

country; and I fear such exploring will prove slow and hazardous work. He goes to-morrow with six men, and is to send back one for each of my marches. The weather is cold and boisterous, threatening snow. We find here apparently the remains of a stone house, but only a foot or two high, showing no marks of tools; also many fragments of pottery, and a broken mortar of very hard red stone, etc."

The 15th, it blew a gale with rain, snow, and sunshine, alternately; as there was fuel, and the guides were behind hand, the battalion did not move.

Next day it marched to the south, skirting the foot of the mountain about thirteen miles, and camped at a small swampy hole of water near a gap of the mountain. (This has found its way to some of the maps as Cooke's Spring.) There was no wood, but brush answered for fuel. "Charboneaux has returned, and reports the gap in front of us to be practicable, and that there is water six miles on; he went with the others about twelve miles beyond it, without finding other water."

On the 17th, the gap was passed without much

difficulty, and turning north, the water was found up a ravine to the right, but only three miles from the other camp. As the guide had gone twelve miles further without discovering water, it was necessary to camp there.

"I saw to-day a new variety of oak, a large luxuriant bush, eight or ten feet high, with leaves about an inch long; they are still very green: * also a new and very beautiful variety of the Spanish bayonet: very large and spherical in shape, the largest leaves (or spikes) three feet long, and indented like a fine saw, with a stalk eighteen feet high from the centre. Tasson, a guide, hunted and killed in the mountain, two goats which were found to have cropped ears.

"At this camp the California partridge was first observed. They are rounder, smoother, and have longer necks than ours, with a beautiful plume to the head, and are slate colored. Also a cactus of hemispherical form, fifteen to eighteen inches in diameter, with ridges armed with horny hooks three inches long. Thirty mortar holes cut into flat rocks were found this morning."

* Since named *Quercus emoryi*.

November 18th.—The battalion marched eighteen miles in a north-west course to the Mimbres, (osiers, some of which were there found,) a clear, bold stream, running to the south, but sinking a little below the camp.

Next day in a south-west course, slightly ascending over a smooth prairie, to Ojo de Vaca, (Cow Spring) about eighteen miles were made. This spring is on a road from the copper mines to Yanos.

November 20th, spent in camp, was an anxious day. The guides had all returned, having found a little water in the end of a ridge, in a south-west course toward San Bernadino—a deserted rancho, known only by report. They had gone only about twelve miles further in that direction, but the absence of any indication of water, had discouraged and turned them back. By common consent the certainty of water at that point (thought to be about seventy, but really above one hundred miles distant) made it an objective point; for all shrink instinctively from entering the vast table land to the west, where no broken ground, no hill, no tree, could be seen from a stand-point four hundred feet high. The despairing wanderer whose life depends upon

finding water, always turns with hope to a mountain, to a tree, or to broken ground.

A high peak, close to the spring, was ascended, and anxious consultation there held. This road, for copper ore, led to Yanos; my interpreter had been there the previous summer; he and the guides were positive it lay to the south-west, six or seven days' marches; the interpreter knew there was a road or trail from there to the presidios Fronteras and Tucson due west. This would surely be giving up the discovery of "a wagon road to the Pacific!" The staff officers and the captains were taken into council; they, the guides and Mr. Hall, (the volunteer and M. C. elect, who had accompanied their last exploration,) all agreed it was too great a risk to do otherwise than take this Yanos road.

It was found advisable at this camp, to order the issues of flour and fresh meat to be increased to ten and twenty-eight ounces.

November 21st.—I marched this morning by the road, of which the guides had pointed out the course, west of south. But I soon found it leaving level prairie in its first course, and leading over a ridge, twenty-five degrees east of south. I had relied on

the assertions that Yanos was to the south-west, and balanced in my judgment of many other weighty considerations, had taken advice. I had followed the guides in almost every direction but eastward. After proceeding a mile and a half, without any further consultation, I turned short to the right, and directed the march to the hole of water which had been discovered to the south-west. . . . I encamped there, at the foot of the ridge, the water being two miles up a narrow valley right away from my course. Whilst camping, fortunately, some water, enough for men's use, was found a quarter of a mile off.

Next day the battalion took a south-west course, preceded but two hours by the guides; the ground smooth, slightly descending, well covered with grass. To divide the greater labor of breaking the track, the leading company and its wagons, after an hour, were stopped until all had passed, and so with each in turn; this became the rule.

A signal smoke was seen in the afternoon—which should announce the discovery of water—perhaps fifteen miles off in front. Keeping its direction, camp was made at dusk, without water.

“Since dark Charboneaux has come in; his mule gave out, he says, and he stopped for it to rest and feed a half an hour; when going to saddle it, it kicked at him and ran off; he followed it a number of miles and finally shot it; partly I suppose from anger, and partly, as he says, to get his saddle and pistols, which he brought into camp.”

Next morning the march began before sunrise. “All admired the singular and unusual beauty which followed its rising; but once or twice before had a mirage (caused on great plains by unusual vapor) been observed. A distant mountain ridge became the shore of a luminous lake, in which nearer mountains or hills showed as a vast city,—castles, churches, spires! even masts and sails of shipping could be seen by some.”

In the mountain ridge the water was found, but it was not enough for the men to drink; it was soon gone, and the poor fellows were waiting for it to leak from the rocks, and dipping it with spoons! There was nothing to do but toil on over the ridge. Six miles beyond, a guide was met with news of water three leagues further on.

We came in sight of what was apparently a river,

but we believed it to be sand. For hours I rode on, approaching it obliquely, but seemed to get no nearer. At last I struck it after sundown, and found it something extraordinary; it was said to be the bottom of a long dry lake or swamp. It appeared, in the obscurity, something between smooth marble and a great sheet of ice; wagons moved with traces unstretched, and made no track. I sent to order those in the rear to bear to the right, and take advantage of it much sooner. I passed it in two miles, and found at its shore a swampy spot, with deep water holes.

The wagons arrived about eight o'clock, having been thirteen hours in motion. We had marched forty miles in thirty-six hours, without water. But for the dry lake, we should not have reached the water until the next day. Mr. Hall came to the right of the ridge, and he thought it a shorter way.

A small trading party of Mexicans was found at this point, where the battalion remained the next day, the two last wagons only coming up that night.

Twenty-one mules were purchased of the Mexicans, who gave a good report of a route to San Bernadino; and one of them was engaged as a guide, and to assist in opening communication with the

Apaches, whom they report to have plenty of mules, they having lately returned from a successful raid into Sonora.

The clay flat which is thirty miles long, is called by the Mexicans Las Playas. "There occurred here, ten years ago, a very extraordinary and treacherous massacre. An American named Johnson with seventeen men of various nationalities, (with also a Mexican captain and four soldiers, but who are said to have left him before the occurrence) had come from Sonora on a plundering expedition against the Apaches, and for their scalps, for which fifty dollars each were then offered by the government of Sonora. Johnson met here above a hundred men, besides women and children of the Apaches, for trade; they had gathered round close, and unsuspected he had concealed a swivel between two bags of flour; it was loaded to the muzzle with balls and chain. A man sat smoking, and at the signal, uncovered the breech and fired; this was followed by two rapid discharges of small arms.

"At this explosion, seemingly from the ground, and unexpected as an earthquake, the Indians not mangled or killed, fled in consternation. Johnson's

party soon retired and were followed and fired upon without effect by a party of the Apaches; but they killed seven more of them, and reached Yanos in rapid retreat. They took from the body of the chief, Juan Josè, who was slain, an order which Santa Anna in his Texan campaign, had sent to a general officer; the Indians had captured it. Johnson still lives in Sonora."

In the three days following, about forty miles were marched in the general south-west course, passing a low mountain gap, through broken country, finding some small streams and good grass.

"Whilst the train was crawling up the pass, I discovered Charboneaux near the summit in pursuit of bears. I saw three of them up among the rocks, whilst the bold hunter was gradually nearing them. Soon he fired, and in ten seconds again; then there was confused action, one bear falling down, the others rushing about with loud fierce cries, amid which the hunter's too, could be distinguished; the mountain fairly echoed. I much feared he was lost, but soon, in his red shirt, he appeared on a rock; he had cried out, in Spanish, for more balls. The bear was rolled down, and butchered before the

wagons passed. It is a fact that both shots—and the ball of the second, passed from the hunter's mouth into the muzzle of his gun with only its weight to send it home—made but one hole in the bear's skin, in the side, and one ball ranged forward, the other back. . . . There is much that is strange on this table-land, studded with peaks and mountains of every shape; but this afternoon all must have been struck with the quiet beauty of the scene. The mountain passed, before us we saw a smooth plain, narrow, but unbounded to the front; the grama grass waving with the south wind, received from the slant sunshine a golden sheen; but the whole had a blue and purple setting of mountain ranges on either side; the light, the shadows, the varying distances gave variety and beauty of hue; the near heights dotted with cedars, the silvered granite peaks, and the far off summits of the Gila Mountains; and then the tree tops of the Las Animas, which we approached, gave the cheering promise, which the bracing air welcomed, of comfort and rest."

November 28th, a faint road was struck, believed to be from Yanos; it very soon led to a very precipitous and rocky descent of perhaps a thousand

feet into the heart of a wild confusion of mountains, which extended as far as could be seen. It was soon discovered that the trail could not, at its first descent, at least, be made passable for the wagons; water within a mile was fortunately discovered, and the battalion camped. Leroux and all but one of the guides were still absent. Some exploration was then made; all pronounced the first descent impassable for wagons; but immediately a large party was sent to work a passage-way. That night Leroux arrived, bringing an Apache chief, whom he had managed with difficulty and much address. Next morning it was owing to Leroux's positive assertions and arguments, that there could be, and was no other pass but the horse trail, that I did not insist upon his thorough examination. He even asserted, but was mistaken, that he *had* examined an opening I had seen from an eminence, and believed might be a wagon road. Meanwhile the party continued, the second day, hard at work with crowbar, pick, etc., while I sent one company and about half the baggage, packed on mules, to the first water on the trail in a deep ravine below. It was about six miles, and the mules were brought back

in the evening. Next morning they took the rest of the loading, and I succeeded that day with much labor and difficulty, in getting the wagons to the new camp. Some were let down by ropes, and one was broken. About this time, Doctor Foster, interpreter, accidentally found the intersection of an old wagon road with mine, and said he followed it back, and that it led to the verge of the plain about a mile from our point of descent. He says this is called the pass of Guadalupe, and that it is the only one for many hundred miles to the south, by which the broken descent from the great table-land of Mexico can be made by wagons, and rarely by pack mules

“The scenery to-day was grand and picturesque. At one place there is a pass not thirty paces wide; on one side a cliff overhangs the road; just opposite on a vertical base of solid rock, forty feet high, rests another rock of a rounded cubical form of about twenty-five feet dimensions; on its top rests still another of spherical shape, twelve or fifteen feet in diameter. The mountains and sharp ravines were well covered with the new species of oak of large size, cedar, sycamore, etc., Spanish bayonet, mez-

quit and other shrubs, all of a bright green. We descended about one thousand feet. Private Allen has disappeared."

December 1st.—Seven miles were made down the dry bed of a mountain stream, and the pioneers went to the edge of a prairie, and returned. The scenery was beautiful; broken mountains, precipices, and a confusion of rocks; the mezcal and Spanish bayonet become trees; evergreen oaks, cottonwoods and sycamores brilliantly colored by frost. "Messrs. Smith, Hall, and myself have ascended a peak, near by, some eight hundred feet high. Our view was extensive. A few miles to the south, we saw the Huaqui, which becoming a large river, empties far down into the Gulf of California. To the north-west we saw a prairie for thirty or forty miles, narrowed by the mountains, seen every where else, to a gap-like outlet. We supposed that must be our course. San Bernadino was not visible. The top of the mountain was about thirty yards by fifteen. I suggested what a world's wonder it would be, set like a gem in the grounds of the capitol. The rocks, like all on this mountain, glittered with crystals of silice, white, pink, and even purple; there

grew a giant mezcal thirty feet high, and others of this year; bristling spheres of green bayonets, three feet long; several shrubs without a name; cacti, from a little pink ball at your feet, to the size of trees; a nondescript, thought to be of that family, sending out rods fourteen feet long, with rosin for bark, and two inch spikes for leaves, which I named 'devil rod,' etc."

That night thick ice formed in the tents. Next day the battalion was soon clear of the cañon, and eight miles brought them into and across wide meadows to the old houses of the rancho of San Bernadino; it is enclosed by a wall with two regular bastions; the spring is fifteen paces in diameter. The soil was thought good, but the grass at that time was poor; the rising ground beyond was a mezquit chaparral.

Before this rancho was desolated by the Apaches, there were reported to be eighty thousand cattle on it; the Gila was said to be its northern boundary.

The ox, in a perfectly wild state, abounds here; the guides have shot three or four. As we descended from the high ground, an immense red bull rushed by in front, at great speed; it was more novel and exciting than the sight of buffaloes.

The following day, December 3d, was passed at San Bernadino. The hope of obtaining mules of the Apaches resulted in disappointment; quite a number of them came to the camp, but none of the village which Leroux had visited; they gave information as to the route to the San Pedro, and promised a guide. They are poor, dirty Indians, but are generally dressed in cotton shirts, and many in trousers; they wear fine moccasins, with tops, or leggings attached. They ride fine horses, and are armed with formidable lances, guns and bows; they are ugly and squalid, wear their hair generally long, and in various fashions. They wear a kind of leather skull cap, now and then ornamented by feathers. They seem to understand Spanish, and no doubt speak it, imperfectly; but all Indians have a singular aversion to using, when not really necessary, any language foreign to them; their own tongue is, by far, the most brutal grunt that I have ever heard; their lips scarcely move, and the words come out a stuttering, jerking guttural.

That day, Allen—who is the only member of the battalion not a Mormon,—got back after an absence of five days; he had found our road just beyond the

first descent into the pass, and his great misfortunes seem to have turned upon his taking it for granted that the command could not have come that way; he had been stripped of every thing by Indians, and, having no knife, had eaten of a dead horse, in the fashion of a wolf.

A party of pioneers worked on a Fronteras trail, as far as it should be followed,—six or eight miles, and finding water, returned. Hunting parties were sent out, and brought in at night, beef enough for five days.

December 4th.—No Indians came in, and the guides were sent forward. In the afternoon the battalion marched eight miles to the west, into a pass of a low range of hills. There is a remarkable rock one hundred feet high just back of the camp; and in front, a peak with a façade of rock apparently painted green, yellow and brown; it is the natural color combined with moss; between is a rocky basin of water, and there is some good grass. Apparently hundreds of wild cattle come here to water daily. The road which we cut to-day is much up hill, and generally through thickets of mezquit, or thorny bushes. This camp is less than twenty miles from Fronteras, Sonora.

December 5th.—The defile was long and rough; the tongue of a wagon was broken; but some of the useful parts were brought on. The condition of many of the mules may be judged from the fact that two died last night, the warmest for a month, after several days' rest, and a march of only eight miles. Fourteen miles brought me to a large spring, which as usual, is lost after running a few yards. I met the Indian guide passing back rapidly on his grey horse, bow in hand, and giving the column a wide berth. I however brought him to, and had a little talk with him in barbarous Spanish. He was very uneasy. I thought at first he had run off from Leroux. The wild cattle are very numerous. I saw one killed, but only after twenty wounds, and a number of the shots at ten paces, as sometimes with buffalo. Mr. Hall was chased by one, and put in much danger by the obstinacy of his mule. I measured the spinal process of one, ("hump rib") that was eleven inches in length.

On the 6th, the battalion cut its way twelve miles through mezquit; there was rain and some snow, so that a camp at a water hole at a fine grove of oak and walnut was very welcome. The assim-

ilation of the wild cattle to buffalo, was further observed in the separation, most of the year, of bulls from all the rest. Cows or calves were scarcely seen, and none killed.

Next day the battalion remained in camp, and were busy smoking beef. In the evening a guide returned, reporting no water for twelve miles, but the grass unusually green, and indications of the river being not many miles beyond.

December 8th.—There was a march of seventeen miles to the north-west, and the battalion had to do without water. The valley of the San Pedro, stretching far north, gave indications that the river was very near. They passed near a field of snow. Wild horses were seen very near.

December 9th.—I marched at sunrise. As we approached a long black streak of mezquit, etc., where we imagined we should find the San Pedro, we were much disappointed. We fell into the smooth valley of a dry branch, and I finally, in my great anxiety, feared we had passed too far south for the river, or that this dry branch was the head of it; the guides had all become doubtful themselves. Troops of wild horses, cattle and antelopes,