

larger portion than any other, of the mines most celebrated for their former riches, and that on terms sufficiently equitable. I, therefore, rate their prospects high. But, at the same time, it must be confessed, that the vast extent of their undertakings is a disadvantage, from the impossibility of enforcing uniformity of system in operations, which are spread over 800 leagues of country, (from Jesus Maria, North-west of Chihuahua, to Teojomulco, in Oaxaca,) and that, consequently, there is reason to fear that the difficulties of management will tend, whatever be the exertions of the directors, considerably to diminish the profits.

It would be folly in me to attempt to fix what Mr. Alaman has declared his inability to do,—the period at which the Company may look for the repayment of its advances; but should any one of their great undertakings succeed, (and it is difficult for the most desponding to suppose them all failures,) that period cannot be more distant than that fixed by the Directors of other Companies—viz. the year 1831 or 1832.

The Report with which the Directors of the German Company were so obliging as to furnish me, contains many interesting facts, some of which tend not a little to confirm the opinion, which I have expressed in the preceding Section, that, had the attention of the British public not been exclusively directed to the mines which came recommended by Baron Humboldt's authority, capital might have been, in

many instances, invested more profitably, in mines of less celebrity, but easier of access, than some of those which have been selected by the English Companies.

Not one of the German mines is known in England; for *Arévälö*, the most important one amongst them, (at Chico,) was discovered after Humboldt's visit to Mexico; yet the Germans, by a judicious selection, made upon the spot, by miners of great experience, and activity, have done more, (in proportion,) in less time, and with a smaller capital, than any of the Foreign Companies established in New Spain.

By the statement of the Directors, it appears that they commenced their operations in the Autumn of 1825; and that, at the end of December 1826, they had drawn from the very small proportion of mines, which they had been able, at that time, to bring into work, a sum nearly equal to one-fourth of the capital employed.

The whole outlay of the Company, including the transport of the directors and officers from Germany, amounted to 637,760 dollars; while the produce was 147,153 dollars: a result sufficiently favourable to render any farther calculations as to the ultimate success of the Company unnecessary. That success, however, will not be so rapid as might be expected, unless the capital of the Association (originally 500,000 dollars) be increased, so as to enable its agents to bring the mines taken up by

them at once into activity, instead of adopting the slow process of applying the profits of the one to the wants of the rest.

With regard to former produce, the mine of Arevalo, at Chico, is stated to have paid the King's tenth upon five millions of dollars, from 1804 to 1824; or to have averaged 250,000 dollars per annum.

The mines at Real de Arriba, in the district of Temascaltepec, produced, weekly, twelve bars, or 13,000 dollars, (yearly, about 600,000 dollars). Sta Rita, (at Zimapan,) upon the years 1791, 1792, and 1793, left a profit of 100,000 dollars: and the richness of the Gold mines at San José del Oro, led, in former times, to the appointment of a Receiver-general for the King's fifth in that district alone. The present state of the mines there, however, does not appear to warrant any immediate expectations of success.

On the whole, should the undertakings of the Company be prosecuted with vigour, the annual produce, at the lowest possible estimate, may be taken at 600,000 dollars in the year 1830; with a probability of its considerably exceeding that sum; as *Arēvälö* alone, in the opinion of all the miners whom I have consulted, (both natives and foreigners,) is capable, at the present moment, of producing seven bars weekly, or 365,000 dollars per annum, could a sufficient number of workmen be procured for the extraction of the Ore.

Of the two American Companies mentioned in the sketch, (those of Baltimore and New York,) I can say little, except that the first only has effected an establishment in Mexico. The mines to be worked by both are situated at Temascaltepec, (about thirty leagues from the Capital,) and the works are conducted with great economy and activity, by Mr. Keating, a distinguished mineralogist of the United States.

With regard to the result, I have been informed that, from the tables of former produce, during a long series of years, there is reason to hope that the mines may pay an interest of from nine to fifteen per cent. upon the capital invested, which does not exceed 100,000 dollars. The completion of the works will, probably, be effected in the course of the year 1828.

The preceding pages contain the only data, upon which a calculation "of the returns likely to be made to the Adventurers by the Companies now established in Mexico," can, at present, be attempted. The result is by no means such as I could have wished, as it is founded upon conjectural evidence, and amounts, at best, to nothing more than probability; but I have no hesitation in adding that I regard this probability as strong, and that, after a very careful investigation, I see little reason to consider the expectations of the directors as exaggerated, or to suppose that, before three years have elapsed, these expectations may not be realised.

If this be the case, the addition to the amount of Silver now raised, in the year 1830, might be roughly estimated in the following manner:—

	Dollars.
Real del Monte Company	2,500,000
Bolaños	2,000,000
Anglo Mexican	3,700,000
Tlalpujahua	850,000
Mexican Company	200,000
Catorce Company	250,000
United Mexican	3,000,000
German Company	440,000
American Companies	60,000
Total	13,000,000

In this calculation I have taken the produce of the three first Companies at the estimate of their own directors.

I have allowed for Tlalpujahua what I conceive to be a very moderate sum, considering the exclusive possession by that Company of all the mines of the District, and the great riches that were, undoubtedly, drawn from them in former times, although the records of those times have been lost.

For the Mexican Company I have allowed more than their present produce would seem to warrant, in consideration of their having only just received the means of carrying on their works with vigour, by the arrival of several German miners, whose

assistance, in Oaxaca, was the more necessary from the inexperience of the native miners of that state.

The expectations of the Catorce Company cannot be realised so early as 1830, as their works are now suspended: I therefore take the probable produce, in that year, much under the estimate formed in the preceding part of this Section.

For the United Mexican Company I have assigned a sum, which is small, if a calculation of the probabilities in favour of the Association be formed upon the same basis as that which has been adopted for all the rest. But Mr. Alaman's refusal to give an opinion, renders caution in a mere observer doubly necessary.

I have supposed the progress of the German Company to be slow, from the uncertainty of any addition being made to its present capital.

In all, I have given Produce, not Profits, for these, of course, depend upon the manner in which the operations of the Companies are conducted, every shilling injudiciously expended, being, in fact, so much deducted from them.*

* It often happens that mines which are producing silver to a very considerable amount, yield no profit at all to the proprietors, the whole produce being absorbed by the expences. This was the case at Bolaños in 1795, when five thousand mules were employed in the drainage; and more recently, in the mines of Veta Grande at Zacatecas, which, when taken by the Bolaños Company, though producing ten thousand dollars weekly, barely covered the expences of working.

The sum total gives an addition of thirteen millions of dollars to the present produce of the country in, or before, the year 1830.

It remains, therefore, to inquire into the Second part of the question now under review, viz. :—

“The probability of the general produce of the country being so increased by these returns, (or by any other causes,) as to equal, or ultimately to exceed, the annual average produce before the year 1810.”

The Coinage of Mexico, although its average amount, from 1811 to 1825, was something more than Ten millions of dollars per annum, as stated in the first Section of this Book, rather decreased, than increased, towards the latter part of this period, and did not amount in the year 1826, to more than Seven millions and a half of dollars: (Vide table of Coinage marked No. 12, Section I.) The causes of this diminution I have endeavoured to develop in the preceding Section.

It does not arise from any deterioration of the mines themselves: they are what they were in 1810, and, consequently, are equally capable of producing what they then produced: but the capital which gave, at that time, so great an impulse to the Mining interests, has been withdrawn from the country, or diverted into other channels. The outlay of the Companies is not, by any means, an equivalent for that capital; and many years must elapse before that equivalent be found: I mean,

before a system can be re-organised, that will give to every class of Mining adventurers the facilities, and advantages, which they enjoyed before 1810. A great proportion of the expenditure of the Companies consists, at present, in dead works,—Amalgamation works,—roads, and stock,—all indispensable as preparations, and highly beneficial to the country in general, but not to the interest of the miners, (I mean, those not employed in the Companies,) to whom *Avios*, or advances in money, are essential, which they can no longer obtain. Besides, the mining population itself has decreased, and there are many districts, in which a want of hands is severely felt. I do not, therefore, think it probable that, even under the most favourable circumstances, the produce of the country can, for some time, exceed the amount of the present coinage, added to that given by my calculation of the probable produce of the Companies, which would make a total of about Twenty millions of dollars.

To this I think it may rise in the year 1830; and should it do so, the increase afterwards will be gradual, but progressive; new mines will be brought into activity as the present scarcity of capital diminishes; and, provided public tranquillity be not disturbed, there is reason to believe that the produce of the mines of Mexico, in five years after that time (1835) will be nearly equal to the annual average amount derived from them before the Revolution.

In taking this view of the subject, I feel myself

bound to state that I have been thought too sanguine by many persons to whom I have communicated it, and, amongst others, by some, for whose general knowledge of Mexico I have the highest respect; but at the same time I must add, that the apprehensions, which I have heard expressed, originate either in causes entirely unconnected with the mines, (principally of a political nature,) or in a supposition that the errors committed by the Companies on their first establishment are still persevered in, and, consequently, still occasion the lavish expenditure, with which they were necessarily attended at the outset.

Upon the last of these points my visit to the Mining Districts has relieved me from all doubts. The Companies have served their apprenticeship: they have paid dearly for their experience, it is true; but they have learned that nature is not to be forced, and that, without the strictest attention to economy, and to all the details of management, no command of capital can ensure success. Their establishments have been reduced in consequence; and it only remains, therefore, to inquire, whether the mines are sufficiently good to cover the expence already incurred, and still to hold out a reasonable prospect of advantage? This I have endeavoured to ascertain by a reference to the only data, upon which an estimate can possibly be formed; and by instituting a comparison between the expenditure of the Companies and the former produce of the mines

worked by them, as given by Official Records: the result is comprised in one table, and it certainly does appear to be that the mines are able to pay off the whole outlay, in three or four years, provided the produce in 1829 be not very much below the standard of the average annual produce before 1810. This I see no reason to apprehend; for the mines have remained unchanged, and untouched, during the Revolution. In lieu of being exhausted by progressive workings, their riches were locked up, if I may use the expression, by the accumulation of water; and it is only now that the lower levels, from which nine-tenths of the silver raised in 1810 were extracted, are beginning to become accessible. What, then, is to prevent the produce from reaching its former standard, calculated as that standard has been, in this Book, not upon traditional sayings, or vulgar report, (which is but too often synonymous with vulgar error,) but upon the evidence of those Records, that have survived the Revolution? More than this I do not wish at present to assume; for I think so highly of the ability and practical experience of the Mexicans in all mining matters, that I am very much inclined to believe that we have, at least, as much to learn from them, as they from us. I therefore reject, at once, all those ideas of European mining on the other side of the Atlantic, which have been attended, hitherto, with much ruinous effect: but having admitted this, it would be hard to deny that the accession of science,

and skill in machinery, which we bring into the present coalition, when combined with the knowledge of their own country, which the Mexican miners possess in the very highest degree, and applied, gradually, in the mode best adapted to the local peculiarities of each District, must, in the end, have a beneficial influence, and must tend to increase, ultimately, the annual produce of the mines.

This has been already exemplified in more than one instance, as at Real del Monte, and Bolaños, neither of which Districts could have been worked without the aid of European science, to direct the efforts of the natives. In other districts, where capital alone was wanting, the introduction of our machinery was superfluous; in all, however, it will be hereafter of use, for there is a point, at which the machinery of the country, (however improved) ceases to be of any avail. I do not, therefore, regard the expence which has been incurred at Guanajuato, by the Anglo-Mexican Company, for machinery, (but a small portion of which is now in use,) as money lost to the Adventurers. The expence might have been avoided, and was therefore injudicious, as it increased the outlay, in the first instance, so enormously, as almost to occasion the dissolution of the Company; but a time will come, (before the contracts can expire,) when a part, at least, of this machinery may be turned to account upon the spot; while, if the impulse given to the mines continue, opportunities will be found for disposing of

the remainder to Adventurers in other Districts, where the use of it would not be restricted by that scarcity of fuel, which, in Guanajuato, would render the general application of the larger engines sent out in 1825, utterly impossible.

With regard to the political apprehensions to which I have alluded, I do not feel myself at liberty to speak. The seeds of disorder certainly still exist in Mexico; and it is, unfortunately, not less certain that, were they to lead to civil dissensions of a serious nature, the mines must suffer from the effects of the struggle. But although I will not predict those halcyon days of peace and concord, which some of the admirers of Republican principles seem to regard as the necessary consequence of the system which has been adopted, I have no hesitation in repeating here, what I have stated in the preceding parts of my work, namely, that great progress has been made towards a better order of things, and that the more I saw of the country, the more I became convinced that the people were wearied out with Civil war, and desired nothing but independence and tranquillity. The race of the old Insurgents has died off; the population of the Provinces has reverted to its original pursuits; and although a struggle for place and power may be carried on with great personal animosity in the Capital, the States are indifferent as to the result, and are occupied only with their own affairs.

I am not aware of the existence of any cause,