

**OPINIONS OF THE PRESS AND OF
EMINENT PUBLIC MEN ON THE
IMPORTANCE OF OUR MINERAL
RESOURCES AND THE ADVANTAGES TO
BE DERIVED FROM THE ESTABLISHMENT
OF A NATIONAL SCHOOL OF MINES**

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Opinions of the press and of eminent public men on the importance of our mineral resources and the advantages to be derived from the establishment of a national school of mines by Various

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OPINIONS OF THE PRESS.

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THE PROPOSED NATIONAL SCHOOL OF MINES.—I.

The democratic doctrine is, that the country which is governed least, is governed best; and ultra democrats, like GERRIT SMITH, have followed this theory so far as to proclaim that the only function of government is the police function, and, from that standpoint, to include in one common condemnation free schools, the postal system, river, harbor and canal improvements, coast surveys, agricultural, patent and scientific bureau, and, in short, everything not directly necessary for the maintenance of peace and the prevention or punishment of crime. Statesmen, however, do not attempt to apply the theories of philosophers with such relentless consistency. They recognize the fact that many things must be done by government which would otherwise not be done at all; that the interests of education, industry and commerce in every part of a nation are of vital importance to the whole people, and that a wise discretion in such matters is better than blind adherence to any political rule. Of course, it is difficult to draw the line between judicious and injudicious legislation in these directions. It is always easier to be consistent than to be wise. There is no general standard which can be applied: every case must be judged upon its own merits; and full and thorough discussion must give the answer to two all-important questions; first, is the proposed end which concerns the whole nation, or only a part of it? and second, can the benefit desired be obtained as well, or at all, by local legislation or individual enterprise? We propose to discuss, with reference to these two points, the recent proposition for the establishment of a National School of Mines, embodied in the bill of Senator STEWART.

Mining and agriculture are the two productive industries upon which the wealth of the world is based. Strictly speaking agriculture is the most important, since without it men could not exist; yet mining is almost as essential, since without it there could be no civilization, and men would only exist as savages. There is this difference between the two, that the products of mining are, in general, far more imperishable, and, in proportion to their first cost, of greater, because more prolonged use to mankind. After centuries of tilling the soil, men have no more to eat than at first; and a bad crop brings famine and distress. The benefits of mining, on the other hand, are cumulative and perpetual. Who can estimate the blessings diffused by a ton of iron, mined, smelted, cast or wrought into forms of beauty and usefulness, serving for generations the needs of men, and repeatedly reformed, and reappearing, as by a material metempsycho-

sis, to enter upon new periods of beneficence? More difficult still is it to measure the importance of gold and silver, the production of which, aside from their intrinsic value and their application in the arts, is so subtly connected with the profoundest problems of commerce and political economy. Philosophers tell us that if we produce and manufacture largely, it is no matter whether we have plenty of money or not; money is nothing but a medium of exchange, and, when it is scarce, prices will be nominally low, while an increase of money nominally raises them, without altering the real relations of labor and wealth. But history and daily experience tell a different story. They show us that the world's accepted medium of exchange must bear a certain relation to the world's amount of business; and that, in spite of all contrivances of credit, barter and paper money, the supply of the precious metals is of vital importance to all commercial nations. This conviction is the source of the universal principle of law that the mineral resources of a country, especially its mines of gold and silver, are the property of the whole country—represented in some States by the crown, and in others by the general government. We have no fault to find with the American doctrine on that subject, which throws open to individual enterprise these sources of national wealth, but it is a question whether individuals should be allowed to ruin, by ignorant and wasteful management, the endowment which Nature has established for succeeding ages as well as the present, and of which, in a certain sense, we are the trustees for posterity. It is by no means indifferent to us all, whether the mines of the West are skillfully and economically worked or not, whether nine millions of silver a year are lost, never to be recovered, by the methods of treating the ores of the Comstock Lode, whether five dollars are wasted for every dollar extracted from the sulphurets of Colorado. These losses are so much robbery of our children; and it is eminently within the province of Government to preserve the mineral resources of the country, just as it will be imperatively called upon, before many years have passed, to prevent the destruction of its timber. Statistics show that, for several years, our production of gold and silver has been declining. There is no great cause for alarm in this fact alone. The years of greatest production were those in which superficial deposits were worked by rude methods; and since that time the business of mining has grown more difficult and expensive, while the number of miners has grown smaller. It is not the diminished production, but the increased waste, which is alarming. All the indications are, that individual mine-owners will not, or cannot, reform this evil. They lack the necessary knowledge, and the means of obtaining it. In vain our young men crowd the excellent schools of Paris, Freiberg and Berlin. They need years of instruction here to make their European education available; for those branches of metallurgy which are most widely practiced in this country, are the ones most scantily known and taught in Europe.

Information is the least debt which the government owes to its citizens engaged in this work. And there is a special reason why this information should be nationally given. The difficulties and interests of mines are universal. The man who is crushing quartz in Vermont and the man who is crushing quartz in California would gladly have a common center for the exchange of their experiences and the instruction of their ignorance. The farmers of the land need such an institution much less, yet they have

it, in the Agricultural Bureau. To a Bureau of Mining, under competent direction, there is no reasonable objection, except one. An efficient Bureau of Mining is an impossibility. In the first place, its location at Washington would defeat its object; and its location away from Washington would deprive it of the distinctive character and dependence of a bureau, and leave it without any individuality or vigor at all. In the second place, a bureau is not a wide-awake, progressive institution. The best *savant* in the world, put into a bureau, is liable to crystallize just where he is, and never grow any more. The only way to secure vitality and progress in such an establishment is to make it a school. Only a school can be in constant communication with practical men. People will not spontaneously write to a mere bureau, but the graduates of a school keep up relations with their former comrades and teachers as long as they live.

If, then, the government is to spread among the people that necessary information on the subject of mining and metallurgy, the slow acquisition of which is costing us so many millions every year, and wasting our resources for the years to come, there is no better way than to establish such a school as Senator STEWART proposes, support it by the extra tax on bullion, paid by the mining classes, and make it, as it ought to be, the foremost in the world.

THE NATIONAL SCHOOL OF MINES.—II.

We presented last week the general argument in behalf of a National School such as Senator STEWART'S bill proposes. In our present article, we shall consider one or two obstacles in the way of the measure itself. The first is the apathy of political leaders towards questions of far-reaching importance, which do not happen to be issues of the hour, controlling the fate of elections. The time in which we live rolls upon us a score of vital problems in political economy at once; but we select only one or two to vote upon, and leave the rest to be solved almost by chance. We know exactly where every man in Congress stands on the negro-question; but we cannot foretell the fate of any proposition of commerce or finance, in that body. How long it was before the minds of our legislators could be brought to comprehend the necessity of a Pacific Railroad! Now, all parties join in congratulation and self-glorification over the work which was delayed for years by their indifference. We do not hesitate to say, that a wise foresight of the coming demands of civilization, in this respect, on the part of Congress, would have saved to the country millions of dollars, which have been wasted in premature industrial undertakings in the far Western States. Colorado cries out to-day, "When the railroad is here, I shall revive and live!" But if the railroad had been built when it ought to have been, Colorado would not have sunk in fainting despair. We are not arguing that Government should interfere in matters of individual enterprise, but that what is to be done by Government should be done promptly. What was gained by the country from the prolonged and senseless opposition of Congress to a National Observatory? What have we gained by postponing till last year the establishment of a Stat-

istical Bureau? These things were sure to come. The example of other enlightened nations, and the growing commercial needs of our own, were enough to force them upon us; and we have simply foregone all their benefits during the years in which we blindly refused to lay their foundations.

We desire to apouse our readers to the importance of this question; and we hope it will be thoroughly discussed, preferring, as we do, the utmost bitterness of opposition to the silence of ignorant indifference. Some such opposition is already active. The New York *World*, for instance, sums up an article, the whole force of which is entirely in favor of a National School with the following *malapropos* conclusion:

"The enormous progress thus far made in mining has been made without government help. Much remains to be done. God forbid that our mines should be hindered in the doing of it by any sort of government meddling whatever!"

Yes, the "enormous progress" has been made "without help;"—and what does it amount to? Twenty-five millions of dollars lost every year, for want of a little "help;" millions expended in useless and fanciful experiments, which a little "meddling" might prevent; hundreds of educated foreigners, who *have* been "helped" by their governments, crowding our young men out of the field of scientific mining and metallurgy; thousands of tons of American ores, shipped around half the world to countries where "government meddling" has taught people how to extract the metal from their compounds, and hundreds of thousands of dollars paid in smelters' profits to the European establishments; the production decreasing, and the proposition of loss increasing every month; speculations, fevers of hope, panics of despair, mistakes, swindles, self-deceptions, crazy inventions, growing disgust of all men; mining enterprise, reckoned hitherto surest of occupations, and the foundation of many a great national career, set forth in history, now become a by-word and a scoffing! These are the results of the *World's* pet way of accomplishing "enormous progress." We shall blunder out of them in the course of time, as we blundered in;—no doubt of that; but it will cost us fifteen years and three hundred million dollars; and, after all that, we shall need a national school of mines just as we do now. Then everybody will be in favor of it, and it will be had (if it is not had now,) but the years and the millions will not come back to be saved. *Ex post facto* mining schools will not affect the irretrievable past.

There is room for much more to be said upon the subject; and we intend to recur to it continually, while the present bill is before Congress, in order that we may do our part in awakening and educating, in a matter so fundamentally important, a strong and rational public opinion.

THE NATIONAL SCHOOL OF MINES.—III.

We give, this week, a review of the year's operation in the most important branches of mining enterprise in this country, and enumerate, by way of introduction, the causes which have brought about the striking decline in the yield of gold and silver. We have already based upon this state of things an argument in favor of a National School of Mines. But we are

met with the objection, that this decrease is not a matter of national loss. It is individuals, we are told, who lose, and the nation is no more called upon to interfere, than in case of depression in any other branch of business. In answer to this, we desire to look a little more closely into the distinction between individual and national loss, and determine what is the nature of the national interest in the matter we are considering.

That there is a distinction no one will deny. Individuals and whole classes may be enriched by events which impoverish the nation; and the nation may reap lasting benefit and wealth from enterprises which ruin their projectors. An instance of the first class is furnished by the war, which has created many private fortunes, while it has left the country poorer by the destruction of thousands of millions of dollars in property, the accumulation of an equal amount of debt, and the waste of double both these items in the labor of a million and a half of men, either withdrawn for a time from useful fields, or utterly destroyed by untimely death. No "shoddy" prosperity can hide the commercial results of such fearful loss. In vain we flaunt the silks and laces of our fancied wealth; the naked elbows of our poverty peep through. The load we carry is lead, no matter how much we try to believe that it is feathers. On the other hand, an instance of national gain from individual loss and ruin is furnished by the history of almost all the railway enterprises, which have been like the veins of life-blood in our new States, diffusing vigor and healthful growth over the land, multiplying production, simplifying exchange, augmenting wealth, and yet, in general, not remunerating their owners, nor paying the interest on their bonds, until after long experience of bankruptcy or desperate financiering.

It is evident, then, that individual and national losses are not necessarily the same. If a man fails in business, it is an individual or relative loss only. If his house burns down, it is an absolute, and therefore a national loss, though the house may be insured for thrice its value, and the owner may get rich by its destruction.

In the particular case before us, we do not think as much money has been lost by individuals, during the past year, in gold and silver mining as during the year before. There has been a diminution of about ten per cent. in production, and at least fifty per cent. in new capital invested; the actual operations of 1867 have been, on the whole more profitable to individuals than those of 1866. Mining is fast becoming a business, and, as such, will regulate itself according to the laws of self-interest. People who are not making money will stop; only the best mines will be worked, and those only in such and for such periods as will secure quick and large dividends. The mines of the country will be "robbed," and individuals will be enriched, while posterity, looking for the sources of continued supply, will find exhausted diggings, abandoned shafts, and heaps of "tailings." Who can fail to see that the immediate gain of the miner may thus be won at the price of great national loss?

A word or two as to "tailings." It is a favorite apothegm with many of our theorists that the refuse of to-day will be precious to-morrow; and there seems to be a general impression that it is no matter how rudely we mine, or how wastefully we treat our metallic ores, if we save the tailings for our successors to work over with greater skill and economy. Even this degree of prudence is not too common, and we would not extinguish the faintest spark of intelligence in mining operations. We do not, therefore, discourage the saving of tailings; but we must point out