

crest of the declivity, when instantly the wagon rushed down, in spite of all our precautions, and with such velocity, that the leading mules were overtaken; and wagon, and men, and mules, all were thrown together in one confused heap. Fortunately no one was hurt, nor anything broken. Some of the men now sprang to work, and unhitched the mules, when they regained their feet; after waiting until they had got over the fright, we again geared up and ascended the opposite bank.

About noon we reached the "Rio Vermejo;" here the ice bore up our wagon, and we descended to the river without difficulty. But the bank to be ascended stalled us; however, after a considerable delay we got over this difficulty, and immediately encamped. The constant labor and severe exposure my men had undergone, rendered some episode necessary in order to break the continuity of pains and trials; I therefore took some of the Indian goods with which I was provided, and parcelled them out into prizes, to be shot for with rifles. We spent the whole afternoon in shooting; and for a while we seemed to forget the past and to cease thinking of the future.

*January 9.*—We arose very early, and before the clock had struck five we had commenced our march. The snow upon the ground made more light than otherwise there would have been; as it was, there was difficulty in seeing the road.

During the greater part of the day it threatened to storm, and the atmosphere was so filled with minute particles of snow that we could scarcely see further than two or three miles around.

As we approached El Rio Cañadiano, we found that there had been but little snow there.

During our progress, we were continually starting herds of antelope from secluded valleys, where they had sought shelter from the inclemencies of the season. The day was extremely cold, and the snow-mist completely chilled us. It was only by continued friction of our hands that we succeeded in retaining their flexibility. Several times my moccasins froze to my stirrups. We pressed rapidly onward, and before noon reached the "Cañadian," and found an excellent camping ground, where we had plenty of dry timber and enough grass to appease the hunger of our half famished mules. Our day's march was twenty miles, which was a great march, for during the early portion of the day we had much snow upon the road.

*January 10.*—We now have but little snow upon the ground around us. The sun shines as if his power was trammelled by the benumbing influence of the cold. Although there was but little wind, yet we were glad to get sheltered from that little by our entrance in the pass of the Raton. Here stupendous escarpments of rock rise on each side of us, until they attain the height of 3,000 feet.

The first hill we met gave us considerable trouble; we were obliged to apply all the force we could muster to the leading wagon, and then return for the other. This method of carrying them up one at a time detained us a great while. At one place,

the road took the bed of a stream; the ice had been repeatedly overflowed and frozen, so that it was now very thick, and too slippery for us to venture upon. We were compelled to ascend the western bank, and after proceeding about 40 yards, were obliged to re-cross this stream. When we came to descend the bank, we found one practicable place, and there the bank was not only steep, but sideling, and, to prevent the wagon from sliding off, we were obliged to fix ropes to the top, and to cut a deep channel for the wheels. It required a long while to prepare the declivity, for the ground was frozen extremely hard.

*January 11.*—This morning we found that all our mules had gnawed their ropes asunder and gone off. For a long time we searched in vain in various directions. Some of the men even went as far back as the Rio Cañadian; at last they were all found in a mountain ravine not far from our camp.

At 10 o'clock we commenced our march; we were continually obliged to cross the stream, which was very tortuous and had high banks. These crossings were full of difficulty. The mules would run on until they reached the frozen stream, when they would suddenly stop, and the wagon, rushing down the declivity, would throw all the animals in a heap on the ice. At one time every one thought that some of our animals were killed; one mule was thrown across the others, and it was with great difficulty that we could extricate them and set them on their feet. We now formed a strong pioneer party, and sent them in advance with their axes, pick-axes, and spades, to break the ice, to strew it with sand, and clear away all obstructions.

At last we commenced ascending the ridge which separates the waters of the Arkansas from those of the "Rio Cañadian." We reached the top of this dividing ridge in safety; but, as we commenced to descend, one of the wagons slid off sideways, and the fore wheels being suddenly caught by a deep rut, the axle snapped off in the wheel. We put the greater portion of the load into the other wagon, and, having lashed a long pole so as to support that extremity of the axle which had been broken off, we dragged the wagon to our camp at the foot of the slope.

One of the men killed a deer during the day; and we endeavored, as well as we could, to console ourselves for the misfortune of the axle with a feast of venison.

As we were determined our mules should not gnaw themselves loose again, we, this night, made them fast with the trace chains.

We were now 17 miles from the Canadian, and had this day marched 11 miles.

To-day we saw some curious birds, which our old hunters called the "paisano;" its true name is the "geocoeyx viaticus." It is so little known that I have appended a description of it to these notes, written by Major G. A. McCall.

"The geocoeyx viaticus, which the Mexicans familiarly call the "paisano," (countryman,) is found in Texas, from the river Nueces to the Rio Grande, in Mexico; from the seaboard, at least, to the

Sierra Madre; and, being an inhabitant of chapparal or thorny thickets, he rarely ventures beyond its borders. Although the toes of this bird are disposed in opposite pairs, as in other species of his family, yet the outer hind toe being reversible, and of great flexibility, is, in either position, aptly applied in climbing or perching, as well as on the ground. Thus, he at times pitches along the ground in irregular hops; and again, when the outer toe is thrown forward, he runs smoothly and with such rapidity as always to be able to elude a dog in the chapparal, without taking wing. He feeds on *coleoptera*, and almost every species of insects; and near the Nueces, where the snails, "*lymnaceus stagnalis*," abound, it is greedily eaten," &c.

I have only to add, that this bird is found throughout the Raton pass, and some individual specimens have been seen on the Arkansas river, a few miles to the west of Bent's fort.

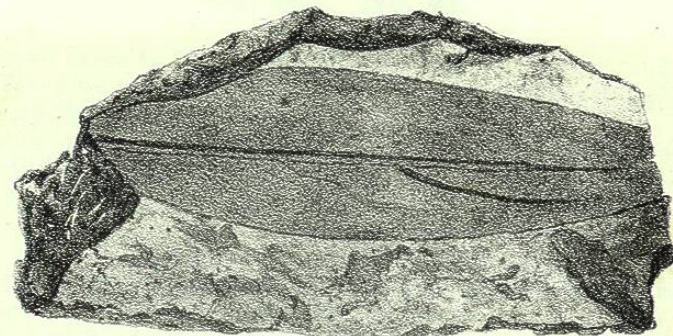
January 12.—In some of the ravines near our camp, and in the cañons of the mountains, there is still to be found sufficient grass for "muladas," not more numerous than ours. We, therefore, drove our mules into the mountain, and then set ourselves to work to repair the broken axletree. As we had carefully treasured the pieces of wood that we found on the road, we soon obtained a piece well suited to our purpose, and again we lost a whole day in repairing this unfortunate breakage.

In the evening Brown went out to hunt, and soon returned, saying that he had killed two black tailed deer. As he was unable to bring them to camp, he had thrown his coat over them to keep away the wolves until he could get mules and bring them in.

As I had had no exercise during the day, I started back with Brown in order to get the deer. The country over which we passed was intersected by deep ravines, and some of the hill sides were so steep that it was with great difficulty we forced our mules to proceed. At length we reached the deer, and found them untouched by the wolves. Having packed them upon our mules, we returned to camp.

These deer were of the species called "*cervus macrotis*." Brown said that he had seen several mountain sheep during the day, but they were so wild that he could not approach them. They are the "*capra montana*" of Harlen. I have found them as far south as Valverde, in New Mexico.

On the 13th of January we again resumed our march, feeling much refreshed by a day of rest. We had several difficult crossings to make and steep hills to climb, but my men did their duty bravely. As the sun shone forth with considerable warmth, the snow commenced to thaw, and the road became slippery and muddy. Three times we were forced to travel in the bed of a stream for a long distance. We were obliged to cut up the ice with our axes for a distance of fifty or sixty yards, and then to clear out the pieces which choked up the stream, before the mules could be forced to proceed. At length some of my men rushed into the water, notwithstanding the season, and catching the mules by their heads,



Fossils from the Coal beds of the Raton.

Lat. 37° 15' Long. 104° 35'

For Locality see Map of 1845.

they forced them to keep in the middle of the stream, and effectually prevented them, notwithstanding their frequent attempts, from leaping up the banks on either side.

We now reached one of the steepest acclivities we had seen in the whole journey. We took all the mules, and as many of the party as could find room at the wheels, and carried our wagons up one at a time. It was painful to see the poor beasts so terribly beaten, and shocking to hear the blasphemous oaths which were uttered; but all seemed to forget themselves in the excitement of the moment, while they strained every nerve, and while the woods resounded with whooping and yelling. When we reached the top of the hill, the old pine trees of the mountain sides shook with deafening shouts and cheering. To look at this hill, it would seem impossible for loaded wagons to achieve the ascent.

Before we had proceeded far, we found several broken wagons; the tongue of one of them was of hickory; this we took, as we wanted helves for our axes, and pickets for our mules. We made an early camp near a grove of dead cotton wood trees, and close by the road side; we built large fires, and every one had his roasting-stick loaded with venison, which was soon sputtering before the flames. Although we were many hours on the road, yet our day's march did not exceed eight miles.

*January 14.*—Not long after leaving camp we reached the last difficult hill that we would have to encounter, for the remainder of the road from here to Bent's fort rises and falls in gentle slopes.

As soon as I had seen the wagons safely over this hill, I took Laing with me and set off for some coal beds which I had formerly visited on my way to Santa Fé, when I had not been able to find any traces of ferns; but as Laing had once worked in a coal mine, and seemed to be positive that he could find me impressions such as he had seen in the carboniferous formations of Missouri, I set out with renewed hopes; but after a long search he was obliged to confess that there were none. We however obtained several specimens of the fossil leaves of dicotyledonous plants. These were of two sorts: one a lanceolate leaf, resembling that of the willow; the other a large cordate leaf, like that of the catalpa, and both sorts of leaves are distinctly marked with branching veins. This formation extends throughout the Raton, according to the report of my hunters.

The specimens of coal and of fossils which I procured here, as well as all the geological and mineralogical specimens collected during the exploration, have been submitted to the inspection of Professor Bailey of West Point, who has kindly consented to examine them.

While hunting fossils, large flocks of stellar jays came flying along the bluff; they were chattering noisily, and in this respect they are like our blue jay.

We soon overtook the wagons, and about 1 o'clock we reached the "Rio de los Animas," or Purgatory. Here we found a large train of wagons, and saw some of the teamsters who said that they had taken their winter quarters here, and that they should wait until

spring before venturing to cross the Raton. They told us that game was very abundant; that they daily killed great numbers of the black-tailed deer, common deer, antelope, and turkeys. There is excellent dry wood here in great abundance; the stream is lined with groves of dead locust and cotton wood, which have been killed by fire or inundation.

We were now clear of the much dreaded pass, but our troubles still continued; the measles seemed to be spreading amongst my men, and already four of them were so ill that we had to lift them in and out of the wagons. We marched 14 miles.

*January 15.*—We made an early start this morning, and after a march of 12 miles we reached "Holes in the Prairie," where we encamped. As we knew that we should find no wood here, we brought a large quantity from the Purgatory.

The road over which we travelled was quite level, and entirely free from snow. We therefore reached our camping place at an early hour. There we met Captain Murphy, who was conveying several wagon loads of specie to Santa Fé.

I told him of the state of feeling in New Mexico towards our people, and learned that he had already been put on his guard by an express, which he had met near Bent's fort.

He told me that my mules were too poor to go through this trip, and cautioned me against the Arrapahoes, who, he said, were then encamped near Chouteau's island, and who had a great number of mules that were branded with the letters U. S., which they refused to give up. He also informed me that all the grass was burnt up on the prairies between Pawnee Fork and Council Grove.

In the evening the wind suddenly changed to the north; it became very cold, and before night we had a snow storm.

As our mules were losing flesh fast, notwithstanding our feeding them with corn every night, I determined to adopt Captain Murphy's plan, in letting them run loose all night.

To-day another of my men was taken ill; his eyes were terribly swollen, and before evening he seemed to be the sickest man in the party.

*January 16.*—Although our mules had strayed off some distance, still we managed to catch them all in good time, and at 1 o'clock we reached "Hole in the rock," where we encamped in the centre of an extensive forest of cedar. Huge trunks of these trees lay strewn around in all directions, and there was plenty of good grass and water in our vicinity. In a little time, fires were kindled on every side; each person had one of his own to sit by; the dense foliage of the cedar trees completely sheltered us from the wind. Could we always have had such a place as this to camp in, we could never have suffered from the cold.

During the march we saw a great many prairie dogs. Laing killed one with his rifle, but the bullet had mangled the little animal so that it was not worth skinning; this dog was so fat and looked so nice that we had it cooked, but it seemed to be very tough, and it had a flavor which was not altogether palatable.

*January 17.*—Last night the wind blew very hard from the south,

but we were so comfortably situated that we did not heed it much. This morning it was still blowing with great violence, although at our backs; our mules travelled slowly, and would not go fast. We saw great numbers of antelope, but killed none. After marching six miles we reached a cañon called the "Willows," through which the "Timpa" flows. I had intended encamping there, but the wind rushed through the gorge at such a rate that our tents could not have stood a single instant. We therefore proceeded two miles further, and encamped again in a grove of cedar trees, on the margin of the valley of the "Rio Timpa." We could not find any dry wood and were obliged to use the green cedar, which made pretty good fires, and as it crackled in the cheerful flames gave forth a delightful odor.

The Timpa was quite hidden from view, as the banks are perpendicular and about 20 feet high. Although a few cotton wood trees grew along the bottom of the stream, they were hardly tall enough to be seen. The ice was so thick that it was with difficulty we could obtain water for ourselves and our animals. We found that it was not so salt as that nearer the mouth of the stream.

*January 18.*—We left camp as the sun was rising. The air, although still, was biting cold. Our breath condensed instantly upon the collars of our coats, every part of our faces was covered with frost-work. Our road being level and in good order, we progressed rapidly. Passing a little to the north of the usual camping ground we encamped.

Here we found a few sticks of wood, which had been left by some preceding travellers, and the greatest abundance of prairie sage, "artemisia," which burns brilliantly and throws out a great heat. But it consumes so rapidly that it keeps several persons busily engaged supplying the fire with fuel. One of my men killed an antelope during the march. Although we saw a great quantity of game daily, still the extreme cold deterred every one from hunting.

As we approached the three conical "buttes," which are described and figured in the report of the journey pursued by Lieutenant Peck and myself, in 1845, we found an innumerable quantity of fossil shells of the genus *inoceramus*; the calcareous rock on which these shells are found is of a slaty fracture, and breaks into very thin sheets, which are covered on both sides with impressions of those shells.

*January 17.*—We had a long search this morning for our mules, which had wandered off to a great distance during the night. It was ten o'clock before we succeeded in catching them all. I now started for Bent's Fort, having given directions to my party to camp as soon as they reached the Arkansas river. I reached the fort at 2½ o'clock after a rapid trot over a distance of 27 miles. Herds of antelope abounded on both sides of the road. They were feeding among the wild sage which covers the valley of the Timpa. As my approach set the herds in motion, the startled hare would spring up before them and dash across my road.

Having reached the fort, I immediately made my arrangements

for leaving the sick, the number of whom had increased to seven, and for obtaining provisions for the rest of the journey. Owing to the great facilities afforded me by Captain Enos, I was enabled to conclude my preparations that evening, so that it would not be necessary to detain the wagon on the following day for more than one or two hours.

The thermometer has been all day seven degrees below zero; and I was told that, for several days previous, the temperature of the air had been of the same degree of coldness.

*January 20.*—This morning was bitter cold, although there was no wind. At eleven o'clock, my party arrived. We at once commenced crossing the Arkansas river. To do this, we were obliged to carry sand and spread it over the slippery ice on the route we had selected. Although the ice was generally eight inches thick, yet in one place, for the breadth of six feet, the rapid current was running clear; this circumstance increased the difficulty of crossing.

As soon as we reached the fort, the sick were carried into a comfortable room, where they were to remain until next spring, when they might return to the United States. Our axes and tools were sharpened, our wagons examined, and we took the precaution to obtain an extra axletree. In two hours we were again on the march, and at evening formed our camp six miles to the eastward of the fort.

My friends at Bent's Fort cautioned me with regard to the want of grass on the burnt prairies between Pawnee Fork and Council Grove. I therefore determined to save my corn until we should reach the burnt prairies, and until then permitting the animals to run loose.

We had already used eight of the fourteen fanegas, which we had obtained at "Las Vegas."

*January 21.*—The sun was half an hour high before we left camp; we had an excellent road, it was smooth and very hard, wherefore, although we moved at an easy gait, we reached the "Big Timbers," and encamped an hour before sunset. Not far from our camp, there are the ruins of some old trading houses. Here were some immense cotton wood trees, which were already felled; with them we built roaring fires. We were now twenty-seven miles from Bent's Fort, and had sped our way so pleasantly, that we conceived brilliant hopes of our future progress.

*January 22.*—We soon came in sight of the Cheyenne lodges. The Indians had all gathered here, where they might have shelter from the storms of winter. Throughout our day's journey, we saw their lodges lining the banks and covering the islands of the river.

The "Big Timbers" afford an endless supply of wood, and on the plains, on the south side of the river, the grass is very good, while the unfailing waters of the Arkansas, in addition to the requisites already mentioned, make this spot one of the most eligible for the erection of a military depot, in case the government intends to maintain its intercourse with New Mexico.

We met a white trader amongst the Cheyennes, who warned us

against the Arrapahoes, who, he said, were daily coming in with herds of cattle and numbers of Mexican scalps.

About sunset, as we were travelling slowly along the banks of the river, an Indian approached us, making signs to have us encamp; he said that he had a large supply of dried Buffalo meat, and he could bring it to us if we would encamp near his village. In the evening a number of squaws came to our camp, bringing the promised meat. Although we paid them well with such trinkets as we possessed, yet they could not have been perfectly contented, for we found, after their departure, that they had carried off all our axes, together with two guns and a bullet pouch. These thefts occurred after my men had been warned to be upon their guard; certainly, no people can be more skillful in thieving than the Cheyennes.

*January 23.*—This morning, as soon as we arose, we saw the Indians returning. In front came the chief of the village, and as soon as he was near enough, we saw that he carried some of the stolen articles. The squaws brought more meat, but I refused to take any of it until all the missing articles were restored. The chief told me that if I would go up to the village with him, he would get them; the village was two miles distant, but rather than loose our axes I consented to go. As soon as we approached the lodges the chief commenced haranguing his people in a stentorian voice, and then invited me into his lodge. In a little while the Indians came running to us, and every article was restored.

Shortly after leaving camp we met a company of men who had been sent from Bent's Fort, with a wagon load of corn, to meet Captain Murphy at the crossing of the Arkansas; impeded by heavy snows, they had only succeeded in getting thus far on their return to the fort.

At sundown we reached a spot where the river bottoms were all burnt; no wood was to be had. We crossed over to an island which was covered with willow bushes; here we were pretty well sheltered, but the willow brush was so light and consumed so rapidly that we found not much comfort by our camp fires. At the mouth of "Big Sand creek," I obtained a very curious fossil, supposed to be an *inoceramus*.

*January 24.*—On account of the prairies having been burnt, our mules wandered off for five or six miles. We did not get away until eleven o'clock. Thus we were obliged to lose the best part of this day, on account of the inexcusable negligence of some preceding travellers who had not extinguished their camp fires.

After the first three miles, our road became extremely difficult. We had to march through snow which had laid on the ground some time. It had thawed, and had afterwards frozen, sometimes bearing up the wagons and mules; sometimes giving way so as to render our progress slow and difficult.

To-day we saw some buffaloes. I sent out some of the men to kill one of them, but they were very shy, and the snow upon the ground prevents one from approaching without being perceived. Having marched 22 miles, we reached "Little Sand creek." We

crossed over to an island, where there was plenty of fine timber. We also found here several Indian wigwams, which had been made of brush and covered with grass that had been cut in the summer. This grass was just what we could have wished for our mules, and there was enough of it to have sufficed them for a week. In the evening we saw a fine "bald-headed eagle." It lit upon a neighboring island, which could not be approached without wading through an open space in the river, or else I should have sacrificed its life to obtain its skin.

*January 25.*—Some of our mules got off of the island during the night, but we caught them again without much difficulty. Soon after starting we met an Indian travelling along the road on foot. I asked him if he was a Chyenne; he answered with a nod, and went on.

At two o'clock, after a hard drive of 16 miles through snow, we encamped under the shelter of some cotton wood trees which grew near a dry creek.

Our present location had been lately occupied by Indians. On every side were to be seen circular spaces, which had been covered by their lodges, and the pieces of bark that they had placed under their beds.

One Indian came to our camp. As he said, the village was near, I sent one of my men to it, who purchased some winter moccasins. These are made of buffalo robe, with the hair side in; by enveloping the feet with slips of blanket, and putting on these moccasins, we were able to keep comfortably warm.

*January 26.*—We had a bad start this morning. In passing through a deep snow-drift, one of our mules, not being able to extricate its feet, was thrown across the tongue of the wagon. There was a hard crust on the snow, which, breaking through beneath the wheels of our wagons, impeded us very much. The air was exceedingly cold, and the wagon wheels made a noise in the frosty snow like the screaming of a large flock of blackbirds. Our mules had a terrible time of it; where the crust on the snow bore them up, their feet were slipping about and wrenching their limbs violently, and when it broke through, they were plunging up to their knees, and scraping their legs against the sharp crust. They were soon smoking with sweat, and puffing and blowing with the violence of their exertions; every little while we were obliged to stop. But our difficulties decreased somewhat towards the latter part of the day, and we succeeded in making a march of fourteen miles, when we found a good camping place, with plenty of wood, and on the islands in the Arkansas, as there was good grass for our animals.

*January 27.*—As the day was very cold, and the deep snow gave us a great deal of trouble, we were not able to accomplish more than nine miles of our journey. We encamped near the spot where one C. P. Gibson had been buried. A piece of board, bearing the name of the deceased, and dated January 1, 1847, points out to the traveller the resting place of this poor man, whose death adds one more to the many which have occurred upon the prairies

within the last eight months. The ravenous wolves had already been at work on the grave, but the frozen ground had proved too much for them.

Near sundown an Arapahoe chief arrived, named by the whites "Long Beard." He paid me a visit, and in the evening I went to return the compliment. His lodge was the most luxurious habitation I had seen for a long time; there was no place where the cold winds could find entrance, and a few pieces of bark in the middle of the lodge kept it perfectly warm. "Long Beard," finding out that I belonged to the "soldiers," produced a gilded epaulette which had been presented to him at Bent's Fort; he also showed me a scrip of paper, signed by Mr. Wm. Bent, which paper mentioned "Long Beard" in the highest terms of commendation.

This chief spoke a great many Spanish words, which enabled him to make himself understood. He told us the snow was so deep that our mules could only nip the heads of the tallest grass, and begged us not to attempt to proceed, as there was no grass and no buffaloes in the direction we were going, and that the scarcity of the necessaries of life had forced him to leave that portion of the country, where his children and his horses had been starving for some time past, and that he was now in search of meat for his people and grass for his animals. While we were here we saw the squaws kill a fat puppy, and having singed the hair, they put it into the pot for supper. Dogs are considered a "bon bouche," only to be served on festal occasions, but rather than starve, poor "Long Beard" was obliged to be thus extravagant. It was well he kept his fat dogs under his eye, or some of my party might have been tempted to commit similar extravagances.

This evening we had some target shooting; although it was very windy, there were some excellent shots made.

*January 28.*—The sun now burst forth with some power, and, assisted by a western wind, caused the snow to thaw rapidly.

We made a march of twelve miles and encamped near a grove of cotton wood trees, and not far from a village of Cheyennes. The Indians immediately flocked round us in great numbers; they said that they had had nothing to eat for three days, as the snow that covered the country had driven the buffalo off to find pasture grounds.

Many of them offered me presents, hoping that I would give provisions in return, but I could not receive their presents, as I had no provisions to spare. They then begged me to give them whiskey, and annoyed us with their pertinacity, so that I would have driven out of camp, had I not been obliged to let my mules run loose all night, which circumstance they would have profited by to retaliate if we had given these people any offence.

*January 29.*—As we were preparing to depart, the Cheyennes gathered around us in great numbers. One of the principal men brought his whole family, which consisted of his wife, four or five sons and as many daughters, and desired me to give them something to eat. He said that they had been without any meat for the last three days. As all our provisions were packed away, I refused