

The day had been pleasant, but about two o'clock it began to blow; and crossing a slight dividing ground we encamped on the sheltered side of a hill where there was good bunch grass, having made a day's journey of twenty-four miles. The night closed in, threatening snow; but the large sage bushes made bright fires.

December 29th.—The morning mild, and at four o'clock it commenced snowing. We took our way across a plain, thickly covered with snow, toward a range of hills in the southeast. The sky soon became so dark with snow, that little could be seen of the surrounding country; and we reached the summit of the hills in a heavy snow-storm. On the side we had approached, this had appeared to be only a ridge of low hills; and we were surprised to find ourselves on the summit of a bed of broken mountains, which, as far as the weather would permit us to see, declined rapidly to some low country ahead, presenting a dreary and savage character; and for a moment I looked around in doubt on the wild and inhospitable prospect, scarcely knowing what road to take which might conduct us to some place of shelter for the night.

Noticing among the hills the head of a grassy hollow, I determined to follow it, in the hope that it would conduct us to a stream. We followed a winding descent for several miles, the hollow gradually broadening into little meadows, and becoming the bed of a stream as we advanced; and toward night, we were agreeably surprised by the appearance of a willow grove, where we found a sheltered camp, with water and excellent and abundant grass. The grass, which was covered by the snow on the bottom, was long and green, and the face of the mountain had a more favorable character in its vegetation, being smoother, and covered with good bunch grass.

The snow was deep, and the night very cold. A broad trail had entered the valley from the right, and a short distance below the camp were the tracks where a considerable party of Indians had passed on horseback, who had turned out to the left, apparently with the view of crossing the mountains to the eastward. These Indians were probably Modocs.

December 30th.—After following the stream for a few hours in a southeasterly direction it entered a cañon where we could not follow; but determined not to leave the stream, we searched a passage below, where we could regain it, and entered a regular narrow valley. The water had now more the appearance of a flowing creek; several times we passed groves of willows, and we began to feel ourselves out of all difficulty. From our position it was reasonable to conclude that this stream would find its outlet in Mary's Lake, and conduct us into a better country.

We had descended rapidly, and here we found very little snow. On both sides the mountains showed often stupendous and curious looking

rocks, which at several places so narrowed the valley, that scarcely a pass was left for the camp. It was a singular place to travel through—shut up in the earth, a sort of chasm, the little strip of grass under our feet, the rough walls of bare rock on either hand, and the narrow strip of sky above. The grass to-night was abundant, and we encamped in high spirits.

December 31st.—After an hour's ride this morning our hopes were once more destroyed. The valley opened out, and before us again lay one of the dry basins. After some search, we discovered a high water outlet, which brought us in a few miles, and by a descent of several hundred feet, into another long broad basin, in which we found the bed of a stream, and obtained sufficient water by cutting the ice. The grass on the bottoms was salt and unpalatable.

Here we concluded the year 1843, and our new year's eve was rather a gloomy one. The result of our journey began to be very uncertain; the country was singularly unfavorable to travel; the grasses being frequently of a very unwholesome character, and the hoofs of our animals were so worn and cut by the rocks, that many of them were lame, and could scarcely be got along.

New Year's Day, 1844.—We continued down the valley, between a dry-looking black ridge on the left, and a more snowy and high one on the right. Our road was bad, along the bottom being broken by gullies and impeded by sage, and sandy on the hills, where there is not a blade of grass, nor does any appear on the mountains. The soil in many places consists of a fine powdery sand, covered with a saline efflorescence; and the general character of the country is desert. During the day we directed our course toward a black cape, at the foot of which a column of smoke indicated hot springs.

January 2d.—We were on the road early, the face of the country hidden by falling snow. We travelled along the bed of the stream, in some places dry, in others covered with ice; the travelling being very bad, through deep fine sand, rendered tenacious by a mixture of clay. The weather cleared up a little at noon, and we reached the hot springs of which we had seen the vapor the day before. There was a large field of the usual salt grass here peculiar to such places. The country otherwise is a perfect barren, without a blade of grass, the only plants being some dwarf *Fremontias*. We passed the rocky cape, a jagged broken point, bare and torn.

The rocks are volcanic, and the hills here have a burnt appearance—cinders and coal occasionally appearing as at a blacksmith's forge. We crossed the large dry bed of a muddy lake in a southeasterly direction, and encamped at night without water and without grass, among sage bushes covered with snow. The heavy road made several mules give

out to-day; and a horse, which had made the journey from the States successfully thus far, was left on the trail.

January 3d.—A fog, so dense that we could not see a hundred yards, covered the country, and the men that were sent out after the horses were bewildered and lost; and we were consequently detained at camp until late in the day.

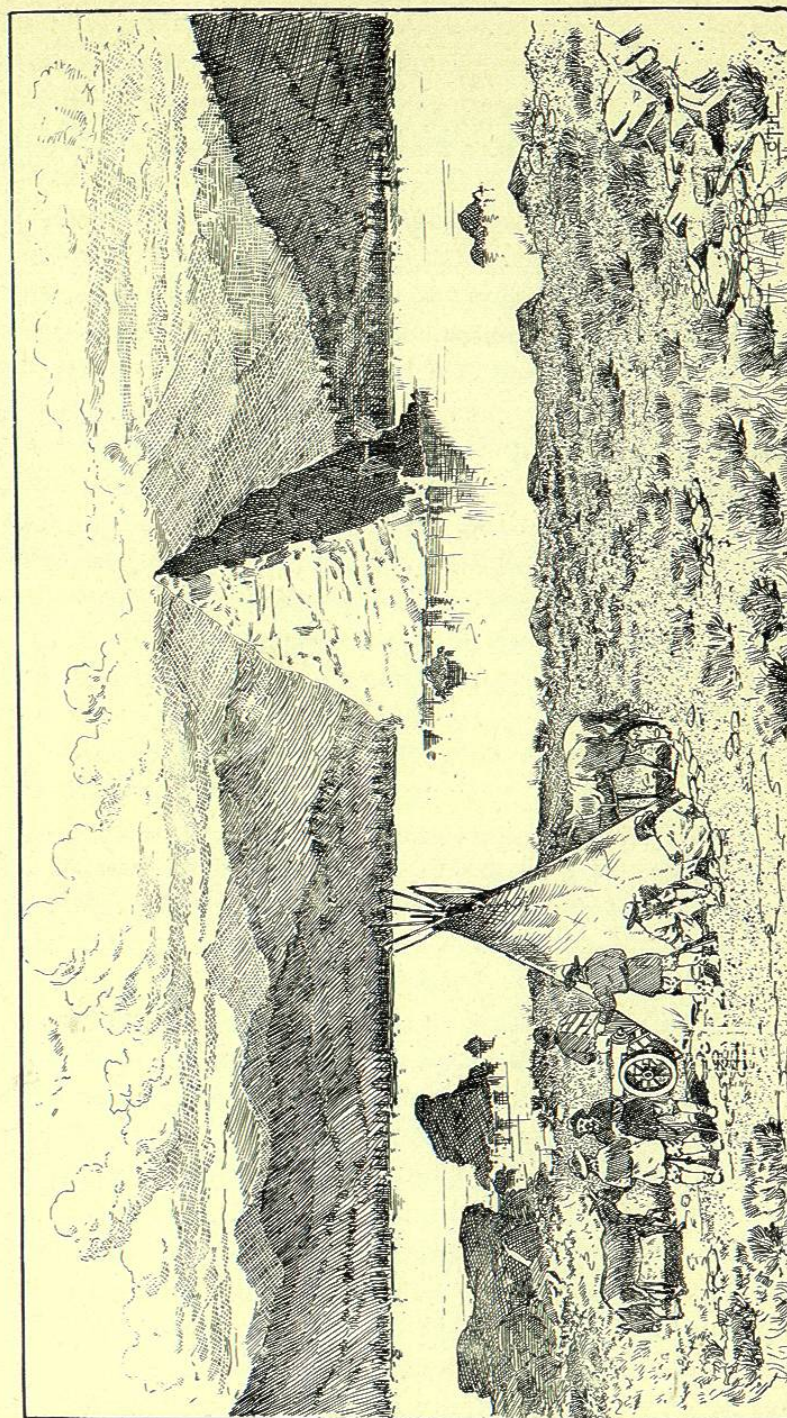
Our situation had now become a serious one. We had reached and run over the position where, according to the best maps in my possession, we should have found Mary's Lake, or River. We were evidently on the verge of the desert which had been reported to us; and the appearance of the country was so forbidding, that I was afraid to enter it, and determined to bear away to the southward, keeping close along the mountains, in the full expectation of reaching the Buenaventura River.

This morning I put every man in the camp on foot—myself, of course, among the rest—and in this manner lightened, by distribution, the loads of the animals. We travelled seven or eight miles along the ridge bordering the valley, and encamped where there were a few bunches of grass on the bed of a hill torrent, without water. There were some large artemisias; but the principal plants are chenopodiaceous shrubs. The rock composing the mountains is here changed suddenly into white granite. The fog showed the tops of the hills at sunset, and stars enough for observations in the early evening, and then closed over us as before. Latitude by observation, $40^{\circ} 48' 15''$.

January 4th.—The fog to-day was still more dense, and the people again were bewildered. We travelled a few miles around the western point of the ridge, and encamped where there were a few tufts of grass, but no water. Our animals now were in a very alarming state, and there was increased anxiety in the camp.

January 5th.—Same dense fog continued, and one of the mules died in camp this morning. I have had occasion to remark in such conditions as these, that animals which are about to die leave the band, and coming into the camp, lie down about the fires. We moved to a place where there was a little better grass, about two miles distant. Taplin, one of our best men, who had gone out on a scouting excursion, ascended a mountain near by, and to his great surprise emerged into a region of bright sunshine, in which the upper parts of the mountain were glowing, while below all was obscured in the darkest fog.

January 6th.—The fog continued the same, and with Mr. Preuss and Carson, I ascended the mountain to sketch the leading features of the country, as some indication of our future route, while Mr. Fitzpatrick explored the country below. In a very short distance we had ascended above the mist, but the view obtained was not very gratifying. The fog



PYRAMID LAKE.

had partially cleared off from below when we reached the summit; and in the southwest corner of a basin communicating with that in which we had encamped, we saw a lofty column of smoke, sixteen miles distant, indicating the presence of hot springs. There, also, appeared to be the outlet of those draining channels of the country; and as such places afforded always more or less grass, I determined to steer in that direction. The ridge we had ascended, appeared to be composed of fragments of white granite. We saw here traces of sheep and antelope.

Entering the neighboring valley, and crossing the bed of another lake, after a hard day's travel over ground of yielding mud and sand, we reached the springs, where we found an abundance of grass, which, though only tolerably good, made this place, with reference to the past, a refreshing and agreeable spot.

This is the most extraordinary locality of hot springs we had met during the journey. The basin of the largest one has a circumference of several hundred feet; but there is at one extremity a circular space of about fifteen feet in diameter, entirely occupied by the boiling water. It boils up at irregular intervals, and with much noise. The water is clear, and the spring deep; a pole about sixteen feet long was easily immersed in the centre, but we had no means of forming a good idea of the depth. It was surrounded on the margin with a border of *green* grass, and near the shore the temperature of the water was 206°. We had no means of ascertaining that of the centre, where the heat was greatest; but, by dispersing the water with a pole, the temperature at the margin was increased to 208°, and in the centre it was doubtless higher. By driving the pole toward the bottom, the water was made to boil up with increased force and noise. There are several other interesting places where water and smoke or gas escape, but they would require a long description. The water is impregnated with common salt, but not so much so as to render it unfit for general cooking; and a mixture of snow made it pleasant to drink.

In the immediate neighborhood the valley bottom is covered almost exclusively with chenopodiaceous shrubs, of greater luxuriance, and larger growth, than we have seen them in any preceding part of the journey.

I obtained this evening some astronomical observations.

Our situation now required caution. Including those which gave out from the injured condition of their feet, and those stolen by Indians, we had lost, since leaving the Dalles of the Columbia, fifteen animals; and of these, nine had been left in the last few days. I therefore determined, until we should reach a country of water and vegetation, to feel our way ahead, by having the line of route explored some fifteen or twenty miles in advance, and only to leave a present encampment when the succeeding one was known.

Taking with me Godey and Carson, I made to-day a thorough exploration of the neighboring valleys, and found in a ravine in the bordering mountains a good camping-place, where was water in springs, and a sufficient quantity of grass for a night. Overshading the springs were some trees of the sweet cotton-wood, which, after a long interval of absence, we saw again with pleasure, regarding them as harbingers of a better country. To us they were eloquent of green prairies and buffalo.

We found here a broad and plainly marked trail, on which there were tracks of horses, and we appeared to have regained one of the thoroughfares which pass by the watering-places of the country. On the western mountains of the valley, with which this of the boiling spring communicates, we remarked scattered cedars—probably an indication that we were on the borders of the timbered region extending to the Pacific. We reached the camp at sunset, after a day's ride of about forty miles. The horses we rode were in good order, being of some that were kept for emergencies, and rarely used.

Mr. Preuss had ascended one of the mountains, and occupied the day in sketching the country; and Mr. Fitzpatrick had found, a few miles distant, a hollow of excellent grass and pure water, to which the animals were driven, as I remained another day to give them an opportunity to recruit their strength. Indians appear to be everywhere prowling about like wild animals, and there is a fresh trail across the snow in the valley near.

Latitude of the boiling springs, $40^{\circ} 39' 46''$.

On the 9th we crossed over to the cotton-wood camp. Among the shrubs on the hills were a few bushes of *ephedra occidentalis*, which we afterward found frequently along our road, and, as usual, the lowlands were occupied with artemisia. While the party proceeded to this place, Carson and myself reconnoitered the road in advance, and found another good encampment for the following day.

January 10th.—We continued our reconnoissance ahead, pursuing a south direction in the basin along the ridge; the camp following slowly after. On a large trail there is never any doubt of finding suitable places for encampments. We reached the end of the basin, where we found, in a hollow of the mountain which enclosed it, an abundance of good bunch grass. Leaving a signal for the party to encamp, we continued our way up the hollow, intending to see what lay beyond the mountain. The hollow was several miles long, forming a good pass, the snow deepening to about a foot as we neared the summit. Beyond, a defile between the mountains descended rapidly about two thousand feet; and, filling up all the lower space, was a sheet of green water, some twenty miles broad. It broke upon our eyes like the ocean.

The neighboring peaks rose high above us, and we ascended one of