Montreal, and part to Hudson Bay. Thus a regular communication is kept up between three very remote points.

The Canadian emigrant was much chagrined at the change of climate, and informed me that, only a few miles above, they had left a country of bright blue sky and a shining sun. The next morning the upper parts of the mountains which directly overlook the cascades were white with the freshly fallen snow, while it continued to rain steadily below.

Late in the afternoon we finished the portage, and embarking again, moved a little distance up the right bank, in order to clear the smaller rapids of the cascades, and have a smooth river for the next morning. Though we made but a few miles, the weather improved immediately; and though the rainy country and the cloudy mountains were close behind, before us was the bright sky; so distinctly is climate here marked by a mountain boundary.

November 17th.—We had to-day an opportunity to complete the sketch of that portion of the river down which we had come by night, and of which I will not give a particular description, which the small scale of our map would not illustrate. Many places occur along the river where the stumps, or rather portions of the trunks of pine-trees, are standing along the shore, and in the water, where they may be seen at a considerable depth below the surface, in the beautifully clear water. These collections of dead trees are called on the Columbia the *submerged forest*, and are supposed to have been created by the effects of some convulsion which formed the cascades, and which, by damming up the river, placed these trees under water and destroyed them. But I venture to presume that the cascades are older than the trees; and as these submerged forests occur at five or six places along the river, I had an opportunity to satisfy myself that they have been formed by immense land-slides from the mountains, which here closely shut in the river, and which brought down with them into the river the pines of the mountain. At one place, on the right bank, I remarked a place where a portion of one of these slides seemed to have planted itself with all the evergreen foliage, and the vegetation of the neighboring hill, directly amidst the falling and yellow leaves of the river-trees. It occurred to me that this would have been a beautiful illustration to the eye of a botanist.

Following the course of a slide, which was very plainly marked along the mountain, I found that in the interior parts the trees were in their usual erect position; but, at the extremity of the slide, they were rocked about and thrown into a confusion of inclinations.

About four o'clock in the afternoon we passed a sandy bar in the river, whence we had an unexpected view of Mount Hood, bearing directly south by compass.

During the day we used oar and sail, and at night had again a delightful camping ground, and a dry place to sleep upon.

November 18th.—The day again was pleasant and bright. At ten o'clock we passed a rock island, on the right shore of the river, which the Indians use as a burial ground; and, halting for a short time, about an hour afterward, at the village of our Indian friends, early in the afternoon we arrived again at the Dalles.

Carson had removed the camp up the river a little nearer to the hills, where the animals had better grass. We found everything in good order, and arrived just in time to partake of an excellent roast of California beef. My friend, Mr. Gilpin, had arrived in advance of the party. His object in visiting this country had been to obtain correct information of the Walahmette settlements; and he had reached this point in his journey, highly pleased with the country over which he had travelled, and with invigorated health. On the following day he continued his journey, in our returning boats, to Vancouver.

The camp was now occupied in making the necessary preparations for our homeward journey, which, though homeward, contemplated a new route, and a great circuit to the south and southeast, and the exploration of the Great Basin between the Rocky Mountains and the *Sierra Nevada*.

Three principal objects were indicated by report, or by maps, as being on this route; the character or existence of which I wished to ascertain, and which I assumed as landmarks, or leading points, on the projected line of return. The first of these points was the *Tlamath* Lake, on the table-land between the head of Fall River, which comes to the Columbia, and the Sacramento, which goes to the bay of San Francisco; and from which lake a river of the same name makes its way westwardly direct to the ocean.

This lake and river are often called *Klamet*, but I have chosen to write its name according to the Indian pronunciation. The position of this lake, on the line of inland communication between Oregon and California; its proximity to the demarcation boundary of latitude 42°; its imputed double character of lake, or meadow, according to the season of the year; and the hostile and warlike character attributed to the Indians about it—all made it a desirable object to visit and examine.

From this lake our course was intended to be about southeast to a reported lake called Mary's, at some days' journey in the Great Basin; and thence, still on southeast, to the reputed *Buenaventura* River, which has had a place in so many maps, and countenanced the belief of the existence of a great river flowing from the Rocky Mountains to the bay of San Francisco. From the Buenaventura the next point was intended to be in that section of the Rocky Mountains which includes the heads of Arkansas

River, and of the opposite waters of the Californian Gulf; and thence down the Arkansas to Bent's Fort, and home.

This was our projected line of return—a great part of it absolutely new to geographical, botanical, and geological science—and the subject of reports in relation to lakes, rivers, deserts, and savages hardly above the condition of mere wild animals, which inflamed desire to know what this *terra incognita* really contained. It was a serious enterprise, at the commencement of winter, to undertake the traverse of such a region, and with a party consisting only of twenty-five persons, and they of many nations—American, French, German, Canadian, Indian, and colored—and most of them young, several being under twenty-one years of age.

All knew that a strange country was to be explored, and dangers and hardships to be encountered; but no one blenched at the prospect. On the contrary, courage and confidence animated the whole party. Cheerfulness, readiness, subordination, prompt obedience, characterized all; nor did any extremity of peril and privation, to which we were afterward exposed, ever belie, or derogate from, the fine spirit of this brave and generous commencement.

The course of the narrative will show at what point, and for what reasons, we were prevented from the complete execution of this plan, after having made considerable progress upon it, and how we were forced by desert plains and mountain ranges, and deep snows, far to the south and near to the Pacific Ocean, and along the western base of the Sierra Nevada; where, indeed, a new and ample field of exploration opened itself before us. For the present, we must follow the narrative, which will first lead us south along the valley of Fall River, and the eastern base of the Cascade range, to the Tlamath Lake, from which, or its margin, three rivers go in three directions—one west, to the ocean; another north, to the Columbia; the third south, to California.

For the support of the party, I had provided at Vancouver a supply of provisions for not less than three months, consisting principally of flour, peas and tallow—the latter being used in cooking; and, in addition to this, I had purchased at the mission some California cattle, which were to be driven on the hoof.

We had one hundred and four mules and horses—part of the latter procured from the Indians about the mission; and for the sustenance of which our reliance was upon the grass which we should find, and the soft porous wood which was to be its substitute when there was none.

Mr. Fitzpatrick, with Mr. Talbot and the remainder of our party, arrived on the 21st; and the camp was now closely engaged in the labor of preparation. Mr. Perkins succeeded in obtaining as guide to the Tlamath Lake two Indians—one of whom had been there, and bore the marks of several

wounds he had received from some of the Indians in the neighborhood; and the other went along for company. In order to enable us to obtain horses, he despatched messengers to the various Indian villages in the neighborhood, informing them that we were desirous to purchase, and appointing a day for them to bring them in.

We made, in the meantime, several excursions in the vicinity. Mr. Perkins walked with Mr. Preuss and myself to the heights, about nine miles distant on the opposite side of the river, whence, in fine weather, an extensive view may be had over the mountains, including seven great peaks of the Cascade range; but clouds, on this occasion, destroyed the anticipated pleasure, and we obtained bearings only to three that were visible: Mount Regnier, St. Helens, and Mount Hood. On the heights, about one mile south of the mission, a very fine view may be had of Mount Hood and St. Helens. In order to determine their positions with as much accuracy as possible, the angular distances of the peaks were measured with the sextant, at different fixed points from which they could be seen.

The Indians brought in their horses at the appointed time, and we succeeded in obtaining a number in exchange for goods; but they were relatively much higher here, where goods are plenty and at moderate prices, than we had found them in the more eastern part of our voyage. Several of the Indians inquired very anxiously to know if we had any *dollars;* and the horses we procured were much fewer in number than I had desired, and of thin, inferior quality; the oldest and poorest being those that were sold to us. These horses, as our journey gave constant occasion to remark, are valuable for hardihood and great endurance.

November 24th.—At this place one of the men was discharged; and at the request of Mr. Perkins, a Chinook Indian, a lad of nineteen, who was extremely desirous to "see the whites," and make some acquaintance with our institutions, was received into the party, under my especial charge, with the understanding that I would again return him to his friends. He had lived for some time in the household of Mr. Perkins, and spoke a few words of the English language.

November 25th.—We were all up early, in the excitement of turning toward home. The stars were brilliant, and the morning cold—the thermometer at daylight 26°.

Our preparations had been finally completed, and to-day we commenced our journey. The little wagon which had hitherto carried the instruments, I judged it necessary to abandon; and it was accordingly presented to the mission. In all our long travelling, it had never been overturned or injured by any accident of the road; and the only things broken were the glass lamps, and one of the front panels, which had been kicked out by an unruly Indian horse. The howitzer was the only wheeled carriage now re-

maining. We started about noon, when the weather had become disagreeably cold, with flurries of snow. Our friend, Mr. Perkins, whose kindness had been active and efficient during our stay, accompanied us several miles on our road; when he bade us farewell, and consigned us to the care of our guides.

Ascending to the uplands beyond the southern fork of the *Tinanens* Creek, we found the snow lying on the ground in frequent patches, although the pasture appeared good, and the new short grass was fresh and green. We travelled over high, hilly land, and encamped on a little branch of Tinanens Creek, where there were good grass and timber. The southern bank was covered with snow, which was scattered over the bottom, and the little creek, its borders lined with ice, had a chilly and wintry look.

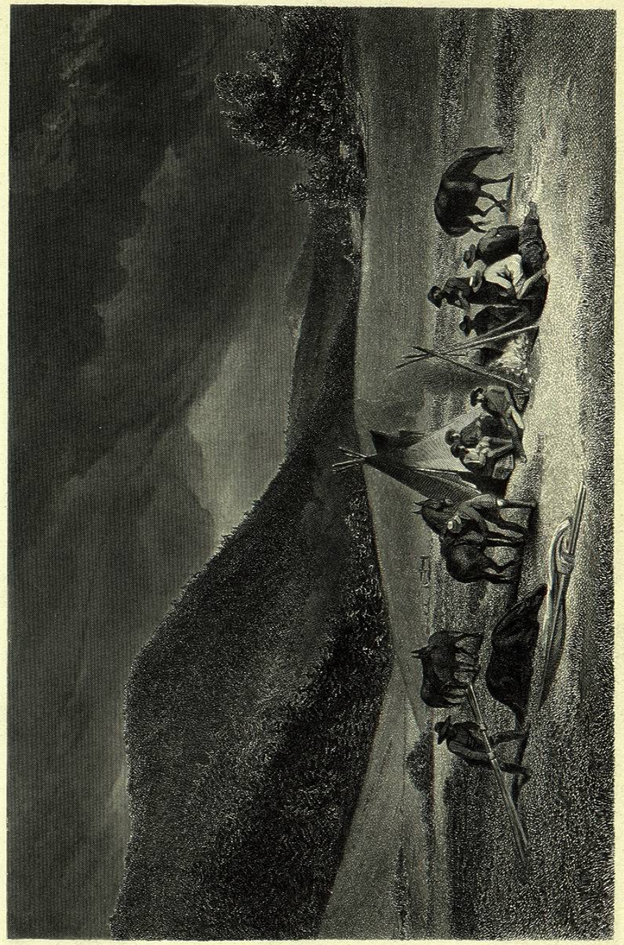
A number of Indians had accompanied us so far on our road, and remained with us during the night. Two bad-looking fellows, who were detected in stealing, were tied and laid before the fire, and guard mounted over them during the night. The night was cold and partially clear.

November 26th.—The morning was cloudy and misty, and but a few stars visible. During the night water froze in the tents, and at sunrise the thermometer was at 20°. Left camp at ten o'clock, the road leading along tributaries of the Tinanens, and being, so far, very good. We turned to the right at a fork of the trail, ascending by asteep ascent along a spur to the dividing grounds between this stream and the waters of Fall River. The creeks we had passed were timbered principally with oak and other deciduous trees. Snow lies everywhere here on the ground, and we had a slight fall during the morning; but toward noon the gray sky yielded to a bright sun.

This morning we had a grand view of St. Helens and Regnier; the latter appeared of a conical form, and very lofty, leading the eye far up into the sky. The line of the timbered country is very distinctly marked here, the bare hills making with it a remarkable contrast. The summit of the ridge commanded a fine view of the Taih Prairie, and the stream running through it, which is a tributary to the Fall River, the chasm of which is visible to the right. A steep descent of a mountain hill brought us down into the valley, and we encamped on the stream after dark, guided by the light of fires, which some naked Indians belonging to a village on the opposite side were kindling for us on the bank. This is a large branch of the Fall River. There was a broad band of thick ice some fifteen feet wide on either bank, and the river current is swift and bold.

The night was cold and clear, and we made our astronomical observation this evening with the thermometer at 20°.

In anticipation of coming hardship, and to spare our horses, there was much walking done to-day; and Mr. Fitzpatrick and myself made the day's



PASS IN THE SIERRA MOJADA.