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MEDIA of EXCHANGE: *being some NOTES on the PRECIOUS METALS
and their EQUIVALENTS.*

By JOHN BIDDULPH MARTIN, ESQ., M.A.

[Read before the British Association for the Advancement of Science, at
Montreal, August, 1884.]

MONEY, or the pursuit of money, has from all time lain under the ban of writers of every class. The love of money is declared by the Bible to be the root of all evil :* the money-getting life, says Aristotle,† does violence to our natural instincts, and may be put on one side in an inquiry into the nature of virtue and happiness :—

“Ill fares the land, to hastening ills a prey,
Where wealth accumulates and men decay,”‡

exclaims a poet of far more recent date in didactic rhyme: and finally, we may quote a line from one of our most modern and most brilliant economic teachers, John Stuart Mill,§

“There cannot, in short, be intrinsically a more insignificant “thing, in the economy of society, than money; except in the “character of a contrivance for sparing time and labour.”

But it is superfluous to demonstrate that it is the abuse and not the due use of wealth that is laid under a ban; from end to end of the Bible, not only spiritual, but temporal and material blessings are held out to individuals and nations alike, as the reward of integrity and virtue. It is not the accumulation, but the excessively unequal distribution of wealth, that saps the life of a nation; the desire for and the pursuit of wealth is common to every race and class, and its phenomena have been the subject of investigation by both the statesmen and the economists of every age. The original benedictory command,|| to “be fruitful, and multiply, and “replenish the earth, and subdue it:” comes into no collision with the modern inquiry as to whether the ultimate source of wealth is to be sought in human labour, or in the fruits and produce of the soil. The scope of the present remarks is by no means equal to this vast and already well-laboured field; it is proposed rather to treat briefly of the nature of the substances to which, in a

* 1 Tim. vi, 10.

† Eth. Nic., book i, chap. v.

‡ Goldsmith's “Deserted Village,” l. 51.

§ “Political Economy,” book iii, chap. vii, sec. 3.

|| Gen. i, 28.

restricted sense, the term "money" is applied, and of the phenomena that attend the use of these, as well as of the substances which form their substitute or equivalent.

I.—*The Precious Metals.*

At the base of every civilised monetary system lie one or other or in name both, of the metals gold and silver. The inherent qualities which have conferred on these substances this peculiar distinction are well known; their indestructibility, uniformity of quality, divisibility *ad infinitum*, their great value in small bulk, and their comparative steadiness in value, no less than their adaptability to many purposes of use or ornament, necessity or luxury, have commended their adoption in all time to nations of every quarter of the globe. Perhaps the greatest exception is furnished by the case of the nomadic aborigines of North America; apart from these, and from the islanders of the South Seas, gold and silver have been in almost universal use. Under these circumstances a kind of glamour has spread itself over the so-called precious metals, that has always tended to invest them with qualities other than those which belong to articles that are, in fact, procurable only by the same labour, and are subject to the same laws. The acquisition of gold itself has a strange and uncontrollable fascination, the retention of it, or its acquisition in exchange is held to enrich, to part with it to impoverish. In the words of Mill, "a person who parts with money to obtain commodities, unless he intends to sell them, appears to the imagination to be making a worse bargain than a person who parts with commodities to get money."* Hence the prospect of rapidly acquiring a store of this supremely valuable commodity has before now, and may at any time again, produce the phenomenon known as a gold-fever, such as those that have filled the ports of Melbourne or of San Francisco with shipping, and have denuded them of sailors, while the ordinary industries of the land-population have been almost abandoned in favour of the one all-absorbing form of enterprise. That a gold-rush stimulates the development of a country, and is in the end beneficial, there can be little doubt; but with a few exceptions the gold-seekers, as a rule, learn by experience that the value of the article thus produced is in the main regulated by the average cost of production,† and that the fabulously enhanced price of every

* "Political Economy," book iii, chap. vii, sec. 3.

† On the subject of the relation of cost of production to value, see, on the one side, Mill, "Political Economy," book iii, chap. iv, secs. 1, 4, 5, et al.; on the other, Professor Cairnes, "Leading Principles of Political Economy," part i, chap. iii, sec. 2.

article of luxury or necessity very nearly compensates the unusual supply of gold. Nor is this fallacy that haunts the competitors for the precious metals peculiar to individuals; it has for many ages of the world's history been a maxim of state-craft that national wealth must vary directly with the stock of bullion held in the country, and in violence to the natural laws of demand and supply that regulate international trade, every effort has been made to attract and keep gold and silver within the realm, while by all sorts of pains and penalties it has been sought to discourage or prevent their export. In the present day, the truth respecting the conditions of the precious metals is more accurately recognised; it is now better understood that gold and silver are not a fixed centre, as of a solar system, round which all other commodities revolve subject to varying attractive forces among themselves, but that they are merely planets in the same stellar space, whose orbits are in a comparatively small degree subject to the attraction of other bodies. That they are not free from the eccentricities due to such attractions is obvious from past history; it can hardly be doubted that, but for considerations to be referred to later on, these eccentricities would have been more strongly marked. The stability in price of the precious metals is in the main due to their durability; the agriculture of the world does not produce on an average more than a year's consumption plus a reserve for purposes of seed or propagation; it is more or less the same with manufactured articles. But the annual out-put of gold and silver is added to a heap that is not subjected to any such cause of diminution; save for certain purposes of art or ornament, for wear and tear, and for absolute loss by land or sea, they may be called indestructible. Moreover, the annual out-put is, as a rule and proportionally to the whole, fairly steady, and the apparently uniform rate at which they are produced has given no small countenance to the conception of a possible fixed ratio between the two, and that one or the other, or both, can be made a fixed measure of the value of other commodities. But it is not necessary to study in any history of prices that gradual decline in the purchasing power of gold and silver to which any old book of accounts bears witness; a decline that appears surely and gradually progressive, in spite of occasional oscillations. The fall in prices during the last few years has caused a general, though not entirely unanimous belief in the permanent appreciation of gold; yet it is well to mark that only a few years ago one of our most careful economists* was engaged in examining into the decided rise of prices then observable. The suggestion of Humboldt that a vast treasure of gold might probably be derived

* Professor Jevons, 1869.

from South America has no inherent improbability, but it has not as yet been fulfilled. Nor have the sanguine gold-miners in other parts of the world yet realised that Eldorado in search of which they have ventured with a light heart, in spite of the consideration that over-success might have the effect of disturbing prices sufficiently to defeat the very object of their enterprise. From the time of Solomon, who is recorded to have made silver* to be nothing accounted of in his days, to that of the great inundation of Europe by Peruvian and Mexican gold and silver, which is said† to have caused prices to rise four or five times above their previous level, and finally, in the case of the Australian and Californian gold-finds of our own day, the abnormal increase of the world's stock has in no long time been absorbed, and but for other influences would have caused but a transient ripple on the surface of the mass to which the addition was made.

II.—*Coin.*

Such, then, are some of the considerations that have caused gold and silver to be chosen as what is known as a "circulating medium," in the discharge of either the every day purposes of life, or in the other extreme, of the balance of international trade. It is unnecessary to say that before these substances can be really serviceable in the former way, they must be converted into coin; it is the prerogative of every civilised State to impress on the bullion current in the country a stamp, certifying to its weight and fineness. By virtue of this certificate of fineness coin circulates freely within the borders, without question as to the exact weight; but as soon as it crosses the border it ceases to have any virtue save such as it possesses as bullion, and international balances of account must be settled to this day in the same way as was the first money transaction on record, by the transfer of so much weight of bullion, "current with the merchant."‡ The advantages of a metallic currency are obvious, and do not require to be enumerated in detail; its drawbacks lie less on the surface, and do not so readily strike the imagination or the reason. The very conditions under which the national stamp is affixed to gold or silver, the difference that exists between coin and bullion, is in itself a subject of the widest divergence of opinion between authorities of undeniable and equal weight. The question whether the State, in arrogating to itself the monopoly of coining, has a right to levy toll on the bullion coined, has now narrowed down into the delicate question whether coin is a manufactured article; and if so, whether the State may

* 1 Kings, x, 21.

† Adam Smith, edit. McCulloch, note ix, 1.

‡ Gen. xxiii, 16.

not fairly make a charge for manufacture. If bullion is converted into coin for the sole convenience and advantage of the owner, it is hardly fair that he should gain this advantage at the public expense; but if the coin is merely a counter while in home circulation, and if as soon as it is required for use beyond the frontier, its value is merely that of the bullion that it contains, it does not seem unreasonable to take the view that coinage is a mere act of supervision by the State for the common benefit, which may fairly be charged to the general account. Any charge beyond this becomes a tax, levied either for the purposes of revenue, or for the benefit of the ruler. To take advantage of the facility with which this tax can be levied in the way of debasing the standard ("that least covert of all modes of knavery, which consists in calling a shilling a pound"),* has been in past times a temptation to which rulers have only too readily yielded, to the immense injury of the trade and commerce of the realm.

The perpetual and inevitable loss in weight that a metallic coinage undergoes is an expense attendant on its use for which provision must be made. The annual wear and tear of an English sovereign appears to be at the rate of $\frac{3}{1,000,000}$ parts, or something less than one-tenth of a penny per annum. Mr. Hendriks has put the case in this way—that assuming a rate of wear uniform throughout, this gives a life of some 2,866 years before the last vestige of a sovereign would disappear; in other words, there would still be something left of sovereigns coined not much later than the reputed date of the siege of Troy. It is well known that the English Coinage Act professes to make each member of the nation, *quoad hoc*, an inspector of weights and measures, and it is no less well known that this Act is completely inoperative, and that the gold coinage is in a most unsatisfactory state. The Chancellor of the Exchequer, declining on the one hand to throw the cost of restoring it on the public purse, admitted on the other hand that the imposition of a mint-charge was impracticable, without altering the mint price per ounce of gold and bullion. This admission appears to be, in other words, a statement that a mint-charge is a tax on the mine, and it would indeed be singular if by the imposition of such a tax, the policy of the past were entirely reversed, and the old theory of an export duty on bullion were replaced by what would amount in effect to a duty on import. The alternative course, whereby it is proposed to reduce to a token a portion of the gold coinage, while maintaining intact the unit of account, has been argued *pro* and *con* at no small length elsewhere; it may suffice here to say that the proposal lends colour to the theory that

* Mill's "Political Economy," book iii, chap. vii, sec. 3.

for purposes of home trade it is the coin and not the gold that we want, while for a reserve, or for the settlement of international balances, we require the gold and not the coin. If this be so, coinage can hardly be considered as a process of manufacture enhancing *pro tanto* the value of the raw material, but rather a State certificate of quantity and quality to be affixed at the general expense.

But by what remedy soever the loss by wear and tear be made good, it remains a loss, inevitable and irreparable, and it is hardly an exaggeration to adopt the view of a late English Chancellor of the Exchequer, that a gold currency is an expensive luxury, for whose enjoyment we must pay. The expedients by which the use of coin is economised, and by which it is either supplemented or superseded, have the next claim on our consideration.

III.—*Bank Notes.*

In every nation that is progressive in population, industry, and wealth, the settlement of transactions increasing daily both in importance and number by payment of actual coin, must become constantly more irksome. For all its compactness, any considerable amount of coin is bulky and heavy; it is, in the words of Pepys, "deadly inconvenient in the telling," and the expense and risks of transport are considerable. To be able to pay by a piece of paper that shall ultimately and indubitably be convertible into bullion is an advantage that cannot speedily fail to recommend itself. Hence the origin of bank notes is clearly traceable to the practice of depositing a sum of coin in the hands of an individual of undoubted credit, against his promise to repay the like sum on demand. From this rude system of deposit notes undoubtedly sprang the bank note, a form of currency that was clearly in use in England long before the foundation, in 1694, of the Bank of England. Hence has arisen the system of private and local note circulation throughout Europe. But in the case of national issues the origin of note circulation is different, and has for the most part arisen from the exigencies of the national exchequer. In the majority of cases the State, having borrowed of an association of capitalists the money of which from time to time it had need, has authorised them to issue notes on the credit of the State, acknowledging the debt either by way of inscription in the books of the National Debt or otherwise. In some instances the authority to issue quasi-State notes is placed in the hands of an association of banks, and it may be remarked that in the two European States most strongly imbued with republican traditions, Italy and Switzerland, the system of the "Consorzio," and the "Concordat" bank most nearly resembles the national bank system of the

United States. The banks of England, France, and Germany are in this respect but quasi-State banks; the most complete instance of a State bank is that of Russia; an unfortunate instance, since there is no similar institution whence bank notes have been issued in such reckless disregard of true economic principles.

Without going closely into the details of the arrangements under which bank notes are issued in various countries, it is sufficient here to remark—it is little more than a truism—that paper money never can be, it can only represent, money. The fallacious theory that fixed capital, and especially land, may be represented by its nominal equivalent in paper money, has more than once been made the matter of practical experiment; needless to say the result has been uniformly disastrous. From such an experiment England was spared nearly two hundred years ago, when the Whig Bank of England prevailed (it was rather a political than an economic victory) over the Tory land bank.* France was less fortunate, and once under John Law's Mississippi scheme, and again under the republican issue of "assignats," the country suffered almost total ruin by a flood of inconvertible paper money. Yet the fact that prices accommodate themselves but gradually to an expansion or contraction of the currency has always been a temptation to tamper with the paper, no less than with metallic issues. It need hardly be said that an inconvertible bank note is on all fours with a debased coin. Yet instances are not wanting when the end has justified the means; on two occasions in England the mere authority to suspend the Bank Charter Act, in other words to enlarge the volume of unsecured notes, has allayed the crisis that their temporary scarcity had caused. Perhaps the most remarkable instance of the recovery by a nation of its financial position is afforded by our neighbours of the United States; under the stress of civil war the Federal States issued paper money to a gigantic amount, and in five years augmented by five times its total amount, while in its relation to gold the value had fallen by one-third. But in fifteen years this heavyagio had been absorbed by the growing wealth and population of the republic, and insensibly, almost without an effort, the country resumed specie payment.

Year.	Population.	Circulation.	Value in Gold.	Circulation per Head.
		£	£	£ s. d.
1860	31,433,000	41,420	41,420	1 6 4
'65	34,748,000	196,663	138,451	3 19 8
'79	49,395,000	138,595	138,595	2 16 1

* Macaulay's "History of England," chap. xx.

The amount of paper money which a country in normal circumstances is able to absorb, depends on a variety of conditions, which are seldom identical in any two cases. Habit counts for much; something, too, is attributable to the stability and confidence enjoyed by the government; still more to the wealth or poverty of the country, and to the conditions under which the bank note circulation is issued; a great deal, too, to the extension of the banking system, and the familiar use of cheques and other instruments of credit; for the consideration of which a small space must yet be reserved. The complexity of these forces, and the differing degrees to which they respectively and collectively operate, may be estimated by showing in a tabular form the amount of bank note circulation which is absorbed by the principal countries of Europe, and also by the United States. The year selected, 1878, was one that may be taken as marking the end of the extreme depression that followed on the great inflation of 1873. The amount of bank note circulation is given in English sterling at per head of population, and at the amount of gold for which (in cases of an inconvertible currency) it would be convertible; and the source from whence it is drawn will be found in the "Journal of the Institute of Bankers," March, 1880.

	£	s.	d.		£	s.	d.
Netherlands.....	4	9	7	United Kingdom.....	1	6	9
United States	2	17	1	Switzerland	1	4	10
France	2	10	5	Germany	1	-	-
Belgium	2	8	10	Norway	-	18	2
Italy	2	2	-	Sweden.....	-	18	-
Denmark	1	9	9	Spain	-	8	6
Austria	1	8	1	Portugal	-	5	2
Russia	1	7	-				

This list offers many points for consideration which the present occasion does not suffice to discuss, but a word may be said as to the effect that will follow a contraction or expansion within reasonable limits of the paper circulation of any country. The latter course is the one of which we hear the most; to recommend the creation of "more money" is a favourite nostrum in cases of its real or apparent scarcity. But the whole financial history of commercial nations shows that the habits and requirements of a State will absorb paper money of so much gold value and no more. On the other hand it must have, for purposes of pocket money and petty cash, as also for reserve and settlement of international trade, so much bullion and no less. To enlarge the volume of a convertible paper currency means therefore, in proportion to the extent of such enlargement, to lower, at least temporarily, the loanable value of money, while more tardily the nominal value of commodities will

rise. The result of such a disturbance in the equilibrium of the money-market will appear in the establishment of adverse foreign exchanges, and the consequent export of bullion from the country ; whereby it will be left with a diminished metallic currency available for meeting an enlarged paper circulation. But the national store of bullion cannot, consistently with the maintenance of a convertible paper circulation, be suffered permanently to fall away, and it can only be made good by a rise in what is known as the money rate (and in extreme cases by a fall in prices generally), sufficient to recall the exported bullion, and to readjust the balance.

IV.—*Instruments of Credit.*

Among the principal causes mentioned above as affecting the amount of "money" required for transacting the business of a nation, was the development or the reverse of the banking system. The cases of England and France may to some extent be cited in illustration of this : their condition as to area, population, facility of communication, enterprise, and wealth, are, if not similar, at least fairly comparable ; their bank note systems give equal assurance of convertibility to the holder, but the population of France absorbs a bank note circulation of 2*l.* 10*s.* 5*d.* per head, against 1*l.* 6*s.* 9*d.* in the case of England. In point of fact, the use of cheques in France is as yet only beginning to be understood, and the system of clearing, which has reached in England a point of extreme and almost perfect development, can scarcely be said to exist. It is difficult to arrive at figures that in this respect are capable of exact comparison, but it is on record that of the total transactions of the Bank of France (Report, 1877 and 1878) some 43 or 44 per cent. in value are effected in notes and coin, whereas the independent observations of two London clearing bankers have shown that only a fraction more than 3 per cent. of their dealings are settled in this way.

The enormous convenience of a good banking system cannot but lead to its rapid development, and it is obvious that other things being equal, the extension of payment by cheque or book transfer is a direct economy of coin or notes. But while banking is spreading itself, and teaching the people to dispense daily more and more with money in their purse, other conditions do not stand still. There are, indeed, some operations of a quasi-banking character undertaken by the State that act in the same direction ; State savings banks, and the facilities given for transmitting money in the shape of post office orders, contribute to economy in the use of coin. But on the other hand, population will usually be found to increase concomitantly with the wealth of which a demand for banking facilities is a symptom, and a gradual and

continued rise in the rate of wages and salaries seems to answer in the negative the suggestion that the general purchasing power of gold has of late years increased. An increase of wages means to a certain and large class more ready money in their pockets, and the undeniable fall in the price of many articles of general consumption seems to be accompanied by a rise in the general standard of minimum comfort. Under these circumstances, it is but natural that the estimates of the coin in circulation should show a progressive increase, and the correctness of these estimates appears to be borne out by the fact that in the case of the London bankers referred to above, the percentage of transactions in coin was identical in the years 1864 and 1878 respectively. Whether in any prosperous State the stock of gold and silver available in case of need and to be drawn from active circulation, as in the instance of England or France, or from bank reserves as in the United States, actually keeps pace with the total volume of national trade, may be doubtful, and perhaps incapable of proof or disproof, but in the stability of national institutions, and in the facility of international communications, and the inter-dependence of nations on each other for articles of use and consumption appears to lie the best safeguard against the occurrence of a gold famine. The surplus gold of the world will inevitably gravitate to any point where an abnormal disturbance of prices indicate a more than ordinary demand for money, and the balance will be adjusted, though it be in the meantime at the price of individual and even national loss.

Conclusion.

The preceding attempt to sketch in the broadest lines the nature and functions of money and its substitutes, as we find them, leave little room to enlarge on any suggestions as to the manner in which any reforms could be effected. The decimal system has a literature of its own, and one of no small volume; almost inseparable from it is the suggestion for an international system of coinage. The advantages of a decimal system of coinage, as well as of weights and measures, are on the surface; its drawbacks, and the comparative advantages of other systems of notation, are less obvious, but none the less forcible. In matters of language, as in matters political, the absorption of the less by the more preponderant mass is a process that is always going on, and in monetary affairs a tendency to unification is to some extent always perceptible. In the United Kingdom we have now a single monetary system; in Germany and Italy unification has been accomplished with the happiest results. But national habits and international prejudices count for much, and a fair opportunity was lost when Germany,

starting with a clear field, deliberately elected to create a gold coinage identical neither with that of England, the United States, or of the Latin League. Nor have we in England, who buy and sell wheat by almost as many measures as we have markets, and maintain various metrical systems for various classes of commodities, any ground for being censorious in this matter. It will probably be long before we attain the perfection attributed by Montesquieu* to a tribe of Central Africa, who calculate values in a non-existent unit of account, or before we adopt any of the ideal systems of currency that ingenious brains have devised, and of which a characteristic example is to be found in the collected posthumous works of the late Professor Jevons.† In the meanwhile the stream of international commerce will flow on, hardly disturbed by the obstacles that varied systems of currency place in its course. Money, and the pursuit of money, has much to answer for, but this at least may be said in its favour, that a community of money interests must inevitably tend to the establishment of harmonious relations, not merely between distant parts of a great empire, but also between the inhabitants of every portion of the world.

* "Esp. des Lois," chap. xxii, p. 8.

† "Investigations in Currency and Finance." Macmillan, 1884, p. 297.