

Ballou Maturin Murray

# The New Eldorado. A Summer Journey to Alaska



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*The New Eldorado / A Summer Journey to Alaska:*

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# **Maturin Murray Ballou**

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### **PREFACE**

The Spaniards of old had a proverb signifying that he who would bring home the wealth of the Indies must carry the wealth of the Indies with him. If we would benefit by travel we must take with us an ample store of appreciative intelligence. Nature, like lovely womanhood, only reveals herself to him who humbly and diligently seeks her. As Sir Richard Steele said of a certain noble lady: "To love her is a liberal education." Keen observation is as necessary to the traveler who would improve by his vocation as are wings to an albatross. The trained and appreciative eye is like the object-glass of the photographic machine, nothing is so seemingly insignificant as to escape it. Careless, half-educated persons are sent upon their travels in order, it is said, that they may "learn." Such individuals had best first learn to travel. Those who improve the modern facilities for seeing the world acquire an inexhaustible wealth of information, and a delightful mental resort of which nothing can deprive them. The power of vision is thus enlarged, many occurrences which have heretofore proved

daily mysteries become clear, prejudices are annihilated, and the judgment broadened. Above all, let us first become familiar with the important features of our own beautiful and widespread land before we seek foreign shores, especially as we have on this continent so much of unequaled grandeur and unique phenomena to satisfy and to attract us. It seems to the undersigned that perhaps this volume will have a tendency to lead the reader to such conclusion, and certainly this is its primary object.

*M. M. B.*

# CHAPTER I

Itinerary. – St. Paul. – The Northern Pacific Railroad. – Progress. – Luxurious Traveling. – Riding on a Locomotive. – Night Experiences. – Prairie Scenes. – Immense Grain-Fields. – The Badlands. – Climbing the Rocky Mountains. – Cinnabar. – The Yellowstone Park. – An Accumulation of Wonders. – The Famous Hot Springs Terrace. – How Formed. – As Seen by Moonlight.

A journey from Massachusetts to Alaska was a serious undertaking a few years ago. It involved great personal risk, considerable expense, and many long months of weary travel; but it is now considered scarcely more than a holiday excursion, a good share of which may be denominated a marine picnic. That an important country, so easily accessible, should remain comparatively unexplored seems singular in the nineteenth century, especially when its great mineral wealth and natural attractions are freely admitted. The trip to Sitka, the capital of the Territory, and back is easily accomplished in three months, affording also ample time to visit the principal points of interest on the route, including the marvels of the Yellowstone National Park, in Wyoming, which is not only not surpassed in grandeur and beauty by any scenery on the continent, but in fact has no parallel on the globe. The traveler also naturally pauses on his way to examine at least one of the great mining centres of

this gold-producing country, such as Butte, the "Silver City" of Montana, where he may behold scenes eclipsing in affluence the fabulous story of Midas. The plan adopted by the author, as herein detailed, was to make the westward journey by the Northern Pacific Railroad to Tacoma, on Puget Sound, where the remarkable inland sea voyage begins, thence sailing north to Pyramid Harbor and Glacier Bay, stopping as usual at the intermediate places of interest.

On the homeward passage, to vary the journey and to enjoy the wild scenery of British Columbia, Alberta, Assiniboia, and Manitoba, he left the steamer at Vancouver, returning by the Canadian Pacific Railway, which presents to the lover of nature such famous scenic advantages.

The journey westward seems practically to begin when the traveler reaches St. Paul, the capital of Minnesota, by way of Chicago, as here he strikes the trunk line of the Northern Pacific Railroad, which has an exclusive and unbroken track thence to Tacoma, a distance of nearly two thousand miles, the whole of which is covered with novelty and interest.

We will not pause to fully describe St. Paul, that youthful city of marvelous growth, promise, and beauty, with her mammoth business edifices of stone and brick, her palatial private residences, and her charming boulevards. The most casual visitor is eloquent upon these themes, as well as regarding the open-handed hospitality of her two hundred thousand inhabitants. Three iron bridges span the Mississippi at St. Paul, one of which

is nearly three thousand feet long, supported upon arches two hundred and fifty feet in span, and having a roadway elevated two hundred feet above the water.

St. Paul is situated upon a series of terraces rising from the left bank of the Mississippi River, its site being both commanding and picturesque. Thus built at the head of navigation on a great waterway, it naturally commands a trade of no circumscribed character, besides enjoying the prestige of being the State capital.

Were it not for the unlimited facilities of transportation afforded by the grand and beneficent railroad enterprise embraced in the Northern Pacific system, the development of the vast and fertile country which lies between Lake Superior and the Pacific Ocean would have been delayed for half a century or more. It should be remembered that so late as 1850 there was not one mile of railroad in existence west of the Mississippi River. In 1836 there were, at most, but a thousand miles in operation on the entire American continent. This is an epoch of progress. Japan is traversed by railways, even China has caught the contagion, and is now building roads for the use of the iron horse in more than one direction within that ancient and widespread empire, while Russia and India are "gridironed" with rails.

It was remarked in a congressional speech in the year 1847 that the Rocky Mountains would be the limit of railroad enterprise across our continent; that the barrier presented by these huge elevations and the extensive "desert tract" beyond them must certainly prevent the development of the Pacific

States.

“Desert,” indeed!

No land on the globe produces such remarkable cereal crops as this very prairie soil is doing each successive year, not only supplying our own rapidly increasing population with the stuff of life, but also feeding the less fortunate millions of Europe, where excessive labor and costly enrichment must make up the deficit arising from an exhausted soil and circumscribed area. The reader who follows these pages will not fail to see how liable legislators are to be mistaken in their predictions, and how apt events are to transcend the weak judgment of the confident and inexperienced declaimer. Even that Titan statesman, Daniel Webster, put himself on record in the United States Senate, while speaking against a proposition to establish a mail route through a portion of the western country, as follows: “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? To what use could we ever hope to put these great deserts or those endless mountain ranges, impenetrable, and covered to their very base with eternal snow? What can we ever hope to do with the western coast, – a coast of three thousand miles, rock-bound, cheerless, uninviting, and not a harbor on it? What use have we for this country?”

In crossing the continent by the route we have chosen, one passes through a country whose grand scenic charms can hardly be exaggerated, in describing which superlatives only will

apply, and whose agricultural advantages, natural resources, and mineral wealth are probably unequaled in the known world. We are taken through the productive wheat-fields of Minnesota and Dakota, among the gold and silver bearing hills of Idaho and Montana, into the prolific, garden-like valleys of Washington, whose lovely hopfields rival the gorgeous display of Kent in England, and whose abundant supply of coal and iron is only second to that of Pennsylvania.

The State has been, and may well be, denominated the Eden of the North Pacific.

On our way we are constantly meeting immense freight trains, laden with grain, flour, cattle, and other merchandise, bound for the Atlantic coast; long strings of coal cars, winding snake-like round sharp curves, and creeping up steep grades; passenger vans crowded with animated, intelligent people, all together testifying to the great and growing traffic of the West and Northwest. We pass scores of lofty grain elevators, high piles of lumber, and miles of various kinds of merchandise prepared for, and awaiting, shipment eastward, all of which evinces a local capacity for production far beyond our computation. How marvelous is the change from the conditions existing in this region a few years since, when millions of buffaloes roamed unmolested over these plains, valleys, and hills from Texas to Manitoba! The skeletons of these herds still sprinkle the prairies, bleached by the summer sun and crumbled by the winter's frost. Hundreds of carloads are annually shipped eastward to the factories which manufacture

fertilizers.

As we speed on our western journey day and night, gliding through long tunnels and deep rock cuttings, over airy trestles, immense embankments, bridges, and viaducts, representing the skillful accomplishments of modern engineering, we carry along with us the domestic conveniences of home. The train, in fact, becomes our hotel for the time being, where we bathe, eat, sleep, and enjoy the passing scenery seated in luxuriously upholstered easy-chairs, which at night are ingeniously transformed as if by magic into soft and inviting beds. The elegance and comfort of these parlor, dining, and sleeping cars is calculated to make traveling what it has in a measure become, an inviting luxury. The miraculous cap of Fortunatus would seem to have been pressed into our service. So thoroughly perfected is the transcontinental railroad system that it is quite possible to enter the cars in an Atlantic city, say at Boston or New York, and not leave the train until five or six days have expired, when the objective point on the Pacific coast is reached.

While passing through deep gorges at night, or creeping over a mountain top, the effect from one's seat in the cars is weird and curious, especially when the winding track makes long curves in the train, so that the panting iron horse is seen from the rear, all ablaze and emitting dense clouds of smoke. The snow-tipped peaks on one side and the threatening gulch of unknown depth on the other assume a mantle of soft, gauze-like texture in the clear moonlight. At times one half believes this rails are laid upon the

tree-tops, the branches of which loom up so close to us. Away in the valley, two thousand feet and more below our level, a rippling stream sparkles in the silvery light while on its way to swell some larger watercourse which drains the rocky hills. Looking far across the valley we try to make out the distant mountains, but only dim phantoms of gigantic size are seen, gliding stealthily away in the darkness.

We make interest with the conductor and engineer of the train for a special purpose. We are in search of a new sensation, to wit, such as may be derived from a night-ride on the engine, where one can see all the engineer sees, which is indeed little enough. The headlight of the locomotive throws its rays dimly on the darkness for a few rods in advance of the train. But what does that amount to, so far as being able to avoid danger? That brief space is passed in a second of time, and it is impossible to see what is beyond. The faithful engineer stands with both hands upon the machinery, one with which to instantly apply the brakes, the other to shut off the steam if danger shows itself ahead. That is all he can do. What a boisterous, asthmatic monster it is that drags the long train through the darkness at the rate of a mile in two minutes! How its hot breath belches forth, and how it springs and leaps over the iron track, fed incessantly with fresh fuel by the stoker! To one not accustomed to the oscillating motion, it is nearly impossible to keep his footing, much more difficult than on board of a pitching or rolling ship at sea. The motion is short, quick, and incessant. Black, – black as Erebus; how venturesome

it seems to dash into such darkness! What a tempting of fate! Yet how few accidents, comparatively, occur! "The law of averages is what we calculate upon," said the engineer of No. — ; "about so many people will be killed annually out of a given number of railroad travelers. We take all reasonable precautions to prevent accidents, but there are thousands of exigencies beyond our control." If any one proposes to you, gentle reader, to indulge in a night-ride on a locomotive, take our advice, and don't do it.

One does not linger in bed when passing through a country famous for its scenery. The experienced traveler has learned that the opening hours of the day are those in which his best and clearest impressions are received. He therefore rises betimes to enjoy the cool, dewy freshness of the morning. Now and again a prairie-owl is seen groping its winged way to shelter from the increasing light. He is sure to see plenty of coyotes, gray wolves, and graceful antelopes on the rolling prairies, each of these animals exhibiting in some special and interesting manner its natural proclivities. The prairie-dog nervously diving into and leaping out of its little prairie mound; the wolf bravely facing and glaring at the passing train, though careful to keep at a wholesome distance; and the antelopes in small herds hastening away by graceful bounds over the nearest hills, far too pretty and far too ornamental to shoot, suggesting in form and movements that most picturesque of wild animals, the Tyrolean chamois.

Minnesota presents to the eye of the traveler a grand and impressive country in the form of rolling prairies, diversified

by lakes, – of which there are said to be ten thousand in the State, – forests, and inviting valleys, the latter particularly adapted for raising wheat and for dairy farming. Vast fields of ripening cereals are seen stretching for miles on either side of the railroad, without a fence to break their uniformity. This State possesses among other advantages that of a climate particularly dry, invigorating, and healthful. Four hundred miles of our route is through Northern Dakota, where the farming lands are easily tilled, well watered, and wonderfully prolific in crops. The choicest wheat grown in America, known as hard spring wheat, comes from this section, which has been called “the granary of the world.” The gigantic scale on which wheat-raising is here conducted would seem incredible if faithfully described to an old-time New England farmer. The improvement which has been made in machinery connected with sowing, reaping, harvesting, and threshing grain enables one man to do as much in this western country as a dozen men could accomplish twenty-five or thirty years ago. There are wheat farms here embracing twenty thousand acres each, where economy in labor is of the utmost importance, and where the employees are so numerous as to be kept under semi-military organization. The author has seen the big grain-fields of Russian Poland in their prime, but they are as nothing when compared with those of Northern Dakota, nor are the farming facilities which are generally employed throughout Europe nearly equal to those of this country.

At Bismarck, capital of the State, which is a small but

energetic and thriving place, the Missouri River is crossed by a magnificent iron bridge, hung high in air, which cost a million dollars. This is the acme of successful engineering, passing our long, heavy train of cars over a track of gleaming rails from shore to shore without the least perceptible tremor, or the deflection of a single inch. The great waterway which it spans measures at this place fully twenty-eight hundred feet from bank to bank, though it is at this point two thousand miles from its confluence with the Mississippi.

The route we are following soon takes us through what are called the Badlands, a most singular region, where subterranean and surface fires are constantly burning, where trees have become petrified, and where the natural blue clay has been converted into terra cotta. This locality, extending for miles and miles, has been called Pyramid Park, on account of its fantastic forms presented in a singular variety of colors, and because of its mounds, domes, pyramids, and rocky towers. These vary as much in height as in form, some measuring ten feet, some two hundred, while all are clad in harlequin costume, black, white, blue, green, and yellow. It is called Badlands in contradistinction to the adjoining country, which is so very fertile, but the district is improved as good grazing ground for many thousands of cattle which supply our Atlantic cities with beef. Some of the best breeds of horses furnished to the Eastern States are raised, fed, and brought into marketable condition on these peculiar lands.

This region forms a sort of tangible hint of what we shall

experience still farther on our Wonderland journey in the interesting and unequalled valley of the Yellowstone, where there are abundant evidences of volcanic force and subterranean fires, and where Nature is seen in her most erratic mood.

Just as we pass from Dakota into Montana, a short distance beyond the Little Missouri River, a lofty peak called Sentinel Butte is seen, at an elevation of nearly three thousand feet above sea level. The teeming, vigorous young life of the Northwest is manifest all along the route, with its wonderful energy and its almost incredible rate of progress. We were told that in the State which we had just left three thousand miles of railroad had been built and properly equipped before it contained a single town of more than five hundred inhabitants.

In the State of Montana we find a more hilly country than that through which we have so recently passed, yet it is well adapted to farming and possesses large areas of excellent grazing land. Indeed, there is scarcely any part of this territory, except the mountain ranges, where the climate is not sufficiently mild for cattle to winter out-of-doors. Undoubtedly they will thrive better for being housed at night in the coldest weather here or anywhere, but this is not absolutely necessary. No food is required for them except the native bunch grass, which cures itself, and stands as hay until the succeeding spring. Cattle are very fond of and will quickly fatten upon it. Sheep husbandry is also a great and growing interest here. We observe now and again a thrifty flock, tended by a boy-shepherd accompanied by his dog, recalling

similar scenes in Tasmania and on the plains of Russia.

Statistics show that there are over two million acres now under cultivation in Montana, and that the territory is also fabulously rich in minerals. The present output of gold, silver, and copper is at the rate of three million dollars per month, and the yield of the mines is steadily on the increase.

As we hasten on our way, looking on one side far down into sombre depths, and on the other at threatening, overhanging boulders, or backward at the road-bed cut out of the solid rock which forms the cliff, we wonder at the successful audacity which conceived and built such a difficult highway. We have seen few instances of similar engineering so remarkable as is exhibited at certain points on the Northern Pacific Railroad. Equal difficulties have been overcome on the Zig-zag Railway over the Blue Mountain Range, near Sidney, Australia, and also in Northern India, where the narrow gauge railroad climbs the foothills of the Himalayan Range to Darjeeling, about eight thousand feet above the plains of Hindostan, but in neither of these instances is the work so thorough, or on so gigantic a scale, as where the Northern Pacific crosses the Rocky Mountains.

We are quite conscious of being on an up grade, the large engine panting audibly from its extra exertion, and the train moving forward no faster than one could walk. Presently tall, snow-capped peaks come trooping into view, like mounted Bedouins clad in fleecy white, as the small city of Livingston is reached. This locality is about forty-five hundred feet above the

sea. The town is situated in a beautiful valley, with nothing to indicate its altitude except the snow-crowned mountains not far away, standing like frigid sentinels. The observant traveler will also notice a certain rarefied condition of the atmosphere. Here we are about midway between the Great Lakes and the Pacific coast, – between Superior, the largest lake on the globe, and the Pacific, the largest ocean in the world.

Livingston contains three thousand inhabitants, and is a thriving place, the frequent resort of many lovers of the rod and gun, both large and small game being found in abundance hereabouts. Forty miles north of Livingston is Castle Mountain mining district, rich in silver ores, and from whose argentiferous soil millions of dollars have been coined and hundreds of enterprising prospectors enriched. A branch road is taken at this point which runs directly southward to Cinnabar, a distance of nearly fifty miles, from which place coaches convey the traveler about six miles farther to the Wonderland of our continent, – the Yellowstone National Park.

The terminus of the railroad is known by the name of Cinnabar because it is situated at the base of a mountain bearing that title, remarkable for its exposure of vertical strata of three distinct geological periods. Here is a famous place known as the Devil's Slide, a singular formation caused by the washing out of a vertical stratum of soft material between one of quartzite and another of porphyry. The slide is two thousand feet high, and being of different color from the rest of the rocky mountain side

is discernible for many miles away.

We have now reached one of the most remarkable points of our excursion, which demands more than a passing notice, sharing with the great glaciers of Alaska the principal interest of the present journey westward across the continent.

This magnificent territorial reservation is situated in the northwestern part of Wyoming, embracing also a narrow strip of southern Montana and southeastern Idaho, lying in the very heart of the Rocky Mountains. It was wisely withdrawn from settlement by an act of Congress in 1872, and is beneficently devoted forever to "the pleasure and enjoyment of the people." It forms a great preserve for wild animals, and a natural museum of marvels free to all. The well conceived liberality of this purpose is only commensurate with the unequaled grandeur of the Park itself, though at the time of passing this law comparatively little was actually known of the stupendous marvels contained within its widespread borders, besides which fresh discoveries of interest are still being made annually.

Of all those who have endeavored to depict this locality, none have been able to convey with the pen an adequate idea of its wild magnificence, or to give a satisfactory description of its accumulated wonders. The eye alone can appreciate its indescribable beauty, majesty, and loveliness.

By the judicious expenditure of public money and the liberal outlay of corporate enterprise in road and bridge building, not to mention other facilities, one can now pretty thoroughly explore

the Park in the brief period of a week or ten days. To do this satisfactorily heretofore required thrice this length of time, besides which, camping out was necessary; but it is no longer so, unless one chooses to play the gypsy. This plan is adopted by a few summer tourists, who take with them a regular camp outfit, depending upon the fish they catch for a considerable portion of their food supply during this out-of-door life.

The Park is under the control of the Secretary of the Interior. A local superintendent lives here, who is assisted by a few game-keepers and government police, besides which there is a small gang of laborers constantly at work during the favorable season, building roads and bridges, opening vistas here and there, and clearing convenient footpaths, under the direction of an army engineer. Two companies of United States cavalry make their headquarters in the Park during the summer months, distributed so as to prevent any unlawful acts of visitors. The size of the reservation is sixty-four miles in length by fifty-four in width, thus giving it an area of over three thousand six hundred square miles. Or, to convey perhaps a clearer idea of its extent to the reader's mind, it may be said to be nearly one half the size of the State of Massachusetts. It is a volcanic region of incessant activity, with mountains ranging from eight to twelve thousand feet in height, and embracing a collection of spouting geysers, hot springs, steam holes, petrified forests, cascades, extraordinary cañons, and grand waterfalls, such as are unequaled in the known world.

We do not forget the well-known geysers of Iceland, or the Hot Lake district of New Zealand, with which the traveled visitor finds himself contrasting the phenomena of the Yellowstone.

The writer of these pages happened lately to see an article upon our National Park, written by the Earl of Dunraven, in which that gentleman questions whether the singular natural exhibitions here are not exceeded by those of New Zealand. We are familiar with both localities, and shall dismiss such a supposition simply by saying that the hot springs of the British colony referred to are no more to be compared with those of the Yellowstone Park, than is an artificial Swiss cascade comparable with Niagara. If Nature has anywhere else shown so wonderful a specimen of her handicraft, it has not yet been our lot to see it.

All the natural objects best worth visiting in the Park are now accessible by daily stages, which start at convenient hours from the hotel at Mammoth Hot Springs, making the round of the interesting sights; thus affording the general public every needed facility for examining the strangely attractive vicinity.

Near the hotel is an area of two hundred acres and more, covered here and there with boiling, terrace-building springs, which burst out of sloping ground in ceaseless pulsations, at an elevation of about a thousand feet above the Gardiner River near by, into which the main portion of the chemically impregnated waters flow. Five hundred feet from the base of the springs the water becomes cool, tasteless, and perfectly clear to the eye, as refreshing to drink as any water from the purest mountain

rill. In ordinary quantities it has no evident medicinal effect, but is thought to be a wholesome tonic, with blood-purifying power. Some springs in the Park, though inviting in appearance, are to be avoided on account of certain objectionable medical properties which they possess. The hot springs adjacent to the hotel issue from many vents and at various elevations, slowly building for themselves terrace after terrace with circular pools, held in singularly beautiful stalactite basins, formed by depositing in thin layers the chemical substances which they contain. Some are infused with the oxide of iron, and produce a coating of delicately tinted red; others are exquisitely shaded in yellow by an infusion of sulphur; while some, from like causes, are of a dainty cream color. Upon numerous basins there are seen wavy, frill-like borders of bright green, indicating the presence of arsenic. Here and there the margins of the pools are scalloped and edged with a delicate bead-work, like Oriental pearls, while others are curiously honeycombed, and fretted with singular regularity. No artistic hand, however skillful, could equal Nature in these delicate and exquisitely developed forms. The grand terrace, viewed as a whole, is like a huge series of stairs or steps, two hundred feet high and five hundred broad, decked with variegated marble, together with white and pink coral. This immense calcareous formation might represent a frozen waterfall, or a congealed cascade. The water, in most instances, is at boiling heat as it pours out of the various openings, charged with iron, magnesia, sulphur, alumina, soda, and other

substances. Every spring has its succession of limpid pools spreading out in all directions, the basins varying in size from ten to forty feet across their openings. When the sun penetrates the half enshrouding mist, and brings out the myriad colors of these beautiful terraces, the effect is truly charming; it is as though a rainbow had been shattered and the pieces strewn broadcast. While thus wreathed in vapors, as the evening approaches and the whole is touched by the rosy tints of the setting sun, the entire façade glows with softest opaline blushes, like a conscious maiden challenged by ardent admiration. For a moment, as we gaze upon its illumined expanse, it seems like a gorgeous marble ruin half consumed and still ablaze, the fire of which is being extinguished by an avalanche of snow-clouds. Such a scene cannot be depicted by photography; it cannot be represented faithfully by the artist's skillful touch in oils, because, like the vivid beauty of a sunset on the ocean, the light and shade are momentarily changing, while the prismatic hues gently dissolve into each other's embrace.

If possible, let the visitor witness the magic of the spot by moonlight. It is then fairy-like indeed, shrouded in a thin, silvery screen, – “mysterious veil of brightness made,” – like the transparent yashmak of an East Indian houri.

## CHAPTER II

Nature in Poetic Moods. – Is there Lurking Danger? – A Sanitarium. – The Liberty Cap. – The Giant's Thumb. – Singular Caves. – Falls of the Gardiner River. – In the Saddle. – Grand Cañon of the Yellowstone. – Far-Reaching Antiquity. Obsidian Cliffs. – A Road of Glass. – Beaver Lake. – Animal Builders. – Aborigines of the Park. – The Sheep-Eaters. – The Shoshones and other Tribes.

How unapproachable is Nature in her poetic moods! how opulent in measure! how subtle in delicacy! No structure of truest proportions reared by man could equal the beauty of this lovely, parti-colored terrace. It recalled – being of kindred charm – that perfection of Mohammedan architecture the Taj-Mahal at Agra, as seen under the deep blue sky and blazing sun of India. Since the late sweeping destruction by earthquake and volcanic outburst of the similarly formed pink and white terraces in the Hot Lake district of New Zealand, at Tarawera, these of the Yellowstone Park have no longer a known rival. We may therefore congratulate ourselves in possessing a natural formation which is both grand and unique. In the far-away southern country referred to, there were no more symptoms foretelling the awful convulsion of nature which buried a broad, deep lake, together with an entire valley and native village, beneath lava and volcanic ashes, than there is exhibited in

our own reservation at this writing. What signifies it that the Yellowstone Park has probably remained in its present comparatively quiet condition for many, many ages? The liability to a grand volcanic outburst at any moment is none the less imminent. History repeats itself. It has ever been the same with all great throes of Nature. Centuries of comparative quiet elapse, and then occurs, without any obvious predisposing cause, a great and awful explosion. The catastrophe of Pompeii is familiar to us all, which, in its turn, repeated the story of Herculaneum.

The Mammoth Hot Springs of the Yellowstone Park are not only beautiful in the tangible forms which they present, and the kaleidoscopic combinations of color which they produce, though their seeming crystal clearness is indescribable, but they have also remarkable medicinal virtues which enhance their interest and practical value. It is on this account that the place is gradually becoming a popular sanitarium, drawing patients from long distances at suitable seasons, especially those who suffer from rheumatic affections and skin diseases. Persistent bathing in the waters accomplishes many remarkable cures, if current statements can be credited, and there is ample reason for such a result. The pure air of this altitude must also be of great benefit to invalids generally, but more especially to those suffering from malarial poison and nervous prostration. The chemical properties of each spring are distinctive, most of them having been carefully analyzed, and the invalid is thus enabled to choose the one which is presumably best adapted to his special ailment.

Groups of pines, or single trees, find sufficient nutriment in the calcareous deposit to support life, and thus a certain barrenness is robbed of its depressing effect, while the whole is partially framed by densely wooded hills which serve to throw the terraces strongly into the foreground. When we last looked upon the scene the sun was setting amid a canopy of gold and orange hues, as the evening gun of the military encampment in the valley echoed again and again in sonorous tones among the everlasting hills, and died away in the distant gorges of the Yellowstone.

A lady visitor who entered the Park at the same time with the author, on the first day of her arrival placed a pine cone in one of the springs near to the hotel. So rapid is the action of the mineral deposit which is constantly going on that at the close of the eighth day the cone was taken from the spring crystallized, as it were, being encrusted with a silicious deposit nearly the sixteenth of an inch in thickness. Branches of fern, acorns, and other objects are treated in a similar manner, often producing very charming and peculiar ornaments which serve as pleasing souvenirs of the traveler's visit.

In sight of the hotel piazza there is a curious and interesting object, built up by a spouting spring long since extinct, and which has been named the Liberty Cap. It is a little on one side but yet in front of the terraces, and appears to be composed entirely of carbonate of lime. With a diameter of about fifteen feet at the base, it gradually tapers to its apex forty feet from the ground. This prominent formation, though remarkable, is yet no

mystery. It was produced by the waters of a spring, probably forced up by hydrostatic pressure, overflowing and precipitating its sediment around the vent, until finally, the cause ceasing, the pressure become exhausted and the cone was thus formed. It may have required ages of activity in the spring thus to erect its own mausoleum, – no one can safely conjecture how long. Still nearer to the terraces is a similar formation called the Giant's Thumb. Both are slowly becoming disintegrated by atmospheric influences; we say slowly, since they may still exist, slightly diminished in size, a hundred years hence. There is manifestly a tendency in the springs which are now active in other parts of the neighborhood to build just such tall cylinders of sinter about their vents. Some of the partially formed cones in the vicinity are perfect, as far as they have accumulated, while others present a broken appearance, as if shattered by a sudden explosion.

There are several caves in the neighborhood of the terraces daintily ornamented with stalactites of snowy whiteness, where springs which have long since become exhausted were once as active as those which now render this place so interesting. From one of these caves there issues a peculiar gas, believed to be fatal to animal life. A bird, it is said, flying across the entrance close enough to inhale the vapor will drop lifeless to the ground. We are not prepared to vouch for this, – indeed we very much doubt the guide's story, – but it naturally recalled the Grotto del Cane, near Naples, where it will be remembered the guides are only too ready to sacrifice a dog for such visitors as are cruel enough

to permit it, by causing the animal to inhale the poisonous gas which settles to the lower part of the cave so named.

There is another cave not far from the hotel very seldom resorted to, and which appears to have once been the operating sphere of a large geyser, but which is now only a dark hole. Into this one descends by a ladder. It is a weird, uncanny place, requiring torches in order to see after entering its precincts. Aroused by the artificial light, myriads of bats drop from the ceiling, until the place seems alive with them. Now and then in their gyrations one touches the visitor's hand or cheek with its cold, damp body, causing an involuntary shudder. Verily, the Bats' Cave is not an inviting place to visit.

One of the first places which the stranger seeks after enjoying the attractions of the terraces and a few curiosities near to the hotel is the Middle Falls of the Gardiner River, situated three or four miles away in a southerly direction. Here we look down into a broad, dark cañon considerably over a thousand feet deep, and whose rough, precipitous sides are nearly five hundred feet apart at the summit, gradually narrowing towards the bottom. The Gardiner River flows through the gorge, having at one place an unbroken fall of a hundred feet; also presenting a mad, roaring, rushing series of cascades of three hundred feet descent. The aspect and general characteristics of this turmoil of waters recalled the famous Falls of Trolhätta, in Sweden. The hoarse music of the waters, rising through the branches of the pines which line the gorge, pierce the ear with a thrilling cadence

all their own, while the dark cañon stretches away for many miles in its wild and sombre grandeur. It is well to visit this spot before going to greater distances from the hotel. Impressive as it is sure to prove, there is yet a much superior feature of the Park, of similar character, which remains to be seen. We refer to the Grand Cañon of the Yellowstone River, where an immense cataract is formed by the surging waters near the head of the gorge, which here narrows to about one hundred feet. The volume of water is very great at the point where it rushes over a ledge nearly four hundred feet in height, at one bold leap. This is known as the Lower Fall, there being another half a mile above it, called the Upper Fall, which is one hundred and fifty feet high. These falls are more picturesque, but less grand than the Lower. They are presented to our view higher up among the green trees, where lovely wild flowers and waving ferns cling to the rocks, and under the inspiring rays of the sunlight add to their brightness and crystal beauty. A waterfall, like an oil-painting, may be hung in a good or a disadvantageous position as to light, and both are largely dependent upon this contingency for their inspiring charm.

The Great or Lower Fall of the Yellowstone Cañon is twice as high as Niagara, while the beautiful blazonry on the walls of the deep gorge, like some huge mosaic, all aglow with matchless color, marvelous in opulence, adds a fascinating charm unknown to the mammoth fall just named. These varied hues have been produced by the snow and frost, vapor and sunshine, the lightning

and the rain of ages, acting upon certain chemical constituents of the native rock. This is said to be the most wonderful mountain gorge, when all of its belongings are taken into consideration, yet discovered. It is over twenty miles long, and is in many places from twelve to fifteen hundred feet deep. The author has visited the imposing cañons of Colorado, the thrilling gorges of the Yosemite, and some of still greater magnitude in the Himalayan range of northern India, but never has he seen the equal of this Grand Cañon of the Yellowstone, or beheld so high a waterfall of equal volume.

A safe platform has been erected at the edge of the fall, where one can stand and witness its amazing plunge of over three hundred and fifty feet. The stranger instinctively holds his breath while watching the irresistible volume of water as it advances, and follows it with the eye into the profound depth of the cañon. The best view of the gorge, however, is that obtained from Lookout Point, situated about a mile south of the Lower Fall. A half mile farther in the same direction, and at the same elevation, lies Inspiration Point, from whence a more comprehensive outlook may be enjoyed. The grouping of crags, pinnacles, and inaccessible points is grand and inexpressibly beautiful. Eagles' nests with their young are visible at eyries quite out of reach, save to the monarch bird itself. On other isolated points, far below us, are seen the nests of fish-hawks, whose builders look like swallows in size as they float upon the air, or dart for their prey into the swift, tumultuous stream that

threads the valley. Gazing upon the scene, the vastness of which is bewildering, a sense of reverence creeps over us, – reverence for that Almighty hand whose power is here recorded in such unequaled splendor. At last it is a relief to turn away from looking into the sheer depth and reach a securer basis for the feet. Still we linger until the sunset shadows lengthen and pass away, followed by the silvery moonlight. Every hour of the day has its peculiar charm of light and shade as seen upon the cañon and its churning waters.

The excursion out and back from the hotel to view the principal points of interest in the neighborhood covers a distance of about seven miles through the woods and along the threatening brink of the gorge. A rude Indian trail affords the only means of reaching the several outlooks. Saddle-horses are supplied for the excursion by the hotel proprietor, and visitors generally avail themselves of this mode of transportation. The horses employed for the service are remarkably sagacious and sure-footed. Understanding exactly what is required of them, they overcome the deep pitches and abrupt rises of the narrow, tortuous way with great ingenuity and caution. At times one is borne so near the brink of the awful chasm as to make the passage rather exciting. It must be admitted that a single misstep on the part of the animal which bears him would hurl horse and rider two thousand feet down the cañon to instant destruction. There is no barrier between the cliff and the few inches of earth forming the path. Visitors are cautioned at starting to give the

horses their heads, and not attempt to guide them as they would do under ordinary circumstances. The intelligent animals fully comprehend the exigencies of the situation. On the occasion of the writer's visit the equestrian party consisted of nine persons, including the guide; of these, two ladies and one gentleman abandoned the saddles after the first mile, finding the seeming danger too much for their nerves, and completed the long tramp on foot.

“What wonderful majesty and beauty are hidden here from an unconscious world,” said an experienced member of our little party whom chance had brought together at the brink of the gorge. “Everybody visits Niagara,” he continued, “but few, comparatively, participate in the glory and loveliness of this place, and yet how superior in attraction it is to those lines of summer travel, the Natural Bridge of Virginia, the Mammoth Cave of Kentucky, or even the justly famed Yosemite Valley;” – a sentiment which all heartily indorsed.

In these pages we pass rapidly from one great attraction to another, because we have only a limited space in which to speak of them, but the intelligent and appreciative visitor will be more leisurely in his examination. Hours may be profitably occupied in the careful observation and thorough enjoyment of each locality, the interest growing by what it feeds upon. One hardly realizes the passage of time when occupied in the contemplation of such strange and absorbing objects, and is apt to linger thoughtfully until he is warned by the business-like suggestion of the guide.

Another interesting spot which the stranger will hasten to visit is the Obsidian Cliffs, situated about a dozen miles from the hotel. These singular and, so far as we know, unique cliffs are formed of volcanic glass, and measure a thousand feet in length by nearly two hundred in height, recalling in general effect the Giant's Causeway in the north of Ireland. They rise in almost vertical columns from the eastern shore of Beaver Lake. The color of the glass is dark green, like that of which cheap quart bottles are made, and though the glass glistens like jet it is opaque. A carriage road has been provided, – a glass road, – a quarter of a mile long, running by the base of the cliffs. To construct this road large fires were built upon the obsidian mass, which, when thoroughly heated, was dashed with cold water, causing it to crack and crumble to pieces. It was a tedious undertaking, but an available roadway was at last the result.

Close at hand is Beaver Lake, of artificial origin, having been created by the industrious animal after which it is named. A colony have here built a series of thirty dams, thus forming a sheet of water of considerable depth, half a mile in width, and two miles long, framed by tall, straight pines, and covered near the shore with aquatic flowers. As we passed the lake, in its shady corners were seen flocks of ducks in gaudy colors and of many different species, while on the far side representatives of the beaver tribe were kind enough to exhibit themselves for our amusement. The series of dams which these little creatures have constructed hereabouts have falls of from three to six feet each,

extending for a distance of nearly two miles. The lily plants which bordered Beaver Lake were of a curious amber color, growing here and there in groups of great density. At a snap of the driver's whip a bevy of wild ducks rose, but lazily settled again upon the water close at hand. "They have read the printed regulations of the Park," said the driver, "and know that no one will attempt to shoot them." Beyond the lake are broad patches of level meads, sprinkled with lovely wild flowers, in which yellow, purple, and white prevailed. The delicate little phlox, modestly clinging to the ground, was fragrant above all the rest. Occasional spots bordering the pine woods showed the exquisite enamel of the blue violets, which emitted their familiar and welcome fragrance. These were dominated by a tall, regal flower, clustering on one stem, whose name we know not, but which formed great masses of purple bloom.

Close to the curious and interesting Obsidian Cliffs is a pleasant resort called Willow Park, a cool, shady spot, where a clear stream of good water flows through a stretch of rich pasture land, forming a delightful rural picture, full of peaceful and poetic suggestiveness. This is a favorite camping ground for those who adapt that mode of visiting the several sections of the Park.

The stranger looks about him in silent amazement, wondering how long Nature has been displaying her erratic moods after the fashion exhibited here, now smiling with winning tenderness, and now frowning with implacable sternness. He sees everywhere

evidences of great antiquity, and beholds objects which must date from time incalculably remote, but there is no recorded history extant of this strange region. The original Indian inhabitants of the Park were a very peculiar people, – a sort of gnome race, – a tribe individually of Liliputian size, who lived in natural caves, of which there are many in the hills, where rude and primitive implements of domestic use belonging to the aborigines have been found. They do not seem to have possessed even the customary legends of savage races concerning their surroundings and their origin. This tribe, the former dwellers here, were called the Sheep-eating Indians, because they lived almost solely upon the flesh, and clothed themselves in the skins, of the big-horn sheep of these mountains, – an animal which is found running wild in more or less abundance throughout the whole northern range of the Rocky Mountains, even where it reaches into Alaska. These natives are represented to have been a timid and harmless people, without iron tools or weapons of any sort, except bows and arrows, to which may be added hatchets and knives formed of the flint-like volcanic glass indigenous to the Park. They were an isolated people from the very nature of their country, which was nearly inaccessible at all seasons, and entirely so during the long and severe winters.

Other native tribes were debarred from this region through superstitious fear, induced by the incomprehensible demonstrations of Nature exhibited in boiling springs, spouting geysers, and the trembling earth, accompanied by subterranean

explosions. This seemed to them to be evidence of the wrath of the Great Spirit, angered, perhaps, by their unwelcome presence. The Sheep-eaters, born among these scenes, gave no special heed to them, and rather fostered an idea which prevented others from interfering with the surrounding game, and which also gave them immunity from the otherwise inevitable oppression of a stronger and more aggressive people than themselves. As civilization advanced westward, or rather as the white man found his way thither, this Yellowstone tribe gradually dwindled away or became united with the Shoshones of Iowa. Their individuality seems now to have been entirely lost, not a trace of them, even, being discernible, according to more than one intelligent writer upon the subject.

No Indians of any tribe are now permitted in the reservation, otherwise, lazy as these aborigines are, they would soon make reckless havoc among the fine collection of wild animals which is gathered here. The Indians are all in the annual receipt of money and ample food supplies from the government; and the killing of extra game and selling the hides would furnish them with only so many more dollars to be expended for whiskey and tobacco. These tribes have no idea of economy, or care for the future. The reliance they place upon government supplies promotes a spirit of recklessness and extravagance. If their potato crop fails, or partial famine sets in from some extraordinary cause, it finds them utterly unprepared to meet the exigency. Oftentimes it is found that the government rations and supplies have been sold,

and the money received therefor lavishly squandered.

## CHAPTER III

Norris Geyser Basin. – Fire beneath the Surface. – A Guide's Ideas. – The Curious Paint Pot Basin. – Lower Geyser Basin. – Boiling Springs of Many Colors. – Mountain Lions at Play. – Midway Geyser Basin. – "Hell's Half Acre." – In the Midst of Wonderland. – Old Faithful. – Other Active Geysers. – Erratic Nature of these Remarkable Fountains.

A pleasant drive of twenty miles in a southerly direction from the Hot Springs Hotel, through the wildest sort of scenery, over mountain roads and beside gorgeous cañons, will take the visitor to the Norris Geyser Basin, a spot which promptly recalled to the writer somewhat similar scenes witnessed at the aboriginal town of Ohinemutu, in the northern part of New Zealand. Clouds of sulphurous vapor constantly hang alike over both places, produced by a similar cause, though the scene here is far more vivid and demonstrative. This whole basin is dotted by hot water springs and fumaroles, which maintain an incessant hissing, spluttering, and bubbling, night and day, through the twelve months of the year. The water which issues from these sources is of various colors, according to the impregnating principle which prevails, the yellow sulphur vats being especially conspicuous to the sight and offensive to the smell. What a strange, weird place it is! No art could successfully imitate these extravagances

of Nature. Some of the rills are cool, others are boiling hot; some are white, some pink or red, and one large basin, fifty feet across, is called the Emerald Pool, because of its intensely green color; yet it appears to be quite pure and transparent when a sample is taken out and examined. Each spring seems to be entirely independent of the rest, though all are situated so near to each other. An almost constant tremor of the earth is realized throughout this immediate region, as though only a thin crust separated the visitor from an active volcano beneath his feet; and, notwithstanding the various scientific theories, who can say that such is not actually the case?

“I know all about the idea that these eruptions of boiling water, steam, and sulphurous gases are produced by chemical action,” said our guide. “I’ve heard lots of scientific men talk about the subject, but I don’t believe nothing of the sort.”

“And why not?” we asked.

“Do you believe,” he said, “that chemical action in the earth could create power enough, first to bring water to 212° of heat, and then force it two hundred feet into the air a number of times every day in a column four or five feet in diameter, and keep it up for quarter of an hour at a time?”

“Well, it does seem somewhat problematical,” we were forced to answer.

“After living here summer and winter for six years,” he said, “I have seen enough to satisfy me that there is a great sulphurous fire far down in the earth below us, which, if the steam and power

it accumulates did not find vent through the hundreds of surface outlets distributed all over the Park, would seek one by a grand volcanic outburst.”

“Put your hand on the ground just here,” he continued, as we walked over a certain spot where our footfall caused a reverberation and trembling of the soil.

“It is almost too hot for the flesh to bear,” we said, quickly withdrawing our hand.

“Too hot! I should say so. Now I don’t believe anything but a burning fire can produce such heat as that,” he added, with an expression of the face which seemed to imply, “I don’t believe you do either.”

“The original volcanic condition of this whole region seems also to argue in favor of your deductions,” we replied.

“That’s just what I tell ’em,” continued the guide. “Them big fires that first did the business for this neighborhood are still smouldering down below. You may bet your life on that.”

This rather startling idea is emphasized by a smoking vent close at hand, which is also constantly sending forth superheated steam and sulphurous gases, like the extinct volcano of Solfatara, near Naples. Sulphur crystals strew the ground, and are heaped up in small yellow mounds. Not far away an intermittent geyser bursts forth every sixty seconds from a deep hole in the rock-bed of the basin, showing a stream of water six inches in diameter, and sending the same skyward thirty or forty feet. Here also is a powerful geyser called the Monarch, which leaps into action

with great regularity once in twenty-four hours, throwing a triple stream to the height of a hundred and thirty feet, and continuing to do so for the space of fifteen or twenty minutes. Beneath the sun's rays all the colors of the prism are reflected in this vertical column of water, and not infrequently the distinct arch of a rainbow is suspended like a halo about its crown. Nature, even in her most fantastic caprice, is always beautiful.

There are several other high-reaching and powerful geysers in this vicinity, but we will not weary the reader by pausing to describe them.

Gibbon Paint Pot Basin is next visited, being a most curious area, measuring some twenty acres, more or less, situated in a heavily-wooded district, not far from Gibbon Cañon. Here is a most strange collection of over five hundred springs of boiling, splashing, exploding mud, exhibiting many distinct colors, which gives rise to the name it bears. One pot is of an emerald green, another is as blue as turquoise, a third is as red as blood, a fourth is of orange yellow, another is of a rich cream color and consistency. The visitor is struck by the singularity of this hot-spring system, which produces from vents so close together colors diametrically opposite. The earth is piled up about the seething pools, making small mounds all over the basin, and forming a series of pots of clay and silicious compounds. Near the entrance of Gibbon Cañon is a remarkable collection of extinct geysers; the tall, slim, crystallized structures, originating like the Liberty Cap

already described, look like genii totem poles, corrugated by the finger of time, and forming significant monuments of bygone eruptions, while the surrounding volcanoes were slowly exhausting their fury. Even about these long-extinct geysers there is an atmosphere indicating their former intensity, though it is quite possible they may have been sleeping for ten centuries.

The locality known as the Lower Geyser Basin is filled with striking and somewhat similar volcanic exhibitions, though there are more hot springs here than other phenomena, the aggregate number being a trifle less than seven hundred, including seventeen active geysers. In some respects this spot exceeds in interest those previously visited, being more readily surveyed as a whole. The variety of form and the large number of these springs are remarkable. As a rule they are less sulphurous and more silicious than those already spoken of. Here, as at the terraces near the hotel, the last touch of beauty is imparted by the sun's rays forcing themselves through the white vapory clouds which are thrown off by the mysteriously heated waters. One of the large basins, measuring forty by sixty feet, is filled with a sort of porcelain slime, notable for its soft rose tints and delicate yellow hues, which are brought out with magic effect under a cloudless sky. This basin has an elevation of over seven thousand feet above the level of the sea, and is surrounded by heavily-timbered hills which are four and five hundred feet higher. Numerous as these springs and geysers are, each one is strongly individualized by some special feature which marks it as distinctive from the rest,

and renders it recognizable by the residents of the Park, but which, however interesting to the observing visitor, would only prove to be tedious if here described in detail.

While sitting at twilight on the piazza of the rude little inn where we passed the night in this basin, there came out from the edge of the wood on to a broad green plateau a couple of long tailed mountain lions. They were not quite full grown, and were of a tawny color. These creatures, savage and dangerous enough under some circumstances, seemed half tame and entirely fearless, playfully romping with each other, and exhibiting catlike agility. The proprietor of the inn told us that not long since, upon a dark night, they came to the house and attacked his favorite dog, killing and eating him, leaving only the bones to explain his disappearance in the morning. They, too, must have read the regulations, "No firearms permitted in the Park."

The Midway Geyser Basin is situated a few miles directly south of that just spoken of, and contains an extraordinary group of hot springs, among which is the marvelous Excelsior Geyser, largest in the known world. It bursts forth from a pit two hundred and fifty feet in diameter, worn in the solid rock, and which is at all times nearly full of boiling water, above which there is constantly floating a dense column of steam, which rising slowly is borne away and absorbed by the atmosphere. The water which flows so continuously over the brim has formed a series of terraces beaming with beautiful tints. This stupendous fountain

is intermittent, giving an exhibition of its startling powers at very irregular periods, when it is said to send up a column of water sixty feet in diameter to a height of from fifty to one hundred feet! So great is the sudden flood thus produced in the Firehole River, which is here between seventy-five and a hundred yards broad, that it is turned for the time being into a furious torrent of steaming, half-boiling water. The Excelsior has also a disagreeable and dangerous habit of throwing up hundred-pound stones and metallic débris with this great volume of water, while the surrounding earth vibrates in sympathy with the hidden power which operates so mysteriously. Visitors naturally hasten to a safe distance during these moments of extraordinary activity.

About midway between Firehole and the Upper Geyser Basin is a strange, unearthly, vaporous piece of low land, which is endowed with a name more expressive than elegant, being called "Hell's Half Acre." Here again it seems as if this spot is separated from the raging fires below by only the thinnest crust of earth, through which numerous boiling springs find riotous vent. The soil in many parts is burning hot, and echoes to the tread as though liable to open at any moment and swallow the venturesome stranger. During the season of 1888, a lady visitor who stepped upon a thin place sank nearly out of sight, and though instantly rescued by her friends, she was so severely scalded as to be confined to her bed for a month and more at the Mammoth Springs Hotel. The air is filled with fumes of sulphur, and the place would seem to be appropriately named.

There are forty springs in this "Half Acre," which, by the way, occupies ten times the space which the name indicates, where the seething and bubbling noise is like the agonized wailing of lost spirits. The place has another, and perhaps better, designation besides this satanic title, namely, Egeria Springs. Great is the contrast between the heavens above and the direful suggestions of the earth below, as we behold it under the serene beauty of the blue sky which prevails here in the summer months, and which renders camping out in the Park delightful. "You should come here during a thunder-storm," said our companion, who is a dweller in this region. "I have done so twice," he continued, "simply to witness the fitness of the association: rolling thunder overhead and flashes of lightning in the atmosphere, through which the boiling vats, hissing pools, and steaming fissures are seen in full operation, as though they were a part and parcel of the electric turmoil agitating the sky."

It is impossible to appreciate these various phenomena in a single hurried visit. Like the Falls of Niagara, or the Pyramids of Gizeh, they must become in some degree familiar to the observer before he will be able to form a complete, intelligent, and satisfactory impression which will remain with him. One cannot grasp the full significance of such accumulated wonders at sight. We look about us among the green trees that border the open areas, surprised to behold the calm sunshine, the tuneful birds, and the chattering squirrels, moved by their normal instincts, utterly regardless of these myriad surrounding marvels.

The grandest spouting springs are to be found in Upper Geyser Basin, where there are twenty-five active fountains of this character. Here is situated the famous "Old Faithful," which, from a mound rising gradually about six or eight feet above the surrounding level, emits a huge column of boiling water for five or six minutes in each hour with never-failing regularity, while it gives forth at all times clouds of steam and heated air. The height reached by the waters of this thermal fountain varies from eighty to one hundred and twenty feet, and it has earned its expressive name by never failing to be on time. It seemed, somehow, to be a more satisfactory representative of the spouting spring phenomenon than any other in the entire Park, though it would be difficult to say exactly why. Its prominent position, dominating the rest of the geysers of the basin, gives it special effect. Irrespective of all other similar exhibitions, the stately column of "Old Faithful" rises heavenward with splendid effect in the broad light of day, or in the still hours of the night, once in every sixty minutes, as uniformly as the rotation of the second-hand of a watch. The effect was ghostly at midnight under the sheen of the moon and the contrasting shadows of the woods near at hand, while not far away, across the Firehole River, the lesser geysers were exhibiting their erratic performances, casting up occasional crystal columns, which glistened in the silvery light like pendulous glass. There is quite a large group of geysers in this immediate vicinity, which perform with notable regularity at stated periods. There is one called the Beehive,

because of its vent, which has a resemblance to an old-fashioned straw article of the sort, the crater being about three feet in height. The author saw this spring throw up a stream three feet in diameter nearly or quite two hundred vertical feet for eight or ten minutes, when it gradually subsided. There are over four hundred geysers and boiling springs in this basin. Among them is the Giantess, situated four hundred feet from the Beehive, which does not display its powers oftener than once in ten or twelve days; but when the eruption does take place, it is said to exceed all the rest in the height which it attains and the length of time during which it operates. It has no raised crater, but comes forth from a vent even with the surface of the ground, thirty-four feet in length and twenty-four in width. When it is in action, so great is the force expended that miniature earthquakes are felt throughout the immediate neighborhood. There are seen, not far away, the Lion, Lioness, Young Faithful, the Grotto, the Splendid, etc., each one more or less operative. We have by no means enumerated all the active fountains in this basin, seeking only to designate their general character. However well prepared for the outburst, one cannot but feel startled when a geyser suddenly rises, mysteriously and ghost-like, close at hand, from out the deep bowels of the earth, its white form growing taller and taller, while the spray expands like weird and shrouded arms. To heighten this sepulchral effect the atmosphere is full of sulphurous vapors, while strange noises fall upon the ear like subterranean thunder. What puzzling mysteries Nature holds

concealed in her dark, earthy bosom!

Let us not forget to mention, in this connection, one of the hugest fountains of the Firehole Basin, namely, the Grand Geyser, which is placed next to the Excelsior in size and performance. This fountain has no raised cone, and operates once in about thirty-six hours. Of course the visitor is not able to see each and all of these strange fountains in operation. He might remain a month upon the ground and not do so; consequently, he is obliged to take some of the dimensions and performances on trust; but most of the statements which are made to him can easily be verified.

When this Grand Geyser is about to burst forth, the deep basin, which is twenty feet and more across, first gradually fills with furiously boiling water until it overflows the brim; then it becomes shrouded by heavy volumes of steam, out of which come several loud reports, like the discharge of a small cannon, when suddenly the whole body of water is lifted, and a column ten or twelve feet in diameter rises to a height of ninety feet, from the apex of which a lesser stream mounts many feet higher, until the earth trembles with the force of the discharge and falling water as it rushes towards the river. This strange exhibition lasts for eight or ten minutes, then the fountain slowly subsides, with hoarse mutterings, like some retreating and overmastered wild beast, growling sullenly as it disappears.

It will thus be seen that these geysers vary greatly in their action, in the duration of their eruptions, and in the intervals

which elapse between the performances. Some of them labor as though the water was slowly pumped up from vast depths, some burst forth with full vigor to their highest point at once, while others become exhausted with a brief effort. There are a few that subside only to again commence spouting, being thus virtually continuous; but these are not of such power as to throw their streams to a great height. One group of this sort is called the Minute Men, some of which spout sixty times within the hour; others eject small streams incessantly.

This immediate valley is very irregular in surface and thickly wooded in parts, showing also the ruins of many extinct geysers. It is a dozen miles long and between two and three wide, literally crowded with wonders from end to end. It contains a collection of boiling and spouting springs on a scale which would belittle all similar phenomena of the rest of the known world, could they be brought together.

As the reader will have understood, the period of activity with all the geysers is more or less irregular, except in the instance of Old Faithful. We have no knowledge of a simultaneous eruption having ever taken place. Many of these active springs which now exist will, doubtless, sooner or later subside and new ones will form to take their places, a process which has been going on, no one can even guess for how many ages.

## CHAPTER IV

The Great Yellowstone Lake. – Myriads of Birds. – Solitary Beauty of the Lake. – The Flora of the Park. – Devastating Fires. – Wild Animals. – Grand Volcanic Centre. – Mountain Climbing and Wonderful Views. – A Story of Discovery. – Government Exploration of the Reservation. – Governor Washburn's Expedition. – "For the Benefit of the People at Large Forever."

In the southern section of the Yellowstone Park, near its longitudinal centre, is one of the most beautiful yet lonely lakes imaginable, framed in a margin of sparkling sands, and surrounded by Alpine heights. One stretch of the shore about five miles long is called Diamond Beach; the volcanic material of which it is formed, being entirely obsidian, reflects the sun's rays like brilliant gems, while the beach is caressed by wavelets scarcely less bright. Surrounded by many wonders, the lake is itself a great surprise, lying in the bosom of rock-ribbed mountains at an elevation of nearly eight thousand feet above the sea. We know of but one other large body of water on the globe at any such height, namely, Lake Titicaca, in South America, famous in Peruvian history. The Yellowstone Lake is always of crystal clearness, and is fed from the eternal snow that piles itself up on the lofty peaks which surround it, and which are sharply outlined in all directions against the blue of the sky. The

outlet of the lake is the Yellowstone River, which issues from the northern end, while the Upper Yellowstone runs into it on the opposite side. The lake is twenty-two miles long by fifteen in width, and has an area of a hundred and fifty square miles. Its greatest depth is three hundred feet, and it is overstocked with trout, many of which, unfortunately, are infested by a parasitic worm which renders them unfit for food; but this is not the case with all the fish; a large portion are good and wholesome. Geologists find sufficient evidence to satisfy them that this lake, now narrowed to the dimensions just given, in ancient times covered two thirds of the present Park. Aquatic birds abound upon its broad surface, and build their myriad nests on its green islands. They are of many species, comprising geese, cranes, swans, snipe, mallards, teal, curlew, plover, and ducks of various sorts. Pelicans swim about in long white lines; herons, in their delicate ash-colored plumage, stand idly on the shore, while ermine-feathered gulls fill the air with their loud and tuneless serenade. Hawks, kingfishers, and ravens also abound on the shore, the first-named watching other birds as they rise from the water with fish, which they make it their business, freebooter-like, to rob them of. The lake has many thickly-wooded islands, and there are several long, pine-covered promontories which stretch out in a graceful manner from the mainland, the whole forming a grand primeval solitude. Now and again a solitary eagle, on broad-spread pinions, sails away from the top of some lofty pine on the mountain side to the deep green seclusion of the

nearest island. Even the presence of this proud and austere bird only serves to emphasize the grave and solemn loneliness which rests upon the locality.

It is a charming feature of this placid lake which causes it to gather into its bosom a picture of all things far and near: the clouds, "those playful fancies of the mighty sky," seem to float upon its surface; the blue of the heavens is reflected there; the tall peaks and wooded slopes mirror themselves in its depths. As we look upon the lake through the purple haze of sunset, a picture is presented of surpassing loveliness, tinted with blue and golden hues, which creep lovingly closer and closer about the quiet isles; while there come from out the forest resinous pine odors, delightfully soothing to the senses, accompanied by the soft music of swaying branches, and the low drone of insect life.

To linger over such a scene is a joy and an inspiration to the experienced traveler, who, in wandering hither and thither upon the globe, places an occasional white stone at certain points to which memory turns with never-failing pleasure. Thus he recalls a sunrise over the silvery peaks of the grand Himalayan range; a thrilling view from the Mosque of Mahomet Ali at Cairo, localizing Biblical story; or a summer sunset-glow on the glassy mirror of the Yellowstone Lake.

Along the mountain side, east of the lake, are ancient terraces, indented shorelines, and other evidences which clearly prove that, at no very remote geological period, the surface of this grand sheet of water was at least five or six hundred feet higher than

it is at the present time. Nearly two hundred square miles of the Park are still covered by lakes.

As to the flora of the Yellowstone Park, seventy-five per cent. of the whole area seems to be covered by dense forests, the black fir being the most plentiful, often growing to three or four feet in diameter and a hundred and fifty feet in height. The white pine is the most graceful among the indigenous trees, and is always remarkable for its stately symmetrical beauty. The thick groves of balsam fir are particularly fine and fragrant, while the dwarf maples and willows are charming features as they mingle abundantly with larger and more pretentious trees. Wild flowers, Nature's bright mosaics, are found in great variety during the summer, though there is rarely a night in this neighborhood without frost, while the winters are truly arctic in temperature. The larkspur, columbine, harebell, lupin, and primrose abound, with occasional daisies and other blossoms. Yellow water-lilies, anchored by their fragile stems, profusely sprinkle and beautify the surface of the shady pools. Exquisite ferns, lichens, and velvety mosses delight the appreciative eye in many a sylvan nook which is only invaded by squirrels and song-birds.

Here, as in the valley of the Yosemite, it is melancholy to see the track of devastating fires caused by the half-extinguished blaze left by careless camping parties. It is difficult to realize how intelligent people can be so wickedly reckless as to cause such destruction. Many a forest monarch stands bereft of every limb by the devouring flames, and large areas are entirely denuded of

growth other than the shrubbery which springs up quickly after a sweeping fire in the woods, as though Nature desired to cover from sight the devastating footsteps of the Fire King. The grasses grow luxuriantly, especially alpine, timothy, and Kentucky blue grass.

There are many wild animals in the Park, such as elk, deer, antelope, big-horn sheep, foxes, buffalo, and what is called the California lion, a small but rather dangerous animal for the hunter to encounter. The buffalo is rarely seen in the West, and it is said is now only to be found wild in this Park. The streams and creeks also swarm with otter, beaver, and mink. These animals are all protected by law, visitors being only permitted to shoot such birds as they can cook and eat in their camps, together with any species of bear they may chance to fall in with; and there are several kinds of the latter animal to be found in the hills. At least this has been the case until lately; but stricter rules have been found necessary, and no visitors are now permitted to take firearms with them while remaining in the Park. The purpose of the government is to strictly preserve the game, the effect of which has already been to render the animals gathered here less shy of human approach, and to greatly increase their number.

So abundant are the evidences of grand volcanic action throughout the lake basin that it has been looked upon by scientists as the remains or centre of one enormous crater forty miles across! Dr. Hayden, the profound geologist, who was sent professionally by the government to report upon the

Park, declares it to have been the former scene of volcanic activity as great as that of any part of this planet, a conclusion which the observer of to-day is quite ready to admit, inasmuch as the subsidence has yet left enough of the original forces to demonstrate the sleeping power which still lurks restlessly beneath the soil. We wonder, standing amid such remarkable surroundings, how many centuries have passed since the valley assumed its present shape. Everything is indicative of high antiquity, and it is probably rather thousands than hundreds of years since this volcanic centre was at its maximum power and activity. The valley has been partly excavated out of ancient crystalline rocks, partly out of later stratified formations, and partly from masses of lava that were poured forth during a succession of ages which make up the different epochs of the earth's long history.

The lowest level of the Park is about six thousand feet above the sea, and the average elevation, independent of mountains, is much over this estimate. It is very properly designated as the summit of the continent, and gives rise to three of the largest rivers in North America, namely: on the north side are the sources of the Yellowstone; on the west, three of the forks of the Missouri; and on the southwest are the sources of the Snake River, which flows into the Columbia, and thence to the distant Pacific Ocean.

If possible, before leaving the neighborhood, the visitor should ascend Mount Washburn, the highest point of observation within

the great reservation, a feat easily accomplished on horseback. Such an excursion is particularly desirable since all the scenery of the Park is circumscribed while we are at the level of its springs, geysers, and lakes. The grand view from this elevation will repay all the time and effort expended in its accomplishment. Its height above the base is five thousand feet, its height above the sea five thousand more. A clear day is absolutely necessary for the proper enjoyment of such an excursion, in order to bring out fairly the panorama of forests, lakes, prairies, and mountains, decked by the golden glory of the sunshine. In some directions the vision reaches a hundred and fifty miles through space. Here, on the summit of Mount Washburn, we virtually stand upon the apex of the North American continent, if we except one or two of the sky-reaching peaks of the Territory of Alaska.

As we face the north, just before us lies the valley of the Yellowstone, and in the distance, looming far above its surroundings, is the tall Emigrant Peak. To the eastward Index and Pilot peaks pierce the clouds, beyond which stretches away the Big Horn Range. In the west the summits of the Gallatin Mountains follow one another northward, while trending in the same direction, but farther towards the horizon, is the lofty Madison Range. We gaze until bewildered by peak after peak, mountain beyond mountain, range upon range, mingling with each other, all combining to form a glorious view embodying the indescribably grand characteristics of the Rocky Mountain system, the equal of which we may never again behold.

The tall range of mountains which girdle the Park are snow-covered all the year round, frigid, giant sentinels, which long proved a complete barrier to organized exploration, forming an amphitheatre of sublime and lonely scenery. The story of the discovery of this Wonderland is briefly told as follows. It seems that a gold-seeking prospector named Coulter made his way with infinite perseverance into the region in 1807, and after many hair-breadth escapes from Indians, wild beasts, poisonous waters, and starvation, finally succeeded in rejoining his comrades, whom he entertained with stories of what he had seen, which seemed to them so incredible that they believed him to be crazy. Afterwards, first one and then another adventurer found his way hither, and though each of them corroborated Coulter's story, they were by no means fully credited. But public attention and curiosity were thus aroused, leading the government to send Professor Hayden and a small exploring party to carefully examine the region. This enterprise not only corroborated the stories already made public, but greatly added to their volume and amazing detail.

It was found that the representations of Coulter and those who followed him, so far from exaggerating the wonders of the Yellowstone, in reality fell far below the truth.

During the year 1870 Governor Washburn, accompanied by a small body of United States cavalry, entered the Park by the valley of the Yellowstone, and thoroughly explored the cañons, the shores of the great lake, and the geyser region of Firehole

River, together with the various interesting localities of which we have spoken. On returning he declared that the party had seen the greatest marvels to be found upon this continent, and that there was no other spot on the globe where there were crowded together so many natural wonders, combined with so much beauty and grandeur.

Finally Congress, foreseeing that the greed of speculators would lead them to monopolize this Wonderland for mercenary purposes, promptly took action in the matter, setting the region aside as a National Park and Reservation, for the benefit of the people at large forever, retaining the fee and control of the same in the name of the government.

Not many persons have ever attempted to traverse the Park in the winter season, but it has been done by a few hardy and adventurous people, who nearly perished in the attempt. Such individuals have reported that the raging snow-storms and blizzards which they encountered were on a scale quite equal to the other demonstrations and natural curiosities of the place. The trees in their neighborhood were beautifully gemmed with the frozen vapor of the geysers, and the heated springs seemed doubly active by the contrast between their temperature and that of the freezing atmosphere. It was only by camping at night upon the very brink of these boiling waters that life could be sustained, with the atmosphere at forty degrees below zero.

One who comes hither with preconceived ideas of the peculiar sights to be met with is sure to be disappointed, not in their want

of strangeness, for the Park is overstocked with curiosities having no counterpart elsewhere, but the features are so thoroughly unique that his anticipations are transcended both in the quality and the quantity of the food for wonder which is spread out before him on every side.

## CHAPTER V

Westward Journey resumed. – Queen City of the Mountains. – Crossing the Rockies. – Butte City, the Great Mining Centre. – Montana. – The Red Men. – About the Aborigines. – The Cowboys of the West. – A Successful Hunter. – Emigrant Teams on the Prairies. – Immense Forests. – Puget Sound. – The Famous Stampede Tunnel. – Immigration.

After a delightful, though brief, sojourn of ten days in the Yellowstone Park, realizing that twice that length of time might be profitably spent therein, we returned to Livingston, where the Northern Pacific Railroad was once more reached, and the westward journey promptly resumed. The Belt Range of mountains is soon crossed, at an elevation of over five thousand five hundred feet. A remarkable tunnel is also passed through, three thousand six hundred feet in length, from which the train emerges into a grand cañon, and soon arrives at the city of Bozeman. This place has a thrifty and intelligent population of over five thousand, and is notable for its rural and picturesque surroundings, in the fertile Gallatin Valley, which is encircled by majestic ranges of mountains, shrouded in “white, cold, virgin snow.” Having passed the point where the Madison and Jefferson rivers unite to form the headwaters of that great river, the Missouri, whence it starts upon its long and winding course of

over four thousand miles towards the Mexican Gulf, we arrive presently at Helena, the interesting capital of Montana. This is called the "Queen City of the Mountains," and is famous as a great and successful mining centre, the present population of which is about twenty thousand. It is said to be the richest city of its size in the United States, an assertion which we have good reasons for believing to be correct. The vast mineral region surrounding Helena is unsurpassed anywhere for the number and richness of its gold and silver-bearing lodes, having within an area of twenty-five miles over three thousand such natural deposits, the ownership of which is duly recorded, and many of which are being profitably worked. The city is lighted by a system of electric lamps, and has an excellent water-supply from inexhaustible mountain streams.

We were told an authentic story illustrating the richness of the soil in and about Helena, as a gold-bearing earth, which we repeat in brief.

It seems that a resident was digging a cellar on which to place a foundation for a new dwelling house, when a passing stranger asked permission to remove the pile of earth that was being thrown out of the excavation, agreeing to return one half of whatever value he could get from the same, after washing and submitting it to the usual treatment by which gold is extracted. Permission was granted, and the earth was soon removed. The citizen thought no more about the matter. After a couple of weeks, however, the stranger returned and handed the proprietor

of the ground thirteen hundred dollars as his half of the proceeds realized from the dirt casually thrown out upon the roadway in digging his cellar.

Between Helena and Garrison the main range of the Rocky Mountains is crossed, and at an elevation of five thousand five hundred and forty feet the cars enter what is called the Mullan Tunnel. This dismal and remarkable excavation is nearly four thousand feet long. From it the western-bound traveler finally emerges on the Pacific slope, passing through the beautiful valley of the Little Blackfoot.

The region through which we were traveling stretches from Lake Superior to Puget Sound, on the Pacific coast, and spreads out for many miles on either side of the Northern Pacific Railroad, known as the "Northern Pacific Country." No portion of the United States offers more favorable opportunities for settlement, and in no other section is there as much desirable government land still open to preëmption, presenting such a variety of surface, richness of soil, and wealth of natural productions. Intelligent emigrants are rapidly appropriating the land of this very attractive region, but there is still enough and to spare. Europe may continue to send us her surplus population for fifty years to come at the same rate she has done for the past half century, and there will still be room enough in the great West and Northwest to accommodate them.

As we left the main track of the Northern Pacific Railroad at Livingston to visit the Yellowstone Park, so at Garrison we

again take a branch road to Butte City, situated fifty-five miles southward, and which is admitted to be the greatest mining city of the American continent. Here, on the western slope of the main range of the Rocky Mountains, stands the "Silver City," as it is generally called, though one of its main features is its copper product, which rivals that of the Lake Superior district in quantity and quality, giving employment to the most extensive smelting works in the world. There are thirty thousand inhabitants in Butte, and it is rapidly growing in territory and population. Its citizens seem to be far above the average of our frontier settlers in intelligence and thrift. The Blue Bird silver mine is perhaps the richest in this locality, yielding every twelve months a million and a half of dollars in bullion; while the Moulton, Alice, and Lexington mines each produce a million dollars or more in silver yearly. There are several other rich mines, among them the Anaconda copper mine, which gives an aggregate each year larger in value than any we have named. The Parrott Copper Company, also the Montana and Boston Copper Company, each show an annual output of metal valued at a million of dollars. In place of there being any falling off in these large amounts, all of the mines are increasing their productiveness monthly by means of improved processes and enlarged mechanical facilities. But we have gone sufficiently into detail to prove the assertion already made, that Butte City is the greatest mining town on the continent. Eight tenths of its population is connected, either directly or indirectly, with mining.

“It would seem that the United States form the richest mineral country on the globe,” said an English fellow-traveler to whom these facts were being explained by an intelligent resident.

“That has long been admitted,” said the American.

“And what country comes next?” asked the Englishman.

“Australia,” was the reply. “But the United States,” continued the American, “have another and superior source of wealth exceeding that of all other lands, namely, their agricultural capacity. There are here millions upon millions of acres, richer than the valley of the Nile, which are still virgin soil untouched by the plow or harrow.”

Not mining, but agriculture forms the great and lasting wealth of our broad and fertile Western States, rich though they be in mineral deposits, especially of gold and silver.

Before proceeding further on our journey, let us pause for a moment to consider the magnitude of this imperial State of Montana, which measures over five hundred miles from east to west, and which is three hundred miles from north to south, containing one hundred and forty-four thousand square miles. This makes it larger in surface than the States of New Hampshire, Vermont, Massachusetts, Connecticut, New Jersey, Maryland, Ohio, and Indiana combined. With its vast stores of mineral wealth and many other advantages, who will venture to predict its future possibilities? It would be difficult to exaggerate them. The precious metals mined in the State during the last year gave a total value of over forty million of dollars, which was an increase

of six million over that of the preceding year. Between forty and fifty million dollars in value is anticipated as the result of the local mining enterprise for the current twelve months, and yet we consider this to be the second, not the first, interest of Montana; agriculture take the precedence.

Returning to Garrison, after a couple of days passed at Butte City examining its extremely interesting system of mining for the precious metals, we once more resume our western journey.

Along the less populous portions of the route groups of dirty, but picturesque looking Indians are seen lounging about, wrapped in fiery red blankets. These belong to various native tribes, such as the Sioux, Blackfeet, Cheyennes, and Arapahoes. Bucks, squaws, and papooses gather about the small railroad stations, partly from curiosity, and partly because they have nothing else to do; but they are ever ready to sell trifles of their own rude manufacture to travelers as souvenirs, also gladly receiving donations of tobacco or small silver coins. The men are fat, lazy, and useless, scorning even the semblance of working for a livelihood, leaving the squaws to do the trading with travelers. These are "wards" of our government, who receive regular annuities of money and subsistence, including flour, beef, blankets, and so on. Support is thus insured to them so long as they live, and no American Indian was ever known to work for himself, or any one else, unless driven to it by absolute necessity.

When the author first crossed these plains, nearly thirty years ago, before there was any transcontinental railroad, the Indian

tribes were very different people from what we find them to-day. The men were thin in flesh, wiry, active, and constantly on the alert. They were ever ready for bloodshed and robbery when they could be perpetrated without much danger to themselves. Contact with civilization has changed all this. They have become fat and lazy. They have borrowed the white man's vices, but have ignored his virtues. When not fighting with the pale faces, the tribes were, thirty and forty years ago, incessantly at war with each other, thus actively promoting the fate which surely awaited them as a people. Their pride, even to-day, is to display at their belts not only the scalps of white men and women taken in belligerent times, but also the scalps of hostile tribes of their own race.

We believe most sincerely in fulfilling all treaty obligations between our government and the Indians, to the very letter of the contract, nor have we any doubt that our official agents have often been unfaithful in the performance of their duties; but when we attempt to create saints and martyrs out of the Red Men, we are certainly forcing the canonizing principle. They are entitled to as much consideration as the whites, but they are not entitled to more. They are crafty and cruel by nature; this is, perhaps, not their fault, but it is their misfortune. Nothing is really gained in our fine-spun moral theories by attempting to deceive ourselves or others. The plain truth is the best.

A little way from the railroad station on the open prairie the camps of these aborigines may often be seen, consisting of a few

rude buffalo hides or canvas tents, while a score of rough looking ponies are grazing hard by, tethered to stakes driven into the soil. Here and there in front of a tent an iron kettle, in which a savory compound of meat and vegetables is simmering, hangs upon a tripod above a low fire built on the ground, presided over by some ancient squaw, all very much like a gypsy camp by the roadside in far off Granada.

The male aborigines wear semi-civilized clothing made of dressed deerskins, and woolen goods indiscriminately mixed; their long coarse black hair, decked with eagle's feathers, hangs about their necks and faces, the latter often smeared with yellow ochre. Now and then a touch of manliness is seen in the bearing and facial expression of the bucks; but the larger number are debauched and degraded specimens of humanity, who impress the stranger with some curiosity, but with very little interest. Like the gypsies of Spain, they are incorrigible nomads, detesting the ordinary conventionalities of civilized life. The Indian women are clad in leather leggings, blue woolen skirts and waists, having striped blankets gathered loosely over their shoulders. No one can truthfully ascribe the virtue of cleanliness to these squaws. The papooses are strapped in flat baskets to the mothers' backs, being swathed, arms, legs, and body, like an Egyptian mummy, and are as silent even as those dried-up remains of humanity. Whoever heard an Indian baby cry? The mothers seemed to be kind to the little creatures, whose faces, like those of the Eskimo babies, are so fat that they can hardly open their eyes.

We are sure to see about these railroad stations in the far West an occasional "cowboy," clad in his fanciful leather suit cut after the Mexican style, wearing heavy spurs, and carrying a ready revolver in his belt. His long hair is covered by a broad felt sombrero, and he wears a high-colored handkerchief tied loosely about his neck. He enjoys robust health, is sinewy, clear-eyed, and intelligent in every feature, leading an active, open-air life as a herdsman, and being ever ready for an Indian fight or a generous act of self-abnegation in behalf of a comrade. He will not object on an occasion to join a lynching-party who happen to have in hand some horse-thief or a murderous scoundrel who has long successfully defied the laws. These cowboys are splendid horsemen, sitting their high-pommeled Mexican saddles like the Arabs. They are oftentimes educated young men, belonging to respectable Eastern families, seeking a brief experience of this wild, exposed life, simply from a love of independence and adventure. They are chivalric, and nearly always to be found on the side of justice, however quick they may be in the use of the revolver. Their life is spent amid associations, and in regions, where the slow process of the law does not meet the exigencies constantly occurring. The reader may be assured that they are nevertheless governed by a sense of "wild justice," in which an element of real equity predominates. To realize the skill which they acquire, one must see half a dozen of them join together in "rounding up" a herd of several hundred cattle, or wild horses, scattered and feeding on the prairie, and from the herds collect

and sort out the animals belonging to different owners, all being distinctly branded with hot irons when brought from Texas or elsewhere. In doing this it is often necessary to lasso and throw an animal while the operator is himself in the saddle and his horse at full gallop. No equestrian feats of the ring equal their daily performances, and no Indian of the prairies can compare with them for daring and successful horsemanship. Indeed, an Indian is hardly the equal of a white man in anything, not even in endurance. "An intelligent white man can beat any Indian, even at his own game," says Buffalo Bill. Each one of the aborigines has his pony, and some have two or three, but they are as a rule of a poor breed, overworked and underfed. They are never housed, never supplied with grain, but subsist solely upon the coarse bunch grass of the prairie. The poor, uncared-for animals which are seen as described about the natives' encampments tell their own doleful story. The Indian ponies and the squaws are alike always abused.

As we cross these plains straggling emigrant teams are often seen, called "prairie schooners." The wagons as a rule are much the worse for wear, being surmounted by a rude canvas covering, dark and mildewed, under which a wife and four or five children are generally domiciled. A few domestic utensils are carried in, or hung upon the body of, the vehicle, – a tin dipper here, a water-pail there, a frying-pan in one place, and an iron kettle in another. These wagons are usually drawn by a couple of sorry-looking horses, and sometimes by a yoke of oxen. Beside the

team trudges the father and husband, the typical pioneer farmer, hardy, independent, self-reliant, bound west to find means of support for himself and brood. Many such are seen as we glide swiftly over the iron rails, causing us to realize how steadily the stream of humanity flows westward, spreading itself over the virgin soil of the new States and Territories, and producing a growth in population no less legitimate than it is rapid. These pioneers are almost invariably farmers, and by adhering to their calling are sure to make at least a comfortable living.

While stopping at a watering-place in the early morning, the picturesque figure of a hunter was seen with rifle in hand. Over his shoulder hung the body of an antelope, while some smaller game was secured to his leathern belt. He had just captured these in the wild brown hills which border the plateau where our train had stopped. Cooper's Leather-Stocking Tales were instantly suggested to the mind of the observer, as he watched the careless, graceful attitude and bearing of the rugged frontiersman, whose entire unconsciousness of the unique figure which he presented was especially noticeable.

After traveling more than five hundred miles in Montana, which is surpassed in size only by Alaska and Dakota, we enter northern Idaho, attractive for its wild and picturesque scenery, – a territory of mountains, valleys, rivers, lakes, and prairies combined, second only to Montana in its mineral wealth, and possessing also some of the choicest agricultural districts in the great West, where Nature herself freely bestows the best

of irrigation in uniform and abundant rains. While traveling in Idaho we find that the route passes through a magnificent forest region, where the trees measure from six to ten feet in diameter, and are of colossal height, such growing timber as would challenge comment in any part of the world, consisting mostly of white pine, cedar, and hemlock.

We soon cross into the State of Washington, its northern boundary being British Columbia and its southern boundary Oregon, from which it is separated for more than a hundred miles of its length by the Columbia River. Its form is that of a parallelogram, fronting upon the Pacific Ocean for about two hundred and fifty miles, and having a length from east to west of over three hundred and sixty miles. This State has immense agricultural areas, as well as being rich in coal, iron, and timber. We pause at Spokane Falls for a day and night of rest. It is on the direct line of the Northern Pacific Railroad, and is the principal city of eastern Washington, having the largest and best water-power on the Pacific slope. Government engineers report the water fall here to exceed two hundred thousand horse-power, a small portion only of which is yet improved, and that as a motor for large grain and flouring mills. Here we find a thrifty business community numbering over twelve thousand, the streets traversed by a horse railroad, and the place having electric lights, gas and public water works, with a Methodist and a Catholic college. It commands the trade of what is termed the Big Bend country and the Palouse district, and is the fitting-out place

for the thousands of miners engaged in Cœur d'Alene County. In spite of the late disastrous fire which she has experienced, Spokane, like Seattle, will rapidly rise from her ashes. Official reports show that over nine million acres of this State are particularly adapted to the raising of wheat. Our route, after a brief rest at Spokane Falls, lies through Palouse County, where this cereal is raised in quantities proportionately larger than even in Dakota, and at a considerably less cost. Thirty-five to forty bushels of wheat to the acre is considered a royal yield in Dakota and the best localities elsewhere, but here fifty bushels to the acre are pretty sure to reward the cultivator, and even this large amount is sometimes exceeded. One enthusiastic observer and writer declares that Palouse County is destined to destroy wheat-growing in India by virtue of its immense crops, its favorable seasons, its economy of production, and its proximity to the seaboard.

In the western part of the State, on Puget Sound, the lumber business is the most important industry, giving profitable employment to thousands of people. The productive capacity of the several sawmills on the sound is placed at two million feet per day, and all are in active operation. A new one of large proportions was also observed to be in course of construction. The forests which produce the crude material are practically inexhaustible. The pines are of great size, ranging from eight to twelve feet in diameter, and from two hundred to two hundred and eighty feet in height. No trees upon this continent, except

the giant conifers of the Yosemite, surpass these in magnitude. United States surveyors have declared, in their printed reports, that this State contains the finest body of timber in the world, and that its forests cover an area larger than the entire State of Maine.

The most productive hop districts that are known anywhere are to be found in the broad valleys of this State, where hop-growing has become a great and increasing industry, yielding remarkable profits upon the money invested and the labor required to market the crop. The course of the railroad is lined with these gorgeous fields of bloom, hanging on poles fifteen feet in height, planted with mathematical regularity. Large fruit orchards of apples, pears, peaches, cherries, and other varieties are seen flourishing here; and residents speak confidently of fruit raising as being one of the most promising future industries of this region, together with the canning and preserving of the fruits for use in Eastern markets. We are reminded, in this connection, that the United States crop reports also represent Washington as producing more bushels of wheat to the acre than any other State or Territory within the national domain. This grand region of the far northwestern portion of our country is three hundred miles long, from east to west, and two hundred and forty miles from north to south, giving it an area in round numbers of seventy thousand square miles. That is to say, it is nearly as large as the States of New York and Pennsylvania combined.

The immigration pouring into the new State of Washington is simply enormous, its aggregate for the year 1889 being estimated

at thirty-five thousand persons, the majority of whom come hither for agricultural purposes, and to establish permanent homes. One train observed by the author consisted of nine second-class cars filled entirely with Scandinavians, that is, people from Norway and Sweden, presenting an appearance of more than average sturdiness and intelligence.

As the Pacific coast is approached we come to the famous Stampede Tunnel, which is nearly ten thousand feet long, and, with the exception of the Hoosac Tunnel in Massachusetts, the longest in America. On emerging from the Stampede Tunnel the traveler gets his first view of Mount Tacoma, rising in perpendicular height to nearly three miles, the summit robed in dazzling whiteness throughout the entire year.

# CHAPTER VI

Mount Tacoma. – Terminus of the Northern Pacific Railroad. – Great Inland Sea. – City of Tacoma and its Marvelous Growth. – Coal Measures. – The Modoc Indians. – Embarking for Alaska. – The Rapidly Growing City of Seattle. – Tacoma with its Fifteen Glaciers. – Something about Port Townsend. – A Chance for Members of Alpine Clubs.

The city of Tacoma takes its name from the grand towering mountain, so massive and symmetrical, in sight of which it is situated. We cannot but regret that the newly formed State did not assume the name also.

This is the western terminus of the Northern Pacific Railroad, and is destined to become a great commercial port in the near future, being situated so advantageously at the head of the sound, less than two hundred miles from the Pacific Ocean. Its well-arranged system of wharves is already a mile and a half long, while there is a sufficient depth of water in any part of the sound to admit of safely mooring the largest ships. The reports of the United States Coast Survey describe Puget Sound as having sixteen hundred miles of shore line, and a surface of two thousand square miles, thus forming a grand inland sea, smooth, serene, and still, often appropriately spoken of as the Mediterranean of the North Pacific. It is indented with many

bays, harbors, and inlets, and receives into its bosom the waters of numerous streams and tributaries, all of which are more or less navigable, and upon whose banks are established the homes of many hundred thrifty farmers.

History shows that long ago, before any Pilgrims landed at Plymouth, Spanish voyagers planted colonies on Puget Sound. From them the Indians of these shores learned to grow crops of cereals, though according to the ingenious Ignatius Donnelly's "Atlantis" they brought the art from a lost continent. Puget Sound may be described as an arm of the Pacific which, running through the Strait of Fuca, extends for a hundred miles, more or less, southward into the State of Washington. Nothing can exceed the beauty of these deep, calm waters, or their excellence for the purpose of navigation; not a shoal exists either in the strait or the sound that can interfere with the progress of the largest ironclad. A ship's side would strike the shore before her keel would touch the bottom. Storms do not trouble these waters; such as are frequently encountered in narrow seas, like the Straits of Magellan, and heavy snow-storms are unknown. The entire expanse is deep, clear, and placid.

Tacoma has about thirty thousand inhabitants to-day; in 1880 it had seven hundred and twenty! The assessed valuation eight years ago was half a million dollars. It is now over sixteen million dollars, and this aggregate does not quite represent the rapid increase of real estate. Here, months have witnessed more growth and progress in permanent business wealth and value

of property than years in the history of our Eastern cities. At this writing there is being built a large and architecturally grand opera house of stone and brick which will cost quarter of a million dollars, besides which the author counted over forty stone and brick business edifices in course of construction, and nearly a hundred two and three story frame-houses for dwelling purposes, of handsome modern architectural designs. Away from the business centre of the city the residences are universally beautiful, with well-kept lawns of exquisite green, and small charming flower gardens fragrant with roses, syringas, and honeysuckles, mingling with pansies, geraniums, verbenas, and forget-me-nots. It is astonishing what an air of leisure and refinement is imparted to these dwellings by this means, – an air of retirement and culture, amid all the surrounding bustle and rush of business interests.

The city claims an ocean commerce surpassed in volume by no other port on the Pacific except San Francisco. Its substantial and well-arranged brick blocks, of both dwellings and storehouses, lining the broad avenues, are suggestive of permanence and commercial importance, while a general appearance of thrift prevails in all of the surroundings. Pacific Avenue is noticeably a fine thoroughfare, – the principal one of the town. The place seems to be thoroughly alive, and especially in the vicinity of the shipping. The author counted fifteen ocean steamers in the harbor, and there were at the same time as many large sailing vessels lying at the wharves loading

with lumber, wheat, coal, and other merchandise, exhibiting a degree of commercial energy hardly to be expected of so comparatively small a community. We were informed that four fifths of the citizens were Americans by birth, drawn mostly from the educated and energetic classes of the United States, forming a community of much more than average intelligence. Young America, backed by capital, is the element which has made the place what it is. It was a surprise to find a hotel so large and well appointed in this city as the "Tacoma" proved to be; a five-story stone and brick house, of pleasing architectural effect, and having ample accommodations for three hundred guests. It stands upon rising ground overlooking the extensive bay. The view from its broad piazzas is something to be remembered.

Across Commencement Bay is a point of well-wooded land, called "Indian Reservation," where our government located what remains of the Modoc tribe who so long resisted the advance of the whites towards the Pacific shore. These former belligerents are peaceable enough now, fully realizing their own interests.

Statistics show that there is shipped from Tacoma, on an average, a thousand tons of native coal per day, mostly to San Francisco and some other Pacific ports. A large portion of this coal comes from valuable measures belonging to the Northern Pacific Railroad Company, situated thirty or forty miles from Tacoma, and some from the Roslyn mines farther away. The Wilkinson and Carbonado mines form the principal source of supply for shipment, and the Roslyn for use on the railroad.

These last are thirty-five thousand acres in extent. One of the many veins of the Roslyn coal deposit is estimated to contain three hundred million tons of coal, conveniently situated for transportation on the line of the Northern Pacific Railroad.

The great Tacoma sawmill does a very large and successful business, finding its motor in a steam engine of fourteen hundred horse-power, and having over seven hundred men on its payroll. This number includes mill-hands, dock-men, choppers, and watermen, the latter being the hands who bring the logs by rafts from different parts of the sound. There are a dozen other sawmills in and about the city. The lumber business of this region is fast assuming gigantic proportions, shipments being regularly made to China, Japan, Australia, and even to Atlantic ports. A whole fleet of merchantmen were waiting their turn to take in cargo while we were there. We believe that Tacoma will ere long become the second city on the Pacific coast, and perhaps eventually a rival to San Francisco. Its abundance of coal, iron, and lumber, added to its variety of fish and immense agricultural products, are sufficient to support a city twice as large as the capital of California.

One sturdy gang of men, who are bringing in a large raft of logs, attracts our attention by their similarity of dress and general appearance, as well as by their dark skins and well-developed forms. On inquiry we learn that they are native Indians of the Haida tribe, who come down from the north to work through a part of the season as lumbermen, at liberal wages. They are

accustomed to perilous voyages while seeking the whale and fishing for halibut in deep waters, commanding good wages, as being equal to any white laborers obtainable.

We embark at Tacoma for Alaska in a large and well-appointed steamer belonging to the Pacific Coast Steamship Company, heading due north.

The first place of importance at which we stop is the city of Seattle, the oldest American settlement on the sound, and now having a busy commercial population of nearly thirty thousand. It has an admirable harbor, deep, ample in size, and circular in form; the commercial facilities could hardly be improved. Here again are large substantial brick and stone blocks, schools, churches, and various public and private edifices of architectural excellence. Enterprise and wealth are conspicuous, while the neighboring scenery is grand and attractive. To the east of the city, scarcely a mile away, is situated a very beautiful body of water, deep and pure, known as Lake Washington, twenty miles long by an average of three in width, and from which the citizens have a never-failing supply of the best of water. The lake has an area of over sixty square miles, and is surrounded by hills covered with a noble forest-growth of fir, spruce, and cedar. Seattle has four large public schools averaging six hundred pupils each, and a university to which there are seven professors attached, with a regular attendance of two hundred students.

Among the great natural resources of this region there is included sixty thousand acres of coal fields within a radius of

thirty miles of Seattle. These coal fields are connected with the city by railways. Tacoma and Seattle are also joined by rail, besides two daily lines of steamboats.

Great is the rivalry existing between the people here and those of Tacoma, but there is certainly room enough for both; and, notwithstanding the destructive fire which lately occurred at Seattle, it is prospering wonderfully. About four miles distant from the centre of business is situated one of the largest steel manufactories in this country, the immediate locality being known as Moss Bay. Here timber, water, coal, and mineral are close at hand to further the object of this mammoth establishment, which, when in full operation, will give employment to five thousand men. Real estate speculation is the present rage at Seattle, based on the idea that it is to be *the* port of Puget Sound.

Between the city and hoary-headed Mount Tacoma is one of the finest hop-growing valleys extant. It has enriched its dwellers by this industry, and more hops are being planted each succeeding year, increasing the quantity exported by some twenty-five per cent. annually. It may be doubted if the earth produces a more beautiful sight in the form of an annual crop of vegetation than that afforded by a hop-field, say of forty acres, when in full bloom. We were told that the land of King County, of which Seattle is the capital, is marvelous in fertility, especially in the valleys, often producing four tons of hay to the acre; three thousand pounds of hops, or six hundred bushels of potatoes, or

one hundred bushels of oats to the acre are common. It must be remembered also that while there is plenty of land to be had of government or the Northern Pacific Railroad Company at singularly low rates, transportation in all directions by land or water is ample and convenient, a desideratum by no means to be found everywhere.

From the deck of the steamer, as we sail northward, the irregular-formed, but well-wooded shore is seen to be dotted with hamlets, sawmills, farms, and hop-fields, all forming a pleasing foreground to the remarkable scenery of land and water presided over by the snow-crowned peak of Mount Tacoma, which looms fourteen thousand feet and more skyward in its grandeur and loneliness. How awful must be the stillness which pervades those heights! As we view it, the snow-line commences at about six thousand feet from the base, above which there are eight thousand feet more, ice-topped and glacier-bound, where the snow and ice rest in endless sleep. There are embraced within the capacious bosom of Tacoma fifteen glaciers, three of which, by liberal road-making and engineering, have been rendered accessible to visitors, and a few persistent mountain climbers come hither every year to witness glacial scenery finer than can be found in Europe. Persons who have traveled in Japan will be struck by the strong resemblance of this Alpine Titan to the famous volcano of Fujiyama, whose snow-wreathed cone is seen by the stranger as he enters the harbor of Yokohama, though it is eighty miles away.

As we steam northward other peaks come into view, one after another, until the whole Cascade Range is visible, half a hundred and more in number.

The summit of Tacoma is not absolutely inaccessible. A dozen daring and hardy climbers have accomplished the ascent first and last; but it involves a degree of labor and the encountering of serious dangers which have thus far rendered it a task rarely achieved. Many have attempted to scale these lonely heights, and many have given up exhausted, glad to return alive from this perilous experience between earth and sky. Members of various Alpine clubs cross the Atlantic to climb inferior elevations. Let such Americans test their athletic capacity and indulge their ambition by overcoming the difficult ascent of Tacoma.

Port Townsend is finally reached, – the port of entry for Puget Sound district and the gateway of this great body of inland water. Tacoma, Seattle, and Port Townsend are all lively contestants for supremacy on Puget Sound. The business part of Port Townsend is situated at the base of a bluff which rises sixty feet above the sea level, upon the top of which the dwelling-houses have been erected, and where a marine hospital flies the national flag. To live in comfort here it would seem to be necessary for each family to possess a balloon, or that a big public lift should be established to take the inhabitants of the town from one part to the other. It is rapidly growing, – street grading and building of stores and dwelling-houses going on in its several sections. Vancouver named the place after his distinguished patron, the

Marquis of Townshend. We were told that over two thousand vessels enter and clear at the United States custom-house here annually, besides which there are at least a thousand which pass in and out of the sound under coasting licenses, and are not included in this aggregate. The collections of the district average one thousand dollars for each working day of the year.

Port Townsend is nine hundred miles from San Francisco by sea, and thirty-five hundred miles, in round numbers, from Boston or New York. It is the first port from the Pacific Ocean, and the nearest one to British Columbia, besides being the natural outfitting port for Alaska. We were surprised to learn the extent of maritime business done here, and that in the number of American steam vessels engaged in foreign trade it stands foremost in all the United States. Its climate is said to be more like that of Italy than any other part of America. The place is certainly remarkable for salubrity and healthfulness, and is universally commended by persons who have had occasion to remain there for any considerable period. The view from the upper part of the town is very comprehensive, including Mount Baker on one side and the Olympic Range on the other, while the far-away silver cone of Mount Tacoma is also in full view. The busy waters of the sound are constantly changing in the view presented, various craft passing before the eye singly and in groups. Long lines of smoke trail after the steamers, whose turbulent wakes are crossed now and then by some dancing egg-shell canoe or a white-winged, graceful sailboat bending to the

breeze.

Certain custom-house formalities having been duly complied with, we continued on our course, bearing more to the westward, crossing the Strait of Juan de Fuca, bound for Victoria, the capital of Vancouver Island and of British Columbia, at which interesting place we land for a brief sojourn. To the westward the port looks out through the Strait of Fuca to the Pacific, southward into Puget Sound, and eastward beyond the Gulf of Georgia to the mainland.

## CHAPTER VII

Victoria, Vancouver's Island. – Esquimalt. – Chinamen. – Remarkable Flora. – Suburbs of the Town. – Native Tribes. – Cossacks of the Sea. – Manners and Customs. – The Early Discoverer. – Sailing in the Inland Sea. – Excursionists. – Mount St. Elias. – Mount Fairweather. – A Mount Olympus. – Seymour Narrows. – Night on the Waters. – A Touch of the Pacific.

The city of Victoria contains twelve thousand inhabitants, more or less, and is situated just seventy miles from the mainland; but beyond the fact that it is a naval station, commanding the entrance to the British possessions from the Pacific, we see nothing to conduce to the future growth of Victoria beyond that of any other place on the sound. The aspect is that of an old, steady-going, conservative town, undisturbed by the bustle, activity, and business life of such places as Tacoma and Seattle. Vancouver, on the opposite shore, being the terminus of the Canadian Pacific Railway, bids fair to soon exceed it in business importance, though it has to-day less than ten thousand inhabitants. The population of Victoria is highly cosmopolitan in its character, being of American, French, German, English, Spanish, and Chinese origin. Of the latter there are fully three thousand. They are the successful market-gardeners of Victoria, a position they fill in many of the English colonies of the

Pacific, also performing the public laundry work here, as we find them doing in so many other places. In the hotels they are employed as house-servants, cooks, and waiters. Yet every Chinaman who lands here, the same as in Australia and New Zealand, is compelled to pay a tax of fifty dollars entrance fee. The surprise is that such an arbitrary rule does not act as a bar to Asiatic immigration; but it certainly does not have that effect, while it yields quite a revenue to the local treasury. At most ports the importation or landing of Chinese women is forbidden, but some of the gayest representatives of the sex are to be seen in the streets of Victoria, with bare heads, having their intensely black hair, shining with grease, dressed in large puffs. The heavy Canton silks in which they are clothed indicate that they have plenty of money. They affect gaudy colors, and wear heavy jade ear-rings, with breastpins of the same stone set in gold. The lewd character of the Chinese women who leave their native land in search of foreign homes is so well known as to fully warrant the prohibition relative to their landing in American or British ports. The effort to exclude them is, however, not infrequently a failure, as with a trifling disguise male and female look so much alike as to deceive an ordinary observer. The Asiatics are up to all sorts of tricks to evade what they consider arbitrary laws.

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