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## THE ACCUMULATION OF GOLD AND ITS EFFECT UPON COMMERCE AND SOCIETY.



THE attention of several writers on political economy has lately been attracted towards the probable results which may follow from the great quantity of gold which has of recent years been thrown into the currency and commerce of the world. The chief of these writers is, perhaps, Michel Chevalier, a member of the Institute of France, whose works have been translated into English by Richard Cobden Esq., and criticised in the *Edinburgh Review*. The leading idea running through the whole work of M. Chevalier is that the value of gold must fall, and that many evils will result for some years from its depreciation.

The facts which form the groundwork for concluding that a fall in the value of gold must take place may be thus stated. At the beginning of the present century, the annual product of gold which arrived to augment the metallic wealth of Christendom amounted in round numbers to about \$15,000,000; in 1848 it rose to nearly \$40,000,000; at present it is about \$190,000,000. The total quantity of gold obtained on the whole continent of America from the era of Columbus to the discoveries in California, amounted to \$2,000,000,000; in every single year about one-tenth of this amount is now being poured into the lap of commerce. This great supply surely cannot continue much longer without reducing its value.

With all the great influx of gold since 1848, it has depreciated but little, if any, in value, but it is certainly a reasonable conclusion, that if those supplies continue, the value of the article must fall. It now becomes an important scientific question, so far as it relates to the gold-producing rocks, whether they will continue to yield in such great abundance, or become poverty-stricken the longer they are continued to be worked. On this head we have some peculiar opinions from that distinguished geologist, Sir Roderick Murchison. In an address delivered in London, in the year 1857, he asserted that the yield of gold in Australia would be constantly on the decrease. He said:—"All gold veins in the solid crust of the earth diminish and deteriorate downwards, and can rarely be followed to any great depth except at a loss to work them." Again: "as the richest portions of the gold ore have been aggregated near the upper portions of the original vein, stones, so the heaps of gravel or *detritus*, resulting either from powerful abrasion, or tear and wear of ages, and derived from the surface of such gold-bearing rocks, are with rare exceptions, the only materials from which gold has been or can be extracted to great profit. The real problem we have now to solve, is how much time will elapse before the gold of Australia is finally riddled out of these heaps or basins, or extracted from a few superficial feet of vein-stone." The same distinguished geologist also asserted that quartz mining was unprofitable unless working near the surface, and that "auriferous quartz veins will soon be exhausted for all practical purposes, when the upper portions shall have been quarried out." Since that period, however, Sir Roderick has greatly modified his opinions; he has stated in a late edition of one of his works, that those sentiments were uttered without taking into consideration the new and improved machines and processes that would be invented

for recovering the gold; and he uttered a prophecy in the following words:—"The improved application of mercury may indeed liberate a notable quantity of ore from a matrix of apparently slight value and thus set at nought the experience of ages." Such a discovery in the application of mercury has been made since that eminent geologist penned the above quotation. On page 41, Vol. II. (new series), SCIENTIFIC AMERICAN, we described the new method of treating pulverized gold ores with mercury (under heat) in water, for which a patent was issued to Messrs. Fell and Wykoff in July, 1859, and by which three times the quantity of gold was obtained from the same ores, that had been secured by the old mode of cold amalgamation. Since that period, we have had an opportunity of witnessing the process conducted experimentally, in this city, upon some ores from the Melville mines in Virginia, and gold at the rate of \$120 to the tun was secured, while by the old mode, it was stated that only from five to seven dollars per tun could be taken out. This process we understand is now followed on a large scale at the Melville mines, Va., and the Gold-hill mines, Ga. We may therefore reasonably conclude that by the discovery of improved processes for recovering gold from its ores, and by improved machinery, the present supplies will continue to augment rather than diminish, for many years. What then will be the result? If more gold is obtained than is required for the currency of the nations, and for works of art, such as plate and jewelry, then, like every other commodity, the price of which is regulated by "demand and supply," it must fall in value. M. Chevalier concludes, from reliable statistics, that there is not a sufficiently increased demand for gold in the arts and manufactures to absorb the surplus. Indeed in England, the fashion of using gold in plate and ornaments is declining, as it always does among intellectual and cultivated people. M. Chevalier believes that the time is nigh at hand when gold will go down in value, "like a descending parachute," and he is of opinion that, "the industrial classes (meaning mechanics, artisans and laborers) will suffer during the progress of depreciation, because the prices of the commodities which they consume will constantly rise in advance of the rise of wages." This is stated to have been the result in a small degree in France already. But the injury to the working classes from such a cause must be of very temporary duration, because wages are regulated by the demand and supply of labor. In England, the wages of some classes of mechanics and artisans, have been on a steady rise for sixty years past, while those of other classes have generally varied during that period. Eighty years ago, the common wages paid to persons engaged in linen bleach-works in Scotland and Ireland, was sixpence sterling per day, and we have conversed with an old man who said this had been the rate of his wages in early life for three years. Now the same class of work-people are paid, at least, from twelve to fourteen shillings per week, or four times the old rate of wages.

The *Edinburgh Review* admits that a fall in the value of gold will effect adversely those who have fixed salaries upon endowments, also mortgages whose incomes are based upon a fixed rate of interest. In America, the great influx of gold from California appears to have been a positive benefit, by increasing the quantity of a standard circulating medium for commerce. There has not been and there is not yet, a sufficient circulation of metallic coin throughout the wide extent of our country. In most of the rural districts barter is still quite common—the exchanges of articles are not made in cash. In every country where the standard circulating medium is sufficient for the daily wants of commerce, the barter of goods is unknown; we have therefore an extensive field still open for absorbing the surplus supplies of gold, and of this field M. Chevalier has been partly ignorant; how could it be otherwise? We therefore do not expect the value of gold to fall quite as soon as M. Chevalier expects.

Currency is not one of the primary wants of man, but is introduced in a somewhat complicated state of society. It is simply the vehicle for effecting the exchange of other commodities, one man's wheat for another man's cloth, &c. The increase in the quantity of any particular metal which is used for currency would merely require a greater number of pounds of the metal to effect the exchange of a given amount of commodities. The

tendency of the increase of gold is certainly to make this metal less valuable in proportion to other things, and wherever gold is the standard currency, to raise the prices of other things. The only permanent evil, however, resulting from this depreciation of its value, is the inconvenience of transporting a larger number of pounds of the metal to make the same amount of payments. If the depreciation in the value of gold should be carried to such an extent as to render it unsuitable for currency, then platinum, or some other metal would be adopted for currency in its place.

## NEW STEAMERS CROSSING THE ATLANTIC IN FIVE DAYS.

The London correspondent of the New York *Herald* states that there are two parties now engaged in constructing steamers which they say can cross the ocean in five days. "Within the next five years," he says, "the voyage between New York and England will be made in less than five days. The basis of improvement are the modes of propulsion, style of engine, and form and size of hull. It is now reduced to a practical certainty that steam can be heated up to 600° Fah., and that alone is going to effect a saving of motive power amounting to more than four-fifths."

This correspondent is certainly an enthusiast of the "first water," and deserves the credit of having more faith in future improvements than common mortals. To make a voyage across the Atlantic in five days, it only requires an average speed of 25 miles per hour. Is there any man so strongly imbued with scepticism as to disbelieve in the possibility of this result being yet accomplished? We know it is all rhapsody to expect a saving of 80 per cent in fuel by using steam of 600° temperature; but every man has a perfect right to suit his own temper in such notions.

The following is the kind of ship which is described by this correspondent to make the five days' voyage:—"Now, what is the reason that we cannot have a steam-boat that shall combine all the excellencies and advantages of your Hudson river steamers and the *Great Eastern*? The latter steamer draws too much water. When there is such a vast displacement necessary, of course there is a great expense or loss of power. The *Great Eastern* is about 700 feet long and 90 broad. What would you say to a steamer 1,000 or 1,200 feet long and 180 or 200 in breadth? Construct such a vessel with nearly or quite a flat bottom, and to draw (not to exceed) 10 feet of water, with two or three pairs of paddle wheels, and would there not be an economy of power that would reduce the cost of carrying passengers at least one-half? The craft would be something between a boat and a raft. It would ship a sea now and then in rough weather, but it would not roll or pitch; and a very high speed could be attained. With two such steamers to cross the Atlantic in five days, and carry 10,000 or 12,000 passengers, at \$25 and \$50 each, they could form a line to run every 10 days, and they would break down every steam line now existing. I do not say that this is soon to be carried out; but I beg leave to hint that I believe it would be practicable."

"Shipping a sea now and then in rough weather"—who would complain of that, in making a five days' voyage? Why, any sensible person would take a ducking thrice every day to enjoy the luxury. How a vessel 1,000 feet long and 180 feet broad can be made to run across the Atlantic in five days, we are not informed; but the *Great Eastern* would be a very suitable experimental subject. By *razee-ing* her, the draft of water could be reduced to 10 feet; and, as her bottom is flat, of course it would just meet the requirements of the case. The London correspondent of the *Herald* is certainly a fellow of extended ideas; but we must tell him that he is a little second-hand in his fast ideas. Such a ship was projected more than a year ago in the city of Buffalo, N. Y., and if it is not yet fairly underway, it is not for want of confidence in its success by its author. But "there's a good time coming."

**THE SEWING MACHINE FIGHT.**—In our last number we alluded to the great sewing machine cases of Wheeler & Wilson vs. Sloat and others. The importance of the cases and the general interest expressed in the decision of Judge Nelson have induced us to resolve to publish it in full; but, owing to a great press of matter upon our columns, this week, we are compelled to defer doing so until our next issue.