

them, an expedition of 150 miles down the river has been determined on, to start on the 1st September.

August 30.—To-day we went to church in great state. The governor's seat, a large, well stuffed chair, covered with crimson, was occupied by the commanding officer. The church was crowded with an attentive audience of men and women, but not a word was uttered from the pulpit by the priest, who kept his back to the congregation the whole time, repeating prayers and incantations. The band, the identical one used at the fandango, and strumming the same tunes, played without intermission. Except the governor's seat and one row of benches, there were no seats in the church. Each woman dropped on her knees on the bare floor as she entered, and only exchanged this position for a seat on the ground at long intervals, announced by the tinkle of a small bell.

The interior of the church was decorated with some fifty crosses, a great number of the most miserable paintings and wax figures, and looking glasses trimmed with pieces of tinsel.

The priest, a very grave, respectable looking person, of fair complexion, commenced the service by sprinkling holy water over the congregation; when abreast of any high official person he extended his silver water spout and gave him a handful.

When a favorite air was struck up, the young women, whom we recognised as having figured at the fandango, counted their beads, tossed their heads, and crossed themselves to the time of the music.

All appeared to have just left their work to come to church. There was no fine dressing nor personal display that will not be seen on week days. Indeed, on returning from church, we found all the stores open, and the market women selling their melons and plums as usual.

The fruits of this place, musk melon, apple, and plum, are very indifferent, and would scarcely be eaten in the States. I must except, in condemning their fruit, the apricot and grapes, which grow in perfection. On leaving the narrow valley of the Santa Fé, which varies from a thousand feet to a mile or two in width, the country presents nothing but barren hills, utterly incapable, both from soil and climate, of producing anything useful.

The valley is entirely cultivated by irrigation, and is now, as will be seen on the sketch, covered with corn. Five miles below the town, the stream disappears in the granitic sands.

The population of Santa Fé is from two to four thousand, and the inhabitants are, it is said, the poorest people of any town in the province. The houses are of mud bricks, in the Spanish style, generally of one story, and built on a square. The interior of the square is an open court, and the principal rooms open into it. They are forbidding in appearance from the outside, but nothing can exceed the comfort and convenience of the interior. The thick walls make them cool in summer and warm in winter.

The better class of people are provided with excellent beds, but the lower class sleep on untanned skins. The women here, as in many other parts of the world, appear to be much before the men in refinement, intelligence, and knowledge of the useful arts. The

higher class dress like the American women, except, instead of the bonnet, they wear a scarf over the head. This they wear, asleep or awake, in the house or abroad.

The dress of the lower class of women is a simple petticoat, with arms and shoulders bare, except what may chance to be covered by the reboso.

The men who have means to do so, dress after our fashion; but by far the greater number, when they dress at all, wear leather breeches, tight round the hips and open from the knee down; shirt and blanket take the place of our coat and vest.

The city is dependant on the distant hills for wood, and at all hours of the day may be seen jackasses passing laden with wood, which is sold at two bits (twenty-five cents) the load. These are the most diminutive animals, and usually mounted from behind, after the fashion of leap-frog. The jackass is the only animal that can be subsisted in this barren neighborhood without great expense; our horses are all sent to a distance of twelve, fifteen, and thirty miles for grass.

Grain was very high when we first entered the town, selling freely at five and six dollars the fanegas, (one hundred and forty pounds.) As our wagons draw near, and the crops of wheat are being gathered, the price is falling gradually to four dollars the fanegas.

Milk at six cents per pint, eggs three cents a piece, sugar thirty-five cents per pound, and coffee seventy-five cents. The sugar used in the country is principally made from the cornstalk.

A great reduction must take place now in the price of dry goods and groceries, twenty per cent. at least, for this was about the rate of duty charged by Armijo, which is now, of course, taken off.

He collected fifty or sixty thousand dollars annually, principally, indeed, entirely, on goods imported overland from the United States. His charge was \$500 the wagon load, without regard to the contents of the wagon or value of the goods, and hence the duty was very unjust and unequal.

Mr. Alvarez informed me that the importations from the United States varied very much, but that he thought they would average about half a million of dollars yearly, and no more. Most of the wagons go on to Chihuahua without breaking their loads.

New Mexico contains, according to the last census, made a few years since, 100,000 inhabitants. It is divided into three departments—the northern, middle, and southeastern. These are again sub-divided into counties, and the counties into townships. The lower or southern division is incomparably the richest, containing 48,000 inhabitants, many of whom are wealthy and in possession of farms, stock, and gold dust.

New Mexico, although its soil is barren, and its resources limited, unless the gold mines should, as is probable, be more extensively developed hereafter, and the culture of the grape enlarged, is, from its position, in a commercial and military aspect, an all-important military possession for the United States. The road from Santa Fé to Fort Leavenworth presents few obstacles for a railway, and, if it

continues as good to the Pacific, will be one of the routes to be considered, over which the United States will pass immense quantities of merchandise into what may become, in time, the rich and populous States of Sonora, Durango, and Southern California.

As a military position, it is important and necessary. The mountain fastnesses have long been the retreating places of the warlike parties of Indians and robbers, who sally out to intercept our caravans moving over the different lines of travel to the Pacific.

The latitude of Santa Fé, determined by 52 circum-meridian altitudes of alpha aquilæ, 23 of beta aquarii, and 36 altitudes of polaris out of the meridian, is N. $35^{\circ} 44' 06''$. The longitude, by the measurement of 8 distances between the α alpha aquilæ and the ϵ , and 8 between α antares and the ϵ , is respectively 7h. 04m. 14s.7 and 7h. 04m. 22s.4. The mean of which is 7h. 04m. 18s. and the longitude brought by the chronometer from the meridian of Fort Leavenworth is 7h. 04m. 05s.5.—(See Appendix No. 4.)

The place of observation was the court near the northeast corner of the public square. The latitude may be considered fixed; but satisfactory as the longitude may appear, I should, nevertheless, have greatly multiplied the number of lunar distances, had I not been in daily expectation of receiving a transit instrument, with which a set of observations on moon culminating stars could have been made at this important geographical point.

The mean of all the barometric readings at Santa Fé indicates, as the height of this point above the sea, 6,846 feet, and the neighboring peaks to the north are many thousand feet higher.

August 31.—Lieutenant Warner arrived to-day, but cannot yet be relieved from ordnance duty. To-morrow an expedition goes to Taos, but, as Mr. Peck is sick, I have no officer to send with it. To-day apparently well authenticated accounts have arrived that Armijo met Ugarté, about 150 miles below, coming up with a force of 500 regulars and some pieces of artillery; that he turned back, and is now marching towards us with a large force, rallying the people as he passes, and that numbers are joining him from the upper towns. In consequence of these reports, the general has strengthened the force with which he is to march the day after to-morrow to meet him.

September 2.—We marched out of Santa Fé at 9 o'clock, a. m., taking no one of my party except Mr. Bestor, and leaving Lieutenant Peck, who is still an invalid, to assist Lieutenant Gilmer. We descended the valley of the Santa Fé river, nearly west, for five miles, when we left the river and struck across a dry arid plain intersected by arroyos, (dry beds of streams,) in a southwesterly course. Twenty-three miles brought us to the Galisteo creek, which, at that time, was barely running. The bed of the creek is sand and pebbles of the primitive rock, and lies between steep clay and lime-stone, traversed occasionally by trap dykes, which in one place are so regular as to resemble a wall pierced with windows. From this place to its mouth there is scarcely the sign of vegetation. At the dry mouth of the Galisteo, and directly on the Del Norte, is the town of Santo Domingo. Before reaching Galis-

teo creek, but after leaving Santa Fé some miles, a few sprigs of grama tempted us to halt and bait our nags; but the principal growth on the plains was ephedra, *Fremontia vermicularis*, *diotis lanata*, (Romeria of the Spaniards,) *hendecandia Texana*. There was also picked up in to-day's journey a *verbena pinnatifida*, *sphaeralcea stellata*, a cleome *integriolia*, (a handsome purple flowered herb,) several aster and a species of *dieteria*, which Dr. Torrey thinks new.

September 3.—This has been a great day. An invitation was received, some days since, from the Pueblo Indians to visit their town of Santo Domingo. From height to height, as we advanced, we saw horsemen disappearing at full speed. As we arrived abreast of the town we were shown by a guide, posted there for the purpose, the road to Santo Domingo. The chief part of the command and the wagon train were sent along the highway; the general with his staff and Captain Burgwyn's squadron of dragoons, wended his way along the bridle path nearly due west to the town. We had not proceeded far, before we met ten or fifteen sachemic looking old Indians, well mounted, and two of them carrying gold-headed canes with tassels, the emblems of office in New Mexico.

Salutations over, we jogged along, and, in the course of conversation, the alcalde, a grave and majestic old Indian, said, as if casually, "We shall meet some Indrans presently, mounted and dressed for war, but they are the young men of my town, friends come to receive you, and I wish you to caution your men not to fire upon them when they ride towards them."

When within a few miles of the town, we saw a cloud of dust rapidly advancing, and soon the air was rent with a terrible yell, resembling the Florida war-whoop. The first object that caught my eye through the column of dust, was a fierce pair of buffalo horns, overlapped with long shaggy hair. As they approached, the sturdy form of a naked Indian revealed itself beneath the horns, with shield and lance, dashing at full speed, on a white horse, which, like his own body, was painted all the colors of the rainbow; and then, one by one, his followers came on, painted to the eyes, their own heads and their horses covered with all the strange equipments that the brute creation could afford in the way of horns, skulls, tails, feathers, and claws.

As they passed us, one rank on each side, they fired a volley under our horses' bellies from the right and from the left. Our well-trained dragoons sat motionless on their horses, which went along without pricking an ear or showing any sign of excitement.

Arrived in the rear, the Indians circled round, dropped into a walk on our flanks until their horses recovered breath, when off they went at full speed, passing to our front, and when there, the opposite files met, and each man selected his adversary and kept up a running fight, with muskets, lances, and bows and arrows. Sometimes a fellow would stoop almost to the earth to shoot under his horses' belly, at full speed, or to shield himself from an impending blow. So they continued to pass and repass us all the way to the steep cliff which overhangs the town. There they filed on each

side of the road, which descends through a deep cañon, and halted on the peaks of the cliffs. Their motionless forms projected against the clear blue sky above, formed studies for an artist. In the cañon we were joined by the priest, a fat old white man. We were escorted first to the padre's, of course; for here, as every where, these men are the most intelligent, and the best to do in the world, and when the good people wish to put their best foot foremost, the padre's wines, beds, and couches have to suffer. The entrance to the portal was lined with the women of the village, all dressed alike, and ranged in treble files; they looked fat and stupid.

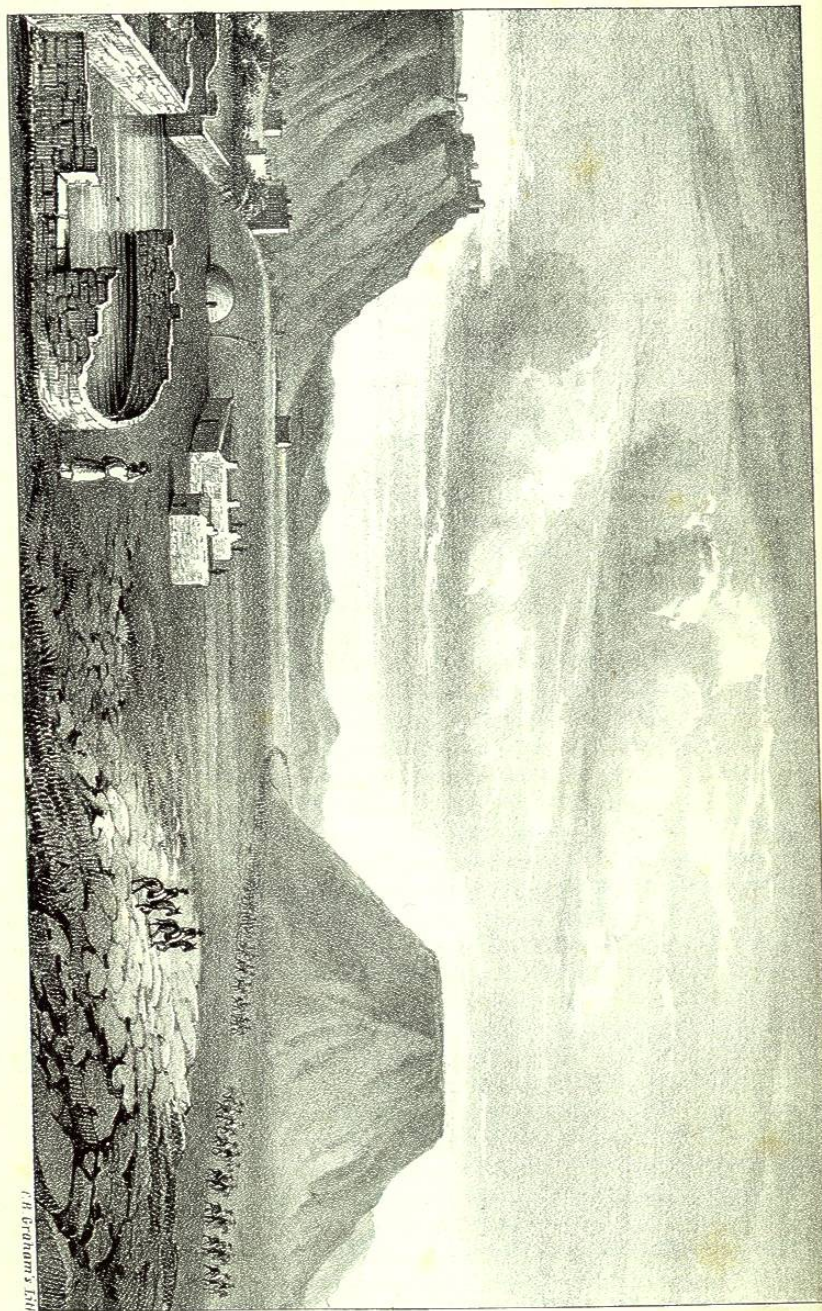
We were shown into his reverence's parlor, tapestried with curtains stamped with the likenesses of all the Presidents of the United States up to this time. The cushions were of spotless damask, and the couch covered with a white Navajoe blanket worked in richly colored flowers.

The air was redolent with the perfume of grapes and melons, and every crack of door and windows glistening with the bright eyes and arms of the women of the capilla. The old priest was busily talking in the corner, and little did he know the game of sighs and signs carried on between the young fellows and the fair inmates of his house. We had our gayest array of young men out to-day, and the women seemed to me to drop their usual subdued look and timid wave of the eye-lash for good hearty twinkles and signs of unaffected and cordial welcome—signs supplying the place of conversation, as neither party could speak the language of the other. This little exchange of the artillery of eyes was amusing enough, but I was very glad to see the padre move towards the table, and remove the pure white napkins from the grapes, melons, and wine. We were as thirsty as heat and dust could make us, and we relished the wine highly, whatever its quality. The sponge cake was irreproachable, and would have done honor to our best northern housekeepers. Indeed, wherever we have been feasted, the sponge cake has been in profusion, and of the best kind. After the repast, the general went forward on the portal and delivered a speech to the assembled people of the town, which was first interpreted into Spanish, and then into Pueblo.

It is impossible to arrive at the precise population of the town, but I should judge it to be about six hundred, and the quantity of ground under tillage for their support about five hundred acres.

The valley of the Del Norte is here quite narrow, and the soil sandy. The river itself was viewed by me, for the first time, with a strange interest. The hardships, trials, and perseverance of the gallant Pike, and the adventures of the pious and brave soldiers of the cross, Rivèra and La Ford, came forcibly to my mind; as I kneeled down to drink of its waters my thoughts were of them. Leaving Santo Domingo, we struck the highway in about four miles, and two more brought us to the pretty village of San Felipe, overhung by a steep craggy precipice, upon the summit of which are the ruins of a Roman Catholic church, presenting in the landscape sketch the appearance of the pictures we see of the castles on the Rhine.

SAN FELIPPE
NEW MEXICO.



Petween San Felipe and the Angosturas, six miles below, the valley of the river is very narrow, affording no interval for agriculture. On the west side, the banks are steep walls, crowned by seams of basalt forming the table lands. The east is composed of rolling sand hills, rising gradually to the base of the mountains, and covered with large round pebbles. I must except from this the poverty-stricken little town of Algodones, which has some ground round it in cultivation.

The observations for the determination of this camp, about one mile below the town of San Felipe, were made on my return, (September 10th,) and will be found under that date in Appendix No. 5. The height indicated by the barometer of this, the first camp on the Rio del Norte, is 5,000 feet above the level of the sea.

September 4.—Below the Angosturas, the valley of the river opens into a plain, varying from two to six miles in width, generally sufficiently low and level to admit the water of the river to be carried over it for the purposes of irrigation; but the soil is very sandy, and better adapted to Indian corn than wheat. Of this last we saw but few stubbles, the ground being chiefly planted with corn. The vegetation is much the same as that described after leaving Santa Fé, with the addition of quite a number of compositæ; among which was a species of *linosyris*, *artemesia filifolia*, *aster*, *helicladus*, &c.

News now began to arrive which left but little doubt that the reports which caused our movement down the river were exaggerated, if not wholly without foundation. People had passed down the river, as was reported, but in no great numbers. A messenger came in from the alcalde of Tomé with an official note, stating that Armijo had left with him one hundred mules, pressed into service to meet us at the cañon, and that Armijo had also notified him that one hundred more would be left at the Passo del Norte. These belonged to citizens of New Mexico, and had been taken from them without their consent. It was his practice, in peace or in war, to seize the person or property of any who fell under his displeasure.

The town of Bernallilo is small, but one of the best built in the territory. We were here invited to the house of a wealthy man, to take some refreshment. We were led into an oblong room, furnished like that of every Mexican in comfortable circumstances. A banquette runs around the room, leaving only a space for the couch. It is covered with cushions, carpets, and pillows; upon which the visiter sits or reclines. The dirt floor is usually covered a third or a half with common looking carpet. On the uncovered part is the table, freighted with grapes, sponge-cake, and the wine of the country. The walls are hung with miserable pictures of the saints, crosses innumerable, and Yankee mirrors without number. These last are suspended entirely out of reach; and if one wishes to shave or adjust his toilet, he must do so without the aid of a mirror, be there ever so many in the chamber.

We passed on to the house of our host's wealthy son, where we were invited to dine. Here we found another refreshment table;

and, after waiting some hours, dinner was announced. It was a queer jumble of refinement and barbarism; the first predominating in every thing, except in the mode of serving, which was chiefly performed by the master, his Mexican guests, and a few female serfs.

The plates, forks, and spoons were of solid New Mexican silver, clumsily worked in the country. The middle of the table was strewn with the finest white bread, cut in pieces, and within the reach of every cover. At close intervals were glass decanters, of Pittsburg manufacture, filled with wine made on the plantation. The dishes were served separately. The first was soup maigre; then followed roast chicken, stuffed with onions; then mutton, boiled with onions; then followed various other dishes, all dressed with the everlasting onion; and the whole terminated by chilé, the glory of New Mexico, and then frigolé.

Chilé the Mexicans consider the chef-d'œuvre of the cuisine, and seem really to revel in it; but the first mouthful brought the tears trickling down my cheeks, very much to the amusement of the spectators with their leather-lined throats. It was red peppery, stuffed with minced meat.

From Bernalillo the valley opens, but narrows again at Zandía, an Indian town on a sand-bank at the base of a high mountain of the same name, said to contain the precious metals.

They were treading wheat here, which is done by making a circular corral on a level ground of clay; upon this floor they scatter the wheat, turn in a dozen or more mules, and one or two Indians, who, with whoops, yells, and blows, keep the affrighted brutes constantly in motion. To separate the wheat from the chaff, both Indians and Mexicans use a simple hand-barrow, with a bottom of raw bull's hide perforated with holes. I should suppose it must take an hour to winnow a bushel.

After dining sumptuously at Sandival's, we went to our camp in the Allemaña. Here the valley is wide and well cultivated. The people of the surrounding country flocked in with grapes, melons, and eggs. Swarms of wild geese and sand cranes passed over camp. They frequent the river and are undisturbed, save when some American levels his rifle.

By observation, the latitude of this camp is $35^{\circ} 11' 50''$, and the longitude $106^{\circ} 45' 00''$ west of Greenwich.

September 6.—We encamped last night on very indifferent grass. Breakfasted with Don José Charvis, at Perdilla. When sitting, our chins just reached the table. There were five or six courses, ending with coffee. Before breakfast, we were summoned to mass in Don José's private chapel, where the eccentric person we met at yesterday's dinner officiated. Priest, fop, courtier, and poet were curiously combined in one person. Proud of his pure white hand, he flourished it incessantly, sometimes running his fingers through his hair, in imitation of some pretty coquette, and ever and anon glancing in one of the many looking-glasses with which the church was decorated. After mass, to our surprise, he delivered an elo-

quent discourse, eulogising the grandeur, magnanimity, power, and justice of the United States.

Attending mass before breakfast proved anything but an appetizer. The church was crowded with women of all conditions, and the horrid reboso, which the poor use for shawls, bonnet, handkerchief, and spit-box, sent out an odor which the incense from the altar failed to stifle.

One fact struck me as singular in all the houses that we visited, the ladies never made their appearance; and it was always by the merest accident that we caught a glimpse of one of the family.

At Isoletta, I became tired of the show, and, seeing my servant talking at the door of one of his acquaintances, I took the liberty of asking permission to take a quiet siesta; but this was out of the question. The good woman overwhelmed me with a thousand questions about the United States, which could only be stopped by questioning her in return. She denounced Armijo; said, with a true Castilian flash of the eye, "I do not see how any man wearing those things," pointing to my shoulder straps, "could run away as he did. He had a good army to back him, and could have driven you all back."

The valley suddenly contracts below Perdilla, between Isoletta and Peralta. On the east side of the river there is deep sand, and the country is perfectly barren.

I observed to-night, for time and latitude at my camp, about 500 feet northwest of Senora Charvis's private chapel, thirteen altitudes of polaris give for the latitude of this place, $34^{\circ} 50' 57''$; and twelve of corona borealis, and nine of alpha pegasi, give the chronometric longitude $7h. 07m. 8s.4$.

September 7.—The early part of last evening was most beautifully bright and serene; the air was of the most delightful temperature, varied occasionally by a gentle breeze from the south, wafting along the perfume of the vineyards. I made some observations for time and latitude; the last unsatisfactorily, owing to the brightness of the moon dimming the southern stars. About 11 o'clock, the whole character of the night was changed by an east wind that came rustling down from the mountains, driving the sand before it. Nearly the whole distance travelled in the last three days has been over drifting sand, with only occasional patches of firm soil.

After rising early to attend to some business, I walked over the town of Peralta, which is interspersed with cotton wood, growing in nearly the regular order of an apple orchard. I then repaired to head-quarters, at the palace of Mr. Hortera, a spacious one story edifice, five hundred feet front.

We marched and encamped near Tomé. It was the eve of the fête of Tomé in honor of the Virgin Mary, and people from all parts of the country were flocking in crowds to the town. The primitive wagons of the country were used by the women as coaches. These wagons were heavy boxes mounted on wheels cut from large cotton wood; over the top of the box was spread a blanket, and inside were huddled, in a dense crowd, the women, children, pigs, lambs, and "every thing that is his." The man of the family

usually seated himself on the tongue of the wagon, his time divided between belaboring his beasts and scratching his head. In one of these a violin was being played, and the women who were sitting on their feet, made the most of the music by brandishing their bare arms and moving their heads to the cadence. At night there was a theatrical representation in the public square. The piece dramatized was from the Old Testament.

During the day I had been puzzled by seeing at regular intervals on the wall surrounding the capilla, and on the turrets of the capilla itself, (which be it remembered is of mud,) piles of dry wood. The mystery was now to be cleared up. At a given signal all were lighted, and simultaneously a flight of rockets took place from every door and window of the chapel, fire-works of all kinds, from the blazing rocket to children's whirligigs, were now displayed in succession. The pyrotechny was the handicraft of the priests. I must say the whole affair did honor to the church, and displayed considerable chemical knowledge. Most of the spectators were on mules, each with his woman in front, and it was considered a great feat to explode a rocket under a mule's belly without previous intimation to the rider.

September 8.—Long shall I remember the fête of Tomé, a scene at once so novel and so striking. To-day, my duties called me off early in the morning.

I had to examine guides in reference to the route to California, and engage such as I might think fit for the trip.

My last interview of this kind to-day was in a species of public building, or guard-house, where a number of Mexicans had collected with arms. Several written tablets hung round the walls, but they were perfectly illegible. Our business was cut short by the sound of passing music. A strange sight presented itself. In a sedan chair, borne by four men, was seated a wax figure nearly as large as life, extravagantly dressed; following immediately were three or four priests, with long tallow candles, a full yard in length. Some American officers followed, each holding a candle. Unfortunately I emerged just as this group was passing; there was no escape, and the moment I joined a grave Mexican (apparently a man in authority,) thrust a candle into my hand. I thought of my coat, my only coat, the coat which was on my back, and which must take me to California, and back again into the interior of Mexico! Suddenly there was a halt without any word of command, and in the confusion we jostled against each other and distributed the tallow in great profusion.

It was thought proper that the officers should show every respect to the religious observances of the country, consequently they did not decline participation in these ceremonies.

The procession ended at the church. After the services there were concluded, we repaired to the house of the padre, where we found a collation.

We had proposed attending a theatrical representation going on in the open air, but a heavy squall of wind and a few drops of rain put a stop to this amusement, and all retired to dress for the

fandango, which is the name given to all collections of people where there is music and dancing.

A cotillion was attempted in honor of the Americans present, but this cold and formal dance soon gave way to the more joyous dances of the country, the Coona, the Bolero, and the Italiana. Every variety of figure was introduced, but the waltz was the basis of all, except the Bolero, which, as danced here, resembles our negro jig.

At the dance we found a very plain, but very intelligent woman, the sister of Armijo, who said he would return as soon as he settled his affairs in Chihuahua.

September 11.—Returned to Santa Fé.

September 15.—Sent Lieutenant Warner, with a party consisting of Lieutenant Peck and three men, to determine the latitude of Taos and the topography of the road.

From the 15th to 25th September I was busily engaged in fitting out for California.

Lieutenant Abert, who was left dangerously ill at Bent's Fort, had not arrived on the 25th, but accounts reached me that he was convalescent, and on his way to Santa Fé, where he might shortly be expected. Lieutenant Peck was also an invalid, and neither being able to accompany us to California, I left, by the general's direction, the subjoined order for them to make a map of New Mexico, based upon the astronomical points and measurements determined by myself, and to furnish from the best statistical sources, an account of the population and resources, military and civil, of the province.

SANTA FE, September 14, 1846.

SIR: I am charged by the general commanding to inform you that you will remain for the present in the territory of New Mexico, and should your health, or that of Lieutenant Peck, be sufficiently restored to return to duty, that you will continue the survey of this territory commenced by myself, and follow it to completion, provided it does not interfere with other military duties which may be required of you by the officer left in command of the territory.

With the limited number of instruments that can be placed in your hands, it is not expected that you will conduct the survey on strict geodetic principles, yet it is believed that sufficient precision can be attained to answer all the requirements of the military and civil service.

The country from Taos to Fra Cristobal contains nearly all the ground that is under cultivation, and nearly all that is worth cultivating; and for this whole distance it is open and bounded by high and conspicuous peaks, affording great facilities for conducting your operations.

I have established the astronomical positions of six points in this territory, viz: camp 42, at Vegas; camp 43, Vernal springs, Santa Fé; camp 55, $1\frac{1}{4}$ miles south of the church of San Felipe; camp