

## THE HEART OF THE DESERT.

BY CHARLES DUDLEY WARNER.

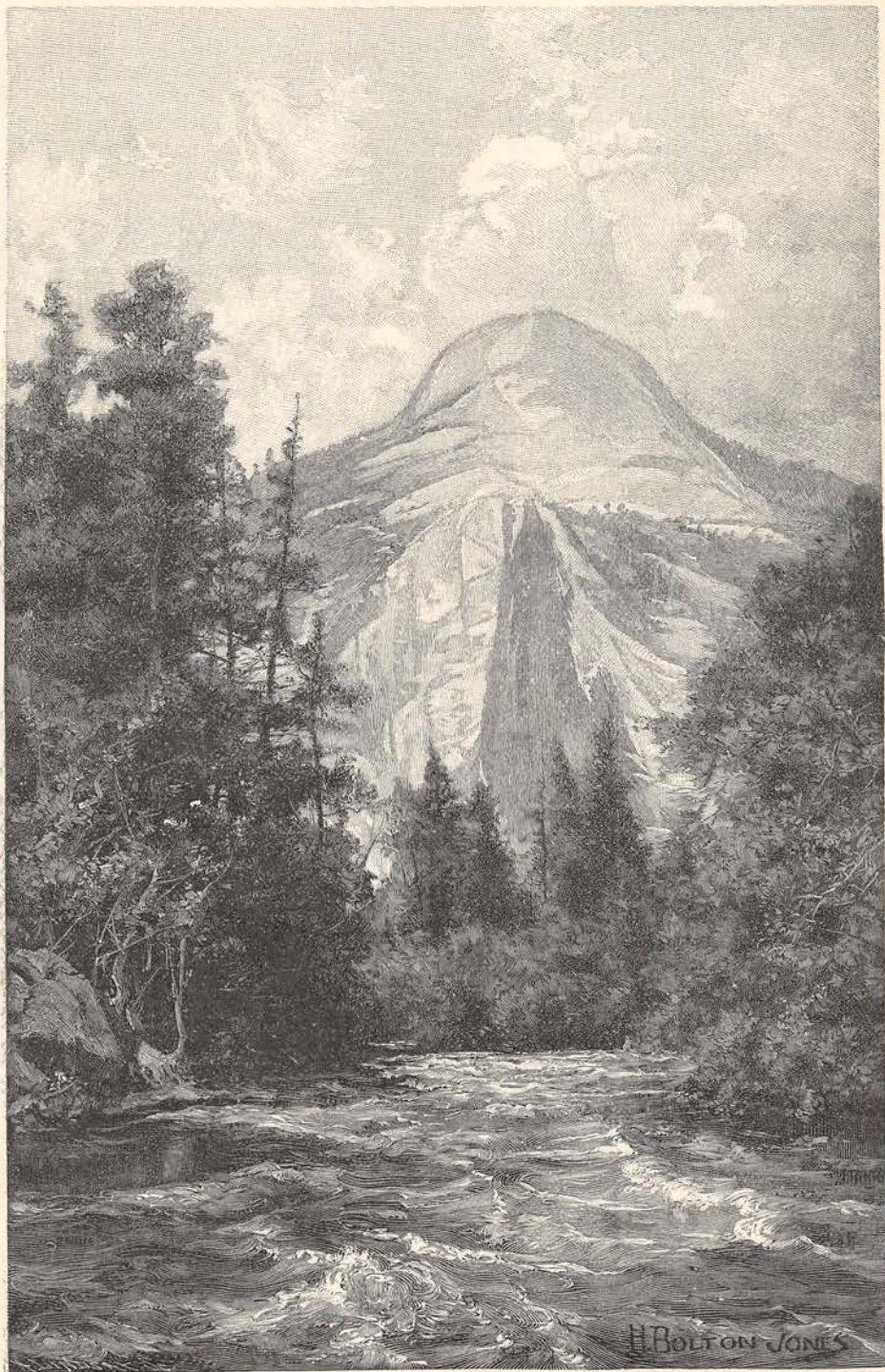
I WENT to it with reluctance. I shrink from attempting to say anything about it. If you knew that there was one spot on the earth where Nature kept her secret of secrets, the key to the action of her most gigantic and patient forces through the long eras, the marvel of constructive and destructive energy, in features of sublimity made possible to mental endurance by the most exquisite devices of painting and sculpture, the wonder which is without parallel or comparison, would you not hesitate to approach it? Would you not wander and delay with this and that wonder, and this and that beauty and nobility of scenery, putting off the day when the imagination, which is our highest gift, must be extinguished by the reality? The mind has this judicious timidity. Do we not loiter in the avenue of the temple, dallying with the vista of giant plane-trees and statues, and noting the carving and the color, mentally shrinking from the moment when the full glory shall burst upon us? We turn and look when we are near a summit, we pick a flower, we note the shape of the clouds, the passing breeze, before we take the last step that shall reveal to us the vast panorama of mountains and valleys.

I cannot bring myself to any description of the Grand Cañon of the Colorado by any other route, mental or physical, than that by which we reached it, by the way of such beauty as Monterey, such a wonder as the Yosemite, and the infinite and picturesque deserts of New Mexico and Arizona. I think the mind needs the training in the desert scenery to enable it to grasp the unique sublimity of the Grand Cañon.

The road to the Yosemite, after leaving the branch of the Southern Pacific at Raymond, is an unnecessarily fatiguing one. The journey by stage—sixty-five miles—is accomplished in less than two days—thirty-nine miles the first day, and twenty-six the second. The driving is necessarily slow, because two mountain ridges have to be surmounted, at an elevation each of about 6500 feet. The road is not a "road" at all as the term is understood in Switzerland, Spain, or in any highly civilized region—that is, a graded, smooth, hard, and sufficiently broad track. It is

a makeshift highway, generally narrow (often too narrow for two teams to pass), cast up with loose material, or excavated on the slopes with frequent short curves and double curves. Like all mountain roads which skirt precipices, it may seem "pokerish," but it is safe enough if the drivers are skilful and careful (all the drivers on this route are not only excellent, but exceedingly civil as well), and there is no break in wagon or harness. At the season this trip is made the weather is apt to be warm, but this would not matter so much if the road were not intolerably dusty. Over a great part of the way the dust rises in clouds and is stifling. On a well-engineered road, with a good road-bed, the time of passage might not be shortened, but the journey would be made with positive comfort and enjoyment, for though there is a certain monotony in the scenery, there is the wild freshness of nature, now and then an extensive prospect, a sight of the snow-clad Nevadas, and vast stretches of woodland; and a part of the way the forests are magnificent, especially the stupendous growth of the sugar-pine. These noble forests are now protected by their inaccessibility.

From 1855 to 1864, nine years, the Yosemite had 653 visitors; in 1864 there were 147. The number increased steadily till 1869, the year the overland railroad was completed, when it jumped to 1122. Between 4000 and 5000 persons visit it now each year. The number would be enormously increased if it could be reached by rail, and doubtless a road will be built to the valley in the near future, perhaps up the Merced River. I believe that the pilgrims who used to go to the Yosemite on foot or on horseback regret the building of the stage road, the enjoyment of the wonderful valley being somehow cheapened by the comparative ease of reaching it. It is feared that a railway would still further cheapen, if it did not vulgarize it, and that passengers by train would miss the mountain scenery, the splendid forests, the surprises of the way (like the first view of the valley from Inspiration Point), and that the Mariposa big trees would be further off the route than they are now. The traveller sees them now by driving eight miles from Wawona, the end of the



THE YOSEMITE DOME.

first day's staging. But the romance for the few there is in staging will have to give way to the greater comfort of the many by rail. The railway will do no more injury to the Yosemite than it has done to Niagara, and in fact will be the means of immensely increasing the comfort of the visitor's stay there, besides enabling tens of thousands of people to see it who cannot stand the fatigue of the stage ride over the present road. The Yosemite will remain as it is. The simplicity of its grand features is unassailable so long as the government protects the forests that surround it and the streams that pour into it. The visitor who goes there by rail will find plenty of adventure for days and weeks in following the mountain trails, ascending to the great points of view, exploring the cañons, or climbing so as to command the vast stretch of the snowy Sierras. Or, if he is not inclined to adventure, the valley itself will satisfy his highest imaginative flights of the sublime in rock masses and perpendicular ledges, and his sense of beauty in the graceful water-falls, rainbow colors, and exquisite lines of domes and pinnacles. It is in the grouping of objects of sublimity and beauty that the Yosemite excels. The narrow valley, with its gigantic walls, which vary in every change of the point of view, lends itself to the most astonishing scenic effects, and these the photograph has reproduced, so that the world is familiar with the striking features of the valley, and has a tolerably correct idea of the sublimity of some of these features. What the photograph cannot do is to give an impression of the unique grouping, of the majesty, and at times crushing weight upon the mind, of the forms and masses, of the atmospheric splendor and illusion, and of the total value of such an assemblage of wonders. The level surface of the peaceful park-like valley has much to do with the impression. The effect of El Capitan, seen across a meadow and rising from a beautiful park, is much greater than if it were encountered in a savage mountain gorge. The traveller may have seen elsewhere greater waterfalls, and domes and spires of rock as surprising, but he has nowhere else seen such a combination as this. He may be fortified against surprise by the photographs he has seen and the reports of word painters, but he will not escape (say at Inspiration Point, or Artist Point, or other

lookouts) a quickening of the pulse and an elation which is physical as well as mental, in the sight of such unexpected sublimity and beauty. And familiarity will scarcely take off the edge of his delight, so varied are the effects in the passing hours and changing lights. The Rainbow Fall, when water is abundant, is exceedingly impressive as well as beautiful. Seen from the carriage road, pouring out of the sky overhead, it gives a sense of power, and at the proper hour before sunset, when the vast mass of leaping, foaming water is shot through with the colors of the spectrum, it is one of the most exquisite sights the world can offer; the elemental forces are overwhelming, but the loveliness is engaging. One turns from this to the noble mass of El Capitan with a shock of surprise, however often it may have been seen. This is the hour, also, in the time of high-water, to see the reflection of the Yosemite Falls. As a spectacle it is infinitely finer than anything at Mirror Lake, and is unique in its way. To behold this beautiful series of falls, flowing down out of the blue sky above, and flowing up out of an equally blue sky in the depths of the earth, is a sight not to be forgotten. And when the observer passes from these displays to the sight of the aerial domes in the upper end of the valley, new wonders opening at every turn of the forest road, his excitement has little chance of subsiding. He may be even a little oppressed. The valley, so verdant and friendly with grass and trees and flowers, is so narrow compared with the height of its perpendicular guardian walls, and this little secluded spot is so imprisoned in the gigantic mountains, that man has a feeling of helplessness in it. This powerlessness in the presence of elemental forces was heightened by the deluge of water. There had been an immense fall of snow the winter before, the Merced was a raging torrent, overflowing its banks, and from every ledge poured a miniature cataract.

Noble simplicity is the key-note to the scenery of the Yosemite, and this is enhanced by the park-like appearance of the floor of the valley. The stems of the fine trees are in harmony with the perpendicular lines, and their foliage adds the necessary contrast to the gray rock masses. In order to preserve these forest trees, the underbrush, which is liable to make a conflagration in a dry season, should be re-



1. COAST OF MONTEREY. 2. CYPRESS POINT. 3. NEAR SEAL ROCK.

moved generally, and the view of the great features be left unimpeded. The minor cañons and the trails are of course left as much as possible to the riot of vegetation. The State commission, which labors under the disadvantages of getting its supplies from a Legislature that does not appreciate the value of the Yosemite to Cali-

ornia, has established a model trail service. The Yosemite, it need not be said, is a great attraction to tourists from all parts of the world; it is the interest of the State, therefore, to increase their number by improving the facilities for reaching it, and by resolutely preserving all the surrounding region from ravage.

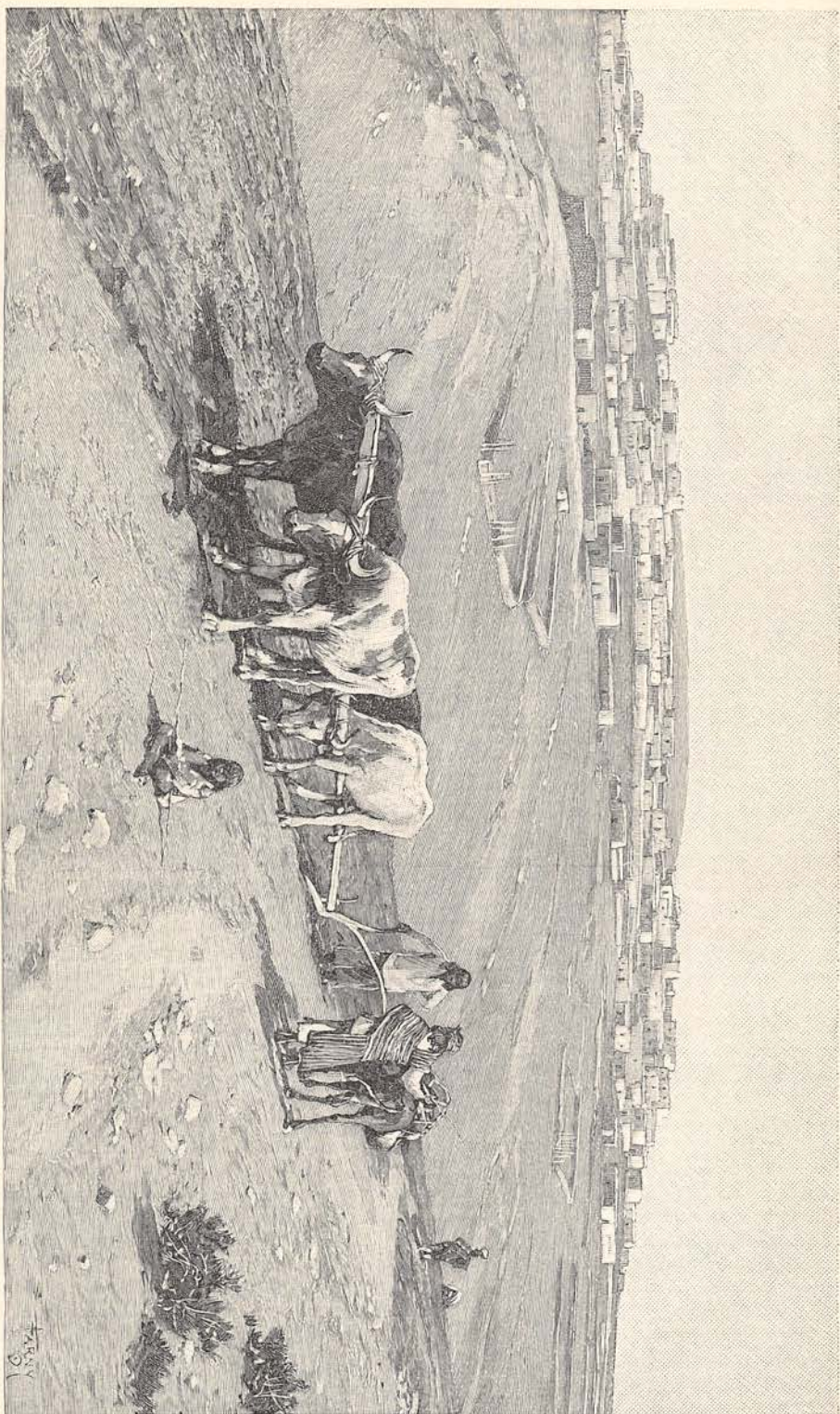
This is as true of the Mariposa big tree region as of the valley. Indeed, more care is needed for the trees than for the great chasm, for man cannot permanently injure the distinctive features of the latter, while the destruction of the sequoias will be an irreparable loss to the State and to the world. The *Sequoia gigantea* differs in leaf, and size and shape of cone, from the great *Sequoia semper virens* on the coast near Santa Cruz; neither can be spared. The Mariposa trees, scattered along on a mountain ridge 6500 feet above the sea, do not easily obtain their victory, for they are a part of a magnificent forest of other growths, among which the noble

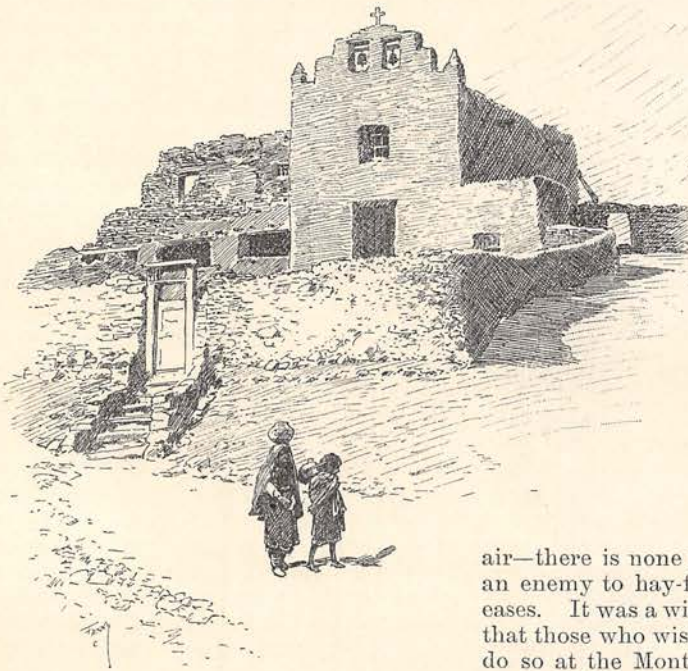
sugar-pine is conspicuous for its enormous size and graceful vigor. The sequoias dominate among splendid rivals only by a magnitude that has no comparison elsewhere in the world. I think no one can anticipate the effect that one of these monarchs will have upon him. He has read that a coach and six can drive through one of the trees that is standing; that another is thirty-three feet in diameter, and that its vast stem, 350 feet high, is crowned with a mass of foliage that seems to brush against the sky. He might be prepared for a tower one hundred feet in circumference, and even four hundred feet high, standing upon a level plain. But this living growth is quite another affair. Each tree is an individual, and has a personal character. No man can stand in the presence of one of these giants without a new sense of the age of the world and the insignificant span of one human life; but he is also overpowered by a sense of some gigantic personality. It does not relieve him to think of this as the Methuselah of trees, or to call it by the name of some great poet or captain. The awe the tree inspires is of itself. As one lies and looks up at the enormous bulk, it seems not so much the bulk, so lightly is it carried, as the spirit of the tree, the elastic vigor, the patience, the endurance of storm and change, the confident might, and the soaring, almost contemptuous pride, that overwhelm the puny spectator. It is just because man can measure himself, his littleness, his brevity of existence, with this growth out of the earth, that he is more personally impressed by it than he might be by the mere variation in the contour of the globe which is called a mountain. The imagination makes a plausible effort to comprehend it, and is foiled. No, clearly it is not mere size that impresses one; it is the dignity, the character in the tree, the authority and power of antiquity. Side by side of these venerable forms are young sequoias, great trees themselves, that have only just begun their millennial career—trees that will, if spared, perpetuate to remote ages this race of giants, and in two to four thousand years from now take the place of their great-grandfathers, who are sinking under the weight of years, and one by one measuring their length on the earth.

The transition from the sublime to the exquisitely lovely in nature can nowhere else be made with more celerity than from

the Sierras to the coast at Monterey. California abounds in such contrasts and surprises. After the great stirring of the emotions by the Yosemite and the Mariposa, the Hotel del Monte Park and vicinity offer repose, and make an appeal to the sense of beauty and refinement. Yet even here something unique is again encountered. I do not refer to the extraordinary beauty of the giant live-oaks and the landscape-gardening about the hotel, which have made Monterey famous the world over, but to the sea-beach drive of sixteen miles, which can scarcely be rivalled elsewhere either for marine loveliness or variety of coast scenery. It has points like the ocean drive at Newport, but is altogether on a grander scale, and shows a more poetic union of shore and sea; besides, it offers the curious and fascinating spectacles of the rocks inhabited by the sea-lions, and the Cypress Point. These huge uncouth creatures can be seen elsewhere, but probably nowhere else on this coast are they massed in greater numbers. The trees of Cypress Point are unique, this species of cypress having been found nowhere else. The long, never-ceasing swell of the Pacific incessantly flows up the many crescent sand beaches, casting up shells of brilliant hues, sea-weed, and kelp, which seems instinct with animal life, and flotsam from the far-off islands. But the rocks that lie off the shore, and the jagged points that project in fanciful forms, break the even great swell, and send the waters, churned into spray and foam, into the air with a thousand hues in the sun. The shock of these sharp collisions mingles with the heavy ocean boom. Cypress Point is one of the most conspicuous of these projections, and its strange trees creep out upon the ragged ledges almost to the water's edge. These cypresses are quite as instinct with individual life and quite as fantastic as any that Doré drew for his "Inferno." They are as gnarled and twisted as olive-trees two centuries old, but their attitudes seem not only to show struggle with the elements, but agony in that struggle. The agony may be that of torture in the tempest, or of some fabled creatures fleeing and pursued, stretching out their long arms in terror, and fixed in that writhing fear. They are creatures of the sea quite as much as of the land, and they give to this lovely coast a strange charm and fascination.

LAGUNA, FROM THE SOUTHEAST.





CHURCH AT LAGUNA.

The traveller to California by the Santa Fe route comes into the arid regions gradually, and finds each day a variety of objects of interest that upsets his conception of a monotonous desert land. If he chooses to break the continental journey midway, he can turn aside at Las Vegas to the Hot Springs. Here, at the head of a picturesque valley, is the Montezuma Hotel, a luxurious and handsome house, 6767 feet above sea-level, a great surprise in the midst of the broken and somewhat savage New-Mexican scenery. The low hills covered with pines and piñons, the romantic glens, and the wide views from the elevations about the hotel, make it an attractive place; and a great deal has been done, in the erection of bath-houses, ornamental gardening, and the grading of roads and walks, to make it a comfortable place. The latitude and the dryness of the atmosphere insure for the traveller from the North in our winter an agreeable reception, and the elevation makes the spot in the summer a desirable resort from Southern heat. It is a sani-

tarium as well as a pleasure resort. The Hot Springs have much the same character as the Töplitz waters in Bohemia, and the saturated earth—the *Mutter-lager*—furnishes the curative “mud baths” which are enjoyed at Marienbad and Carlsbad. The union of the climate, which is so favorable in diseases of the respiratory organs, with the waters, which do so much for rheumatic sufferers, gives a distinction to Las Vegas Hot Springs. This New-Mexican

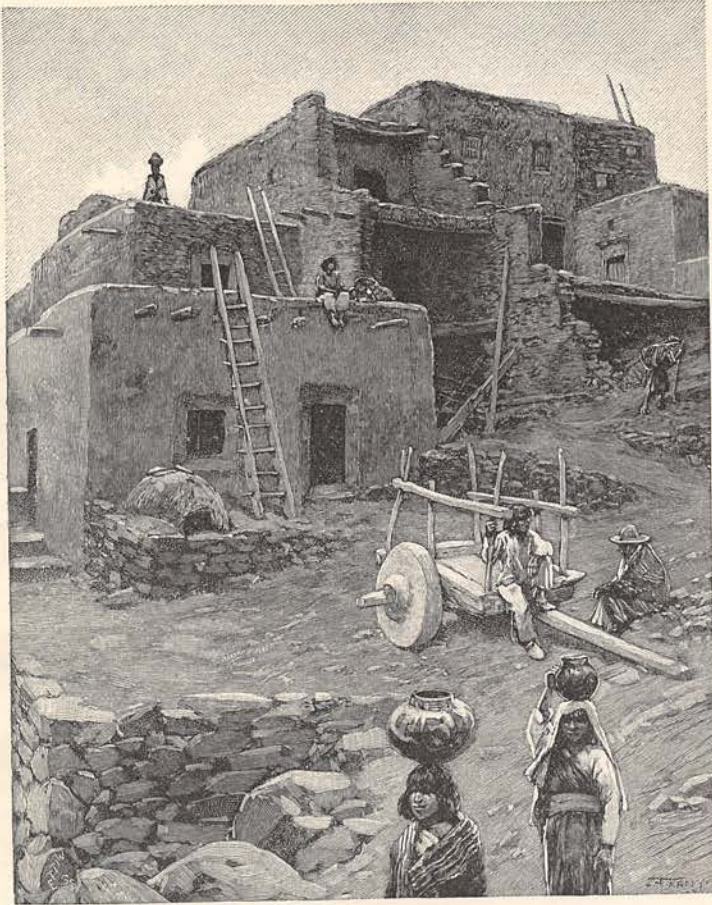
air—there is none purer on the globe—is an enemy to hay-fever and malarial diseases. It was a wise enterprise to provide that those who wish to try its efficacy can do so at the Montezuma without giving up any of the comforts of civilized life.

It is difficult to explain to one who has not seen it, or will not put himself in the leisurely frame of mind to enjoy it, the charms of the desert of the high plateaus of New Mexico and Arizona. Its arid character is not so impressive as its ancientness; and the part which interests us is not only the procession of the long geologic eras, visible in the extinct volcanoes, the *barrancas*, the painted buttes, the petrified forests, but as well in the evidences of civilizations gone by, or the remains of them surviving in our day—the cliff dwellings, the ruins of cities that were thriving when Coronado sent his lieutenants through the region three centuries ago, and the present residences of the Pueblo Indians, either villages perched upon an almost inaccessible rock like Acamo, or clusters of adobe dwellings like Isleta and Laguna. The Pueblo Indians, of whom the Zuñis are a tribe, have been dwellers in villages and cultivators of the soil and of the arts of peace immemorially, a gentle, amiable race. It is indeed such a race as one would expect to find in the land of the sun and the cactus. Their manners and their arts attest their antiquity and a long refinement in fixed

dwellings and occupations. The whole region is a most interesting field for the antiquarian.

We stopped one day at Laguna, which is on the Santa Fe line west of Isleta, another Indian pueblo at the Atlantic and

zontal ledges in the distance. Laguna is built upon a rounded elevation of rock. Its appearance is exactly that of a Syrian village, the same cluster of little, square, flat-roofed houses in terraces, the same brown color, and under the same pale



TERRACED HOUSES, PUEBLO OF LAGUNA.

Pacific junction, where the road crosses the Rio Grande del Norte west of Albuquerque. Near Laguna a little stream called the Rio Puerco flows southward and joins the Rio Grande. There is verdure along these streams, and gardens and fruit orchards repay the rude irrigation. In spite of these watercourses the aspect of the landscape is wild and desert-like—low barren hills and ragged ledges, wide sweeps of sand and dry gray bushes, with mountains and long lines of hori-

blue sky. And the resemblance was completed by the figures of the women on the roofs, or moving down the slope, erect and supple, carrying on the head a water jar, and holding together by one hand the mantle worn like a Spanish *rebozo*. The village is irregularly built, without much regard to streets or alleys, and it has no special side of entrance or approach. Every side presents a blank wall of adobe, and the entrance seems quite by chance. Yet the way we went

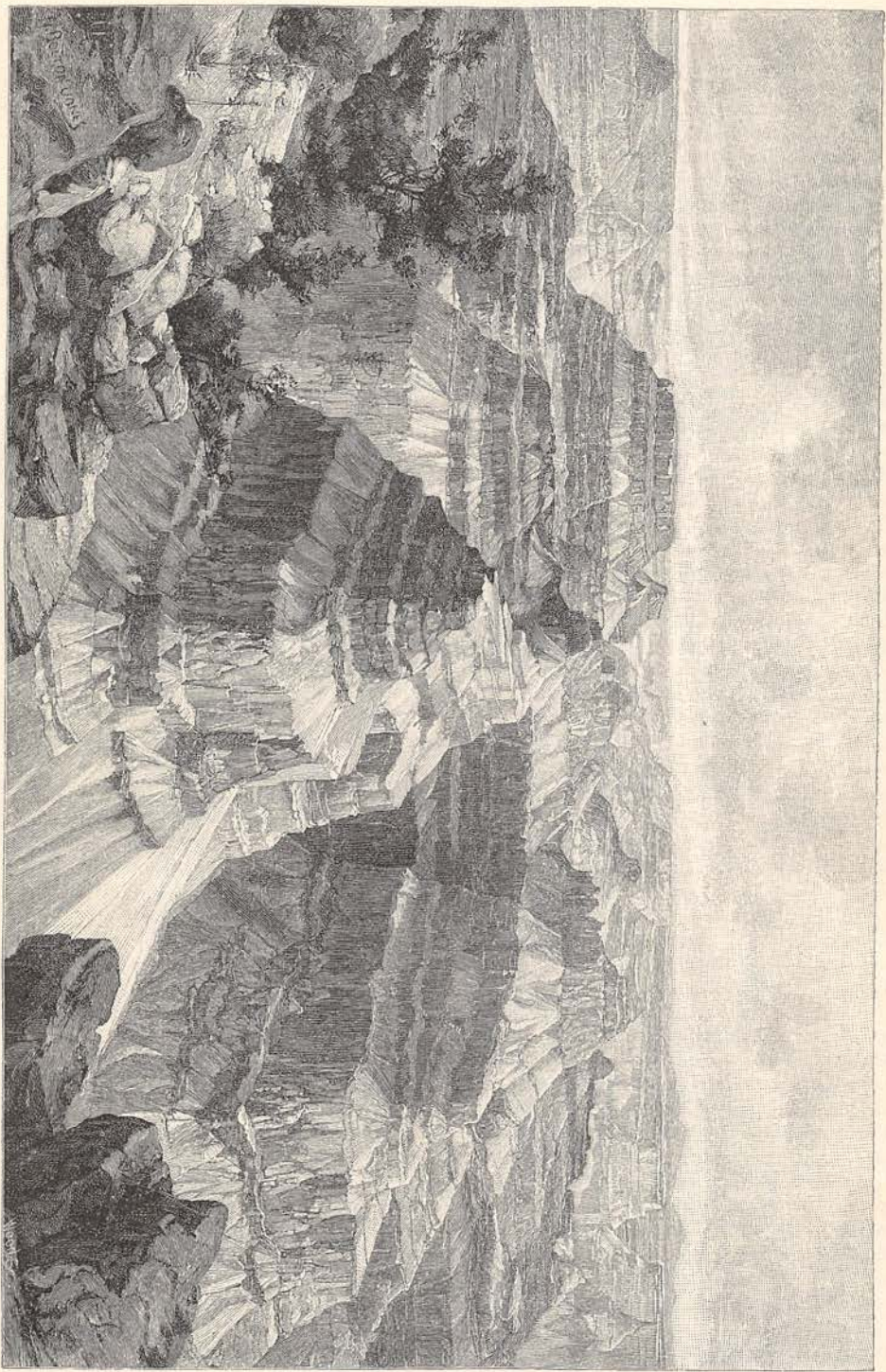


over, the smooth slope was worn here and there in channels three or four inches deep, as if by the passing feet of many generations. The only semblance of architectural regularity is in the plaza, not perfectly square, upon which some of the houses look, and where the annual dances take place. The houses have the effect of being built in terraces rising one above the other, but it is hard to say exactly what a house is—whether it is anything more than one room. You can reach some of the houses only by aid of a ladder. You enter others from the street. If you will go further, you must climb a ladder, which brings you to the roof, that is used as the sitting-room or door-yard of the next room. From this room you may still ascend to others, or you may pass through low and small doorways to other apartments. It is all hap-hazard, but exceedingly picturesque. You may find some of the family in every room, or they may be gathered, women and babies, on a roof which is protected by a parapet. At the time of our visit the men were all away at work in their fields. Notwithstanding the houses are only sundried bricks, and the village is without water or street commissioners, I was struck by the universal cleanliness. There was no refuse in the corners or alleys, no odors, and many of the rooms were patterns of neatness. To be sure, an old woman here and there kept her hens in an adjoining apartment above her own, and there was the litter of children and of rather careless house-keeping. But, taken altogether, the town is an example for some more civilized, whose inhabitants wash oftener and dress better than these Indians.

We were put on friendly terms with the whole settlement through three or four young maidens who had been at the Carlisle school, and spoke English very prettily. They were of the ages of fifteen and sixteen, and some of them had been five years away. They came back, so far as I could learn, gladly to their own people and to the old ways. They had resumed the Indian dress, which is much more becoming to them, as I think they know, than that which had been imposed upon them. I saw no books. They do not read any now, and they appear to be perfectly content with the idle drudgery of their semi-savage condition. In time they will marry in their tribe, and

the school episode will be a thing of the past. But not altogether. The pretty Josephine, who was our best cicerone about the place, a girl of lovely eyes and modest mien, showed us with pride her own room, or "house," as she called it, neat as could be, simply furnished with an iron bedstead and snow-white cot, a mirror, chair, and table, and a trunk, and some "advertising" prints on the walls. She said that she was needed at home to cook for her aged mother, and her present ambition was to make money enough by the sale of pottery and curios to buy a cooking stove, so that she could cook more as the whites do. The house-work of the family had mainly fallen upon her; but it was not burdensome, I fancied, and she and the other girls of her age had leisure to go to the station on the arrival of every train, in hope of selling something to the passengers, and to sit on the rocks in the sun and dream as maidens do. I fancy it would be better for Josephine and for all the rest if there were no station and no passing trains. The elder women were uniformly ugly, but not repulsive like the Mojaves; the place swarmed with children, and the babies, aged women, and pleasing young girls grouped most effectively on the roofs.

The whole community were very complaisant and friendly when we came to know them well, which we did in the course of an hour, and they enjoyed as much as we did the bargaining for pottery. They have for sale a great quantity of small pieces, fantastic in form and brilliantly colored—toys, in fact; but we found in their houses many beautiful jars of large size and excellent shape, decorated most effectively. The ordinary utensils for cooking and for cooling water are generally pretty in design and painted artistically. Like the ancient Peruvians, they make many vessels in the forms of beasts and birds. Some of the designs of the decoration are highly conventionalized, and others are just in the proper artistic line of the natural—a spray with a bird, or a sunflower on its stalk. The ware is all unglazed, exceedingly light and thin, and baked so hard that it has a metallic sound when struck. Some of the large jars are classic in shape, and recall in form and decoration the ancient Cypriote ware, but the colors are commonly brilliant and barbaric. The designs seem to be indigenous, and to betray



GRAND CAÑON OF THE COLORADO—VIEW FROM POINT SUBLIME.

little Spanish influence. The art displayed in this pottery is indeed wonderful, and, to my eye, much more effective and lastingly pleasing than much of our cultivated decoration. A couple of handsome jars that I bought of an old woman, she assured me she made and decorated herself; but I saw no ovens there, nor any signs of manufacture, and suppose that most of the ware is made at Acoma.

It did not seem to be a very religious community, although the town has a Catholic church, and I understand that Protestant services are sometimes held in the place. The church is not much frequented, and the only evidence of devotion I encountered was in a woman who wore a large and handsome silver cross, made by the Navajos. When I asked its price, she clasped it to her bosom, with an upward look full of faith and of refusal to part with her religion at any price. The church, which is adobe, and at least two centuries old, is one of the most interesting I have seen anywhere. It is a simple parallelogram, 104 feet long and 21 feet broad, the gable having an opening in which the bells hang. The interior is exceedingly curious, and its decorations are worth reproduction. The floor is of earth, and many of the tribe who were distinguished and died long ago are said to repose under its smooth surface, with nothing to mark their place of sepulture. It has an open timber roof, the beams supported upon carved corbels. The ceiling is made of wooden sticks, about two inches in diameter and some four feet long, painted in alternated colors—red, blue, orange, and black—and so twisted or woven together as to produce the effect of plaited straw, a most novel and agreeable decoration. Over the entrance is a small gallery, the under roof of which is composed of sticks laid in straw pattern and colored. All around the walls runs a most striking dado, an odd, angular pattern, with conventionalized birds at intervals, painted in strong yet *fade* colors—red, yellow, black, and white. The north wall is without windows; all the light, when the door is closed, comes from two irregular windows, without glass, high up in the south wall. The chancel walls are covered with frescoes, and there are several quaint paintings, some of them not very bad in color and drawing. The altar, which is supported at the sides by twisted wooden pil-

lars carved with a knife, is hung with ancient sheepskins brightly painted. Back of the altar are some archaic wooden images, colored; and over the altar, on the ceiling, are the stars of heaven, and the sun and the moon, each with a face in it. The interior was scrupulously clean and sweet and restful to one coming in from the glare of the sun on the desert. It was evidently little used, and the Indians who accompanied us seemed under no strong impression of its sanctity; but we liked to linger in it, it was so *bizarre*, so picturesque, and exhibited in its rude decoration so much taste. Two or three small birds flitting about seemed to enjoy the coolness and the subdued light, and were undisturbed by our presence.

These are children of the desert, kin in their condition and the influences that formed them to the sedentary tribes of upper Egypt and Arabia, who pitch their villages upon the rocky eminences, and depend for subsistence upon irrigation and scant pasturage. Their habits are those of the dwellers in an arid land which has little in common with the wilderness—the inhospitable northern wilderness of rain and frost and snow. Rain, to be sure, insures some sort of vegetation in the most forbidding and intractable country, but that does not save the harsh landscape from being unattractive. The high plateaus of New Mexico and Arizona have everything that the rainy wilderness lacks—sunshine, heaven's own air, immense breadth of horizon, color and infinite beauty of outline, and a warm soil with unlimited possibilities when moistened. All that these deserts need is water. A fatal want? No. That is simply saying that science can do for this region what it cannot do for the high wilderness of frost—by the transportation of water transform it into gardens of bloom and fields of fruitfulness. The wilderness shall be made to feed the desert.

I confess that these deserts in the warm latitudes fascinate me. Perhaps it is because I perceive in them such a chance for the triumph of the skill of man, seeing how, here and there, his energy has pushed the desert out of his path across the continent. But I fear that I am not so practical. To many the desert in its stony sterility, its desolateness, its unbroken solitude, its fantastic savageness, is either appalling or repulsive. To them it is tiresome and monotonous. The vast



INTERIOR OF THE CHURCH AT LAGUNA.

plains of Kansas and Nebraska are monotonous even in the agricultural green of summer. Not so to me the desert. It is as changeable in its lights and colors as the ocean. It is even in its general features of sameness never long the same. If you traverse it on foot or on horseback, there is ever some minor novelty. And on the swift train, if you draw down the curtain against the glare, or turn to your book, you are sure to miss something of interest—a deep cañon rift in the plain, a turn that gives a wide view glowing in a hundred hues in the sun, a savage gorge with beetling rocks, a solitary butte or red truncated pyramid thrust up into the blue sky, a horizontal ledge cutting the horizon line as straight as a ruler for miles, a pointed cliff uplifted sheer from the plain and laid in regular courses of

Cyclopean masonry, the battlements of a fort, a terraced castle with towers and esplanade, a great trough of a valley, gray and parched, enclosed by far purple mountains. And then the unlimited freedom of it, its infinite expansion, its air like wine to the senses, the floods of sunshine, the waves of color, the translucent atmosphere that aids the imagination to create in the distance all architectural splendors and realms of peace. It is all like a mirage and a dream. We pass swiftly, and make a moving panorama of beauty in hues, of strangeness in forms, of sublimity in extent, of overawing and savage antiquity. I would miss none of it. And when we pass to the accustomed again, to the fields of verdure and the forests and the hills of green, and are limited in view and shut in by that which we love, after

all, better than the arid land, I have a great longing to see again the desert, to be a part of its vastness, and to feel once more the freedom and inspiration of its illimitable horizons.

There is an arid region lying in northern Arizona and southern Utah which has been called the District of the Grand Cañon of the Colorado. The area, roughly estimated, contains from 13,000 to 16,000 square miles—about the size of the State of Maryland. This region, fully described by the explorers and studied by the geologists in the United States service, but little known to even the travelling public, is probably the most interesting territory of its size on the globe. At least it is unique. In attempting to convey an idea of it the writer can be assisted by no comparison, nor can he appeal in the minds of his readers to any experience of scenery that can apply here. The so-called Grand Cañon differs not in degree from all other scenes; it differs in kind.

The Colorado River flows southward through Utah, and crosses the Arizona line below the junction with the San Juan. It continues southward, flowing deep in what is called the Marble Cañon, till it is joined by the Little Colorado, coming up from the southeast; it then turns westward in a devious line until it drops straight south, and forms the western boundary of Arizona. The centre of the district mentioned is the westwardly-flowing part of the Colorado. South of the river is the Colorado Plateau, at a general elevation of about 7000 feet. North of it the land is higher, and ascends in a series of plateaus, and then terraces, a succession of cliffs like a great stairway, rising to the high plateaus of Utah. The plateaus, adjoining the river on the north and well marked by north and south dividing lines, or faults, are, naming them from east to west, the Paria, the Kaibab, the Kanab, the Uinkaret, and the Sheavitz, terminating in a great wall on the west, the Great Wash fault, where the surface of the country drops at once from a general elevation of 6000 feet to from 1300 to 3000 feet above the sea-level—into a desolate and formidable desert.

If the Grand Cañon itself did not dwarf everything else, the scenery of these plateaus would be superlative in interest. It is not all desert, nor are the gorges, cañons, cliffs, and terraces, which gradually prepare the mind for the compre-

hension of the Grand Cañon, the only wonders of this land of enchantment. These are contrasted with the sylvan scenery of the Kaibab plateau, its giant forests and parks, and broad meadows decked in the summer with wild flowers in dense masses of scarlet, white, purple, and yellow. The Vermilion Cliffs, the Pink Cliffs, the White Cliffs, surpass in fantastic form and brilliant color anything that the imagination conceives possible in nature, and there are dreamy landscapes quite beyond the most exquisite fancies of Claude and of Turner. The region is full of wonders, of beauties, and sublimities that Shelley's imaginings do not match in the "Prometheus Unbound," and when it becomes accessible to the tourist it will offer endless field for the delight of those whose minds can rise to the heights of the sublime and the beautiful. In all imaginative writing or painting the material used is that of human experience, otherwise it could not be understood, even heaven must be described in the terms of an earthly paradise. Human experience has no prototype of this region, and the imagination has never conceived of its forms and colors. It is impossible to convey an adequate idea of it by pen or pencil or brush. The reader who is familiar with the glowing descriptions in the official reports of Major J. W. Powell, Captain C. E. Dutton, Lieutenant Ives, and others, will not save himself from a shock of surprise when the reality is before him. This paper deals only with a single view in this marvellous region.

The point where we struck the Grand Cañon, approaching it from the south, is opposite the promontory in the Kaibab Plateau named Point Sublime by Major Powell, just north of the 36th parallel, and 112° 15' west longitude. This is only a few miles west of the junction with the Little Colorado. About three or four miles west of this junction the river enters the east slope of the east Kaibab monocline, and here the Grand Cañon begins. Rapidly the chasm deepens to about 6000 feet, or rather it penetrates a higher country, the slope of the river remaining about the same. Through this lofty plateau—an elevation of 7000 to 9000 feet—the chasm extends for sixty miles, gradually changing its course to the northwest, and entering the Kanab Plateau. The Kaibab division of the Grand Cañon



GRAND CAÑON OF THE COLORADO—VIEW OPPOSITE POINT SUBLIME.



TOURISTS IN THE COLORADO CAÑON.

is by far the sublimest of all, being 1000 feet deeper than any other. It is not grander only on account of its greater depth, but it is broader and more diversified with magnificent architectural features.

The Kanab division, only less magnificent than the Kaibab, receives the Kanab Cañon from the north and the Cataract Cañon from the south, and ends at the Toroweap Valley.

The section of the Grand Cañon seen by those who take the route from Peach Springs is between  $113^{\circ}$  and  $114^{\circ}$  west longitude, and, though wonderful, presents few of the great features of either the Kaibab or the Kanab divisions. The Grand Cañon ends, west longitude  $114^{\circ}$ , at the Great Wash, west of the Hurricane Ledge or Fault. Its whole length from Little Colorado to the Great Wash, measured by the meanderings of the surface

of the river, is 220 miles; by a median line between the crests of the summits of the walls with two-mile cords, about 195 miles; the distance in a straight line is 125 miles.

In our journey to the Grand Cañon we left the Santa Fe line at Flagstaff, a new town with a lively lumber industry, in the midst of a spruce-pine forest which occupies the broken country through which the road passes for over 50 miles. The forest is open, the trees of moderate size are too thickly set with low-growing limbs to make clean lumber, and the foliage furnishes the min-

imum of shade; but the change to these woods is a welcome one from the treeless reaches of the desert on either side. The cañon is also reached from Williams, the next station west, the distance being a little shorter, and the point on the cañon visited being usually a little further west. But the Flagstaff route is for many reasons usually preferred. Flagstaff lies just southeast of the San Francisco Mountain, and on the great Colorado Plateau, which has a pretty uniform elevation of about 7000 feet above the sea. The whole region is full of interest. Some of the most remarkable cliff dwellings are within 10 miles of Flagstaff, on the Walnut Creek Cañon. At Holbrook, 100 miles east, the traveller finds a road some 40 miles long, that leads to the great petrified forest, or Chalcedony Park. Still further east are the villages of the Pueblo Indians, near the line, while to the northward is the great reservation of the Navajos, a nomadic tribe celebrated for its fine blankets and pretty work in silver—a tribe that preserves much of its manly independence by shunning the charity of the United States. No Indians have come into intimate or dependent relations with the whites without being deteriorated.

Flagstaff is the best present point of departure, because it has a small hotel, good supply stores, and a large livery-stable, made necessary by the business of the place and the objects of interest in the neighborhood, and because one reaches from there by the easiest road the finest scenery incomparably on the Colorado. The distance is 76 miles through a practically uninhabited country, much of it a desert, and with water very infrequent. No work has been done on the road; it is made simply by driving over it. There are a few miles here and there of fair wheeling, but a good deal of it is intolerably dusty or exceedingly stony, and progress is slow. In the daytime (it was the last of June) the heat is apt to be excessive; but this could be borne, the air is so absolutely dry and delicious, and breezes occasionally spring up, if it were not for the dust. It is, notwithstanding the novelty of the adventure and of the scenery by the way, a tiresome journey of two days. A day of rest is absolutely required at the cañon, so that five days must be allowed for the trip. This will cost the traveller, according to the size of the party made up, from forty to fifty dollars. But a much longer sojourn at the cañon is desirable.

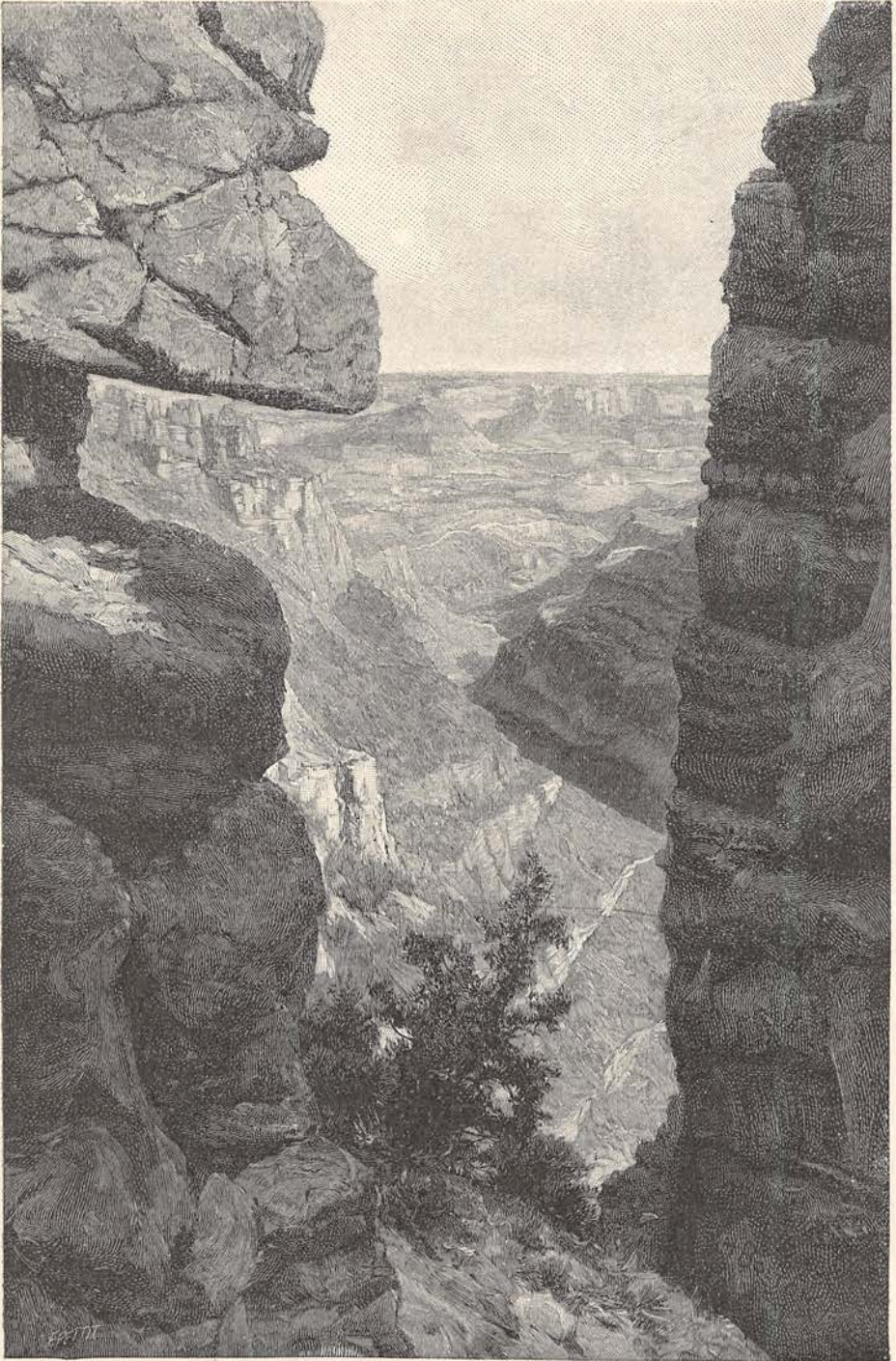
Our party of seven was stowed in and on an old Concord coach drawn by six horses, and piled with camp equipage, bedding, and provisions. A four-horse team followed, loaded with other supplies and cooking utensils. The road lies on the east side of the San Francisco Mountain. Returning, we passed around its west side, gaining thus a complete view of this shapely peak. The compact range is a group of extinct volcanoes, the craters of which are distinctly visible. The cup-like summit of the highest is 13,000 feet above the sea, and snow always lies on the north escarpment. Rising about 6000 feet above the point of view of the great plateau, it is from all sides a noble object, the dark rock, snow-sprinkled, rising out of the dense growth of pine and cedar. We drove at first through open pine forests, through park-like intervals, over the foot-hills of the mountain, through growths of scrub cedar, and out into the ever-varying rolling country to widely extended prospects. Two considerable hills on our right attracted us by their unique beauty. Upon the summit and side of each was a red glow exactly like the tint of sunset.

We thought surely that it was the effect of reflected light, but the sky was cloudless and the color remained constant. The color came from the soil. The first was called Sunset Mountain. One of our party named the other, and the more beautiful, Peachblow Mountain, a poetic and perfectly descriptive name.

We lunched at noon beside a swift, clouded, cold stream of snow water from the San Francisco, along which grew a few gnarled cedars and some brilliant wild flowers. The scene was more than picturesque; in the clear hot air of the desert the distant landscape made a hundred pictures of beauty. Behind us the dark form of San Francisco rose up 6000 feet to its black crater and fields of spotless snow. Away off to the northeast, beyond the brown and gray pastures, across a far line distinct in dull color, lay the *Painted Desert*, like a mirage, like a really painted landscape, glowing in red and orange and pink, an immense city rather than a landscape, with towers and terraces and façades, melting into indistinctness as in a rosy mist, spectral but constant, weltering in a tropic glow and heat, walls and columns and shafts, the wreck of an Oriental capital on a wide violet plain, suffused with brilliant color softened into exquisite shades. All over this region Nature has such surprises, that laugh at our inadequate conception of her resources.

Our camp for the night was at the next place where water could be obtained, a station of the Arizona Cattle Company. Abundant water is piped down to it from mountain springs. The log house and stable of the cow-boys were unoccupied, and we pitched our tent on a knoll by the corral. The night was absolutely dry, and sparkling with the starlight. A part of the company spread their blankets on the ground under the sky. It is apt to be cold in this region toward morning, but lodging in the open air is no hardship in this delicious climate. The next day the way part of the distance, with only a road marked by wagon wheels, was through extensive and barren-looking cattle ranges, through pretty vales of grass surrounded by stunted cedars, and over stony ridges and plains of sand and small bowlders. The water having failed at Red Horse, the only place where it is usually found in the day's march, our horses went without, and we had recourse to our canteens. The





GRAND CAÑON OF THE COLORADO—VIEW FROM THE HANCE TRAIL.

whole country is essentially arid, but snow falls in the winter-time, and its melting, with occasional showers in the summer, creates what are called surface wells, made by drainage. Many of them go dry by June. There had been no rain in the region since the last of March, but clouds were gathering daily, and showers are always expected in July. The phenomenon of rain on this baked surface, in this hot air, and with this immense horizon, is very interesting. Showers in this tentative time are local. In our journey we saw showers far off, we experienced a dash for ten minutes, but it was local, covering not more than a mile or two square. We have in sight a vast canopy of blue sky, of forming and dispersing clouds. It is difficult for them to drop their moisture in the rising columns of hot air. The result at times was a very curious spectacle—rain in the sky that did not reach the earth. Perhaps some cold current high above us would condense the moisture, which would begin to fall in long trailing sweeps, blown like fine folds of muslin, or like sheets of dissolving sugar, and then the hot air of the earth would dissipate it, and the showers would be absorbed in the upper regions. The heat was sometimes intense, but at intervals a refreshing wind would blow, the air being as fickle as the rain; and now and then we would see a slender column of dust, a thousand or two feet high, marching across the desert, apparently not more than two feet in diameter, and wavering like the threads of moisture that tried in vain to reach the earth as rain. Of life there was not much to be seen in our desert route. In the first day we encountered no habitation except the ranch-house mentioned, and saw no human being; and the second day none except the solitary occupant of the dried well at Red Horse, and two or three Indians on the hunt. A few squirrels were seen, and a rabbit now and then, and occasionally a bird. The general impression was that of a deserted land. But antelope abound in the timber regions, and we saw several of these graceful creatures quite near us. Excellent antelope steaks, bought of the wandering Indian hunters, added something to our "canned" supplies. One day as we lunched, without water, on the cedar slope of a lovely grass interval, we saw coming toward us over the swells of the prairie a figure of a man on a horse. It rode to us straight as the

crow flies. The Indian pony stopped not two feet from where our group sat, and the rider, who was an Oualapai chief, clad in sacking, with the print of the brand of flour or salt on his back, dismounted with his Winchester rifle, and stood silently looking at us without a word of salutation. He stood there, impassive, until we offered him something to eat. Having eaten all we gave him, he opened his mouth and said, "Smoke 'em?" Having procured from the other wagon a pipe of tobacco and a pull at the driver's canteen, he returned to us all smiles. His only baggage was the skull of an antelope, with the horns, hung at his saddle. Into this he put the bread and meat which we gave him, mounted the wretched pony, and without a word rode straight away. At a little distance he halted, dismounted, and motioned toward the edge of the timber, where he had spied an antelope. But the game eluded him, and he mounted again and rode off across the desert—a strange figure. His tribe lives in the cañon some fifty miles west, and was at present encamped, for the purpose of hunting, in the pine woods not far from the point we were aiming at.

The way seemed long. With the heat and dust and slow progress, it was exceedingly wearisome. Our modern nerves are not attuned to the slow crawling of a prairie wagon. There had been growing for some time in the coach a feeling that the journey did not pay, that, in fact, no mere scenery could compensate for the fatigue of the trip. The imagination did not rise to it. "It will have to be a very big cañon," said the Duchess.

Late in the afternoon we entered an open pine forest, passed through a meadow where the Indians had set their camp by a shallow pond, and drove along a ridge, in the cool shades, for three or four miles. Suddenly, on the edge of a descent, we who were on the box saw through the tree-tops a vision that stopped the pulse for a second, and filled us with excitement. It was only a glimpse, far off and apparently lifted up—red towers, purple cliffs, wide-spread apart, hints of color and splendor; on the right distance, mansions, gold and white and carmine (so the light made them), architectural habitations in the sky it must be, and suggestions of others far off in the middle distance, a substantial aerial city, or the ruins of one, such as the prophet saw in a vision. It

was only a glimpse. Our hearts were in our mouths. We had a vague impression of something wonderful, fearful, some incomparable splendor that was not earthly. Were we drawing near the "City"? and should we have yet a more perfect view thereof? Was it Jerusalem, or some Hindoo temples, there in the sky? "It was builded of pearls and precious stones, also the streets were paved with gold; so that by reason of the natural glory of the City, and the reflection of the sunbeams upon it, Christian with desire fell sick." It was a momentary vision of a vast amphitheatre of splendor, mostly hidden by the trees and the edge of the plateau.

We descended into a hollow. There was the well, a log cabin, a tent or two under the pine-trees. We dismounted with impatient haste. The sun was low in the horizon, and had long withdrawn from this grassy dell. Tired as we were, we could not wait. It was only to ascend the little steep, stony slope—300 yards—and we should see! Our party were straggling up the hill. Two or three had reached the edge. I looked up. The Duchess threw up her arms and screamed. We were not fifteen paces behind, but we saw nothing. We took the few steps, and the whole magnificence broke upon us. No one could be prepared for it. The scene is one to strike dumb with awe, or to unstring the nerves; one might stand in silent astonishment, another would burst into tears.

There are some experiences that cannot be repeated—one's first view of Rome, one's first view of Jerusalem. But these emotions are produced by association, by the sudden standing face to face with the scenes most wrought into our whole life and education by tradition and religion. This was without association, as it was without parallel. It was a shock so novel that the mind, dazed, quite failed to comprehend it. All that we could grasp was a vast confusion of amphitheatres and strange architectural forms resplendent with color. The vastness of the view amazed us quite as much as its transcendent beauty.

We had expected a cañon—two lines of perpendicular walls 6000 feet high, with the ribbon of a river at the bottom. But the reader may dismiss all his notions of a cañon, indeed of any sort of mountain or gorge scenery with which he is familiar. We had come into a new world. What

we saw was not a cañon, or a chasm, or a gorge, but a vast area which is a break in the plateau. From where we stood it was 12 miles across to the opposite walls—a level line of mesa on the Utah side. We looked up and down for 20 to 30 miles. This great space is filled with gigantic architectural constructions, with amphitheatres, gorges, precipices, walls of masonry, fortresses terraced up to the level of the eye, temples mountain size, all brilliant with horizontal lines of color—streaks of solid hues a few feet in width, streaks a thousand feet in width—yellows, mingled white and gray, orange, dull red, brown, blue, carmine, green, all blending in the sunlight into one transcendent suffusion of splendor. Afar off we saw the river in two places, a mere thread, as motionless and smooth as a strip of mirror, only we knew it was a turbid boiling torrent, 6000 feet below us. Directly opposite the overhanging ledge on which we stood was a mountain, the sloping base of which was ashy gray and bluish; it rose in a series of terraces to a thousand feet wall of dark red sandstone, receding upward, with ranges of columns and many fantastic sculptures, to a final row of gigantic opera-glasses 6000 feet above the river. The great San Francisco Mountain, with its snowy crater, which we had passed on the way, might have been set down in the place of this one, and it would have been only one in a multitude of such forms that met the eye whichever way we looked. Indeed, all the vast mountains in this region might be hidden in this cañon.

Wandering a little away from the group and out of sight, and turning suddenly to the scene from another point of view, I experienced for a moment an indescribable terror of nature, a confusion of mind, a fear to be alone in such a presence. With all this grotesqueness and majesty of form and radiance of color, creation seemed in a whirl. With our education in scenery of a totally different kind, I suppose it would need long acquaintance with this to familiarize one with it to the extent of perfect mental comprehension.

The vast abyss has an atmosphere of its own, one always changing and producing new effects, an atmosphere and shadows and tones of its own—golden, rosy, gray, brilliant, and sombre, and playing a thousand fantastic tricks to the vi-

sion. The rich and wonderful color effects, says Captain Dutton, "are due to the inherent colors of the rocks, modified by the atmosphere. Like any other great series of strata in the plateau province, the carboniferous has its own range of colors, which might serve to distinguish it even if we had no other criterion. The summit strata are pale gray, with a faint yellowish cast. Beneath them the cross-bedded sandstone appears, showing a mottled surface of pale pinkish hue. Underneath this member are nearly 1000 feet of the lower Aubrey sandstones, displaying an intensely brilliant red, which is somewhat marked by the talus shot down from the gray cherty limestone at the summit. Beneath the lower Aubrey is the face of the Red Wall limestone, from 2000 to 3000 feet high. It has a strong red tone, but a very peculiar one. Most of the red strata of the west have the brownish or vermilion tones, but these are rather purplish-red, as if the pigment had been treated to a dash of blue. It is not quite certain that this may not arise in part from the intervention of the blue haze, and probably it is rendered more conspicuous by this cause; but, on the whole, the purplish cast seems to be inherent. This is the dominant color of the cañon, for the expanse of the rock surface displayed is more than half in the Red Wall group."

I was continually likening this to a vast city rather than a landscape, but it was a city of no man's creation nor of any man's conception. In the visions which inspired or crazy painters have had of the New Jerusalem, of Babylon the Great, of a heaven in the atmosphere with endless perspective of towers and steeples that hang in the twilight sky, the imagination has tried to reach this reality. But here are effects beyond the artist, forms the architect has not hinted at. And yet everything reminds us of man's work. And the explorers have tried by the use of Oriental nomenclature to bring it within our comprehension, the East being the land of the imagination. There is the Hindoo Amphitheatre, the Bright Angel Amphitheatre, the Ottoman Amphitheatre, Shiva's Temple, Vishnu's Temple, Vulcan's Throne. And here indeed is the idea of the pagoda architecture, of the terrace architecture, of the *bizarre* constructions which rise with projecting buttresses, rows of pillars, recesses, battlements, esplanades, and low

walls, hanging gardens, and truncated pinnacles. It is a city, but a city of the imagination. In many pages I could tell what I saw in one day's lounging for a mile or so along the edge of the precipice. The view changed at every step, and was never half an hour the same in one place. Nor did it need much fancy to create illusions or pictures of unearthly beauty. There was a castle, terraced up with columns, plain enough, and below it a parade-ground; at any moment the knights in armor and with banners might emerge from the red gates, and deploy there, while the ladies looked down from the balconies. But there were many castles and fortresses and barracks and noble mansions. And the rich sculpture in this brilliant color! In time I began to see queer details: a Richardson house, with low portals and round arches, surmounted by a Nuremberg gable; perfect panels 600 feet high, for the setting of pictures; a train of cars partly derailed at the door of a long low warehouse, with a garden in front of it. There was no end to such devices.

It was long before I could comprehend the vastness of the view, see the enormous chasms and rents and seams, and the many architectural ranges separated by great gulfs, between me and the wall of the mesa twelve miles distant. Away to the northeast was the blue Navajo Mountain, the lone peak in the horizon; but on the southern side of it lay a desert level, which in the afternoon light took on the exact appearance of a blue lake; its edge this side was a wall thousands of feet high, many miles in length, and straightly horizontal; over this seemed to fall water. I could see the foam of it at the foot of the cliff; and below that was a lake of shimmering silver, in which the giant precipice and the fall and their color were mirrored. Of course there was no silver lake, and the reflection that simulated it was only the sun on the lower part of the immense wall.

Some one said that all that was needed to perfect this scene was a Niagara Falls. I thought what figure a fall 150 feet high and 3000 long would make in this arena. It would need a spy-glass to discover it. An adequate Niagara here should be at least three miles in breadth, and fall 2000 feet over one of these walls. And the Yosemite—ah! the lovely Yosemite! Dumped down into this wilderness of

gorges and mountains, it would take a guide who knew of its existence a long time to find it.

The process of creation is here laid bare through the geologic periods. The strata of rock, deposited or upheaved, preserve their horizontal and parallel courses. If we imagine a river flowing on a plain, it would wear for itself a deeper and deeper channel. The walls of this channel would recede irregularly by weathering and by the coming in of other streams. The channel would go on deepening, and the outer walls would again recede. If the rocks were of different material and degrees of hardness, the forms would be carved in the fantastic and architectural manner we find them here. The Colorado flows through the tortuous inner chasm, and where we see it, it is 6000 feet below the surface where we stand, and below the towers of the terraced forms nearer it. The splendid views of the cañon at this point given in Captain Dutton's report are from Point Sublime, on the north side. There seems to have been no way of reaching the river from that point. From the south side the descent, though wearisome, is feasible. It reverses mountaineering to descend 6000 feet for a view, and there is a certain pleasure in standing on a mountain summit without the trouble of climbing it. Hance, the guide, who has charge of the well, has made a path to the bottom. The route is seven miles long. Half-way down he has a house by a spring. At the bottom, somewhere in those depths, is a sort of farm, grass capable of sustaining horses and cattle, and ground where fruit trees can grow. Horses are actually living there, and parties descend there with tents, and camp for days at a time. It is a world of its own. Some of the photographic views presented here, all inadequate, are taken from points on Hance's trail. But no camera or pen can convey an adequate conception of what Captain Dutton happily calls a great innovation in the modern ideas of scenery. To the eye educated to any other, it may be shocking, grotesque, incomprehensible; but "those who have long and carefully studied the Grand Cañon of the Colorado do not hesitate for a moment to pronounce it by far the most sublime of all earthly spectacles."

I have space only to refer to the geologic history in Captain Dutton's report

of 1882, of which there should be a popular edition. The waters of the Atlantic once overflowed this region, and were separated from the Pacific, if at all, only by a ridge. The story is of long eras of deposits, of removal, of upheaval, and of volcanic action. It is estimated that in one period the thickness of strata removed and transported away was 10,000 feet. Long after the Colorado began its work of corrosion there was a mighty upheaval. The reader will find the story of the making of the Grand Cañon more fascinating than any romance.

Without knowing this story the impression that one has in looking on this scene is that of immense antiquity, hardly anywhere else on earth so overwhelming as here. It has been here in all its lonely grandeur and transcendent beauty, exactly as it is, for what to us is an eternity, unknown, unseen by human eye. To the recent Indian, who roved along its brink or descended to its recesses, it was not strange, because he had known no other than the plateau scenery. It is only within a quarter of a century that the Grand Cañon has been known to the civilized world. It is scarcely known now. It is never twice the same, for, as I said, it has an atmosphere of its own. I was told by Hance that he once saw a thunder-storm in it. He described the chaos of clouds in the pit, the roar of the tempest, the reverberations of thunder, the inconceivable splendor of the rainbows mingled with the colors of the towers and terraces. It was as if the world were breaking up. He fled away to his hut in terror.

The day is near when this scenery must be made accessible. A railway can easily be built from Flagstaff. The projected road from Utah, crossing the Colorado at Lee's Ferry, would come within twenty miles of the Grand Cañon, and a branch to it could be built. The region is arid, and in the "sight-seeing" part of the year the few surface wells and springs are likely to go dry. The greatest difficulty would be in procuring water for railway service or for such houses of entertainment as are necessary. It could, no doubt, be piped from the San Francisco Mountain. At any rate, ingenuity will overcome the difficulties, and travellers from the wide world will flock thither, for there is revealed the long-kept secret, the unique achievement of nature.