

SAN FELIPPE.

Fé was wanted to equip them; I had, therefore, to apply to Mr. Rich, the sutler, who furnished me with what funds I required. I also procured a few simple medicines from our well known surgeon, Dr. Decamp, and thus furnished, with a party of three men, did Lieutenant Peck and I start to make the survey of New Mexico.

We marched this afternoon but six miles, and then encamped at "Agua Fria;" here we were obliged to purchase fodder and wood. On our road we noticed much of the "Scincio filifoliis," cedar, artemisia, and several species of cacti.

October 9.—As we were in want of meat, we were obliged to purchase of the man from whom we had obtained the fodder. He would not consent to receive less than \$1 50 for a sheep; \$1 is generally the price throughout Mexico.

After a short march, we reached "Cienega," a very well watered place, as its name denotes; the neighboring hills are full of springs, the waters of clear rivulets are rushing across our path in all directions.

We noticed some large "grullas," blue cranes, in the low grounds, and several flocks of wild geese. This valley is well settled; every minute we saw the pastores, driving their flocks of sheep and goats; we saw, too, the invaluable shepherd dogs, assisting their masters. These dogs are remarkable for their sagacity, and are perfectly skilled in the management of the fold.

We had a very windy day, and the dust flew about in great profusion. After a march of seventeen miles, we encamped on "Galisteo creek." The water is very brackish, and the bed of the stream white with saline efflorescences. The country around shows considerable disturbance; the rocks, which are of sandstone, have an easterly dip of from 20° to 30°, and there are numerous volcanic dikes intersecting each other in various angles.

The Rio Galisteo empties into the Del Norte a short distance north of the Pueblo of Santo Domingo, and five miles to the south of the embouchure of the Rio de Santa Fé. In many places the waters are absorbed by the sandy soil, over which they have to flow; but water is always to be found by following up the bed of the stream.

October 10.—The rock around us consists of sandstone, underlaid by purple and white clays, and below these a dark ferruginous clay.

The *yucca angustifolia* was abundant, and we noticed a new species of stramonium.

The first part of our journey led us down the bed of the creek, and was very sandy; ere long we overtook some ox teams; they had been out four days from Santa Fé, and their oxen had had nothing to eat; already three yoke had fallen down from exhaustion, and had been left on the road. After a journey of 17 miles, we crossed the "Rio Tuerto," and encamped near the village of "San Philippe." At the time Pike visited this country, there was a wooden bridge of eight arches thrown across the river at St. Phillippe; but it has been entirely swept away, and the people are now obliged to

wade across. The river runs with great rapidity, and is from three to four feet deep.

Our camp was soon surrounded by Indians. They brought us musk melons, corn, and pumpkins. Their women have a curious habit of stuffing their leggings with wool or cotton. This makes their ancles look very large. We saw large flocks of geese and blue cranes; also some teal.

October 11—This morning we started up the river for the village of Santo Domingo. After a short march we reached "Cobero," and were most hospitably received by Señor Don José Montejo, who seems to be the proprietor of the whole place. Although he had finished his breakfast, yet he insisted on having another prepared for us. He gave us "los entraños de carnero" and tripe chopped up; also an abundance of "tortillas" and milk that had been salted and boiled. The milk is prepared thus in order to keep it during warm weather from turning sour. One big goblet of water was set in the middle of the table. From this we were all to drink.

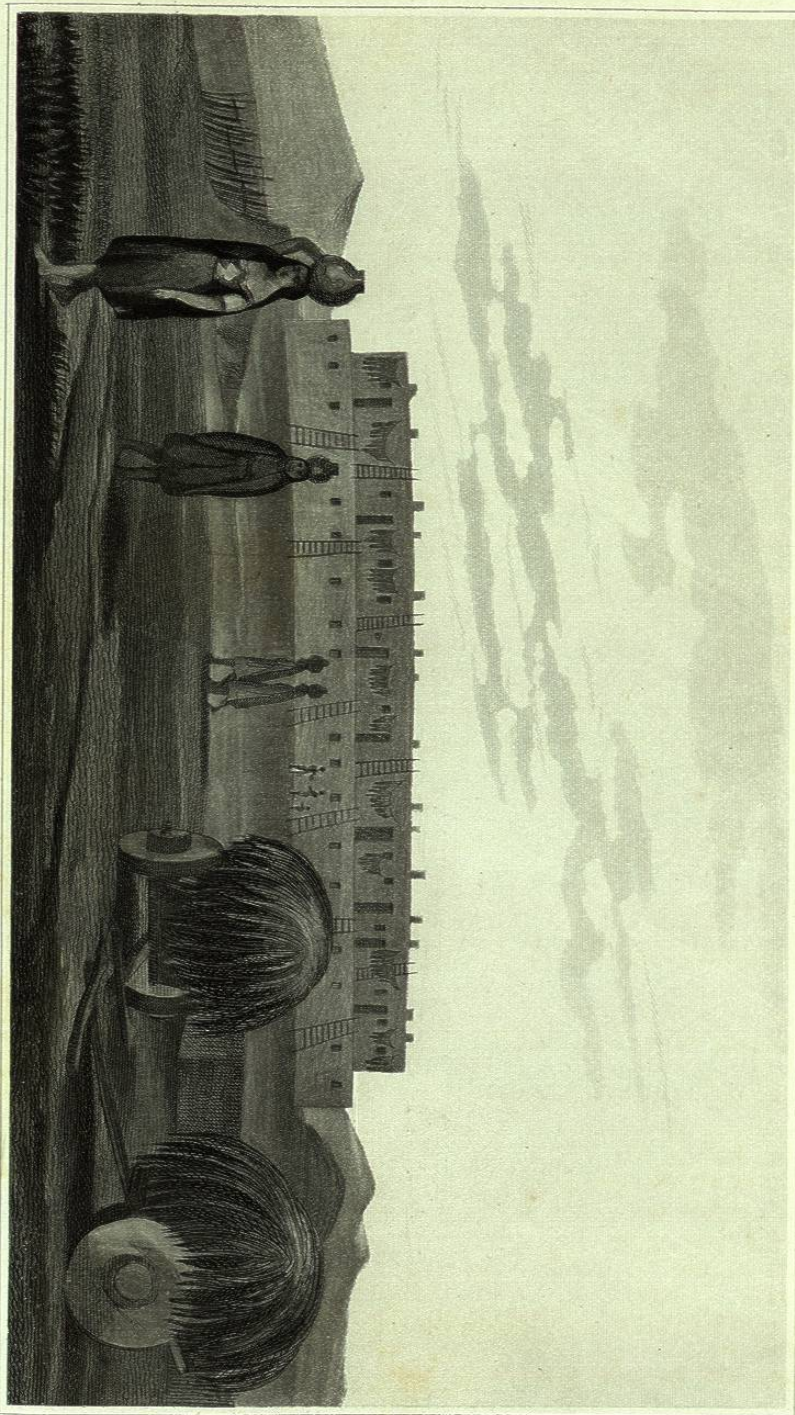
I tried to bargain with our host for a mule, but he did not like to take gold in payment, saying "Deme plata blanca."

We now set out for Santo Domingo, passing through unfenced fields of corn and musk melons; we again crossed the river and entered the Pueblo. The houses of this town are built in blocks two stories high. The upper story is narrower than the one below, so that there is a platform or landing along the whole length of the building. To enter, you ascend to this platform by the means of ladders that could be easily removed, and, as there is a parapet wall extending along this platform, these houses could be converted into formidable forts. The front of the upper story is covered with strings of red peppers and long spiral curls of dried melons and pumpkins.

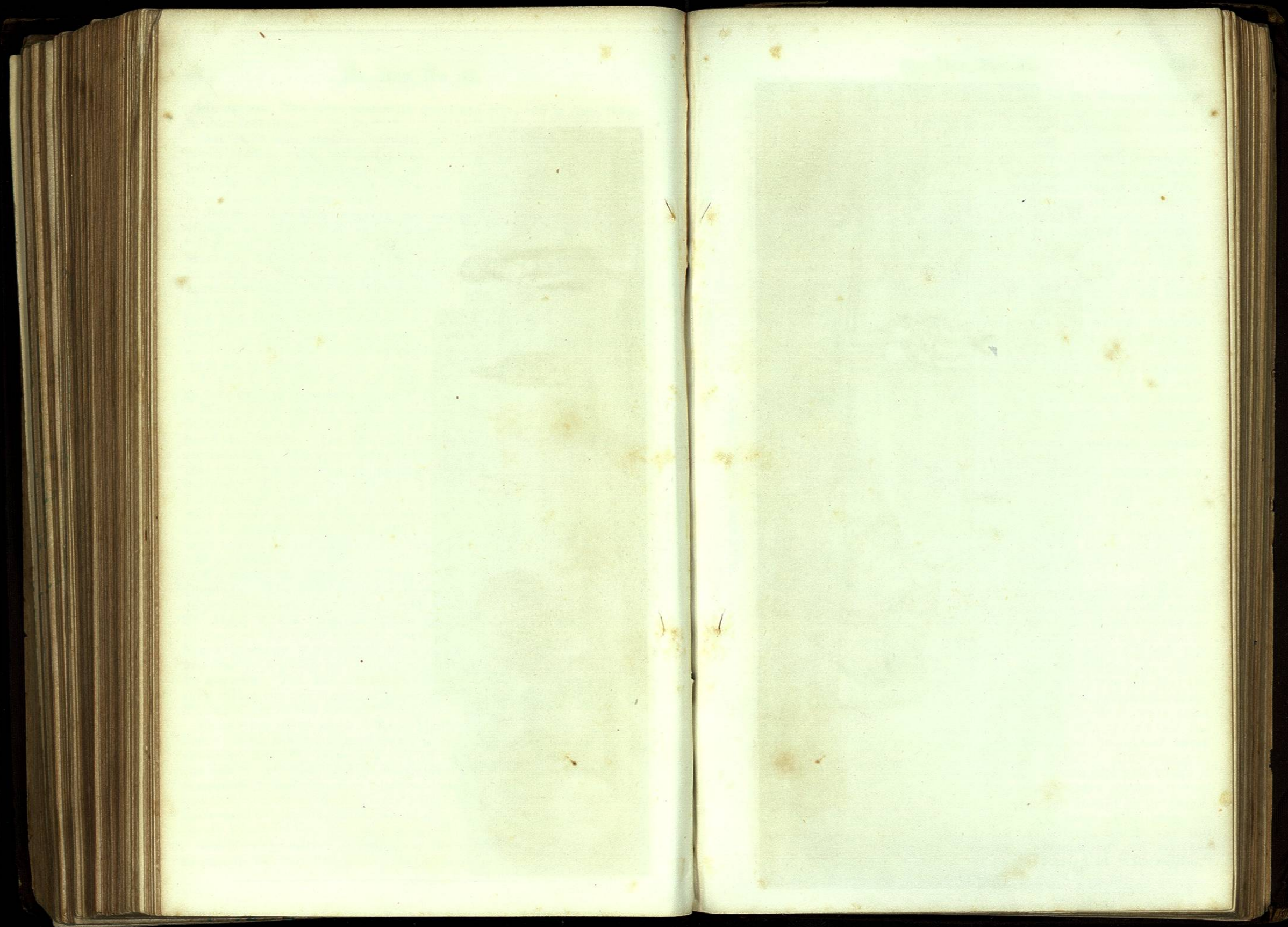
We visited the chapel, and here saw a large wax figure of Santo Domingo. The walls around were covered with oil paintings, some of them the work of excellent artists. Here, too, was a painting of St. Jago, with a long inscription beneath. We noticed on the pannels of the doors singular armorial bearings: one the cross of Santo Domingo, surmounted by a crown; the other a plain cross standing on a globe, two human arms, and these also surmounted by a crown. The Indians who went with us led us through what they called the old chapel. These people, as well as those of St. Philippe, are called Keres or Queres.

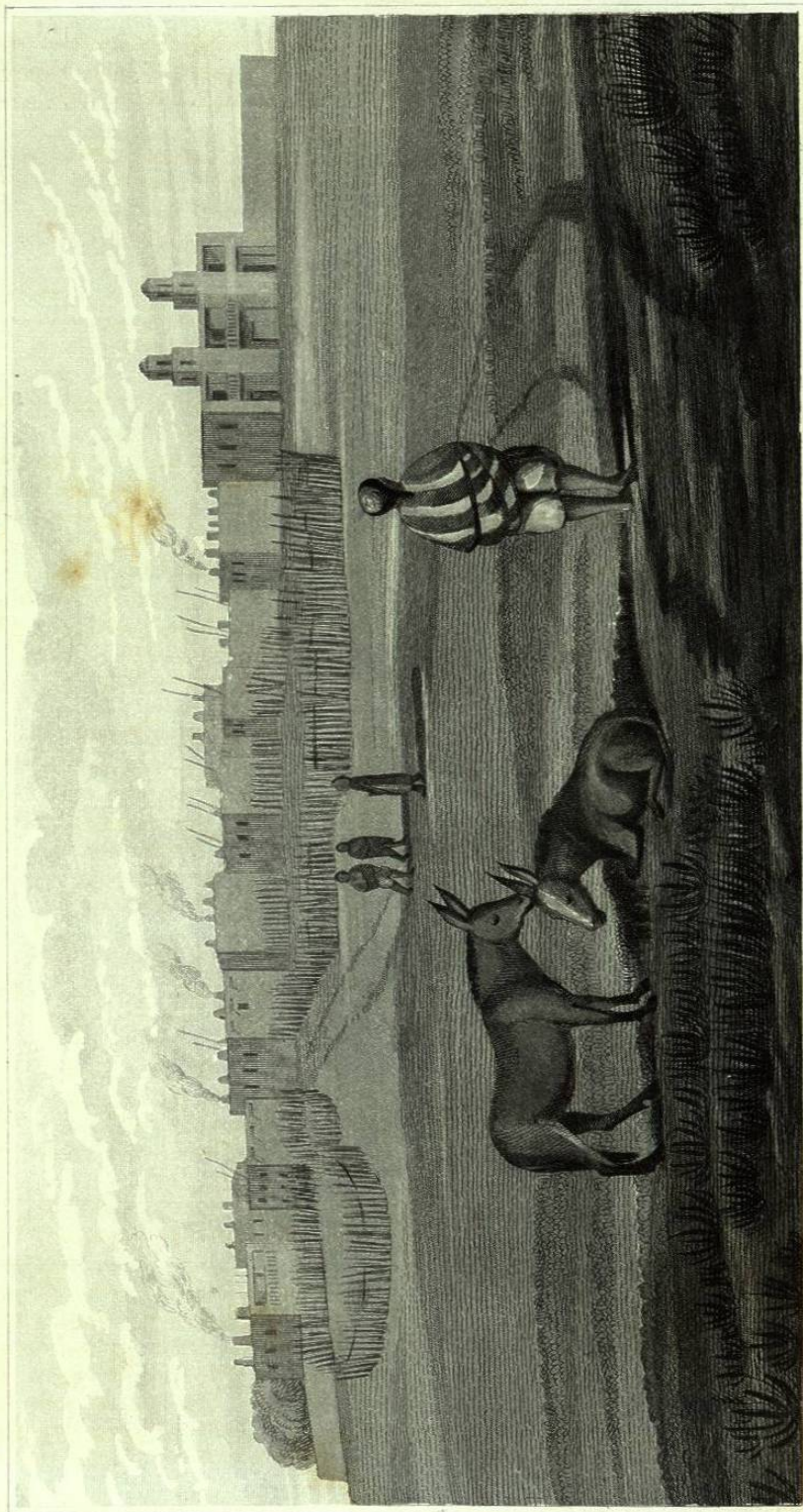
Returning, we stopped at Señor Montejos, who gave us one dinner. As his son came in while we were there, I went to him, and, showing my gold, persuaded him to sell me the mule. Some of the pieces were marked 5 D., and others *five dollars*. The first he consented to receive, after I had told him the 5 stood for "cinco" and that D. was for dollars—the American for "pesos." The other he seemed to suspect, for he would not take one of them. Fortunately I had enough that were marked 5 D.

Old Montejo offered to sell me a Navajo squaw, who happened to pass as we were bargaining for the mule; and he then related a



PUEBLO DE SANTO DOMINGO.





PUEBLO DE SANTA ANA.

long story about the depredations committed by the Navajoes; that they kept all New Mexico poor, whilst they themselves rolled in wealth; "son muy ricos, tienen muchos caballos, muchos carneras, muchos bucyos, muchos! muchos! muchos!"

October 12.—The view from this place, is particularly beautiful; on the farther side of the Rio del Norte, a high "mesa" or table land, stretches down the river; just opposite our camp it is 300 feet in height, and at the very ledge rises an ancient ruin, that from its singular position, excites the speculations of the curious.

This is quite a fertile valley, but there is so little of it, and this little the people cannot enjoy, for fear of the Navajoes, who descend from the mountains, and sweep away the "cabaladas" of the Pueblos and Mexicans, who look on unresistingly. As we descended the river, we noticed that the lower strata of the rocks resembled the saliferous formations on the Rio Canadian.

We passed through "Algodones," and a mile below, through "Angosturas," and after passing over a distance of eight miles, we reached the mouth of the "Rio Jemez." Here we got entangled amongst the "acequias," which were then full of water; but some Indians kindly extricated us. We visited "Ranchito," and saw great piles of corn, the best we had yet noticed; then we crossed the Rio del Norte, and ascended the Jemez, passing a curious pillar of volcanic rock, that rises from beds of distinctly stratified clay. These strata are curved, and in many places the volcanic rock has insinuated itself between the layers.

The Jemez valley is very sandy; the bed of the stream three-quarters of a mile in width, contains, in many places, no water, and when it is found, it is of a dark red color. After marching five miles up the Jemez, we reached the Pueblo of "St. Ana." The village was almost entirely deserted, all the inhabitants being engaged at Ranchito, gathering their corn. We had much trouble to get wood for our fires and fodder for our mules; there was no grass to be seen any where in the vicinity.

October 13.—This morning we did not start until quite late, as it required some time to obtain the bearings of the several towns around. Lieutenant Peck deserves the greatest credit for the assiduity he manifested in the performance of his duties; to-day he clambered up to the high "Mesa," that raised its top 300 feet above us, and fixed the positions of Jemez, San Isadore, and Silla. He was accompanied by a Spanish school master, who teaches the children of the Indians in St. Ana. The domine gave us much information with regard the country; he said that there were some gold mines at the head of the Rio Jemez, and told us that the Indians have much ground under cultivation on the tops of these "mesas." To be sure these "mesas" are covered with coating of volcanic rock that forms a good soil, but at such a height, where it is impossible to irrigate, and in this country where it scarcely ever rains, it seems doubtful that much vegetation should be produced.

At length we started to retrace our steps, and gain the Rio del Norte. We soon crossed the river, which was full of wild geese, and passing through "Ranchito," we marched four miles beyond that place when we arrived at "Bernalillo."

This place exhibits signs of wealth; the houses were larger than any we had yet seen; along the road side were beautiful vineyards, surrounded by high walls of adobe; we rode up to one of them, and looking over, saw some pretty "doncellas" plucking the fruit. They had round flat looking baskets, placed on their heads; these were piled with thick-clustered bunches of the purple grape, from beneath which the bright black eyes of the "doncellas" were sparkling. We could not pass by such a beautiful vineyard, so we stopped and asked for some fruit; some of the maidens, with merry faces, came towards us, when they were suddenly stopped by the gruff voice of a man crying out, that he would himself bring the grapes. We now rode round to the other side of the vineyard; here we saw long rows of vats of ox hides; they looked bloated, as if puffed out with good liquor; in them the grapes are thrown, in order to ferment, after which they are distilled to make the brandy of New Mexico. We bought as many grapes as we wished and then continued our march, until we reached some salt ponds, not far from the town, where we encamped; and here were some large flocks of blue cranes; they kept up a great whooping.

I obtained to-day a specimen of a singular lizard; we saw several large tarantula, and many meadow-larks, flying about amongst the stalks of corn; most of the corn is now being gathered.

October 14.—This morning we took the road lying close to the bluff, and we passed "Sandia," a pueblo, the houses of which are only one story high, but have no entrance except on the roof, where it is sheltered by a curious conical structure, built of adobe. These have an opening on the south side, and one ascends to the azoteas, or roof, by means of ladders. Here we saw some people driving herds of cattle; they were armed with slings, and used them most unmercifully. As the pebbles whizzed through the air, the poor beasts tossed their heads as if in great dread. The sling is mentioned by De Solis, as used by the Aztecs and Tezcucans, in battle.

Our course now led us by the side of a large acequia; this forced us to go some distance from Alemada; at last, we found a place where we could cross, and went directly to that town.

At length we reached a fine vineyard, within three miles of Albuquerque, where we purchased some onions. These vegetables grow to a remarkable size, and form one of the indispensable articles to a Mexican dinner. The adobe walls in the vicinity have the tops covered with cacti, to prevent persons from plundering the vines. We noticed, to-day, great quantities of the "myrtina," covered with large pods, now fully ripe.

The ponds by the road side were filled with ducks, geese, and cranes; it was curious to see the last mentioned birds striding along, with out-stretched necks, as they prepared to take flight.

October 15.—This morning I sallied forth, intent upon killing some of the cranes that were gathering together in the corn-fields near our camp. I soon procured a fine large bird, about five feet in height, of which I made a drawing and took the dimensions. Brant (anser bernicla) are very plenty; we got some of them also.

It is difficult, however, to approach within shooting distance, although they will generally allow one to approach quite close without a gun.

We purchased two sheep from the priest of Albuquerque; he invited us into his house, and gave us some delightful grape brandy. While there, an old Señor from "Padillas" entered the room, with a Spanish version of General Kearny's order for an expedition against the Navajoes. He had with him a long list, including the names of all the principal people in New Mexico who agreed to furnish men to join Colonel Doniphan's command.

While Lieutenant Peck and I were conversing with the priest, he asked us our names and professions. We told him; and, as soon as he understood that we belonged to the corps of topographical engineers, he said: "Ah! I suppose, then, you know something of astronomy and mathematics?" We replied, "A little;" whereupon he got a piece of paper and pencil, and drew several figures, saying, "este es el cuadro?" yes, that is a square; "este un cerco?" yes, sir; "y este es un triangulo?" yes, that is a triangle. Then throwing up the pencil, and rubbing his hands in great glee, "Ah! voy que vind son astronomicos y mathematicos." Thus, we were pronounced by the padre of Albuquerque to be astronomers and mathematicians. Soon after this discussion of the exact sciences, a very handsome lady, who graced the establishment, entered the room, and he presented us to her; saying: "Estos caballeros son astronomicos y mathematicos."

We were well pleased with our visit, and did not leave our friend until late; and he endeavored to make our time as agreeable as kindness and politeness were capable of making it.

Begging his permission, we bade him adieu and started down the river. We soon reached the ford, where we crossed the Rio del Norte, and entered the town of "Atrisco." Here we got fast in an "acequia," and were obliged to get a spade and dig down the banks of the canal before we could get the wagon out. This detained us so long that we were forced to encamp, as it was not in our power to reach the Puerco that night.

This evening we saw a very large flock of sheep and goats. The pastores said that there were 4,000 in the flock. At night, the herdsman built a large fire, and, seizing some of the lighted brands, ran around the flock; the sheep frightened, all turned their heads towards the centre, in the direction of the fire, and are not, after such a scare, likely to stray away during the night.

October 16.—We left "Atrisco," and struck boldly off towards the west, intending to reach the "Rio Puerco," hoping the next day to reach "Cibolletta," where I expected to meet Colonel Jackson, and obtain an escort to protect us in the survey west of the Rio del Norte.

At Albuquerque we were cautioned by the people against the dangers we would run before reaching Cibolletta, as the war trail of the Navajoes runs through the valley of the Puerco; and the Mexicans advised us to travel with great circumspection, and not to make any fires at night.

After marching eight miles, we arrived at a place where the road forked, and taking the plainest, we followed it until it disappeared entirely. It was one of the roads that the inhabitants of Atrisco and Albuquerque travel when they go to get fire-wood. Many roads of this kind, in the neighborhood of Mexican villages, frequently perplex and entangle the traveller.

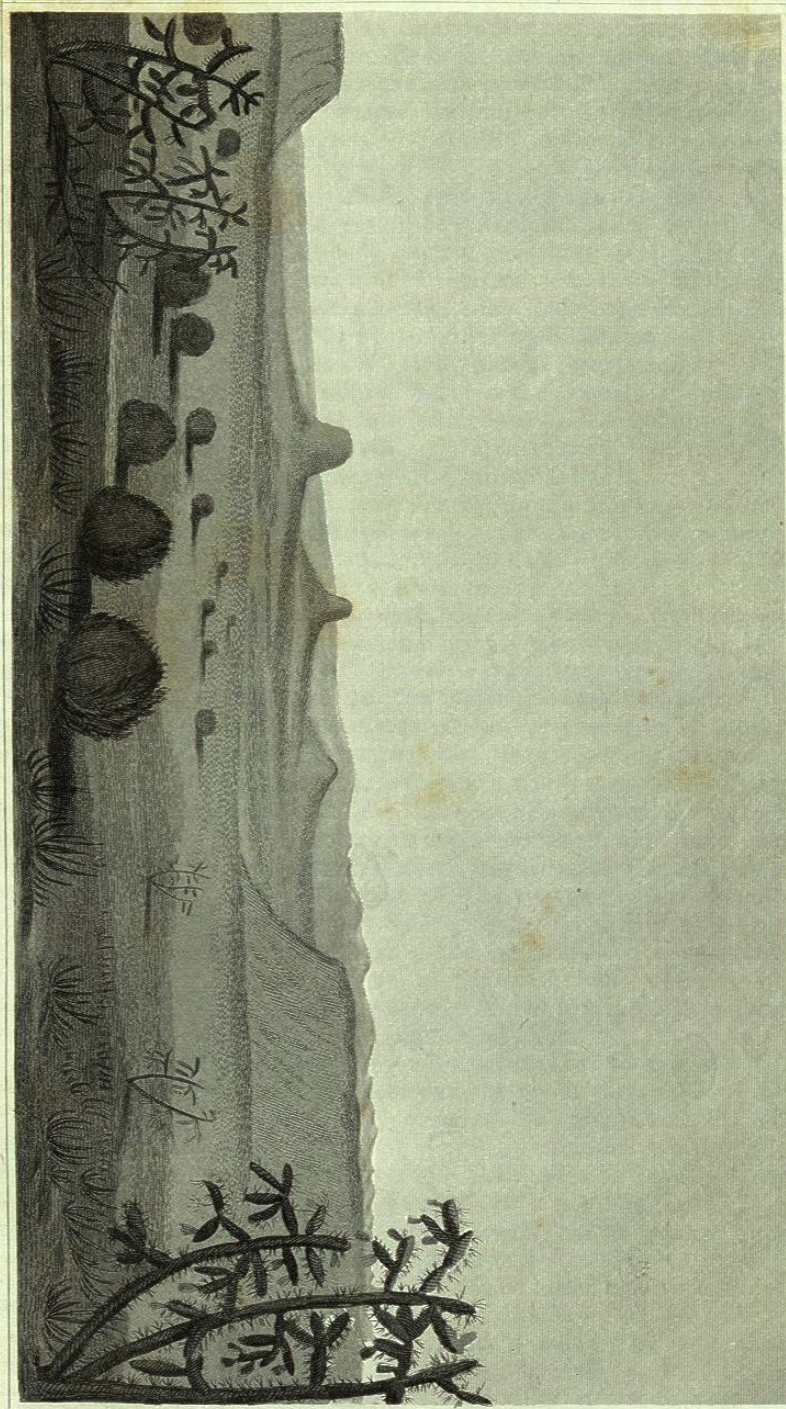
We now bore due west, and at 4 o'clock reached the "Rio Puerco." After a strict search up and down the river for several miles, we formed our camp near a little pool of water, the only one we could find. The road we came had been very sandy, and our mules were very much distressed by their labor.

The valley of the Puerco is wide and flat, overgrown with varieties of artemisias and coarse grass, fit only for sheep and goats. The banks of the river are of stiff loam; they are 10 or 12 feet high, and stand vertically. The country around is very much broken with sand hills, that are overgrown with cedar trees, the only kind of timber to be seen, except a few cotton-wood trees that are found in the bed of the river. South 15° west, lies a grand mountain, about 35 miles distant; it has two principal peaks, and its present outline greatly resembles that of the Spanish peaks.

October 17.—We soon found that by continuing a northerly course, we were leaving the road to Cibolleta; but as our duties required us to make a survey of the country, more with the object of finding out unknown things than of travelling known routes, we determined to follow up the Puerco far enough to fix its course, carrying on a system of triangulation, by the means of the many high and well characterised peaks that are scattered throughout the country.

We had a very toilsome march; the sand was from 5 to 6 inches deep; in many places our road was obstructed by a dense growth of artemisias; our progress was extremely slow. At length, about 2 o'clock, our mules gave up and we were forced to halt; fortunately we were near a corn field, and I had them fed with the ears and green leaves of the corn. We searched about, hoping to find some dwelling place near; found no signs of any kind, except a narrow path that had not been trod for a long time. The ravens had right of possession, and had eaten much of the corn, and picked all the seeds out of the big pumpkins that were strewed around us.

We now started off to reconnoitre, and found in the bed of the river, where it was completely hidden by the high banks, a conical hut, composed of light poles covered with boughs of trees and mud; also a corral, but no recent signs of their having been used. We crossed the river and ascended a high bluff, noticing remains of buildings on our way, built of flat stones plastered with clay. Ascending the bluff, we found on its highest portion enclosures of stone; one was circular, 3 feet in height and 10 feet in diameter, and an aperture had been left for a door. Another was elliptical, and its walls had been quite high; besides these, there had been many rectangular shaped structures. We were puzzled to conceive for what purposes they had been built. They were more than half



VIEW OF SOME VOLCANIC PEAKS LOOKING NORTH LAT. 35° 13' ION. 107° 20'.

a mile from water, and the approach to them on one side was steep and difficult; on the other side impassable, on account of the rocks breaking off with a perpendicular face 180 feet high. These rocks are composed of sandstone, containing shark's teeth, shells, and bones of fish, many of which we collected. We returned, recrossed the stream, determined to camp here, and to-morrow to follow a little valley that led off to the westward, through which we noticed a faint path. Although the banks of the stream are here 30 feet in height, we yet were so fortunate as to find a place to cross, when we encamped, having found several little pools of water. On the east side of the stream, opposite our camp, we visited a collection of stone ruins; they had been arranged so as to form a square enclosure, whose sides were 200 yards long. Near the town we noticed places of rich black earth, from 2 to 3 feet in depth, that marked the spot where the "corrals" once stood. We afterwards learned that this place was called "Poblazon;" but to all our other questions, with regard to this ancient town, we received the usual Mexican reply of "quien sabe."

October 18.—We arose very early, not knowing but that we should have to march far before we should obtain water. We were at a loss to conceive who could be the owners of the conical hut, and of the cornfields where we staid last night.

Continuing our march westward, we followed the bed of a valley, on each side of which sandstone rocks were piled up, in some places near 600 feet high. These rocks had an anticlinal dip, with reference to the axis of the valley. Our route was strewn with carbonate of lime, in various forms; sometimes beautifully crystalized, at others in amorphous fragments of a waxen appearance. We found, also, fragments of large ammonites, and pieces of inoceramus, and the little knolls around glittered with plates of selenite. This last mineral is very abundant, and we could see it glistening all the day in the sides of the distant mountains. Towards the latter part of the day we entered a volcanic country, our road abounding with fragments of a very hard dark purple and vesicular rock; and to the north of our course, we saw three peaks; or rather columns, of volcanic rock, that seemed to range in a northeasterly direction. They looked so picturesque that I dismounted and made a sketch of them.

We had now been travelling all day, and at length night began to draw on apace; we had not yet found any water, and at last, just as our plight seemed most hopeless, we caught sight of some distant mountains; that, from their course, we concluded must bound a large valley that, without doubt, contained a stream. Soon, too, we caught sight of several columns of smoke ascending vertically; and tracks of cattle, of sheep, and of men, appeared numerous on all sides of us. We now pressed forward, eager to reach a resting place; but suddenly night came upon us, and it was indeed a dark night; we endeavored to follow the path, but were constantly getting off the course; all dismounted and marched along, searching out as well as we could for the path. At last we reached an impassable "arroyo," the banks of which were perpen-