to meet us from the village below. We made them some small presents and invited them to accompany us to our encampment, which, after about three miles through fine oak-groves, we made on the river. We made a fort, principally on account of our animals.

The Indians brought otter-skins and several kinds of fish, and bread made of acorns, to trade. Among them were several who had come to live among these Indians when the missions were broken up, and who spoke Spanish fluently. They informed us that they were called by the Spaniards *mansitos* (tame), in distinction from the wilder tribes of the mountains: they, however, think themselves very insecure, not knowing at what unforeseen moment the sins of the latter may be visited on them. They are dark-skinned, but handsome and intelligent Indians, and live principally on acorns and the roots of the tulé, of which also their huts are made.

By observation the latitude of the encampment is 36° 24′ 50″, and longitude 119° 41′ 40″.

April 9th.—For several miles we had very bad travelling over what is called rotten ground, in which the horses were frequently up to their knees. Making toward a line of timber we found a small fordable stream, beyond which the country improved and the grass became excellent; and, crossing a number of dry and timbered *arroyos*, we travelled until late through open oak-groves, and encamped among a collection of streams. These were running among rushes and willows; and, as usual, flocks of blackbirds announced our approach to water.

We have here approached considerably nearer to the eastern Sierra, which shows very plainly, still covered with masses of snow, which yesterday and to-day has also appeared abundant on the Coast Range.

April 10th.—To-day we made another long journey of about forty miles, through a country uninteresting and flat, with very little grass and a sandy soil, in which several branches we crossed had lost their water. In the evening the face of the country became hilly; and, turning a few miles up toward the mountains, we found a good encampment on a pretty stream hidden among the hills, and handsomely timbered, principally with large cotton-woods (*populus*, differing from any in Michaux's "Sylva"). The seed-vessels of this tree were now just about bursting.

Several Indians came down the river to see us in the evening: we gave them supper, and cautioned them against stealing our horses, which they promised not to attempt.

April 11th.—A broad trail along the river here takes out among the hills. "Buen camino" (good road), said one of the Indians, of whom we had inquired about the pass; and, following it accordingly, it conducted us beautifully though a very broken country, by an excellent way which, otherwise, we should have found extremely bad. Taken separately, the

hills present smooth and graceful outlines, but together, make bad travelling ground.

Instead of grass, the whole face of the country is closely covered with *Erodium cicutarium*, here only two or three inches high. Its height and beauty varied in a remarkable manner with the locality, being, in many low places which we passed during the day, around streams and springs, two and three feet in height. The country had now assumed a character of aridity; and the luxuriant green of these little streams, wooded with willow, oak, or sycamore, looked very refreshing among the sandy hills.

In the evening we encamped on a large creek with abundant water. I noticed here, for the first time since leaving the Arkansas waters, the *Mirabilis jalapa* in bloom.

April 12th.—Along our road to-day the country was altogether sandy, and vegetation meagre. *Ephedra occidentalis*, which we had first seen in the neighborhood of the Pyramid Lake, made its appearance here, and in the course of the day became very abundant, and in large bushes.

Toward the close of the afternoon we reached a tolerably large river, which empties into a small lake at the head of the valley: it is about thirty-five yards wide, with a stony and gravelly bed, and the swiftest stream we have crossed since leaving the bay. The bottoms produced no grass, though well timbered with willow and cotton-wood; and, after ascending it for several miles, we made a late encampment on a little bottom with scanty grass. In greater part, the vegetation along our road consisted now of rare and unusual plants, among which many were entirely new.

Along the bottoms were thickets consisting of several varieties of shrubs, which made here their first appearance; and among these was *Garrya elliptica* (Lindley), a small tree belonging to a very peculiar natural order, and, in its general appearance (growing in thickets), resembling willow. It now became common along the streams, frequently supplying the place of *Salix longifolia*.

April 13th.—The water was low, and a few miles above we forded the river at a rapid, and marched in a southeasterly direction over a less broken country. The mountains were now very near, occasionally looming out through fog. In a few hours we reached the bottom of a creek without water, over which the sandy beds were dispersed in many branches. Immediately where we struck it the timber terminated; and below, to the right, it was a broad bed of dry and bare sands. There were many tracks of Indians and horses imprinted in the sand, which, with other indications, informed us thus was the creek issuing from the pass, and which on the map we have called Pass Creek.

We ascended a trail for a few miles along the creek and suddenly

found a stream of water, five feet wide, running with a lively current, but losing itself almost immediately. This litttle stream showed plainly the manner in which the mountain waters lose themselves in sand at the eastern foot of the Sierra, leaving only a parched desert and arid plains beyond. The stream enlarged rapidly, and the timber became abundant as we ascended.

A new species of pine made its appearance, with several kinds of oaks, and a variety of trees; and the country changing its appearance suddenly and entirely, we found ourselves again travelling among the old orchard-like places. Here we selected a delightful encampment in a handsome, green-oak hollow, where, among the open bolls of the trees, was an abundant sward of grass and pea-vines.

In the evening a Christian Indian rode into the camp, well dressed, with long spurs and a *sombrero*, and speaking Spanish fluently. It was an unexpected apparition and a strange and pleasant sight in this desolate gorge of a mountain—an Indian face, Spanish costume, jingling spurs, and horse equipped after the Spanish manner. He informed me that he belonged to one of the Spanish missions to the south, distant two or three days' ride, and that he had obtained from the priests leave to spend a few days with his relations in the Sierra. Having seen us enter the *pass*, he had come down to visit us. He appeared familiarly acquainted with the country, and gave me definite and clear information in regard to the desert region east of the mountains. I had entered the pass with a strong disposition to vary my route, and to travel directly across toward the Great Salt Lake, in the view of obtaining some acquaintance with the interior of the Great Basin, while pursuing a direct course for the frontier; but his representation, which described it as an arid and barren desert, that had repulsed by its sterility all the attempts of the Indians to penetrate it, determined me for the present to relinquish the plan; and, agreeably to his advice, after crossing the Sierra, continue our intended route along its eastern base to the Spanish trail. By this route a party of six Indians, who had come from a great river in the eastern part of the desert to trade with his people, had just started on their return. He would himself return the next day to *San Fernando;* and as our roads would be the same for two days, he offered his services to conduct us so far on our way. His offer was gladly accepted.

The fog, which had somewhat interfered with views in the valley, had entirely passed off and left a clear sky. That which had enveloped us in the neighborhood of the pass proceeded evidently from fires kindled among the tulares by Indians living near the lakes, and which were intended to warn those in the mountains that there were strangers in the valley. Our position was in latitude 35° 17′ 12″, and longitude 118° 35′ 03″.

April 14th.—Our guide joined us this morning on the trail; and, arriving in a short distance at an open bottom where the creek forked, we continued up the right-hand branch, which was enriched by a profusion of flowers, and handsomely wooded with sycamore, oaks, cotton-wood, and willow, with other trees and some shrubby plants. In its long strings of balls this sycamore differs from that of the United States, and is the *Platanus occidentalis* of Hooker—a new species recently described among the plants collected in the voyage of the Sulphur. The cotton-wood varied its foliage with white tufts, and the feathery seeds were flying plentifully through the air. Gooseberries, nearly ripe, were very abundant on the mountain; and as we passed the dividing grounds, which were not very easy to ascertain, the air was filled with perfume, as if we were entering a highly-cultivated garden; and, instead of green, our pathway and the mountain sides were covered with fields of yellow flowers, which here was the prevailing color.

Our journey to-day was in the midst of an advanced spring, whose green and floral beauty offered a delightful contrast to the sandy valley we had just left. All the day snow was in sight on the butte of the mountain, which frowned down upon us on the right; but we beheld it now with feelings of pleasant security, as we rode along between green trees and on flowers, with humming-birds and other feathered friends of the traveller enlivening the serene spring air.

As we reached the summit of this beautiful pass, and obtained a view into the eastern country, we saw at once that here was the place to take leave of all such pleasant scenes as those around us. The distant mountains were now bald rocks again; and below, the land had any color but green. Taking into consideration the nature of the Sierra Nevada, we found this pass an excellent one for horses; and with a little labor, or perhaps with a more perfect examination of the localities, it might be made sufficiently practicable for wagons. Its latitude and longitude may be considered that of our last encampment, only a few miles distant. The elevation was not taken—our half-wild cavalcade making it too troublesome to halt before night, when once started.

We here left the waters of the Bay of San Francisco, and though forced upon them contrary to my intentions, I cannot regret the necessity which occasioned the deviation. It made me well acquainted with the great range of the Sierra Nevada of the Alta California, and showed that this broad and elevated snowy ridge was a continuation of the Cascade Range of Oregon, between which and the ocean there is still another and a lower range, parallel to the former and to the coast, and which may be called the Coast Range. It also made me well acquainted with the basin of the San Francisco Bay, and with the two fine rivers and their valleys (the Sacra-

mento and San Joaquin) which are tributary to that bay; and cleared up some points in geography on which error had long prevailed.

It had been constantly represented, as I have already stated, that the Bay of San Francisco opened far into the interior, by some river coming down from the base of the Rocky Mountains, and upon which supposed stream the name of Rio Buenaventura had been bestowed. Our observations of the Sierra Nevada, in the long distance from the head of the Sacramento to the head of the San Joaquin, and of the valley below it, which collects all the waters of the San Francisco Bay, show that this neither is nor can be the case. No river from the interior does, or can, cross the Sierra Nevada—itself more lofty than the Rocky Mountains; and as to the Buenaventura, the mouth of which seen on the coast gave the idea and the name of the reputed great river, it is, in fact, a small stream of no consequence, not only below the Sierra Nevada, but actually below the Coast Range—taking its rise within half a degree of the ocean, running parallel to it for about two degrees, and then falling into the Pacific near Monterey. There is no opening from the Bay of San Francisco into the interior of the continent. The two rivers which flow into it are comparatively short, and not perpendicular to the coast, but lateral to it, and having their heads toward Oregon and Southern California. They open lines of communication north and south, and not eastwardly; and thus this want of interior communication from the San Francisco Bay, now fully ascertained, gives great additional value to the Columbia, which stands alone as the only great river on the Pacific slope of our continent which leads from the ocean to the Rocky Mountains, and opens a line of communication from the sea to the Valley of the Mississippi.

Four *compañeros* joined our guide at the pass; and two going back at noon, the others continued on in company. Descending from the hills, we reached a country of fine grass, where the *Erodium cicutarium* finally disappeared, giving place to an excellent quality of bunch grass. Passing by some springs where there was a rich sward of grass among groves of large black oak, we rode over a plain on which the guide pointed out a spot where a refugee Christian Indian had been killed by a party of soldiers which had unexpectedly penetrated into the mountains.

Crossing a low sierra, and descending a hollow where a spring gushed out, we were struck by the sudden appearance of *yucca* trees, which gave a strange and southern character to the country, and suited well with the dry and desert region we were approaching. Associated with the idea of barren sands, their stiff and ungraceful form makes them to the traveller the most repulsive tree in the vegetable kingdom. Following the hollow, we shortly came upon a creek wooded with large black oak, which yet had not put forth a leaf. There was a small rivulet of running water with good grass.

April 15th.—The Indians who had accompanied the guide returned this morning, and I purchased from them a Spanish saddle and long spurs, as reminiscences of the time; and for a few yards of scarlet cloth they gave me a horse, which afterward became food for other Indians.

We continued a short distance down the creek, in which our guide informed us that the water very soon disappeared, and turned directly to the southward along the foot of the mountain; the trail on which we rode appearing to describe the eastern limit of travel, where water and grass terminated.

Crossing a low spur, which bordered the creek, we descended to a kind of plain among the lower spurs; the desert being in full view on our left, apparently illimitable. A hot mist lay over it to-day, through which it had a white and glistening appearance; here and there a few dry-looking buttes and isolated black ridges rose suddenly upon it. "There," said our guide, stretching out his hand toward it, "there are the great *llanos* (plains); *no hay agua; no hay zacate—nada* (there is neither water nor grass—nothing); every animal that goes out upon them dies." It was indeed dismal to look upon, and hard to conceive so great a change in so short a distance. One might travel the world over without finding a valley more fresh and verdant, more floral and sylvan, more alive with birds and animals, more bounteously watered, than we had left in the San Joaquin: here, within a few miles' ride, a vast desert plain spread before us, from which the boldest traveller turned away in despair.

Directly in front of us, at some distance to the southward, and running out in an easterly direction from the mountains, stretched a sierra, having at the eastern end (perhaps fifty miles distant) some snowy peaks, on which, by the information of our guide, snow rested all the year.

Our cavalcade made a strange and grotesque appearance, and it was impossible to avoid reflecting upon our position and composition in this remote solitude. Within two degrees of the Pacific Ocean; already far south of the latitude of Monterey; and still forced on south by a desert on one hand and a mountain range on the other; guided by a civilized Indian, attended by two wild ones from the Sierra; a Chinook from the Columbia; and our own mixture of American, French, German—all armed; four or five languages heard at once; above a hundred horses and mules, half wild; American, Spanish, and Indian dresses and equipments intermingled—such was our composition.

Our march was a sort of procession. Scouts ahead, and on the flanks; a front and rear division; the pack-animals, baggage, and horned cattle in the centre; and the whole stretching a quarter of a mile along our dreary path. In this form we journeyed; looking more as if we belonged to Asia than to the United States of America.

We continued in a southerly direction across the plain, to which, as well as to all the country so far as we could see, the *yucca* trees gave a strange and singular character. Several new plants appeared, among which was a zygophyllaceous shrub (*Zygophyllum Californicum* Torr. and Frem.) sometimes ten feet in height; in form, and in the pliancy of its branches, it is rather a graceful plant. Its leaves are small, covered with a resinous substance; and, particularly when bruised and crushed, exhale a singular, but very agreeable and refreshing odor. This shrub and the *yucca*, with many varieties of cactus, make the characteristic features in the vegetation for a long distance to the eastward.

Along the foot of the mountain, twenty miles to the southward, red stripes of flowers were visible during the morning, which we supposed to be variegated sandstones. We rode rapidly during the day, and in the afternoon emerged from the *yucca* forest at the foot of an outlier of the Sierra before us, and came among the fields of flowers we had seen in the morning, which consisted principally of the rich orange-colored Californian poppy, mingled with other flowers of brighter tints. Reaching the top of this spur, which was covered with fine bunch grass, and where the hills were very green, our guide pointed to a small hollow in the mountain before us, saying, "*En esta piedra hay agua.*" He appeared to know every nook in the country.

We continued our beautiful road, and reached a spring in the slope at the foot of the ridge, running in a green ravine, among granite boulders; here nightshade, and borders of buckwheat, with their white blossoms among the granite rocks, attracted our notice as familiar plants. Several antelopes were seen among the hills, and some large hares. Men were sent back this evening in search of a wild mule with a valuable pack, which had managed (as they frequently do) to hide itself along the road.

By observation the latitude of the camp is 34° 41′ 42″, and longitude 118° 20′ 00″. The next day the men returned with the mule.

April 17th.—Crossing the ridge by a beautiful pass of hollows, where several deer broke out of the thickets, we emerged at a small salt lake in a *vallon* lying nearly east and west, where a trail from the mission of *San Buenaventura* comes in. The lake is about one thousand two hundred yards in diameter; surrounded on the margin by a white salty border, which, by the smell, reminded us slightly of Lake Abert. There are some cotton-woods, with willow and elder, around the lake; and the water is a little salt, although not entirely unfit for drinking.

Here we turned directly to the eastward along the trail, which, from being seldom used, is almost imperceptible; and, after travelling a few miles, our guide halted, and, pointing to the hardly visible trail, "*Aqui es camino,*" said he, "*no se pierde—va siempre.*" He pointed out a black butte on the

plain at the foot of the mountain, where we would find water to encamp at night; and, giving him a present of knives and scarlet cloth, we shook hands and parted. He bore off south, and in a day's ride would arrive at San Fernando, one of several missions in this part of California, where the country is so beautiful that it is considered a paradise, and the name of its principal town (*Pueblo de los Angeles*) would make it angelic.

We continued on through a succession of valleys, and came into a most beautiful spot of flower fields; instead of green, the hills were purple and orange, with unbroken beds, into which each color was separately gathered. A pale straw color, with a bright yellow, the rich red-orange of the poppy mingled with fields of purple, covered the spot with a floral beauty; and, on the border of the sandy deserts, seemed to invite the traveller to go no farther. Riding along through the perfumed air we soon after entered a defile overgrown with the ominous *Artemisia tridentata*, which conducted us into a sandy plain covered more or less densely with forests of *yucca*.

Having now the snowy ridge on our right, we continued our way toward a dark butte belonging to a low sierra in the plain, and which our guide had pointed out for a landmark. Late in the day the familiar growth of cotton-wood, a line of which was visible ahead, indicated our approach to a creek, which we reached where the water spread out into sands, and a little below sank entirely. Here our guide had intended we should pass the night; but there was not a blade of grass, and, hoping to find nearer the mountain a little for the night, we turned up the stream. A hundred yards above we found the creek a fine stream, sixteen feet wide, with a swift current.

A dark night overtook us when we reached the hills at the foot of the ridge, and we were obliged to encamp without grass—tying up what animals we could secure in the darkness, the greater part of the wild ones having free range for the night. Here the stream was two feet deep, swift and clear, issuing from a neighboring snow-peak. A few miles before reaching this creek, we had crossed a broad, dry river bed, which, nearer the hills, the hunters had found a bold and handsome stream.

April 18th.—Some parties were engaged in hunting up the scattered horses, and others in searching for grass above; both were successful, and late in the day we encamped among some spring heads of the river, in a hollow which was covered with only tolerably good grasses, the lower ground being entirely overgrown with large bunches of the coarse stiff grass (*Carex sitchensis*).

Our latitude, by observation, was 34° 27′ 03″; and longitude 117° 43′ 21″.

Travelling close along the mountain, we followed up, in the afternoon of the 19th, another stream, in hopes to find a grass patch like that of the