

UNIVERSAL WEALTH

SHOWN TO BE EASILY ATTAINABLE.

PART FIRST.

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UNIVERSAL WEALTH.

SECTION I.

THE wealth of the world is proportionate to the number of different things mankind possess, rather than to the quantity of any one thing. Thus, if every human being had as much wheat as he could eat, and had no other wealth, all would still be poor. But if, in addition to all the wheat they desire, every human being has a thousand, ten thousand, or a hundred thousand other things - each, on an average, of equal value with the wheat - the wealth of each individual, and of the world, is multiplied a thousand, ten thousand, or a hundred thousand fold.

Individuals usually desire, for their own use or consumption, but a very limited amount of any one thing; but we as yet know no limit to the number of different things they desire. And we shall never know any such limit, until the ingenuity of the human race, in the invention of new commodities, shall have been exhausted.

The great problem of universal wealth, therefore, is comprised in these two, viz.: First, how shall we give to every person the greatest possible *variety* of commodities? and, secondly, how shall we give to each individual as much as he desires of each and all these various commodities?

Men are able to produce almost no wealth at all by their hands alone. Until they make discoveries in science, and inventions in implements and machinery, they remain savages, few in number, and living upon such wild fruits as they can gather, and such wild [*4] animals as they can kill. But they have proved themselves capable of such discoveries in science, and such inventions in implements and machinery, as will, each of them, enable a man to produce a hundred, a thousand, some of them a million, or even a hundred or a thousand million times as much wealth as he could before create with his hands alone. What labor could Watt perform with his hands, compared with that performed by his steam-engine? What labor could Arkwright perform with his hands alone, compared with that performed by his spinning machine? What labor could Stephenson perform, in the transportation of freight and passengers, compared with that performed by his locomotive? What could Morse do, on foot, in the transmission of intelligence, compared with what can be done with his telegraph? What could the Assyrian do, with his tablets of baked clay, in supplying the world with reading matter, compared with what can be done with a Hoe printing press? What could men do, with their hands alone, in tunnelling mountains, building suspension bridges, and laying deep sea cables, compared with what can be done by the machinery they have invented for those purposes?

These things should teach us that it is brains, and not hands, that must be relied on for the creation of wealth. And it would be well for us to realize, much more fully than we ever have done, that brain labor, no less than hand labor, must be paid for, if we would have the benefit of it.

The discoveries in science, the invention of implements and machinery, and the invention of new commodities for consumption, have already multiplied the wealth of *some portions* of the world by millions and thousands of millions of what it once was. And yet it is but recently that inventions have begun to add much to the wealth of the world. For thousands, and tens, perhaps hundreds of thousands of years, mankind remained savages, or at best barbarians, for the want of such inventions as are now just beginning to be made.

At the present time, the people of the United States are acknowledged to take the lead of the whole world, especially in mechanical inventions. And yet substantially all our inventions [*5] have been made within a hundred years; most of them within fifty years. We are now making from ten to fifteen thousand new inventions per annum. Some of these are of great, in fact of immeasurable, value. Many of them, although of less value, are nevertheless valuable. And yet we are probably not producing a tenth, perhaps not a hundredth, part so many inventions, in proportion to population, as we ought to do, and should do, if inventors were protected, as they ought to be, in a perpetual right to their inventions, and they and the public had the capital-that is, the money - necessary for producing inventions, and putting them into operation.

The people of the United States constitute not more than a twenty-fifth part of the population of the globe. In not more than a fourth, fifth, perhaps even a tenth, part of the world are any considerable number of inventions now being made. Not because the peoples of those other portions are naturally incapable of invention; but because they have no protection for their property in their inventions, and no money, no capital, no opportunity to make inventions, or bring them into operation. Their poverty, ignorance, and servitude suppress all their efforts in this direction.

What will be the number and value of the inventions made, and what the variety and amount of wealth produced by means of them, when, if ever, all mankind shall be protected in their property in their inventions, and shall have all the money necessary to bring their inventions into successful operation, no one now can form any idea.

SECTION II.

MONEY is the great instrumentality- the indispensable capital - by means of which inventions are produced, machinery operated, and their products distributed to consumers.

The inventor must have *money*, with which to make his experiments, subsist while making them,

perfect his inventions, demonstrate their utility, and bring them into practical operation. And to do all these often requires years of time, and large expenditures of money. [*6]

The operator of machinery must have *money*, with which to buy his machinery, his raw materials, and his means of subsistence while he is manufacturing his goods for the market. Then he must be able to sell his goods for *money*, in order to buy new materials, and subsist himself while manufacturing new goods.

The merchant must have *money*, with which to buy his goods; and he must be able to sell his goods for *money*, in order that he may buy new goods.

And, finally, the consumers of all these goods must have *money*, to buy and pay for all the goods that are to be manufactured.

Thus every man, who either makes inventions, operates machinery, or distributes or consumes the commodities produced, is constantly dependent upon *money*, for his means of production, distribution, and consumption.

And the amount of *money* that each one must have depends upon the market value of the commodities he has to buy, whether he buys them for production, distribution, or consumption; since the *money*, in each individual case, must, in order to make the contract an equitable one, be a *bona fide* equivalent of the commodity bought and sold.<fn1>

What, then, will be the amount of money requisite to bring out fully the inventive faculties of all mankind; set in motion all the machinery invented; distribute all the products; and thus give to mankind, for final consumption, the full benefits of all the inventions that can be made?

To answer this vital question, it is necessary to consider that the market value of all commodities, relatively to any fixed [*7] standard of value - or to such a standard as a gold dollar, for the want of a better, is assumed to be - *will depend wholly upon the variety and amount of commodities produced, distributed, and consumed. In other words, the market value of each man's particular product will depend wholly upon the variety and amount of commodities which other men produce, and are willing to give in exchange for it.*

To illustrate this principle, let us suppose that Mr. A is a hatter; and that he has acquired such science, skill, machinery, and money capital, that he is able, by himself alone, to manufacture ten thousand hats per annum. He manufactures these hats for sale, and not for his own consumption. Their value to himself therefore, depends wholly upon the number and amount of other commodities which he desires, and which other persons can, and will, give him in exchange for hats. If there be no one who desires a hat, or who - though desiring one - has anything desirable that he can give in exchange for it, A's ten thousand hats are of no value to him; simply because he can get nothing desirable in exchange for them. But if there are ten thousand other men who desire hats, and who are producing each a different commodity from all the others - a commodity as much desired by A as one of his hats is desired by each of the others - then A will be able to sell one of his hats to each of these ten thousand men, and get in exchange for it, a commodity as desirable to himself as the hat is to each of these ten thousand men. He will thus get the full and true value of his ten thousand hats, where, but for the power of these other men to produce something desirable to give in exchange, he would have got nothing at all for them; and would have utterly lost the labor of producing them.

Thus it will be seen that the *market* value of each man's own product depends entirely upon the number and amount of desirable things which other men produce, and are willing to give him in exchange for his particular product.

Every man, therefore, who has the science, skill, machinery, and money capital that are necessary to enable him to produce, say, ten thousand hats per annum, has the highest interest that ten [*8] thousand other men, who desire hats, shall have all the science, skill, machinery, and

money capital that shall enable them to produce ten thousand other commodities that shall be as desirable to him as one of his hats is to each of these ten thousand men.

Suppose the publisher of the *New York Herald* has such science, skill, machinery, and money capital, that he is able to produce a hundred thousand copies of the *Herald* daily. And suppose there are a hundred thousand other men, and only a hundred thousand, who desire the *Herald*. The value of the *Herald* to its producer will depend, in this case, wholly upon the number and amount of other desirable things which these hundred thousand other men can, and will, give in exchange for the *Herald*. If they are so destitute of science, skill, machinery, and capital that they can produce nothing desirable that they can give in exchange for it, the *Herald* will have no value to its producer; and his labor in producing it will be thrown away. But if each one of these hundred thousand men has science, skill, machinery and capital equal to the publisher of the *Herald*, and is producing a commodity different from all the others—a commodity as desirable to the publisher of the *Herald* as the *Herald* is to him - he will then be able and willing to give, in exchange for the *Herald*, a commodity as desirable and intrinsically as valuable, as the *Herald* itself. And the publisher of the *Herald* will get the full value of, or a full equivalent for, his hundred thousand copies of the *Herald*.

Is it not, therefore, perfectly plain, in this case, that the publisher of the *Herald* has the highest interest that every man, who desires to buy the *Herald*, shall have all the science, skill, machinery, and capital, that may enable him to produce, and give in exchange for the *Herald* something that is equally as desirable and valuable as is the *Herald* itself? Would it not be fatuity and suicide for the publisher of the *Herald* to advocate the tyranny and villainy of depriving all these hundred thousand men, who desire to buy the *Herald*, of all the science, skill, machinery, and capital, which alone can enable them to give, in exchange for it, something that is intrinsically as desirable and valuable as itself? Yet this is precisely what the *Herald*, and the press generally of [*9] the country, have been doing in all past time, and are doing to-day.

Of course, we cannot know, beforehand, what varieties and amounts of commodities mankind will invent and produce in the future, when, if ever, they shall have all the facilities and inducements for invention, production, distribution, and consumption, which ample legal protection to the rights of inventors, and ample money capital, will give them. Nor can we know, beforehand, the amount of money that will be required to bring science, skill, invention, machinery, and production to their highest points, and to distribute to the consumers the commodities produced. But the following article, which has been previously published, [<fn2>](#) on “ THE LAW OF PRICES,” will aid us in understanding how utterly and ludicrously inadequate, unworthy of consideration, how nearly useless in fact, are all such amounts of money as we have been accustomed to think of, as sufficient for these purposes.

In truth, nobody claims that our present amounts of money are at all adequate to the needs of industry and traffic, if the latter is to be carried on upon the principle that money should be a *bona fide* equivalent of the labor and property that are to be bought with it. All that those, who advocate restrictions upon money, can say in defence of them, is, that by coercing men into selling their labor and property for less than they are worth, a small amount of money can be made to have as much “ purchasing power” as a larger one. This is only saying that, by establishing a monopoly of money, the few holders of that monopoly will be enabled to coerce all other men into selling their labor and property for less than they are worth. And this is the whole purpose of the monopoly. It is only a cunning species of robbery, which has hitherto been successful, solely because the victims did not understand the jugglery by which it was accomplished. [*10]

THE LAW OF PRICES:

A DEMONSTRATION OF THE NECESSITY FOR AN INDEFINITE INCREASE OF MONEY.

I.

THE writers on money seem never to have obtained the first glimpse of the fundamental *law*

which governs prices, and which necessitates a constant and indefinite increase in the volume of money. That law may be illustrated in this manner:

Suppose an island cut off from all communication with the rest of the world, and inhabited by one hundred men. Suppose that these hundred men know no industry except the production of wheat; that they produce annually one thousand bushels, each man producing ten bushels, which is enough for his own consumption. Suppose further that these hundred men have money to the amount of five dollars each in gold, silver, and copper coins, and that these coins are valued by them as highly as similar coins are now by us. What will be the price of wheat among these men, compared with the coins? Plainly, it will bear no price at all. Each man producing for himself all he can eat, no one has any occasion to buy. Therefore none can be sold at any price.

But suppose that one after another of these hundred men leave wheat-growing, and engage in the production of other commodities, -each producing a different commodity from all the others,-until there shall be a hundred different commodities produced; only one man being left to produce wheat. And suppose that this one man has increased his product from ten bushels to one thousand. There is now just as much wheat as there was when all were employed in producing it. The only differences are, first, that the whole amount is produced now by one man, where before it was produced by a hundred men; and, secondly, that the ninety-nine men have each engaged in the production of some commodity, different from that produced by any other, but of which, we will suppose, all the others wish to purchase each his proportionate share for consumption.

There is now a hundred times as much wealth produced as when all produced wheat and nothing else. But each kind has only a single producer, while it finds a hundred consumers. And each man's product, we will suppose, has the same value with every other man's product.

What, now, will be the price of wheat among these hundred men relatively to the coins? Doubtless a dollar a bushel. When the first man abandoned wheat-growing, and betook himself to some other occupation, he created a demand for ten bushels of wheat, which he still wanted for consumption as before. This demand for ten bushels would doubtless be sufficient to give wheat the price of one cent per bushel, where it had no price before. When a second man of the hundred abandoned wheat-growing, he created a demand for ten bushels more; making twenty bushels in all. This increased demand would doubtless be sufficient to raise the market price of wheat to two cents a bushel. [*11]

When a third man of the hundred left wheat-growing for some other pursuit, his demand for ten bushels would raise the market price another cent; and so on, until by the time the ninety-nine had left wheat growing, the continually increasing demand would have raised the price to ninety-nine cents a bushel; for convenience of round numbers, say a dollar a bushel.

Here, then, wheat has been raised from no price at all to a dollar a bushel, not because there is any less wheat produced, or any more consumed, than before, but solely because the whole thousand bushels are now produced by one man, instead of being produced, ten bushels each, by the hundred different men who were to consume it; and because, further, each of the ninety-nine men, who have left wheat-growing, is able to purchase wheat, inasmuch as he has been producing some other commodity which brings him as good a price as the wheat brings to the man who still produces wheat.

Under this new state of things, then, the man who continues to produce wheat produces a thousand bushels, worth a dollar a bushel; that is, a thousand dollars' worth in all. Each of the other ninety-nine produces an equal amount of market value in some other commodity. The whole hundred men, then, produce wealth that has now a market value of one hundred thousand dollars, where originally they had produced nothing that had any *market* value at all.

This change in the price of wheat has been produced, then, solely by reason of the diversity of industry and production that has taken place among these hundred men. And the market prices of all the other ninety-nine commodities have been affected by the same law, and to the same extent,

as has been the price of wheat.

Here, then, is a hundred thousand dollars' worth of commodities produced, each man producing a thousand dollars' worth.

As each man retains a hundredth part of his product - that is, ten dollars' worth-for his own consumption, he has nine hundred and ninety dollars' worth for sale. The whole hundred men, therefore, have one hundred times nine hundred and ninety dollars' worth for sale, which is equal to ninety-nine thousand dollars in all; for convenience of round numbers, say one hundred thousand dollars.

The hundred men, having each five dollars in coins, have in the aggregate five hundred dollars. To make the purchases and sales of these hundred thousand dollars' worth of commodities, will require each of these five hundred dollars to be exchanged for commodities, on an average, two hundred times. That is, in carrying on the commerce of these hundred men for a year, their whole stock of money must be exchanged, on an average, once in a little less than two days. Or if we reckon but three hundred business days in a year, we shall find that the whole stock of money must be exchanged, on an average, once in every day and a half.

Such rapidity of exchange would be practicable enough, if the holders of the coins should all part with them readily at their true and natural value, instead of holding them back in the hope of getting for them more than they were really worth. But where there was so active a demand for the coins as to require that the whole stock be sold, on an average, once in every day and a half, it is natural to suppose that the holders of the coins would hold them back, in [*12] order to get more for them than their true and natural value. And in so far as they should do so, they would obstruct trade, and by obstructing trade obstruct and discourage production, and thus obstruct time natural increase of wealth.

II.

But suppose, now, that the number of men on this island be increased from one hundred to one thousand, and that they are all engaged in producing wheat only; each man producing ten bushels, which is all he wants for his own consumption. And suppose that each man has five dollars in gold, silver, and copper coins. What will be the price of wheat among these men, relatively to the coins? Clearly, it will have no *market* price at all, any more than it had ' when there were but a hundred men.

But suppose that nine hundred and ninety-nine of these thousand men leave wheat-growing, and engage each in the production of a commodity different from that produced by any one of the others. And suppose that the one who still continues to produce wheat is able, from his increased science, skill, and machinery, to produce ten thousand bushels - ten bushels for each of the thousand men - where before he produced only ten bushels for himself.

There is now just as much wheat produced as there was before. But it is now all produced by one man - nine hundred and ninety-nine thousandths of it being produced for sale - instead of being produced by a thousand men, each producing ten bushels for his own consumption.

What, now, will be the price of wheat among these thousand men? Why, being governed by the same law that has already been illustrated in the case of the hundred men, it will go on rising one cent at a time, as each man leaves wheat-growing for some other pursuit, until, when nine hundred and ninety-nine shall have left wheat-growing, and shall have become purchasers of wheat, instead of producers, the price will be nine hundred and ninety-nine cents a bushel - for convenience of round numbers, say ten dollars a bushel - where before it bore no price at all.

In this state of things, then, the man who still continues to produce wheat, will produce ten thousand bushels; worth, in the market, ten dollars a bushel, or a hundred thousand dollars in all.

Here, then, we have the price of a hundred thousand dollars for ten thousand bushels of wheat, which, when produced by a thousand different men, each producing ten bushels for his own consumption, had no *market* value at all. And the other nine hundred and ninety-nine men, we will suppose, produce each a different commodity from all the others; the whole annual produce of each having the same market value as the wheat-growers crop of wheat. The market value, then, of all the products of the whole thousand men will be one thousand times one hundred thousand dollars - that is, one hundred million dollars - where before, when they were all producing wheat and something else, their whole products had no *market* price at all.

When we consider that each producer retains for his own consumption but a thousandth part of his products (a hundred dollars worth), and that, consequently, nine hundred and ninety-nine parts of all these products are not only [*13] to be sold, but to be sold *twice*, as they would now have to be, - that is, once by the producer to the merchant, and once by the merchant to the consumer, - we see that there will be sales to the amount of one hundred and ninety-nine million eight hundred thousand dollars - for convenience of round numbers, say two hundred million dollars - where before, when all were producing wheat, there was no such thing as a sale of a cent's worth of anything.

These thousand men, we have supposed, hail each five dollars in coins - making five thousand dollars in all - with which to make these purchases and sales of two hundred millions. How many times over will all these coins, on an average, have to be bought and sold, in order to effect these exchanges? Dividing two hundred millions by five thousand, we have the answer; namely, *forty thousand times!* Dividing this number by three hundred, - which we will suppose to be the number of business days in a year, - we find that, in order to make their exchanges, their whole stock of money must be bought and sold, on an average, *one hundred and thirty-three times every day!*

Thus we see that one thousand men, with such a diversity and amount of production as we have supposed, would have two thousand times as many purchases and sales to make as the one hundred men. And in making these purchases and sales, we see that their whole stock of money would have to be bought and sold two hundred times oftener than would the whole stock of money of the one hundred men, in making their purchases and sales of one hundred thousand dollars. We see, too, that, if we call eight hours a day, - that being the usual number of business hours, - their whole stock of money would have to be bought and sold, on an average, *sixteen times over every hour, or once in every four minutes;* whereas the whole stock of money of the one hundred men would have to be bought and sold only *once in a day and a half;* or - calling eight hours a day - *once in twelve hours.*

Such, let it be specially noticed, is the difference in the rapidity required in the purchase and sale of money in making the exchanges among a thousand men, on the one hand, and a hundred men, on the other, *although the thousand men have the same amount of money, man for man, as the hundred men;* the thousand men having five thousand dollars, and the hundred having but five hundred dollars.

This illustration gives some idea of the effect produced upon prices by the expansion of industry amid the diversity of production. And yet the writers on money tell us that a large number of men need no more money, *man for man*, than a small number; that, if a hundred men need but five hundred dollars of money, a thousand men will, by the same rule, need but five thousand dollars.

In the case already supposed, - of the one thousand men, - how far would their five thousand dollars avail as money toward in making their exchanges of two hundred million dollars? Plainly, they would avail nothing. The holders of them, seeing the necessities of the people for money, would hold back their coins, and demand so much more than their true and natural value, as to put a stop substantially to all production, except of such few things as could be exchanged by barter, or as each one could produce for his own consumption.

The obvious truth is that, in order to carry on their commerce with money at its true and natural

value, amid consequently without obstruction or extortion [*14] from the money holders, it is necessary that these thousand men, with their increased diversity and amount of production, should have two hundred times as much motley, *man for man*, - and two thousand times as much in the aggregate, - as was necessary for the one hundred men, as before supposed.

In other words, the thousand men have two hundred million dollars of sales to make, where the hundred men had but one hundred thousand. Dividing two hundred million by one hundred thousand, we find that the thousand much, with such diversity and amount of production as we have supposed, have two thousand times as many sales to make as the one hundred had; and consequently that they require two thousand times as much money as did the one hundred.

III.

But to show still further the ratio in which diversity of industry tends to increase the price of commodities, *relatively to any fixed standard*, let us suppose that the number of men on the island be still further increased from one thousand to ten thousand. And suppose that all these ten thousand are engaged in producing wheat alone; each producing ten bushels for his own consumption, that being all he wants. And suppose they have each five dollars in gold, silver, and copper coins. What will be the price of wheat, relatively to the coins? Clearly, it will have no price at all, not even so much as one cent a bushel.

But suppose that all but one of the ten thousand men should leave wheat-growing, and engage in other industries; each one producing a different commodity from all the others. And suppose that the one who still continues wheat-growing has acquired such science, skill, and machinery, that he is now able to produce a hundred thousand bushels - that is, ten bushels each for ten thousand men - where before he only produced ten bushels for himself.

What will now be the price of wheat among these ten thousand men? Why, by the same law that has been already illustrated, it will be ninety-nine dollars and ninety-nine cents a bushel - for convenience of round numbers, say one hundred dollars a bushel - where before it had no *market* value at all.

And yet there is just as much wheat produced as there was before, and every man gets just as much wheat to eat as he had before, when all were producing wheat.

In this state of things, the one hundred thousand bushels of wheat, produced by one man, at a hundred dollars a bushel - which will then be its market value - are worth one hundred thousand times one hundred dollars; that is, ten million dollars. And suppose that all the other nine thousand nine hundred and ninety-nine men are each engaged in an industry as profitable as that of the remaining wheat grower. The aggregate production of the whole ten thousand men will now have a market value equal to ten thousand times ten million dollars; that is, one hundred thousand million dollars.

And if we suppose that all these commodities are to be sold *three* times ^{<fn3>} [*15] over, - that is, once by the producer to the wholesale dealer, once by the wholesale dealer to the retailer, and once by the retailer to the consumer, - we shall see that there are to be sales equal to three hundred thousand million dollars, where before, when all were producing wheat, and nothing else, there was no sale of a cent's worth of any thing, and no *market* value at all for any thing.

Now suppose that the coins, which these men had, have remained fixed at the same value they had when the men were all producing wheat. How many times over, then, must they necessarily be bought and sold, in the course of a year, in order to effect the purchase and sale of these three hundred thousand millions - or one hundred thousand millions three times over - of property that are to be exchanged?

There are ten thousand men, each having five dollars in coins; that is, fifty thousand dollars in all. Dividing three hundred thousand millions by fifty thousand, we find that the whole of these

fifty thousand dollars in coins *must be bought and sold six million times?* Six million times annually, to effect the exchanges of the products of ten thousand men!

Dividing six million by three hundred (which we will suppose to be the number of business days in a year, we find that, on an average, their whole stock of money must be bought and sold *twenty thousand times over every day*. Or supposing the business day to be eight hours, the coins would all have to be bought and sold twenty-five hundred times over every hour; equal to forty-one and two-thirds times every minute.

And this happens, too, whets the ten thousand men have the same amount of coin, *man for man*, as the one hundred and the one thousand men had, in the cases before supposed.

Thus we see that, with such a diversity and amount of production as we have supposed, the exchanges of the ten thousand men would require that their whole stock of money should be bought and sold one hundred and fifty times oftener than the whole stock of the one thousand men, and thirty thousand times oftener than the whole stock of the one hundred men.

We also see that, in the cases supposed, the ten thousand men, having three hundred thousand millions of exchanges to make, have fifteen hundred times as many as the one thousand men, who had but two hundred millions; and that they have three million times as many exchanges to make as the one hundred men. Consequently the ten thousand men require fifteen hundred times as much money as the one thousand men, and three million times as much money as the one hundred men.

IV.

According to the foregoing calculations, the ratio of increase required in the volume of money is this: Supposing the diversity amid amount of production to keep pace with the increase in the number of men, and supposing their commodities to be sold but *once*, - that is, directly from producer to consumer, - a hundred men would require a thousand times as much money as ten men; a thousand men would require a thousand times as much money as a hundred men; ten thousand men would require a thousand times as much money as a thousand men; and so on. [*16]

But inasmuch as, in the case of a thousand men, their commodities would have to be sold *twice*, - that is, once by the producer to the merchant, and once by the merchant to the consumer, - the thousand men would require *two* thousand times as much money as the hundred men. And inasmuch as, in the case of the ten thousand men, their commodities would have to be sold *three times* over, - that is, once by the producer to the wholesale dealer, once by the wholesale dealer to the retailer, and once by the retailer to the consumer, - the amount of money required, instead of being either one thousand or two thousand times as much as in the case of the one thousand men (whose commodities were sold but twice), would be one and a half thousand times (as three sales are one and a half times as much as two) - that is, fifteen hundred times-as much as in the case of the one thousand men.

Stating the results of the preceding calculations in the simplest form, we find that different numbers of men, having a diversity and amount of production corresponding to their numbers, in making their exchanges with each other, require money in the following ratios, relatively to each other; namely, -

10 men require	\$100
100 men require	100,000
1,000 men require	200,000,000
10,000 men require	300,000,000,000

But as the same money could be used many times over in the course of a year, they would not need an amount of money equal to the amount of their annual exchanges. If, then, we suppose the aggregate of their annual exchanges to be as above, and their whole stocks of money to be used three hundred times over in a year, - that is, once a day, calling three hundred the number of

business days in a year, -we find that the stocks of money required would be as follows:

10 men would require	\$.33 1/3
100 men would require	333.33 1/3
1,000 men would require	666,666.33 1/3
10,000 men would require	1,000,000,000

Or, to state the case in still another form, supposing their aggregate annual exchanges to be as above, and supposing their whole stocks of money to be bought and sold three hundred times over in the year, the money required, *per man*, would be as follows:-

10 men would require	\$.03 1/3 each.
100 men would require	3.33 1/3 each.
1,000 men would require	666.66 each.
10,000 men would require	100,000 each.

If any body thinks he can dispute these figures, let him attempt it. If they cannot be disputed, they settle the law of prices.

V.

The foregoing suppositions are, *first*, that the ten thousand men came finally to have ten thousand different *kinds* of commodities, where they originally had but one, - namely, wheat; *secondly*, that they finally came to have ten thousand times as much wealth, *in quantity*, as they had originally, when all were producing wheat; *thirdly*, that wheat, which at it-s first sales brought only one cent a bushel, came afterwards to sell for ten thousand cents a bushel, - although the amount of wheat produced, and the supply of wheat for each individual, were the same in the one case as in the other; *fourthly*, that the same effect is produced upon the prices of all the rest of the ten thousand different kinds of commodities as upon the price of wheat; and, *fifthly*, that the annual sales, made by the ten thousand men, amounted finally to three hundred thousand million dollars, where their first sales had amounted to but ten cents, - the amount which the first man who left wheat-growing paid for his yearly supply of ten bushels.

It is not necessary to suppose that such a diversity and amount of production will ever be realized in actual life, although that is not impossible It is sufficient that these figures give the *law* that governs prices, and consequently demonstrate that a constant and enormous increase of money must be necessary to keep pace with the increase of population, wealth, and trade, if we wish to give free scope to diversity and amount of production.

Unless money should be increased so as to keep pace with this increased demand, the result would be, *first*, obstruction to trade; *secondly*, obstruction to, and discouragement of, industry; and *thirdly*, a corresponding obstruction to the increase of wealth.

In fact, unless the amount of money were increased, these hundred men, thousand men, and ten thousand men, instead of having a hundred, a thousand, or ten thousand different *kinds* of commodities, would advance very little beyond the state they were in when all were producing wheat and nothing else. Some feeble attempts at other industries might possibly be made, but their money, like the shells and wampum of savages, would aid these attempts but slightly; and the men, unless they invented some other money, would either remain absolute savages, or attain only to a very low state of barbarism.

The practical question, then, is, whether it is better that these ten thousand men should remain mere savages, scratching the earth with rude sticks and stones to produce each ten bushels of wheat, or whether it is better that they should all have the money - which stands in political economy for all the ingenuity, skill, science, machinery, and other capital which money can buy - that may be necessary to enable them to produce, in the greatest possible abundance, and of the greatest possible excellence, all the ten thousand commodities that will contribute to their

happiness.

A full discussion of this subject would require much more space than can here be given to it. It may perhaps be continued at a future time, if that should be necessary. But enough has doubtless now been said to show the general *law* that governs prices, and consequently to show, the necessity for an immense increase of money; an increase dependent upon the diversity and amount of production, and the natural laws of trade applicable thereto; such an increase as no legislation can ascertain beforehand, or consequently prescribe. [*18]

SECTION III.

It will now perhaps be said by some, in opposition to this theory of the rise in prices, that it is not sustained by the experience of mankind; that, on the contrary, the introduction of machinery makes some things wonderfully cheap, which before, relatively to other commodities, were very dear. And as an illustration of this, perhaps we shall be pointed to the present cheapness of printed matter, as compared with the price of written matter before the discovery of the present modes of printing, and the present modes of making paper; a man now being able, probably, to buy as much printed matter for one cent, as one could have bought of written matter, five hundred years ago, for five, or perhaps ten, dollars.

But the man who makes this objection, does not take into account all the facts upon which the rise in prices depends. He does not take into account the fact that the market price of any commodity, whether produced in less or greater quantity, or by less or more labor, depends only very slightly, if at all, upon the greater or less amount of labor it costs the producer, *but mainly, if not wholly - as has already been explained- upon the power and disposition of other men to buy it, and give him something equally desirable in exchange for it.* The producer of any particular commodity, however desirable a one it may be, can get no just compensation for it, except from those who are themselves producing something equally desirable, which they are willing to give in exchange.

If, for example - to repeat an illustration already given - a hundred thousand copies of the *New York Herald* were printed in a country containing only a hundred thousand men, who desired it, and these men were producing nothing that they could spare, or give in exchange, the *Herald* would plainly bring no price at all, however much these hundred thousand men might desire it. But if these hundred thousand men should become producers of such commodities as they could spare, and give in exchange for the *Herald* the *market* price of the *Herald* would rise just in proportion to the value of these other commodities. And if these hundred thousand men should finally, through the aid of invention, science, skill, machinery, and capital, become producers of a [*19]

hundred thousand different commodities - each man producing a different commodity from all the others-and each man should be willing to give, in exchange for the *Herald*, such a portion of his own particular product as would be as desirable for the producer of the *Herald*, as a copy of the *Herald* was to him, the *Herald*, which before brought no price at all, will now obtain for its producer a hundred thousand different commodities, each of which will be as valuable to him, as a copy of the *Herald* will be to each of these hundred thousand purchasers. And the price of the *Herald*, relatively to any fixed standard of value, will have risen - in accordance with the "*Law of Prices*" already given - from nothing, to a price corresponding to the value of these hundred thousand different commodities that will be given in exchange for it.

The reason why printed matter has become so cheap, in comparison with many or most other commodities, is not at all that the knowledge conveyed by it has become less desirable or valuable than it was before the art of printing was discovered - for both the desire for knowledge, and the value of the knowledge conveyed, have been constantly increasing ever since that time - but it is because invention and production in paper -making and printing have altogether outrun invention and production in *most* other directions; and mankind are consequently unable, except in comparatively few cases, to give real equivalents for printed matter. *Printed matter, therefore, has now to be sold for only what the producers of other commodities are able to pay.* But if invention

and production, in other directions than paper-making and printing, should go on increasing to such a degree that all other men will be able to offer, in exchange for printed matter, commodities as desirable as the printed matter itself, the prices of printed matter will then rise to their true level.

And what is true of printed matter, is equally true of certain other commodities, in whose production science and invention have outrun the science and invention that are employed in ordinary pursuits. These commodities now command no equitable price in the market, solely because mankind in general, for the want of invention, science, skill, machinery, and capital, are [*20] unable to produce commodities of equal value, to be given in exchange.

From all this, it will be seen that the *market* value of each man's product depends, not at all, or at best very slightly, upon the greater or less labor it costs him to produce it - for when all labor is performed by machinery, and men are required only to tend the machinery, it can hardly be said that anything costs *human* labor; *but it depends mainly, if not wholly, upon the number of other men who can buy it, and give him something desirable in exchange for it.*

At present no such diversity or amount of production exists, as we shall sometime see; and, consequently, prices have never risen to any such height as they sometime will. But as surely as the diversity and amount of production go on increasing, just so surely will the rise of prices, relatively to any fixed standard of value, also go on increasing in the ratio, and according to the rule, that have now being explained. And the amount of money required for the exchanges of property will of course go on increasing in like ratio. And any attempt to keep down prices, by limiting the amount of money, will only result in suppressing invention, science, skill, machinery, and production, and in the inequitable distribution of the little wealth that is permitted to be produced.

But this theory will be more fully confirmed in subsequent papers.

SECTION IV.

It will now be seen how clearly - as a general rule - it is the interest of all that each and every individual shall have all the capital - that is, all the money - that may be necessary to enable them to produce the greatest variety and amount of wealth; to make the most discoveries in science, the most inventions in implements and machinery; to produce the greatest number of new commodities for direct consumption; and also to enable all those who are neither discoverers nor inventors, to engage in the greatest variety of industries - that is, in the production of all new commodities, as fast as they shall be invented. [*21]

We need have no fear that machinery will ever prove an enemy of human labor, if we only have money enough to enable a sufficient number of persons to go into the production of new commodities as fast as they shall be invented. Men driven out of one employment, by machinery, will then be enabled to go into another more lucrative; because every new industry raises the value of all others, and, as a general rule, takes its place on a level with all others. The lack of money to enable men to go into new industries, is the only reason why - at least in recent times - machinery has been regarded as the enemy of the laborer.

The greater the variety of commodities produced, the less the competition in the production of each, and the higher the prices of all; for the price of each rises just in proportion to the number of others for which it can be exchanged, and the amounts of each of these others for which it can be exchanged.

As a general rule, everybody who engages in the production of a new commodity relieves somebody of a competitor, and, to the extent of his own production, becomes a purchaser of the products of others.

Especially ought we to realize how important it is that every facility and inducement that is reasonably possible - both in money and in legal protection - be afforded to all discoveries in science, and all mechanical inventions. These discoveries and inventions are the great, the

permanent wealth of the world. The material wealth which we accumulate by means of them, is mostly temporary, and much of it ephemeral. It is quickly consumed, or goes quickly to decay. It could do almost nothing for mankind, were it not for the scientific discoveries and mechanical inventions by which it can be constantly reproduced to meet our daily wants. These discoveries and inventions are, also, riot solely the wealth of the particular times or localities in which they are made; but are to become the property of the whole world, and of all future time. It is true that many, or most, of them are being quickly superseded by others that do the same work better; but the inventions and discoveries of each year, or generation, prepare the way for those of the next; and thus, by this succession of inventions and discoveries, the whole world is to be enriched [*22] through all the ages. And we should not grudge the wealth which a perpetual property in them would give to their authors; for, at best, it will probably, on an average, be not more than one percentage of the wealth created by means of them. And if this one per centum should prove large, for the time being, in proportion to the earnings of other men, it will only stimulate the production of other discoveries and inventions, of which the world will get the benefit, at a like cost of one per centum of the wealth produced by means of them.

Short-sighted men, oppressed by poverty and toil, object to an inventor' s having such a property in the products of his labor as other men have in the products of theirs; because, say they, it would be wrong that he should receive so much for his labor, when we receive so little for ours. But such men should understand that a man' s right to the products of his labor does not depend at all upon the value of those products. Whether more or less valuable - they are equally his, solely because he produced them. Labor is worth nothing of itself. Its value depends wholly upon what it produces. If it produces much, it is worth much if it produces little, it is worth little; if it produces nothing, it is worth nothing. Nearly all the world over, the great body of the people are borne down by the heaviest toil; yet, for the want of science, implements, machinery, and capital, they produce very little; and that little brings them either a very small price, or absolutely nothing, in exchange, because so few have any thing that they can give in exchange. And this fate, that has so crushed, impoverished, and enslaved mankind for thousands of years in the past, will assuredly continue to crush, impoverish, and enslave them for thousands of years in the future, unless, by means of science, implements, machinery, and capital, they make their industry more productive than it heretofore has been. These men should also understand that the inventor has always been ready and eager to relieve them of their poverty and toil, by giving them machinery that should do their work for them ; and do for them a thousand times more work than they can do for themselves; and that the only reasons why he has not done so, hundreds and thousands of years ago, have been, first, that he has [*23] been without the necessary means for producing his inventions, and has been denied all just compensation-until quite recently all compensation - for them; and, secondly, that the mass of men have also been without the necessary means - that is, the necessary money - for utilizing his inventions after he has produced them. Whenever the right of the inventor to the products of his labor shall be acknowledged, and the people shall be permitted to have all the money that shall be necessary to enable them to utilize his inventions, all their present complaints of poverty and toil will rapidly disappear. It is, therefore, not only gross injustice, but the worst of policies, to deny to scientists and inventors their right of property in their discoveries and inventions.

It is manifest that the mass of mankind can lift themselves out of their present poverty and servitude only through the aid of science, invention, machinery and money. It is manifest, too, that we can set no limits either to the variety or amount of wealth that mankind are capable of producing, if only full scope be given to science, invention, machinery, and money. It is also obvious that the greater the diversity and amount of production, the more equally and equitably will wealth be distributed; since every separate industry gives a support to a separate body of producers; and when all industries are free, the tendency of all - especially of all such as must occupy the great body of the people - is to come to one common standard of compensation.

NOTES

1. It would be absurd to expect any rapid increase or equitable distribution of wealth, unless we abjure forever the theory, on which our own government and so many others now act, viz., that it is wholly unnecessary that money should be an equivalent of the property that is to be bought with it; that the money of a country should be restricted by

law to a very small amount; that the right to issue this amount should be granted as a monopoly to a very few persons; that these few should thus be licensed to control all industry and traffic; to fix the prices of all property and labor; and thus to extort, in exchange for their money, many times more of all other men's property and labor than the money is really and truly worth. Such a monopoly has obviously mm tendency or purpose but to obstruct production and exchange, anti enable the few to secure to themselves the wealth produced by the many. [Return](#)

2. All but ten millions - a ten thousandth part of the whole - would have in be sold, since each man would remain for his own consumption only a ten thousandth part of what he produced namely, one thousand dollars' worth. [Return](#)

3. It was first published in the *Radical Review* for August, 1877; and afterward in a pamphlet. [Return](#)