Taylor's Falls is equally interesting to the superficial observer who looks upon the striking rock figures simply as a matter of curiosity, and to the student who gazes upon them as a wonder-

*A
pothole
in
Inter-
State
Park.*



*The
Sentinel
of the
Dalles.
A
wonderful
profile.*

*Bird's-
eye
view of
Dalles of
St. Croix
river.*

ful exhibition of Nature's methods of work and manufacture. To its natural and unadorned beauty another feature has been added. The States of Minnesota and Wisconsin, together, have taught a new lesson in parkitecture. With a broad-mindedness and liberality worthy of imitation they have set aside the land upon both sides of the St. Croix river—the boundary between the States—as an Inter-State Park. Within this area of about four hundred acres are the Dalles of the St. Croix and the richly carved and eroded bluffs bordering them. Under the direction of competent landscape architects such work as is necessary and advisable has been and is being done to make the park more attractive. Nature is not being outraged but assisted by man to improve, for man's own uses, what otherwise would remain more or less impossible of application to his highest use and enjoyment.

The St. Croix river is about 150 miles in length, of which 100 miles are above Taylor's Falls. For six miles above this point the river is a series of rapids. Le Sueur, the old explorer, who first mentioned the river by its present name in 1700, states that it was named after a Frenchman who lost his life at the mouth of it.

Clarke lake.
A gem in the
Leech lake
country.



The river as it exists to-day is claimed by Warren Upham, the well-known geologist, to be a relic of the Glacial Period or Ice Age, and to be, say, 8,000 years old. Two causes have combined to produce the peculiar scenic effects at the Dalles. The first was a great outburst of lava; the second, the existence of an enormous glacier that covered the country. When the latter

melted, a stream was born that forced its way across the lava ridge or dike, and for 8,000 years it has been slowly but remorselessly cutting its way downward and eating away the obstruction.

Much variety exists in the rock sculpture here, which is largely due to the character of the rock. The lava or trap, by which name it is commonly known, is very hard, and its cleavage planes are vertical. Ordinary weathering affects it but slightly, but the erosion and undermining by the river and the action of frost have largely produced the quaint effects.

Seen either from the bluffs or the river—for the latter at the Dalles is deep and the current scarcely noticeable, so that rowing and boating are perfectly safe—these cliffs are strikingly picturesque. If in the Eastern States, they would be visited by thousands yearly.

As usual the devil appears upon the scene, and the Devil's Chair is one of the most imposing columns of rock to be found. This column is, from some positions, very conspicuous and chair-like. Near it, higher up the bluff, is Pulpit Rock, serving somewhat to mitigate the evil atmosphere of the devil's presence. From Pulpit Rock, the angel Gabriel can, if he choose, thunder anathemas against the supposed occupant of the chair below him.

The Old Man or the Sentinel of the Dalles is a most remarkable profile—would be remarkable anywhere. It is said to be the most perfect rock face and bust known. It strongly resembles the profile of Washington, is stern



Hauling logs
in the
Leech lake
country.



Ojibwa Indians
at Winnebigoishish lake.

and dignified as was the Father of his Country. To see this striking figure the easiest and best way is to hire a row boat and drift slowly along the river at the base of the cliffs. The guide will row the boat into an eddy just below the point whereon the profile stands, where it may be seen in all its dignity and majesty.

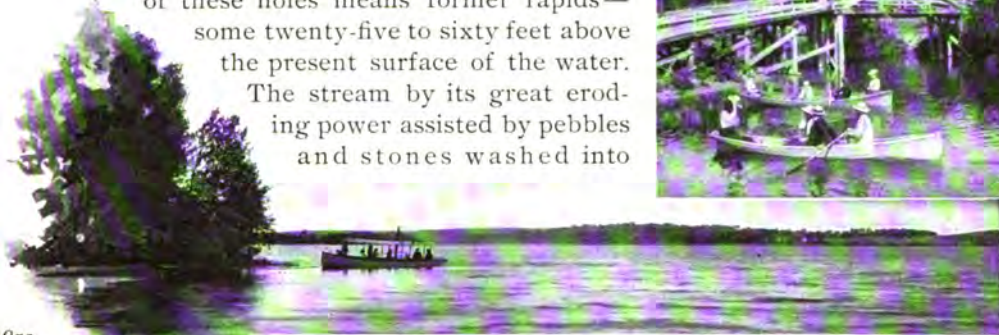
There is another peculiarity of river action that interests not only the thoughtful observer, but at once attracts the most superficial. Scattered about over the more level spaces of the rocks are many holes, like cisterns. These range from one and one-half feet in diameter and six feet in depth, to ten feet in diameter and ninety feet or more deep, and twenty or even thirty feet in diameter and ten feet or more in depth. The presence

of these holes means former rapids—some twenty-five to sixty feet above the present surface of the water.

The stream by its great eroding power assisted by pebbles and stones washed into



Near
Detroit
lake.



One
of the
Detroit
lakes.

what at first were small depressions, was able to excavate, slowly of course, these cisterns, or potholes, as they are known geologically. The force of the rapids, once these holes were started, kept the water, as it poured into them, whirling and boiling as in a maelstrom, and the stones, partaking of the circular motion, ground the sides and bottom larger and deeper as long as the power was applied. In many cases the small grinding stones and pebbles that were such important agencies in producing these potholes have been found in the potholes.

Substantial stairways and walks afford means of easily and safely moving about among the rocks.

The hotels are so satisfactory, the atmosphere so soft and balmy, the region a pine-timbered, healthful one, that with good fishing round about, and easy access to the cities, it may well be singled out by the summer boarder and tourist of moderate means as a desirable place for a vacation sojourn.

One of the sights of the season is log driving. Twice or more each week a dam, twelve miles up the river, is opened, and water sufficient to raise the depth of the river three feet is released, the logs are then loosed, and away they go in mad rush over the six miles



of rapids, through the Dalles, and down the river to Lake St. Croix. At night, as one stands on the iron bridge at the head of the Dalles, the river will be filled with rushing, bumping, thumping, diving, rearing, rolling, tumbling, crashing logs; in the morning not a log can be seen save those hung high and dry on the rocks and bars, while the erstwhile torrential river rolls by as calmly and currentless as a slack water creek. Sometimes log jams occur. Then a scene of fascinating confusion ensues. If the jam be of large dimensions, the Dalles will be an immovable mass of logs piled solid, with ends projecting, like an abattis, in all directions. For half a mile and more they will be wedged in to the number, sometimes, of 60,000,000, and excursion trains then carry hundreds of passengers to Taylor's Falls to see them.

Many lakes are found in the country round about Taylor's Falls where the bass, pike, etc., fishing is good, and wall-eyed and sand pike are caught in the St. Croix itself. Balsam lake, in Wisconsin, is one of the best.

North of Brainerd lies the Leech lake country, but recently opened to the world by railways, and beyond that is the Rainy lake region. This section is virgin ground for the tourist and fisherman. Besides Leech lake there are Woman, Cass, Bemidji, and a thousand other lakes full of beauty and of fish. The Leech Lake Indian Reservation is in this region, and Hiawatha, Minnehaha, Nokomis, and the rest may be seen in real life everywhere.

In this section, too, are the headwaters of the Mississippi river, still as wild and untutored as when Nicollet and Schoolcraft camped upon them.

East of Brainerd the Deerwood lakes afford quiet, rustic enjoyment at small expense. They are but a few hours' ride from Duluth and Superior.

West of Little Falls and Staples, and starting from Wadena, a branch line extends southwestwardly to Breckenridge and Fergus Falls, passing Clitheral and Battle lakes in the heart of a beautiful country of rolling prairie, and one simply filled with lakes.

On the main line, Perham and Detroit are unusually good outing and fishing spots, with Frazee and Lake Park following closely after. At Detroit a chain of lakes, much varied in character, stretches down to the southward. These are navigated by a little steamer that makes daily trips, affording a rather unique as well as pleasing trip for those who stop there to enjoy it.



*Duck shooting
on Detroit lakes.*



MINING IN MONTANA

MONTANA is known as "The Treasure State," and its motto is "*Oro Y Plata*"—Gold and Silver. How appropriately this name and motto fit the region it will be the purpose of this paper to show, the discussion being restricted to gold, silver, and copper.

Joaquin Miller, in his "History of Montana" (1894), quotes Livy and Pliny to show that the word Montana is an ancient Latin word, it being used by them in this precise form. Mr. W. E. Sanders, a former Librarian of the Historical Society of Montana, in an interesting discussion of the word, based upon Miller's assertion (Brower's "The Missouri River," Appendix, pp. 178, 179; "Wonderland '97," pp. 14, 15), insists that the word is really of Spanish origin, but derived undoubtedly from the Latin word *mons*, mountain.

In either case it means the same, and the translation, the mountainous region or the Country of the Mountains, finds an answering aboriginal echo in To-ya-be-Shock-up, an Indian word of the same meaning.

Montana has an area of more than 146,000 square miles. The western part of the State, somewhat less than one-half of it, is mountainous, the main Rocky Mountain chain traversing the State in many detached but parallel ranges, from northwest to southeast, and forming the conspicuous feature of the State's topography.

The first recorded suggestion that these mountains might contain

mineral wealth, appears to have been made by Lewis and Clark, in 1805.* When they arrived at the Great Falls of the Missouri they heard strange, loud, and frequent explosions in the mountains, of which the Indians had warned them. "The solution of the mystery given by the philosophy of the watermen [with Lewis and Clark] is, that it is occasioned by the bursting of the rich mines of silver confined within the bosom of the mountains," Lewis and Clark say. These explosions have also been heard in the Black Hills and in other countries, and various explanations given for them. At any rate the silver was and is there, whether it was ever so full of its own importance that it could not contain itself or not.



Montana
State
Capitol.

EARLY GOLD DISCOVERIES.

All reliable accounts seem to agree that Hon. Granville Stuart's chronicle regarding the first well authenticated discovery of gold or "color" is the correct one.

This discovery, which had little or no practical result at the time, was made in 1852 by a French, Red River half-breed, named François Finlay, commonly known as "Benetsee," on a creek originally known as Benetsee's creek, but later and now called Gold creek.

This creek flows into the Hell Gate river, between Garrison and Missoula, on the Northern Pacific, and when the railway was completed the junction of the eastern and western divisions was made at this very point, and the last spike—an iron, not a gold one—was driven in September, 1883, thirty-one years after Benetsee had found the first gold in the region. It is said to be a fact that S. M. Caldwell also discovered gold in 1852 on Mill creek, in the Bitter-root valley.

In 1858 the two Stuarts, Granville and James—the former still alive and full of years, and one whom the Montanese delight to honor—with others, set up their *lares* and *penates* on Benetsee creek and endeavored to woo Fortuna, but with little success. Leaving the locality for a time, but meeting with no better luck, the Stuarts returned to Gold creek in the fall of 1860, where the town of American Fork was established at the point where the Northern Pacific now crosses the creek. They then prospected up the creek and its tributary gulches.

* I have since found that Jonathan Carver, in recounting his travels through this country in 1766-1768, states as follows: "Probably in future ages they [meaning the Shining or Rocky mountains] may be found to contain more riches in their bowels, than those of Indostan or Malabar, or than are produced on the Golden Coast of Guinea; nor will I except even the Peruvian mountains."



Granville
Stuart.

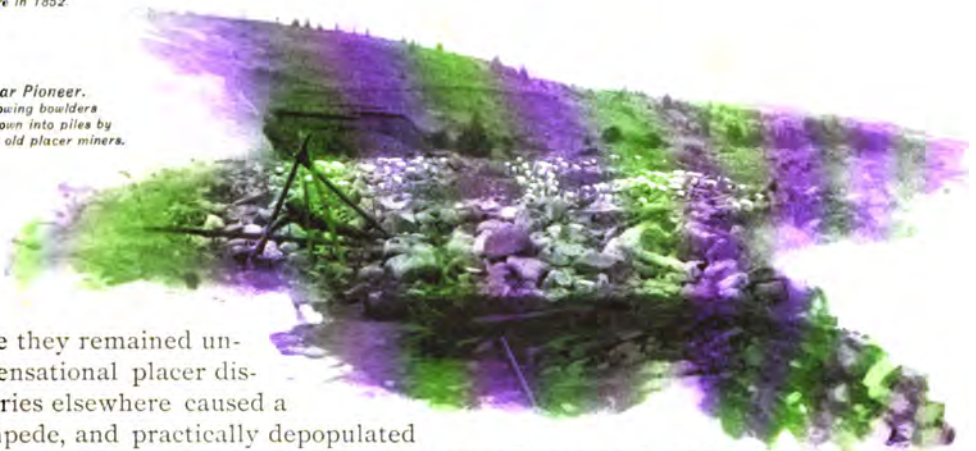


James
Stuart.



*Pioneer, Mont.
First gold found
near here in 1852.*

*Near Pioneer.
Showing boulders
thrown into piles by
the old placer miners.*



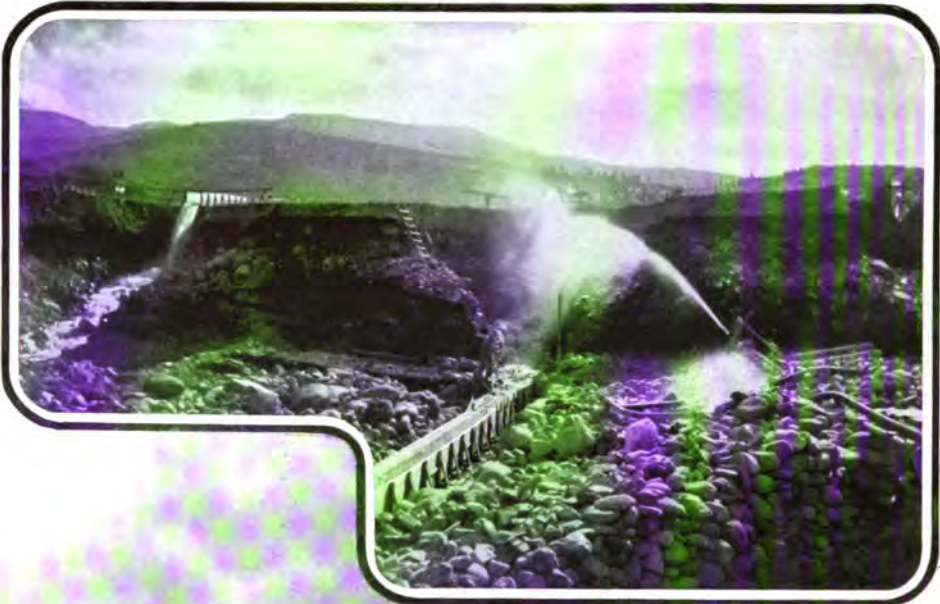
Here they remained until sensational placer discoveries elsewhere caused a stampede, and practically depopulated

American Fork. Their success here was not phenomenal, a fair daily wage being scarcely made by hard labor. In subsequent years, however, the hillsides whereon the Stuarts pastured their horses, and the higher banks of the creek were found to be very rich, millions of dollars in dust and nuggets being taken out there, and in 1866 the town of Pioneer was started on Pioneer creek, a branch of Gold creek.

The Stuarts and their associates are given the credit of being the pioneers in precious metal mining in Montana, and they set the first sluices used in the territory. Although born in Virginia, the Stuart brothers came to Montana from California, where they had engaged in mining, and James Stuart was one of the most undaunted and remarkable men that ever lived on the frontier.

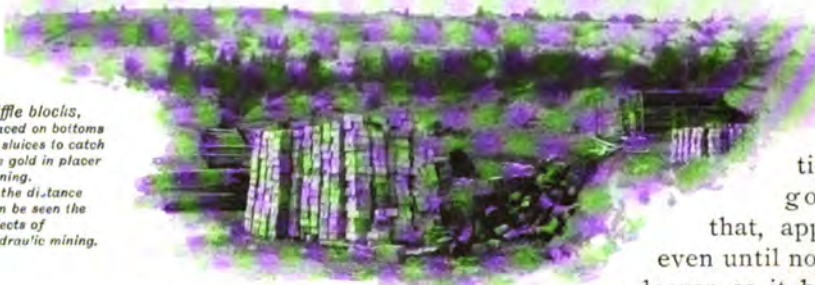
While these pioneers were laboriously pegging, or rather sluicing away on Gold and Pioneer creeks, other events of great importance were occurring among the Montana hills.

The discovery of gold in California by Marshall in 1848, started a



*Hydraulic mining,
in 1901,
at Pioneer, Mont.*

*Riffle blocks,
placed on bottoms
of sluices to catch
the gold in placer
mining.
In the distance
can be seen the
effects of
hydraulic mining.*



tidal wave of
gold hunting
that, apparently,
even until now,
has grown
larger as it has rolled on.

The Stuarts and their companions were a little in advance of this wave in '58, but early in the 60's it began to roll up against the Rockies in Montana, and in 1862 it struck in full force.

In that year gold was discovered at several points, but notably on Willard's creek—Lewis and Clark's name—since known as Grass-hopper creek. Two men, Jno. White and Wm. Eads, the latter said to be a son of Capt. James Eads, the celebrated engineer of St. Louis, were the discoverers, and to the town was given the name Bannack, after the Indian tribe of that name. The "diggings" at Bannack were marvelously rich and a stampede to them ensued, not only from other parts of Montana, but from Colorado and the west in general. In 1864, when the territory of Montana was created, Bannack became the first capital.

Scarcely had the excitement and surprise occasioned by the finding

of the rich placers at Bannack (I use the old spelling of the word; the second a is now usually changed to o) subsided somewhat before "Bill" Fairweather, Henry Edgar, and their associates rode into Bannack and announced—although they had agreed to maintain secrecy—that on May 26, 1863, they had discovered another rich gulch. This was the renowned Alder gulch, of which, among several mining towns within its confines, Virginia City became the chief and widest known, and was the territorial capital from 1865 to 1875.

In the summer of 1864 John Cowan and party discovered Last Chance gulch, where Helena now stands, and at this time the first placer discoveries near Butte were made.

In 1865 Confederate gulch, east of Helena and across the Missouri river, and Ophir gulch, west of Helena and beyond the mountains, were the more important of many found.

The ores of Montana are principally of gold, silver, and copper, lead being an unimportant feature of many of them. Of late years the purely silver-lead ores have been of little value commercially,



*Pan washing.
First stage of
placer mining.*



*A gold rocker.
Second stage of
placer mining.*



*Hydraulic
mining.
Third stage of
placer mining.*



Bannack, Mont., in the 60's.

while the copper ores have been very valuable and the output of copper has been enormous.

In early days gold was the metal sought for, silver being a secondary consideration, and no thought was given to copper.

Since the placer days of '49 great advances in mining had been made, and ledge or quartz mining had now assumed

an important position. It thus resulted that quartz

mining was almost coincident with placer mining in Montana, the Dakota lode at Bannack being discovered and opened late in 1862. The Dakota quartz was gold quartz, and a small mill to work it was erected and in operation in the spring of 1863, its projectors being Wm. Arnold and J. F. Allen. The stamps of this mill were of wood and the shoes and dies were made from old wagon tires.

As fast as the placer mines were discovered, prospecting was begun for the quartz leads from which the placers were supposed to come, and mining shafts and quartz mills followed the placer discoveries rapidly and not always profitably.

One of the best known and most valuable of these early gold quartz claims was the Whitlatch - Union lode, near Helena, from which gold to the amount of millions of dollars was taken.



*Ledge
croppings of
Mayflower
mine,
near Whitehall,
Mont.*



*First
legislative
hall,
State of
Montana,
Bannack,
1863.*

Silver first attracted attention in 1864, when argenteriferous galena was found on Rattlesnake creek, not far from Bannack, at a point called Argenta.

The first silver quartz mill was built at Phillipsburg in 1866 or 1867, and the first successful silver smelter at Argenta in 1867.

Copper was first found in 1864 near Butte, but it was some years before its real value as a mineral asset to Montana was appreciated



First bank in Virginia City, Mont. Still used as such.



Virginia City, Mont., in the 60's.

or much interest taken in it. For a long time it was supposed that the valuable copper deposits were confined to the neighborhood of Butte, but it has been gradually ascertained that they probably constitute an important part of the entire metal-bearing zone of Montana.

From and after the year 1865, new discoveries were constantly made, followed by the usual stampedes; stamp mills, smelters, flumes, water ditches, etc., were rapidly built as the exigencies of the calling required; towns multiplied on the hillsides and population poured in from all directions.

In 1876 Hon. W. A. Clark, now U. S. Senator from Montana, delivered an address at the Centennial Exposition, which is published in



Old Whitlatch-Union gold mill, near Helena, in the 60's

Vol. II issued by the Historical Society of Montana. He stated that at that time there were about 500 gold-bearing gulches in Montana, varying from one-half a mile to twenty miles in length, the gold running from 600 to 990 thousandths fine.

The "strenuous life" of a gulch lasts but a few years. The gulch is, or was in the old days, worked out rapidly, the expense of living and cost of labor and materials being so great that this was necessary, even with a very rich pay streak, to render the work profitable. This is all changed now, and the railways have been the chief factors in the change.

Many of the old and noted gulches are being worked to-day. In 1901 the writer saw placer and hydraulic mining going on in Emigrant, Confederate, and Pioneer gulches, and dredges were working over again the already oft-worked ground at Alder gulch and at Bannack.

INCIDENTS OF PLACER MINE DISCOVERY.

There is always a good deal of the dramatic, both comedy and tragedy, in the opening and subjugation of a new land, and this was unquestionably true of Montana. It is often the unexpected that happens—failure comes when success seems certain, success appears on the very verge of failure. Life is hard and gloomy one day and all rainbows the next. One night despair is at the heart and the wolf at the door, the next night one

" * * * * Wraps the drapery of his couch About him and lies down to pleasant dreams."

Prospectors inquiring about the trail.

There was much of luck, accident, sentiment, etc.—commonplace enough, some of it—in the finding, naming, and development of mining camps and towns.

Alder gulch is reputed to be the richest gulch ever known. Its discovery, while of course it would have been made sooner or later in any event, was entirely accidental.

On February 4, 1863, a company of eight men left Bannack on a prospecting tour. They were to meet a larger party led by James Stuart, at the mouth of Beaverhead river, near where Twin Bridges and Sheridan on the Northern Pacific now stand. Missing them, they followed on, endeavoring to overtake them, were captured by Indians, released, and in making their way back to Bannack camped one noon on a small creek. The men, except Fairweather and Edgar, largely from habit probably, went out to prospect a little, the two latter



4th of July, Nevada (Alder gulch), Mont., 1865.

remaining to watch camp and the horses. Fairweather noticing a piece of "rim rock," Edgar and he took a shovel, pick, and pan, went to the ledge, and Fairweather dug up a pan full of dirt and Edgar washed it. After washing, there was gold in the pan worth \$2.40, and while Edgar was panning, Fairweather had found a nugget worth exactly the same amount.

The finding of this \$4.80 was the discovery of Alder gulch, as the other men found nothing, and before they had returned to camp Edgar and Fairweather had panned out \$12.30 in gold. Edgar named the gulch from the alder bushes growing on its banks, and the district was named after Fairweather, who, years afterward, dying from dissipation, was buried near the site of his discovery.

In connection with the placer workings in the Gold creek region in the later 60's, when the scene shifted from American Fork and the

mouth of Gold creek, to a point some five miles above on a tributary gulch which became known as Pioneer gulch, the Northern Pacific happens to be indirectly related as follows:



"Bill"
Fairweather,
discoverer of
Alder gulch.

One of the most indefatigable of Governor Stevens' assistants on the government survey for the Northern Pacific Railway route in the late 50's was Lieut. John Mullan. Mullan thoroughly explored all the country around and west of Helena and Butte, and discovered the advantages of the pass across the Rockies, to which his name was given and which the railway engineers finally adopted. After the upper Gold creek placers had been worked for some time, Mullan visited them, and upon learning that no name had been given to the gulch and town, suggested the name "Pioneer," which was at once adopted.

In the early summer of 1864 "Uncle" John Cowan, at the head of a band of prospectors, found "pay dirt" in the valley north of Helena, but the party were not quite satisfied with the prospect and went on their weary way. Finding nothing they returned to give the gulch another trial, speaking of it as being their *last chance* for finding anything after a hard, fruitless, summer's work. This time they went farther up, well into the gulch, and, in the very heart of what now constitutes Helena, sank two holes to bedrock, found gold in abundance, named the gulch Last Chance, and settled down and went to work.

The usual stampede took place, a city grew up which, in 1875, was made the territorial capital, and the huge piles of rocks, and little old log cabins sandwiched in among modern city buildings, to-day attest what was once done here, and is even now being done, for the placers are still being worked in a modest way.

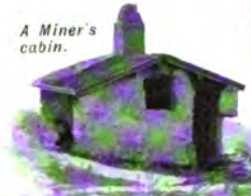
Helena was named in the fall of 1864, after a town in Scott County, Minnesota, John Somerville, a former resident of the latter place, insisting that the name of his old home town should become that of the new one. As adopted the name was Hel-c'-na, not Hel'-e-na as it is now pronounced.

There were a large number of gulches in Montana that in their day were well known, and from which large amounts of gold were taken. Such were Emigrant, Ophir, Bear, New York, German, Cave, High-land, Oro Fino, Silver Bow, Deadwood, McClellan, and Dry gulches, and Carpenter, Montana, and other bars, and there were many more. During the active working of these placers towns sprang up like mushrooms, and when the yield of gold began to diminish they as quickly died and were deserted.



Henry Edgar,
discoverer of Alder gulch.

A Miner's cabin.



View of placer rock dumps in Last Chance gulch in 1901, with residence part of Helena and Mt. Helena in background.



Helena, Mont., May, 1860.



Main street, Helena, 1901. Occupies bed of Last Chance gulch.



Vauter street, Helena, in early days, showing Catholic hospital.

One of the most conspicuous and important of these was the well-known Confederate gulch. This gulch is said to have been discovered by Confederate soldiers of Price's army who, in 1861, after the battles of Lexington, Pea Ridge, etc., in Missouri, made their way to Montana via the Missouri river and Fort Benton. On their way to Last Chance gulch they found "colors" near the mouth of a gulch which came down from the Belt mountains. Following up the gulch they found the pay dirt growing richer, and there they established themselves

THE Northern Pacific Railroad from the head of Lake Superior will run through Wisconsin, Minnesota, and the Territories of Montana, Idaho, and Washington, to the head of navigation on the Columbia. The first 25 miles from the Western terminus is either under contract, or will be so, shortly.

From
an old
"Montana
Post."

naming the gulch Confederate, and within a short time Diamond City, the town of the gulch, was the center of a population of 5,000 souls.

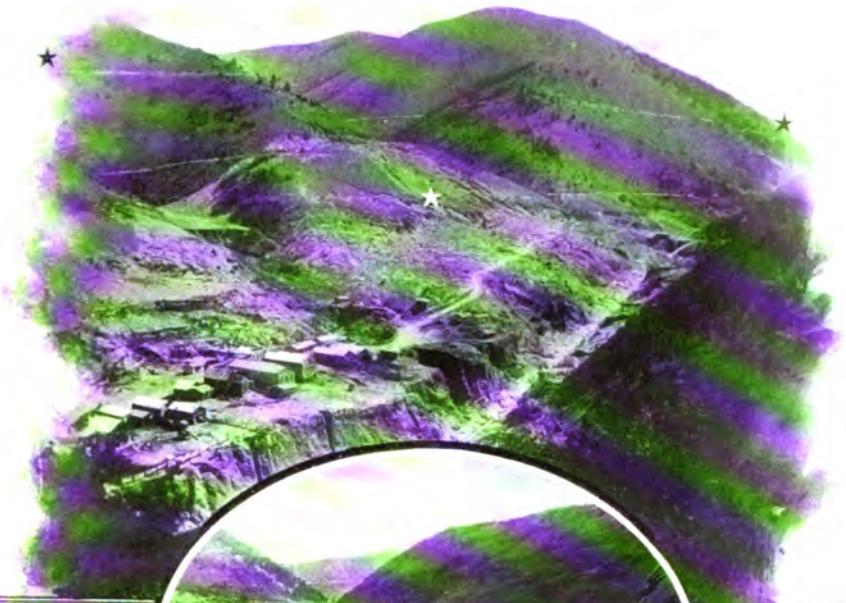
If Alder gulch stands as the richest known gulch in the world, Confederate was in many respects the most phenomenal, and was, as well, one of the greatest.

The ground was so rich that as high as \$180 in gold was taken from one pan of dirt, and from a plat of ground four feet by ten feet, between drift timbers, \$1,100 worth of gold was extracted in twenty-four hours. At the junction of Montana gulch—a side gulch—with Confederate, the ground was very rich, the output at that point being estimated at \$2,000,000.

Montana bar, which lies some distance up the gulch and at considerable of an elevation above it, was found in the latter part of 1865 to be marvelously rich. There were about two acres in reality, that were here sluiced over, but the place is spoken of as "the richest acre of gold-bearing ground ever discovered in the world." I quote Mr. A. M. Williams of the *Republican*, Livingston, Mont., who has made a special study of these old gulches: "The flumes on this bar, on cleaning up, were found to be burdened with gold by the hundred weight, and the enormous yield of \$180 to the pan in Confederate and Montana gulches was forgotten in astonishment and a wild delirium of joy at the wonderful yield of over a thousand dollars to the pan of gravel taken from the bed rock of Montana bar." From this bar seven pansfull of clean gold were taken out at one "clean up," that weighed 700 pounds and was worth \$114,800. A million and a half dollars in gold was hauled by wagon from Diamond City to Fort Benton at one time for shipment to the East.

PLACER MINE PRODUCTION.

It would be not only interesting but valuable as well, could an accurate statement be made of the gold turned into the channels of art and commerce from the old placer mines. In the very nature of



*White star locates
Montana bar,
above Confederate gulch.*



*Black stars locate
old mining flumes,
across the mountains.*



*Views of
Diamond City and
Confederate gulch in the 60's.*

the case this is impossible. Statistics were not kept in those days, and the state of society was such — as will appear later — and transportation methods so uncertain, expensive and crude, that a great deal of secrecy was observed as to output, and large quantities of gold dust and nuggets — the forms in which the gold was taken from the placers — escaped from the region without much being known about it.

Up to 1869 the express companies charged 5 per cent of the value of the gold for transportation, which led to undervaluation. Much of it was shipped by freight, and large amounts were carried away on the persons of individuals.

By 1865 and 1866 the placers had reached their zenith and were declining, although in after years, when the railways had cheapened transportation charges, and

labor and other expenses had decreased, they again and steadily became fairly productive.

There have been many estimates made as to the production of the placers, but guesswork pure and simple must form a large part of each and all of them. I give a few of what seem to be the most reliable as approximately indicative of the yields of some of the gulches.

Bear gulch is stated to have produced in 1866-67, \$1,000,000; Emigrant gulch, 1864-1867, \$180,000; Ophir gulch, 1865-1867, \$5,000,000; Confederate gulch, 1864-1868, \$10,000,000; Last Chance gulch, 1864-1868, \$10,000,000 [probably much more]; Alder gulch, 1863-1876, \$60,000,000. These figures are taken from Williams & Wheeler's "History of Mining in Montana."

All agree that Alder gulch was the richest gulch, but there are no very close agreements on actual estimates, those for Last Chance gulch, for example, varying from \$10,000,000 to \$50,000,000 for total production to the present time. Colonel Wheeler estimated the total output for the territory, up to 1868, at more than \$86,000,000, and he was good authority. In 1890 Dr. G. C. Swallow, a man of scientific attainments, than whom, probably, no better authority on Montana mines exists, in 1890 estimated the production of Alder gulch to have been from \$100,000,000 to \$137,000,000, and that of Last Chance gulch at from \$20,000,000 to \$50,000,000, and other



Ore transportation to the railway.



gulches in proportion. This, however, was after hydraulic mining had added greatly to the productivity of the gulches.

An estimate made by the *Financial and Mining Record* and found in *The Montana Mining Review* of September 4, 1889, gives the total production as follows:

Gold, 1862 to 1888..	\$161,719,500
Silver, 1862 to 1888..	92,819,000
Total....	\$254,538,500

In September, 1889, Col. C. A. Broadwater had one bar of gold cast at the U. S. Assay Office at Helena, that was worth \$101,385.50, and weighed 7,000 ounces. This was made out of gold taken from the Spotted Horse, Jay Gould, and Drum Lummon mines, and was sent East, where it attracted wide attention.

Some very large gold nuggets were found in the 60's. Many of these were worth from \$100 to \$600 or \$700. Several were worth from \$1,500 to \$1,800; one, of pure gold, was worth \$2,100, and two or three exceeded \$3,000 in value.

THE VIGILANTES.

The story of those earlier days would be incomplete were no reference made to a feature of them, at once tragic and serious and one much misunderstood by many. This is the work done by the Vigilantes in maintaining law and order and compelling a decent respect for the rights and lives of honest people.

It is difficult for an outsider to realize the cosmopolitan character of that early-day population. Along with honest hard-working men intent upon making a good livelihood, and perchance a fortune, there came, literally, perhaps, from the ends of the earth, many of the very reverse order. Thieves, thugs,

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ALLEN & MILLARD,
BANKERS,

Virginia City, Montana Territory;

DEALERS IN

COIN, GOLD DUST, TREASURY NOTES, and

Facsimile of Ben. Holladay's stage coach advertisement, "Montana Post," in the 60's. The Millard whose name appears in the banking ad. is now U. S. Senator Millard, of Nebraska.

fugitives from justice, outlaws, the riff-raff from all over the West,—and this means a long way *east* from Montana—adventurers of all sorts, poured into Bannack and Alder gulch intent upon luxuriously rioting in sin and violence where courts and constabulary were wanting.

Secretly banding together, many of them, these road agents, as they were called, had their haunts, spies, places of rendezvous, etc., all over the region, so that it finally became a serious question whether any man suspected of having gold dust or money could possibly journey safely from one place to another, be the distance long or short, and to incur the ill-will of one of these men, from whatever cause, meant death. It is known that 102 persons were killed by these road agents and there were undoubtedly many more.

To countervail the power of the road agents the Vigilantes were finally compelled to secretly organize. As all law comes from the people, so it did here. It was a last and serious effort, a forlorn hope, to enforce the spirit of the law where the usual legal adjuncts were lacking. It was really the essence of law without its tech-

nical forms, the kernel of the nut without its shell.

The men subject to the judgments of the Vigilantes were impartially tried, as they were previously by the miners' courts, without, however, the frivolous delays of the law, and the judgments were promptly executed.

As soon as officials and courts made their appearance, in 1864, and the regular legal machinery was set in motion, the Vigilantes voluntarily ceased to exist, and this fact is the best argument for the righteousness of the movement.

The principal centers at which the organization was active were Bannack and Virginia City, although there were branches at Last Chance and Confederate gulches. Under its domination the desperadoes were hung or banished, crime was punished, life and property rendered safe, and society rescued from a state of anarchy.

The best citizens of the territory were Vigilantes. Among them were Col. W. F. Sanders, a lion among lions, and afterward United



Road agent rock, on old stage road between Bannack and Dillon, Mont.



The two stumps shown were part of the scaffold posts on which Chief Plummer and two other road agents were hanged, in 1864, at Bannack.

States Senator, Samuel T. Hauser, subsequently Governor of Montana; Judge Walter B. Dance; N. P. Langford, appointed by Andrew Johnson as Governor of Montana, and others of equal standing. Deeds of bravery more daring than those performed on the battle-field were done by some of these men. The heroism that was shown by Beachy, Sanders, Howie, Featherstone, Beidler, and others, will never be forgotten by the old Montana pioneers, and the State would honor itself as well as them by erecting a monument to them.

HYDRAULIC MINING.

Hydraulic mining is but an extension or amplification of placer mining. In the latter the work done is limited by the quantity of water in, and the gradient of, the stream. A phenomenally rich streak of earth in the bank but little higher than the creek bed, may be absolutely worthless because the water can not be elevated to reach and wash it. Hydraulic mining makes the slopes of hills even hundreds of feet above a stream valuable. The water is taken from higher up the same creek perhaps, but oftener from other streams miles distant, and, by means of flumes and ditches carried along and around the sides of mountains at great expense and engineering ingenuity, is brought to the locality. It is then, by means of steel pipes and a firemen's hose nozzle on a large scale known as a Giant, turned directly upon a bank and the latter ripped and torn to pieces. The head of water varies from 200 to 600 feet, and the Giant nozzles have apertures of from two to six inches.

It is a wonderful sight to see one of these more powerful streams and larger nozzles cutting out a mountain side. The dirt flies in the air like spray, and the large rocks and boulders are torn asunder and sent rolling along and away. The finer particles of dirt are, by this process, carried to the stream and into the sluice, as in placer mining pure and simple, and the gold is caught on the bottom by the riffles or cleats fastened there.

In order to successfully carry on hydraulic mining, the individual or company must own many claims (i. e., much ground), on account of the great expense necessary in constructing dams, flumes, reservoirs, etc. Mr. Clark estimated, in 1876, that there were then in Montana about 600 miles of ditches and flumes which had cost \$1,000,000.

After the first spurt in placer mining in Montana hydraulic mining largely superseded the older way, and is to be credited with a large part of the placer-mine production of the State.

It is still carried on quite extensively even among the old gulches,

*The
"North Coast
Limited"
of the 60's.*



and, of late years, ground that in early days was not rich enough to pay can now be thus worked at good profit.

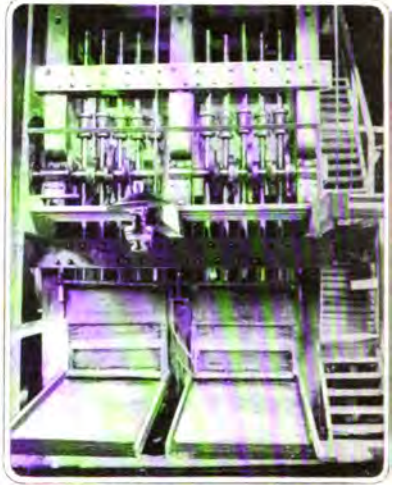
DREDGE MINING.

Another phase of placer mining is that of dredging, either dry or wet, principally the latter. By this method, a comparatively recent one, ground that is unavailable by either the primary or hydraulic process, is made workable. In dry dredging the dredge is mounted on a car and track, and is quite similar, both in its construction and operation, to the steam shovel dredge used by railway companies.

In wet dredging there must first be constructed a reservoir of sufficient size and depth to float the dredge, which is a huge, heavy, and cumbersome affair, costing from \$40,-

000 to \$75,000. It must be strongly built in order to be successful, a weak, faultily constructed machine being foredoomed to failure.

The dredge is provided, on the front end, with a series of very durable steel buckets on an endless chain which, running down and under the water, scoop the dirt and boulders from the bank and then elevate their contents and dump them into a hopper on the dredge. The material is then discharged into a perforated metal and revolving screen, from which the larger stones, etc., pass into a stone chute and are discharged into the water, while the gravel, washed by a stream of water playing into the screen, passes from it through the perforations into a sluice-box where, as in the other processes, the gold is caught by the riffles on the bottom. The remainder, or worthless residuum, is carried by the sluice stream to the rear of the dredge, where it is dumped, making new ground and filling the reservoir at one end while the buckets excavate and extend it at the other. The movement of the buckets is slow, and their manipulation is in the hands of a man stationed at the top of the dredge



Interior of a stamp mill.



Old mining flumes in Deer gulch, Mont., used in hydraulic mining.

like a pilot on a steamer, who also has, virtually, all the machinery under his control.

The dredge is moved about as occasion demands, being, at the close of a season, perhaps a mile away from where it began work.

At the mouth of Alder gulch I saw a dredge scooping up a fine alfalfa field recently purchased, test holes and washings having disclosed the presence of gold in paying quantities.

A large dredge with four feet displacement will excavate, on an average, 2,000 cubic yards per day.

The Gold Dredging Company, at Bannack, has in the last five years shipped away \$500,000, the results of its dredging operations, from two dredges, I think.

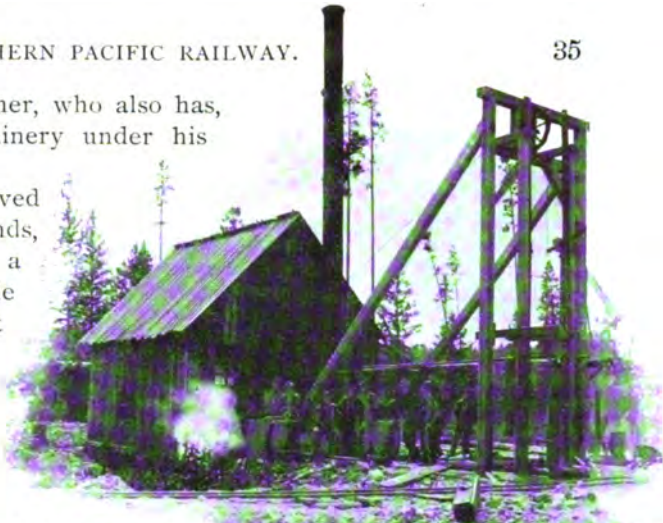
LEDGE MINING.

To ledge mining all other methods lead finally and logically. This is simply finding the ore ledges, leads, or lodes by tunnels or shafts, sinking down upon them and excavating the quartz or ore, and finally separating the gold, silver, and copper by chemical process.

To successfully prosecute ledge mining requires a heavy capitalization. Hoisting works, concentrators, smelters,

reservoirs, etc., must be erected

and the heaviest and most expensive machinery be installed. The ore is first crushed to powdery fineness and then, by various methods, depending upon its character, is



First hoisting works of a mine after the windlass stage.



A mine in its adolescent stage.



The first chapter of ledge mining.



Steam dredge, Bannack, Mont.



*Granite mine,
Granite, Mont.*

so treated as to separate and save the valuable metals from the grosser materials.

Transportation facilities have a material effect upon this method of mining. Unless rail-

ways are at hand to transport

mining supplies to, and ore from, the mines at reasonable rates, much ore is of such a low grade that it does not pay to excavate it. The presence of railways, therefore, is a great stimulus to mining. The Northern Pacific, the pioneer line in Montana, has more than 1,400 miles of railway in this State, and nearly all the mining districts of importance are reached by it.

The rapid spread of mining in Montana, once it was fairly started, precludes any attempt to further trace,



*Granite Mountain
Mining Co.'s
assay room.*

in detail, its expansion. The rise of silver mining gave a tremendous impetus to the industry and the development of copper mining greatly accentuated it. As the production of silver and copper greatly exceeds that of gold, the depression in the silver market a few years ago likewise seriously and unfavorably affected the industry, and for several years now the so-called silver mines have been closed. Recently, however, for one reason or another, some of them have been reopened and appear to be in greater or less degree in successful operation again.

PROMINENT MINES AND MINING CAMPS.

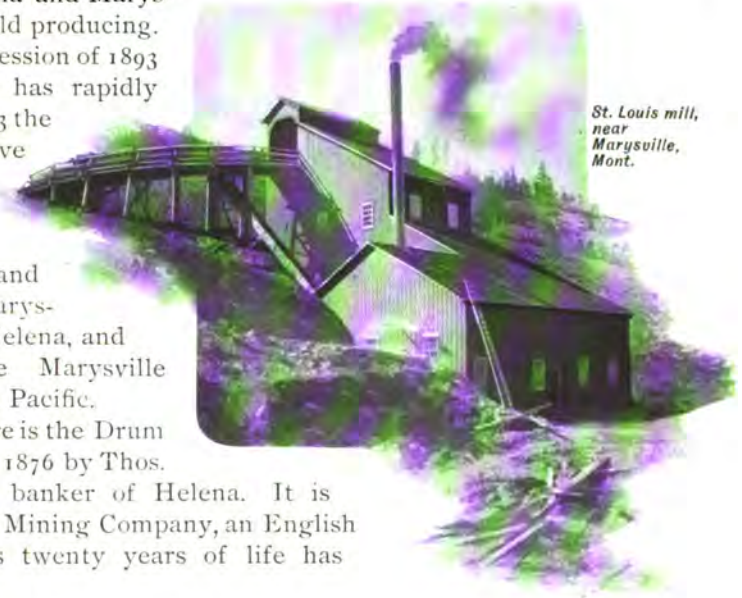
Within the borders of the Treasure State there have been some of the most profitable mines and best known mining camps in the United States, and the largest mining camp in the world to-day, Butte, is the chief city of Montana.

At Phillipsburg, Granite County, are what have been claimed to be the greatest silver mines in the world. From 1883 to 1898 the Granite-Bimetallic Mines, now consolidated, produced more than \$29,000,000, and paid in dividends nearly \$14,000,000. These mines are models, have stamp mills aggregating 280 stamps, and a fine leaching plant. As showing the difficulties that beset mining it is stated that these mines have one million tons of tailings—or the refuse of ores that have passed through the mill—on the dump, which, while containing millions of dollars in silver and gold, have as yet proven refractory to all known processes of working tailings. These values will yet be extracted, however.

As Granite County is a silver producing county, so Lewis and Clarke County, in which Helena and Marysville are situated, is gold producing. Since the financial depression of 1893 the gold output here has rapidly increased, and since 1863 the county is reputed to have produced \$60,000,000 of gold.

The gold belt here is miles in width and the principal camp is Marysville, just north from Helena, and the terminus of the Marysville branch of the Northern Pacific.

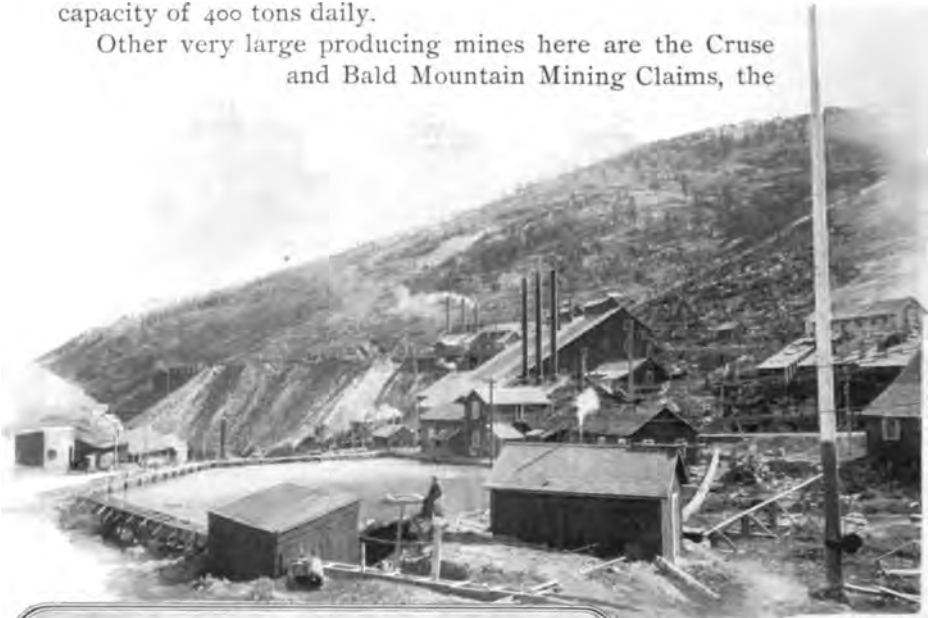
The great mine there is the Drum Lummon, discovered in 1876 by Thos. Cruse, now a wealthy banker of Helena. It is owned by the Montana Mining Company, an English corporation, and in its twenty years of life has turned out \$19,000,000.



*St. Louis mill,
near
Marysville,
Mont.*

The Drum Lummon has a mill of 110 stamps, and a large cyanide process plant for treating its heavy accumulation of tailings, with a capacity of 400 tons daily.

Other very large producing mines here are the Cruse and Bald Mountain Mining Claims, the



*Drum Lummon mill,
Marysville,
Mont.*



Marysville, Mont.

Belmont, and Bald Butte, while there are many others whose output is large.

The Bald Butte is producing so well that during the latter part of 1900 it paid dividends at the rate of 6 per cent a month, and in its ten years of steady dividends it has thus disbursed about \$1,000,000.

Fine copper fields have been found in this county, and it now appears as if very valuable copper deposits existed on Mt. Helena, within the residence limits of Helena itself, and also along the main line of the Northern Pacific in the mountains just west from Helena.

As showing that the prospector still has a good field to work in Montana, one of the guild recently found a prospect in Blue Cloud Gulch, from which he took rich ore worth \$5,000 in less than one week.

At East Helena there is a very large silver-lead smelter, the



The old and the new Helena. Miners' cabins in the gulch, public library, etc., above.

capacity of which has recently been doubled, and is now 300 tons. It is a thoroughly equipped smelter, and is run to its full capacity.

In this connection attention should be called to the large dam and power house recently built at Cañon Ferry, on the Missouri river, east of Helena, by the Missouri River Power Company.

This company furnishes electricity to both Helena and Butte, not only for the usual uses of a city, but to a large extent for mining purposes. The East Helena smelter and the Peck concentrator, near by, are both thus supplied.

The company's dam is thirty feet high, and power is furnished by ten dynamos of 1,200 horsepower each, and is conveyed by pole lines to both Helena and Butte. At the latter point



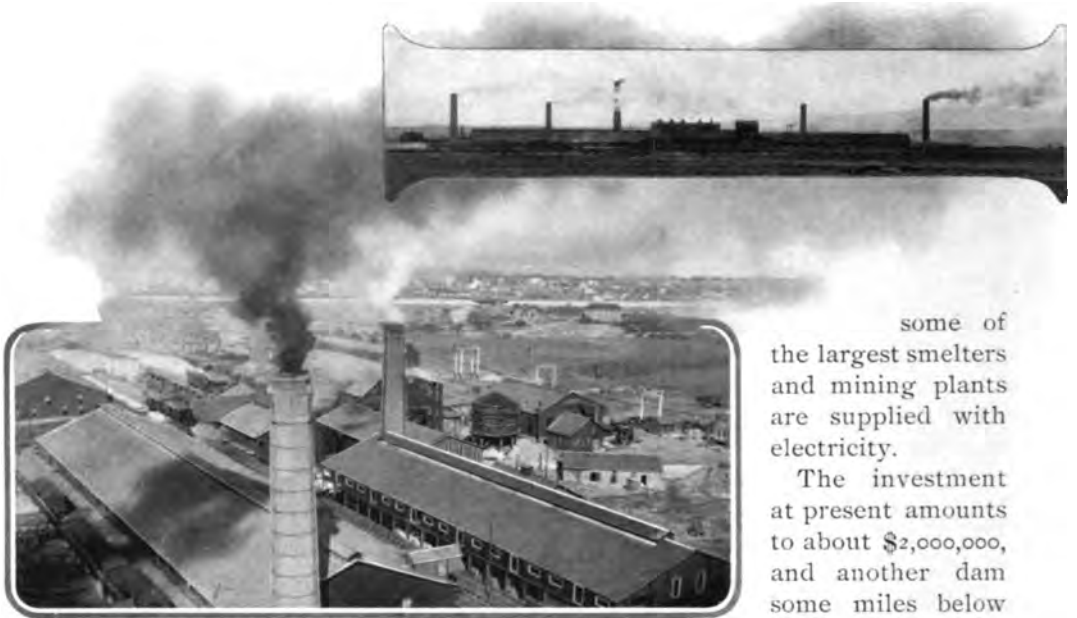
Montana Club building, on site of discovery of Last Chance gulch.



U. S. assay office, Helena.



The beginning of the city of Helena.



*East
Helena
smelter.*

some of the largest smelters and mining plants are supplied with electricity.

The investment at present amounts to about \$2,000,000, and another dam some miles below the first one, and

which will equal it in size, is in process of construction.

What the Comstock lode, Virginia City and Gold Hill were to the mining world in the good old bonanza days, Butte, in Silverbow County, and Anaconda, in Deer Lodge County, now are, with their many and deep mines and enormous smelters.

It is stated that within a circle having Butte as its center, and a diameter of four miles, more mineral wealth is produced annually than the entire state of Colorado furnishes in the same length of time.

It was some years after the first discoveries at and around Butte, before any inkling of the real value of the ore deposits there dawned upon the world.

In its early days Butte passed through the usual vicissitudes of a young mining camp. It had its periods of inflation and depression, and it was not until 1875 and 1876 that a permanent set was given to the current of mining events that has run with increasing force in one direction ever since.

Gen. Charles S. Warren, an old resident of Butte and Montana, and one thoroughly versed in its affairs, in an historical address delivered in 1876 (Historical Society of Montana, Contributions, Vol. II), draws a graphic picture of those days.

Out of a list of names of men to whom Butte and Montana owe much, a list too long to be given here, two, Wm. L. Farlin and Wm. A.



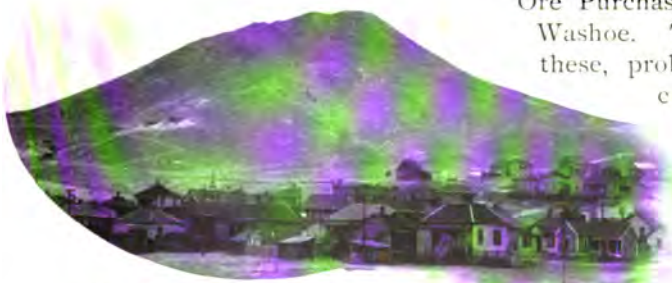
Dam and electric power plant on Missouri river. Power transmitted to Helena and Butte. Power developed — 12,000 horse-power.

Clark — now United States Senator Clark — seem to deserve special notice. Farlin, on January 1, 1875, relocated the Travona lode and then energetically developed it. Warren says: "A new era opened to Butte * * * * Never before in Montana had such a lode been discovered." New discoveries and developments now followed rapidly. Farlin soon began the erection of a 10-stamp quartz mill, but in December, 1875, his means failing, work was suspended and gloom settled down. Wm. A. Clark, a man of means, business ability and metallurgical knowledge, stepped forward, finished the mill and all went merry as a marriage bell. Mr. Clark has reaped a rich harvest from that and his other ventures in Montana.

It would be interesting, did space permit, to relate in detail the story of some of the Butte mines. Many of the old mines or claims are now combined under corporate ownerships and the individuality of the mine is more or less lost in the company. Some of the mines that now are, or have been noted in their day, are the Alice, Lexington, St. Lawrence, Neversweat, High Ore, Anaconda, Parrott, Mountain View, Gagnon, Colusa-Parrot, Rarus, Original, and Green Mountain. In some of these silver predominates, in others copper. The

principal companies are the Anaconda, Boston & Montana, Butte & Boston, Colorado, Colusa-Parrot, Montana Ore Purchasing Co., Parrot, and Washoe. The best known of these, probably, is the Ana-

conda, which, from moderate beginnings, has grown to be an enormous concern, and a brief recounting of



Big Butte, after which the city of Butte was named.



*Butte,
in
1875.*



*School
of
mines.
Butte.*

the discovery and exploitation of this mine and the growth of the company must serve for all.

In 1866, when copper was but just attracting attention, M. A. Hickey, who was placer mining for gold northwest of Butte, picked up some carbonate of copper on the Anaconda shaft hill. He at once divined that a copper lead lay there, but he

was searching for gold, not copper or silver, and made no location. Ten years flew by with their developments and, strangely enough, no one else had taken up the ground, and so, in 1876, Hickey finally located the Anaconda, and his brother the St. Lawrence immediately adjoining.

I have mentioned two men to whom Butte is under obligations—I now name a third, the late Marcus Daly, to whom, in late years, the city was more indebted for its prosperity, undoubtedly, than to any one man.

Mr. Daly, an old Comstock miner, was superintendent of the Alice mine when the Hickeys were working their claims, and he appeared to possess a keen insight into the future of Butte. He bought the St. Lawrence for about \$125, and M. A. Hickey gave him a one-third interest in the

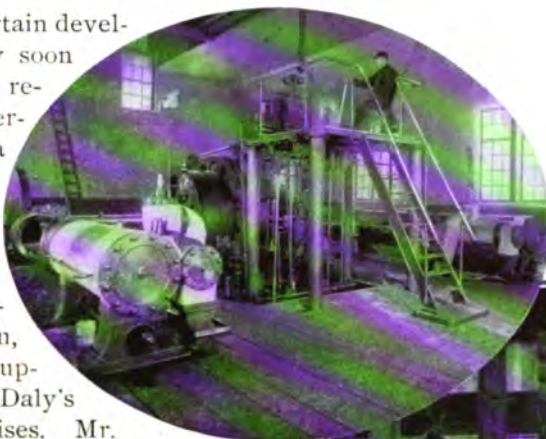


A Butte concentrator.

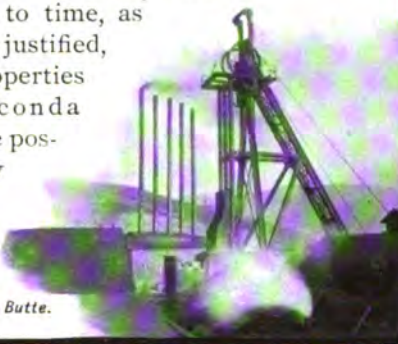
Anaconda for doing certain development work. Hickey soon afterward sold his own remaining one-third interest—he having given a friend a one-third—to Daly for \$10,000, and this was the genesis of the great Anaconda Copper Mining Company. Mr. J. B. Haggin, of San Francisco, is supposed to have been Mr. Daly's backer in his enterprises. Mr. Daly pushed development work and, from time to time, as circumstances justified, added other properties until the Anaconda company became possessed of many valuable mines.

Mr. Daly

New style steel hoisting gallows, St. Lawrence mine, Butte.



Hoisting engine, Nipper mine, Butte.



"Ready to lower," Descending a deep mine shaft, Butte.



Gagnon mine, Butte.

soon saw the possibilities of copper mining, and energetically exploited that phase of the situation, eventually building the town of Anaconda, twenty-six miles west of Butte, where the greatest plant in the world for the reduction of copper ores was constructed, and to which has just been



Old Lexington mill, Butte.

added another mammoth plant of the same sort, costing five and one-half millions of dollars. The company also built and splendidly equipped a first-class railway between Butte and Anaconda. The original smelting plant was entirely supplied by ores from the company's own mines, and they were hauled from mines to smelters on its own trains.

In recent years, this and nearly all the other copper mining interests around Butte and Anaconda have been merged in the Amalgamated Copper Company, of which Mr. Daly was president at the time of his death.

The capacity of the old works at Anaconda is about 4,800 tons of crude ore daily; that of the new, 5,000 tons.

Besides the Anaconda, the Colorado Smelting & Mining Company, the Butte & Boston, the Boston & Montana, the Parrot Silver & Copper Company, the Butte Reduction Works, the Colusa-Parrot,



A 60-ton crane in a Butte smelter.



Converter room in a Butte smelter.



Matte floor in a Butte smelter. Matte slabs at the right.



A Butte smelter.

and the Montana Ore Purchasing Company, all own smelting works, and the Boston & Montana Company also have a large smelter at Great Falls.



Dumping slag by electricity at Butte.



General view of the new Washce smelting plant of the Anaconda Company at Anaconda.

Mining is seen in its most advanced and scientific aspects at Butte and Anaconda. Electricity and compressed air are employed wherever possible, and in the construction of hoisting works, smelters, concentrators, etc., the latest ideas are utilized and the best machinery installed. The old wooden hoisting gallows enclosed in buildings are being replaced by splendid steel gallows standing in the open, the ventilation of the mines being much improved thereby.

The production, financial operations, etc., of these corporations are on a colossal scale. There were employed in the mines of Butte during 1900, nearly 8,700 men; the monthly disbursements, largely among the mines and smelters, were almost \$2,000,000; the dividends paid amounted

to a little

less than \$14,000,000, and the mine production, gold, silver, and copper, was \$50,000,000.

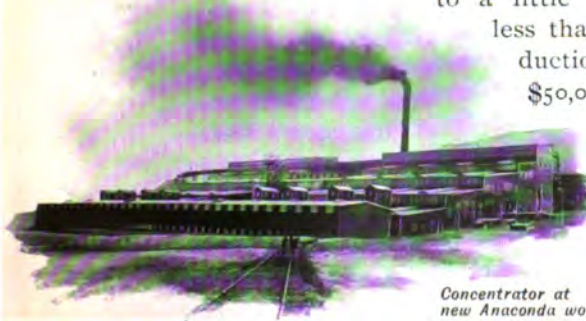
In the last ten years these mines have paid in dividends more than \$43,000,000.



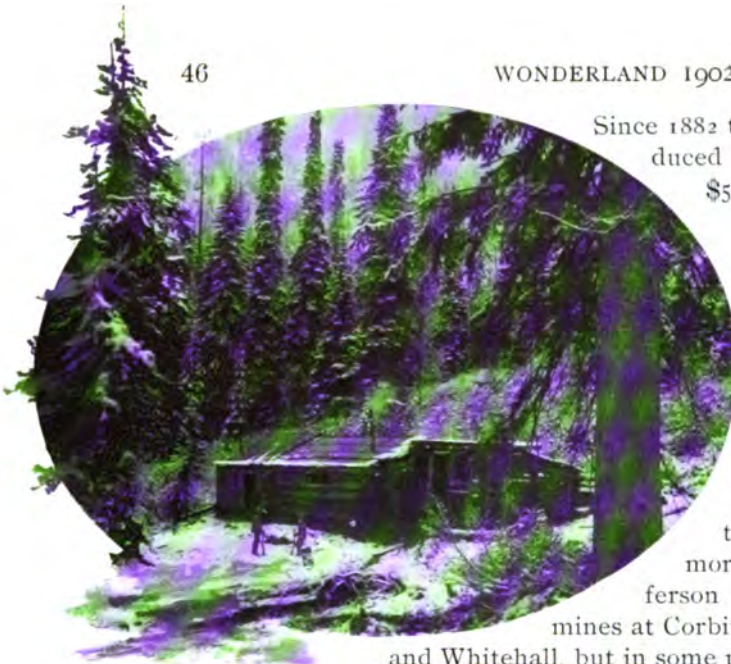
Water Flume in Walker's gulch, that supplies New Anaconda works.



Self-supporting steel stack. Base, 30 feet. Diameter, 20 feet. Height, 225 feet.



Concentrator at new Anaconda works.



Miner's cabin, Leslie mine, in winter months.

Since 1882 the Butte mines have produced considerably more than \$500,000,000, in proportions, approximately, of gold 3 per cent, silver 35 per cent, and copper 60 per cent, and they now furnish about 25 per cent of the copper output of the world.

In all the mountain counties of the State there is more or less mining. In Jefferson county there are good mines at Corbin, Wickes, Basin, Elkhorn, and Whitehall, but in some parts of this region refractory ores have operated against development.

In Madison county there are many promising mines and prospects



Elkhorn, Mont.



"The Cordwood Transportation Co." Elkhorn, Mont.

at or near Pony, Norris, Red Bluff, Virginia City, Sheridan, Twin Bridges, and Rochester.

In Broadwater county old mines which were supposed to have been worked out are now producing better than ever, and Winston,



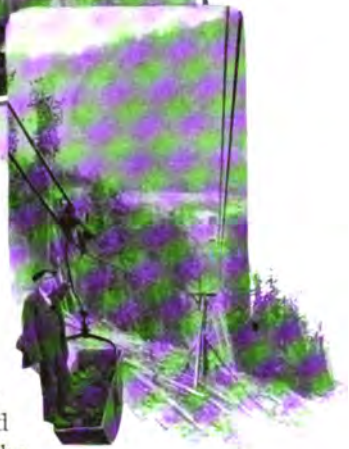
The Lake Shore mine, Madison Co., Mont.

A mine near Pony.



Radersburg, and Hassel are well-known camps.

In Park county mining has been carried on for years at Crevasse and Cooke City, and in Meagher and Fergus counties the prospects are sufficient to justify great hopes for the future. The railways have but recently penetrated this latter section. The Spotted Horse mine is noted among Fergus county mines, having produced at least \$2,500,000. The cyanide process is largely used in this section.



One method of ore transportation across the mountains in Madison Co. 7 miles long.

Granite, Powell, Ravalli, and Missoula counties have mines that are being profitably worked, but some drawbacks have existed in these parts of the State that the future will doubtless remedy. The future in this section seems now quite promising.

OUTPUT OF PRECIOUS METALS.

Montana now ranks fifth in gold, second in silver, and first in copper production in the United States.

As before remarked, there is little agreement in estimates of Montana's mineral output. Doctor Swallow places the total yield of gold from 1862 to 1894 at \$212,000,000; Commissioner Calderhead of Montana, in his report for 1900, makes the total for the same period about

\$240,000,000. The latter gives the total production of precious metals — I use round numbers — 1862–1899, inclusive, as follows :

Gold.....	\$267,600,000
Silver.....	314,000,000
Copper.....	284,500,000
Lead.....	11,500,000
Total.....	\$877,600,000

For the years 1898, 1899, and 1900 the output, as given by Mr. Calderhead, was :

	1898	1899	1900
Gold.....	\$ 5,247,913	\$ 4,819,157	\$ 4,060,000
Silver.....	19,159,482	21,786,835	21,607,500
Copper.....	26,102,616	49,941,996	41,246,250
Lead.....	809,056	999,410	999,410
Total.....	\$51,319,067	\$68,457,308	\$68,723,160

In gold and silver production, Silver Bow county leads with \$14,000,000; followed by Granite county, \$2,700,000; Lewis and Clarke county, \$1,500,000; Jefferson county, \$1,300,000; Cascade county, \$1,200,000, etc.

From present indications it is a reasonable prediction that, barring a permanent slump in the market, the mineral production will steadily increase, for the prospects of precious metal mining in the Treasure State were never brighter than at present, and that, too, over the entire mineral belt.

As a matter of interest I give a partial list of mines in the State that have been sunk to a depth of more than 500 feet, the most of the deeper ones being at Butte :



Miner's Cabin — Gold Hill — in winter.

NAME OF MINE	DEPTH	NAME OF MINE	DEPTH
Anaconda.....	1,800	Original.....	1,200
St. Lawrence.....	1,600	Rafus.....	1,200
Never Sweat.....	2,000	Minnie Healey.....	800
High Ore.....	2,200	Alice.....	1,500
Bell.....	1,650	Blue Wing.....	650
Diamond.....	2,200	Magna Charta.....	700
Green Mountain.....	2,200	Ella.....	500
Mountain Con. No. 1.....	2,000	Speculator.....	1,200
Parrot.....	1,600	Drum Lummon.....	1,600
Pennsylvania.....	1,400	Mayflower.....	980
Mountain View.....	1,700	Kennet.....	600
Gagnon.....	1,800	Granite.....	1,600
Silver Bow No. 1.....	1,000	Bi-Metallic.....	1,700
Blue Jay.....	1,075	Hope.....	550
Berkeley.....	900	North Pacific.....	550
Colusa-Parrot.....	1,400		

LIFE IN MINING CAMPS.

Life in mining communities, particularly in the earlier time, was kaleidoscopic. Aristocracy was at a discount. The good and the bad, the prince and the pauper, were forced to touch elbows whether or no. Human nature was revealed to its fullest extent, and the strong and unselfish, the weak and degrading instincts of mankind and woman-kind were developed with hothouse rapidity. Remote from telegraph lines, railways, and cities, commerce with the States was infrequent, mail facilities meager and costly, living expensive, and news of the world and reading matter conspicuous by its absence.

The great battles and campaigns in the year 1862 of our Civil War were not known in Bannack until the spring of 1863 ("Vigilante Days and Ways," Langford, Vol. I); letters were carried between Salt Lake City and Bannack at a cost of \$1 each; the first lumber sold in Virginia City—hauled from Bannack—cost \$250 per thousand feet.

<p>Harrison & Co. Rice flour \$12.00</p>	<p>Cook's 2/20/187</p>
<p>" Pelaho Hotel 4 1/2 barrel 270</p>	<p>" 3 barrel 18.00 3 barrel 17.00</p>
<p>" Pie Stand 2 Pigs fat 7.50</p>	<p>" Paw 4.00</p>
<p>" Lamb 12 1/2 barrel 4.50</p>	<p>" J. Thomas 12 1/2 barrel 4.19.00</p>

Those who owned ranches reaped a rich harvest. Potatoes sold at the ranches for \$3 to \$6 per bushel; wheat for \$3 to \$4 per bushel, and seed wheat for \$10; poor flour readily brought \$30 per hundred pounds. In the winter and spring of 1864-65 there was a flour famine in the territory, flour riots at Virginia City, and in May, 1865, flour was selling in Helena at \$110 per hundred pounds. These prices are in gold; greenbacks were worth 45 to 50 cents on the dollar.

While at Virginia City, in 1901, I inspected an old day-book kept by George Gohn in his meat market in 1865-66, and Mr. Gohn allowed me to cut from its pages the above debit items, which show the prices

charged for meat at that time. Pork was a scarce article. The Fair-weather named was "Bill," the discoverer of Alder gulch.

In looking through a municipal license record of Virginia City for

1866, it was disclosed that the following prices were charged for licenses to do business at that time:

Lecture to commence precisely at eight o'clock.
Tickets, \$2.00 69-11

Notice.

WE, THE UNDERSIGNED, MERCHANTS AND business men of Virginia City, thinking it is our duty to ourselves and to those in our employ to observe the Sabbath Day: Therefore, we do hereby agree to close our respective places of business on that day of each week, from and after, January 1st, 1866.

John S. Rockfellow.	E. Offinghouse & Co.,
Nowland & Weary.	Gorham & Patton,
Allen & Millard,	Wm. Douglas,
Tutt & Donnell,	Davis, Housel & Co.,
Hanauer, Salomon & Co.,	P. D. O. Maxham,
McCormick, Ohle & Co.,	D. C. Farwell,
J. J. Roe & Co.,	John Kinna,
F. G. Heldt,	N. J. Butler,
G. W. Hill, Co. Recorder,	Geo. H. Hanna & Co.,
John How,	Barrows & Ellis,
F. Deimling,	Higgins & Haggadorn,
Tootle, Leach & Co.,	S. Star,
E. A. Collins,	Lewis, Hale & Co.,
John F. Rucker,	T. K. Murr,
James M. Vivion,	D. W. Tilton & Co.,
Jno. P. Bruce,	Wm. Deusecy,
J. H. Ming,	Jno. Curton,

Wholesale Liquor	
Dealers	\$25.00 per quarter.
Theaters	25.00 " "
Saloons	37.50 " "
Auctioneers	25.00 " "
Gambling Houses ...	75.00 " "
Dance and Hurdy-	
Gurdy Houses ...	150.00 " month.

I note as facts of historic interest that Montana was made a territory in 1864; the first Governor was Sidney Edgerton of Ohio, appointed in 1864 by President Lincoln; the first Chief Justice was H. L. Hosmer, also of Ohio, appointed in 1864, and the first court met at Virginia City in

From the "Montana Post" in 1865.

December, 1864. The first legislature met in the same year at Bannack, and the first paper, the *Montana Post*, was published in 1864 at Virginia City.

The first clergyman who preached regularly in Montana, aside from the Catholic missionaries who had long been in the region, was Rev. A. M. Torbett of the Baptist Church, who was there in 1864, and the first church building erected was by the Methodists at Virginia City during the same year.

To prove that the moral and religious element was not wanting at this time, I will state that Father Ravalli, of many among the Catholics, and Bishop Tuttle and the late Bishop Gilbert of the Protestant Episcopal Church, are examples of many who spent their early ministerial days in rough and isolated Montana. The facsimile of a "Notice" shown on this page as it appeared in the *Montana Post*, indicates that the Lord's Day was not entirely forgotten.

To the women and girls of refinement life must have seemed a strange compound. To live where the crack of the rifle or revolver was frequent, where boisterous conduct, profanity and carousing were common and life in general wore its roughest aspect, must have

MONEY.

REPORTED BY ALLEN AND MILLARD, BANKERS.
Virginia City, Jan. 28, 1865.

Exchange on N. Y., selling for T. N. at 3 per cent. prem.

Exchange on N. Y., selling for coin at 5 per cent. premium.

Treasury Note, buying at 96 cts.; for dust, selling at 97 cts. for dust.

Gold Dust, buying at \$20.00 per ounce in T. N.
Gold Dust, buying at \$14.00 to \$15.00 for coin.
Coin buying at 10 per cent. premium in dust.

From the "Montana Post" of January 28, 1865.

seemed to many a woman as if existence was one long nightmare.

Early in 1863, it is stated, the first white girl reached Alder gulch. This little miss subsequently became Mrs. Peter Ronan, and she has now a family of her own grown. At my request Mrs. Ronan has briefly sketched a fitting picture of her girl life in those days which must be read between the lines to be fully appreciated. She says :

"When rememorating the tumultuous scenes of the stirring days of Alder gulch from 1863 to 1865, over and above all else, my mental vision rests upon the long rows of sluice boxes into which, as a little girl, I used to watch the miners shovel the gold-laden soil.

"In those days there were often social gatherings in the evenings—the log houses were lighted with tallow candles, and, in some of them, great wood fires burned in the chimneys built of various shaped stones. Refreshments were served, and, when flour was worth one dollar a pound, even bread was a luxury.

"Divine service was held for the first time in Alder gulch in the fall of 1863, by Rev. Joseph Giorda, S. J. The cabin in which the holy sacrifice of the mass was celebrated was crowded with miners, and a few women and children. During the time of prayer, all knelt on the earth floor, utterly oblivious of their rude surroundings.

"From this religious spectacle my thoughts enter an unfrequented chamber of memory in which is a kind of Blue Beard apartment. Upon its walls, in lurid, unfading colors, are depicted ghastly scenes which affright me to recall even at this far distant time. Vividly do I remember an evening when I was sent on an errand to a store and barely escaped being shot by Slade, who was indulging in the pleasant pastime of shooting up and down the main street of Virginia, regardless

COMMERCIAL.

Virginia City Wholesale Markets.

CORRECTED WEEKLY FOR THE "MONTANA POST," BY
ROCKFELLOW & DENNEE.

Stone Building, Cor. Jackson and Wallace Sts.

VIRGINIA CITY, M. T., April 22, 1865.

[Non-resident readers will please bear in mind that our quotations are based upon actual transactions and are gold prices for good-by the original packages. The retail prices average about ten per cent above quotations.]

Flour.—Market during past week has been **VERY ACTIVE**. Several lots of flour have changed hands. Prices at the close of the week **OPTIONAL** with **BUYERS**.

April 16.—The flour market opened at an advance of \$10 per sack, and by 11 o'clock, a. m., had reached the nominal price of \$65 per 98 lb sack. The day closing, holders asked a further advance of \$5 per sack.

April 17.—The demand for flour is increasing. The market opened firm, at yesterday's prices. Before 10 o'clock it had advanced to \$75 per sack.—11 o'clock rolls around and finds dealers in this staple asking \$80 per 98 lb sack. A few transactions were made at these figures. Before 12 o'clock transfers were made at \$85 per sack, and some few dealers were asking a further advance of \$5 per sack. Consumers, having no other resource, were compelled to concede to the nominal price of holders, and paid \$90 per sack in Gold.

April 18.—Flour is truly on the rampage, no concession from dealers' prices on the part of the very few holders of considerable quantities with a still further advance of \$5 00 per sack, which brings the price of an average lot of flour to the unprecedented figures, in this market, of \$1 7 lb.

April 19.—The flour market weakened under the excitement of "current reports" from some new speculators in the market, transfers of small lots being made at \$80 00 7 lb sack.

Eleven o'clock.—Our city is thrown into a state of excitement. Rumors of a bread riot are heard from all quarters.

Twelve o'clock.—Our principal streets are well lined and coated with men, avowedly on the raid for flour.

Later.—Flour is seized wherever found, in large or small quantities, and taken to a common depot. On the pretext under which several lots of flour were confiscated, we do not think that any one would consider it wrong or objectionable to store flour, under the present circumstances, in fire proof cellars or warehouses.

We, however, do not endorse the concealing of flour under floors or hay stacks when the article is up to the present price. We know of no parties that were holders of flour that could not have realized a handsome profit at \$75 per sack; but in favor of merchants that have invested in this staple, at high figures, we should state that we have known flour to be sold within a circumference of a few hundred miles, at the rate of \$5 per lb, and not **unders in the market**.

Market report taken from "Montana Post" of April 22, 1865.

tall, dark man whom I had often seen talking around the camp-fires. Club-foot George was the other ; he had often spoken to me when I was playing around the gulch, and I thought his voice pleasant and his manners gentle. It seems as if it were only a short time after the above dreadful sight when, as I opened the back door of our cabin one frosty morning, I was horrified to see a scaffold before me and a crowd of men around it ; high above the other men and underneath the scaffold stood a young man with a rope around his neck. He shook hands with several of the men, then he pulled a black cap over his face. When I saw him doing this I turned into the house, but as I closed the door I heard the creaking of the scaffold as the soul of the man had been launched into eternity."

THE MONTANA OF TO-DAY.

The glory of the old-time mining camps is mostly gone. They are still there, the gulches are still being worked, but the scepter has departed from Judah, and a new civilization has sprung up. Mining towns—of a different sort—have increased, and with them mercantile and agricultural interests have expanded.

Pioneer, Diamond City, Bannack, and Virginia City are worth visiting to-day to see the mighty things that have been done and which are evidenced on every hand. But the big mining camps are found elsewhere.

The railways have revolutionized the region. Instead of towns composed of log huts and tents, there are now found cities with elegant residences, fireproof business blocks, public libraries, fine churches and school buildings, electric lighted streets and homes, and all the addenda of any modern eastern city.

Other things have changed. Society is as refined as elsewhere, men and women are as well and as stylishly garbed, mining is carried on more scientifically and on a gigantic scale never dreamed of in the 60's, and educational institutions have sprung up at many points.

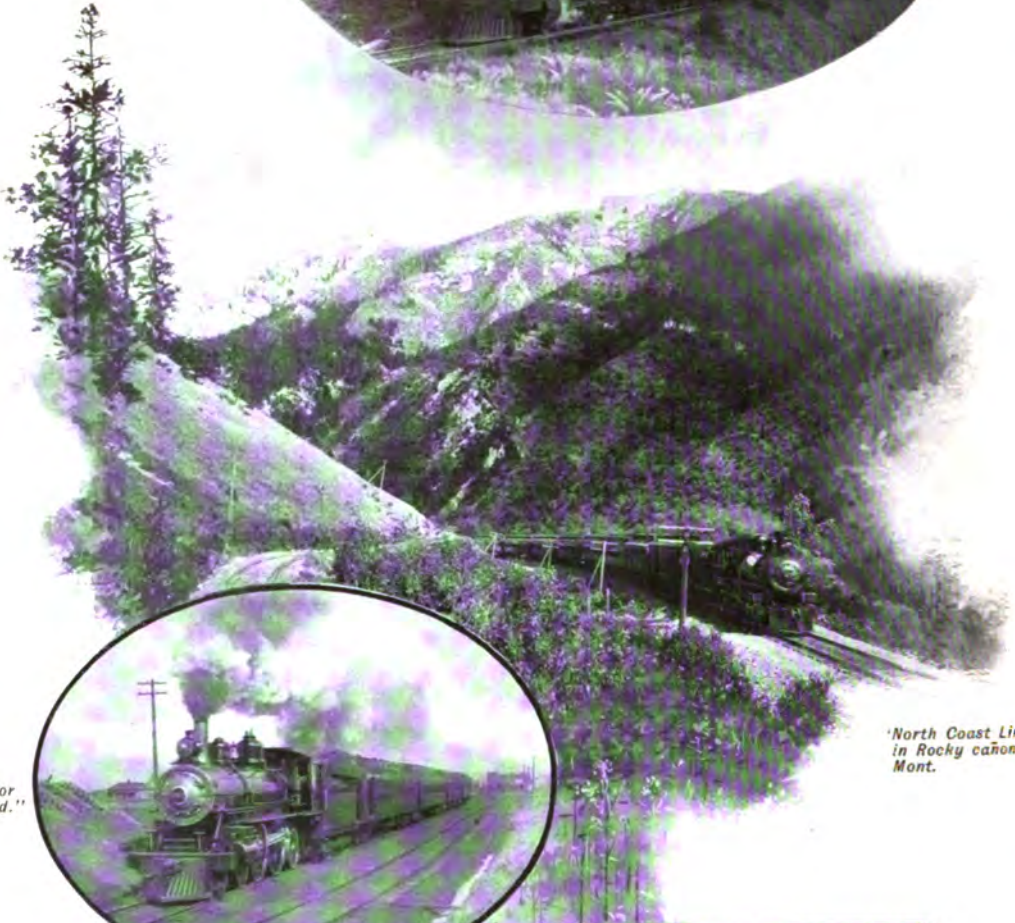
The new Montana, while now being the greatest producer of precious metals in the country, is much more than this, and its tremendous resources have scarcely begun to be developed.

While this is true, mining is yet the hub around which all else largely revolves, and it will so continue to be, at least for years to come.



*A
miner's
home
at
Alhambra.*

*Pacific Express
climbing the
Rockies.*



*'North Coast Limited'
in Rocky cañon,
Mont.*

*"Lake
Superior
Limited."*



*Twin City Express
along Clark fork.*

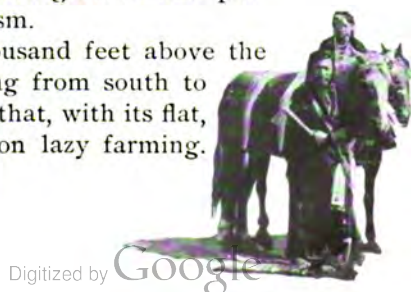


STORYLAND is what the Indians called it—that wide, wild region that formerly stretched west from the Mississippi on and on into the unknown, and is now traversed by the Northern Pacific main line. The name fitted it. If voices could be given to that once vast solitude, what strange, wondrous tales could be unfolded. Every hill, stream, rock, mountain, valley, and butte could tell a story of adventure.

Now it would be of the old trappers in the fur days; now of savage Indian orgies; again of a band of prospectors or explorers; then of the days of early settlement, followed by tales of camp and fort and Indian vs. white warfare. Tales of great buffalo hunts and feasts, of antelope, deer and elk stalking, of beaver trappings, of long trailings after mountain sheep and goats, of capturing wild horses. A region full of exciting and picturesque adventure has been this storyland of the Indian, the wonderland of the white man.

Stretching west from the Minnesota Parkland lies a country strangely varied in altitude, climate, scenery, and use. Now its ancient, wild grandeur is largely departed. The vast herds that once roamed it are gone; the savage hordes that hunted those wild droves are relegated to metes and bounds. A new generation has gone in and possesses the land, and civilization succeeds barbarism.

The Red River of the North, about one thousand feet above the ocean's level, has fashioned out a valley, running from south to north, hundreds of miles long and leagues wide, that, with its flat, black, rich lands, almost places a premium upon lazy farming.





Hauling grain on a Red river valley farm.



In the Coteau country, N. D.



Cowboys in the Pyramid Park country.



Eaton's ranch, near Medora, N. D.



Main street, Bismarck, N. D.

A glimpse of the Pyramid Park (Bad Lands) country.

North Dakota Views.

It is hard to calculate how many loaves of bread are eaten yearly that had their inception in the rich soil of this valley.

Beyond, and from 600 to 800 feet higher, rises the rolling Coteau country of North Dakota, a paradise for flocks and herds.

Still farther on, across the Missouri river, flames a weird land of unique splendor, the well-known Pyramid Park, or the Bad Lands country. Higher in altitude by from 700 to 1,000 feet than the Coteaux, this region of scenic interest appeals also to the herdsman for its unequalled pasturage.

Painted like an Indian in all his finery; with sculptures that would have excited the envy of Angelo; an almost perfect representation of petrified rock waves whereon the colors of its own gorgeous sunsets have been forever caught and held, it extorts the wonder and admiration of the sightseer.

And now we reach that rolling, sunkissed stream, called by the red man the Elk; by the French voyageur, Roche Jaune; by the American, Yellowstone. For 341 miles its winding valley, gradually rising from 2,100 to 4,500 feet in elevation, is followed by the Northern Pacific rails. Its broad bottom lands, backed on either side by vaster ranges for flocks and herds, show conclusively that here is the mutton and beef growing region of the country; its sharp rock spires and castellated cliffs form a moving panorama emphasized by the rutilant stream laving their taluses.

The Shining Mountains of Carver, the Rockies of our own day, in three serried, parallel lines stand athwart the course. American engineering has mastered them; and over them once, twice, thrice, at low elevations of 5,565, 5,550, and 3,948 feet, the steel rails climb and duck and again stretch westward down the valley of Clark Fork river, a stream not quite as large as the Yellowstone, but much finer in scenic attraction, lower in elevation, and flowing in an opposite direction.

The Clark Fork and its mountain walls are succeeded by Lake Pend d'Oreille deep down in a mountain basin, 2,100 feet above the ocean. These mountains are the western flanks of the Rockies, and beyond them spreads out the great plain of the Spokane, Palouse, Big Bend, and the Columbia, now the great granary of the far Northwest.

The valley of another river, the Yakima — 400 to 1,500 feet above sea level — follows. Here irrigation is king, and a former idle, worthless desert is being transformed



Northern Pacific Railway station, Bismarck, N. D.



A Flathead Indian family.

into a paradise and a sanitarium for those having weak lungs.

Another mountain range looms ahead. Far different is it from the Rockies, not so bare, rock-bound, and ragged. The Cascades are gorgeously decked in green, and deep, yawning gulches forested from bottom to top are characteristic of the topography.

The rails cross the mountains through the Stampede tunnel, 2,849 feet in elevation and nearly two miles in length, and then gently wind down a narrow cañon that for its size and character will compare with



Wash-day at the ranch.



A herd of Montana sheep.

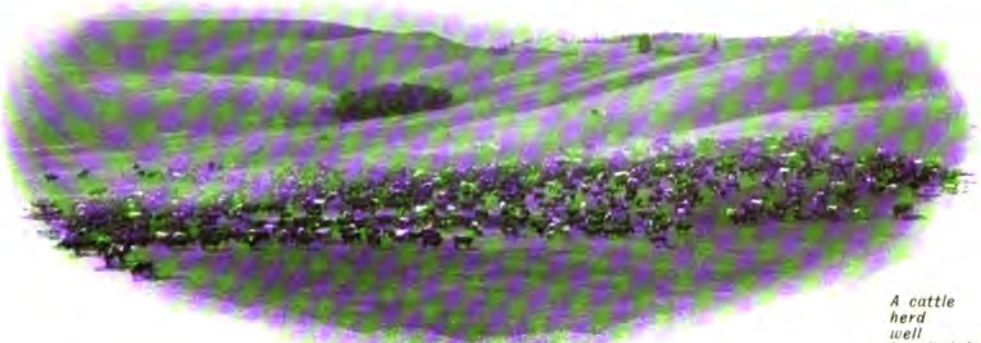
anything I have ever seen. It is the Green river cañon, of winding vistas; dashes of impetuous rapids alternating with deep, quiet, cool, trout-hiding pools; wild, vine-covered and berry-flecked mountain sides, with here and there a rocky wall or towering crag to add emphasis.

Along the remoter northern base of Mount Rainier the rails swing to Seattle and Tacoma, thence on through a low, level, and well watered succession of prairies and valleys to the mighty Columbia river at Kalama, and then along the banks of that stream and its tributary—the deep, peaceful Willamette—to Portland, the splendid metropolis of Oregon, and the 2,000-mile trip through Storyland is done.

But there is much besides this. There are ranches and farms and people and towns and cities.



A bunch of Montana grouse.



*A cattle
herd
well
bunched, in
eastern
Montana.*

In the Red river valley, Fargo, Grand Forks, Crookston, and Grafton, in North Dakota, and Winnipeg in Manitoba across the border, invite the cosmopolite; beyond, Valley City, Jamestown, Bismarck, Mandan, and Dickinson will show western enterprise and some diversity of life.

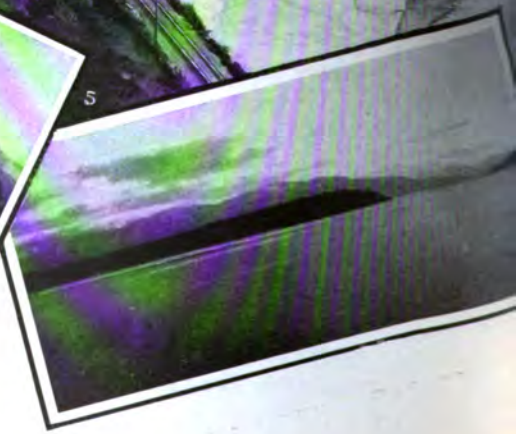
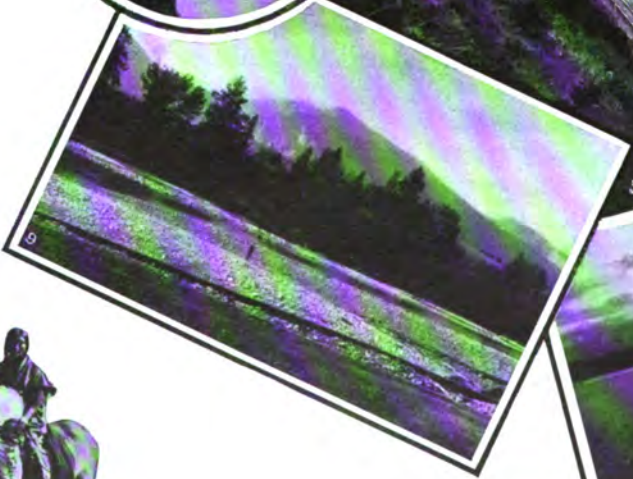
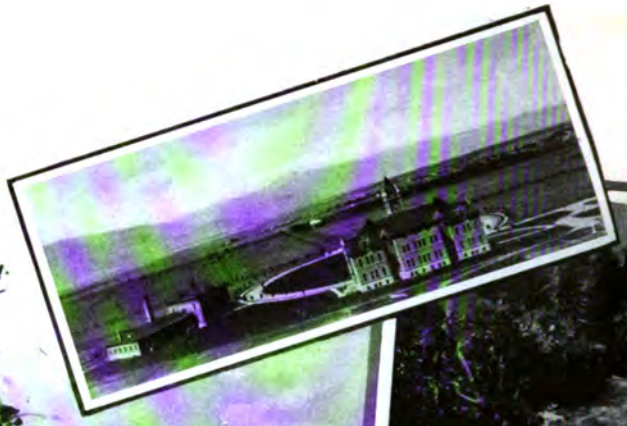
The Yellowstone and Gallatin valley towns have not grown to metropolitanism yet, but they are "inching" along, and the railway business shows it. Glendive, Miles City, Forsyth, Billings, Big Timber, Livingston, and Bozeman are each stripped for the race, and are known, in Western parlance, as "hustlers."

Beyond Bozeman the Northern Pacific forks; one fork crosses the mountains by following the Missouri river northward and then cutting straight across to Helena, the capital of the State, and then climbing the hills; the other line swings westward along the Jefferson river, when, fold rising above fold, it circles among the granite domes and crags, passes through Butte, Anaconda, and Deer Lodge to Garrison, where the divorce granted at Logan is annulled and the two lines again become "one and inseparable."

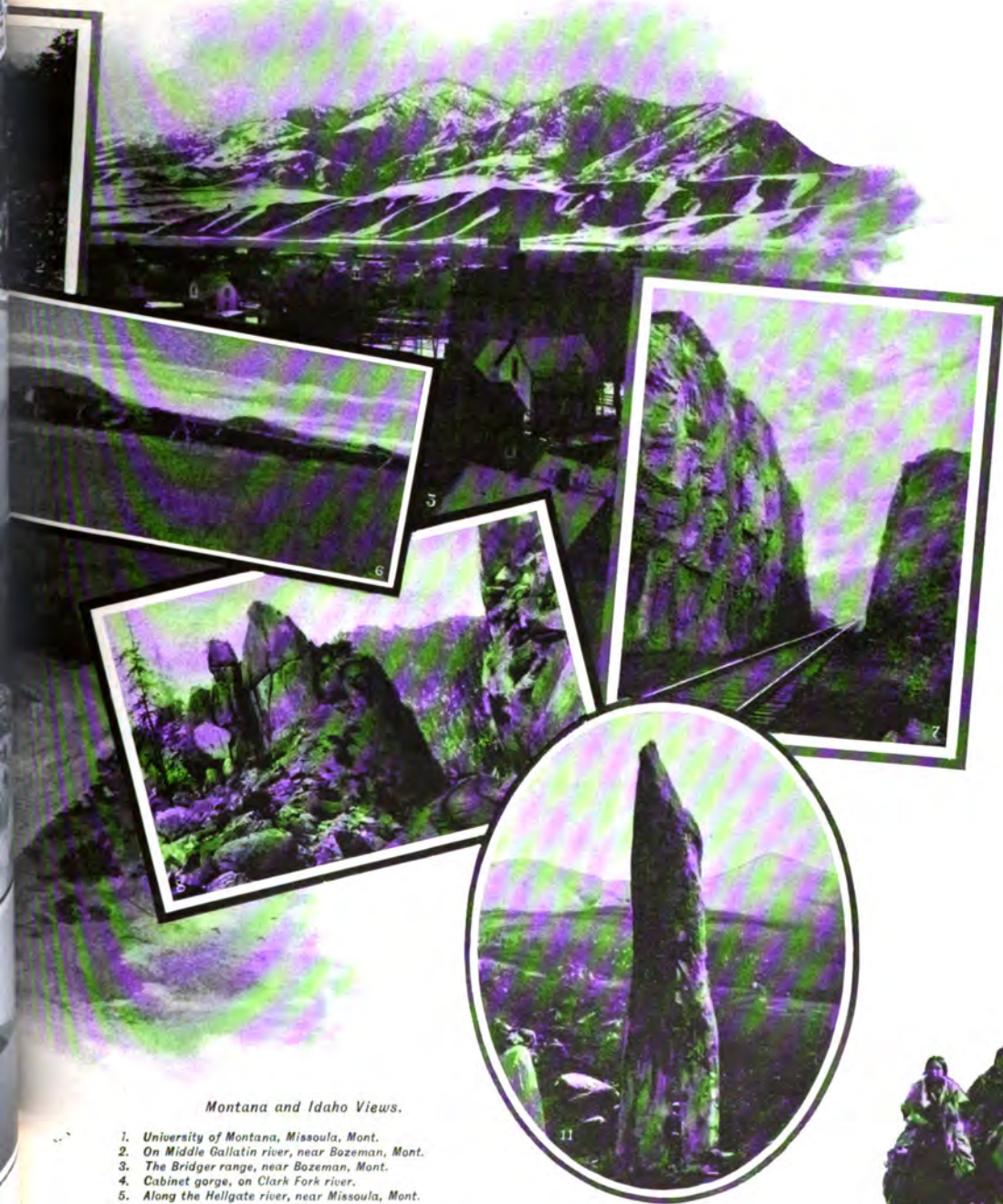
Missoula, at the mouth both of the Hellgate cañon and Bitter-root valley, is a beautiful and rapidly growing university city.

Spokane is an empress. The wealth of both the hills and the plains is hers, and through her vitals courses a rushing river whose strength is transmuted into electrical energy whose throbs and light are felt and seen throughout her borders. From her, through many radiating lines of railway, circulates a strong, healthy quality of commercial blood. South of Spokane lies the Clearwater and Walla Walla country, with Lewiston, Walla Walla, and Pendleton as the important centers.

In the Yakima country, North Yakima and Ellensburg have a consciousness of reserve strength for the future, and the towns of the coast are like raisins in a pudding — many and plump.



*Flathead squaw
and papoose*



Montana and Idaho Views.

1. University of Montana, Missoula, Mont.
2. On Middle Gallatin river, near Bozeman, Mont.
3. The Bridger range, near Bozeman, Mont.
4. Cabinet gorge, on Clark Fork river.
5. Along the Hellgate river, near Missoula, Mont.
6. A Gallatin valley ranch crop.
7. Just east of Logan, Mont., on N. P. R.
8. On Butte Air Line (N. P. R.)
9. On the Bitter Root river, showing Blodgett's cañon in distance.
10. Lake Pend d'Oreille, Idaho.
11. Rock Spire, on Butte Air Line (N. P. R.)



Growing, progressing, and enriching—this is the condition of all of these coming cities. Take this 2,000-mile ride and see them.

In making this flight, I wish to call attention to two spots, like yet unlike in character. The tourist will be glad to stop a day or a week at them, the weary invalid a month.

There are Spas galore in this broad land, but the Northern Pacific



Spokane Falls, Spokane, Wash.

is fortunate in having on its main line—one in Montana, the other in Washington—two that are equal to any in the country.

HUNTER'S HOT SPRINGS.

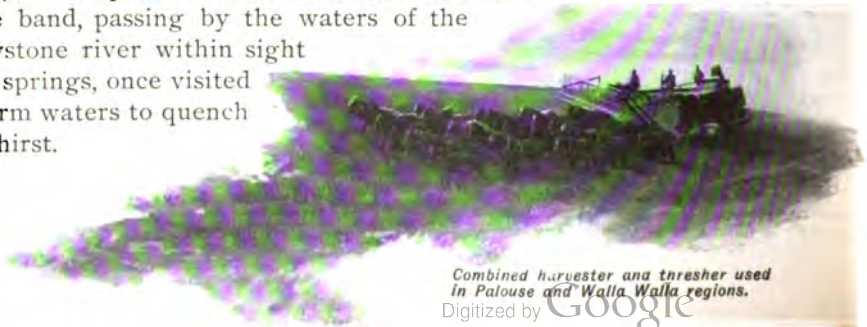
The closing years of the Civil War found Dr. A. J. Hunter, of Missouri, financially ruined. The Montana gold-fields were then attracting attention, and Doctor Hunter and family, in 1864, started for them by way of the prairie schooner limited route. After divers adventures they reached the beautiful valley of the Upper Yellowstone, and while out hunting the doctor ran across a band of several hundred Indians camped at a group of hot springs. These springs were much frequented by the many tribes of red men in the region, who well understood their healing properties.

Eventually the doctor, a physician and knowing the value of the waters, became possessed of the springs, gave them the name they now bear, established a rude sanitarium, and lived there through many trying frontier experiences.

These springs were popular, not only among Indians—as they are to-day among the whites—but the animal kingdom appreciated them as well, and frequented them. Five thousand elk in one band, passing by the waters of the Yellowstone river within sight of the springs, once visited the warm waters to quench their thirst.

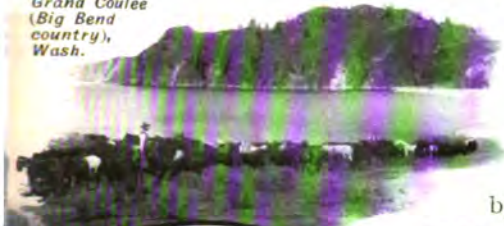


High school building, Spokane.



Combined harvester and thresher used in Palouse and Walla Walla regions.

A horse round-up in the Grand Coulee (Big Bend country), Wash.



Main street, Lewiston, Idaho.

These springs are about twenty miles east of Livingston, 1,000 miles from St. Paul, and two miles from Springdale, on the Northern Pacific, and beautifully situated among the foothills of the Crazy mountains, an outlier of the Rockies, with the Yellowstone river in plain view. They are now owned by James A. Murray, a well-known mine owner of Butte — from which point and Helena they are quickly reached, and at slight expense — and are managed by McCormick and Perry. Within the last two or



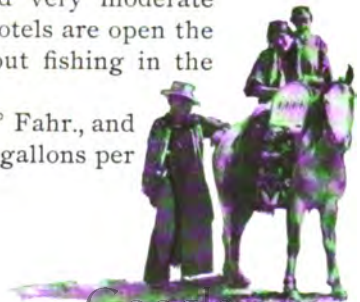
A good place for trout on Green river.

three years, the accommodations have been greatly improved. The traveler will not find here the luxurious appointments of Saratoga, or the Hot Springs of Arkansas, but he will find water that is better, food most wholesome, the utmost cleanliness, satisfactory modern conveniences, courtesy and attention, attendants and a resident physician, a glorious climate — 4,000 feet above sea level — and very moderate prices. The Springs hotels are open the year round, and during the season there is fine trout fishing in the Yellowstone river and tributary creeks.



A bit of Northern Pacific Railway track along Green river.

The water ranges in temperature from 148° to 168° Fahr., and is in three groups, having an aggregate flow of 2,500 gallons per



minute. It is of the highest organic purity and particularly efficacious in diseases of the digestive organs, and in nervous, skin, and various other disorders. Rheumatic complaints of all kinds are *greatly* benefited.

Hotels at
Hunter's
Hot Springs.



Fishing
on the
Yellowstone
at Hunter's
Hot Springs.



There are large and small plunge baths and bathing tubs, with dressing rooms *en suite*, etc., all under cover and connected.

One of the interesting features in summer is the large and fine garden that supplies fresh vegetables daily.

Tourists visiting Montana will enjoy a few days at this resort, that is rather on the rustic order, and with an open, charming, southern outlook, and the water of which is said to be



Hunter's
Hot Springs.



Park
opposite
hotels,
Hunter's
Hot Springs.

superior to that of the Hot Springs of Arkansas. The "North Coast Limited," westbound, and the Pacific Express, both eastbound and westbound, stop at Springdale, where trains are met by a carriage from the Springs.

GREEN RIVER HOT SPRINGS.

Over on the North Pacific slope, in the heart of the Cascades, the second group of springs burst from the ground. Here, too, the Indian was the pioneer. Here the tribes gathered from the slopes about Tah-hó-ma or Tak-o-man (Mount Rainier), Pah-to (Mount Adams),

A suite at Green River Hot Springs hotel.



Green River Hot Springs hotel and Hot Springs mountain.

Lah-me-lát-cla (Mount St. Helens), and from Whulge (Puget sound), and laying aside any little differences, enjoyed the hot waters and eradicated disease.

In time the white man dispossessed the red man, and for many years these waters, as they come tumbling down the mountain side, have been piped across the Green river and made to minister both to the ills and pleasure of the usurper.

The site of these springs is a picturesque one on the banks of the Green, a fine trouting stream, with the Cascades towering high above. They are about 1,600 feet above sea level, sixty miles east from both Seattle and Tacoma, and about 200 miles east from Portland.

The climate is warm, moist and pleasant at all seasons of the year.

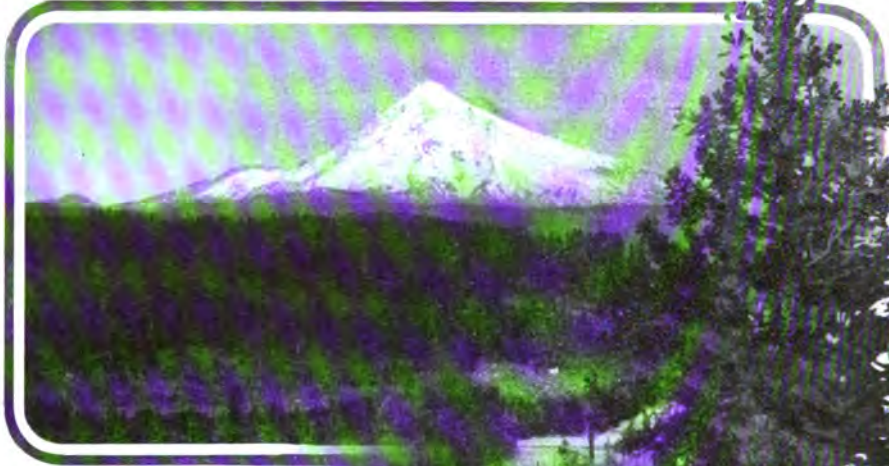
From near the banks of Green river and the base of the Hot



Dining room



Billiard room.



Mount Hood
from
Portland.

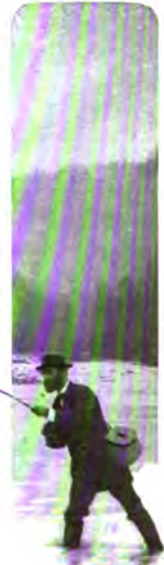
Springs
mountain,

the hot mineral water breaks its way to the surface on its mission of mercy to humanity. In all there are twenty-seven springs furnishing a volume of water so great that more than 200,000 gallons go to waste daily. The average temperature is 132 degrees Fahr. The water is alkaline in character, containing no less than twenty-six grains of mineral matter to the gallon. It is also strongly impregnated with free carbonic acid gas, and to its presence is due the fact that the hot water can be drunk freely without the nausea that frequently accompanies the ingestion of artificially heated waters.

Within two years a new and excellent hotel has been erected at this point and no place of the sort, east or west, now offers to the tourist, traveler, or invalid a more delightful resting spot. The hotel is a gem architecturally, is modern in every way, heated by steam, lighted by electricity, etc., faces south and has roomy verandas.

The cuisine is beyond criticism, prices reasonable, rooms sunny and homelike, and Dr. J. S. Kloeber, a physician himself, in charge of the springs, makes it a point to *make* one feel at home and enjoy one's self. Then there is a bowling alley, golf links, tennis courts, billiard and pool tables, and a herd of Jersey cows to supply pure cream and milk.

The bathing facilities are, as might be expected,



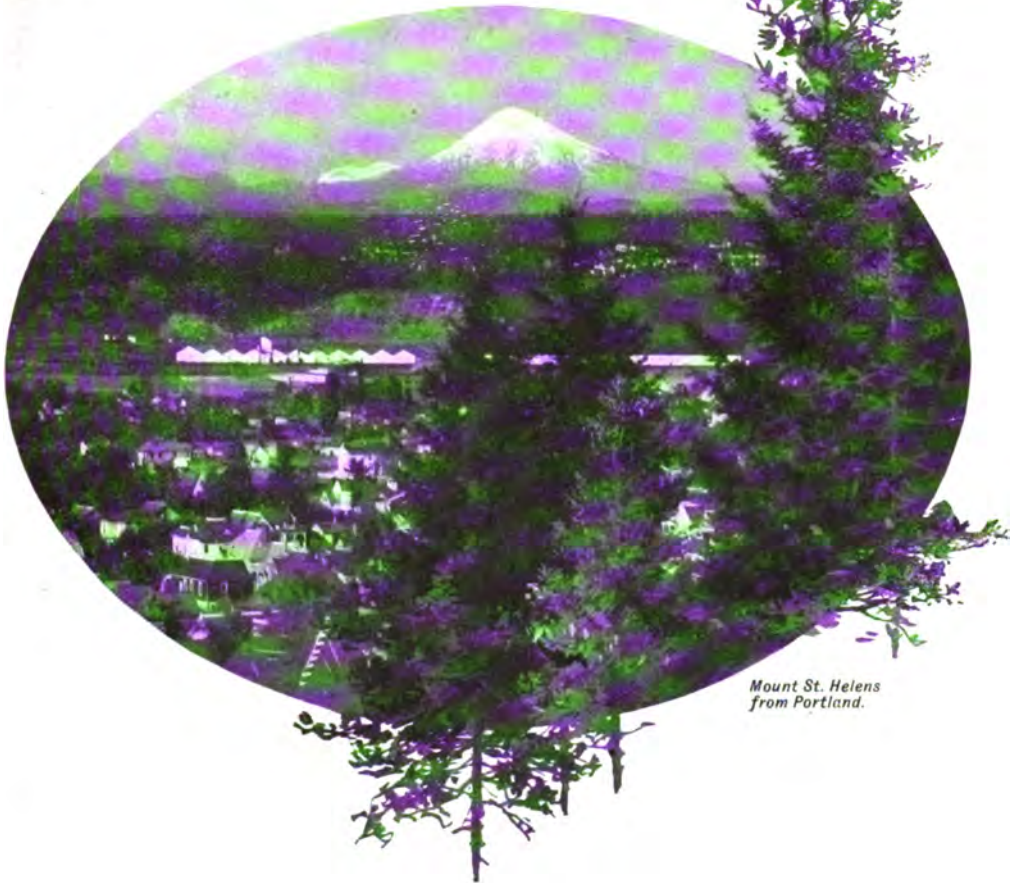
Hooked
at last.

strictly first class and under the charge of skilled attendants. Russian and Turkish baths, massage, etc., can all be found here.

For those who enjoy climbing, the mountains afford abundant opportunity. Trails lead up the Hot Springs mountain so that the sources of the springs can be visited if desired.

Those who journey to the North Pacific coast should make a mental note of Green River Hot Springs and plan to spend a day or two there, or run out from Tacoma or Seattle (round-trip rate is very low) and spend a Sunday. A surprise awaits the easterner who is wise enough to act upon this suggestion.

All through trains on the Northern Pacific stop at this point.



*Mount St. Helens
from Portland.*



Standard dining car, N. P. R.



Class S-3 road engine.



Interior of observation car on "North Coast Limited," N. P. R. Looking toward rear.



Interior of observation car showing library, "North Coast Limited," N. P. R.



Interior of parlor car on "Lake Superior Limited," Run between St. Paul and Duluth on N. P. R. "Short Line."



Class Y-3 modern compound mountain-helper engine. Diam. of boiler, 7 ft.; weight of engine and tender, 322,000 lbs.



Interior of N. P. R. Tourist Sleeping Car.



THE TOUR OF THE PARK.

IN GOING to Yellowstone Park, the main line of the Northern Pacific Railway is diverged from at Livingston, Mont. From Livingston to Cinnabar, fifty-one miles, a branch line leads up Paradise valley and alongside the Yellowstone river, affording a most delightful ride, and one that forms a fitting prelude to what follows.

The Government permits no railways in the park, and this line, which stops at the northern boundary, is the only one that touches the park at any point. On each of the transcontinental trains—the “Pacific Express” westbound and “North Coast Limited” eastbound—that carry the bulk of the travel to and from the park, both east and westbound, a Pullman first-class sleeping car is attached that runs between St. Paul and Cinnabar, and another that runs between Cinnabar and Seattle. Passengers in these cars bound for the park remain in them until Cinnabar is reached and take the cars at Cinnabar when leaving the park.

Between Cinnabar and Mammoth Hot Springs large, six-horse stage coaches are run, the tourist reaching the Springs in time for luncheon, and leaving there after dinner, when leaving the park. The seven-mile ride between these points is full of interest, Electric peak and Sepulcher mountain being in full view, and a ride along the dashing Gardiner river, through the Gardiner cañon and past Eagle Nest Crag being attractive features.

(81)

A
park
coach.



After spending an afternoon in viewing the terraces at the Springs, the following morning, if the usual five and a half day tour of the park is made, the traveler starts at 8 o'clock on his ride through Wonderland.

It should be understood that this particular trip *is not compulsory*. One may remain in the park as many days as one likes—the more the better—and there will be no additional charge for transportation.

The hotel charges will be \$4 per day, and after seven days but \$3, for whatever time one is in the park.

The hotels have recently been entirely renovated and greatly improved. A new one, opened in 1901 at Norris geyser basin, is so located that it overlooks the basin, and one can sit on the wide veranda and view the "passing show." Another hotel is expected to be constructed at Upper geyser basin during 1902. These new hotels will give tourists an opportunity to stop and become better acquainted with the wonderful phenomena of the geysers.

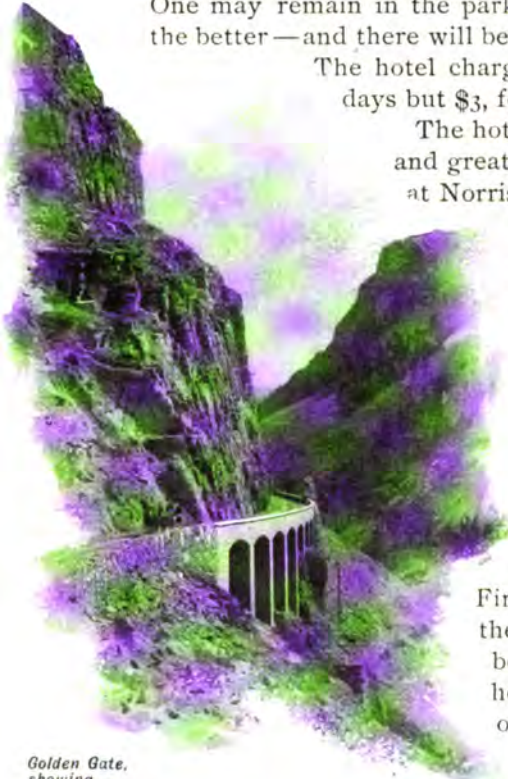
On the regular five and a half day tour, after luncheon and sightseeing at Norris basin, the coaches proceed, via Gibbon river, cañon, and fall, to the Firehole river, where, after stopping to enjoy the cascades of the Firehole, they roll along beside that glorious stream to the Fountain hotel at Lower geyser basin. The features of this day's ride are Golden Gate cañon and its new \$10,000 concrete viaduct, a

fine piece of substantial engineering; the cascades and fall of the Gibbon, and the cañon of the same, and the geysers at Norris.

The Golden Gate cañon is a mile long and 300 feet high, and very picturesque; Gibbon cañon is several miles long, winding, and with timbered slopes on one side and fine palisades 2,000 feet high on the other.

At Lower geyser basin the Fountain, Clepsydra, and Great Fountain geysers, a collection of beautifully transparent pools near the latter, and the Mammoth paint pots gradually open to one the variety to be found in this most noted of parks.

The day following, the tourist reaches Upper geyser basin, visiting



Golden Gate, showing new \$10,000 concrete viaduct.



Gibbon Fall.

*Hotel
at
Grand
cañon.*



en route the Midway geyser basin, where he sees the Excelsior geyser crater, Prismatic lake, and Turquoise spring, three of nature's masterpieces, where the colors of the spectrum are almost outdone. The Upper basin con-

*New
hotel
at
Norris
geyser
basin.*



tains the largest number of geysers. Here they are found in greatest variety, from the Economic, that throws a stream to a height of thirty feet, to the Giant, that sails heavenward for 250 feet. This, however, does not tell the story. No statement can be made that will really give an idea of the almost

infinite variety of hot water fountains to be found here. Each has its own idiosyncrasies that can not well be described in words. The other most prominent geysers are the Riverside, Grotto, Grand, Old Faithful, Giantess, Lion, Castle, and Bee Hive.

If one desires to observe well a very unusual manifestation of nature, here is the spot at which to stop for a week or more. Besides the geysers, Black Sand pool, Specimen lake, Emerald pool, and Sunset lake will cause one to think that the bard of Avon must have had a dim idea of Yellowstone Park when he gave utterance to the sentiment that there are more things in heaven and earth than mankind, of whom Horatio was the effigy, dreamed of.

Upon leaving Upper geyser basin the traveler winds up to and over the great Continental divide — about 8,350 feet above sea level — where the waters are parted, some flowing to the Mexican gulf, the others to the Pacific. The region is very interesting to the geographer and the scenery itself is of a high order, particularly as the coach reaches Shoshone point and a view of much loveliness suddenly breaks on the vision.

Then follows Yellowstone lake, an ideal inland sea, mountain girt, supposed to be the second highest navigable and navigated body of



*Hotel at
Mammoth
Hot Springs.*

The Gibbon river drive.



Tourists around Handkerchief pool.

water in the world, and which easily appeals to all that is poetic and sentimental in one's nature. Near the outlet of the lake another homelike, electric lighted, delightfully placed hotel is found, where one will

stop for more than a day if one desires to rest in the most seductive and satisfying sense of the word.

Yellowstone lake is noted for its salmon trout, and they are so plentiful and greedy that even the tyro may catch them, and all are welcome so to do.

The fourth day's journey in the park is the eventful one, for the traveler then reaches the climax of the tour—the Grand cañon with those two peerless cataracts, the Upper and the Lower falls of the Yellowstone.

The Grand cañon is undoubtedly the finest thing of the sort in the world. When man attempts the task of depicting its glories he falters. The painter on canvas and the word-painter both hesitate, appalled at the prospect. The gorge is such a jungle of sculptural and architectural forms and such a wanton riot of color that one knows neither where to begin nor end. It is only



Chocolate Spring cone along Gibbon river.



Silver Gate and Bunsen peak.

upon a close study and analysis of this remarkable chasm that the full force of this is borne in upon one. The first effect, beyond surprise, is that of joy, wonder, of deep yet enthusiastic admiration at being permitted to stand in the



Cooking a trout just caught in the river in the hot pool on the river bank



A stretch of the Firehole river.

M O N T A N A

TO PORTLAND

Butte

Logan

Boreman

Livingston

YELLOWSTONE

Billings

Custer

Ft. Keogh

Miles City

RIVER

Glendive

TO ST. PAUL

NORTHERN PACIFIC





Yellowstone lake, Stevenson Island, and Lake hotel, from mountain back of hotel.



Steel steamer "Zillah," on Yellowstone lake.

presence of such a profound pageant and creation. The man or woman gifted with a true, refined sense of the sublime, will experience a peculiar conflict of emotions upon reaching the rim of the cañon.

Take, for example, one of those sharp, tooth-like pinnacles at Grand view for a footstool, where the gorge flares wide, the piers and peninsulas of white and weather-stained rock rise in dire confusion, and the full scheme of color, oriental in its richness and almost barbaric in its novelty and variety, is revealed in all its breadth and magnificence. I defy anyone born of woman to describe the sensations which possess him or her, standing at the edge of the chasm at this point. The walls drop, vertical and jagged, deep into the abyss, succeeded by long slopes smoothed and almost polished by the action of the elements. Far down at the bottom rushes the mighty river, its deep, beautiful emerald modulated by the foam, as it sweeps around the bases of gigantic buttresses and tumbles over small precipices, or rushes down boulder-strewn declivities. As for color—but hold! If you remember how, in a kaleidoscope, the colors apparently rush together indiscriminately and without order, and yet arrange themselves in beautiful harmony and combination, you may know something of how these reds and grays, and whites and browns, and yellows and lavenders, and blacks and greens, run together in glorious and harmonic confusion, while the green of the forest that fringes the edge of the cañon and the blue of the heavens high above, both enter into that divinity which doth in truth seem to hedge the spot about.

The two falls are important members of the cañon equation. The Upper one, 109 feet high, leaps over the basalt precipice in wild glee

and abandon, while nearly a mile below, the Great or Lower fall, as if in keeping with its more dignified position at the very head of the gorge, plunges 308 feet into the chasm in grand and majestic style.

The Lower fall is best seen from Point Lookout, not far from the Grand cañon hotel. Another point where the view is most striking, and where many think the best view of the cañon is to be obtained, is Inspiration point. Here, too, the fall is seen but is dwarfed by distance. At Inspiration point many will exclaim with Shakespeare :

"I'll look no more,
Lest my brain turn, and the deficient
sight
Topples down headlong."

At the Grand cañon man forgets himself and remembers his Creator as in the days of his youth.

On the fifth day the tourist returns via Norris basin to Mammoth Hot Springs and thence to Cinnabar and the tour of Wonderland is ended.

MAMMOTH HOT SPRINGS.

This place is, as it were, the capital of Yellowstone Park.

Here are Fort Yellowstone and the military commandant, the latter also the acting superintendent of the park; here are the headquarters of the U. S. Engineer who has charge of all engineering operations, road and bridge construction, etc., in the park; here are the offices of the hotel and transportation companies, and from this point the actual tour of the park is begun.

The peculiar phenomena to be observed here, are probably all in all, the least interesting in the park. This, however, is purely from a relative and comparative standpoint. Could this spot be picked up and transported to a park in any American city, it would be looked upon as the eighth wonder of the world. As it is, tourists who see it for the first time are carried away with its beauty and unique individuality, and it is only after a tour of the park that they realize that relatively it is one of the lesser glories of Wonderland.

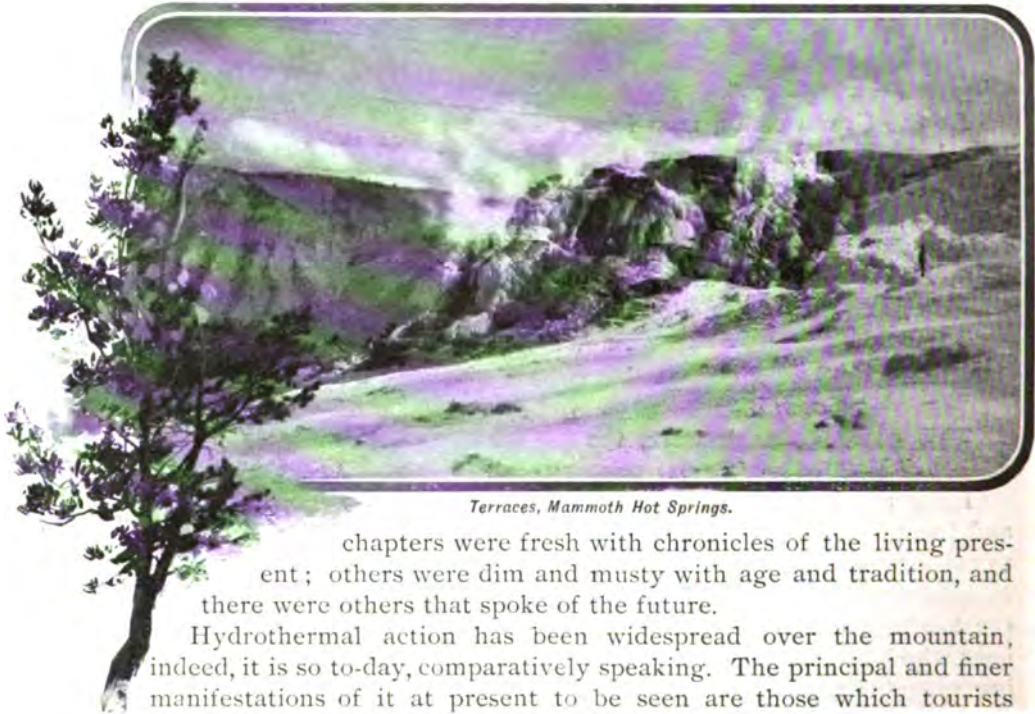
To him who has the inclination and patience to freely wander about



*Lower fall
from
Point Lookout.*

the slopes of Terrace mountain, there will be unfolded a strange, strange story. Life, death, decay, and life again, extending over a period which no man may dare name, is told on every side. This strange and marvelous story was never borne in on me so strongly as it was last summer, when, alone, I spent a forenoon in slowly climbing about the mountain. Beginning with Liberty Cap, Cleopatra terrace, and the Giant's Thumb, I wended my steps here and there, working higher and higher about the terraces and far back among the higher slopes in the timber, where a tourist only occasionally penetrates.

The volume I was studying was new, and yet old; some of its



Terraces, Mammoth Hot Springs.

chapters were fresh with chronicles of the living present; others were dim and musty with age and tradition, and there were others that spoke of the future.

Hydrothermal action has been widespread over the mountain, indeed, it is so to-day, comparatively speaking. The principal and finer manifestations of it at present to be seen are those which tourists regularly see. But hidden away, and much higher up the mountain, somewhat remote from the trails usually followed, are other evidences of this action.

All along the mountain-side are seen the relics of bygone ages. Hot springs formation, old and disintegrated, lies on every hand. Over this dead and decaying débris, new life in the form of tree and shrub has come to gladden the landscape. Old and deep pits, the craters of former springs, have become filled with the accumulations of time, and from these ancient vents trees, now themselves aged, have sprung. Lines of cliffs rising tier on tier, old, withered, crumbly, mark the contour of ancient and decorated terraces, as Angel, Cleopatra, and

Pulpit terraces do now, and exhibit the wreck, ruin, and degradation that follow the cessation of terrace building.

To retrace our steps, the bleak common upon which Fort Yellowstone and the hotel are built, with its deep circular pits, dried up and filled with débris, is also a vestige of the past. These holes were, without doubt, beautiful springs at one time, and the water that flowed from them formerly spread over the plain itself, probably finding its way, as does that from the springs now, into the Gardiner river. It would be interesting to know, actually, whether the heated energy of those old days was concentrated now here, now there, or whether it was at one time scattered over the entire mountain-side, and that the present focus of action is but the residuum of ancient and mightier power.

It would be interesting, too, to have seen Liberty Cap in the heyday of its youth, and to know how long it was in process of construction, and how long it has been as we now see it.

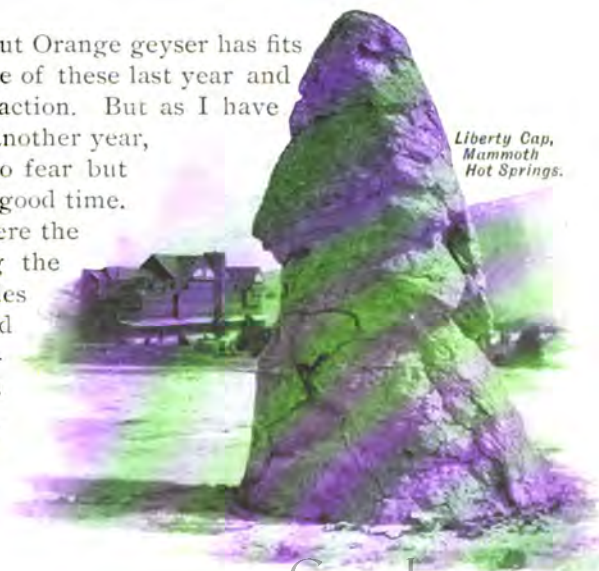
The tourist finds a goodly variety here. Minerva terrace has been dead for two or three years, but Cleopatra has taken on new and radiant attire, and Pulpit terrace, it seems to me, was never finer than in 1901. Angel terrace never savored more of the angelic, and the springs of Jupiter were never more beautiful.

Narrow Gauge terrace, some 350 feet long and from two to ten feet wide, with its chimneys and domes, was resting from its labors last year, but is very likely to break forth with renewed vigor this year.

Above the Narrow Gauge, and surrounded by monuments of the past, lies that strange ridge some 700 or 800 feet long, known as the White Elephant. Once this entire ridge may have been active; in recent time something like 100 feet of it have been modestly eruptive, and it remains about the same from year to year. The ridge is from six to ten feet in width, with four large travertine bosses, emitting hot water, at one end.

Bath lake is always enticing, but Orange geyser has fits of sulkiness or laziness. It had one of these last year and was therefore devoid of much attraction. But as I have seen it thus before, only to find it, another year, more radiant than ever, I have no fear but that it will come out of its sulks in good time.

The hotel at the Springs is where the life of the place centers during the season. At evening sociability rules there. Everybody is welcome, and informal hops, or music by the colored musicians of the hotel are a part of the program. One can array himself or herself in full



*Liberty Cap,
Mammoth
Hot Springs.*



The
White
Elephant.

Coating Spring terrace.

dress or not, as one chooses, it makes no difference, so far as participating in the festivities goes. The gathering is a cosmopolitan one, and officers' uniforms, business suits, dress suits, fine gowns, and shirt waists, are all to be seen flitting about.

What is true here is true of all the hotels, and one can take as much or as little part in what is passing as one desires, the principal thing being to enjoy one's self as one pleases.

THE DECADENCE OF THE GEYSERS.

It has become quite the thing of late for some one to break forth now and then into a learned disquisition upon the decline of the geysers. These attacks of geyseritis, as one might term them, like tonsillitis, appendicitis and cognate itises, will probably have their day, pass away, and no one, not even the geysers, be seriously affected. At present this malady seems to attack *eminent scientists*, principally, and evidently those who are *so* eminent that a little knowledge leaveneth the whole lump, so that they understand the entire matter even though actual study of the suffering patient may have been brief and fleeting. These geyser doctors, like the medicine man of the tribes and the voodoo of the south, play upon the fears of their victims. "The geysers are dying—haste, quickly, or you will be too late"—is the tenor of their cry.

The writer is no "eminent scientist"; he hopes, however, that with others, some of them men of scientific attainments who have an extensive acquaintance with the geysers, he has a modicum of common sense and can state the truth in this matter.

Seriously, while the hydrothermal phenomena found in Yellowstone Park, are—to quote Arnold Hague of the U. S. Geological Survey, an

eminent geologist, indeed, than whom no better authority exists—“in a sense, evidences of the gradual dying out of volcanic energy,” no one need worry over the fact. This dying has been going on for centuries and will continue for centuries to come.

Referring to the changes constantly taking place here, which fact is known of all men, Mr. Hague says: “It is evident that to accomplish such changes, even through more intense action than the present, a long period of time was required.”

As a matter of fact, since Colter discovered the geysers in 1807, we know through Ferris' writings in the 30's, Bridger's tales of them in the 40's, and the careful observations made since Folsom visited them in 1869, that there have been no *material* changes. That changes *are* going on continually is a fact, but in some cases it is due largely, or even wholly, to the character of the seasons; in others it is what might not improperly be termed a redistribution of energy, for the equilibrium is practically, at least, maintained.

The arguments of the “eminent scientists” are all based upon the same data. If their premises or assumptions were true, their conclusions might be, but the former are false.

Roaring mountain, so called, because it never roars now, is one of the instances given of dying geyserism. It is doubtful if it ever did roar. It is safe to say that if it did, it was one of those exceptional changes brought about, for a time, by some hidden spasm of nature, but temporary in its action and effect.

The Black Growler is another example. Those familiar with Norris geyser basin know that the steam power formerly *concentrated* here in *one* vent, now expends itself in two and even more fumaroles, and that there is no real diminution of force.

Among the geysers there are incidental changes continually, but there is no real loss of power. If one of them plays with unusual vim this year, another may usurp its place next season. One that was entirely inactive last year may, this year or the next, be seen in fine eruption. They all have their peculiarities, based, practically, on processes hidden from us, but in ceaseless operation, and the effects of which, only, we see. In many of the geysers we know that there has been no real change whatever in more than thirty years. The Fountain geysers, Old Faithful, Economic, Giant, Giantess, Castle, and Bee Hive are examples of this.

The paint pots may vary, as the season is very wet or very dry. I have seen the paint pots at Gibbon meadows under the last condition, absolutely dried up; under the former, very sluggish and *uninteresting*, and, when the precipitation was normal *hard* at work again in the good old way.

The most plausible argument

*Sponge
geyser.*





1. Lone Star geyser.
2. Old Faithful geyser.
3. Riverside geyser.
4. Giant geyser.

for the death theory is to be found at Mammoth Hot Springs, but he would be rash, indeed, who would boldly assert this theory to be a fact, basing his assertion upon the phenomena there.

There are changes at this point beyond question, but they are of much the same character as among the geysers.

I have seen both Orange geyser and Narrow Gauge terrace apparently lifeless in recent years, yet Phoenix-like, they have subsequently resumed action as perfectly as ever. A few years ago Cleopatra terrace was an inconspicuous feature here, while Minerva terrace was glowing in warmth of color; to-day the situation is precisely reversed.

While I earnestly entreat everyone who can do so to visit this great Wonderland at the earliest moment, no one need worry and hasten because of fear that the play is about to be played out. The geysers will be playing to delighted audiences long after this and many succeeding generations have passed off life's stage.



Devil's Ink Stand in eruption, Norris geyser basin.

A splendid refutation of the dying geyser theory has recently been made in the public press by Rev. Dr. Roland D. Grant of Vancouver, B. C., an eminent Baptist clergyman and lecturer, and one thoroughly conversant with the entire subject through repeated visits to the park and a study of geyserism. Capt. H. M. Chittenden, of the Engineer Corps, U. S. A., has also contributed to the discussion.

WILD ANIMALS IN THE PARK.

It is undeniable that, to many tourists, the wild animals in the park are a source of as much interest as are the geysers. This fact justifies the efforts made by the Government, through the succeeding superintendents of the park, for the protection and natural propagation of the game animals indigenous to the region. In order, however, to properly preserve these fast disappearing relics of wild animal life to future generations, additional territory should be added, either to the park proper or to the forest reserve about it, so that absolute protection can be maintained. While the present park affords an unsurpassed summer range and breeding ground for antelope, elk, deer, bear, moose, mountain sheep, etc., it is not so well fitted for a winter range. While, for example, from 30,000 to 50,000 elks may graze within the park limits during summer, not more than 8,000 or 10,000 can find grazing grounds during the winter. The rest are compelled

to range outside the park lines, when, of course, the protection of the Government gives way to that of the State, and under the game laws of the States adjoining the park, the killing of many of these animals is not only possible, but is actually a fact. There is no time to be lost if any real, methodical, and scientific effort is to be made to preserve them. Poachers, pot hunters, game hogs, so called, who care only for their own selfish pleasure in killing as many deer or elks as they can, skulk, more or less, about the confines of the park, trying to evade game laws, and to shoot every animal that wanders beyond its protecting boundary.

I am moved to make a suggestion. The greater value and interest attaching to this matter is as it relates to coming generations—those who are now boys and girls. The rest of us will, ere long, have passed off life's stage, and the preservation of the bears and antelopes will soon have lost all interest for us.

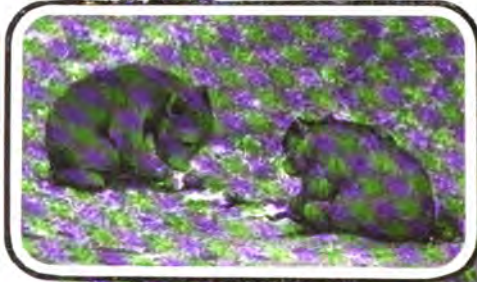
Past experience shows that a large number of these Wonderland books fall into the hands of boys and girls, and are studied by them, particularly in schools. This one—Wonderland 1902—will probably be used in the same manner.

My suggestion is, that the boys and girls who may read this chapter take the initiative, through school organizations, to start a national movement that, with the vim and enthusiasm that young Americans can put into it, will become irresistible, to compel the United States Congress

—for it is they who must do it—to *now and effectually* arrange for game protection in the Yellowstone Park region for all future time. Many of you have been delighted by the lectures, stories, and pictures of Seton-Thompson—his name has recently been legally rearranged to Ernest Thompson-Seton—Fraser, and others; now go to work, and, through your friends and your own ceaseless efforts, rain down on Congress such an avalanche of petitions, resolutions, etc., that they will have to grant your demand through sheer necessity. And what a spectacle it would be, were it practicable, to see the halls of the capitol at Washington invaded by a host of bright, eager, irrepressible boys and girls, pleading with



Live cub
gnawing
bones.



Black
bears
at
supper.





On
Antelope
creek.

politicians and congressmen to protect and save a remnant of the animal life that recently was so numerous in the West.

Three things are wanted: More territory attached to the park; more money for those who have to care for the park; more troops and scouts to guard and patrol the region.

Now who will start the ball rolling?

In 1897 a careful and detailed report on the wild animals in the park was made by Lieutenant — now Captain — Lindsley, which will probably answer for the present time.

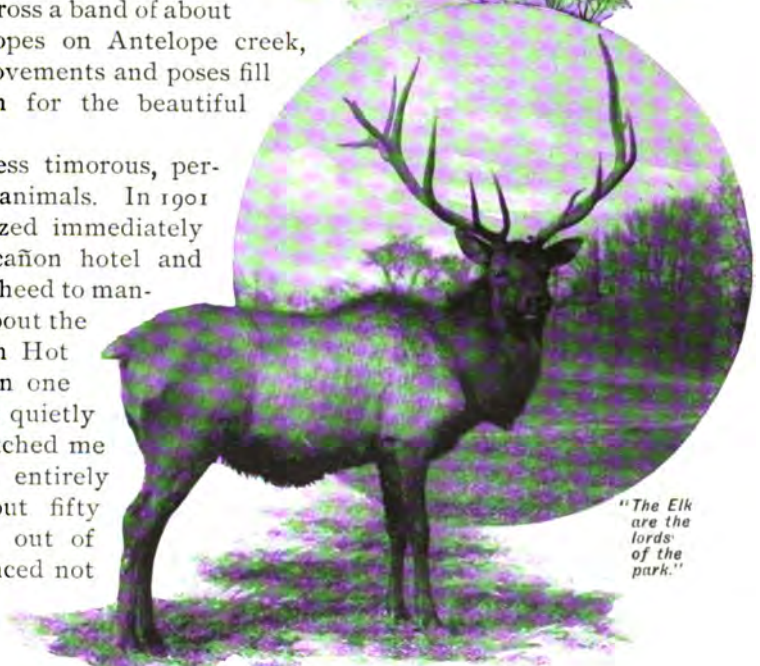
Moose, deer, and antelope are found in moderate numbers, and the two former seem to be increasing. The antelope range is such that coyotes kill many of them, and hunters have heretofore shot many when the animals were compelled, in severe winters, to cross the line of the park. Notwithstanding, these seem to be, at least, holding their own.

In riding over the lower trail between the Grand cañon and Tower fall, I have never failed to run across a band of about ten or twelve antelopes on Antelope creek, and their graceful movements and poses fill one with admiration for the beautiful creatures.

The deer seem less timorous, perhaps, than the other animals. In 1901 several of them grazed immediately around the Grand cañon hotel and apparently paid little heed to mankind. In climbing about the terraces at Mammoth Hot Springs I came upon one among the trees that quietly but most intently watched me as I circled almost entirely around him, at about fifty yards distance, until out of his sight and he evinced not the slightest fear.



A park
deer
after the
first
snowfall.



"The Elk
are the
lords
of the
park."

There are several bands of mountain sheep in the park, but they are rarely seen except in winter, when they draw nearer to the haunts of men.

Coyotes are numerous, indeed, too much so, but they do not frequent the traveled roads. I have seen them twice near the road between Mammoth Hot Springs and Yancey's.

The bears are very much in evidence. The black, brown, and grizzly, all are to be found. They are inoffensive and one of the sights of the park. They are to be seen near all the hotels except at Mammoth Hot Springs, and during the tourist season forage on the hotel refuse. The tourists, often, almost surround them at meal time in their efforts to kodak them, and some comical situations occur.

From one to twenty bears may be seen at the evening meals, and they

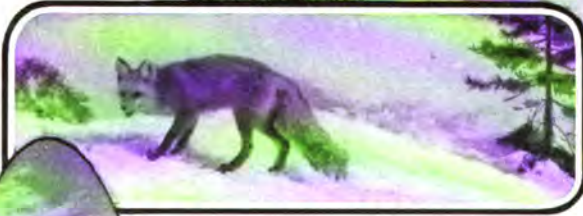


Tame elk at Mammoth Hot Springs.



A beaver's house in the park.

Reynard foraging in the snow.



Mother bison and their babies.

are often found at other times and places. In 1901, when on horseback high up on Dunraven peak, a party of four of us, ladies and gentlemen, came upon a black bear and two cubs. One cub was brown, the other black, and the mother bear was the most beautiful specimen of a black bear I ever saw. She was fat as butter, a deep jet in color, and her fur had a wonderful gloss. As we approached nearer and nearer, she sent her cubs up a tree and finally broke away and tore off up the mountain out of sight. We rode up to the tree, inspected the cubs who remained very quiet and stretched out on a limb well up toward the tree top. We had ridden some distance away and higher up the mountain before



A herd of bison (buffaloes) feeding.

we saw the old lady bear again. She had made a wide circuit down the mountain and was slowly working back to where her babies were left.

The elk are the lords of the park. There are thousands of them and they frequent many localities, and tourists may infrequently see them.

In the timbered ravines and hills south of Shoshone lake there are large herds of them in summer.

A favorite range, especially for mother elk and their young, is on the headwaters of Trout and Alum creeks on the east slope of Mary's mountain in Hayden valley. Twice, in riding on horseback across this charming stretch of country, I have seen elk in hundreds. In 1901 we found here a very large herd of male elk, and farther along the females and calves in a still larger band. In an enclosure at Mammoth Hot Springs there are always a number of young elk and deer, and a study of them is most interesting. These youngsters become very tame and docile and seem to lose their fear of men.

The buffaloes, or bison, that once were so numerous in the park, have sadly decreased in numbers. How many there may be is not really known, but there are probably not to exceed fifty. They range in the remote corners of the park where no one except the scouts sees them, and it is difficult to keep accurate count of them.

The buffaloes formerly ranged in Hayden valley, and a few years ago a huge corral was built there and hay cut and stacked in the hope that some of them might be corralled and become somewhat domesticated. The result was a failure; few buffaloes were seen, but the elk reaped a rich harvest and devoured all the hay. It is deeply to be regretted that the Government has never supplied soldiers enough to properly guard the park. Because of this, poachers were able to sneak in to the unprotected parts of the region, and before any real and effectual resistance



A monarch ruminating upon the disappearance of his race.

could be made they had committed tremendous slaughter on the buffalo herds.

It is to be hoped that those remaining will be able to slowly replenish the losses heretofore met, and that this noble animal will not be utterly wiped out in the world's Wonderland.

At the present time, when cities and individuals are spending large sums to establish zoölogical gardens and natural history parks, where determined efforts are being made to particularly preserve and propagate this species, certainly in the greatest national park in the world efforts should be made to carry forward this work to success, if success be possible.

Beaver, mink, otter, marten, lynx, wild cats, and foxes abound. The former seem to be increasing to a gratifying degree, evidences of which the tourist may easily see at Beaver lake.

If proper steps are taken at once this great park may largely be made in years to come, an epitome of what the West was in its wild and primeval days, so far as its fauna is concerned. Fifty years hence, under wise and successful management, the animals will then indeed rival the geysers in popular interest.





PUGET SOUND AND ALASKA

FROM 1792 to 1902 is a period of 110 years. In the former year Capt. George Vancouver, of the British Admiralty, thoroughly explored the waters of Puget sound and named the islands therein, and the adjoining headlands, bays, points, and mountains. Although by the treaty of 1846 this region—most of it—became undisputed United States territory, to this day nearly or quite all of Vancouver's names are accepted as the proper ones, so well and accurately did he do his work.

The story of the discovery and exploration of this region is an inviting, albeit, a somewhat confusing one. It dates from about the middle of the sixteenth century and the Spaniards were the pioneers. It seems almost certain, in reading the somewhat confused accounts of the time, that the Spanish adventurers must have seen nearly every important river, bay, sound, cape, etc., to be found on the coast. But their records appear to have been very carelessly made, or so filled with exaggerations that with the inaccurate astronomical observations of those days, uncertainty and doubt have been cast upon their discoveries, so that it has been difficult to correlate their geographical names with those of later discoverers.

As an example of this uncertainty, take the Strait of Juan de Fuca, —the apocryphal Strait of Anian—a most important body of water

lying between Vancouver's island and Washington, connecting the sea with Puget sound, and through which the international boundary runs.

This was so named by Captain Meares in 1788, after old Juan de Fuca, a Greek pilot, who, in the service of the Spaniards, is supposed to have discovered and sailed over its waters about 1600. Now, Fuca is regarded by some as a true and actual discoverer, by others as a myth, and he is absolutely ignored by these latter in their accounts of the old explorers. The name survives.

Certain it is, that the Strait of Fuca was well known long before George Vancouver entered it in 1792, but to him is to be credited the first attempt to carefully explore it and adjacent waters, and most thoroughly did he do it.

Prominent among these old explorers were Ferrello, Viscaïno, Fuca, the noted Sir Francis Drake, and Cavendish in the sixteenth century; Bering, Perez and Martinez, Heceta and Bodega, Captain Cook, Berkeley, Meares, Vancouver, and Gray—the latter the only Yankee of them all—in the eighteenth century.

Many and diverse were their experiences. Suffering and death were common to most of them, but they writ their names high on the scroll of daring and adventure, and their works live after them. It is a sad reflection that the Spaniard, although the earliest and one of the most persistent adventurers in northwestern waters, owns to-day not one foot of land in the region for which he did so much. The Spanish navigator swept the main well up toward the 60th degree of north latitude,—now his farthest north is found below the 33d degree of latitude, and even then it is not the real Spaniard at all, only a somewhat remote descendant still bearing a Spanish flavor.

It is a startling fact and one that we can well regret the necessity for, that the *coup de grace* to Spain's hold on territory in the Pacific came in the Philippine War from the United States, a nation whose title to the Oregon country was so firmly strengthened by the Spanish quitclaim thereto in 1819, that it effectually estopped England's efforts to place the international boundary at or below the mouth of the Columbia river, which river mouth was first seen by a Spaniard and first explored by a Yankee skipper.

A reminder of the Spanish occupancy of the Northwest is found—and let us rejoice in it—in the few Spanish names that still adhere to geographical points in and around the Puget sound country.



A sailing party on the sound.

End of big fir saw log.



The name Puget sound—Puget's sound it was originally—is now popularly applied to a much larger area of water than as given by Vancouver. The latter designated as Puget's sound only that part of this inland sea extending westward from the bend in the neighborhood of Tacoma, to and beyond Olympia. North of this elbow the water lane reaching to the eastern extremity of the Strait of Fuca, was called by Vancouver, Admiralty inlet. The term Puget sound is now generally used to include the entire body of water below the 49th parallel or international boundary, including the Strait of Fuca itself.



In a Washington forest.



*A
Puget sound
lumber
mill.*

The inlets, passages, or channels of this complicated body of waters are, most of them, long and narrow, and some of them very crooked.

The total shore line of Puget sound is authoritatively stated to exceed 1,800 miles. There are no finer or better protected harbors in the world than here, and the sound is dotted with islands susceptible of high cultivation. The waters are of such depth that the largest vessels engaged in the world's commerce can and do easily navigate them. On the eastern shore the timbered slopes of the Cascade range rise to nearly 15,000 feet above the water, while on the west lies what may be broadly termed the Olympian peninsula, of which the snowy and ragged Olympic range forms the predominant characteristic. This range towers between the sound and the ocean to a maximum height of 8,000 feet, and forms an almost absolute barrier to the ocean winds, forcing them to rise high above the surface of the Sound country in their passage eastward.

The shore line is an alternation of bold, bluffy headland and low points and spits, the latter apt to project well out into the sound from the mainland and be ornamented with clean, white lighthouses.

What is known as the Sound country may truthfully be said to be,

I presume, the most tremendous forest area in the known world. Imagination can scarcely conceive of the reality from either printed or verbal description, or even from photographic reproduction. I had supposed that I had some real idea of a Puget sound forest, but when, for example, I stood in the midst of that magnificent Lake Crescent forest on the south shore of Fuca's Strait, I was dumb with amazement.

It is easy to talk or write about trees 200 or 300 feet high and eight, ten, or even twenty feet in diameter; to state that hundreds of thousands of feet of timber have been taken from an acre; that from 60,000 to 70,000 feet of timber have been cut from one tree, or that nearly 75,000 shingles have been made from one log, but the human mind does not seem to be able to grasp, from such abstract statements, the actual, concrete fact. The eye must see the tree, the log, the acre, the forest itself, in order to have the mind understand.

A careful estimate by the United States Geological Survey gives the amount of timber embraced within the limits of the region under consideration, as exceeding 103 billions of feet, a quantity too vast for the mind to really apprehend, let alone comprehend.

In attaching names to the points of this region Vancouver well remembered his friends. Puget's sound was so named after one of his Lieutenants, Peter Puget, and Mount Baker after another. Hood's canal, a long, narrow, rather sinuous arm leading southwestward from near the head of Admiralty inlet, was named in honor of Lord Hood, as was also Mount Hood in Oregon. Whidbey's Island was also named for one of his officers, and Mount Rainier was so called after Rear Admiral Rainier of the English navy. New Dungeness was named for its resemblance to Dungeness in Kent, England. This will show, in some degree, his method of nomenclature.

All the early explorers were quick to note the fine scenery of the region, as well as the commercial and military advantages which attached to it.

Theodore Winthrop wrote of it: "Tame Albemarle and Pamlico, Chesapeake and Delaware, Long Island sound, and even

the Maine archipelago and Frenchman's bay, can not compare with it. * * *



Mount
Rainier
from
Tacoma.



A Tacoma
street.



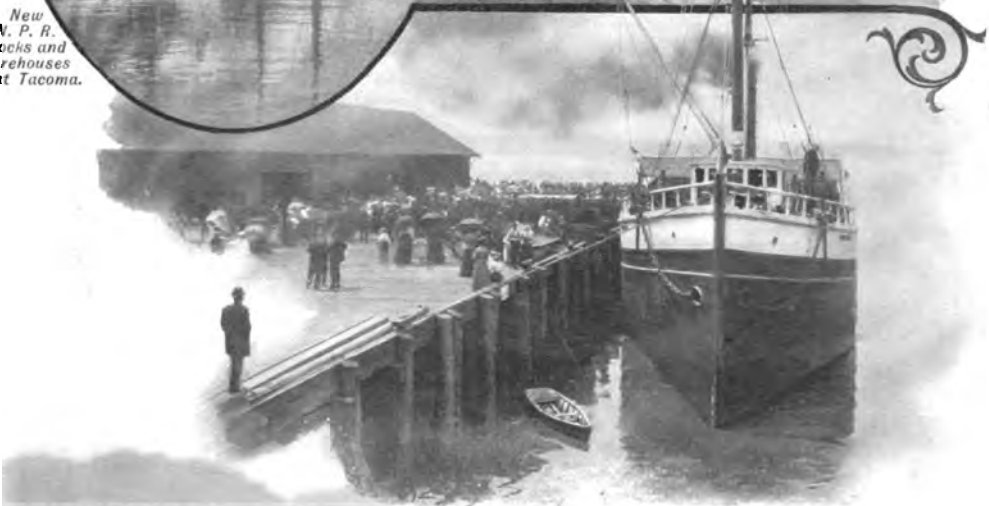
*Olympic mountains,
from Seattle.*



*Interior
of new
N. P. R.
warehouse
at Tacoma.*



*New
N. P. R.
docks and
warehouses
at Tacoma.*



Latest arrival from Nome, at Seattle.



United States dry dock,
Port Orchard.

Whulge [the Indian name for the sound] is a vast fiord, parting rocks and forests primeval with a mighty tide."

Vancouver wrote: "The delightful serenity of the weather greatly aided the beautiful scenery that was now presented; the surface of the sea was perfectly smooth, and the country before us presented all that bounteous nature could be expected to draw into one point of view."

Capt. Charles Wilkes, U. S. N., in 1838-42 said: "Nothing can exceed the beauty of these waters and their safety; not a shoal exists within the straits of Juan de Fuca, Admiralty inlet, Puget's sound, or Hood's canal, that can in any way interrupt their navigation by a 74-gun ship. I venture nothing in saying there is no country in the world that possesses waters equal to these."

A volume could be written upon the glories and advantages of this northwestern archipelago, which is but just entering upon the career, so to speak, that Providence intended for it.

Every prominent point, almost, has now a lighthouse beacon for the vessels that flit to and fro among its own channels and to and from the ports of the world; every bay, nearly, has its hamlet, town, or city where commerce and civilization are advancing with tremendous strides; every island, well nigh, is rapidly being brought under cultivation to supply homes and farms for a rapidly increasing population. All along its shores, in sheltered nooks, rises the smoke from the mill stack and smelter, and the hum and whirr of log-cutting, timber-planing, and shingle-making machinery is heard.

Among the more important points on the sound are Olympia, the



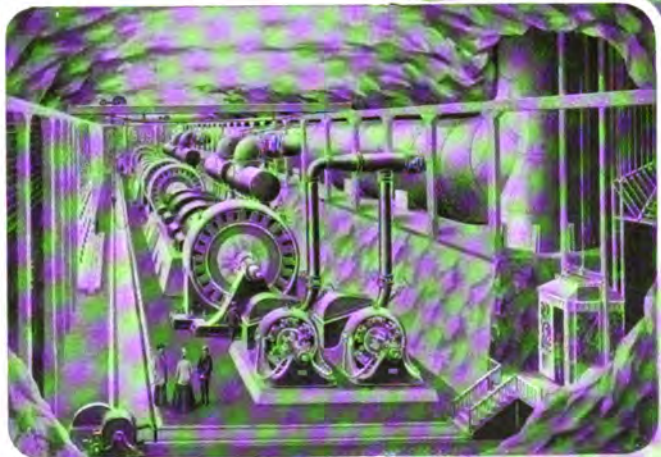
Indian totem pole,
Pioneer Place,
Seattle.



Salmon,
Seattle wharf.

capital of Washington, at its extreme southwestern extremity; Tacoma, one of the most beautiful cities in the United States, and the seat of a very heavy ocean commerce, particularly in wheat, coal, flour, and lumber; Seattle, the young giant of the Northwest, with its ubiquitous mosquito boat fleet, vast suburban lumber mills, Alaskan commerce, topleftical totem pole, and beautiful fresh water lakes; Everett, a youthful stripling with big lumber mills, ship yards, and heavy manufacturing interests; Fairhaven and Whatcom, the Siamese twins of the sound; Port Townsend, Port Angeles, Anacortes, and other points on the American side; Victoria, which possesses a fine harbor, is an attractive Canadian city, and capital of Vancouver's Island, and Vancouver, also north of the international boundary in New Westminster.

The salmon fisheries of the sound are very extensive and common to no one city. The harbor and dock facilities, particularly at Seattle and Tacoma, are of the finest and best, the Northern Pacific having recently spent hundreds of thousands of dollars upon their own docks at these places. The United States Puget sound naval station, on which a million and a half dollars have been spent, is upon Port Orchard, an arm of the sound directly west from Seattle.



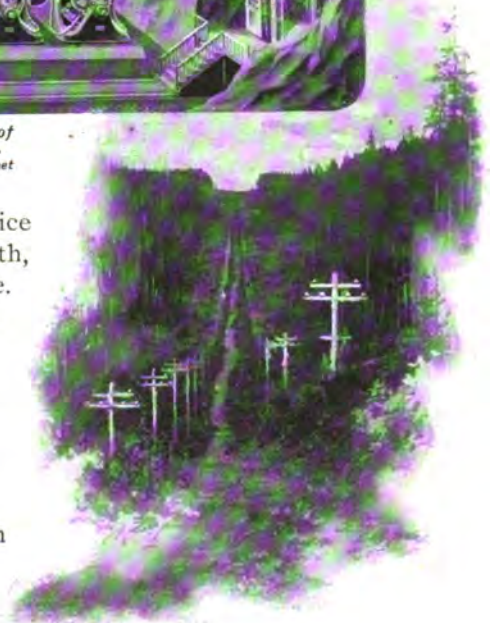
Snoqualmie Falls Power Company's shaft house.

Subterranean power station of Snoqualmie Falls Power Co. Excavated in solid rock, and 260 feet below surface.

For unnumbered eons there had been thundering over its rocky precipice and into the black, spray-drenched abyss beneath, the fascinating cataract known as Snoqualmie. Long had it been sounding in deep-toned rhythmic cadence before the white man came to gaze in delight and awe upon it and listen to its fugal music. A miniature Niagara, 267 feet in height, it had yet to be born again, even after the advent of the paleface, before it entered upon its greatest mission.

This regeneration took place in 1899, when

Transmission wire line across the mountains of Snoqualmie Falls Power Company.



the Snoqualmie Falls Power Company started the machinery that now furnishes electricity for Seattle, Tacoma, and other cities of the sound. The story is interesting but must be briefly told and will exemplify the changes of a century.

At a cost of \$1,000,000 the power of Snoqualmie has been corralled and is now transmitted in electrical energy, thirty-one miles to Seattle, and forty-four miles to Tacoma, with further extensions to follow. This transmission is by means of aluminum wires on cedar poles across the mountains, a lane fifty feet wide having been cut through the heavy timber, with necessary sub-stations placed at intervals.

At the fall, 270 feet below the surface and the dam, deep in the solid rock, a capacious chamber was excavated, two hundred feet long, forty feet wide, and thirty feet high, and now lighted by nearly seven hundred incandescent lamps. In this subterranean hall are four Westinghouse generators of 1,500 K-W capacity, driven by four sets of Doble water-wheels, six wheels to each set, with a capacity of 2,500 horse-power per set, or a total of 10,000 horse-power.

At the transmission house at the head of the shaft, over the chamber, the electric current with an initial strength of 1,000 volts, passing through transformers, is raised to 30,000 volts, the voltage transmitted over the wires.

The water of the river is carried down to the wheels in steel penstocks 250 feet long and seven and one-half feet in diameter, and after being used is returned to the river below the fall through a long tunnel cut out of the rock.

The electricity supplied by this company is used for lighting, and also for power for street railways and for general purposes.

Tacoma and Seattle are both lighted by the power of Snoqualmie, nearly all their electric railways are run by it, and many manufacturing establishments use it.

Many other interesting facts could be given regarding this transmutation did space allow, and one can but contrast the present with the past and wish that Vancouver, Gray, and others could now look upon the region and see how fully their prophecies have been fulfilled.



Snoqualmie Falls by moonlight.



Snoqualmie dam and power station.



Looking down Yukon River below Dawson.

Along with the Spaniard, the Englishman, and the American, the Russian also bore an important part in early northwest exploration.

In the eighteenth century, with Kamchatka as a base and Vitus Bering as chief navigator, the latter began explorations of what is now the Alaskan and Aleutian island region. These were continued under terrible hardships and with fearful loss of life, but the great value of Alaskan furs furnished an incentive, and there was no lack of hardy spirits for the work.

In 1867 Russian America became Alaska of the United States, and now it is as well known to every school-boy and is popularly considered to be no farther away from the rest of us, than was Minnesota, in the writer's boyhood, from Ohio.

Alaskan trade centers on Puget sound. In 1900 at least one ship per day cleared from sound ports for northern points, and, going in both directions, there were 80,000 passengers carried, the cargoes were worth \$50,000,000, and \$20,000,000 of gold was brought down from the northern mines.

The Alaskan pleasure tour is, by all accounts, the finest in the known world, and from about June 1st to October 1st of each year, one of the finest of ocean steamships leaves the sound fortnightly on a pleasure excursion to the fiords and glaciers of Alaska, and other steamers leave at frequent intervals.

Puget sound and Alaska are now very closely allied, and the rapid expansion of American trade and commerce will not only link them yet closer together, but will bind them both still stronger to the awakening peoples beyond our Western sea.



An Alaskan Indian family.



Chief Skulkoh's totem pole, Howkau, Alaska.

NORTHERN PACIFIC RAILWAY

Rates and Arrangements for the Tourist Season of 1902.

(SUBJECT TO CHANGE WITHOUT NOTICE.)

MINNESOTA SUMMER RESORTS

During the summer season the Northern Pacific Railway will sell round-trip excursion tickets from St. Paul or Minneapolis to Glenwood (Lake Minnewaska) at \$5.25; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$7.85; Backus, \$8.35; Walker, \$8.65; Bemidji, \$10.10; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan (Devil's Lake), \$18.65; Winnipeg, \$22.50. From Duluth to Deerwood, \$3.80; Battle Lake, \$7.50; Fergus Falls, \$7.50; Pine River, \$6.90; Backus, \$6.90; Walker, \$6.90; Bemidji, \$6.90; Perham, \$7.75; Detroit Lake, \$9.15; Minnewaukan, \$18.65; Winnipeg, \$22.50. From Ashland, Wis., to Battle Lake, \$9; Fergus Falls, \$9; Pine River, \$3.40; Backus, \$8.40; Walker, \$8.40; Bemidji, \$8.40; Perham, \$9.25; Detroit Lake, \$10.65; Minnewaukan, \$20.15; Winnipeg, \$22.50. Transit limits to Minnesota resorts one day (from Ashland two days), to Minnewaukan (Devil's Lake) and Winnipeg two days in each direction. Good to return on or before October 31st.

Round-trip summer excursion tickets will be sold from St. Paul, Minneapolis, or Stillwater to resorts on the "Duluth Short Line," as follows: Forest Lake, \$1; Wyoming, \$1.20; Chisago City, \$1.45; Lindstrom, \$1.55; Centre City, \$1.60; Taylors Falls, \$1.80; Rush City, \$2.15; Pine City, \$2.55. Tickets on sale daily; limit, ten days. From St. Paul or Minneapolis to White Bear and return, 50 cents; Bald Eagle or Dellwood and return, 55 cents; Mahtomedi and return, 60 cents. Tickets on sale daily; limit, thirty days. Summer excursion rates from St. Paul, Minneapolis, or Stillwater to White Bear Lake points or Bald Eagle and return, tickets on sale week days, going and returning on date of sale, 35 cents; tickets on sale Sundays, going and returning on date of sale, 25 cents.

YELLOWSTONE PARK RATES

\$5 TICKETS.—On sale at Livingston, Mont., May 31st to September 19, 1902, inclusive. The \$5 ticket includes railway and stage fares Livingston to Mammoth Hot Springs and return.

\$49.50 TICKETS.—The \$49.50 ticket includes railway and stage fares Livingston to Cinnabar and return, stage Cinnabar to Mammoth Hot Springs, Norris, Lower and Upper Geyser Basins, Yellowstone Lake, Grand Cañon and Falls of the Yellowstone and return, and five and one-half days' board at the Park Association hotels. On sale at Livingston May 31 to September 14, 1902, inclusive.

\$56.90 TICKETS.—A \$56.90 round-trip ticket from St. Paul, Minneapolis, or Duluth to Mammoth Hot Springs and return will be on sale at points named from May 29 until September 12, 1902, inclusive. Limit, good going thirty days, returning ten days; final limit, forty days. The return portion of ticket must be signed

and stamped at Livingston, Cinnabar, or Mammoth Hot Springs, and presented on train on or within one day of such date. Stop-over allowed within limit of ticket.

\$92 TICKET.—This ticket covers rail transportation St. Paul, Minneapolis, Duluth, or the Superiors to Cinnabar, stage transportation Cinnabar to Mammoth Hot Springs, Lower, Midway, and Upper Geyser Basins, Yellowstone Lake, Grand Cañon, Falls of the Yellowstone and return to Mammoth Hot Springs and Cinnabar; meals and lodging at Yellowstone Park hotels for five and one-half days and rail transportation Cinnabar to St. Paul, Minneapolis, Duluth, or the Superiors, or via Billings to the Missouri River.

Tourists who are not going west of Livingston should purchase the \$92 ticket.

\$105 TICKET.—This ticket covers rail transportation from St. Paul, Minneapolis, Duluth, or the Superiors to Cinnabar, stage transportation Cinnabar to Mammoth Hot Springs, Lower, Midway, and Upper Geyser Basins, Yellowstone Lake, Grand Cañon and Falls of the Yellowstone and Monida, six and one-quarter days' board and lodging between Cinnabar and Monida, and rail transportation from Monida, either via Oregon Short Line R. R. and Union Pacific to Missouri River points, or via O. S. L. R. R. to Ogden, any line Ogden to Denver, thence via either the B. & M. R. R. R., Union Pacific, A., T. & S. F. Ry., C., R. I. & P. Ry., or Missouri Pacific Railway to Missouri River terminals.

This ticket will be on sale May 29th to September 12th, inclusive, and will be limited to thirty days going to Mammoth Hot Springs and thirty days returning, with final limit of sixty days from date of sale.

\$84 TICKET.—This ticket covers rail and stage transportation only (no meals or lodging being included therein) for the same tour as the \$105 ticket. Limits, selling dates, and other conditions, except as noted, will be same as for \$105 ticket.

The trip through the Park must be completed by September 19, 1902.

MONTANA, EASTERN WASHINGTON, AND EASTERN BRITISH COLUMBIA POINTS

The Northern Pacific Railway has on sale, at reduced rates, round-trip excursion tickets from St. Paul, Minneapolis, or Duluth to Billings, Springdale, Livingston, and Bozeman, Mont.; Helena, Butte, and Anaconda, Mont. (choice of routes returning, via Northern Pacific, Great Northern Railway, or Oregon Short Line and connections); Missoula, Mont.; Spokane, Wash. (choice of routes returning, via Oregon Railroad & Navigation Company and its connections, or via the Great Northern, or Northern Pacific Lines); Medical Lake, Pasco, Walla Walla, Kennewick, and Toppenish, Wash.; Nelson, Trail, Rossland, Ainsworth, Kaslo, and Sandon, B. C., and Coulee City, North Yakima, and Ellensburg, Wash.

These tickets are of ironclad signature form; require identification of purchaser at return starting point.

Any of the above tickets may read to return via Billings direct to the Missouri River, or when destination is Helena, or Butte, Mont., or a point west thereof, via Billings Denver, and any direct line to the Missouri River except the Union Pacific Railway.

NORTH PACIFIC COAST EXCURSIONS

A \$90 round-trip individual excursion ticket, St. Paul, Minneapolis, or Duluth to Tacoma, Portland, Seattle, New Whatcom, Vancouver, or Victoria, is on sale daily at points first named and by Eastern lines.

Tacoma, Seattle, New Whatcom, Victoria, Vancouver, or Portland tickets, at above rates, will be issued, going via Northern Pacific, returning via same route, or Great Northern, or Soo-Pacific to St. Paul, Minneapolis, or Duluth; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River, either direct or via Denver and any direct line except the Union Pacific Ry.; Portland tickets will also be issued, returning via Oregon R. R. & Navigation Company and its connections to either Omaha or Kansas City, or to St. Paul via Sioux City.

Above tickets limited to nine months from date of sale, good, going trip, sixty days to any one of North Pacific Coast termini named, returning any time within final limit.

ALASKA EXCURSIONS

An excursion ticket will be sold from Eastern termini named to Sitka, Alaska (not good on steamer Spokane), at \$150, which rate includes meals and berth on the steamer. The steamer Spokane will make four Alaska excursion trips, leaving Tacoma and Seattle early in the morning on June 14th and 28th, July 12th and 26th; arriving at those points on the return about twelve days later. The route will be especially arranged to give passengers an opportunity to see all interesting and accessible glaciers and the most important ports. Round-trip rate from St. Paul, Minneapolis, or Duluth, including meals and berth on steamer, \$190.00.

Tickets on sale May 1st to September 30th. Limit, nine months. Going to Tacoma, sixty days, returning within final limit, holder to leave Sitka on or before October 31st. Tickets will be issued to return either via the Northern Pacific, Soo-Pacific, or Great Northern lines to St. Paul or Minneapolis, or via Canadian Pacific Railway to Winnipeg or Port Arthur, or via Billings to the Missouri River, either direct or via Denver and any direct line except the Union Pacific Ry. Usual stop-over privileges granted. Steamer accommodations can be secured in advance by application to any of the agents named on appended list. Diagrams of steamers at office of General Passenger Agent at St. Paul. Only the steamer Spokane will call at Glacier Bay.

CALIFORNIA EXCURSION RATES

The Northern Pacific Railway will sell round-trip excursion tickets from St. Paul, Minneapolis, or Duluth as follows:

To San Francisco, going via the Northern Pacific, Seattle, and steamer, or Portland and the Shasta Route, or the ocean to San Francisco; returning via rail or steamer to Portland, or via steamer to Seattle, and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings to the Missouri River, either direct or via Denver and any direct line except the Union Pacific Ry.; or via rail or steamer Portland and Huntington to the Missouri River; or returning by the southern lines to Council Bluffs, Omaha, Kansas City, Mineola, or Houston, at \$103.50; to New Orleans or St. Louis, at \$109.50.

To Los Angeles, going via Portland and Shasta Route, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Billings or Huntington to the Missouri River, at \$122.50; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$113; to St. Louis, at \$119.

To San Diego, going via Portland and rail through Los Angeles, and returning via rail, Portland and the Northern Pacific, Great Northern, or Soo-Pacific lines to St. Paul or Minneapolis; or via Canadian Pacific to Winnipeg or Port Arthur; or via Billings or Huntington to the Missouri River, at \$129; or going via Portland and Shasta Route and returning via San Francisco and Ogden to Council Bluffs, Omaha, or Kansas City, at \$119.50; to St. Louis, at \$125.50.

Tickets via ocean include meals and berth on steamer.

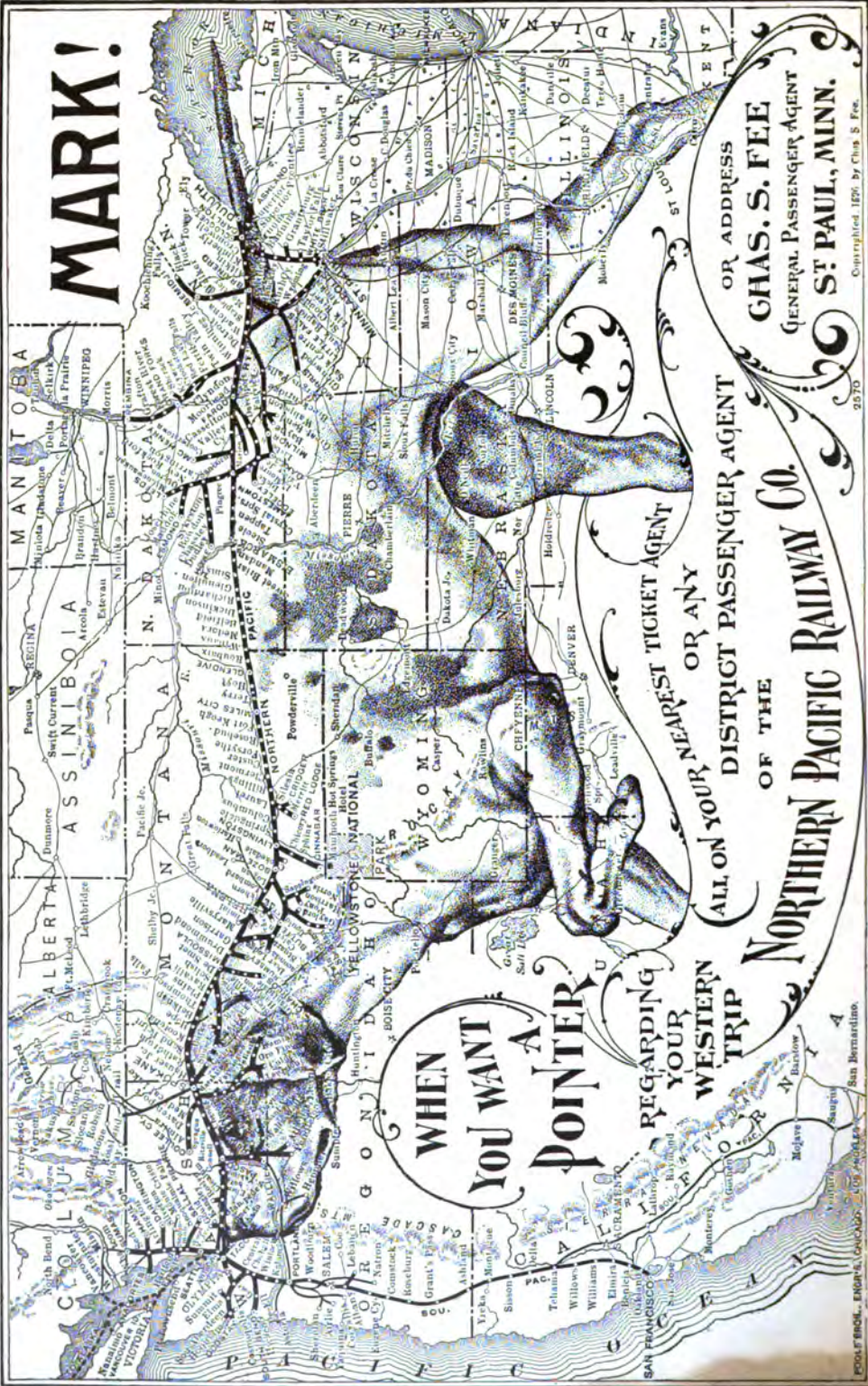
At the eastern termini of the southern transcontinental lines excursion tickets will be sold, or orders exchanged, for tickets to San Francisco, returning via either the Shasta Route, the all rail line to Portland, or the ocean and the Northern Pacific to St. Paul, Minneapolis, or Duluth, at a rate \$13.50 higher than the current excursion rate in effect between Missouri River points, Mineola, or Houston and San Francisco. The steamship coupon includes first-class cabin passage and meals between San Francisco and Portland.

These excursion tickets allow nine months' time for the round trip; sixty days allowed for west-bound trip up to first Pacific Coast common point; return any time within final limit.

GENERAL AND DISTRICT PASSENGER AGENTS.

BOSTON, MASS.—279 Washington Street. C. E. FOSTER.....	District Passenger Agent.
BUFFALO, N. Y.—215 Ellicott Square. W. G. MASON.....	District Passenger Agent.
BUTTE, MONT.—Cor. Park and Main Streets. W. H. MERRIMAN.....	General Agent.
CHICAGO—28 South Clark Street. F. H. FOGARTY..... C. A. MATTHEWS.....	General Agent. District Passenger Agent.
CINCINNATI, OHIO—40 East Fourth Street. J. J. FERRY.....	District Passenger Agent.
DES MOINES, IOWA—503 West Locust Street. GEO. D. ROGERS.....	District Passenger Agent.
DETROIT, MICH.—153 Jefferson Avenue. W. H. WHITAKER.....	District Passenger Agent.
DULUTH, MINN.—332 West Superior Street. T. E. BLANCHE.....	General Agent.
HELENA, MONT.—Main and Grand Streets. E. S. RICHARDS.....	Acting General Agent.
INDIANAPOLIS, IND.—42 Jackson Place. J. E. TURNER.....	District Passenger Agent.
LOS ANGELES, CAL.—125 West Third Street. C. E. JOHNSON.....	Traveling Passenger Agent.
MILWAUKEE, WIS.—Room 2, Mack Block, Cor. Wisconsin and East Water Streets. CHAS. C. TROTT.....	District Passenger Agent.
MINNEAPOLIS, MINN.—19 Nicollet Block. G. F. MCNEILL.....	City Ticket Agent.
MONTREAL, QUE.—116 St. Peter Street. G. W. HARDISTY.....	District Passenger Agent.
NEW YORK CITY—319 Broadway. W. F. MERSON.....	General Agent Passenger Department.
PHILADELPHIA, PA.—711 Chestnut Street. I. M. BORTLE.....	District Passenger Agent.
PITTSBURG, PA.—305 Park Building. C. E. BRISON.....	District Passenger Agent.
PORTLAND, ORE.—255 Morrison Street. F. O'NEILL..... E. L. RAYBURN.....	District Passenger Agent. Traveling Passenger Agent.
SAN FRANCISCO, CAL.—647 Market Street. T. C. STATELER.....	General Agent Passenger Department.
SEATTLE, WASH.—First Avenue and Yesler Way. I. A. NADEAU.....	General Agent.
SPOKANE, WASH.—Riverside and Howard Streets. JNO. W. HILL.....	General Agent.
ST. LOUIS, MO.—210 Commercial Building P. H. NOEL.....	District Passenger Agent.
ST. PAUL, MINN.—5th and Robert Streets. O. VANDERBILT.....	City Ticket Agent.
ST. PAUL, MINN.—4th and Broadway. HARRY W. SWEET.....	District Passenger Agent.
TACOMA, WASH.—925 Pacific Avenue. A. TINLING.....	General Agent.
TORONTO, ONT.—6 King Street, West. G. W. McCASKEY.....	District Passenger Agent.
VANCOUVER, B. C.—419 Hastings Street. J. O. McMULLEN.....	General Agent.
VICTORIA, B. C. C. E. LANG.....	General Agent.
WEST SUPERIOR, WIS.—821 Tower Avenue. F. C. JACKSON.....	Assistant General Agent.
WINNIPEG, MAN.—(Depot.) H. SWINFORD.....	General Agent.
PORTLAND, ORE.—255 Morrison Street. A. D. CHARLTON.....	Assistant General Passenger Agent.
ST. PAUL, MINN. A. M. CLELAND..... CHAS. S. FEE..... J. M. HANNAFORD.....	Assistant General Passenger and Ticket Agent. General Passenger and Ticket Agent. Third Vice-President.

MARK!



WHEN
YOU WANT A
POINTER

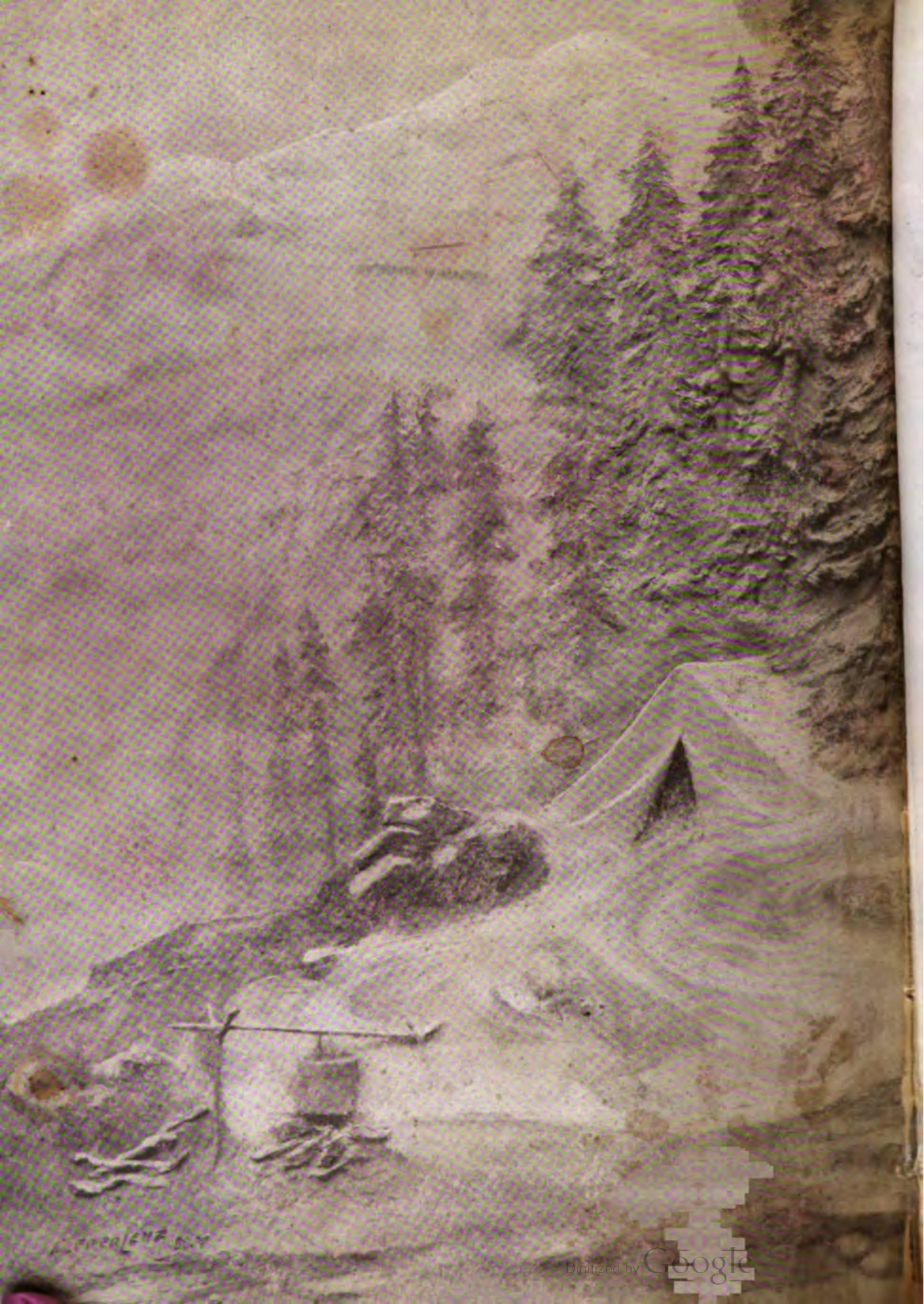
REGARDING
YOUR
WESTERN
TRIP

ALL ON YOUR NEAREST TICKET AGENT
OR ANY
DISTRICT PASSENGER AGENT

OR ADDRESS
GENERAL PASSENGER AGENT
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AMERICAN GUY

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