

Our observations place this post in longitude $112^{\circ} 29' 54''$, latitude 43° or $30''$, and in elevation above the sea four thousand five hundred feet.

Taking leave of the homeward party, we resumed our journey down the valley, the weather being very cold and the rain coming in hard gusts which the wind blew directly in our faces. We forded the Portneuf in a storm of rain, the water in the river being frequently up to the axles, and about one hundred and ten yards wide.

After the gust the weather improved a little, and we encamped about three miles below, at the mouth of the Pannack River, on Lewis' Fork, which here has a breadth of about one hundred and twenty yards. The temperature at sunset was 42° ; the sky partially covered with dark, rainy clouds.

September 23d.—The temperature at sunrise was 32° , the morning dark and snow falling steadily and thickly, with a light air from the southward. I profited of being obliged to remain in camp to take hourly barometrical observations from sunrise to midnight. The wind at eleven o'clock set in from the northward in heavy gusts, and the snow changed into rain. In the afternoon, when the sky brightened, the rain had washed all the snow from the bottoms; but the neighboring mountains, from summit to foot, were luminously white—an inauspicious commencement of the autumn, of which this was the first day.

September 24th.—The thermometer at sunrise was at 35° and a blue sky in the west promised a fine day. The river bottoms here are narrow and swampy, with frequent sloughs; and after crossing the Pannack the road continued along the uplands, rendered very slippery by the soil of wet clay, and entirely covered with artemisia bushes, among which occur frequent fragments of obsidian.

At noon we encamped in a grove of willows, at the upper end of a group of islands, about half a mile above the *American Falls* of Snake River. Among the willows here were some bushes of Lewis and Clarke's currant (*Ribes aureum*). The river here enters between low mural banks, which consist of a fine vesicular trap-rock, the intermediate portions being compact and crystalline. Gradually becoming higher in its downward course, these banks of scoriated volcanic rock form, with occasional interruptions, its characteristic feature along the whole line to the Dalles of the Lower Columbia, resembling a chasm which had been rent through the country and which the river had afterward taken for its bed. The immediate valley of the river is a high plain, covered with black rocks and artemisias.

In the south is a bordering range of mountains which, although not very high, are broken and covered with snow; and at a great distance to the north is seen the high, snowy line of the Salmon River Mountains, in front of which stand out prominently in the plain the three isolated rugged-

looking little mountains commonly known as the *Three Buttes*. Between the river and the distant Salmon River range the plain is represented by Mr. Fitzpatrick as so entirely broken up and rent into chasms as to be impracticable even for a man on foot. By measurement the river above is eight hundred and seventy feet wide, immediately contracted at the fall in the form of a lock, by jutting piles of scoriaceous basalt, over which the foaming river must present a grand appearance at the time of high water. The evening was clear and pleasant, with dew; and at sunset the temperature was 54° . By observation the latitude is $42^{\circ} 47' 05''$, and the longitude $112^{\circ} 40' 13''$.

September 25th.—Thermometer at sunrise 47° . The day came in clear, with a strong gale from the south, which commenced at eleven of the last night.

The road to-day led along the river, which is full of rapids and small falls. Grass is very scanty; and along the rugged banks are scattered cedars, with an abundance of rocks and sage. We travelled fourteen miles and encamped in the afternoon near the river, on a rocky creek, the bed of which was entirely occupied with bowlders of a very large size. For the last three or four miles the right bank of the river has a palisaded appearance. One of the oxen was killed here for food. The thermometer at evening was at 55° , the sky almost overcast, and the barometer indicated an elevation of four thousand four hundred feet.

September 26th.—Rain during the night, and the temperature at sunrise 42° . Travelling along the river, in about four miles we reached a picturesque stream to which we gave the name of Fall Creek. It is remarkable for the many falls which occur in a short distance; and its bed is composed of a calcareous tufa, or vegetable rock, composed principally of the remains of reeds and mosses, resembling that at the *Basin Spring* on Bear River.

The road along the river bluffs had been occasionally very bad; and imagining that some rough obstacles rendered such a detour necessary, we followed for several miles a plain wagon road leading up this stream until we reached a point whence it could be seen making directly toward a low place in the range on the south side of the valley, and we became immediately aware that we were on a trail formed by a party of wagons, in company with which we had encamped at Elm Grove, near the frontier of Missouri, and which were proceeding to Upper California under the direction of Mr. Jos. Childs. At the time of their departure, no practicable passes were known in the Southern Rocky Mountains within the territory of the United States; and the probable apprehension of difficulty in attempting to pass near the settled frontier of New Mexico, together with the desert character of the unexplored region beyond, had induced them

to take a more northern and circuitous route by way of the Sweet Water Pass and Fort Hall. They had still between them and the Valley of the Sacramento a great mass of mountains, forming the *Sierra Nevada*, here commonly known as the *Great California Mountain*, and which were at this time considered as presenting an impracticable barrier to wheeled carriages.

Various considerations had suggested to them a division of the party; and a greater portion of the camp, including the wagons with the mill and other stores, were now proceeding under the guidance of Mr. Joseph Walker, who had engaged to conduct them, by a long sweep to the southward, around what is called the *point of the mountain*; and, crossing through a pass known only to himself, gain the banks of the Sacramento by the Valley of the San Joaquin. It was a long and hazardous journey for a party in which there were women and children. Sixty days was the shortest period of time in which they could reach the point of the mountain, and their route lay through a country inhabited by wild and badly disposed Indians and very poor in game; but the leader was a man possessing great and intimate knowledge of the Indians, with an extraordinary firmness and decision of character.

In the meantime Mr. Childs had passed down the Columbia with a party of ten or twelve men, with the intention of reaching the settlements on the Sacramento by a more direct course which indefinite information from hunters had indicated in the direction of the head-waters of the *Rivière aux Malheurs*; and, having obtained there a re-enforcement of animals and a supply of provisions, meet the wagons, before they should have reached the point of the mountain, at a place which had been previously agreed upon. In the course of our narrative we shall be able to give some information of the fortune which attended the movements of these adventurous travellers.

Having discovered our error, we immediately regained the line along the river, which the road quitted about noon, and encamped at five o'clock on a stream called Raft River (*Rivière aux Cajoux*), having travelled only thirteen miles. In the north, the Salmon River Mountains are visible at a very far distance; and on the left, the ridge in which Raft River heads is about twenty miles distant, rocky, and tolerably high. Thermometer at sunset 44°, with a partially clouded sky, and a sharp wind from the southwest.

September 27th.—It was now no longer possible, as in our previous journey, to travel regularly every day and find at any moment a convenient place for repose at noon, or a camp at night; but the halting-places were now generally fixed along the road, by the nature of the country, at places where, with water, there was a little scanty grass.

Since leaving the American Falls the road had frequently been very bad; the many short, steep ascents exhausting the strength of our worn-out animals, requiring always at such places the assistance of the men to get up each cart, one by one; and our progress with twelve or fourteen wheeled carriages, though light and made for the purpose, in such a rocky country was extremely slow; and I again determined to gain time by a division of the camp. Accordingly, to-day the parties again separated, constituted very much as before—Mr. Fitzpatrick remaining in charge of the heavier baggage.

The morning was calm and clear, with a white frost, and the temperature at sunrise 24°.

To-day the country had a very forbidding appearance; and after travelling twenty miles over a slightly undulating plain, we encamped at a considerable spring, called Swamp Creek, rising in low grounds near the point of a spur from the mountain.

Returning with a small party in a starving condition from the westward twelve or fourteen years since, Carson had met here three or four buffalo bulls, two of which were killed. They were among the pioneers which had made the experiment of colonizing in the Valley of the Columbia, and which had failed, as heretofore stated.

At sunset the thermometer was at 46°, and the evening was overcast, with a cold wind from the southeast, and to-night we had only sage for fire-wood. Mingled with the artemisia was a shrubby and thorny chenopodiaceous plant.

September 28th.—Thermometer at sunrise 40°. The wind rose early to a gale from the west, with a very cold, driving rain; and after an uncomfortable day's ride of twenty-five miles we were glad when at evening we found a sheltered camp, where there was an abundance of wood, at some elevated rocky islands covered with cedar, near the commencement of another long cañon of the river.

With the exception of a short detention at a deep little stream called Goose Creek, and some occasional rocky places, we had to-day a very good road; but the country has a barren appearance, sandy, and densely covered with the artemisias from the banks of the river to the foot of the mountains.

Here I remarked among the sage-bushes, green bunches of what is called the second growth of grass. The river to-day has had a smooth appearance, free from rapids, with a low, sandy hill-slope bordering the bottoms, in which there is a little good soil. Thermometer at sunset 45°, blowing a gale, and disagreeably cold.

September 29th.—The thermometer at sunrise 36°, with a bright sun, and appearance of finer weather.

The road for several miles was *extremely* rocky, and consequently bad; but entering after this a sandy country it became very good, with no other interruption than the sage-bushes which covered the river plain so far as the eye could reach, and, with their uniform tint of dark gray, gave to the country a gloomy and sombre appearance. All the day the course of the river has been between walls of the black volcanic rock, a dark line of the escarpment on the opposite side pointing out its course, and sweeping along in foam at places where the mountains which border the valley present always on the left two ranges, the lower one a spur of the higher; and, on the opposite side, the Salmon River Mountains are visible at a great distance. Having made twenty-four miles, we encamped about five o'clock on Rock Creek; a stream having considerable water, a swift current, and wooded with willow.

September 30th.—Thermometer at sunrise, 28°. In its progress toward the river this creek soon enters a chasm of the volcanic rock, which in places along the wall presents a columnar appearance; and the road becomes extremely rocky whenever it passes near its banks. It is only about twenty feet wide where the road crosses it, with a deep bed and steep banks, covered with rocky fragments, with willows and a little grass on its narrow bottom. The soil appears to be full of calcareous matter, with which the rocks are incrustated. The fragments of rock which had been removed by the emigrants in making a road where we ascended from the bed of this creek were whitened with lime; and during the afternoon's march I remarked in the soil a considerable quantity of calcareous concretions.

Toward evening the sages became more sparse, and the clear spaces were occupied by tufts of green grass. The river still continued its course through a trough or open cañon; and toward sunset we followed the trail of several wagons which had turned in toward Snake River, and encamped, as they had done, on the top of the escarpment. There was no grass here, the soil among the sage being entirely naked; but there is occasionally a little bottom along the river, which a short ravine of rocks at rare intervals leaves accessible; and by one of these we drove our animals down and found some tolerably good grass bordering the water.

Immediately opposite to us a subterranean river bursts out directly from the face of the escarpment, and falls in white foam to the river below. The accompanying view gives a sketch of this remarkable fall, with a representation of the mural precipices which enclose the main river and form its characteristic feature along a great portion of its course. A melancholy and strange-looking country—one of fracture, and violence, and fire.

We had brought with us, when we separated from the camp, a large gaunt ox, in appearance very poor; but, being killed to-night, to the great



BIG TIMBER. ARKANSAS RIVER.

joy of the people, he was found to be remarkably fat. As usual at such occurrences the evening was devoted to gayety and feasting; abundant fare now made an epoch among us; and in this laborious life, in such a country as this, our men had but little else to enjoy.

The temperature at sunset was 65° , with a clear sky and very high wind. By the observation of the evening the encampment was in longitude $114^{\circ} 25' 04''$, and in latitude $42^{\circ} 38' 44''$.

October 1st.—The morning clear, with wind from the west, and the thermometer at 55° . We descended to the bottom, taking with us the boat, for the purpose of visiting the fall in the opposite cliffs; and while it was being filled with air we occupied ourselves in measuring the river, which is one thousand seven hundred and eighty-six feet in breadth, with banks two hundred feet high. We were surprised, on our arrival at the opposite side, to find a beautiful basin of clear water, formed by the falling river, around which the rocks were whitened by some saline incrustation. Here the Indians had constructed wicker dams, although I was informed that the salmon do not ascend the river so far; and its character below would apparently render it impracticable.

The ascent of the steep hill-side was rendered a little difficult by a dense growth of shrubs and fields of cane; and there were frequent hidden crevices among the rocks, where the water was heard rushing below; but we succeeded in reaching the main stream, which, issuing from between strata of the trap-rock in two principal branches, produced almost immediately a torrent twenty-two feet wide and white with foam. It is a picturesque spot of singular beauty, overshadowed by bushes, from under which the torrent glances, tumbling into the white basin below, where the clear water contrasted beautifully with the muddy stream of the river. Its outlet was covered with a rank growth of canes, and a variety of unusual plants, and nettles (*urtica canabina*), which, before they were noticed, had set our hands and arms on fire. The temperature of the spring was 58° , while that of the river was 51° . The perpendicular height of the place at which this stream issues is forty-five feet above the river, and one hundred and fifty-two feet below the summit of the precipice, making nearly two hundred feet for the height of the wall. On the hill-side here was obtained specimens consisting principally of fragments of the shells of small crustacea, and which was probably formed by deposition from these springs proceeding from some lake or river in the highlands above.

We resumed our journey at noon, the day being hot and bright; and, after a march of seventeen miles, encamped at sunset on the river, near several lodges of Snake Indians.

Our encampment was about one mile below the *Fishing Falls*, a series of cataracts with very inclined planes, which are probably so named because