lent to raising prices; and of enhancing the value of money as equivalent to lowering prices. This is manifest enough to anyone who thinks of the matter; but the student of political economy needs to become so familiar with this equivalency that he will not have to think consciously about it; but the one mode of expression will always and instantly suggest its equivalent. To enhance the value of money is, of course, to give a larger purchasing power to each integral part of the circulating money—that is, to each piece or coin, and to any given number of pieces or coins. But if money purchases more of other things, other things, conversely, purchase less of money—that is, bear lower prices.

On the other hand, to say that the value of money is lowered, is to say that money purchases less of other things; but if money purchases less of other things, other things, conversely, purchase more of money—that is, bear higher prices.

176. International Distribution of Money.—We have seen that it is impossible to say what, at any time, in any community, is the demand for money, or the supply of money. We have now to see that, with money having a natural cost of production, no one has any need to know, either how much money there is, or how much is needed, inasmuch as the demand for money will, under such a system, easily and surely, because automatically, bring in the due supply required to enable all the exchanges of the community to be transacted with the minimum of effort and delay, and with the highest assurance of the exchange of real equivalents.

The territorial distribution of money is effected through the agency of Price.

Let us suppose that, of two trading countries having the same kind of money, the amount in each, *i. e.*, the number of pieces or coins, is such that, the rate of circulation being what it is, and the demand for money what it is, the scale of prices in the two countries precisely corresponds, cost of transportation of goods being, for the purposes of the illustration, left out of account. Now let us suppose that, all other elements of the case remaining unchanged, the amount of money in

one of these countries, A, is suddenly and largely increased, say, by the discovery of treasure or by the opening of new mines. The supply of money having thus been increased, the value of money, as we have seen, must decline, that is, prices must rise. A given amount of money will purchase less of other things than before, which is equivalent to saying that other things will purchase more of money.

Now, if goods will purchase more money in that country, the owners of goods in the other trading country, B, will at once feel themselves impelled by self-interest to send their stock thither, to secure the benefit of the higher prices. Having exchanged goods for money in A, they will bring the money back to their own country, B. Why not invest the money in the country where they sold the goods? Because, by the conditions assumed, though A is, as they have found, an excellent market to sell in, since prices are high, it is, from that very fact, a bad market to buy in.

177. And while all owners of goods in B are hurrying to get their goods to A, in order to take advantage of the higher prices prevailing there, every holder of money in A is equally impelled to get his money as soon as possible to B, in order to take advantage of the lower prices there. Where all parties are so fully agreed, the thing is likely to be done quickly. Money flows from A to B until the equilibrium which was disturbed has been restored, that is, until the general scale of prices is the same in both countries. After this, the two countries will continue to trade as before; but each will keep its own money. A will pay for the cotton, rice and sugar of B with its own wheat, lumber, coal and ice.

178. The Money Movement Automatic.—It will be observed that the movement of money which has been described was not due to any one discovering that A had more money than it needed, or than its proportional share. No statistician or banker announced this result after computing the demand for money and the supply of money in that country. The exchanges which restored the equilibrium of prices were due wholly to the action of individuals, moved by a view of their own interest. Not one of them cared, perhaps not one

of them knew, whether money was in excess in A, or not, but each, finding that by sending goods from B to A, or money from A to B, he could secure a profit, contributed to the result.

We have seen, in speaking of retail exchanges (par. 149), that a great amount of resistance is experienced in the operation of what are called "the laws of trade," and we shall have occasion to note, when we come to speak of wages, that the laborer's inertia, ignorance and poverty defer greatly, and even sometimes defeat altogether, the movements from place to place, or from occupation to occupation, which is required to secure his interests.

While the actual freedom and fullness of movement can, in no department of economic activity, reach the theoretical maximum, the result is more nearly obtained in the department under consideration than in any other. The persons who ship goods or money, in consequence of excess or deficiency in the money supply, being merchants of large experience and ample means, kept fully advised of the state of the markets by weekly letters and price-currents, and in later years, by information received daily, and now, even by hourly reports, through land telegraphs and ocean cables, the actual here closely approximates the theoretical readiness and completeness of movement. At the same time, it is easy to exaggerate even that readiness and completeness.

179. Picking or Selecting the Coin.—We have seen that any local excess of money, as between one country and another, immediately sets in motion forces which tend to restore the equilibrium. The local excess of money also promotes the use of the precious metals in the industrial and decorative arts. This application of the metals, always considerable, may be readily increased through a reduction in their value. As less and less of other things, wheat, iron or cotton, or of labor which produces all these things, will purchase a given amount of gold and silver, more gold and silver go to the melting pot.

In the case of exportation, or the melting of coined money, due to local excess, what determines the selection of the coins

to be exported or melted? Is it purely a matter of chance, or is it controlled by the comparative proximity of coins to the place of exportation or the seat of the manufacture of jewelry, or of dental goods, or of photographers' supplies; or does some distinct economic force enter to decide that certain coins shall go and others stay? Let us inquire.

180. Irregularities in the Coin.—In the process of coining, it is inevitable, notwithstanding the truly admirable science and skill applied to this art, that differences should exist between coins. The mints of some countries do their work much more exactly than others;* but the best mints can not turn out pieces absolutely uniform in fineness and weight. A certain range of variation must be allowed, and this is generally formulated by law, and is known as the "tolerance" of the mint.

Even were all coins issued of exact uniformity, the wide difference in usage would soon make an appreciable difference in their weight. Some go early into hordes or deposits; others are worn down by almost continuous circulation; others still are dealt with illegitimately by clipping, punching, and "sweatting," till a considerable portion of their substance disappears.†

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* Three gold coins, the Russian Imperials, the French Napoleons, and the American Eagles, are bought by the Bank of England without remelting. The United States Mint turns out the finest gold coin of the world; the Russian Mint the next best. The mint of France was, fifty years ago, charged with grave errors, all on one side, viz., in favor of the minters; but that mint is now of high authority. The mint of Great Britain has until recently been badly managed and has done poor work, in comparison with the others named, not out of any dishonest intention, or lack of mechanical skill, but from adherence to old fashions and antiquated machinery. Mr. Ernest Seyd and Prof. Jevons concurred some years ago in a very unfavorable criticism of the establishment on Tower Hill. More recently there has been improvement.

† Prof. Jevons estimated the proportion of "light" sovereigns in England, that is, of sovereigns reduced below the legal standard for circulation, to be 30 per cent., the proportion in some agricultural districts rising to 44 per cent.

If, now, with a body of coin of unequal value, a demand for the money-metal arises, for export or for use in the arts, the process of picking or selecting coin will at once begin. All merchants and bankers dealing largely in coin will lay by those of full or nearly full weight, and throw the lighter specimens back into circulation.

This process of picking or selecting coin, begins early in the history of such a demand as has been indicated, and proceeds steadily as long as that demand lasts. The operation costs practically nothing, and the profit, where great numbers of coins are daily handled, is large and certain. Clerks and cashiers become so expert that they can tell light coins by the touch, while, if doubt exists, a pair of adjusted scales will in an instant decide the question.

181. Gresham's Law.—The observation of this process of picking or selecting coin has led to the statement of the economic theorem, known as Gresham's Law,* viz., that "bad money always drives out good money."

Thus baldly stated, as in most treatises it is, the theorem is false. That effect will not be produced unless the body of money thus composed of heavy and of light coins, is itself in excess of the needs of the community, as determined by the law of the territorial distribution of money, which has been stated. In a country in which money is, according to this standard, deficient, a light coin may have, by reason of that deficiency, a higher purchasing power than a heavy coin in a country in which money is in excess.†

182. The Value Denominator, usually called the Measure of Value.—Thus far we have spoken of but one function of money, that of the Medium of Exchange, and we have written as if there were but one. This has been for the purpose of fixing the reader's attention strongly on the work of money, as the medium of exchange.

In addition to this function of money, however, nearly all economists are agreed in recognizing another independent and co-ordinate function of money, viz., as a "Measure of Value." "A second difficulty," says Professor Jevons, "arises in barter. *At what rate* is any exchange to be made? If a certain quantity of beef be given for a certain quantity of corn, and, in a like manner corn be exchanged for cheese, and cheese for eggs, and eggs for flax, and so on, still the question will arise —how much beef for how much flax, or how much of any one commodity for a given quantity of another? In a state of barter, *the price current list* would be a most complicated document, for each commodity would have to be quoted in terms of every other commodity, or else complicated rule-of-three sums would be necessary. Between 100 articles there must exist no less than 4950 possible ratios of exchange. All such trouble is avoided if any one commodity be chosen, and its ratio of exchange with each commodity be quoted. Knowing how much corn is to be bought for a pound of silver, and, also, how much flax for the same quantity of silver, we learn without further trouble how much corn exchanges for so much flax. *The chosen commodity becomes a common denominator or common measure of value*, in terms of which we estimate the value of all other goods, so that their values become capable of the most easy comparison."

183.—An Incidental and Subordinate Function.—Admitting the importance of having a value-denominator, in which the prices of all articles shall be expressed, we can not admit that this constitutes a separate and independent function of money, since it is evident that gold or silver, or any other article, can only serve as a value-denominator by and through being used as the medium of exchange.* It is only because

* From Sir Thomas Gresham, founder of the Royal Exchange of London. Died 1579.

† Mr. Ricardo clearly expressed this necessary qualification of Gresham's Theorem, but, in doing so, has been followed by few writers. It is, he says, "a mistaken theory to suppose that guineas of 5 dwt. 8 grains, can not circulate with guineas of 5 dwt., or less. As they might be in such limited quantities that both the one and the other might actually pass in currency for a value equal to 5 dwt. 10 grains, there would be no temptation to withdraw either from circulation; there would be a real profit in retaining them."

* Hence we see the error of Prof. Bowen's statement: "We can do without money as a medium of exchange, and can even barter commod-

silver, for instance, is, in fact successively exchanged against all the articles in the market that the respective values of these articles, in terms of silver, become known, and that it, hence, becomes possible to make up the price-current with 100 specifications, *e. g.*, and not with 4950. Instead of this being an independent and co-ordinate function of money, therefore, it is merely an advantage resulting from the use of money as the medium of exchange. It is, at most, an incidental and subordinate function. The better statement, still, would be that money serves as

I. The Medium of Exchange:

(a) Dispensing with the double coincidence required in barter.

(b) Furnishing a value-denominator.

184.—II. The Standard of Deferred Payments, usually Called the Standard of Value.—We have seen that it is of the essence of a sale for money, that the producer, or whoever at the time stands in the place of the producer, parts with his product, receiving therefor something which he does not expect personally to consume. His reason for receiving this article in exchange for his product is that with it he expects to obtain, in time and place and amount most suitable to his convenience, that which he shall desire to consume. In other words, he, by the act of exchange, defers his own consumption of the equivalent of his product, taking a piece or pieces of money, as a sort of certificate or pledge that he shall receive such an equivalent whenever he gets ready to enjoy it. It was in this view of money that Adam Smith said: "A guinea may be considered as a bill for a certain quantity of necessaries or conveniences upon all the tradesmen of the neighborhood."*

ities for other commodities without the use of any medium. But we can not do without money as a common standard or measure of value." Were we to do without money in the former capacity, we should perforce have to do without it in the latter, inasmuch as it is only by being actually used as a medium of exchange, that the power of money to purchase each commodity by turns became known.

* Prof. Senior calls money "Abstract Wealth."

It will appear that, looking toward the satisfaction of the producer's wants, a sale for money is only half a transaction. He sells his product for money, and must, in turn, sell, so to speak, his money for the product of others, such as he may desire personally to consume. To do this, however, though a two-fold transaction, requires far less of time and labor, and involves far less liability to ultimate disappointment, than the attempt to secure the "double coincidence of wants and of possessions," spoken of in par. 161.

185. Money a Pledge of Future Enjoyment.—But while, in the very act of a sale for money, the producer defers his acquisition of the products of others, the question, when that acquisition shall be realized, remains for himself alone to answer. He has the money, and whenever he chooses to step into a shop and lay it down upon the counter, he may take his equivalent then and there, whether in meat or flour or groceries or clothes or tools for his trade.

186. Sales on Credit.—We are now to contemplate transactions of a different character, which give rise to a new function of money, viz., exchanges where the equivalent is not, at the time, received by the seller of goods; but where future payment is promised. These transactions are known as Sales on Credit, because the willingness of the producer to part with his goods, without at the time receiving an equivalent, depends upon the credit of the purchaser, or the degree of confidence attaching to his word or his bond. In such a case, the purchaser's character for honesty, his responsibility, as measured by the amount of his possessions, and the efficiency of the law in enforcing payments, all must be taken into account.

187. The vast extension of credit-sales under the modern organization of trade, makes a new and very important requirement upon that article which is to be used as money, viz., that, in addition to being conveniently portable, not liable to deterioration or accidental injury, easily subdivided, etc., it shall be reasonably stable in value. Where a man takes money in his hand as the equivalent of the product sold, which we call a sale for cash, he has no anxiety on this account. He may exchange

his money for goods the same day. If not, it is because he does not choose to do so. The matter rests with him. But if a man is to forbear payment for a considerable time, it becomes of great importance that he should know what that which he is to receive at a distant date will be worth to him when he gets it. On the day of the sale, the money which is stipulated is worth the goods; otherwise, the sale would not have taken place. On the day of payment, the money may be conceivably worth twice the goods, or only half the goods. The risk of some undeserved loss, the chances of some unearned gain, are inherent in the nature of sales on credit. Whether that risk of loss or chance of gain shall be great or small, will depend on the degree of stability which attaches to the value of the article used in that community, during that period, as money.

It is evident that articles which might be equally well fitted for use as money in sales for cash, that is, which might be otherwise equally well fitted to serve as the medium of exchange, may be very differently qualified to serve as what we call the Standard of Deferred Payments.

188. The Grains and the Metals.—Thus, if we compare the grains and the metals, we note that the former are quickly consumed, the greater part in the first year, all within the second year; while the latter last, even in active use, many years. The average "life" of iron may perhaps be stated at fifteen to twenty years; the life of copper is much longer, and that of gold and silver covers several human generations.

From these facts it results that, if the production of any grain, *e. g.*, corn or wheat, falls off considerably, in any year, through excess or deficiency of moisture or heat, the value of that grain will rise rapidly, it may be to an inordinate height. The production of gold or silver, and, in a lower degree, of copper or iron, might be sensibly diminished for years without greatly affecting the quantity and, by consequence, the value of the existing stock.

Now, if wheat were to be used as money, it would not infrequently happen that, in the irregular alternation of good and bad harvests, a producer selling his goods on one or two

years' credit, would, when the payment came to be made, receive one-half as much more, or even twice as much in value, as he would have received had the payment been made at the time of the sale; or he might receive only two-thirds or even only one-half what his goods were then worth. Nor could the injuries which the producer might suffer by receiving less than the value of the goods he parted with, be trusted to be compensated by the unearned gains he might make at other times. So irregular and unaccountable is the occurrence of bad seasons, that one man might have nearly all bad luck and another nearly all good luck. The former might be ruined, bankrupted, and driven out of his shop or farm, before the tide turned in his favor. As many as seven successive bad seasons have been known in England. On the other hand, the metals are not subject to frequent value variations of great extent, though liable to incessant oscillations of moderate range. Gold and silver, especially, on account of their high degree of durability, are almost exempt from the influence of the production of a single year.

189. Fluctuations in the Value of the Precious Metals.—But while the precious metals are thus almost a perfect "standard of deferred payments," from one year to another, they are yet subject to great periodic variations from generation to generation and from century to century. The production of the precious metals is of the most spasmodic character. At times, a flood of gold, or of silver, or of both, has poured from newly-opened mines, as after the discovery of the mines of Potosi in 1545, and of the mines of California almost coincidently with those of Australia, in 1849-51; at times, on the other hand, mining industry has almost wholly ceased, either from the exhaustion of known deposits, or as the result of war or civil disturbance. Such a cessation of mining industry followed the invasion of the Roman Empire by the Teutonic tribes. The series of revolutions and insurrections in the Spanish American States, beginning in 1809, destroyed the mining machinery, scattered the mining populations, and closed the mines of regions which had previously been among the most prolific sources of the world's supply of metallic

money. In agriculture, however, while incessant fluctuations in the supply of the grains, even those most largely and widely planted, result from the mutability of the climate, the changes from generation to generation, and from century to century, are not so far reaching.

The vast breadth of arable land of reasonably uniform quality; the simplicity of the processes of agriculture, and the wide diffusion of the art of tillage; the comparative immunity of the soil amid ravages which greatly impair, perhaps permanently cripple, manufacturing, and in an even greater degree, mining industry; the limited applicability of the principle of the division of labor to agriculture and the relative inefficiency of machinery in its operations: these causes combine to render bread-corn, in truth, what Francis Horner pronounced it to be, "the real and paramount standard of all values."

190. Corn Rents.—The superior stability of value of the cereals, through long periods of time, has led to the suggestion that, in the case of contracts extending over considerable terms of years, grain should be adopted as the standard for determining the obligations of the debtor, the rights of the creditor. To a limited extent this has been done; but the tendency to express the consideration of all sales in terms of that which is the current money of daily use in the community is so strong that few persons, even of those who are acting as trustees, take the trouble thus to guard the interests they represent. The manifest convenience of having that for the standard of deferred payments which is also the medium of current exchanges, the indolence and want of initiative in the mass of mankind, perhaps, also, a superstitious regard for the precious metals, combine to withstand the reasons which urge the expression of rents, interest and annuities in terms of some leading grain, in the case of long leases, permanent loans and fixed charges upon land.

191. Multiple or Tabular Standard.—It has even been proposed to go further, in the effort to avoid those undeserved losses which result to debtors or to creditors, from changes which take place in the value of even the precious metals through long periods of time. The scheme for a multiple

standard or tabular standard, to form which a great number of articles should be joined together, in order that their individual value-variations may offset each other, was, early in the century, suggested by writers in England and Germany, and has more recently been advocated by Prof. Jevons of the former, and by Prof. Roscher of the latter country. This proposed scheme will be briefly discussed in Part VI.

CHAPTER IV.

MONEY AND ITS VALUE—CONTINUED—DEBASED COIN: SEIGNIORAGE.

192. Debased Coin.—We now approach a question which should be decided entirely upon the principles regulating the value of money already laid down, yet which is the subject of so much misconception, which has been so covered-over with false reasoning and which is so sure to arouse prejudice and passion, that it is needful for the teacher to accompany the student over the ground, and, if possible, save him from the pitfalls and quagmires into which trained logicians and practiced writers have fallen. Prof. Jevons has remarked that a kind of intellectual vertigo attacks all who treat this fatal theme of money; and we have now reached the point where most people lose their heads. The beginner ought not to be left to find his way here alone, even if he has already been provided with the chart and compass to guide his steps.

193. Seigniorage.—The most safe and convenient entrance to this land of gins, and snares, and griefs, is through seigniorage. That term has long been applied to the amount of metal abstracted by government, or the lord, the seignior, before coinage. Seigniorage may be of two kinds, or rather two degrees.

1. When the cost, either actual or approximate, of coinage is taken out, and thus the state or the lord is reimbursed for the expense.