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NARRATIVE
OF
AN EXPLORATION OF THE COUNTRY
LYING BETWEEN THE
MISSOURI RIVER AND THE ROCKY MOUNTAINS,
ON THE LINE OF
THE KANSAS AND GREAT PLATTE RIVERS.

WASHINGTON, *March 1, 1843.*

To Colonel J. J. ABERT,

Chief of the Corps of Topographical Engineers.

SIR,—Agreeably to your orders to explore and report upon the country between the frontiers of Missouri, and the South Pass in the Rocky Mountains, and on the line of the Kansas and Great Platte rivers, I set out from Washington city on the 2nd day of May, 1842, and arrived at St. Louis, by way of New York, the 22nd of May, where the necessary preparations were completed, and the expedition commenced. I proceeded in a steamboat to Chouteau's landing, about four hundred miles by water from St. Louis, and near the mouth of the Kansas river, whence we proceeded twelve miles to Mr. Cyprian Chouteau's trading house, where we completed our final arrangements for the expedition.

Bad weather, which interfered with astronomical observations, delayed us several days in the early part of June at this post, which is on the right bank of the Kansas river, about ten miles above the mouth, and six beyond the western boundary of Missouri. The sky cleared off at length, and we were enabled to determine our position, in longitude $94^{\circ} 25' 46''$, and latitude $39^{\circ} 5' 57''$. The elevation above the sea is about 700 feet. Our camp, in the meantime, presented an animated and bustling scene. All were busily occupied in completing the necessary arrangements for our campaign in the wilderness, and profiting by this short delay on the verge of civilization, to provide ourselves with all the little essentials to comfort in the nomadic life we were to lead for the ensuing summer months. Gradually, however, everything—the *matériel* of the camp, men, horses, and even mules—settled into its place, and by the 10th we were ready to depart; but, before we mount our horses, I will give a short description of the party with which I performed this service.

I had collected in the neighbourhood of St. Louis 21 men, principally Creole and Canadian *voyageurs*, who had become familiar with prairie life in the service of the fur companies in the Indian country. Mr. Charles Preuss, a native of Germany, was my assistant in the topographical part of the survey. L. Maxwell, of Kaskaskia, had been engaged as hunter, and Christopher Carson (more familiarly known for his exploits in the mountains as Kit Carson) was our guide. The persons engaged in St. Louis were:—

Clément Lambert, J. B. L'Esperance, J. B. Lefèvre, Benjamin Potra, Louis Gouin, J. B. Dumés, Basil Lajeunesse, François Tessier, Benjamin Cadotte, Joseph Clément, Daniel Simonds, Leonard Benoit, Michel Morley, Baptiste Bernier, Honoré Ayot, François Latulippe, François Badeau, Louis Ménard, Joseph Ruelle, Moise Chardonnois, Auguste Janisse, Raphael Proue.

In addition to these, Henry Brant, son of Col. J. B. Brant, of St. Louis, a young man of 19 years of age, and Randolph, a lively boy of 12, son of the Hon. Thomas H. Benton, accompanied me for the development of mind and body which such an expedition would give. We were all well armed and mounted, with the exception of eight men, who conducted as many carts, in which were packed our stores, with the baggage and instruments, and which were each drawn by two mules. A few loose horses, and four oxen, which had been added to our stock of provisions, completed the train. We set out on the morning of the 10th, which happened to be Friday—a circumstance which our men did not fail to remember and recall during the hardships and vexations of the ensuing journey. Mr. Cyprian Chouteau, to whose kindness, during our stay at his house, we were much indebted, accompanied us several miles on our way, until we met an Indian whom he had engaged to conduct us on the first 30 or 40 miles, where he was to consign us to the ocean of prairie, which, we were told, stretched without interruption almost to the base of the Rocky Mountains.

From the belt of wood which borders the Kansas, in which we had passed several good-looking Indian farms, we suddenly emerged on the prairies, which received us at the outset with some of their striking characteristics; for here and there rode an Indian, and but a few miles distant heavy clouds of smoke were rolling before the fire. In about 10 miles we reached the Santa Fé road, along which we continued for a short time, and encamped early on a small stream; having travelled about 11 miles. During our journey, it was the customary practice to encamp an hour or two before sunset, when the carts were disposed so as to form a sort of barricade around a circle some 80 yards in diameter. The tents were pitched, and the horses hobbled and turned loose to graze; and but a few minutes elapsed before the cooks of the messes, of which there were four, were busily engaged in preparing the evening meal. At nightfall, the horses, mules, and oxen, were driven

in and picketed—that is, secured by a halter, of which one end was tied to a small steel-shod picket, and driven into the ground; the halter being 20 or 30 feet long, which enabled them to obtain a little food during the night. When we had reached a part of the country where such a precaution became necessary, the carts being regularly arranged for defending the camp, guard was mounted at eight o'clock, consisting of three men, who were relieved every two hours; the morning watch being horse guard for the day. At daybreak, the camp was roused, the animals turned loose to graze, and breakfast generally over between six and seven o'clock, when we resumed our march, making regularly a halt at noon for one or two hours. Such was usually the order of the day, except when accident of country forced a variation; which, however, happened but rarely. We travelled the next day along the Santa Fé road, which we left in the afternoon, and encamped late in the evening on a small creek, called by the Indians Mishmagwi. Just as we arrived at camp, one of the horses set off at full speed on his return, and was followed by others. Several men were sent in pursuit, and returned with the fugitives about midnight, with the exception of one man, who did not make his appearance until morning. He had lost his way in the darkness of the night, and slept on the prairie. Shortly after midnight it began to rain heavily, and as our tents were of light and thin cloth, they offered but little obstruction to rain; we were all well soaked, and glad when morning came. We had a rainy march on the 12th, but the weather grew fine as the day advanced. We encamped in a remarkably beautiful situation on the Kansas bluffs, which commanded a fine view of the river valley, here from three to four miles wide. The central portion was occupied by a broad belt of heavy timber, and nearer the hills the prairies were of the richest verdure. One of the oxen was killed here for food.

We reached the ford of the Kansas late in the afternoon of the 14th, where the river was 230 yards wide, and commenced immediately preparations for crossing. I had expected to find the river fordable, but it had been swollen by the late rains, and was sweeping by with an angry current, yellow and turbid as the Missouri. Up to this point, the road we had travelled was a remarkably fine one, well beaten, and level—the usual road of a prairie country. By our route, the ford was 100 miles from the mouth of the Kansas river. Several mounted men led the way into the stream to swim across. The animals were driven in after them, and in a few minutes all had reached the opposite bank in safety, with the exception of the oxen, which swam some distance down the river, and returning to the right bank, were not got over until the next morning. In the meantime, the carts had been unloaded and dismantled, and an india-rubber boat, which I had brought with me for the survey of the Platte river, placed in the water. The boat was 20 feet long and 5 broad, and on it were

placed the body and wheels of a cart, with the load belonging to it, and three men with paddles.

The velocity of the current, and the inconvenient freight, rendering it difficult to be managed, Basil Lajeunesse, one of our best swimmers, took in his teeth a line attached to the boat, and swam ahead, in order to reach a footing as soon as possible, and assist in drawing her over. In this manner, six passages had been successfully made, and as many carts, with their contents, and a greater portion of the party deposited on the left bank; but night was drawing near, and in our anxiety to have all over before the darkness closed in, I put upon the boat the remaining two carts, with their accompanying load. The man at the helm was timid on water, and in his alarm capsized the boat. Carts, barrels, boxes, and bales, were in a moment floating down the current; but all the men who were on the shore jumped into the water, without stopping to think if they could swim, and almost everything—even heavy articles, such as guns and lead—was recovered.

Two of the men, who could not swim, came nigh being drowned, and all the sugar belonging to one of the messes wasted its sweets on the muddy waters; but our heaviest loss was a bag of coffee, which contained nearly all our provision. It was a loss which none but a traveller in a strange and inhospitable country can appreciate; and often afterwards, when excessive toil and long marching had overcome us with fatigue and weariness, we remembered and mourned over our loss in the Kansas. Carson and Maxwell had been much in the water yesterday, and both in consequence were taken ill. The former continuing so, I remained in camp. A number of Kansas Indians visited us to-day. Going up to one of the groups who were scattered among the trees, I found one sitting on the ground, among some of the men, gravely and fluently speaking French, with as much facility and as little embarrassment as any of my own party, who were nearly all of French origin.

On all sides was heard the strange language of his own people, wild, and harmonizing well with their appearance. I listened to him for some time with feelings of strange curiosity and interest. He was now apparently 35 years of age; and on inquiry, I learned that he had been at St. Louis when a boy, and there had learned the French language. From one of the Indian women I obtained a fine cow and calf in exchange for a yoke of oxen. Several of them brought us vegetables, pumpkins, onions, beans, and lettuce. One of them brought butter, and from a half-breed near the river I had the good fortune to obtain some 20 or 30 pounds of coffee. The dense timber in which we had encamped interfered with astronomical observations, and our wet and damaged stores required exposure to the sun. Accordingly the tents were struck early the next morning, and leaving camp at six o'clock, we moved about seven miles up the river, to a handsome open prairie, some

20 feet above the water, where the fine grass afforded a luxurious repast to our horses.

During the day we occupied ourselves in making astronomical observations, in order to lay down the country to this place; it being our custom to keep up our map regularly in the field, which we found attended with many advantages. The men were kept busy in drying the provisions, painting the cart covers, and otherwise completing our equipage, until the afternoon, when powder was distributed to them, and they spent some hours in firing at a mark. We were now fairly in the Indian country, and it began to be time to prepare for the chances of the wilderness.

Friday, June 17.—The weather yesterday had not permitted us to make the observations I was desirous to obtain here, and I therefore did not move to-day. The people continued their target-firing. In the steep bank of the river here were nests of innumerable swallows, into one of which a large prairie snake had got about half his body, and was occupied in eating the young birds. The old ones were flying about in great distress, darting at him, and vainly endeavouring to drive him off. A shot wounded him, and being killed, he was cut open, and eighteen young swallows were found in his body. A sudden storm, that burst upon us in the afternoon, cleared away in a brilliant sunset, followed by a clear night, which enabled us to determine our position in longitude $95^{\circ} 38' 05''$, and in latitude $39^{\circ} 06' 40''$.

A party of emigrants to the Columbia river, under the charge of Dr. White, an agent of the Government in Oregon Territory, were about three weeks in advance of us. They consisted of men, women, and children. There were 64 men, and 16 or 17 families. They had a considerable number of cattle, and were transporting their household furniture in large heavy wagons. I understood that there had been much sickness among them, and that they had lost several children. One of the party, who had lost his child, and whose wife was very ill, had left them about 100 miles hence on the prairies; and as a hunter, who had accompanied them, visited our camp this evening, we availed ourselves of his return to the States to write to our friends.

The morning of the 18th was very unpleasant. A fine rain was falling, with cold wind from the north, and mists made the river hills look dark and gloomy. We left our camp at seven, journeying along the foot of the hills which border the Kansas valley, generally about three miles wide, and extremely rich. We halted for dinner, after a march of about 13 miles, on the banks of one of the many little tributaries to the Kansas, which look like trenches in the prairie, and are usually well timbered. After crossing this stream, I rode off some miles to the left, attracted by the appearance of a cluster of huts near the mouth of the Vermillion. It was a large but deserted Kansas village, scattered in an open wood, along the margin of the stream, on a spot chosen with the cus-

tomary Indian fondness for beauty of scenery. The Pawnees had attacked it in the early spring. Some of the houses were burned, and others blackened with smoke, and weeds were already getting possession of the cleared places. Riding up the Vermillion river, I reached the ford in time to meet the carts, and, crossing, encamped on its western side. The weather continued cool, the thermometer being this evening as low as 49° ; but the night was sufficiently clear for astronomical observations, which placed us in longitude $96^{\circ} 04' 07''$, and latitude $39^{\circ} 15' 19''$. At sunset, the barometer was at 28.845, thermometer 64° .

We breakfasted the next morning at half past five, and left our encampment early. The morning was cool, the thermometer being at 45° . Quitting the river bottom, the road ran along the uplands, over a rolling country, generally in view of the Kansas from eight to 12 miles distant. Many large boulders, of a very compact sandstone, of various shades of red, some of them four or five tons in weight, were scattered along the hills; and many beautiful plants in flower, among which the *amorpha canescens* was a characteristic, enlivened the green of the prairie. At the heads of the ravines I remarked, occasionally, thickets of *salix longifolia*, the most common willow of the country. We travelled 19 miles, and pitched our tents at evening on the head waters of a small creek, now nearly dry, but having in its bed several fine springs. The barometer indicated a considerable rise in the country—here about 1,400 feet above the sea—and the increased elevation appeared already to have some slight influence upon the vegetation. The night was cold, with a heavy dew; the thermometer at 10 P. M. standing at 46° , barometer 28.483. Our position was in longitude $96^{\circ} 14' 49''$, and latitude $39^{\circ} 30' 40''$.

The morning of the 20th was fine, with a southerly breeze and a bright sky; and at seven o'clock we were on the march. The country to-day was rather more broken, rising still, and covered everywhere with fragments of siliceous limestone, particularly on the summits, where they were small, and thickly strewed as pebbles on the shore of the sea. In these exposed situations grew but few plants; though, whenever the soil was good and protected from the winds, in the creek bottoms and ravines, and on the slopes, they flourished abundantly; among them the *amorpha* still retaining its characteristic place. We crossed at 10 A. M., the Big Vermillion, which has a rich bottom of about one mile in breadth, one-third of which is occupied by timber. Making our usual halt at noon, after a day's march of 24 miles, we reached the Big Blue, and encamped on the uplands of the western side, near a small creek, where was a fine large spring of very cold water. This is a clear and handsome stream, about 120 feet wide, running with a rapid current through a well-timbered valley. To-day antelope were seen running over the hills, and at evening Carson brought us a fine deer. Longitude of the camp $96^{\circ} 32' 35''$, latitude $39^{\circ} 45' 08''$. Ther-

mometer at sunset, 75° . A pleasant southerly breeze and fine morning had given place to a gale, with indications of bad weather; when, after a march of 10 miles, we halted to noon on a small creek, where the water stood in deep pools. In the bank of the creek limestone made its appearance in a stratum about one foot thick. In the afternoon the people seemed to suffer for want of water. The road led along a high dry ridge; dark lines of timber indicated the heads of streams in the plains below; but there was no water near, and the day was very oppressive, with a hot wind, and the thermometer at 90° . Along our route the *amorpha* has been in very abundant but variable bloom—in some places bending beneath the weight of purple clusters; in others without a flower. It seems to love best the sunny slopes, with a dark soil and southern exposure. Everywhere the rose is met with, and reminds us of cultivated gardens and civilization. It is scattered over the prairies in small bouquets, and, when glittering in the dews and waving in the pleasant breeze of the early morning, is the most beautiful of the prairie flowers. The *artemisia*, absinthe, or prairie sage, as it is variously called, is increasing in size, and glitters like silver, as the southern breeze turns up its leaves to the sun. All these plants have their insect inhabitants, variously coloured, taking generally the hue of the flower on which they live. The *artemisia* has its small fly accompanying it through every change of elevation and latitude; and wherever I have seen the *asclepias tuberosa*, I have always remarked, too, on the flower a large butterfly, so nearly resembling it in colour as to be distinguishable at a little distance only by the motion of its wings. Travelling on, the fresh traces of the Oregon emigrants relieve a little the loneliness of the road; and to-night, after a march of 22 miles, we halted on a small creek, which had been one of their encampments.

As we advanced westward, the soil appears to be getting more sandy, and the surface rock, an erratic deposit of sand and gravel, rests here on a bed of coarse yellow and grey and very friable sandstone. Evening closed over with rain and its usual attendant, hordes of mosquitoes, with which we were annoyed for the first time.

June 22.—We enjoyed at breakfast this morning a luxury, very unusual in this country, in a cup of excellent coffee, with cream from our cow. Being milked at night, cream was thus had in the morning. Our mid-day halt was at Wyeth's creek, in the bed of which were numerous boulders of dark ferruginous sandstone, mingled with others of the red sandstone already mentioned. Here a pack of cards, lying loose on the grass, marked an encampment of our Oregon emigrants; and it was at the close of the day when we made our bivouac, in the midst of some well-timbered ravines near the Little Blue, 24 miles from our camp of the preceding night. Crossing the next morning a number of handsome creeks, with

clear water and sandy beds, we reached, at 10 A. M., a very beautiful wooded stream, about 35 feet wide, called Sandy Creek, and sometimes, as the Ottoes frequently winter there, the Ottoe Fork. The country has become very sandy, and the plants less varied and abundant, with the exception of the *amorpha*, which rivals the grass in quantity, though not so forward as it has been found to the eastward.

At the Big Trees, where we had intended to noon, no water was to be found. The bed of the little creek was perfectly dry, and, on the adjacent sandy bottom, *cacti*, for the first time, made their appearance. We made here a short delay in search of water; and, after a hard day's march of 28 miles, encamped, at five o'clock on the Little Blue, where our arrival made a scene of the Arabian desert. As fast as they arrived, men and horses rushed into the stream, where they bathed and drank together in common enjoyment. We were now in the range of the Pawnees, who were accustomed to infest this part of the country, stealing horses from companies on their way to the mountains, and, when in sufficient force, openly attacking and plundering them, and subjecting them to various kinds of insult. For the first time, therefore, guard was mounted to-night. Our route the next morning lay up the valley, which, bordered by hills with graceful slopes, looked uncommonly green and beautiful. The stream was about fifty feet wide, and three or four deep, fringed by cotton wood and willow, with frequent groves of oak tenanted by flocks of turkeys. Game here, too, made its appearance in greater plenty. Elk were frequently seen on the hills, and now and then an antelope bounded across our path, or a deer broke from the groves. The road in the afternoon was over the upper prairies, several miles from the river, and we encamped at sunset on one of its small tributaries, where an abundance of *prêle* (*equisetum*) afforded fine forage to our tired animals. We had travelled 31 miles. A heavy bank of black clouds in the west came on us in a storm between nine and ten, preceded by a violent wind. The rain fell in such torrents that it was difficult to breathe facing the wind, the thunder rolled incessantly, and the whole sky was tremulous with lightning; now and then illuminated by a blinding flash, succeeded by pitchy darkness. Carson had the watch from ten to midnight, and to him had been assigned our young *compagnons de voyage*, Messrs. Brant and R. Benton. This was their first night on guard, and such an introduction did not augur very auspiciously of the pleasures of the expedition. Many things conspired to render their situation uncomfortable: stories of desperate and bloody Indian fights were rife in the camp; our position was badly chosen, surrounded on all sides by timbered hollows, and occupying an area of several hundred feet, so that necessarily the guards were far apart; and now and then I could hear Randolph, as if relieved by the sound of a voice in the dark-

ness, calling out to the sergeant of the guard, to direct his attention to some imaginary alarm; but they stood it out, and took their turn regularly afterwards.

The next morning we had a specimen of the false alarms to which all parties in these wild regions are subject. Proceeding up the valley, objects were seen on the opposite hills, which disappeared before a glass could be brought to bear upon them. A man, who was a short distance in the rear, came spurring up in great haste, shouting "Indians! Indians!" He had been near enough to see and count them, according to his report, and had made out 27. I immediately halted; arms were examined and put in order; the usual preparations made; and Kit Carson, springing upon one of the hunting horses, crossed the river, and galloped off into the opposite prairies, to obtain some certain intelligence of their movements.

Mounted on a fine horse, without a saddle, and scouring bare-headed over the prairies, Kit was one of the finest pictures of a horseman I have ever seen. A short time enabled him to discover that the Indian war party of 27, consisted of six elk, who had been gazing curiously at our caravan as it passed by, and were now scampering off at full speed. This was our first alarm, and its excitement broke agreeably on the monotony of the day. At our noon halt, the men were exercised at a target; and in the evening we pitched our tents at a Pawnee encampment of last July. They had apparently killed buffalo here, as many bones were lying about, and the frames where the hides had been stretched were yet standing. The road of the day had kept the valley, which is sometimes rich and well timbered, though the country is generally sandy. Mingled with the usual plants, a thistle (*carduus leucographus*) had for the last day or two made its appearance; and along the river bottom, *tradesantia (virginica)* and milk plant (*asclepias syriaca**) in considerable quantities.

Our march to-day had been twenty-one miles, and the astronomical observations gave us a chronometric longitude of $98^{\circ} 22' 12''$, and latitude $40^{\circ} 26' 50''$. We were moving forward at seven in the morning, and in about five miles reached a fork of the Blue, where the road leaves that river, and crosses over to the Platte. No water was to be found on the dividing ridge, and the casks were filled, and the animals here allowed a short repose. The road led across a high and level prairie ridge, where were but few plants, and those principally thistle (*carduus leucographus*), and a kind of

* "This plant is very odoriferous, and in Canada charms the traveller, especially when passing through woods in the evening. The French there eat the tender shoots in the spring, as we do asparagus. The natives make a sugar of the flowers, gathering them in the morning when they are covered with dew, and collect the cotton from the pods to fill their beds. On account of the silkiness of this cotton, Parkinson calls the plant Virginian silk."—*Loudon's Encyclopædia of Plants.*

The Sioux Indians of the Upper Platte eat the young pods of this plant, boiling them with the meat of the buffalo.

dwarf artemisia. Antelope were seen frequently during the morning, which was very stormy. Squalls of rain, with thunder and lightning, were around us in every direction; and while we were enveloped in one of them, a flash, which seemed to scorch our eyes as it passed, struck in the prairie within a few hundred feet, sending up a column of dust.

Crossing on the way several Pawnee roads to the Arkansas, we reached, in about 21 miles from our halt on the Blue, what is called the coast of the Nebraska, or Platte river. This had seemed in the distance a range of high and broken hills; but on a nearer approach were found to be elevations of 40 to 60 feet, into which the wind had worked the sand. They were covered with the usual fine grasses of the country, and bordered the eastern side of the ridge on a breadth of about two miles. Change of soil and country appeared here to have produced some change in the vegetation. *Cacti* were numerous, and all the plants of the region appeared to flourish among the warm hills. Among them the *amorpha*, in full bloom, was remarkable for its large and luxuriant purple clusters. From the foot of the coast, a distance of two miles across the level bottom, brought us to our encampment on the shore of the river, about 20 miles below the head of Grand Island, which lay extended before us, covered with dense and heavy woods. From the mouth of the Kansas, according to our reckoning, we had travelled 328 miles; and the geological formation of the country we had passed over consisted of lime and sandstone, covered by the same erratic deposit of sand and gravel which forms the surface rock of the prairies between the Missouri and Mississippi rivers. Except in some occasional limestone boulders, I had met with no fossils. The elevation of the Platte valley above the sea is here about two thousand feet. The astronomical observations of the night placed us in longitude $98^{\circ} 45' 40''$, latitude $40^{\circ} 41' 06''$.

June 27.—The animals were somewhat fatigued by their march of yesterday, and, after a short journey of 18 miles along the river bottom, I encamped near the head of Grand Island, in longitude, by observation, $99^{\circ} 05' 24''$, latitude $40^{\circ} 39' 32''$. The soil here was light but rich, though in some places rather sandy; and, with the exception of a scattered fringe along the bank, the timber, consisting principally of poplar (*populus monilifera*), elm, and hackberry (*celtis crassifolia*), is confined almost entirely to the islands.

June 28.—We halted to noon at an open reach of the river, which occupies rather more than a fourth of the valley, here only about four miles broad. The camp had been disposed with the usual precaution, the horses grazing at a little distance, attended by the guard, and we were all sitting quietly at our dinner on the grass, when suddenly we heard the startling cry "*du monde!*" In an instant, every man's weapon was in his hand, the horses were driven in, hobbled and picketed, and horsemen were galloping at

full speed in the direction of the new comers, screaming and yelling with the wildest excitement. "Get ready, my lads!" said the leader of the approaching party to his men, when our wild-looking horsemen were discovered bearing down upon them; "*Nous allons attrapper des coups de baguette.*" They proved to be a small party of fourteen, under the charge of a man named John Lee, and, with their baggage and provisions strapped to their backs, were making their way on foot to the frontier. A brief account of their fortunes will give some idea of navigation in the Nebraska. Sixty days since, they had left the mouth of Laramie's Fork, some 300 miles above, in barges laden with the furs of the American Fur Company. They started with the annual flood, and, drawing but nine inches water, hoped to make a speedy and prosperous voyage to St. Louis; but, after a lapse of forty days, found themselves only 130 miles from their point of departure. They came down rapidly as far as Scott's bluffs, where their difficulties began. Sometimes they came upon places where the water was spread over a great extent, and here they toiled from morning until night, endeavouring to drag their boat through the sands, making only two or three miles in as many days. Sometimes they would enter an arm of the river, where there appeared a fine channel, and, after descending prosperously for eight or ten miles, would come suddenly upon dry sands, and be compelled to return, dragging their boats for days against the rapid current; and at others, they came upon places where the water lay in holes, and, getting out to float off their boat, would fall into water up to their necks, and the next moment tumble over against a sand bar. Discouraged, at length, and finding the Platte growing every day more shallow, they discharged the principal part of their cargoes 130 miles below Fort Laramie, which they secured as well as possible, and, leaving a few men to guard them, attempted to continue their voyage, laden with some light furs and their personal baggage. After 15 or 20 days more struggling in the sands, during which they made but 140 miles, they sunk their barges, made a *cache* of their remaining furs and property in trees on the bank, and, packing on his back what each man could carry, had commenced, the day before we encountered them their journey on foot to St. Louis.

We laughed then at their forlorn and vagabond appearance, and in our turn, a month or two afterwards, furnished the same occasion for merriment to others. Even their stock of tobacco, that *sine qua non* of a *voyageur*, without which the night-fire is gloomy, was entirely exhausted. However, we shortened their homeward journey by a small supply from our own provision. They gave us the welcome intelligence that the buffalo were abundant some two days' march in advance, and made us a present of some choice pieces, which were a very acceptable change from our salt pork. In the interchange of news, and the renewal of old acquaintanceship, we found wherewithal to fill a busy hour; then

we mounted our horses, and they shouldered their packs, and we shook hands and parted. Among them, I had found an old companion on the northern prairie, a hardened and hardly-served veteran of the mountains, who had been as much hacked and scarred as an old *moustache* of Napoleon's "Old Guard." He flourished in the sobriquet of La Tulipe, and his real name I never knew. Finding that he was going to the States only because his company was bound in that direction, and that he was rather more willing to return with me, I took him again into my service. We travelled this day but 17 miles.

At our evening camp, about sunset, three figures were discovered approaching, which our glasses made out to be Indians. They proved to be Cheyennes—two men, and a boy of thirteen. About a month since, they had left their people on the south fork of the river, some 300 miles to the westward, and a party of only four in number had been to the Pawnee villages on a horse-stealing excursion, from which they were returning unsuccessful. They were miserably mounted on wild horses from the Arkansas plains, and had no other weapons than bows and long spears; and, had they been discovered by the Pawnees, could not, by any possibility, have escaped. They were mortified by their ill success, and said the Pawnees were cowards, who shut up their horses in their lodges at night. I invited them to supper with me, and Randolph and the young Cheyenne, who had been eyeing each other suspiciously and curiously, soon became intimate friends. After supper, we sat down on the grass, and I placed a sheet of paper between us, on which they traced rudely, but with a certain degree of relative truth, the watercourses of the country which lay between us and their villages, and of which I desired to have some information. Their companions, they told us, had taken a nearer route over the hills; but they had mounted one of the summits to spy out the country, whence they had caught a glimpse of our party, and, confident of good treatment at the hands of the whites, hastened to join company. Latitude of the camp 40° 39' 51".

We made the next morning 16 miles. I remarked that the ground was covered in many places with an efflorescence of salt, and the plants were not numerous. In the bottoms was frequently seen *tradescantia*, and on the dry lanches were *carduus*, *cactus*, and *amorpha*. A high wind during the morning had increased to a violent gale from the north-west, which made our afternoon ride cold and unpleasant. We had the welcome sight of two buffaloes on one of the large islands, and encamped at a clump of timber about seven miles from our noon halt, after a day's march of 22 miles.

The air was keen the next morning at sunrise, the thermometer standing at 44°, and it was sufficiently cold to make overcoats very comfortable. A few miles brought us into the midst of the buffalo, swarming in immense numbers over the plains, where they had

left scarcely a blade of grass standing. Mr. Preuss, who was sketching at a little distance in the rear, had at first noted them as large groves of timber. In the sight of such a mass of life, the traveller feels a strange emotion of grandeur. We had heard from a distance a dull and confused murmuring, and, when we came in view of their dark masses, there was not one among us who did not feel his heart beat quicker. It was the early part of the day, when the herds are feeding; and everywhere they were in motion. Here and there a huge old bull was rolling in the grass, and clouds of dust rose in the air from various parts of the bands, each the scene of some obstinate fight. Indians and buffalo make the poetry and life of the prairie, and our camp was full of their exhilaration. In place of the quiet monotony of the march, relieved only by the cracking of the whip, and an "*Avance donc! enfant de garce!*" shouts and songs resounded from every part of the line, and our evening camp was always the commencement of a feast, which terminated only with our departure on the following morning. At any time of the night might be seen pieces of the most delicate and choicest meat, roasting *en appolas*, on sticks around the fire, and the guard were never without company. With pleasant weather and no enemy to fear, an abundance of the most excellent meat, and no scarcity of bread or tobacco, they were enjoying the oasis of a voyageur's life. Three cows were killed to-day. Kit Carson had shot one, and was continuing the chase in the midst of another herd, when his horse fell headlong, but sprang up and joined the flying band. Though considerably hurt, he had the good fortune to break no bones; and Maxwell, who was mounted on a fleet hunter, captured the runaway after a hard chase. He was on the point of shooting him, to avoid the loss of his bridle (a handsomely mounted Spanish one), when he found that his horse was able to come up with him. Animals are frequently lost in this way; and it is necessary to keep close watch over them, in the vicinity of the buffalo, in the midst of which they scour off to the plains, and are rarely retaken. One of our mules took a sudden freak into his head, and joined a neighbouring band to-day. As we were not in a condition to lose horses, I sent several men in pursuit, and remained in camp, in the hope of recovering him; but lost the afternoon to no purpose, as we did not see him again. Astronomical observations placed us in longitude $100^{\circ} 05' 47''$, latitude $40^{\circ} 49' 55''$.

July 1.—Along our road to-day the prairie bottom was more elevated and dry, and the hills which border the right side of the river higher, and more broken and picturesque in the outline. The country, too, was better timbered. As we were riding quietly along the bank, a grand herd of buffalo, some 700 or 800 in number, came crowding up from the river, where they had been to drink, and commenced crossing the plain slowly, eating as they

went. The wind was favourable ; the coolness of the morning invited to exercise ; the ground was apparently good, and the distance across the prairie (two or three miles) gave us a fine opportunity to charge them before they could get among the river hills. It was too fine a prospect for a chase to be lost ; and, halting for a few moments, the hunters were brought up and saddled, and Kit Carson, Maxwell, and I, started together. They were now somewhat less than half a mile distant, and we rode easily along until within about 300 yards, when a sudden agitation, a wavering in the band, and a galloping to and fro of some which were scattered along the skirts, gave us the intimation that we were discovered. We started together at a hand gallop, riding steadily abreast of each other, and here the interest of the chase became so engrossingly intense, that we were sensible to nothing else. We were now closing upon them rapidly, and the front of the mass was already in rapid motion for the hills, and in a few seconds the movement had communicated itself to the whole herd.

A crowd of bulls, as usual, brought up the rear, and every now and then some of them faced about, and then dashed on after the band a short distance, and turned and looked again, as if more than half inclined to stand and fight. In a few moments, however, during which we had been quickening our pace, the rout was universal, and we were going over the ground like a hurricane. When at about 30 yards, we gave the usual shout (the hunter's *pas de charge*), and broke into the herd. We entered on the side, the mass giving way in every direction in their heedless course. Many of the bulls, less active and less fleet than the cows, paying no attention to the ground, and occupied solely with the hunter, were precipitated to the earth with great force, rolling over and over with the violence of the shock, and hardly distinguishable in the dust. We separated on entering, each singling out his game.

My horse was a trained hunter, famous in the west under the name of Proveau, and, with his eyes flashing, and the foam flying from his mouth, sprang on after the cow like a tiger. In a few moments he brought me alongside of her, and, rising in the stirrups, I fired at the distance of a yard, the ball entering at the termination of the long hair, and passing near the heart. She fell headlong at the report of the gun, and, checking my horse, I looked around for my companions. At a little distance Kit was on the ground, engaged in tying his horse to the horns of a cow which he was preparing to cut up. Among the scattered bands, at some distance below, I caught a glimpse of Maxwell ; and, while I was looking, a light wreath of white smoke curled away from his gun, from which I was too far to hear the report. Nearer, and between me and the hills, towards which they were directing their course, was the body of the herd, and, giving my horse the rein, we dashed after them. A thick cloud of dust hung upon their rear, which filled my mouth and eyes, and nearly smothered me. In the midst

of this I could see nothing, and the buffalo were not distinguishable until within 30 feet. They crowded together more densely still as I came upon them, and rushed along in such a compact body, that I could not obtain an entrance—the horse almost leaping upon them. In a few moments the mass divided to the right and left, the horns clattering with a noise heard above everything else, and my horse darted into the opening. Five or six bulls charged on us as we dashed along the line, but were left far behind; and, singling out a cow, I gave her my fire, but struck too high. She gave a tremendous leap, and scoured on swifter than before. I reined up my horse, and the band swept on like a torrent, and left the place quiet and clear. Our chase had led us into dangerous ground. A prairie-dog village, so thickly settled that there were three or four holes in every 20 yards square, occupied the whole bottom for nearly two miles in length. Looking around, I saw only one of the hunters, nearly out of sight, and the long dark line of our caravan crawling along, three or four miles distant. After a march of 24 miles, we encamped at nightfall, one mile and a half above the lower end of Brady's Island. The breadth of this arm of the river was 880 yards, and the water nowhere two feet in depth. The island bears the name of a man killed on this spot some years ago. His party had encamped here, three in company, and one of the number went off to hunt, leaving Brady and his companion together. These two had frequently quarrelled, and on the hunter's return he found Brady dead, and was told that he had shot himself accidentally. He was buried here on the bank; but, as usual, the wolves had torn him out, and some human bones that were lying on the ground we supposed were his. Troops of wolves, that were hanging on the skirts of the buffalo, kept up an uninterrupted howling during the night, venturing almost into camp. In the morning, they were sitting at a short distance, barking, and impatiently waiting our departure, to fall upon the bones.

July 2.—The morning was cool and smoky. Our road led closer to the hills, which here increased in elevation, presenting an outline of conical peaks 300 to 500 feet high. Some timber, apparently pine, grows in the ravines, and streaks of clay or sand whiten their slopes. We crossed during the morning a number of hollows, timbered principally with box, elder (*acer negundo*), poplar, and elm. Brady's island is well wooded, and all the river along which our road led to-day may, in general, be called tolerably well timbered. We passed near an encampment of Oregon emigrants, where they appeared to have reposed several days. A variety of household articles were scattered about, and they had probably disburdened themselves here of many things not absolutely necessary. I had left the usual road before the mid-day halt, and in the afternoon, having sent several men in advance to reconnoitre, marched directly for the mouth of the South fork. On our arrival, the horsemen were sent

in and scattered about the river to search the best fording places, and the carts followed immediately. The stream is here divided by an island into two channels. The southern is 450 feet wide, having 18 or 20 inches' water in the deepest places. With the exception of a few dry bars, the bed of the river is generally quicksands, in which the carts began to sink rapidly so soon as the mules halted, so that it was necessary to keep them constantly in motion.

The northern channel, 2,250 feet wide, was somewhat deeper, having frequently three feet water in the numerous small channels, with a bed of coarse gravel. The whole breadth of the Nebraska, immediately below the junction, is 5,350 feet. All our equipage had reached the left bank safely at six o'clock, having to-day made 20 miles. We encamped at the point of land immediately at the junction of the North and South forks. Between the streams is a low rich prairie, extending from their confluence 18 miles westwardly to the bordering hills, where it is $5\frac{1}{2}$ miles wide. It is covered with a luxuriant growth of grass, and along the banks is a slight and scattered fringe of cotton-wood and willow. In the buffalo trails and wallows, I remarked saline efflorescences, to which a rapid evaporation in the great heat of the sun probably contributes, as the soil is entirely unprotected by timber. In the vicinity of these places there was a bluish grass, which the cattle refuse to eat, called by the voyageurs "*herbe salée*" (salt grass). The latitude of the junction is $41^{\circ} 04' 47''$, and longitude, by chronometer and lunar distances, $100^{\circ} 49' 43''$. The elevation above the sea is about 2,700 feet. The hunters came in with a fat cow; and, as we had laboured hard, we enjoyed well a supper of roasted ribs and *boudins*, the *chef-d'œuvre* of a prairie cook. Mosquitoes thronged about us this evening; but, by 10 o'clock, when the thermometer had fallen to 47° , they had all disappeared.

July 3.—As this was to be a point in our homeward journey, I made a *cache* (a term used in all this country for what is hidden in the ground) of a barrel of pork. It was impossible to conceal such a proceeding from the sharp eyes of our Cheyenne companions, and I therefore told them to go and see what it was they were burying. They would otherwise have not failed to return and destroy our *cache* in expectation of some rich booty; but pork they dislike, and never eat. We left our camp at nine, continuing up the South fork, the prairie bottom affording us a fair road; but in the long grass we roused myriads of mosquitoes and flies, from which our horses suffered severely. The day was smoky, with a pleasant breeze from the south, and the plains on the opposite side were covered with buffalo. Having travelled 25 miles, we encamped at six in the evening; and the men were sent across the river for wood, as there is none here on the left bank. Our fires were partially made of the *bois de vache*, the dry excrement of the buffalo,

which, like that of the camel in the Arabian deserts, furnishes to the traveller a very good substitute for wood, burning like turf. Wolves in great numbers surrounded us during the night, crossing and re-crossing from the opposite herds to our camp, and howling and trotting about in the river until morning.

July 4.—The morning was very smoky, the sun shining dimly and red, as in a thick fog. The camp was roused with a salute at daybreak, and from our scanty store a portion of what our Indian friends called the "red fire water" served out to the men. While we were at breakfast, a buffalo calf broke through the camp, followed by a couple of wolves. In its fright, it had probably mistaken us for a band of buffalo. The wolves were obliged to make a circuit around the camp, so that the calf got a little the start, and strained every nerve to reach a large herd at the foot of the hills, about two miles distant; but first one, and then another, and another wolf joined in the chase, until his pursuers amounted to 20 or 30, and they ran him down before he could reach his friends. There were a few bulls near the place, and one of them attacked the wolves, and tried to rescue him; but was driven off immediately, and the little animal fell an easy prey, half devoured before he was dead. We watched the chase with the interest always felt for the weak; and had there been a saddled horse at hand, he would have fared better. Leaving camp, our road soon approached the hills, in which strata of a marl like that of the Chimney rock, hereafter described, make their appearance. It is probably of this rock that the hills on the right bank of the Platte, a little below the junction, are composed, and which are worked by the winds and rains into sharp peaks and cones, giving them, in contrast to the surrounding level region, something of a picturesque appearance. We crossed this morning numerous beds of the small creeks, which in the time of rains and melting snow pour down from the ridge, bringing down with them always great quantities of sand and gravel, which have gradually raised their beds 4 to 10 feet above the level of the prairie, which they cross, making each one of them a miniature Po. Raised in this way above the surrounding prairie, without any bank, the long yellow and winding line of their beds resembles a causeway from the hills to the river. Many spots on the prairie are yellow with sunflower (*helianthus*).

As we were riding slowly along this afternoon, clouds of dust in the ravines, among the hills to the right, suddenly attracted our attention, and in a few minutes column after column of buffalo came galloping down, making directly to the river. By the time the leading herds had reached the water, the prairie was darkened with the dense masses. Immediately before us, when the bands first came down into the valley, stretched an unbroken line, the head of which was lost among the river hills on the opposite side; and still they poured down from the ridge on our right. From

hill to hill the prairie bottom was certainly not less than two miles wide; and, allowing the animals to be 10 feet apart, and only 10 in a line, there were already 11,000 in view. Some idea may thus be formed of their number, when they had occupied the whole plain. In a short time they surrounded us on every side; extending for several miles in the rear, and forward as far as the eye could reach; leaving around us, as we advanced, an open space of only two or three hundred yards. This movement of the buffalo indicated to us the presence of Indians on the North fork.

I halted earlier than usual, about 40 miles from the junction, and all hands were soon busily engaged in preparing a feast to celebrate the day. The kindness of our friends at St. Louis had provided us with a large supply of excellent preserves, and rich fruit-cake; and when these were added to a macaroni soup, and variously prepared dishes of the choicest buffalo meat, crowned with a cup of coffee, and enjoyed with prairie appetite, we felt, as we sat in barbaric luxury around our smoking supper on the grass, a greater sensation of enjoyment than the Roman epicure at his perfumed feast. But most of all it seemed to please our Indian friends, who, in the unrestrained enjoyment of the moment, demanded to know if our "medicine days came often." No restraint was exercised at the hospitable board, and, to the great delight of his elders, our young Indian lad made himself extremely drunk.

Our encampment was within a few miles of the place where the road crosses to the North fork, and various reasons led me to divide my party at this point. The North fork was the principal object of my survey; but I was desirous to ascend the south branch, with a view of obtaining some astronomical positions and determining the mouths of its tributaries as far as St. Vrain's Fort, estimated to be some 200 miles further up the river, and near to Long's Peak. There I hoped to obtain some mules, which I found would be necessary to relieve my horses. In a military point of view, I was desirous to form some opinion of the country relative to the establishment of posts on a line connecting the settlements with the south pass of the Rocky Mountains, by way of the Arkansas and the south and Laramie forks of the Platte. Crossing the country north-westwardly from St. Vrain's Fort to the American Company's fort at the mouth of Laramie, would give me some acquaintance with the affluents which head in the mountains between the two; I therefore determined to set out the next morning, accompanied by Mr. Preuss and four men—Maxwell, Bernier, Ayot, and Basil Lajeunesse. Our Cheyennes, whose village lay up this river, also decided to accompany us. The party I left in charge of Clément Lambert, with orders to cross to the North fork, and at some convenient place near to the *Coulée des Frenes* make a *cache* of everything not absolutely necessary to the further progress of our expedition. From this point, using the

most guarded precaution in his march through the country, he was to proceed to the American Company's fort at the mouth of Laramie's fork, and await my arrival, which would be prior to the 16th, as on that and the following night would occur some occultations which I was desirous to obtain at that place.

July 5.—Before breakfast all was ready. We had one led horse in addition to those we rode, and a packed mule, destined to carry our instruments, provisions, and baggage; the last two articles not being of very great weight. The instruments consisted of a sextant, artificial horizon, &c., a barometer, spy-glass, and compass; the chronometer I of course kept on my person. I had ordered the cook to put up for us some flour, coffee, and sugar; and our rifles were to furnish the rest. One blanket, in addition to his saddle and saddle-blanket, furnished the materials for each man's bed; and every one was provided with a change of linen. All were armed with rifles or double-barrelled guns; and, in addition to these, Maxwell and myself were furnished with excellent pistols. Thus accoutred, we took a parting breakfast with our friends and set forth.

Our journey the first day afforded nothing of any interest. We shot a buffalo toward sunset, and having obtained some meat for our evening meal, encamped where a little timber afforded us the means of making a fire. Having disposed our meat on roasting sticks, we proceeded to unpack our bales in search of coffee and sugar, and flour for bread; with the exception of a little parched coffee, unground, we found nothing—our cook had neglected to put it up, or it had been somehow forgotten. Tired and hungry, with tough bull-meat without salt (for we had not been able to kill a cow), and a little bitter coffee, we sat down in silence to our miserable fare, a very disconsolate party; for yesterday's feast was yet fresh in our memories, and this was our first brush with misfortune. Each man took his blanket, and laid himself down silently; for the worst part of these mishaps is that they make people ill-humoured. To-day we had travelled about 36 miles.

July 6.—Finding that our present excursion would be attended with considerable hardship, and unwilling to expose more persons than necessary, I determined to send Mr. Preuss back to the party. His horse, too, appeared in no condition to support the journey; and accordingly, after breakfast, he took the road across the hills, attended by one of my most trusty men, Bernier. The ridge between the rivers is here about 15 miles broad, and I expected he would probably strike the fork near their evening camp; at all events, he would not fail to find their trail, and rejoin them the next day.

We continued our journey, seven in number, including the three Cheyennes. Our general course was south-west, up the valley of the river, which was sandy, bordered on the northern side of the valley by a low ridge; and on the south, after seven or eight miles,

the river hills became higher. Six miles from our resting-place we crossed the bed of a considerable stream, now entirely dry—a bed of sand. In a grove of willows near the mouth were the remains of a considerable fort, constructed of trunks of large trees; it was apparently very old, and had probably been the scene of some hostile encounter among the roving tribes. Its solitude formed an impressive contrast to the picture which our imaginations involuntarily drew of the busy scene which had been enacted here. The timber appeared to have been much more extensive formerly than now: there were but few trees, a kind of long-leaved willow, standing; and numerous trunks of large trees were scattered about on the ground. In many similar places I had occasion to remark an apparent progressive decay in the timber. Ten miles farther we reached the mouth of Lodge Pole Creek, a clear and handsome stream, running through a broad valley. In its course through the bottom it has a uniform breadth of 22 feet, and 6 inches in depth. A few willows on the banks strike pleasantly on the eye, by their greenness, in the midst of the hot and barren sands.

The *amorpha* was frequent among the ravines, but the sunflower (*helianthus*) was the characteristic; and flowers of deep warm colours seem most to love the sandy soil. The impression of the country travelled over to-day was one of dry and barren sands. We turned in towards the river at noon, and gave our horses two hours for food and rest. I had no other thermometer than the one attached to the barometer, which stood at 89°, the height of the column in the barometer being 26·235 at meridian. The sky was clear, with a high wind from the south. At two we continued our journey: the wind had moderated, and it became almost unendurably hot, and our animals suffered severely. In the course of the afternoon the wind rose suddenly and blew hard from the south-west, with thunder and lightning, and squalls of rain; these were blown against us with violence by the wind, and, halting, we turned our backs to the storm until it blew over. Antelope were tolerably frequent, with a large grey hare; but the former were shy and the latter hardly worth the delay of stopping to shoot them, so, as the evening drew near, we again had recourse to an old bull, and encamped at sunset on an island in the Platte.

We ate our meat with a good relish this evening, for we were all in fine health, and had ridden nearly all of a long summer's day, with a burning sun reflected from the sands. My companions slept rolled up in their blankets, and the Indians lay in the grass near the fire; but my sleeping-place generally had an air of more pretension. Our rifles were tied together near the muzzles, the butts resting on the ground, and a knife laid on the rope, to cut away in case of an alarm; over this, which made a kind of frame, was thrown a large India-rubber cloth, which we used to cover our packs: this made a tent sufficiently large to receive about half of

my bed, and was a place of shelter for my instruments; and as I was careful always to put this part against the wind, I could lie here with a sensation of satisfied enjoyment, and hear the wind blow and the rain patter close to my head, and know that I should be at least half dry. Certainly I never slept more soundly. The barometer at sunset was 26·010, thermometer 81°, and cloudy; but a gale from the west sprung up with the setting sun, and in a few minutes swept away every cloud from the sky. The evening was very fine, and I remained up to take some astronomical observations, which made our position in latitude 40° 51' 17", and longitude 103° 07' 00".

July 7.—At our camp this morning, at six o'clock, the barometer was at 26·183, thermometer 69°, and clear, with a light wind from the south-west. The past night had been squally, with high winds, and occasionally a few drops of rain. Our cooking did not occupy much time, and we left camp early. Nothing of interest occurred during the morning; the same dreary barrenness, except that a hard marly clay had replaced the sandy soil. Buffalo absolutely covered the plain on both sides the river, and whenever we ascended the hills, scattered herds gave life to the view in every direction. A small drove of wild horses made their appearance on the low river bottoms a mile or two to the left, and I sent off one of the Indians (who seemed very eager to catch one) on my led horse, a spirited and fleet animal. The savage manoeuvred a little to get the wind of the horses, in which he succeeded—approaching within a hundred yards without being discovered. The chase for a few minutes was interesting; my hunter easily overtook and passed the hindmost of the wild drove, which the Indian did not attempt to *lasso*, all his efforts being directed to the capture of the leader; but the strength of the horse, weakened by the insufficient nourishment of grass, failed in a race, and all the drove escaped. We halted at noon on the bank of the river, the barometer at that time being 26·192, and the thermometer 103°, with a light air from the south, and clear weather.

In the course of the afternoon, dust rising among the hills at a particular place attracted our attention, and riding up, we found a band of 18 or 20 buffalo bulls engaged in a desperate fight. Though butting and goring were bestowed liberally, and without distinction, yet their efforts were evidently directed against one—a huge gaunt old bull, very lean, while his adversaries were all fat and in good order. He appeared very weak, and had already received some wounds, and while we were looking on was several times knocked down and badly hurt, and a very few moments would have put an end to him. Of course we took the side of the weaker party, and attacked the herd; but they were so blind with rage, that they fought on, utterly regardless of our presence, although on foot and on horseback we were firing in open view within 20 yards of them. But this did not last long. In a very

few seconds we created a commotion among them: one or two, which were knocked over by the balls, jumped up and ran off into the hills, and they began to retreat slowly along a broad ravine to the river, fighting furiously as they went; by the time they had reached the bottom, we had pretty well dispersed them, and the old bull hobbled off to lie down somewhere. One of his enemies remained on the ground where we had first fired upon them, and we stopped there for a short time to cut from him some meat for our supper. We had neglected to secure our horses, thinking it an unnecessary precaution in their fatigued condition; but our mule took it into his head to start, and away he went, followed at full speed by the pack-horse, with all the baggage and instruments on his back. They were recovered and brought back, after a chase of a mile. Fortunately, everything was well secured, so that nothing, not even the barometer, was in the least injured.

The sun was getting low, and some narrow lines of timber four or five miles distant promised us a pleasant camp, where, with plenty of wood for fire, and comfortable shelter, and rich grass for our animals, we should find clear cool springs, instead of the warm water of the Platte. On our arrival, we found the bed of a stream 50 to 100 feet wide, sunk some 30 feet below the level of the prairie, with perpendicular banks, bordered by a fringe of green cotton-wood, but not a drop of water. There were several small forks to the stream, all in the same condition. With the exception of the Platte bottom, the country seemed to be of a clay formation, dry, and perfectly devoid of any moisture, and baked hard by the sun. Turning off towards the river, we reached the bank in about a mile, and were delighted to find an old tree, with thick foliage and spreading branches, where we encamped. At sunset, the barometer was at 25.950, thermometer 81°, with a strong wind from S. 20° E., and the sky partially covered with heavy masses of cloud, which settled a little towards the horizon by 10 o'clock, leaving it sufficiently clear for astronomical observations, which placed us in latitude 40° 33' 26", and longitude 103° 30' 37".

July 8.—The morning was very pleasant. The breeze was fresh from S. 50° E. with few clouds; the barometer at 6 o'clock standing at 25.970, and the thermometer at 70°. Since leaving the forks, our route had passed over a country alternately clay and sand, each presenting the same naked waste. On leaving camp this morning, we struck again a sandy region, in which the vegetation appeared somewhat more vigorous than that which we had observed for the last few days; and on the opposite side of the river were some tolerably large groves of timber.

Journeying along, we came suddenly upon a place where the ground was covered with horses' tracks, which had been made since the rain, and indicated the immediate presence of Indians

in our neighbourhood. The buffalo, too, which the day before had been so numerous, were nowhere in sight—another sure indication that there were people near. Riding on, we discovered the carcass of a buffalo recently killed—perhaps the day before. We scanned the horizon carefully with the glass, but no living object was to be seen. For the next mile or two, the ground was dotted with buffalo carcasses, which showed that the Indians had made a surround here, and were in considerable force. We went on quickly and cautiously, keeping the river bottom, and carefully avoiding the hills; but we met with no interruption, and began to grow careless again. We had already lost one of our horses, and here Basil's mule showed symptoms of giving out, and finally refused to advance, being what the Canadians call *resté*. He therefore dismounted, and drove her along before him; but this was a very slow way of travelling. We had inadvertently got about half a mile in advance, but our Cheyennes, who were generally a mile or two in the rear, remained with him. There were some dark-looking objects among the hills, about two miles to the left, here low and undulating, which we had seen for a little time, and supposed to be buffalo coming in to water; but, happening to look behind, Maxwell saw the Cheyennes whipping up furiously, and another glance at the dark objects showed them at once to be Indians coming up at full speed.

Had we been well mounted, and disencumbered of instruments, we might have set them at defiance; but as it was, we were fairly caught. It was too late to rejoin our friends, and we endeavoured to gain a clump of timber about half a mile ahead; but the instruments, and the tired state of our horses, did not allow us to go faster than a steady canter, and they were gaining on us fast. At first, they did not appear to be more than 15 or 20 in number, but group after group darted into view at the top of the hills, until all the little eminences seemed in motion, and, in a few minutes from the time they were first discovered, 200 to 300, naked to the breech cloth, were sweeping across the prairie. In a few hundred yards we discovered that the timber we were endeavouring to make was on the opposite side of the river; and before we could reach the bank, down came the Indians upon us.

I am inclined to think that in a few seconds more the leading man, and perhaps some of his companions, would have rolled in the dust; for we had jerked the covers from our guns, and our fingers were on the triggers. Men in such cases generally act from instinct, and a charge from 300 naked savages is a circumstance not well calculated to promote a cool exercise of judgment. Just as he was about to fire, Maxwell recognized the leading Indian, and shouted to him in the Indian language, "You're a fool, G— damn you, don't you know me?" The sound of his own language seemed to shock the savage, and, swerving his horse a little, he passed us like an arrow. He wheeled, as I rode

out toward him, and gave me his hand, striking his breast and exclaiming "Arapahó!" They proved to be a village of that nation, among whom Maxwell had resided as a trader a year or two previously, and recognized him accordingly. We were soon in the midst of the band, answering as well as we could a multitude of questions; of which the very first was, of what tribe were our Indian companions who were coming in the rear. They seemed disappointed to know that they were Cheyennes, for they had fully anticipated a grand dance around a Pawnee scalp that night.

The chief showed us his village, at a grove on the river six miles ahead, and pointed out a band of buffalo on the other side of the Platte, immediately opposite us, which he said they were going to surround. They had seen the band early in the morning from their village, and had been making a large circuit, to avoid giving them the wind, when they discovered us. In a few minutes the women came galloping up, astride on their horses, and naked from their knees down, and the hips up. They followed the men, to assist in cutting up and carrying off the meat.

The wind was blowing directly across the river, and the chief requested us to halt where we were for awhile, in order to avoid raising the herd. We therefore unsaddled our horses, and sat down on the bank to view the scene; and our new acquaintances rode a few hundred yards lower down, and began crossing the river. Scores of wild-looking dogs followed, looking like troops of wolves, and having, in fact, but very little of the dog in their composition. Some of them remained with us, and I checked one of the men, whom I found aiming at one, which he was about to kill for a wolf. The day had become very hot. The air was clear, with a very slight breeze; and now, at 12 o'clock, while the barometer stood at 25.920, the attached thermometer was at 108°. Our Cheyennes had learned that with the Arapaho village were about 20 lodges of their own, including their own families; they, therefore, immediately commenced making their toilette. After bathing in the river, they invested themselves in some handsome calico shirts, which I afterwards learned they had stolen from my own men, and spent some time in arranging their hair and painting themselves with some vermilion I had given them. While they were engaged in this satisfactory manner, one of their half-wild horses, to which the crowd of prancing animals which had just passed had recalled the freedom of her existence among the wild droves on the prairie, suddenly dashed into the hills at the top of her speed. She was their pack horse, and had on her back all the worldly wealth of our poor Cheyennes, all their accoutrements, and all the little articles which they had picked up among us, with some few presents I had given them. The loss which they seemed to regret most were their spears and shields, and some tobacco which they had received from me. However, they bore it all with

the philosophy of an Indian, and laughingly continued their toilette. They appeared, however, a little mortified at the thought of returning to the village in such a sorry plight. "Our people will laugh at us," said one of them, "returning to the village on foot, instead of driving back a drove of Pawnee horses." He demanded to know if I loved my sorrel hunter very much; to which I replied, he was the object of my most intense affection. Far from being able to give, I was myself in want of horses; and any suggestion of parting with the few I had valuable was met with a peremptory refusal. In the meantime, the slaughter was about to commence on the other side. So soon as they reached it, the Indians separated into two bodies. One party proceeded directly across the prairie, towards the hills, in an extended line, while the other went up the river; and instantly as they had given the wind to the herd, the chase commenced. The buffalo started for the hills, but were intercepted and driven back toward the river, broken and running in every direction. The clouds of dust soon covered the whole scene, preventing us from having any but an occasional view. It had a very singular appearance to us at a distance, especially when looking with the glass. We were too far to hear the report of the guns, or any sound; and at every instant, through the clouds of dust, which the sun made luminous, we could see for a moment two or three buffalo dashing along, and close behind them an Indian with his long spear, or other weapon, and instantly again they disappeared. The apparent silence, and the dimly seen figures flitting by with such rapidity, gave it a kind of dreamy effect, and seemed more like a picture than a scene of real life. It had been a large herd when the *cerne* commenced, probably 300 or 400 in number; but though I watched them closely, I did not see one emerge from the fatal cloud where the work of destruction was going on. After remaining here about an hour, we resumed our journey in the direction of the village.

Gradually, as we rode on, Indian after Indian came dropping along, laden with meat; and by the time we had neared the lodges, the backward road was covered with the returning horsemen. It was a pleasant contrast with the desert road we had been travelling. Several had joined company with us, and one of the chiefs invited us to his lodge. The village consisted of about 125 lodges, of which 20 were Cheyennes; the latter pitched a little apart from the Arapahoës. They were disposed in a scattering manner on both sides of a broad irregular street, about 150 feet wide; and running along the river. As we rode along, I remarked near some of the lodges a kind of tripod frame, formed of three slender poles of birch, scraped very clean, to which were affixed the shield and spear, with some other weapons of a chief. All were scrupulously clean, the spear head was burnished bright, and the shield white and stainless. It reminded me of the days of feudal chivalry; and when,

as I rode by, I yielded to the passing impulse, and touched one of the spotless shields with the muzzle of my gun, I almost expected a grim warrior to start from the lodge and resent my challenge. The master of the lodge spread out a robe for me to sit upon, and the squaws set before us a large wooden dish of buffalo meat. He had lighted his pipe in the meanwhile, and when it had been passed around, we commenced our dinner while he continued to smoke. Gradually, five or six other chiefs came in, and took their seats in silence. When we had finished, our host asked a number of questions relative to the object of our journey, of which I made no concealment; telling him simply that I had made a visit to see the country preparatory to the establishment of military posts on the way to the mountains. Although this was information of the highest interest to them, and by no means calculated to please them, it excited no expression of surprise, and in no way altered the grave courtesy of their demeanour. The others listened and smoked. I remarked that, in taking the pipe for the first time, each had turned the stem upward, with a rapid glance, as in offering to the Great Spirit, before he put it in his mouth. A storm had been gathering for the past hour, and some pattering drops on the lodge warned us that we had some miles to go to our camp. Some Indian had given Maxwell a bundle of dried meat, which was very acceptable, as we had nothing; and springing upon our horses, we rode off at dusk in the face of a cold shower and driving wind. We found our companions under some densely foliated old trees, about three miles up the river. Under one of them lay the trunk of a large cotton-wood, to leeward of which the men had kindled a fire, and we sat here and roasted our meat in tolerable shelter. Nearly opposite was the mouth of one of the most considerable affluents of the South fork, *la Fourche aux Castors* (Beaver fork), heading off in the ridge to the south east.

July 9.—This morning we caught the first faint glimpse of the Rocky Mountains, about 60 miles distant. Though a tolerably bright day, there was a slight mist, and we were just able to discern the snowy summit of "Long's peak" ("*les deux oreilles*" of the Canadians), showing like a small cloud near the horizon. I found it easily distinguishable, there being a perceptible difference in its appearance from the white clouds that were floating about the sky. I was pleased to find, that among the traders and voyageurs the name of "Long's peak" had been adopted and become familiar in the country. In the ravines near this place, a light brown sandstone made its first appearance. About 8 o'clock, we discerned several persons on horseback, a mile or two ahead, on the opposite side of the river. They turned in towards the river, and we rode down to meet them. We found them to be two white men, and a mulatto, named Jim Beckwith, who had left St. Louis when a boy, and gone to live with the Crow Indians. He had distinguished himself among them by some daring acts of bravery,

and had risen to the rank of a chief, but had now, for some years, left them. They were in search of a band of horses that had gone off from a camp some miles above, in charge of Mr. Chabonard. Two of them continued down the river, in search of the horses, and the American turned back with us, and we rode on towards the camp. About eight miles from our sleeping place we reached Bijou's fork, an affluent of the right bank. Where we crossed it, a short distance from the Platte, it has a sandy bed, about 400 yards broad; the water in various small streams, a few inches deep. Seven miles further brought us to a camp of some four or five whites (New Englanders, I believe), who had accompanied Captain Wyeth to the Columbia river, and were independent trappers. All had their squaws with them, and I was really surprised at the number of little fat buffalo-fed boys that were tumbling about the camp, all apparently of the same age, about three or four years old. They were encamped on a rich bottom, covered with a profusion of fine grass, and had a large number of fine-looking horses and mules. We rested with them a few minutes, and in about two miles arrived at Chabonard's camp, on an island in the Platte. On the heights above, we met the first Spaniard I had seen in the country. Mr. Chabonard was in the service of Bent and St. Vrain's company, and had left their fort some 40 or 50 miles above, in the spring, with boats laden with the furs of the last year's trade. He had met the same fortune as the voyageurs on the North fork, and, finding it impossible to proceed, had taken up his summer's residence on this island, which he had named St. Helena. The river hills appeared to be composed entirely of sand, and the Platte had lost the muddy character of its waters, and was here tolerably clear. From the mouth of the South fork, I had found it occasionally broken up by small islands; and at the time of our journey, which was at a season of the year when the waters were at a favourable stage, it was not navigable for anything drawing six inches water. The current was very swift; the bed of the stream a coarse gravel.

From the place at which we had encountered the Arapahoes, the Platte had been tolerably well fringed with timber, and the island here had a fine grove of very large cotton-woods, under whose broad shade the tents were pitched. There was a large drove of horses in the opposite prairie-bottom; smoke was rising from the scattered fires, and the encampment had quite a patriarchial air. Mr. C. received us hospitably. One of the people was sent to gather mint, with the aid of which he concocted very good julep; and some boiled buffalo-tongue, and coffee with the luxury of sugar, were soon set before us. The people in his employ were generally Spaniards, and among them I saw a young Spanish woman from Taos, whom I found to be Beckwith's wife.

July 10.—We parted with our hospitable host after breakfast the next morning, and reached St. Vrain's fort, about 45 miles

from St. Helena, late in the evening. This post is situated on the South fork of the Platte, immediately under the mountains, about 17 miles east of Long's peak. It is on the right bank, on the verge of the upland prairie, about 40 feet above the river, of which the immediate valley is about 600 yards wide. The stream is divided into various branches by small islands, among which it runs with a swift current. The bed of the river is sand and gravel, the water very clear, and here may be called a mountain stream. This region appears to be entirely free from the limestones and marls which give to the Lower Platte its yellow and dirty colour. The Black hills lie between the stream and the mountains, whose snowy peaks glitter a few miles beyond. At the fort we found Mr. St. Vrain, who received us with much kindness and hospitality. Maxwell had spent the last two or three years between this post and the village of Taos; and here he was at home, and among his friends. Spaniards frequently come over in search of employment; and several came in shortly after our arrival. They usually obtain about six dollars a month, generally paid to them in goods. They are very useful in a camp, in taking care of horses and mules; and I engaged one, who proved to be an active, laborious man, and was of very considerable service to me. The elevation of the Platte here is 5,400 feet above the sea. The neighbouring mountains did not appear to enter far into the region of perpetual snow, which was generally confined to the northern side of the peaks. On the southern, I remarked very little. Here it appeared, so far as I could judge in the distance, to descend but a few hundred feet below the summits.

I regretted that time did not permit me to visit them; but the proper object of my survey lay among the mountains further north; and I looked forward to an exploration of their snowy recesses with great pleasure. The piney region of the mountains to the south was enveloped in smoke, and I was informed had been on fire for several months. Pike's peak is said to be visible from this place, about 100 miles to the southward; but the smoky state of the atmosphere prevented my seeing it. The weather continued overcast during my stay here, so that I failed in determining the latitude, but obtained good observations for time on the mornings of the 11th and 12th. An assumed latitude of $40^{\circ} 22' 30''$ from the evening position of the 12th, enabled me to obtain, for a tolerably correct longitude, $105^{\circ} 12' 12''$.

July 12.—The kindness of Mr. St. Vrain had enabled me to obtain a couple of horses and three good mules; and with a further addition to our party of the Spaniard whom I had hired, and two others, who were going to obtain service at Laramie's fork, we resumed our journey at 10 o'clock on the morning of the 12th. We had been able to procure nothing at the post, in the way of provision. An expected supply from Taos had not yet arrived, and a few pounds of coffee was all that could be spared to us. In addition

to this, we had dried meat enough for the first day; on the next, we expected to find buffalo. From this post, according to the estimate of the country, the fort at the mouth of Laramie's fork, which was our next point of destination, was nearly due north, distant about 125 miles.

For a short distance, our road lay down the valley of the Platte, which resembled a garden, in the splendour of fields of varied flowers, which filled the air with fragrance. The only timber I noticed consisted of poplar, birch, cotton-wood, and willow. In something less than three miles, we crossed Thompson's creek, one of the affluents to the left bank of the South fork; a fine stream about 65 feet wide, and three feet deep. Journeying on, the low dark line of the Black hills lying between us and the mountains to the left, in about 10 miles from the fort, we reached *Cache à la Poudre*, where we halted to noon. This is a very beautiful mountain stream, about 100 feet wide, flowing with a full swift current over a rocky bed. We halted under the shade of some cotton-woods, with which the stream is wooded scatteringly. In the upper part of its course, it runs amid the wildest mountain scenery, and, breaking through the Black hills, falls into the Platte about 10 miles below this place. In the course of our late journey, I had managed to become the possessor of a very untractable mule—a perfect vixen—and her I had turned over to my Spaniard. It occupied us about half an hour to-day to get the saddle upon her; but, once on her back, José could not be dismounted, realizing the accounts given of Mexican horses and horsemanship; and we continued our route in the afternoon.

At evening, we encamped on Crow (?) creek, having travelled about 28 miles. None of the party were well acquainted with the country, and I had great difficulty in ascertaining what were the names of the streams we crossed between the North and South forks of the Platte. This I supposed to be Crow creek. It is what is called a salt stream, and the water stands in pools, having no continuous course. A fine-grained sandstone made its appearance in the banks. The observations of the night placed us in latitude $40^{\circ} 42'$, longitude $104^{\circ} 57' 49''$. The barometer at sunset was 25.231; attached thermometer at 66° . Sky clear, except in the east, with a light wind from the north.

July 13.—There being no wood here, we used last night the *bois de vache*, which is very plentiful. At our camp this morning, the barometer was at 25.235; the attached thermometer 60° . A few clouds were moving through a deep blue sky, with a light wind from the west. After a ride of 12 miles, in a northerly direction, over a plain covered with innumerable quantities of *cacti*, we reached a small creek in which there was water, and where several herds of buffalo were scattered about among the ravines, which always afford good pasturage. We seem now to be passing along the base of a plateau of the Black hills, in which the for-

mation consists of marls, some of them white and laminated; the country to the left rising suddenly, and falling off gradually and uniformly to the right. In five or six miles of a north-easterly course, we struck a high ridge, broken into conical peaks, on whose summits large boulders were gathered in heaps. The magnetic direction of the ridge is north-west and south-east, the glittering white of its precipitous sides making it visible for many miles to the south. It is composed of a soft earthy limestone and marls, resembling that, hereafter described, in the neighbourhood of the Chimney rock, on the North fork of the Platte, easily worked by the winds and rains, and sometimes moulded into very fantastic shapes. At the foot of the northern slope was the bed of a creek, some 40 feet wide, coming, by frequent falls, from the bench above. It was shut in by high perpendicular banks, in which were strata of white laminated marl. Its bed was perfectly dry, and the leading feature of the whole region is one of remarkable aridity, and perfect freedom from moisture. In about six miles we crossed the bed of another dry creek; and, continuing our ride over a high level prairie, a little before sundown we came suddenly upon a beautiful creek, which revived us with a feeling of delighted surprise by the pleasant contrast of the deep verdure of its banks with the parched desert we had passed. We had suffered much to-day, both men and horses, for want of water; having met with it but once in our uninterrupted march of 40 miles, and an exclusive meat diet creates much thirst.

"*Las bestias tienen mucha hambre,*" said the young Spaniard, inquiringly; "*y la gente tambien,*" said I, "*amigo,* we'll camp here." A stream of good and clear water ran winding about through the little valley, and a herd of buffalo were quietly feeding a little distance below. It was quite a hunter's paradise; and while some ran down toward the band to kill one for supper, others collected *bois de vache* for a fire, there being no wood; and I amused myself with hunting for plants among the grass.

It will be seen, by occasional remarks on the geological formation, that the constituents of the soil in these regions are good, and every day served to strengthen the impression in my mind, confirmed by subsequent observation, that the barren appearance of the country is due almost entirely to the extreme dryness of the climate. Along our route, the country had seemed to increase constantly in elevation. According to the indication of the barometer, we were at our encampment 5,440 feet above the sea.

The evening was very clear, with a fresh breeze from the south, 50° east. The barometer at sunset was 24.862, the thermometer attached showing 68°. I supposed this to be a fork of Lodge Pole creek, so far as I could determine from our uncertain means of information. Astronomical observations gave for the camp a longitude of 104° 39' 37", and latitude 41° 08' 31'.

July 14.—The wind continued fresh from the same quarter in

the morning; the day being clear, with the exception of a few clouds in the horizon. At our camp at six o'clock, the height of barometer was 24·830, the attached thermometer 61°. Our course this morning was directly north by compass, the variation being 15° or 16° easterly. A ride of four miles brought us to Lodge Pole creek, which we had seen at its mouth on the South fork; crossing on the way two dry streams, in 18 miles from our encampment of the past night, we reached a high bleak ridge, composed entirely of the same earthy limestone and marl previously described. I had never seen anything which impressed so strongly on my mind a feeling of desolation. The valley, through which ran the waters of Horse creek, lay in view to the north, but too far to have any influence on the immediate view. On the peak of the ridge where I was standing, some 600 or 700 feet above the river, the wind was high and bleak; the barren and arid country seemed as if it had been swept by fires, and in every direction the same dull ash-coloured hue, derived from the formation, met the eye. On the summits were some stunted pines, many of them dead, all wearing the same ashen hue of desolation. We left the place with pleasure: and, after we had descended several hundred feet, halted in one of the ravines, which, at the distance of every mile or two, cut the flanks of the ridge with little rushing streams, wearing something of a mountain character. We had already begun to exchange the comparatively barren lands for those of a more fertile character. Though the sandstone formed the broken banks of the creek, yet they were covered with a thin grass; and the 50 or 60 feet which formed the bottom land of the little stream were clothed with very luxuriant grass, among which I remarked willow and cherry (*cerasus virginiana*); and a quantity of gooseberry and currant bushes occupied the greater part.

The creek was three or four feet broad, and about six inches deep, with a swift current of clear water, and tolerably cool. We had struck it too low down to find the cold water, which we should have enjoyed nearer to its sources. At two, P.M., the barometer was at 25·050, the attached thermometer 104°. A day of hot sunshine, with clouds, and a moderate breeze from the south. Continuing down the stream, in about four miles we reached its mouth, at one of the main branches of Horse creek. Looking back upon the ridge, whose direction appeared to be a little to the north of east, we saw it seamed at frequent intervals with the dark lines of wooded streams, affluents of the river that flowed so far as we could see along its base. We crossed, in the space of 12 miles from our noon halt, three or four forks of Horse creek, and encamped at sunset on the most easterly.

The fork on which we encamped appeared to have followed an easterly direction up to this place; but here it makes a very sudden bend to the north, passing between two ranges of precipitous hills, called, as I was informed, Goshen's hole. There

is somewhere in or near this locality a place so called, but I am not certain that it was the place of our encampment. Looking back upon the spot, at the distance of a few miles to the northward, the hills appear to shut in the prairie, through which runs the creek, with a semi-circular sweep, which might very naturally be called a hole in the hills. The geological composition of the ridge is the same which constitutes the rock of the Court-house and Chimney, on the North fork, which appeared to me a continuation of this ridge. The winds and rains work this formation into a variety of singular forms. The pass into Goshen's hole is about two miles wide, and the hill on the western side imitates, in an extraordinary manner, a massive fortified place, with a remarkable fulness of detail. The rock is marl and earthy limestone, white, without the least appearance of vegetation, and much resembles masonry at a little distance; and here it sweeps around a level area 200 or 300 yards in diameter, and in the form of a half moon, terminating on either extremity in enormous bastions. Along the whole line of the parapets appear domes and slender minarets, 40 or 50 feet high, giving it every appearance of an old fortified town. On the waters of White river, where this formation exists in great extent, it presents appearances which excite the admiration of the solitary voyageur, and form a frequent theme of their conversation when speaking of the wonders of the country. Sometimes it offers the perfectly illusive appearance of a large city, with numerous streets and magnificent buildings, among which the Canadians never fail to see their *cabaret*; and sometimes it takes the form of a solitary house, with many large chambers, into which they drive their horses at night, and sleep in these natural defences perfectly secure from any attack of prowling savages. Before reaching our camp at Goshen's hole, in crossing the immense detritus at the foot of the Castle rock, we were involved amidst winding passages cut by the waters of the hill; and where, with a breadth scarcely large enough for the passage of a horse, the wall rises 30 and 40 feet perpendicularly. This formation supplies the discoloration of the Platte. At sunset, the height of the mercurial column was 25·500, the attached thermometer 80°, and wind moderate from S. 38° E. Clouds covered the sky with the rise of the moon, but I succeeded in obtaining the usual astronomical observations, which placed us in latitude 41° 40' 13", and longitude 104° 24' 36".

July 15.—At six this morning the barometer was at 25·515, the thermometer 72°; the day was fine, with some clouds looking dark on the south, with a fresh breeze from the same quarter. We found that in our journey across the country we had kept too much to the eastward. This morning, accordingly, we travelled by compass some 15 or 20 miles to the west of north, and struck the Platte some 13 miles below Fort Laramie. The day was extremely hot, and among the hills the wind seemed to have just

issued from an oven. Our horses were much distressed, as we had travelled hard; and it was with some difficulty that they were all brought to the Platte, which we reached at one o'clock. In riding in towards the river, we found the trail of our carts, which appeared to have passed a day or two since.

After having allowed our animals two hours for food and repose, we resumed our journey, and, towards the close of the day, came in sight of Laramie's fork. Issuing from the river hills, we came first in view of Fort Platte, a post belonging to Messrs. Sybille, Adams, and Co., situated immediately in the point of land at the junction of Laramie with the Platte. Like the post we had visited on the South fork, it was built of earth, and still unfinished, being enclosed with walls (or rather houses) on three of the sides, and open on the fourth to the river. A few hundred yards brought us in view of the post of the American Fur Company, called Fort John, or Laramie. This was a large post, having more the air of military construction than the fort at the mouth of the river. It is on the left bank, on a rising ground some 25 feet above the water; and its lofty walls, whitewashed and picketed, with the large bastions at the angles, gave it quite an imposing appearance in the uncertain light of evening. A cluster of lodges, which the language told us belonged to Sioux Indians, was pitched under the walls, and, with the fine back ground of the Black hills, and the prominent peak of Laramie mountain, strongly drawn in the clear light of the western sky, where the sun had already set, the whole formed at the moment a strikingly beautiful picture. From the Company at St. Louis I had letters for Mr. Boudeau, the gentleman in charge of the post, by whom I was received with great hospitality, and an efficient kindness which was invaluable to me during my stay in the country. I found our people encamped on the bank, a short distance above the fort. All were well: and, in the enjoyment of a bountiful supper, which coffee and bread made luxurious to us, we soon forgot the fatigues of the last ten days.

July 16.—I have found that, during my absence, the situation of affairs had undergone some change; and the usual quiet and somewhat monotonous regularity of the camp had given place to excitement and alarm. The circumstances which occasioned this change will be found narrated in the following extract from the journal of Mr. Preuss, which commences with the day of our separation on the South fork of the Platte.

Extract from the Journal of Mr. Preuss.

“*July 6.*—We crossed the plateau or high land between the two forks in about six hours. I let my horse go as slow as he liked, to indemnify us both for the previous hardship; and about noon we reached the North fork. There was no sign that our

party had passed; we rode, therefore, to some pine trees, unsaddled the horses, and stretched our limbs on the grass, awaiting the arrival of our company. After remaining here two hours, my companion became impatient, mounted his horse again, and rode off down the river to see if he could discover our people. I felt so marode yet, that it was a horrible idea to me to bestride that saddle again; so I lay still. I knew they could not come any other way, and then my companion, one of the best men of the company, would not abandon me. The sun went down; he did not come. Uneasy I did not feel, but very hungry; I had no provisions, but I could make a fire; and as I espied two doves in a tree, I tried to kill one; but it needs a better marksman than myself to kill a little bird with a rifle. I made a large fire, however, lighted my pipe—this true friend of mine in every emergency—lay down, and let my thoughts wander to the far east. It was not many minutes after when I heard the tramp of a horse, and my faithful companion was by my side. He had found the party, who had been delayed by making their *cache*, about seven miles below. To the good supper which he brought with him I did ample justice. He had forgotten salt, and I tried the soldier's substitute in time of war, and used gunpowder; but it answered badly—bitter enough, but no flavour of kitchen salt. I slept well; and was only disturbed by two owls, which were attracted by the fire, and took their place in the tree under which we slept. Their music seemed as disagreeable to my companion as to myself; he fired his rifle twice, and then they let us alone.

“July 7.—At about 10 o'clock, the party arrived; and we continued our journey through a country which offered but little to interest the traveller. The soil was much more sandy than in the valley below the confluence of the forks, and the face of the country no longer presented the refreshing green which had hitherto characterised it. The rich grass was now found only in dispersed spots, on low grounds, and on the bottom land of the streams. A long drought, joined to extreme heat, had so parched up the upper prairies, that they were in many places bald, or covered only with a thin growth of yellow and poor grass. The nature of the soil renders it extremely susceptible to the vicissitudes of the climate. Between the forks, and from their junction to the Black hills, the formation consists of marl and a soft earthy limestone, with granitic sandstone. Such a formation cannot give rise to a sterile soil; and, on our return in September, when the country had been watered by frequent rains, the valley of the Platte looked like a garden; so rich was the verdure of the grasses, and so luxuriant the bloom of abundant flowers. The wild sage begins to make its appearance, and timber is so scarce that we generally made our fires of the *bois de vache*. With the exception of now and then an isolated tree or two, standing like a light-house on the river bank, there is none whatever to be seen.

"July 8.—Our road to-day was a solitary one. No game made its appearance—not even a buffalo or a stray antelope; and nothing occurred to break the monotony until about five o'clock, when the caravan made a sudden halt. There was a galloping in of scouts and horsemen from every side—a hurrying to and fro in noisy confusion; rifles were taken from their cover; bullet-pouches examined: in short, there was the cry of 'Indians,' heard again. I had become so much accustomed to these alarms, that now they made but little impression on me; and before I had time to become excited, the new comers were ascertained to be whites. It was a large party of traders and trappers, conducted by Mr. Bridger, a man well known in the history of the country. As the sun was low, and there was a fine grass patch not far ahead, they turned back and encamped for the night with us. Mr. Bridger was invited to supper; and, after the *table-cloth* was removed, we listened with eager interest to an account of their adventures. What they had met, we would be likely to encounter; the chances which had befallen them would probably happen to us; and we looked upon their life as a picture of our own. He informed us that the condition of the country had become exceedingly dangerous. The Sioux, who had been badly disposed, had broken out into open hostility, and in the preceding autumn his party had encountered them in a severe engagement, in which a number of lives had been lost on both sides. United with the Cheyenne and Gros Ventre Indians, they were scouring the upper country in war parties of great force; and were at this time in the neighbourhood of the *Red Buttes*, a famous landmark, which was directly on our path. They had declared war upon every living thing which should be found westward of that point; though their main object was to attack a large camp of whites and Snake Indians, who had a rendezvous in the Sweet Water valley. Availing himself of his intimate knowledge of the country, he had reached Laramie by an unusual route through the Black hills, and avoided coming into contact with any of the scattered parties. This gentleman offered his services to accompany us so far as the head of the Sweet Water; but the absence of our leader, which was deeply regretted by us all, rendered it impossible for us to enter upon such arrangements. In a camp consisting of men whose lives had been spent in this country, I expected to find every one prepared for occurrences of this nature; but, to my great surprise, I found, on the contrary, that this news had thrown them all into the greatest consternation; and on every side I heard only one exclamation, '*Il n'y aura pas de vie pour nous.*' All the night, scattered groups were assembled round the fires, smoking their pipes, and listening with the greatest eagerness to exaggerated details of Indian hostilities; and in the morning I found the camp dispirited, and agitated by a variety of conflicting opinions. A majority of the people were strongly disposed to

return; but Clément Lambert, with some five or six others, professed their determination to follow Mr. Fremont to the uttermost limit of his journey. The others yielded to their remonstrances, and, somewhat ashamed of their cowardice, concluded to advance at least so far as Laramie fork, eastward of which they were aware no danger was to be apprehended. Notwithstanding the confusion and excitement, we were very early on the road, as the days were extremely hot, and we were anxious to profit by the freshness of the morning. The soft marly formation, over which we were now journeying, frequently offers to the traveller views of remarkable and picturesque beauty. To several of these localities, where the winds and the rain have worked the bluffs into curious shapes, the voyageurs have given names according to some fancied resemblance. One of these, called the *Court-house*, we passed about six miles from our encampment of last night, and toward noon came in sight of the celebrated *Chimney rock*. It looks, at this distance of about 30 miles, like what it is called—the long chimney of a steam factory establishment, or a shot tower in Baltimore. Nothing occurred to interrupt the quiet of the day, and we encamped on the river, after a march of 24 miles. Buffalo had become very scarce, and but one cow had been killed, of which the meat had been cut into thin slices, and hung around the carts to dry.

“*July 10.*—We continued along the same fine plainly beaten road, which the smooth surface of the country afforded us, for a distance of 630 miles, from the frontiers of Missouri to Laramie fork. In the course of the day we met some whites, who were following along in the train of Mr. Bridger; and, after a day’s journey of 24 miles, encamped about sunset at the Chimney rock. It consists of marl and earthy limestone, and the weather is rapidly diminishing its height, which is now not more than 200 feet above the river. Travellers who visited it some years since placed its height at upwards of 500 feet.

“*July 11.*—The valley of the North fork is of a variable breadth, from one to four, and sometimes six miles. Fifteen miles from the Chimney rock we reached one of those places where the river strikes the bluffs, and forces the road to make a considerable circuit over the uplands. This presented an escarpment on the river of about 900 yards in length, and is familiarly known as Scott’s bluffs. We had made a journey of 30 miles before we again struck the river, at a place where some scanty grass afforded an insufficient pasturage to our animals. About 20 miles from the Chimney rock we had found a very beautiful spring of excellent and cold water; but it was in such a deep ravine, and so small, that the animals could not profit by it, and we therefore halted only a few minutes, and found a resting-place ten miles further on. The plain between Scott’s bluffs and Chimney rock was almost entirely covered with drift wood, consisting principally of cedar,

which we were informed, had been supplied from the Black hills, in a flood five or six years since.

"*July 12.*—Nine miles from our encampment of yesterday we crossed Horse creek, a shallow stream of clear water, about 70 yards wide, falling into the Platte on the right bank. It was lightly timbered, and great quantities of drift wood were piled up on the banks, appearing to be supplied by the creek from above. After a journey of 26 miles, we encamped on a rich bottom, which afforded fine grass to our animals. Buffalo have entirely disappeared, and we live now upon the dried meat, which is exceedingly poor food. The marl and earthy limestone, which constituted the formation for several days past, had changed during the day into a compact white or greyish white limestone, sometimes containing hornstone; and at the place of our encampment this evening, some strata in the river hills cropped out to the height of 30 or 40 feet, consisting of a fine-grained granitic sandstone; one of the strata closely resembling gneiss.

"*July 13.*—To-day, about 4 o'clock, we reached Fort Laramie, where we were cordially received; we pitched our camp a little above the fort, on the bank of Laramie river, in which the pure and clear water of the mountain stream looked refreshingly cool, and made a pleasant contrast to the muddy yellow waters of the Platte."

I walked up to visit our friends at the fort, which is a quadrangular structure, built of clay, after the fashion of the Mexicans, who are generally employed in building them. The walls are about 15 feet high, surmounted with a wooden palisade, and form a portion of ranges of houses, which entirely surround a yard of about 130 feet square. Every apartment has its door and window—all of course opening on the inside. There are two entrances, opposite each other, and midway the wall, one of which is a large and public entrance; the other smaller and more private—a sort of postern gate. Over the great entrance is a square tower with loopholes, and, like the rest of the work, built of earth. At two of the angles, and diagonally opposite each other, are large square bastions, so arranged as to sweep the four faces of the walls.

This post belongs to the American Fur Company, and, at the time of our visit, was in charge of Mr. Boudeau. Two of the company's clerks, Messrs. Galpin and Kellogg, were with him, and he had in the fort about 16 men. As usual, these had found wives among the Indian squaws; and, with the usual accompaniment of children, the place had quite a populous appearance. It is hardly necessary to say, that the object of the establishment is trade with the neighbouring tribes, who, in the course of the year, generally make two or three visits to the fort. In addition to this, traders, with a small outfit, are constantly kept amongst them. The articles of trade consist, on the one side, almost entirely of buffalo robes; and, on the other, of blankets, calicoes, guns, pow-

der, and lead, with such cheap ornaments as glass beads, looking-glasses, rings, vermilion for painting, tobacco, and principally, and in spite of the prohibition, of spirits, brought into the country in the form of alcohol, and diluted with water before sold. While mentioning this fact, it is but justice to the American Fur Company to state, that, throughout the country, I have always found them strenuously opposed to the introduction of spirituous liquors. But, in the present state of things, when the country is supplied with alcohol, when a keg of it will purchase from an Indian everything he possesses—his furs, his lodge, his horses, and even his wife and children—and when any vagabond, who has money enough to purchase a mule, can go into a village and trade against them successfully, without withdrawing entirely from the trade it is impossible for them to discontinue its use. In their opposition to this practice, the company is sustained, not only by their obligation to the laws of the country and the welfare of the Indians, but clearly also on grounds of policy; for, with heavy and expensive outfits, they contend at manifestly great disadvantage against the numerous independent and unlicensed traders, who enter the country from various avenues, from the United States and from Mexico, having no other stock in trade than some kegs of liquor, which they sell at the modest price of 36 dollars per gallon. The difference between the regular trader and the *coureur des bois* (as the French call the itinerant or peddling traders), with respect to the sale of spirits, is here, as it always has been, fixed and permanent, and growing out of the nature of their trade. The regular trader looks ahead, and has an interest in the preservation of the Indians, and in the regular pursuit of their business, and the preservation of their arms, horses, and everything necessary to their future and permanent success in hunting: the *coureur des bois* has no permanent interest, and gets what he can, and for what he can, from every Indian he meets, even at the risk of disabling him from doing anything more at hunting.

The fort had a very cool and clean appearance. The great entrance, in which I found the gentlemen assembled, and which was floored, and about 15 feet long, made a pleasant, shaded seat, through which the breeze swept constantly; for this country is famous for high winds. In the course of conversation, I learned the following particulars, which will explain the condition of the country. For several years the Cheyennes and Sioux had gradually become more and more hostile to the whites, and in the latter part of August, 1841, had had a rather severe engagement with a party of 60 men, under the command of Mr. Frapp, of St. Louis. The Indians lost eight or ten warriors, and the whites had their leader and four men killed. This fight took place on the waters of Snake river; and it was this party, on their return under Mr. Bridger, which had spread so much alarm among my people. In the course of the spring, two other small parties had been cut off

by the Sioux—one on their return from the Crow nation, and the other among the Black hills. The emigrants to Oregon and Mr. Bridger's party met here, a few days before our arrival. Divisions and misunderstandings had grown up among them; they were already somewhat disheartened by the fatigue of their long and wearisome journey, and the feet of their cattle had become so much worn as to be scarcely able to travel. In this situation, they were not likely to find encouragement in the hostile attitude of the Indians, and the new and unexpected difficulties which sprang up before them. They were told that the country was entirely swept of grass, and that few or no buffalo were to be found on their line of route; and, with their weakened animals, it would be impossible for them to transport their heavy wagons over the mountains. Under these circumstances, they disposed of their wagons and cattle at the forts; selling them at the prices they had paid in the States, and taking in exchange coffee and sugar at one dollar a pound, and miserable worn-out horses, which died before they reached the mountains. Mr. Boudeau informed me that he had purchased 30, and the lower fort 80 head of fine cattle, some of them of the Durham breed. Mr. Fitzpatrick, whose name and high reputation are familiar to all who interest themselves in the history of this country, had reached Laramie in company with Mr. Bridger; and the emigrants were fortunate enough to obtain his services to guide them as far as the British post of Fort Hall, about 250 miles beyond the South Pass of the mountains. They had started for this post on the 4th of July, and immediately after their departure, a war party of 350 braves set out upon their trail. As their principal chief or partisan had lost some relations in the recent fight, and had sworn to kill the first whites on his path, it was supposed that their intention was to attack the party, should a favourable opportunity offer; or, if they were foiled in their principal object by the vigilance of Mr. Fitzpatrick, content themselves with stealing horses and cutting off stragglers. These had been gone but a few days previous to our arrival.

The effect of the engagement with Mr. Frapp had been greatly to irritate the hostile spirit of the savages; and immediately subsequent to that event, the Gross Ventre Indians had united with the Oglallahs and Cheyennes, and taken the field in great force—so far as I could ascertain, to the amount of 800 lodges. Their object was to make an attack on a camp of Snake and Crow Indians, and a body of about 100 whites, who had made a rendezvous somewhere in the Green river valley, or on the Sweet Water. After spending some time in buffalo hunting in the neighbourhood of the Medicine Bow mountain, they were to cross over to the Green river waters, and return to Laramie by way of the South Pass and the Sweet Water valley. According to the calculation of the Indians, Mr. Boudeau informed me they were somewhere near the head of the Sweet Water. I subsequently learned

that the party led by Mr. Fitzpatrick were overtaken by their pursuers near Rock Independence, in the valley of the Sweet Water ; but his skill and resolution saved them from surprise, and, small as his force was, they did not venture to attack him openly. Here they lost one of their party by an accident, and continuing up the valley, they came suddenly upon the large village. From these they met with a doubtful reception. Long residence and familiar acquaintance had given to Mr. Fitzpatrick great personal influence among them, and a portion of them were disposed to let him pass quietly ; but by far the greater number were inclined to hostile measures ; and the chiefs spent the whole of one night, during which they kept the little party in the midst of them, in council, debating the question of attacking them the next day ; but the influence of "the Broken Hand," as they called Mr. Fitzpatrick (one of his hands having been shattered by the bursting of a gun), at length prevailed, and obtained for them an unmolested passage ; but they sternly assured him that this path was no longer open, and that any party of whites which should hereafter be found upon it would meet with certain destruction. From all that I have been able to learn, I have no doubt that the emigrants owe their lives to Mr. Fitzpatrick.

Thus it would appear that the country was swarming with scattered war parties ; and when I heard, during the day, the various contradictory and exaggerated rumours which were incessantly repeated to them, I was not surprised that so much alarm prevailed among my men. Carson, one of the best and most experienced mountaineers, fully supported the opinion given by Bridger of the dangerous state of the country, and openly expressed his conviction that we could not escape without some sharp encounters with the Indians. In addition to this, he made his will ; and among the circumstances which were constantly occurring to increase their alarm, this was the most unfortunate ; and I found that a number of my party had become so much intimidated, that they had requested to be discharged at this place. I dined to-day at Fort Platte, which has been mentioned as situated at the junction of Laramie river with the Nebraska. Here I heard a confirmation of the statements given above. The party of warriors, which had started a few days since on the trail of the emigrants, was expected back in fourteen days, to join the village with which their families and the old men had remained. The arrival of the latter was hourly expected ; and some Indians had just come in who had left them on the Laramie fork, about twenty miles above. Mr. Bissonette, one of the traders belonging to Fort Platte, urged the propriety of taking with me an interpreter and two or three old men of the village ; in which case he thought there would be little or no hazard in encountering any of the war parties. The principal danger was in being attacked before they should know who we were.

They had a confused idea of the numbers and power of our people, and dreaded to bring upon themselves the military force of the United States. This gentleman, who spoke the language fluently, offered his services to accompany me so far as the Red Buttes. He was desirous to join the large party on its return, for purposes of trade, and it would suit his views, as well as my own, to go with us to the Buttes; beyond which point it would be impossible to prevail on a Sioux to venture, on account of their fear of the Crows. From Fort Laramie to the Red Buttes, by the ordinary road is 135 miles; and, though only on the threshold of danger, it seemed better to secure the services of an interpreter for the partial distance, than to have none at all.

So far as frequent interruption from the Indians would allow, we occupied ourselves in making some astronomical calculations, and bringing up the general map to this stage of our journey; but the tent was generally occupied by a succession of our ceremonious visitors. Some came for presents, and others for information of our object in coming to the country; now and then, one would dart up to the tent on horseback, jerk off his trappings, and stand silently at the door, holding his horse by the halter, signifying his desire to trade. Occasionally a savage would stalk in with an invitation to a feast of honour, a dog feast, and deliberately sit down and wait quietly until I was ready to accompany him. I went to one; the women and children were sitting outside the lodge, and we took our seats on buffalo robes spread around. The dog was in a large pot over the fire, in the middle of the lodge, and immediately on our arrival was dished up in large wooden bowls, one of which was handed to each. The flesh appeared very glutinous, with something of the flavour and appearance of mutton. Feeling something move behind me, I looked round, and found that I had taken my seat among a litter of fat young puppies. Had I been nice in such matters, the prejudices of civilization might have interfered with my tranquillity; but, fortunately, I am not of delicate nerves, and continued quietly to empty my platter.

The weather was cloudy at evening, with a moderate south wind, and the thermometer at six o'clock 85° . I was disappointed in my hope of obtaining an observation of an occultation, which took place about midnight. The moon brought with her heavy banks of clouds, through which she scarcely made her appearance during the night.

The morning of the 18th was cloudy and calm, the thermometer at six o'clock at 64° . About nine, with a moderate wind from the west, a storm of rain came on, accompanied by sharp thunder and lightning, which lasted about an hour. During the day the expected village arrived, consisting principally of old men, women, and children. They had a considerable number of horses, and large troops of dogs. Their lodges were pitched near the fort, and our camp was constantly crowded with Indians of all sizes, from

morning until night ; at which time some of the soldiers generally came to drive them all off to the village. My tent was the only place which they respected. Here only came the chiefs and men of distinction, and generally one of them remained to drive away the women and children. The numerous strange instruments, applied to still stranger uses, excited awe and admiration among them, and those which I used in talking with the sun and stars they looked upon with especial reverence, as mysterious things of "great medicine." Of the three barometers which I had brought with me thus far successfully, I found that two were out of order, and spent the greater part of the 19th in repairing them—an operation of no small difficulty in the midst of the incessant interruptions to which I was subjected. We had the misfortune to break here a large thermometer, graduated to show fifths of a degree, which I used to ascertain the temperature of boiling water, and with which I had promised myself some interesting experiments in the mountains. We had but one remaining on which the graduation extended sufficiently high ; and this was too small for exact observations. During our stay here, the men had been engaged in making numerous repairs, arranging pack-saddles, and otherwise preparing for the chances of a rough road and mountain travel. All things of this nature being ready, I gathered them round me in the evening, and told them that "I had determined to proceed next day. They were all well armed. I had engaged the services of Mr. Bissonette as interpreter, and had taken, in the circumstances, every possible means to insure our safety. In the rumours we had heard, I believed there was much exaggeration, and then they were men accustomed to this kind of life and to the country ; and that these were the dangers of everyday occurrence, and to be expected in the ordinary course of their service. They had heard of the unsettled condition of the country before leaving St. Louis, and therefore could not make it a reason for breaking their engagements. Still, I was unwilling to take with me, on a service of some certain danger, men on whom I could not rely ; and as I had understood that there were among them some who were disposed to cowardice, and anxious to return, they had but to come forward at once, and state their desire, and they would be discharged with the amount due to them for the time they had served." To their honour be it said, there was but one among them who had the face to come forward and avail himself of the permission. I asked him some few questions, in order to expose him to the ridicule of the men, and let him go. The day after our departure, he engaged himself to one of the forts, and set off with a party to the Upper Missouri. I did not think the situation of the country justified me in taking our young companions, Messrs. Brant and Benton, along with us. In case of misfortune, it would have been thought, at least, an act of great imprudence ; and therefore, though reluctantly, I determined to

leave them. Randolph had been the life of the camp, and the "*petit garçon*" was much regretted by the men, to whom his buoyant spirits had afforded great amusement. They all, however, agreed in the propriety of leaving him at the fort, because, as they said, he might cost the lives of some of the men in a fight with the Indians.

July 21.—A portion of our baggage, with our field notes and observations, and several instruments, were left at the fort. One of the gentlemen, Mr. Galpin, took charge of a barometer, which he engaged to observe during my absence; and I entrusted to Randolph, by way of occupation, the regular winding up of two of my chronometers, which were among the instruments left. Our observations showed that the chronometer which I retained for the continuation of our voyage had preserved its rate in a most satisfactory manner. As deduced from it, the longitude of Fort Laramie is $7h. 01' 21''$, and from lunar distance $7h. 01' 29''$; giving for the adopted longitude $104^{\circ} 47' 43''$. Comparing the barometrical observations made during our stay here with those of Dr. G. Engleman at St. Louis, we find for the elevation of the fort above the Gulf of Mexico 4,470 feet. The winter climate here is remarkably mild for the latitude; but rainy weather is frequent, and the place is celebrated for winds, of which the prevailing one is west. An east wind in summer, and a south wind in winter, are said to be always accompanied with rain.

We were ready to depart; the tents were struck, the mules geared up, and our horses saddled, and we walked up to the fort to take the *stirrup cup* with our friends in an excellent home-brewed preparation. While thus pleasantly engaged, seated in one of the cool little chambers, at the door of which a man had been stationed to prevent all intrusions from the Indians, a number of chiefs, several of them powerful, fine-looking men, forced their way into the room in spite of all opposition. Handing me the following letter, they took their seats in silence:—

" FORT PLATTE, Juillet 1, 1842.

" MR. FREMONT: Les chefs s'étant assemblés présentement me disent de vous avertir de ne point vous mettre en route, avant que parti de jeunes gens, qui est en dehors, soient de retour. De plus, ils me disent qu'ils sont très certains qu'ils feront feu à la première rencontre. Ils doivent être de retour dans sept à huit jours. Excusez si je vous fais ces observations, mais il me semble qu'il est mon devoir de vous avertir du danger. Même de plus, les chefs sont les porteurs de ce billet, qui vous defendent de partir avant le retour des guerriers.

" Je suis votre obeissant serviteur,

" JOSEPH BISSONETTE,

" Par L. B. CHARTRAIN.

“Les noms de quelques chefs.—Le Chapeau de Loutre, le Casseur de Flèches, la Nuit Noir, le Queue de Bucef.”

[Translation.]

“FORT PLATTE, July 1, 1842.

“MR. FREMONT: The chiefs, having assembled in council, have just told me to warn you not to set out before the party of young men which is now out shall have returned. Furthermore, they tell me that they are very sure they will fire upon you as soon as they meet you. They are expected back in seven or eight days. Excuse me for making these observations, but it seems my duty to warn you of danger. Moreover, the chiefs who prohibit your setting out before the return of the warriors are the bearers of this note.

“I am your obedient servant,

“JOSEPH BISSONETTE,

“By L. B. CHARTRAIN.

“Names of some of the chiefs.—The Otter Hat, the Breaker of Arrows, the Black Night, the Bull’s Tail.”

After reading this, I mentioned its purport to my companions; and, seeing that all were fully possessed of its contents, one of the Indians rose up, and having first shaken hands with me, spoke as follows:—

“You have come among us at a bad time. Some of our people have been killed, and our young men, who are gone to the mountains, are eager to avenge the blood of their relations, which has been shed by the whites. Our young men are bad, and if they meet you, they will believe that you are carrying goods and ammunition to their enemies, and will fire upon you. You have told us that this will make war. We know that our great father has many soldiers and big guns, and we are anxious to save our lives. We love the whites, and are desirous of peace. Thinking of all these things, we have determined to keep you here until our warriors return. We are glad to see you among us. Our father is rich, and we expected that you would have brought presents to us—horses, guns, and blankets. But we are glad to see you. We look upon your coming as the light which goes before the sun; for you will tell our great father that you have seen us, and that we are naked and poor, and have nothing to eat; and he will send us all these things.” He was followed by the others, to the same effect.

The observations of the savage appeared reasonable; but I was aware that they had in view only the present object of detaining me, and were unwilling I should go further into the country. In reply, I asked them, through the interpretation of M. Boudeau, to select two or three of their number to accompany us until we should meet their people—they should spread their robes in my tent

and eat at my table, and on our return I would give them presents in reward of their services. They declined, saying that there were no young men left in the village, and that they were too old to travel so many days on horseback, and preferred now to smoke their pipes in the lodge, and let the warriors go on the war path. Besides, they had no power over the young men, and were afraid to interfere with them. In my turn I addressed them :—" You say that you love the whites; why have you killed so many already this spring? You say that you love the whites, and are full of many expressions of friendship to us; but you are not willing to undergo the fatigue of a few days' ride to save our lives. We do not believe what you have said, and will not listen to you. Whatever a chief among us tells his soldiers what to do, is done. We are the soldiers of the great chief, your father. He has told us to come here and see this country, and all the Indians, his children. Why should we not go? Before we came, we heard that you had killed his people, and ceased to be his children; but we came among you peaceably, holding out our hands. Now we find that the stories we heard are not lies, and that you are no longer his friends and children. We have thrown away our bodies, and will not turn back. When you told us that your young men would kill us, you did not know that our hearts were strong, and you did not see the rifles which my young men carry in their hands. We are few, and you are many, and may kill us all; but there will be much crying in your villages, for many of your young men will stay behind, and forget to return with your warriors from the mountains. Do you think that our great chief will let his soldiers die, and forget to cover their graves? Before the snows melt again, his warriors will sweep away your villages as the fire does the prairie in the autumn. See! I have pulled down my *white houses*, and my people are ready: when the sun is ten paces higher, we shall be on the march. If you have anything to tell us, you will say it soon." I broke up the conference, as I could do nothing with these people; and, being resolved to proceed, nothing was to be gained by delay. Accompanied by our hospitable friends, we returned to the camp. We had mounted our horses, and our parting salutations had been exchanged, when one of the chiefs (the Bull's Tail) arrived to tell me that they had determined to send a young man with us; and if I would point out the place of our evening camp, he should join us there. "The young man is poor," said he; "he has no horse, and expects you to give him one." I described to him the place where I intended to encamp, and, shaking hands, in a few minutes we were among the hills, and this last habitation of whites shut out from our view.

The road led over an interesting plateau between the North fork of the Platte on the right, and Laramie river on the left. At the distance of 10 miles from the fort, we entered the sandy bed of a

creek, a kind of defile shaded by precipitous rocks, down which we wound our way for several hundred yards, to a place where, on the left bank, a very large spring gushes with considerable noise and force out of the limestone rock. It is called the "Warm Spring," and furnishes to the hitherto dry bed of the creek a considerable rivulet. On the opposite side, a little below the spring, is a lofty limestone escarpment, partially shaded by a grove of large trees, whose green foliage, in contrast with the whiteness of the rock, renders this a picturesque locality. The rock is fossiliferous, and, so far as I was able to determine the character of the fossils, belongs to the carboniferous limestone of the Missouri river, and is probably the western limit of that formation. Beyond this point I met with no fossils of any description.

I was desirous to visit the Platte near the point where it leaves the Black hills, and therefore followed this stream for two or three miles, to the mouth; where I encamped on a spot which afforded good grass and *prêle* (*equisetum*) for our animals. Our tents having been found too thin to protect ourselves and the instruments from the rains, which in this elevated country are attended with cold and unpleasant weather, I had procured from the Indians at Laramie a tolerably large lodge, about 18 feet in diameter, and 20 feet in height. Such a lodge, when properly pitched, is, from its conical form, almost perfectly secure against the violent winds which are frequent in this region, and, with a fire in the centre, is a dry and warm shelter in bad weather. By raising the lower part, so as to permit the breeze to pass freely, it is converted into a pleasant summer residence, with the extraordinary advantage of being entirely free from mosquitoes, one of which I have never seen in an Indian lodge. While we were engaged very unskilfully in erecting this, the interpreter, Mr. Bissonette, arrived, accompanied by the Indian and his wife. She laughed at our awkwardness, and offered her assistance, of which we were frequently afterwards obliged to avail ourselves, before the men acquired sufficient expertness to pitch it without difficulty. From this place we had a fine view of the gorge where the Platte issues from the Black hills, changing its character abruptly from a mountain stream into a river of the plains. Immediately around us the valley of the stream was tolerably open; and at the distance of a few miles, where the river had cut its way through the hills, was the narrow cleft, on one side of which a lofty precipice of bright red rock rose vertically above the low hills which lay between us.

July 22.—In the morning, while breakfast was being prepared, I visited this place with my favourite man, Basil Lajeunesse. Entering as far as there was footing for the mules, we dismounted, and, tying our animals, continued our way on foot. Like the whole country, the scenery of the river had undergone an entire change, and was in this place the most beautiful I have ever seen. The

breadth of the stream, generally near that of its valley, was from 200 to 300 feet, with a swift current, occasionally broken by rapids, and the water perfectly clear. On either side arose the red precipices, vertical, and sometimes overhanging, 200 and 400 feet in height, crowned with green summits, on which were scattered a few pines. At the foot of the rocks was the usual detritus, formed of masses fallen from above. Among the pines that grew here, and on the occasional banks, were the cherry (*cerasus virginiana*), currants, and grains de bœuf (*shepherdia argentea*). Viewed in the sunshine of a pleasant morning, the scenery was of a most striking and romantic beauty, which arose from the picturesque disposition of the objects, and the vivid contrast of colours. I thought with much pleasure of our approaching descent in the canoe through such interesting places; and, in the expectation of being able at that time to give to them a full examination, did not now dwell so much as might have been desirable upon the geological formations along the line of the river, where they are developed with great clearness. The upper portion of the red strata consists of very compact clay, in which are occasionally seen imbedded large pebbles. Below was a stratum of compact red sandstone, changing a little above the river into a very hard siliceous limestone. There is a small but handsome open prairie immediately below this place, on the left bank of the river, which would be a good locality for a military post. There are some open groves of cotton-wood on the Platte. The small stream which comes in at this place is well timbered with pine, and good building rock is abundant.

If it is in contemplation to keep open the communications with Oregon territory, a show of military force in this country is absolutely necessary; and a combination of advantages renders the neighbourhood of Fort Laramie the most suitable place, on the line of the Platte, for the establishment of a military post. It is connected with the mouth of the Platte and the Upper Missouri by excellent roads, which are in frequent use, and would not in any way interfere with the range of the buffalo, on which the neighbouring Indians mainly depend for support. It would render any posts on the Lower Platte unnecessary, the ordinary communication between it and the Missouri being sufficient to control the intermediate Indians. It would operate effectually to prevent any such coalitions as are now formed among the Gros Ventres, Sioux, Cheyennes, and other Indians, and would keep the Oregon road through the valley of the Sweet Water and the South Pass of the mountains constantly open. It lies at the foot of a broken and mountainous region, along which, by the establishment of small posts in the neighbourhood of St. Vrain's fort, on the South fork of the Platte, and Bent's fort, on the Arkansas, a line of communication would be formed, by good wagon roads, with our southern military posts, which would entirely command the mountain passes, hold some of the most troublesome tribes in

check, and protect and facilitate our intercourse with the neighbouring Spanish settlements. The valleys of the rivers on which they would be situated are fertile; the country, which supports immense herds of buffalo, is admirably adapted to grazing; and herds of cattle might be maintained by the posts, or obtained from the Spanish country, which already supplies a portion of their provisions to the trading posts mentioned above.

Just as we were leaving the camp this morning, our Indian came up, and stated his intention of not proceeding any further until he had seen the horse which I intended to give him. I felt strongly tempted to drive him out of the camp; but his presence appeared to give confidence to my men, and the interpreter thought it absolutely necessary. I was therefore obliged to do what he requested, and pointed out the animal, with which he seemed satisfied, and we continued our journey. I had imagined that Mr. Bissonette's long residence had made him acquainted with the country, and, according to his advice, proceeded directly forward, without attempting to regain the usual road. He afterward informed me that he had rarely ever lost sight of the fort; but the effect of the mistake was to involve us for a day or two among the hills, where, although we lost no time, we encountered an exceedingly rough road.

To the south, along our line of march to-day, the main chain of the Black or Laramie hills rises precipitously. Time did not permit me to visit them; but, from comparative information, the ridge is composed of the coarse sandstone or conglomerate hereafter described. It appears to enter the region of clouds, which are arrested in their course, and lie in masses along the summits. An inverted cone of black cloud (cumulus) rested during all the forenoon on the lofty peak of Laramie mountain, which I estimated to be about 2,000 feet above the fort, or 6,500 above the sea. We halted to noon on the *Fourche Amère*, so called from being timbered principally with the *liard amère* (a species of poplar), with which the valley of the little stream is tolerably well wooded, and which, with large expansive summits, grows to the height of 60 or 70 feet.

The bed of the creek is sand and gravel, the water dispersed over the broad bed in several shallow streams. We found here, on the right bank, in the shade of the trees, a fine spring of very cold water. It will be remarked that I do not mention, in this portion of the journey, the temperature of the air, sand, springs, &c.—an omission which will be explained in the course of the narrative. In my search for plants I was well rewarded at this place.

With the change in the geological formation on leaving Fort Laramie, the whole face of the country has entirely altered its appearance. Eastward of that meridian, the principal objects which strike the eye of a traveller are the absence of timber, and

the immense expanse of prairie, covered with the verdure of rich grasses, and highly adapted for pasturage. Wherever they are not disturbed by the vicinity of man, large herds of buffalo give animation to this country. Westward of Laramie river the region is sandy, and apparently sterile; and the place of grass is usurped by the *artemisia* and other odoriferous plants, to whose growth the sandy soil and dry air of this elevated region seem highly favourable.

One of the prominent characteristics in the face of the country is the extraordinary abundance of the *artemisias*. They grow everywhere—on the hills, and over the river bottoms, in tough, twisted, wiry clumps; and, wherever the beaten tract was left, they rendered the progress of the carts rough and slow. As the country increased in elevation on our advance to the west, they increased in size; and the whole air is strongly impregnated and saturated with the odour of camphor and spirits of turpentine, which belongs to this plant. This climate has been found very favourable to the restoration of health, particularly in cases of consumption; and possibly the respiration of air so highly impregnated with aromatic plants may have some influence.

Our dried meat had given out, and we began to be in want of food; but one of the hunters killed an antelope this evening, which afforded some relief, although it did not go far among so many hungry men. At 8 o'clock at night, after a march of 27 miles, we reached our proposed encampment on the *Fer-à-Cheval*, or Horseshoe Creek. Here we found good grass, with a great quantity of *prêle*, which furnished good food for our tired animals. This creek is well timbered, principally with *liard amère*, and, with the exception of Deer Creek which we had not yet reached, is the largest affluent of the right bank between Laramie and the mouth of the Sweet Water.

July 23.—The present year had been one of unparalleled drought, and throughout the country the water had been almost dried up. By availing themselves of the annual rise, the traders had invariably succeeded in carrying their furs to the Missouri; but this season, as has already been mentioned, on both forks of the Platte they had entirely failed. The greater number of the springs, and many of the streams, which made halting-places for the *voyageurs*, had been dried up. Everywhere the soil looked parched and burnt; the scanty yellow grass crisped under the foot, and even the hardiest plants were destroyed by want of moisture. I think it necessary to mention this fact, because, to the rapid evaporation in such an elevated region, nearly 5,000 feet above the sea, almost wholly unprotected by timber, should be attributed much of the sterile appearance of the country, in the destruction of vegetation, and the numerous saline efflorescences which covered the ground. Such I afterward found to be the case.

I was informed that the roving villages of Indians and travellers

had never met with difficulty in finding an abundance of grass for their horses; but now it was after great search that we were able to find a scanty patch of grass sufficient to keep them from sinking; and in the course of a day or two they began to suffer very much. We found none to-day at noon; and in the course of our search on the Platte, came to a grove of cotton-wood, where some Indian village had recently encamped. Boughs of the cotton-wood, yet green, covered the ground, which the Indians had cut down to feed their horses upon. It is only in winter that recourse is had to this means of sustaining them; and their resort to it at this time was a striking evidence of the state of the country. We followed their example, and turned our horses into a grove of young poplars. This began to present itself as a very serious evil, for on our animals depended altogether the further prosecution of our journey.

Shortly after we had left this place, the scouts came galloping in with the alarm of Indians. We turned in immediately toward the river, which here had a steep high bank, where we formed with the carts a very close barricade, resting on the river, within which the animals were strongly hobbled and picketed. The guns were discharged and reloaded, and men thrown forward, under cover of the bank, in the direction by which the Indians were expected. Our interpreter, who, with the Indian, had gone to meet them, came in, in about ten minutes, accompanied by two Sioux. They looked sulky, and we could obtain from them only some confused information. We learned that they belonged to the party which had been on the trail of the emigrants, whom they had overtaken at Rock Independence, on the Sweet Water. Here the party had disagreed, and came nigh fighting among themselves. One portion were desirous of attacking the whites, but the others were opposed to it; and finally they had broken up into small bands, and dispersed over the country. The greater portion of them had gone over into the territory of the Crows, and intended to return by the way of the Wind river valley, in the hope of being able to fall upon some small parties of Crow Indians. The remainder were returning down the Platte, in scattered parties of 10 and 20; and those whom we had encountered belonged to those who had advocated an attack on the emigrants. Several of the men suggested shooting them on the spot; but I promptly discountenanced any such proceeding. They further informed me that buffalo were very scarce, and little or no grass to be found. There had been no rain, and innumerable quantities of grasshoppers had destroyed the grass. The insects had been so numerous since leaving Fort Laramie, that the ground seemed alive with them; and in walking, a little moving cloud preceded our footsteps. This was bad news. No grass, no buffalo—food for neither horse nor man. I gave them some plugs of tobacco, and they went off apparently well satisfied to be clear of us; for

my men did not look upon them very lovingly, and they glanced suspiciously at our warlike preparations, and the little ring of rifles which surrounded them. They were evidently in a bad humour, and shot one of their horses when they had left us a short distance.

We continued our march, and after a journey of about 21 miles, encamped on the Platte. During the day, I had occasionally remarked among the hills the *psoralea esculenta*, the bread-root of the Indians. The Sioux use this root very extensively; and I have frequently met with it among them, cut into thin slices and dried. In the course of the evening we were visited by six Indians, who told us that a large party was encamped a few miles above. Astronomical observations placed us in longitude $104^{\circ} 59' 59''$, and latitude $42^{\circ} 39' 25''$.

We made the next day 22 miles, and encamped on the right bank of the Platte, where a handsome meadow afforded tolerably good grass. There were the remains of an old fort here, thrown up in some sudden emergency; and on the opposite side was a picturesque bluff of ferruginous sandstone. There was a handsome grove a little above, and scattered groups of trees bordered the river. Buffalo made their appearance this afternoon, and the hunters came in, shortly after we had encamped, with three fine cows. The night was fine, and observations gave for the latitude of the camp, $42^{\circ} 47' 40''$.

July 25.—We made but 13 miles this day, and encamped about noon in a pleasant grove on the right bank. Low scaffolds were erected, upon which the meat was laid, cut up into thin strips, and small fires kindled below. Our object was to profit by the vicinity of the buffalo to lay in a stock of provisions for ten or fifteen days. In the course of the afternoon the hunters brought in five or six cows, and all hands were busily employed in preparing the meat, to the drying of which the guard attended during the night. Our people had recovered their gaiety, and the busy figures around the blazing fires gave a picturesque air to the camp. A very serious accident occurred this morning, in the breaking of one of the barometers. These had been the object of my constant solicitude, and, as I had intended them principally for mountain service, I had used them as seldom as possible; taking them always down at night, and on the occurrence of storms, in order to lessen the chances of being broken. I was reduced to one, a standard barometer of Troughton's construction. This, I determined to preserve, if possible. The latitude is $42^{\circ} 51' 35''$, and by a mean of the results from chronometer and lunar distances, the adopted longitude of this camp is $105^{\circ} 50' 45''$.

July 26.—Early this morning we were again in motion. We had a stock of provisions for fifteen days carefully stored away in the carts, and this I resolved should only be encroached upon when our rifles should fail to procure us present support. I determined to reach the mountains, if it were in any way possible.

In the meantime, buffalo were plenty. In six miles from our encampment (which, by way of distinction, we shall call Dried Meat camp), we crossed a handsome stream, called *La Fourche Boisée*. It is well timbered, and, among the flowers in bloom on its banks, I remarked several *asters*.

Five miles further, we made our noon halt on the banks of the Platte, in the shade of some cotton-woods. There were here, as generally now along the river, thickets of *hippophacæ*, the *grains de bœuf* of the country. They were of two kinds—one bearing a red berry (the *shepherdia argentea* of Nuttall); the other a yellow berry, of which the Tartars are said to make a kind of rob.

By a meridian observation, the latitude of the place was $42^{\circ} 50' 08''$. It was my daily practice to take observations of the sun's meridian altitude; and why they are not given, will appear in the sequel. Eight miles further we reached the mouth of Deer creek, where we encamped. Here was an abundance of rich grass, and our animals were compensated for past privations. This stream was at this time 20 feet broad, and well timbered with cotton-wood of an uncommon size. It is the largest tributary of the Platte, between the mouth of the Sweet Water and the Laramie. Our astronomical observations gave for the mouth of the stream a longitude of $106^{\circ} 08' 24''$, and longitude $42^{\circ} 52' 24''$.

July 27.—Nothing worthy of mention occurred this day; we travelled later than usual, having spent some time in searching for grass, crossing and recrossing the river before we could find a sufficient quantity for our animals. Toward dusk, we encamped among some artemisia bushes, two and three feet in height, where some scattered patches of short tough grass afforded a scanty supply. In crossing, we had occasion to observe that the river was frequently too deep to be forded, though we always succeeded in finding a place where the water did not enter the carts. The stream continued very clear, with 200 or 300 feet breadth of water; and the sandy bed and banks were frequently covered with large round pebbles. We had travelled this day 27 miles. The main chain of the Black hills was here only about seven miles to the south, on the right bank of the river, rising abruptly to the height of 800 and 1,200 feet. Patches of green grass in the ravines on the steep sides marked the presence of springs, and the summits were clad with pines.

July 28.—In two miles from our encampment, we reached the place where the regular road crosses the Platte. There was 200 feet breadth of water at this time in the bed, which was a variable width of 800 to 1,500 feet. The channels were generally three feet deep, and there were large angular rocks on the bottom, which made the ford in some places a little difficult. Even at its low stages, this river cannot be crossed at random, and this has always been used as the best ford. The low state of the waters

the present year had made it fordable in almost any part of its course, where access could be had to its bed.

For the satisfaction of travellers, I will endeavour to give some description of the nature of the road from Laramie to this point. The nature of the soil may be inferred from its geological formation. The limestone at the eastern limit of this section is succeeded by limestone without fossils, a great variety of sandstone, consisting principally of red sandstone and fine conglomerates. The red sandstone is argillaceous, with compact white gypsum or alabaster, very beautiful. The other sandstones are grey, yellow, and ferruginous, sometimes very coarse. The apparent sterility of the country must, therefore, be sought for in other causes than the nature of the soil. The face of the country cannot, with propriety, be called hilly. It is a succession of long ridges, made by the numerous streams which came down from the neighbouring mountain range. The ridges have an undulating surface, with some such appearance as the ocean presents in an ordinary breeze.

The road which is now generally followed through this region is therefore a very good one, without any difficult ascents to overcome. The principal obstructions are near the river, where the transient waters of heavy rains have made deep ravines with steep banks, which renders frequent circuits necessary. It will be remembered that wagons pass this road only once or twice a year, which is by no means sufficient to break down the stubborn roots of the innumerable artemisia bushes. A partial absence of these is often the only indication of the track; and the roughness produced by their roots in many places gives the road the character of one newly opened in a wooded country. This is usually considered the worst part of the road east of the mountains; and, as it passes through an open prairie region, may be much improved, so as to avoid the greater part of the inequalities it now presents.

From the mouth of the Kansas to the Green River valley, west of the Rocky Mountains, there is no such thing as a mountain road on the line of communication.

We continued our way, and four miles beyond the ford Indians were discovered again; and I halted while a party were sent forward to ascertain who they were. In a short time they returned, accompanied by a number of Indians of the Oglallah band of Sioux. From them we received some interesting information. They had formed part of the great village, which they informed us had broken up, and was on its way home. The greater part of the village, including the Arapahoes, Cheyennes, and Oglallahs, had crossed the Platte eight or ten miles below the mouth of the Sweet Water, and were now behind the mountains to the south of us, intending to regain the Platte by way of Deer creek. They had taken this unusual route in search of grass and game. They gave us a very discouraging picture of the country. The great drought, and the plague of grasshoppers, had swept it so that scarce a blade of grass was to

be seen, and there was not a buffalo to be found in the whole region. Their people, they further said, had been nearly starved to death, and we would find their road marked by lodges which they had thrown away in order to move more rapidly, and by the carcasses of the horses which they had eaten, or which had perished by starvation. Such was the prospect before us.

When he had finished the interpretation of these things, Mr. Bissonette immediately rode up to me, and urgently advised that I should entirely abandon the further prosecution of my exploration. "*Le meilleure avis que je pourrais vous donner c'est de virer de suite.*" "The best advice I can give you, is to turn back at once." It was his own intention to return, as we had now reached the point to which he had engaged to attend me. In reply, I called up my men, and communicated to them fully the information I had just received. I then expressed to them my fixed determination to proceed to the end of the enterprise on which I had been sent; but as the situation of the country gave me some reason to apprehend that it might be attended with an unfortunate result to some of us, I would leave it optional with them to continue with me or to return.

Among them were some five or six who I knew would remain. We had still ten days' provisions; and, should no game be found, when this stock was expended, we had our horses and mules, which we could eat when other means of subsistence failed. But not a man flinched from the undertaking. "We'll eat the mules," said Basil Lajeunesse; and thereupon we shook hands with our interpreter and his Indians, and parted. With them I sent back one of my men, Dumés, whom the effects of an old wound in the leg rendered incapable of continuing the journey on foot, and his horse seemed on the point of giving out. Having resolved to disencumber ourselves immediately of everything not absolutely necessary to our future operations, I turned directly in toward the river, and encamped on the left bank, a little above the place where our council had been held, and where a thick grove of willows offered a suitable spot for the object I had in view.

The carts having been discharged, the covers and wheels were taken off, and, with the frames, carried into some low places among the willows, and concealed in the dense foliage in such a manner that the glitter of the iron work might not attract the observation of some straggling Indian. In the sand, which had been blown up into waves among the willows, a large hole was then dug, ten feet square and six deep. In the meantime all our effects had been spread out upon the ground, and whatever was designed to be carried along with us separated and laid aside, and the remaining part carried to the hole and carefully covered up. As much as possible all traces of our proceedings were obliterated, and it wanted but a rain to render our *cache* safe beyond discovery. All the men were now set at work to arrange the pack-saddles and make up the packs.

The day was very warm and calm, and the sky entirely clear, except where, as usual along the summits of the mountainous ridge opposite, the clouds had congregated in masses. Our lodge had been planted, and, on account of the heat, the ground pins had been taken out, and the lower part slightly raised. Near to it was standing the barometer, which swung in a tripod frame; and within the lodge, where a small fire had been built, Mr. Preuss was occupied in observing the temperature of boiling water. At this instant, and without any warning until it was within fifty yards, a violent gust of wind dashed down the lodge, burying under it Mr. Preuss and about a dozen men, who had attempted to keep it from being carried away. I succeeded in saving the barometer, which the lodge was carrying off with itself, but the thermometer was broken. We had no others of a high graduation, none of those which remained going higher than 135° Fahrenheit. Our astronomical observations gave to this place, which we named *Cache camp*, a longitude of $106^{\circ} 38' 26''$, latitude $42^{\circ} 50' 53''$.

July 29.—All our arrangements having been completed, we left the encampment at seven o'clock this morning. In this vicinity the ordinary road leaves the Platte, and crosses over to the Sweet Water river, which it strikes near Rock Independence. Instead of following this road I had determined to keep the immediate valley of the Platte so far as the mouth of the Sweet Water, in the expectation of finding better grass. To this I was further prompted by the nature of my instructions. To Mr. Carson was assigned the office of guide, as we had now reached a part of the country with which, or a great part of which, long residence had made him familiar. In a few miles we reached the Red Buttes, a famous landmark in this country, whose geological composition is red sandstone, limestone, and calcareous sandstone and pudding stone.

The river here cuts its way through a ridge; on the eastern side of it are the lofty escarpments of red argillaceous sandstone, which are called the Red Buttes. In this passage the stream is not much compressed or pent up, there being a bank of considerable though variable breadth on either side. Immediately on entering we discovered a band of buffalo. The hunters failed to kill any of them, the leading hunter being thrown into a ravine, which occasioned some delay, and in the meantime the herd clambered up the steep face of the ridge. It is sometimes wonderful to see these apparently clumsy animals make their way up and down the most rugged and broken precipices. We halted to noon before we had cleared this passage, at a spot 12 miles distant from *Cache camp*, where we found an abundance of grass. So far the account of the Indians was found to be false. On the banks were willow and cherry trees. The cherries were not yet ripe, but in the thickets were numerous fresh tracks of the grizzly bear, which is

very fond of this fruit. The soil here is red, the composition being derived from the red sandstone. About seven miles brought us through the ridge, in which the course of the river is north and south. Here the valley opens out broadly, and high walls of the red formation present themselves among the hills to the east. We crossed here a pretty little creek, an affluent of the right bank. It is well timbered with cotton-wood in this vicinity, and the absinthe has lost its shrub-like character, and becomes small trees six and eight feet in height, and sometimes eight inches in diameter. Two or three miles above this creek we made our encampment, having travelled to-day 25 miles. Our animals fared well here, as there is an abundance of grass. The river bed is made up of pebbles, and in the bank, at the level of the water, is a conglomerate of coarse pebbles about the size of ostrich eggs, and which I remarked in the banks of the Laramie fork. It is overlaid by a soil of mixed clay and sand, six feet thick. By astronomical observations our position is in longitude $106^{\circ} 54' 32''$, and latitude $42^{\circ} 38'$.

July 30.—After travelling about 12 miles this morning we reached a place where the Indian village had crossed the river. Here were the poles of discarded lodges and skeletons of horses lying about. Mr. Carson, who had never been higher up than this point on the river, which has the character of being exceedingly rugged, and walled in by precipices above, thought it advisable to camp near this place, where we were certain of obtaining grass, and to-morrow make our crossing among the rugged hills to the Sweet Water river. Accordingly we turned back, and descended the river to an island near by, which was about 20 acres in size, covered with a luxuriant growth of grass. The formation here I found highly interesting. Immediately at this island the river is again shut up in the rugged hills, which come down to it from the main ridge in a succession of spurs 300 or 400 feet high, and alternated with green level *prairillons*, or meadows, bordered on the river banks with thickets of willow, and having many plants to interest the traveller. The island lies between two of these ridges, 300 or 400 yards apart, of which that on the right bank is composed entirely of red argillaceous sandstone, with thin layers of fibrous gypsum. On the left bank the ridge is composed entirely of siliceous pudding stone, the pebbles in the numerous strata increasing in size from the top to the bottom, where they are as large as a man's head. So far as I was able to determine, these strata incline to the north-east, with a dip of about 15° . This pudding-stone, or conglomerate formation, I was enabled to trace through an extended range of country, from a few miles east of the meridian of Fort Laramie to where I found it superposed on the granite of the Rocky Mountains, in longitude $109^{\circ} 00'$. From its appearance the main chain of the Laramie mountain is composed of this rock; and in a number of

places I found isolated hills, which served to mark a former level, which had been probably swept away.

These conglomerates are very friable and easily decomposed, and I am inclined to think this formation is the source from which was derived the great deposit of sand and gravel which forms the surface-rock of the prairie country west of the Mississippi.

Crossing the ridge of red sandstone, and traversing the little prairie which lies to the southward of it, we made in the afternoon an excursion to a place which we have called the Hot Spring Gate. This place has much the appearance of a gate, by which the Platte passes through a ridge composed of a white and calcareous sandstone. The length of the passage is about 400 yards, with a smooth green prairie on either side. Through this place the stream flows with a quiet current, unbroken by any rapid, and is about 70 yards wide between the walls, which rise perpendicularly from the water. To that on the right bank, which is the lower, the barometer gave a height of 360 feet. This place will be more particularly described hereafter, as we passed through it on our return.

We saw here numerous herds of mountain sheep, and frequently heard the volley of rattling stones which accompanied their rapid descent down the steep hills. This was the first place at which we had killed any of these animals; and, in consequence of this circumstance, and of the abundance of these sheep or goats (for they are called by each name), we gave to our encampment the name of Goat Island. Their flesh is much esteemed by the hunters, and has very much the flavour of the Alleghany mountain sheep. I have frequently seen the horns of this animal three feet long and 17 inches in circumference at the base, weighing 11 pounds. But two or three of these were killed by our party at this place, and of these the horns were small. The use of these horns seems to be to protect the animal's head in pitching down precipices to avoid pursuing wolves—their only safety being in places where they cannot be followed. The bones are very strong and solid, the marrow occupying but a very small portion of the bone in the leg, about the thickness of a rye straw. The hair is short, resembling the winter colour of our common deer, which it nearly approaches in size and appearance. Except in the horns, it has no resemblance whatever to the goat. The longitude of this place, resulting from chronometer and lunar distances, and an occultation of Arietis, is $107^{\circ} 13' 29''$, and the latitude $42^{\circ} 33' 27''$. One of our horses, which had given out, we left to receive strength on the island, intending to take her, perhaps, on our return.

July 31.—This morning we left the course of the Platte, to cross over to the Sweet Water. Our way, for a few miles, lay up the sandy bed of a dry creek, in which I found several interesting plants. Leaving this, we wound our way to the summit of the hills, of which the peaks are here 800 feet above the Platte, bare

and rocky. A long and gradual slope led from these hills to the Sweet Water, which we reached in 15 miles from Goat Island. I made an early encampment here, in order to give the hunters an opportunity to procure a supply from several bands of buffalo, which made their appearance in the valley near by. The stream here is about 60 feet wide, and at this time 12 to 18 inches deep, with a very moderate current.

The adjoining prairies are sandy, but the immediate river bottom is a good soil, which afforded an abundance of soft green grass to our horses, and where I found a variety of interesting plants, which made their appearance for the first time. A rain to-night made it unpleasantly cold; and there was no tree here to enable us to pitch our single tent, the poles of which had been left at *Cache* camp. We had, therefore, no shelter except what was to be found under cover of the absinthe bushes, which grew in many thick patches, one or two and sometimes three feet high.

August 1.—The hunters went ahead this morning, as buffalo appeared tolerably abundant, and I was desirous to secure a small stock of provisions; and we moved about seven miles up the valley, and encamped one mile below Rock Independence. This is an isolated granite rock, about 650 yards long, and 40 in height. Except in a depression of the summit, where a little soil supports a scanty growth of shrubs, with a solitary dwarf pine, it is entirely bare. Everywhere, within six or eight feet of the ground, where the surface is sufficiently smooth, and in some places 60 or 80 feet above, the rock is inscribed with the names of travellers. Many a name famous in the history of this country, and some well known to science, are to be found mixed among those of the traders and of travellers for pleasure and curiosity, and of missionaries among the savages. Some of these have been washed away by the rain, but the greater number are still very legible. The position of this rock is in longitude $107^{\circ} 56'$, latitude $42^{\circ} 29' 36''$. We remained at our camp of August 1st until noon of the next day, occupied in drying meat. By observation, the longitude of the place is $107^{\circ} 25' 23''$, latitude $42^{\circ} 29' 56''$.

August 2.—Five miles above Rock Independence we came to a place called the Devil's Gate, where the Sweet Water cuts through the point of a granite ridge. The length of the passage is about 300 yards, and the width 35 yards. The walls of rock are vertical, and about 400 feet in height; and the stream in the gate is almost entirely choked up by masses which have fallen from above. In the wall, on the right bank, is a dike of trap rock, cutting through a fine-grained grey granite. Near the point of this ridge crop out some strata of the valley formation, consisting of a greyish micaceous sandstone, and fine-grained conglomerate and marl. We encamped eight miles above the Devil's Gate. There was no timber of any kind on the river, but good fires were made of drift wood, aided by the *bois de vache*.