

to Silão and the Hacienda of Chichimiquillas, there is a considerable descent, the rise afterwards, in passing the mountains of La Tlachiquera, is so great, that the plains of San Juan de los Llanos are supposed to be but little inferior in elevation to those of the Capital itself. They are called by the natives El Espinazo (the back-bone) of the Table-land; and throughout the whole extent of this dreary ridge, which stretches as far north as Saltillo, the stunted vegetation, and the scarcity of water, seem to designate it as one of the most elevated portions of the central plateau. There is a descent, indeed, into the valley of the Jārāl, and you afterwards rise but little between that place and San Luis Potosi, or between San Luis and the Cañada of Catorce; but the ascent to the town being at least 1,500 feet, the height of the plain would be only 6,200 feet above the level of the Gulf, if that of the Real itself be correctly computed. The question must be decided by a series of barometrical observations, taken both above and below; and I mention it upon this account as worthy of the attention of some future traveller.

Nov. 30.—We visited the Söcäbön of La Purisima, the mines of El Serēno and Dolōres Trompeta, with the Socabon and mine of La Luz.

In order to reach these works you have to descend the North-eastern declivity of the range of mountains upon which the town stands, as far as the Potrero, a spacious platform, so little elevated above the level of the surrounding plains, that it is acces-

sible to wheel-carriages. On the first discovery of the mines it was intended to build the town upon this spot, and many regret that the resolution was not adhered to; for water, which the Potrero wants, might have been easily conveyed to it by an aqueduct, while provisions and other necessaries would then have reached Catorce in carts, without the expence or risk with which their conveyance up the Cañada is at present attended. It is supposed that the Viceroy, Count Revilla Gigedo, was misled by the representations of some individuals, whose habitations were already built upon the present site of the town, to which a preference was consequently given for the construction of the Government Offices, and these determined the position of the rest.

It is difficult to conceive any thing bolder than the idea of the Söcäbön, (adit,) of La Purisima, or more magnificent than its execution. In order to understand its object, it is necessary to have an idea of the position of the Veta Madre, which, as already stated, occupies the whole side of the mountain above the town, running in a direction nearly due North-east and South-west, and varying in width from three, to thirty, and in some parts, even forty varas. Upon this vein are situated a large proportion of the mines, from which the great wealth of Catorce has proceeded. The uppermost, La Purisima, is followed in regular succession as you descend towards the town, by the mines of Valenciana, San José, Guadalupe de Veta Grande, La



Concepcion, Guădălŭpītō, La Estrella, Zacarias, and Dōlōrēs Mēdēlliñ, all celebrated for their riches, and all, from the unskilful manner in which they were worked at first, encumbered with water in the lower levels, which it is extremely difficult to extract from above, although the riches of the vein are known to have been undiminished at the time when the workings were suspended. Amongst the mines thus abandoned by the original proprietors, is Dolores Medellin, which was in Bonanza in the lower levels when given up. To drain it and the neighbouring mine of Zacarias, a new shaft called El Tiro del Compromiso, was sunk by a Company of Natives, at an expence of 170,000 dollars; but the enterprise was abandoned when the shaft had reached the depth of 280 varas from the surface, it being discovered that three malacates would not be sufficient to clear the mines of water. Such, however, was the opinion entertained of their value, that it was resolved to effect the object by bringing an adit, or *galerie d'écoulement*, from the level of the Potrero, which, after passing through the whole of the mountain traversed by the Veta Madre, (called by the natives Barriga de Plata, from the immense quantity of that metal which it has produced,) would cut the vein about eight yards west of the shaft of El Compromiso, at the depth of 277 varas from the surface, and just 2,000 varas from the mouth of the Socabon. The Company formed for this purpose consisted of the present Governor of the State (El Licenciado

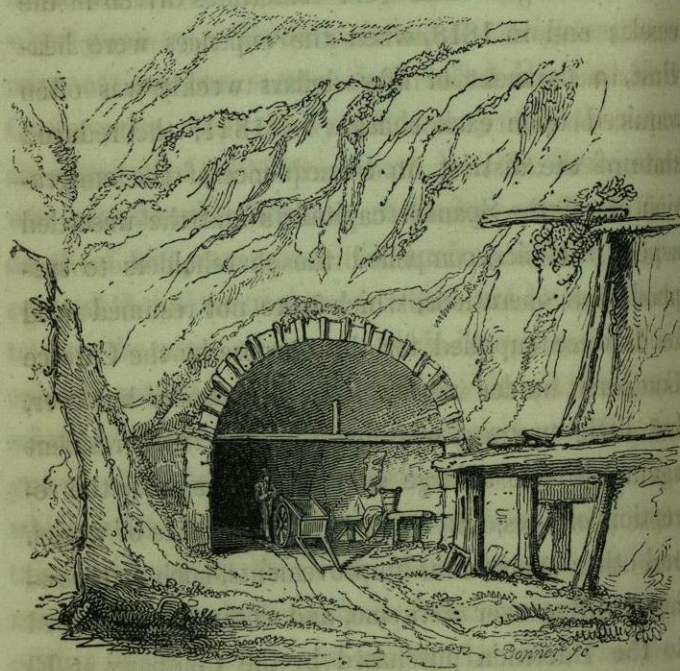
Diaz), Don Xavier Martin (the Diputado de Minería), and Don Antonio Ōrtiz, with many others of the most experienced practical miners of the district, each of whom took a share in the undertaking, and contributed his quota towards its expences. The work was commenced in 1817, and in four years 755 varas were driven, at an expence of about fifty dollars per vara for manual labour, without including tools, powder, and other contingent charges. Six and even eight varas were sometimes driven in the week; and in 1818, when the expences were heaviest, a payment of fifty dollars weekly was often required upon each share. In 1821, the reduced state of the district, in consequence of the emigration of all the Spanish capitalists and the unsettled aspect of affairs, compelled the shareholders to suspend their operations, which were not resumed until funds were supplied for the purpose by the Catorce Company, under whose superintendence, however, but little progress was made. Their first resident agent laid out a large sum in buildings for the reception of ores, houses for superintendents of works, and other superfluous improvements, such as throwing a bridge over a ravine, and commencing a road to the Hacienda purchased by the Company at El Cēdrāl, but seemed to regard the adit, which alone could give value to these works, quite as a secondary undertaking. In twelve months it only advanced forty-five varas; and twelve hundred varas remained to be driven, when the derangement of the affairs of



the Company, in consequence of the failure of the house of Goldschmidt, by which it was supported, put a stop to their operations altogether.

The dimensions of the Socabon, at the mouth, are eight varas high by six wide, but at the distance of six hundred varas, its height is reduced to five and a half varas, and its width to five.

When first seen it has the appearance of a natural cavern.



The sides, where the strata through which the work is carried are soft, are secured by masonry, and it is expected that before it reaches the Veta Madre, it will cut a number of other veins, which

are known to traverse the mountain, any one of which that proves productive will furnish funds for the prosecution of the enterprise, as the extraction of the ore will be effected at once in carts. Should all these veins be cut in "Borrasca," which it is difficult to suppose, the total expence of driving 1,200 varas that remain, is estimated by the gentlemen by whom the work has been hitherto conducted, at 250,000 dollars, including a most liberal allowance for every contingent charge. Ultimate success is regarded as certain; for in the mine of La Purisima, which has been worked to the depth of 550 varas, (or eighty varas below the level of the adit,) the ores of the Veta Madre are found not to diminish in richness, nor the vein itself to decrease in width. Besides, as the drainage of all the mines above the Socabon will be effected by it, according to the mining laws, (the due observance of which is secured by the interest that a number of the most influential natives, who are engaged in the undertaking, will have in enforcing them,) the whole of these mines become tributary to the Company, which receives a share of the ores of all the levels drained by its labours, on the upper part of the vein.

The Tiro of El Compromiso was begun in 1804, and continued till 1807, at an expence of 168,000 dollars. It is now allowed by all to have been an ill-judged work, although the native miners maintain that the quality of the ores of Dolores Medellin was such as to justify almost any expence that could be



incurred in order to reach them. Don José Vărădă, an old Rēscătădōr, informed me that he had himself reduced ores from it of eight marcs to the arroba.

The Catorce Company has twelve Barras, or a full half share in the adit of La Purisima, without "Alimentos," and the whole outlay is to be repaid out of the first fruits. The stores, tools, &c. required for the work are to be furnished by the Company at the invoice price, with a profit allowed by the Mexican proprietors of twenty-five per cent.

The mines of Sereno and Dolōres Trompeta likewise belong to the Company, and may be regarded as one mine, since the workings communicate underground. They are situated close to the mouth of the adit, upon the vein of Dolores. The vein is narrow, but the ores are rich, and a considerable quantity has been extracted since the mine came into the possession of the Company; there is therefore little doubt as to the repayment of the 36,000 dollars, which, (including 12,000 dollars advanced to the proprietors,) have been laid out upon this "negotiation." It is however not comparable in importance with the great adit, connected, as that undertaking is, with contracts for several of the principal mines upon the Veta Madre, as Guadalu-pito and Estrella, both of which the Company holds, in addition to those of Zacarias and Dolores Medellin, of which I have already spoken. Respecting these, the most enthusiastic expectations are entertained by the natives, who all conceive that the day

upon which the Socabon of La Purisima strikes the Veta Madre will be the commencement of a new epoch in the annals of Catorce, equal in splendour to that of the discovery of the district in 1773, when an addition of nearly four millions of dollars annually was made to the mining produce of New Spain.

Besides these mines, the Company possesses that of Zāvālă, commonly called "Del Padre Flores," from the name of its first proprietor; the history of which is exceedingly curious, although the expectations of future produce are by no means great.

In 1778, when the fame of the riches of Catorce attracted settlers from every side, the Padre Flores was amongst their number, and, unwilling to remain idle where all were employed in seeking the gifts of fortune, he purchased for 700 dollars a mine recently denounced upon a little vein nearly due north of the town, where he began to work. After following some little "Hilitos," or threads of rich ore, to about twenty varas from the surface, a small Boveda, or vaulted chamber, was discovered, full of a loose metalliferous earth, so completely impregnated with particles of silver, that it was bought up at once by the Rescatadores, at the price of one dollar for the pound weight of ore. Neither powder nor the usual implements of mining were required for the extraction of this earth, which was, in fact, nothing more than extremely rich ores in a state of decomposition. The first Boveda was small, in



comparison with a second, situated about sixty feet lower, and full of the same metalliferous dust, with which the Costales (miners' sacks) were actually filled with the horn Cucharas (spoons) used in making the "Tentadura," (essaying the richness of the ore.) The Bonanza commenced in 1781, and lasted till the middle of 1783, during which period the Padre Flores received for his share of the profits three millions and a half of dollars; and this, (be it recollected,) at a time when, in order to obtain a sufficient number of workmen, the "Partido," or share of the ore raised assigned to the miners, often amounted at Catorce to one-half of the produce, and was hardly ever less than one-third. The profits of the Rescatadores, too, are supposed to have been very large, as, notwithstanding the price paid for the carga, (300 dollars,) at the mouth of the shaft, they came even from Leon and Guanajuato to purchase the ores, and afterwards carried them a distance of sixty and eighty leagues to their Haciendas. The total amount of the silver raised during the three years, may therefore be estimated at from six to seven millions of dollars; it being upon record, that sales to the amount of 64,000 dollars were sometimes effected in a day.

The celebrity of the Mine of Zävälä drew adventurers from all quarters to the spot, and the ground about the Pertinencia of the Padre Flores is poached in every direction by shafts sunk in the hope of discovering such another "Bolsa de Dios Padre,"

("Purse of Our Father above," by which impious name he designated his mine,) as had fallen to his lot. But the boldest measure was that of the Conde del Peñasco, who, having contrived to obtain possession of the papers belonging to the Mine of Zävälä, (deposited in the Mining Deputation of the district,) removed in one night the "Mofaneros," or landmarks, which serve to distinguish the different "Pertinencias," sunk a little shaft close to Zävälä, and drove a cross-cut from it directly into the Padre's treasure-chamber, from which he carried off a very large sum (in ores) before his operations could be stopped by the intervention of the tribunals. Indeed, as the title-deeds had been secreted, it is difficult to say how the affair would have been brought to a decision, had not ecclesiastical censures been resorted to, which in that age were still all powerful. The Conde was compelled, by a sentence of excommunication, to give up the stolen papers, and to ask pardon on his knees of the Padre for the fraud practised upon him. This the Padre not only granted, but cancelled, at the same time, the debt which the Count had incurred by the extraction of ores in so unwarrantable a manner.

This story could hardly be deemed worthy of credit, were it not confirmed at the present day by several contemporaries of the Bonanza, as well as by the evidence of written documents which I have seen. I have likewise visited the two Bovedas, in the second of which the mouth of the cross-cut



driven by the Count's orders is still distinctly visible.

The most peculiar circumstance in the Bonanza of Zavāla is the total absence of a vein, not a vestige of which is to be seen either in the mine, or any where in its vicinity, with the exception of the little Veta de San Francisco, which is just visible at the mouth of a socabon begun by the Company at the foot of the hill upon which the mine is situated. This socabon is intended to explore the mountain immediately below the great Boveda, at the depth of about 150 varas. It must be 340 varas in length; and the expence is estimated at 60,000 dollars. But although it might not be imprudent to risk this sum, in order to investigate satisfactorily a spot productive of such immense riches, the terms of the contract are so unfavourable as to render any idea of working the mine entirely out of the question; the Company having only *ten* Barras, for which they were to pay 20,000 dollars as "Alimentos," to be repaid, together with all other expences, out of one half of the produce, the other half going to the Mexican proprietors. These onerous conditions determined Mr. Stokes, the present director of the Catorce Company, to give up the undertaking at once, and Zavāla is abandoned, probably for ever.

From Dolores Trompeta we proceeded along the Potrero to the mine of El Refugio, or La Luz, (it is known by both names,) denounced in 1804 by the Licenciado Gordo. During the two first years

he was nearly ruined, the mine having required a very considerable outlay, and produced no profits; but, in 1806, a Bonanza commenced, which can hardly yet be said to have terminated. In the course of it, Gordo has acquired a fortune of one million of dollars, and the estate of Mal Passo, near Zacatecas, for which he paid 700,000 dollars more. In 1815 and 1816, the extraction of the ores of La Luz became extremely difficult, in consequence of the great depth of the lower levels; but the present Governor of the State, who was at that time residing at Catorce, and acting as Gordo's representative, undertook to apply to it a socabon, originally projected for the mine of La Purisima, the levels of which it would enter at about 412 varas from the surface. The measures for this socabon, the mouth of which, (like that of La Purisima,) is situated in the Potrero, were taken by two native miners, Don José Maria Varēda, and Don Antonio Ōrtiz, and the work commenced after the rainy season of 1817. On the 25th of April, 1822, the vein was cut 715 varas from the mouth of the socabon. A communication was immediately effected with the old workings above, which were drained by this new channel, while a shaft was sunk in order to explore the vein below, which, when I saw it, was 150 varas in depth: the ore is raised by a malacate, erected in a large excavation made for the purpose in the side of the socabon.

This noble work is six varas broad and five high.



An aqueduct runs down one side for carrying off the water from the shaft, while the ores are brought to the "despacho," or receiving-room, in carts. The ventilation is excellent, and we were much struck with the order and regularity apparent in every part of the establishment, in which from four to six hundred men are employed daily. The mine, at the end of 1826, was not "de buenas," that is, was not producing good ores; and it was even supposed that there would be a deficit of from three to four thousand dollars upon the year; but Don Xavier Martin informed me that, as Rescatador, he had frequently purchased ores there at the rate of 300 dollars per carga, (of 300 lbs.) and that he once, from eleven pounds of ore, from a particular working called El Ojo de San Pedro, obtained nine marcs and six ounces of silver: the ore was what is called "metal azue," (blue metal,) the value of which he happened to be the first to discover. In 1825, the weekly sales of La Luz frequently amounted to 20,000 dollars. My desire to be acquainted with its proprietor was much diminished by learning that for fourteen years he had not seen his mine, never having had the curiosity even to visit the beautiful works that have been executed there by his agents. Passing from one extreme to the other, he now dreads incurring the slightest expence that the mine itself will not cover; and the administrador informed me, that should another six months elapse without

profits, the whole establishment would probably be broken up.

The socabon has been continued about 100 varas in the direction of the Purisima, beyond the point where the vein of La Luz was cut; but the work is now suspended. Five hundred varas more are required in order to reach the Veta Madre, the whole distance being calculated at 1,300 varas, of which 814 are already driven. The other great adit (that of La Purisima) is 700 varas longer, and consequently will be attended with more expence; but it has the advantage of intersecting the Veta Madre at a much lower point, and of thus rendering tributary several mines in lieu of one.

Dec. 1.—We visited La Purisima, and Concepcion, Guadalupe de Veta Grande, and the other mines upon the mother vein.

The two first belong to the family of the Obregones; and the brothers, Don Lorenzo and Don Isadoro Obregon, reside at Catorce, in order to superintend the works. The Purisima was discovered in 1780 by some wood-cutters, who denounced the spot, in consequence of having found some lumps of silver attached to the roots of a tree there, but sold their title for 300 dollars to Don José Antonio Dāvälös, who again made over a half share in the mine to the father of the Obrëgones, on condition that he should be at the expence of sinking a shaft, of which the mine was in want. The first great