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.

2. When more metal than is necessary to repay the expense of coinage is abstracted; and thus the state or the lord makes a profit by the coinage.

194. Cost of Coinage.—Let us consider the first. Shall the value of the coin be computed according to the market value of the contained metal, viewed as so much bullion, or shall the cost of the mintage be added to the value of the metal? For instance, if the expense of making the coin called a dollar be one cent, shall the coin contain a hundred cents' worth of gold or silver, or shall it contain only ninety-nine cents' worth, and the cost of the coinage be added to make up the dollar?

On this point the opinions of economists and the practice of governments differ. Although the question involved is not wholly economic in its nature, but is in part matter of political and fiscal expediency, we will here briefly state the arguments on the one side and the other.

On the one hand, it is said that gold and silver, being wanted in the form of coins, are, for that reason, worth more in coin than in bullion. Serving an additional use as coined money, they are the subjects of a demand over and above what exists for uncoined bullion, a larger demand justifying a higher price.

It is urged that there is no more reason why gold in coin should not be valued higher than gold in bars, than there is why gold in bars should not be valued higher than gold imbedded in quartz. Note the treatment of the other metals, it is said: Iron is sold in the form of plates, rivets, rods, and chains, at more than the price of iron in the pig. In the same way, if gold in coin costs more, and is more useful than in ingots, those who want it in the form of coin, and not the whole community, should pay for the coinage.

Moreover, it is urged, if such a charge be not made, a vast amount of metal will alternately be coined and melted down, recoined, and again melted. A seigniorage charge will put a premium upon the exportation or melting of coin so that bullion will be taken instead.

195. Gratuitous Coinage.—It was in this view that Dudley North called gratuitous coinage * "a perpetual motion found out, whereby to melt and coin, without ceasing, and so feed goldsmiths and coiners at the public charge."

In the face of these considerations, however, some of the greatest commercial nations, England foremost among them, have maintained gratuitous coinage. Nor is this course wholly without economic justification.

It is said that, while the expense of equipping, officering, and operating a mint is large, the difference in expense caused by minting more or fewer coins, is very small. For this, it is argued, the country establishing gratuitous coinage is compensated by the instantaneousness with which the export of gold follows the slightest accumulation in excess of the wants of trade.

196. Seigniorage in Excess of Cost of Coinage.—So much for seigniorage which only covers the cost of coinage.† We

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* The distinction between gratuitous coinage and free coinage, is not sufficiently observed. Where no seigniorage charge is made, but the coin contains the full amount of bullion which corresponds to its mint value, *i. e.*, when the dollar contains one hundred cents' worth of metal, that is gratuitous coinage. Free coinage exists, where any owner of bullion has the right to have it coined on the same terms as the government, or as any other citizen, whether with or without a seigniorage charge. Thus free coinage exists in England in regard to gold. Any subject can bring gold, in any amount, to the mint and have it made into gold coin; but free coinage does not exist with respect to silver, that metal being coined only in such amounts as the Government, through the Bank, deems necessary for supplying the people of the Kingdom with "change."

In the United States free coinage exists also in regard to gold; but the coinage of silver is restricted. By the law of 1878, the Secretary of the Treasury must coin two millions of silver dollars a month, and may coin four millions, but no more. The coinage of half and quarter dollars, and of smaller pieces of silver, is governed by the same principle as in England. During the continuance of the bi-metallic system (Part VI) in the states of the "Latin Union" (France, Italy, Belgium, and Switzerland), free coinage existed in regard to both metals. The coinage of silver is now restricted in those countries.

† M. Chevalier has proposed to apply the term *Brassage* to the charge for the actual cost of coinage.

have now to speak of mint charges which exceed that cost, and become a source of revenue to the state. In the old days of high prerogative, kings frequently made their sole right of coinage a means of profit. In England, during the reign of Edward IV., the seigniorage on gold was above 13 per cent.; during the reign of Henry VII., it once rose to 16 per cent. These, however, were exceptional instances in England. In France, in Italy, and in most of the countries of continental Europe, before the great revival of modern commerce, debasement of the coin was a favorite resort of weak or profligate monarchs. Both in quantity and quality, in weight and in fineness, the circulating money was pinched and robbed, until the actual amount of pure metal bore sometimes a ludicrously small ratio to the original fine contents of the coin. The English "pound" was once a pound-weight of silver. The pound of standard silver is now coined into 66, instead of 20 shillings. The "pound scots," of which we read, had but $\frac{1}{36}$ of its original weight. The florin and the Spanish maravedi were once pieces of gold. The former is now a piece of silver; the latter a piece of copper.

197. What is the Effect of Seigniorage on the Purchasing Power of Coin?—On this subject I follow Mr. Ricardo without deviation, believing that he was the economist who most fully and justly apprehended the relations of money to price; and that departure from the principles laid down by that great thinker leads to confusion, misconception and needless controversy.

Let us suppose that a certain country requires for the purposes of domestic trade 1,000,000 pieces, each containing 100 grains of fine gold. This would involve the use of 100,000,000 grains of gold as money; and a certain average level of prices would result from the relation between this amount (its rate of circulation being assumed constant, for the purposes of the following illustration), and the demand for money arising from the exchanges actually requiring to be effected by the use of money.

Now, suppose the principle of seigniorage to be introduced, the sovereign, out of every hundred grains brought to the mint, taking one to repay the actual cost of coinage, putting into circulation 1,000,000 pieces of 99 grains each, and placing 1,000,000 grains in his storehouse as treasure, or causing it to be manufactured into plate or ornament. There are now only 99,000,000 grains of gold in circulation, but the same number of pieces, each of the same "mint-value," *i. e.*, 100 grains.

Will each piece now purchase as much of other commodities as before, or less?

I answer, as much. There is the same demand for pieces for the purposes of exchange; there is the same supply; the same prices must result.

But suppose the sovereign proceeds further, and takes, not one grain, but ten, from every hundred, issuing 1,000,000 pieces of only 90 grains each. Will the purchasing power of each piece be affected? Not in the least. There is the same demand for pieces, the same supply. People still want pieces of money; can only get them by giving commodities for them; have as many commodities and no fewer to give; and there are just as many pieces and no more to be obtained in this way.

198. Excessive Issues.—But let us take a step in a different direction. Let us suppose that the sovereign, instead of placing in his treasury the 10,000,000 grains which he took under his right of seigniorage, coins this gold also into pieces of 90 grains each, and pays them out for personal or public expenses. What will be the result? Depreciation will at once begin. The 90,000,000 grains, when coined into the same number of pieces of the same official (mint) denomination as the 100,000,000 had been, retained the same purchasing power; but when the 100,000,000 are coined into a larger number of pieces, the purchasing power of each piece at once falls.

199. Ricardo's Statement.—"While the state alone coins," says Mr. Ricardo, "there can be no limit to this charge of seigniorage; for, by limiting the quantity of coin, it can be raised to any conceivable value."

"On the same principle," he remarks, "viz., by a limitation of quantity, a debased coin would circulate at the value it should bear if it were of legal weight and fineness, and not at the value of the quantity of metal it actually contained."

"In the history of the British coinage," he continues, "we find, accordingly, that the currency was never depreciated in the same proportion that it was debased, the reason for which was that it was never increased in quantity, in proportion to its diminished intrinsic value."

Mr. Ricardo did not flinch from the assumption of a seigniorage of 50 per cent. "There can," he asserted, "exist no depreciation of money, but from excess. However debased a coinage may become, it will preserve its mint value; that is to say, it will pass in circulation for the intrinsic value of the bullion which it ought to contain, provided it be not in too great abundance."

This doctrine, which has proved "a hard saying" to many economists, a stumbling-block and a rock of offense to many readers, is, it will be observed, merely the rigorous, courageous application of the principle that the value of money is determined solely by the relation between demand and supply. I believe it to be the true doctrine of monetary circulation.

It is not to be thought that Mr. Ricardo advocated a seigniorage in excess of the cost of coinage. "The limits beyond which a seigniorage can not be advantageously extended," he says, "are the actual expenses incurred in manufacturing the coin." The objections to a debased coinage are two: First, inasmuch as the mint value of such coins is above the value of the bullion they contain, the excess of such coins in circulation may proceed to a high degree, producing mischievous effects upon trade and industry, before exportation begins, since, for use in foreign lands, the coins have value only according to the amount of pure metal in them. Secondly, the practice of reducing the amount of bullion in the coins is deemed to be a dangerous one, because there is no point at which we can be sure it will stop. Every fiscal exigency of the government will suggest fresh attacks upon the integrity of the coin.

These objections, the first of which alone is based upon economic principles, are precisely those which we shall see (pars. 441-445) offered to the issue of inconvertible paper money.

200. The Omitted Proviso to Ricardo's Statement.—There is one proviso which should be attached to any statement of Mr. Ricardo's theorem regarding the value of debased coin. That Mr. Ricardo failed himself thus to qualify his proposition "that, however debased a coinage may become, it will preserve its mint value," has caused much misapprehension of his views. The required proviso has already been intimated (par. 172), when we were speaking of causes which may diminish the demand for money.

If debasement of the coin be carried so far and carried on so long that a popular reluctance to receive the money pieces be generated, sufficient to cause men to modify or limit their production in order to avoid exchanges, or to cause them to encounter the inconveniences of barter rather than handle the distrusted coin, then depreciation may result. That is, the supply of money will become excessive through the blow inflicted upon the demand for money. But this can happen on no other condition; and a popular reluctance to receive coins is not a necessary consequence of debasement. Why do men take money at all? We said, in first describing the money function, that it is not because they have, at the time, any personal use for the gold or silver or iron or leather, or paper, or wood, of which it may be composed; but it is taken as a means of obtaining, in due time and place, that which they do desire to consume. Men take money because they believe others will, in turn, take it from them. If a man be only assured of this, he has no reason to care, in fact he does not care, what the money is made of, what the coin contains.

201. Depreciation not a Necessary Result of Debasement.—Let us suppose the coin of a country, without being increased in amount, to be debased three per cent., and the fact to become known. The habit of accepting the coin is strong; the acquired momentum of the circulating mass is great; men must (1) either take the coins in exchange for their products, or (2) they must cease to produce; or (3) they must change their industry and produce that which does not need to be exchanged, *i. e.*, that which they will themselves consume; or (4) they must resort to barter. Now, any one of the latter courses involves an initial loss, greater, doubtless, much greater, than any possible loss in receiving coin debased three per cent. For this reason men continue to receive the coin, or, more properly, they continue to receive it without reasoning at all about the matter, having been accustomed to take it freely. If any man, more thoughtful than his fellows, hesitates to accept the money pieces, his doubts vanish on beholding all around him receiving it without demur. That is all he needs. If others will take the coins from him, his own occasions will, in turn, be answered. He does not want to eat the coins, or to make them into jewelry, but to use them in buying the necessaries of life. If they will do that, they are good enough for him. And so a full and free acceptance of a debased coinage might be established, in spite of a momentary feeling of reluctance, or even without such a feeling arising at all. Just this condition of things has existed, in many a country, many a time.

Suppose that, after the community has become accustomed to a seigniorage of three per cent., some exigency of government, or the greed of the prince, should lead to a further equal debasement of the coin, making a total of six per cent. In that event, either the habit of accepting the coin of the realm would maintain the circulation of the debased money, or, if that circulation were to be challenged by popular objection, then the question would be presented to every man, as before, whether he would take this debased coin, or cease producing, in whole or in part, or change his industry so as to produce articles which would not require to be exchanged, or, lastly, resort to barter. It might easily happen that to do any one of the things last spoken of would cost any producer more than the possible loss by accepting coin debased three per cent. further; and, so, a full and free circulation of the debased coin might be maintained.

202. And it is to be borne in mind that this coin circulates at its mint-value, not at a discount of six per cent., or of any other rate. There is no reason why the coin should be subjected to a discount. Assuming, as we have done, that the habits of the people in regard to production and trade have not been, as yet, changed by the debasement of the coinage, there are just as many goods to be exchanged as before. Just as many money-pieces are, therefore, needed, while no more money-pieces are to be had, since we have all along made the condition that the metal abstracted by the government should not be put into new coins.

203. Depreciation Results from Excessive Issues. — But now let us suppose that, when the debasement has proceeded to the extent of ten per cent., government takes the gold and silver it has abstracted, and issues it in the form of new coin debased like the other. Immediately depreciation will set in. The value of money, like the value of any thing else, is determined by the relation between demand and supply. The goods to be exchanged for money pieces remaining the same in amount, and the number of pieces having been increased, the purchasing power of each piece falls.

So far the effect is the same as in the case of an excess of full-metal coin; but, as depreciation proceeds, the essential difference between the two kinds of money appears. With an excess of full-metal coin, exportation begins at once. The country becomes a good market to sell in, a bad market to buy in, both for the same reason, viz., prices are higher there; and the course of exchange will speedily bring in the remedy. With debased coin, however, no outlet is afforded until the depreciation reaches the point when the 90 grains of fine metal in the coin will bring more abroad, melted down, than the coin (though of the mint-value of 100 grains) will bring at home. Within this limit, depreciation may proceed without remedy.

204. Inflation.—A permanent excess of the circulating money of a country, over that country's distributive share of the money of the commercial world, is called inflation. Its influence on industry and trade, and on the distribution of wealth, will be discussed hereafter.