

Bönānzā began in 1787, and continued for more than twenty years, in which time the mine was sunk to its present depth, 536 varas. It has now three shafts, one below the other; and this increases the difficulties of the drainage so much, that many are of opinion that it can only be effected by the adit of La Luz, which, as already stated, would enter the lower levels at the depth of 412 varas. The mine, however, is still kept "Amparada" by the present proprietors; that is to say, men enough are employed upon it, from time to time, to preserve a legal right of possession; and in a good week, ores to the amount of four or five hundred dollars are occasionally raised.

The Concepcion belonged originally to Don Bernade Cēpēdā, who sold the mine in borrasca to the Āgüirrēs, with whom Obrēgōn made a contract similar to that concluded with Davalos for the Purisima. In 1798, a Bonanza commenced, that only terminated with the Revolution.

During the war, the mine was neglected, and became gradually full of water; in consequence of which, a contract was concluded with the house of Gordon and Murphy for a steam-engine, by which it was hoped that the drainage might be speedily effected.

This engine, the first of the kind transmitted to Mexico, was sent out, in 1821, by a special permission from the Spanish Government, and landed at Tampico in May 1822. Its conveyance from this place into the interior was entrusted principally

to Mr. Robert Phillips, whom I found in charge of the machinery at the time of my visit. Of the hardships endured, and the perseverance and activity displayed by him in the execution of this task, I can give no better idea than by publishing an account of his journey, as drawn up by himself, which will be found in the Appendix, (Letter A.) The engine did not reach Catorce until the 11th November, 1822; the caravan having found it necessary to proceed as far North as Monterey, in order to reach the Puerto de los Muertos, the only spot north of Jālāpā at which it is possible for a wheel-carriage to ascend from the coast to the Table-land. They afterwards proceeded by Saltillo to Catorce, and deposited the boilers, and all the larger pieces of machinery at the Potrero, from whence they were drawn up to the summit of the mountain by means of pulleys, and a six-inch rope, an operation which it required four whole days to effect.

Unfortunately a fatal error had been committed in not sending out iron-pipes for the pumps. Wood was not to be procured at Catorce, and was brought at a vast expence from La Huasteca, (the *Tierra Caliente* below;) but when bored, the timber proved unable to sustain the weight of the column of water, raised from the depth of 300 varas; and, after a great loss of time, Mr. Phillips was sent to Cincinnati, (on the Mississippi,) where he succeeded in procuring cast-iron pipes. With these he returned to Catorce, in September 1825, and on the 1st of June, 1826,

the engine again began to work. In November, the mine was almost entirely drained; but the working was not carried on with activity on account of the want of funds.

It is hardly to be expected that the *Aviadores*, or "Habilitators," will ever derive much advantage from the speculation, as they have no confidential agent upon the spot, and have not attempted to interfere personally in the management. All the absurd charges established in the infancy of Catorce in order to attract workmen, have been renewed at Concepcion. Besides a "Partido," varying from one-half to one-fourth, (the quantity diminishing as the ores increase in value,) the "Cuchara," or share, of the Administrador swallows up one-tenth of the whole *produce* of the mine, whether the ores raised prove sufficient to cover the weekly expences or not. This lucrative situation is held by a Mr. Medina, whom the Habilitators selected as their confidential agent; and who, after making over one-third of his profits to Don Isidoro Obrégón, as an inducement to undertake the whole management of the concern, lives in comfort and idleness upon the remainder at San Luis Potosi. His profits during the year 1825, when the mine *lost*, are said to have been 20,000 dollars. The produce of 1825 was, however, considerable; a *clavo rico* having been discovered in the upper levels, overlooked in former times, which produced, when worked, 80,000 dollars. Out of this the castings for the steam-engine, and a part of the

money advanced upon the mine by Mr. Dollar, were paid.

It is through this gentleman, whose contracts were made over to the Anglo-Mexican Association, that the Company now holds a share in the Concepcion. They have likewise made some trifling advances upon the mine themselves, one moiety of which has been already repaid. Of the goodness of the mine there is as little doubt as of the power of the engine to drain it, if it be regularly worked; but the system at present pursued is so bad, and the misunderstandings between the "Aviadores" and the proprietors so frequent, that but little is to be expected from the undertaking. Seventeen and a half per cent. (including the share of the administrador, a tax of five per cent. called *capilla*, and another of two and a half per cent. in favour of a doctor who does not exist,) are now deducted from the produce, and distributed amongst those more immediately connected with the mine: the remainder barely covers the "memorias," or weekly expences; and while this plan is adhered to, there is little difficulty in predicting the result.

Besides the share in Concepcion, the Anglo-Mexican Company holds at Catorce contracts for the mines of Guadalupe de Veta Grande and Milagros. Both of these are regarded as undertakings of great promise; but the terms upon which the Company has undertaken to work them are so onerous that it is absolutely impossible that the drainage should

proceed until the contracts are cancelled, and more equitable conditions substituted for them. In Guadalupe, for instance, the "Habilitators" have only six barras, or *one-fourth*, for which they paid at once 20,000 dollars as "alimentos," and bound themselves to lay out 100,000 dollars upon the mine. Should this prove insufficient, for every additional sum of 20,000 dollars advanced by them, they are to receive an additional barra until they have acquired nine barras, which number they are not to exceed. The Company would therefore pay 180,000 dollars in all, for something more than one-third of the mine; and this, in a district where the possibility of obtaining more favourable terms has been so clearly demonstrated by the contracts concluded by Mr. Crawford, on the part of the Catorce Company, with the Governor and Don Xavier Martin, for the socabon of La Purisima, and the mines upon the Veta Madre connected with it; in all of which the "aviadores" are allowed a full half, without "alimentos" or advances of any kind, except those required for the prosecution of the work itself.

In Milagros the works had been suspended in consequence of a law-suit with the proprietor.

The Veta Descubridora of Catorce was worked as early as 1773: it is situated to the N.N.W. of the town, and has never produced a single good mine; nor were the riches concealed in its vicinity suspected until 1778, when a free black, by name Milagros, a wandering musician, returning across

the Sierra late in the evening from Mätéhualä, where he had been employed at some village fête, lost his horse, and being forced, in consequence, to pass the night in the mountains, lighted a large fire upon the spot where the shaft of Milagros was afterwards sunk. In the morning he discovered a cake of silver amongst the embers, upon which he immediately denounced the vein, and is said to have drawn from it, within ten yards of the surface, ores producing sixty marcs of silver to the carga.

But before this denunciation, which first attracted the attention of the public, Don Bernabé Cēpēdā was working the mine of Gūadālūpē on the Veta Madre, in the midst then of impenetrable forests, and sending silver to Mätéhualä, and other places, to be reduced, without any one knowing from whence it proceeded. The good fortune of Mīlāgrōs soon covered the barren rocks with inhabitants. Shafts were sunk upon the Veta Madre in rapid succession, the most important of which I have already enumerated; and other veins were discovered, some intersecting the great mother-vein, as that of La Luz, and others perfectly distinct from it, as those of Zavala, Dolores Trompeta, and San Ramon.

The principal mines upon the vein of La Luz were San Geronimo and Santa Ana, which belonged to Captain Zuñiga, of whose will I have already made mention. He bequeathed four millions of dollars for charitable institutions, reserving a fund for working his mines, which appears to have been swallowed up,

together with all other judicial deposits, during the Revolution. The great Bonanzas of his mines began in 1787 and 1789.

The mine of San Rāmōn belonged, together with the mines of Dolores and Serreno, to Don Jorge Parodi, a Genoese, and produced, in 1787, a Bonanza of two millions of dollars. The richness of the ores may be inferred from the fact, that those of the mine of Serreno, which yield five and six marcs of Silver per carga, were regarded as unworthy of attention, and the workings not extended beyond their present depth of one hundred and thirty-seven varas: while the vein of San Ramon was explored in all its ramifications with the greatest care.

Zuniga, on his arrival at Catorce, was merely a muleteer, who visited the mountains with supplies for the newly discovered district; meat and every other necessary being then paid for almost *à peso de plata*, (by their weight in silver.) Encouraged by the examples of sudden riches which he saw around him, he sold his mules, and purchased with the proceeds (about 2,000 dollars) the two mines from which he afterwards derived such enormous wealth. They were at that time "catas," that is, new denunciations, without a shaft, or any other requisite; but the ores were rich at the very surface, and the Rescatadores, who flocked to Catorce from the neighbouring districts, enabled him to convert the produce at once into dollars, and thus to prosecute his works with great activity. His title of captain he bought in his more prosperous

days; indeed, it appears that, from his munificence, he almost bought the Viceroy himself; for on the great Besamanos days in Mexico, he used to appear at court with a pocket-handkerchief full of gold toys, and tell Branciforte, (at that time Viceroy,) as he passed him almost without a salute, and proceeded to the private apartments of the Vicequeen, "I don't come to see your Excellency; *Soy un barbaro, y no sé nada de Cortes*, (I am a barbarian, and know nothing of courts,) *vengo à ver a mi niña*, (I come to see my little girl,)" the Viceroy's daughter, on whom the contents of the handkerchief were of course bestowed.

Most of those who made fortunes at Catorce, were men like Zuñiga, of little education, and no resources. Parodi, Don Pedro Medellin, (the proprietor of the mine of Dolores,) and twenty others, whose names it would be useless to enumerate, were all "*barbaros*;" and the extravagance of their expenditure was such as might have been expected from the facility with which their wealth was acquired. Medellin, upon one occasion, spent six-and-thirty thousand dollars upon an entertainment given in honour of a godchild at Saltillo; and at the time when the Partido amounted to one-third of the ores raised, common miners have been known to lose two and three thousand dollars in a morning at a cock-fight. Fortunately, there were some exceptions, and though the descendants of the more prudent adventurers, who invested in land a part of their profits, have

all quitted the vicinity of Catorce, and purchased property in more fertile districts, their estates still bear evidence to the richness of the mineral deposits from which they proceeded. The Dāvälös purchased large Haciendas near Aguas Calientes. The Obregones at Leon. The Aguirres established themselves at Mätéhualä, and are proprietors of the great Hacienda of Vänägäs. The Padre Flores acquired large estates in Zäcätēcäs. The Licenciado Gördoä, (proprietor of La Luz,) has done the same; and in addition to these a number of small fortunes were made, varying from sixty to one hundred thousand dollars, by Spaniards, all of whom have removed to Europe since 1810, with their capitals.

The present produce of the district, in which there was not, in December 1826, a single mine in Bonanza, varies from fifty to seventy bars of Silver monthly.* There being no mint at San Luis, the greatest part of these bars are transmitted to Zacatecas, and coined in the mint there; but many are sent direct to Refugio, at the mouth of the river Bravo, where they are exchanged for contraband goods from New Orleans and the Havana, with which Catorce is better supplied than any other place in the Federation. Almost every house in the town is a shop, and you may find in them French and Spanish wines, Virginia and Havana tobacco, Catalan paper in abundance, (all articles most strictly

* By official returns in my possession, it appears, from January to November, (1826,) 7856 Bars had been sent to San Luis.

prohibited,) with European linens, cottons, and hardware, mantas, and even furniture from the United States, which are introduced through Refugio, where the duties are never very burthensome, even in cases where their payment is not entirely evaded. The goods are landed upon the coast by small American schooners, and afterwards conveyed into the Interior by a sort of mixed breed of French, Spaniards, and Italians, who are perfectly acquainted with the country and the wants of the different towns, and time their remittances accordingly. Several of these adventurers were pointed out to me, who came to Catorce, at first, with a board of images upon their heads, but now rank amongst the most respectable *merchants* of the place. Throughout Mexico, indeed I believe in every part of Spanish America, they are ignorant of the distinction made in Europe between the wholesale and the retail trade. There is nothing at all inconsistent with their ideas of propriety in keeping a shop: a "tienda" is, on the contrary, attached to every Hacienda, and the proprietor regards the profit on the sale of the goods, with which it is his business to keep it supplied, as a part of his yearly income. This was always done, too, in remote parts of the country in great mining "negotiations;" and thus the wages of the miners being naturally exchanged at the shop for the supplies of which they might be in want, a small capital was sufficient to keep up the circulating medium required, the whole of the weekly issues returning almost immediately into the

hands of the proprietors. In some instances, where dollars were scarce, checks upon the shops were given for the amount due to each labourer, and thus a sort of paper circulation created, which was seldom objected to where the credit of the adventurers was tolerably well established.

At Catorce, the Governor of San Luis has two shops, from which he derives a very considerable addition to his income; but his principal profits consist in the trade in "bars" of silver, which, as it is now organized, affords to any capitalist a very profitable investment, unaccompanied by any risk.

The silver is bought up from the poorer miners and rescatadores, who are anxious to convert it into ready money as speedily as possible, at seven dollars and six reals the marc. At San Luis the mint price is eight dollars and two reals. The "Bar" contains 136 marcs, which, at four reals profit upon each, leave 540 reals, or sixty-seven dollars and a half, to the purchaser, out of which must be deducted two dollars for the carriage of the "bar" to San Luis, and two dollars more for commission and agency there and at Catorce. The net profit is therefore sixty-three dollars and a half on each bar, and in an establishment where thirty and forty bars are negotiated monthly, the amount at the end of the year is very considerable.

I have given these details upon a subject, which to many of my readers may appear unimportant, in order to exemplify the possibility of silver being

sold in the more remote districts, at four and four and a half dollars the marc during the Revolution, although the mint price was never less than eight dollars, and two or four reals. It will be seen that there is nothing improbable in the fact, since in time of peace, and within fifty leagues of the capital of a mining state, the sacrifice of four reals upon the marc is still made, in order to obtain immediate supplies in dollars. As the produce of the country increases, these supplies will become more abundant, and the profits of the capitalist diminish in proportion; but much time will probably elapse before the present rate of discount* can materially decrease.

Of the great Haciendas, or amalgamation works of Catorce I can say nothing, as I was prevented from visiting them by the distance, and the extreme badness of the roads. I was informed, however, that those belonging to the Catorce Company, the Governor, and the principal rescatadores, at El Cédral, Vānēgās, and Mātēhūālā, are all upon the model of those of Guanajuato, and, in general, extremely well conducted. The spots selected for most of them abound, (comparatively at least,) in wood, water, and forage, the extreme dearness of which in the Real itself sufficiently accounts for the

* I hardly know whether the term of "discount" can be properly applied to the operation which I have just described. European bankers, however, would probably be glad to be able to effect their discounts upon so substantial a substitute for paper.

state of wretchedness to which all similar establishments there are reduced. An arroba of common Zacate, (dry grass,) costs at Catorce from one and a half to three reals. Maize rises during moments of scarcity to eight and ten dollars the fanega. The ordinary price is from two to three dollars, and even at this the expence of maintaining the number of mules required for a large establishment of tahonas, or arrastres, where water-power cannot be applied, would be enormous. It is on this account that every possible mode of shortening the process of amalgamation has been resorted to by the rescatahores of Catorce, who have introduced a mode of treating the poorer ores, called El beneficio de Cazo, which is but little known in other districts. The ores are prepared for this process by washing, upon an inclined plane, (La Planilla,) which is in fact a bad substitute for the concentrating machine, mentioned in the preceding book. When separated, as much as possible, from the earthy particles, they are placed in a large cauldron, with a copper bottom, called El Cazo, below which a fire is kept up. The metalliferous earth is then diluted with water, until it becomes quite of a thin consistency, when salt is added, (p^a. limpiar, castrar,) and quicksilver in the usual proportion; this is not, however, thrown in until the fluid has been in a boiling state for at least two hours. The whole is kept in motion by a man provided with a rake, (rastrillo,) and in six hours the incorporation of the quicksilver with a portion

of the silver is generally found to have taken place. The water is then drawn off, and the residue (called polvillos) submitted to the ordinary process in the Patio, not more than one-half of the silver being extracted in the Cazo. The same process is sometimes carried on upon a larger scale, the Cazo being made to resemble an arrastre in shape, with a fire beneath, while the contents are kept in constant motion by two large blocks of wood, attached (like the blocks of granite in the arrastre) to a revolving cross beam, worked by a mule. This system is termed "Beneficio del fondon," a caballo, and is infinitely more productive than that of the simple Cazo; as, from the weight of the blocks, there is no deposit, and the action of the mercury upon the ores is much promoted. If the boiling be continued sixteen hours in lieu of eight, there seldom remains anything for the patio; but as the process is attended with more expence, it is seldom resorted to.

We remained at Catorce five whole days, being constantly induced to defer our departure by the number of objects that unexpectedly claimed our attention. During this interval I visited all the mines described in the preceding pages, nor can I sufficiently express my obligations to their proprietors for the readiness with which they answered my innumerable inquiries, and supplied me with every information that it was in their power to convey. They all seemed most anxious that the resources of their district should be made known to Europe, for

they consider its future prosperity as intimately connected with that of the Company, by which they hope to see the Veta Madre restored to its pristine splendour, and they imagine, not without some reason, that the recent discouragement of European Capitalists has proceeded more from a doubt as to the producing powers of the country, than from any other cause.

I have seldom witnessed more hospitality, or a more friendly feeling towards foreigners, than was evinced at Catorce. Nor was this a display elicited by my visit, for I was assured by the agents of both the companies that they had uniformly met with the most kind and liberal treatment, and that the good understanding which prevailed in 1826, had not upon any occasion been interrupted. With regard to ourselves, nothing could exceed the politeness with which we were treated. On the 3rd of December, the day before our departure, we dined with a very large party at the Obregones, whose table might certainly have induced a belief that the Concepcion was in Bonanza, for a more magnificent display of dishes I have seldom seen, and many of them were brought from a distance of fifty and sixty leagues. In the evening we went to a ball, at which all the belles of the place were assembled. We found the same scarcity of gloves and corsets amongst the ladies, as at Guāñajūatō, but segars were countless; and though the old Mexican mackaw dress of 1823, (scarlet and yellow,

with pink or green shoes,) prevailed in all its purity, the brilliancy of the colours was rendered less intolerable by the clouds of white smoke in which the wearers were enveloped. The utmost good-humour however prevailed, as soon as the apprehensions of "etiqueta rigurosa," which the presence of so formidable a person as Mrs. Ward at first occasioned, had a little subsided: a Padre Dominicano had the goodness to play us some national airs upon a harpsichord, which had penetrated into these elevated regions; and a valse figurée was danced with the guitar, (played alternately by the lady and gentleman while dancing,) which, if not particularly decent, was at least singular, and executed with great precision.

On the following morning we took leave of our numerous friends, to many of whom I was indebted for some very valuable additions to my mineralogical collection, and descended, accompanied by a number of the most respectable inhabitants of the town to the Cañada, where our coach was already loaded, and only awaiting our arrival, in order to commence its route towards Sōmbrerētē, which was the next place of importance on our road towards the North.

The descent from Catorce is much more formidable than the approach to the town from below. Yet so familiarised had we become with rocks and precipices, that Mrs. Ward did not think of dismounting, but rode down to the Cañada without apprehension.

She had indeed served a pretty good apprenticeship during her residence in the place, for the road to the two Socabones of La Purisima and La Luz, to both of which she accompanied me, is infinitely worse than that to the Cañada; and even the ascent to the Veta Madre, which she visited two or three times, in order to get a good drawing of the town from the Tiro del Compromiso, is not without danger.*

* This drawing will be engraved separately, together with views of Sōmbrērētē, Zacatecas, Tlalpujahuā, Valladolid, and Guanajuato, should my present undertaking have the effect of awakening public curiosity with regard to Mexico sufficiently to encourage me to proceed.



SECTION III.

JOURNEY FROM CATORCE TO SOMBRERETE.

MINES OF THAT DISTRICT.

ON quitting the Cañada of Catorce (Dec. 4), we began to pass what we all termed the Desert, or, in other words, a plain, extending, without any other variety than the occasional undulations of the surface, from the mountains of Cātōrcē to those of Zăcătēcās, a distance of about seventy leagues. The whole of this space is covered with a sort of mimosa, with very long thorns; another smaller shrub, the name of which I do not know, but which resembles the box in the shape and colour of its leaf; mezquites, and dwarf palms, bearing a fruit not unlike the real date in appearance, and by no means unpalatable. Water there is none, except in vast "tanques," or reservoirs, kept up at a considerable expence, as it is upon them that the proprietors rely for the preservation of the enormous flocks of sheep and goats which are bred upon their estates.