CHAPTER VII

DEBTS AND DEBT-REDEMPTION

AN *Age of Power rather than of Machines.*— The older conventional ideas as to human progress, that it results from the benefits of human association and the division of labour, making each member of the community able to contribute, when engaged in a specialized form of occupation, much more to the common fund of wealth than would be possible if everyone had to provide independently for his own requirements, while true enough as far as they go, hardly touch the origins of the fundamental step forward in progress attained in what should be called the scientific age. Tools in the broadest sense have always been considered the real civilizers, increasing the efficiency of their human users in the various tasks of life. But that stage we have altogether outgrown. People who talk about the Machine Age are putting the cart before the horse. Modern machines are usually stronger, more tireless, and more accurate imitations of specialized productive functions of men; and have to be fed just like men. Unless energized they are dead as any corpse. Though men have not yet learned to feed directly on fuel, during the War some tropical river steamers are said to have been run on monkey-nuts, and, after it, the American farmers of the Middle West are reputed to have been advised to use their wheat as fuel to keep up the price. Scientifically, there is less distinction between manufacture and machino-facture than is commonly supposed. In both it is the energy that is the prior consideration. Whether it is derived from a man or beast, fed on food, or from a machine fed by fuel, is of minor import as regards the object, which is the production of wealth.

Men in the economic sense, exist solely by virtue of being able to draw on the energy of nature. Primitive civilizations were almost entirely dependent on its flow. They utilized the sunshine to raise food and rear draught-cattle and drew on the winds to propel their vessels, and to some small extent also on rivers to drive their water-wheels. But these are now supplemented by a store of energy laid down in fuel from days before man's footprint had appeared on the world. Thermodynamics has taught us how to convert the heat it furnishes on combustion into mechanical power. The primitive labourer was the intelligent transformer of the flow of energy in sunshine. The modern engineer has widened the function, to a considerable extent displacing the labourer from production. But no man creates the energy, however much it may appear that he creates wealth. Wealth, in the economic sense of the physical requisites that enable and empower life, is still quite as much as of yore the product of the expenditure of energy or work. But now it is largely produced by fuel-driven machinery, embodying the essential movements required for each step of the production in an automatically recurring cycle, rather than by individuals working under their own volition and power. Nature has been enslaved and men may, indeed must, be free.

Money Unrepayable National Debt.—In this book we are primarily concerned with the rôle of money as the accounting and distributing mechanism, enabling generalized and social production to go on smoothly, combining the advantages of human association and the division of labour with the distribution of the product for individual and personal use and consumption. There is not the slightest doubt that the invention of money, displacing early patriarchal and feudal forms of communism, originally added enormously to the liberty of the individual. The modern tendency towards communism is entirely due to the fact that the primary function of money, the distribution of socially produced wealth, has been replaced by an entirely subordinate and alien one—how to issue money so as to make it a source of revenue to the issuer, and to bear perennial interest. This might be more readily intelligible if those who gave up wealth for money received the interest paid on the issue, but instead they pay it! It comes into existence by the simultaneous appearance of two equal items on the two sides of a bank-ledger, whereby on one side the borrower is credited with the sum borrowed and on the other debited. Taxpayers have so far failed to notice a similar but opposite peculiarity of accountancy in the national accounts. They receive each year demand notes purporting to show the amounts spent on services, the largest items on which are Local Government and Education, each costing £48 millions. But the largest item Bank Services £100 million, or thereby, is omitted. Similarly, in the Revenue accounts, the corresponding item " Interest on goods and services levied as bank-credit " fails to appear!

Capital Debts Unrepayable. " Saving " Conventional.—Apart from this irregularity, we have seen that while the circulation of money through the production and consumption halves of the cycle accounts correctly for the production and distribution of consumables, using the term to connote the wealth of use to consumers, it accounts the production of capital in the production system itself as a debt to individual investors, and these debts accumulate continuously and can never after be repaid, because they represent expenditure on things that are never distributed and, if they were, would be quite useless to the investor.

It is interesting that precisely the same mistake, making money a debt to private firms when it is irrepayable by its very nature, is, with respect to capital, also at the root of all the stale political and sociological controversies between capitalism and socialism. As a heritage of the unscientific and muddled economics of the Victorian era, the most extraordinary confusion persists in political circles on this question in connection with nationalization and similar schemes, and to these we shall have to revert. But, unless individuals prefer to trust a benevolent State to support them in old-age, they must "save" and all this saving business is conventional—lending a surplus of income over expenditure in order to get it back later and, in the meantime, a revenue from it as interest. But there is no wealth available, outside of the flow or revenue of wealth from the production system. This is real. All the rest is mere accountancy between debtors and creditors. Claims are accumulated on the revenue of wealth both as regards the use of productive capital, derived from the hiring of it out by the owners to the users, and on the revenue of the State, raised by taxation, to meet the service of loans raised by it. These loans are almost entirely for non-revenue producing expenditure, namely destructive wars for the greater part and necessary national improvements and developments for the smaller.

Necessity of Constant Price Index.—Now this, without any other argument whatever, is sufficient to dictate that no monetary system can be honest or worthy of the confidence, either of the community or of other nations having economic dealings with it, that does not maintain an invariable price index. This is becoming every day more obvious through the bitter experience of the War and post-War epoch. Before people understood the insidious methods of swindling through keeping the price-level always on the move, there were plenty ready to argue that, if the costs of production fell through scientific improvements in manufacture, the price of goods ought to fall to the same extent. In that way every debt is subtly increased in its burden and the creditor put into the possession of an uncovenanted benefit, quite outside of and additional to what is in the bond as regards interest payment and capital repayment. Once one allows this, then the economic system simply becomes a cockpit for the struggle of wits, in which the agents and representatives of the creditor class are out, like the banks, to get something for nothing. This can only come by those who produce wealth setting aside more than before to serve the same nominal amount of debt, and, therefore, can only be derived by a corresponding reduction in the share of those producing it.

It will therefore be taken for granted that the money of the future must be of constant purchasing power in terms of the average, sufficiently nearly, of the things it is used to buy, from one century to another, before any real advance is possible from the present disgraceful bear-garden of perpetual conflicts nominally between " capital " and " labour ", but in reality between creditors and debtors, which the national creative organization has been allowed to become under the existing dishonest economic and monetary system.

How the Workers would Benefit.—It will of course be asked at once, at least by those who want change, how, under such a system, the worker will benefit by the cheapening of the cost of production due to future improvement. It is easy to see that he, to this extent, loses the benefit if he has to share with the mass of pre-existing creditors the benefit that would arise from lower prices.

On the other hand, if costs are prevented from falling as the conditions in industry improve, producers are guaranteed a market for their maximum output, so long as it is what the public are actually demanding. There is no limit to the issue of new money, if properly carried out, so long as unemployed labour and capital are available. This unlimited demand for labour and capital would restore the bargaining power to labour without any need for, and far more effectually than, collective action, the only effective weapon of which, the strike, actually strikes most directly at the standard of living of the workers, by sabotaging the output out of which they as well as the creditors are paid. Usually the workers, having less reserves than those who have accumulated savings, suffer most by this sort of warfare. Whereas with the lowered costs of production resulting in a greatly increased turn-over, and the rising competition among employers for the whole of the available workers (as during the War), wages must rise until the latter obtain a fair share of the economies effected by increased output. At the same time, the principle underlying the new money system should be enforced with regard to new capital debts. It should not be possible, by a stroke of the pen, for any company to increase its nominal indebtedness to its shareholders and issue to them new shares without their contributing the full value in fresh capital. But it is only right that those who take the risk of loss in providing capital for industry should participate with the workers in increased prosperity. These points are however really covered by making all debts terminable after a definite period, a scheme which lies outside the rôle of money proper, but which will be reverted to at the end of this chapter as an essential feature of the new outlook on these questions which the physical understanding of them gives.

Regulation of Money by Price Index.—Thus we have reached the point that the first consideration of national or general well-being is a money that always purchases the same average amount of the things it is employed to purchase. Honest people have everything to gain and nothing to lose by honesty. Although it would not be true to pretend that as yet the ideal way of fixing the price-level has been elaborated, it is a problem that could safely be left to a disinterested bureau of statisticians, analogous in function to the bureaux of standards, or, in this country, the National Physical Laboratory, which undertake the absolute determination of the standards of weight, length, and volume, and check the actual weights and measures by which economic transactions are effected. There is, in fact, already sufficient experience of the determination of price-levels and index numbers, by the Board of Trade and various other institutions, to make it quite certain that no serious difficulty would arise in practice.

It must be remembered that, by absolutely prohibiting the continual arbitrary variation of the quantity of money at each instant in existence, upon which " banking " now depends, and making its quantity known and definite, the real cause of the disastrous fluctuation of the price-level would be removed at the start, and it is quite absurd to argue from what has been happening in the past as to what will occur in the future. Obviously it is impossible to maintain a constant price-level under a banking system, in which money is arbitrarily created and destroyed by extending and withdrawing it in the form of loans or credits to industry, which loans can only be sunk in preparations for future production, and out of which both interest and profits must be earned. But, if money were only issued to consumers, as a remission of taxation, by the nation so soon as finished wealth awaited sale over and above that which can be sold by the existing money without fall of price-level, then appreciable changes in the latter could not and would not occur.

A Simple Price Index.—There remains, it is true, the technical question as to which price-level to fix, and how it is to be computed, but in the stabilized economic world, which would result, the question seems of secondary importance in comparison with the advantage of fixing the price of any reasonable representative average of the things which the money is used to buy. Cut out the creation of money as a means of earning interest and create it for consumers, and the economic system will enter into definite equilibrium relations between all the various factors which determine relative prices of the different categories of the immense variety of things bought and sold. It would become a highly conservative and stable system, completely unrecognizable from what it is now, with the money continually being drained out from one part to be injected into another, and, all the time, the amount in existence being inflated and deflated like a concertina.

It would seem that, as a start, a simple index based, for example, in the first instance on the average cost of living for a skilled artisan's household would serve. It would be the duty of impartial statisticians studying the tendencies to advise from time to time if the index could be, in general, improved and made more representative. It seems in every way desirable, in order to avoid any initial unsettling orgy of gambling, to stabilize the index number of prices at the existing level. Whatever that was, an average weekly or yearly budget would be constructed representing, at that time, the chief items, separately, in the cost of living of the type of family chosen as typical. At any future time, the same items in the same quantities as then computed, if again computed at the new prices prevailing, should amount to the same total, however much they might differ individually among themselves, if the price-level does not change.

The Statistical Bureau.—This illustrates the principle, though of course in practice the actual work of the statistical bureau contemplated should cover the whole range of the nation's economic activities. One of its functions should be not only to collect but to interpret data, and to answer specific inquiries, not only for the Government but also for all representative bodies carrying on the economic work of the community. It should certainly not be a Government Department any more than the Law or the Universities are, or under any one of them, and especially not under the Treasury. That would be a fatal mistake, as the Treasury would be the one department directly interested in the profits of the issue of new money. The temptation to issue too much and swindle creditors would then always be present. The new money must not be issued with the object of providing a source of revenue for the relief of the taxpayer, though that is the necessary consequence.

The statistical bureau should be nominally directly under the Crown or the supreme head of the State, whoever that may be, and in much the same position, as a disinterested advisory body charged with definite metrological functions, as the National Physical Laboratory. Its recommendations should go formally to Parliament and be normally acted on automatically.

A Reconstituted Mint.—For the actual issue of the national money, the Mint should be reconstituted to cover not only coinage but paper money also. The issues would be handed over to the Treasury, and added to the sums levied by taxation. As we have seen, the issue of credit money is really a forced levy or tax on the community, and the money itself is the receipt that the owner has rendered up equivalent value for it, and is entitled to the same value back on demand. The money should bear the legend "Value Received" instead of "Promise to Pay" and also the statement that it is legal tender in the country of issue. It should be regarded by the public as issued to postpone payments they would otherwise be called on to pay by taxes, and they should understand that, if there is at any time too much issued, it will be withdrawn in part by imposing the postponed taxation and destroying the requisite amount of money to prevent the value of the rest falling below par. Money would then appear publicly for the first time in its true light as a permanent floating non-interest bearing debt or liability of the whole community to its owners, repayable in goods and services on demand by mutual exchange within the community.

Criticism of Proposals to Nationalize " Banking ".—Apart from initial and transition stages in which it may and probably will be necessary to continue existing credits to producers until such time as they can free themselves from debt—as they quickly would do under an honest monetary system—what the nation needs is not more credits to producers but more money for consumers, and the correct way of issuing this is as a relief to the taxpayers in general. The proposals of the Socialists to nationalize banking show no understanding even of how to operate the system so as to secure a stable internal price-level which is the *sine qua non* of any real advance to just economic prosperity. They seem to contemplate doing precisely what the banks are doing now, at ruinous ultimate cost to the industries of the nation, the only difference being that the profits would be devoted to their ameliorative and charitable efforts. It will, of course, be argued that the profits of the issue of new money would be given to assist enterprises *really* beneficial to the public. But this, with the necessity of their being either competitive or forms of government patronage, is a contradiction in terms. They will be given to whom the government really thinks fit, and that, to be sure, is to assist themselves first and all the time, just as it is now given to and through the Bank of England!

Socialists never seem conscious that the people themselves are a better judge of what they need than any government they have ever in past history had, or in the future are likely to get. The whole structure of ameliorations and charities, in which the needy are provided out of what the general taxpayer may be forced to provide, would fall to the ground, like a pack of cards, if everybody had the opportunity of providing out of his own earnings sufficient and to spare for his needs.

Prevention Better than Cure.—Prevention is better than cure and the world is being kept diseased by those who wish it worse, so as to have the opportunity of curing it. That is the most amazing feature of the world to-day. Things go wrong and, ever after, it is saddled with vested interests in the cure. The whole modern bureaucracy is engaged in the consequences of quite elementary and easily comprehended mistakes, and it is the most unpopular thing in the world to imply that human beings are really far more able to take care of themselves than left to those by whom their ailments are being nursed. The amount of unemployment that would result from preventing the known errors that have sent the scientific civilization off the rails is appalling to contemplate. It would involve most of the people now trying to sell us things having to give their services to producing them, and most of those who derive their livelihood from busying themselves with the affairs of State having to take a leisurely interest in their own. It is old as the hills, the Hippocratic wisdom of cure opposed to the Æsculapian cultivation of health, now become universal; in brief, quackery *versus* knowledge. Release in fountains of life and leisure the flood of energy that the technologist has now under control, and the world would quickly cure itself of the weeds that thrive in its starved soil.

Interest on Debts.—Although the accumulating burden of debt of individualistic societies lies outside the rôle of money in a narrow sense, the subject is so linked with it and is so vital to the future of these societies that it cannot be ignored. The physical explanation is the very much greater amount of labour that has to be expended on the tools or plant required to operate power production than in primitive methods. The enormous capacity of modern prime-movers enables production to be achieved on a corresponding scale, but at the same time make the provision of the necessary plant quite outside the capacity of individuals to provide. Hence arose the joint stock company by which the savings of large numbers of people could be used in a single enterprise.

In no sphere is there such such a total inversion of ideas, in changing from an economics of want to an economics of abundance, as in that of interest on debts.

In the first place it would be completely mistaken to suppose that there is any physical basis for the so-called laws of interest, simple and compound. The first law applies when the interest is periodically paid, and the second when it is not paid but accumulates, itself bearing interest. These laws are in origin purely mathematical. Certain assumptions are made and the consequences quantitatively worked out. That is all. What exactly these assumptions amount to, beyond the agreement of one individual to pay another so much a year interest for the use of so much principal, it would puzzle anyone to say. They are purely arbitrary and conventional agreements without any necessary physical justification at all. Such justification as is offered for interest is usually a vague biological rather than physical one, along the lines of the increment accruing in agriculture, each seed bringing forth thirty-, sixty-, or even a hundred-fold. But it is perfectly open to anyone now to challenge the theoretical basis of interest. In practice, however, there is no reason why anyone should himself abstain from consuming in order to lend to another unless he derives some advantage from it. However, as we have seen, unless individuals wish to trust their grey-hairs to be supported by the benevolence of governments, they are bound to try to save in the hey-day of their powers. Usually there are many similar reasons, such as to provide for the better education of their children when they are arriving at maturity, and to insure against accidents, which are sufficiently compelling, even without the inducement of increment. The dawning realization of this is responsible for many suggested reforms.

If Increment Looking Forward then Decrement looking Backward.—A correspondent, Basil Paterson of Edinburgh, submitted to the author during the writing of this book an interesting suggestion that at least indicates how purely arbitrary the conventional mathematical treatment of interest really is. His argument rested on some such consideration as this. Though it be agreed to pay in one year's time, say, £5 for the use of £100 lent now this is not the same as agreeing to pay another £5 at the end of the second year. Rather the value of the £100 at the end of the first year has to be discounted to its present value £95, now, so that the second years' interest ought to be five per cent of £95 and so on. And who shall deny him? It seems to give the money-lender a little of his own medicine. He works out that the consequence of this would be to reduce the Compound Interest law to the same as the present Simple Interest law. For the latter, taking the above illustration, and expressing the interest as a fraction instead of a percentage, the successive yearly interest payments would be one twentieth, one twenty-first, one twenty-second, one twenty-third, one twenty-fourth, and so one, becoming one hundredth or one per cent after eighty years. One of the applications claimed is in the pawnbroking business, where the least rate of interest profitable becomes usurious if extended for any length of time, and which the above method of estimation would tend to correct.

Paterson's Interest Law Discounting the Principal.—It is of interest to apply the higher mathematics to the foregoing idea, and consider, instead of the increment accruing step by step by yearly intervals, an infinite number of infinitesimal periods, so as to make the process continuous instead of being supposed to occur by yearly steps. This does not affect the result that the Compound Interest law is thus reduced to the ordinary Simple Interest law, but we so arrive at one very simple result for the law of simple interest itself. Under these circumstances, as the time is indefinitely increased without limit, the total interest accruing becomes nearer and nearer to the principal in amount and can never exceed it however long the loan lasts. The mathematical formula applying to this case is

$$iT = -230{\cdot}26\ [\log_{10}(1-f)]$$

where i is the rate of interest per cent per annum, T the time in years, and f the fraction of the principal accruing as interest. From this and

TABLE OF SIMPLE INTEREST (NEW LAW) FOR £100 PRINCIPAL

Years multiplied by rate % p.a.	*Total Interest (New Law).*			*Saving to Debtor (as compared with Old Law)*		
	£	s.	d.	£	s.	d.
1		19	11			1
2	1	19	7			5
3	2	19	1			11
4	3	18	5		1	7
5	4	17	6		2	6
6	5	16	6		3	6
8	7	13	9		6	3
10	9	10	4		9	8
15	13	18	7	1	1	5
20	18	2	6	1	17	6
25	22	2	5	2	17	7
50	39	6	11	10	13	1
100	63	4	5	36	15	7
184·14	86	2	10	100	0	0
200	86	9	4	113	10	8
1000	99	19	11	900	0	1

a table of logarithms the new interest table can readily be constructed. In the one above, the interest accruing per £100 of principal is shown in the middle column, the time in years multiplied by the rate of interest per cent per annum in the first column, and the saving to the debtor by the new method of calculation in the last column.

The above makes it clear that though for low rates of interest and short periods there is little difference, for high rates and long periods the difference is enormous. The originator of the scheme pointed out that its obvious objection is that it encourages the investor to draw out and re-invest his money every year, but that is completely impossible with permanent long term and non-redeemable loans such as the national debt. If applied to these it would probably suffice instead of the simple redemption scheme later referred to (p. 186). An alternative way would be to continue the interest payments at the ordinary rate, regarding the difference (shown above in the last column) as a sinking fund repayment. In this mode of reckoning the payments would be made at uniform rate as now for a limited time and then stop. This time is given under this law as one hundred and eighty-four and one-seventh years divided by the rate of interest per cent per annum, as indicated in the above table.

Gesell's Ideas of Making Money Itself Depreciate.—A much more sweeping proposal is that of the money reformer, Silvio Gesell, who would make all money depreciate with time, say five per cent per annum, or a penny in the pound per month. It would only be maintained current as legal tender by periodically stamping it like an insurance card. If the public would stand this, and they seem positively to love this sort of government edict, it certainly would have some remarkable consequences. It is claimed that it would, as it were, shift down the whole scale of interest by five per cent bodily, in the sense that where now we should have to pay four per cent for a loan, then we should get one per cent for taking the money off the owner's hands and saving him the five per cent deterioration. If so, all borrowing for government and municipal public works would be done at a one per cent profit rather than at a four per cent interest rate. The scheme is actually being advocated by one British Chamber of Commerce and is likely to prove exceedingly popular in municipal, if not government, circles. Gesell's original idea was to prevent anyone hoarding money, to increase its "velocity of circulation", and compel people who had it to spend it quickly. But the possibility at least of this effect of changing the basis or datum-line from which increment is reckoned, from zero to a five per cent decrement, is worth independent consideration, as all the other results would equally well be secured if money were issued nationally as described without making it rot or depreciate.

Objections.—The view taken in this book is that money is a binding contract between the owner who has given up for nothing, not even for interest payment, the use of goods and services to the community and in common justice he ought to receive back just as much as he has given up. Stamping the money with a five per cent per annum tax would bring in a revenue to the community similar to what it would get if, instead of a bank-rate of, say, five per cent on the issue, the nation issued the money in exchange for national debt securities destroyed, or in lieu of this charged five per cent to the existing borrowers instead of the banks. This is not to deny that the nation could do both, that is to say, itself take the profits of the issue now appropriated by the banks and then charge a five per cent per annum maintenance tax or stamp-duty to keep the money current. But there really does seem no justification at all for taxing the medium of exchange, and though it may be difficult at first sight to devise means for dodging the payment, it certainly would create a powerful stimulus to the inventive mind to try so to do. In this respect it seems calculated to produce exactly the opposite effect to what is intended. People would try to refuse to accept it just as powerfully as they would be constrained to spend it, and although, admittedly, it might put them to some trouble, the inducement to use money as little as possible, and to enter into mutual understandings to this end, would be as great as the inducement to spend it as soon as they received it. Whereas, on the plan here advocated, hoarding simply would not matter, for it has the effect, as has been shown, of postponing indefinitely the payment of taxation, as more money would be issued to make up for increase of hoarding if it occurred. Also, instead of making money still more of a hectic source of anxiety and hurry, the plan here favoured would make credit money an invaluable social device for freeing men from artificial financial and attendant worries and the inverted illusions about money fostered by the present system.

The Possibility of Arbitrarily lowering Interest Rates.—The possibility, not to say desirability, of shifting the datum-line from which increment is reckoned to one below zero, so as to start with an initial decrement, does not seem to be against, but rather in keeping with, the, at bottom, purely arbitrary character of interest in an age of potential abundance. Quite broadly, as in the day of scarcity, when the importance of increasing production was paramount, the banking system in effect shifted the datum-line from nothing to five per cent or so above zero by issuing money as a debt to themselves, now that the emphasis is on increasing consumption there seems nothing impracticable in devising means for lowering it below zero, by putting a tax or impost upon being in possession of it. In the one case, people owing it had to pay five per cent per annum to bring it into existence and, in the other, people owning it have to pay five per cent per annum to prevent it going out of existence!

The Probable Effect in Increasing Capital Indebtedness.—But one further comment on this aspect of the Gesell scheme may be made.

Although there seems no reason to doubt it would now have some effect at least in lowering the general rate of interest it is not so clear what the relative effect would be as regards non-productive indebtedness (either old debts or new ones) and productive capital. At first sight it would seem that it ought to lead to rapid repayment of existing debts, so far as the terms of the bond permitted, by purchase with existing money to escape the tax, and their replacement by non-interest bearing or even lightly taxed debts. But, in the case of productive capital, money is merely an intermediary, and productive capital yields a revenue of real wealth which cannot be so easily redistributed by taxation, as the effect of so-called socialistic legislation of the last half-century abundantly makes clear. It would appear therefore that, the fund available for investment being limited, astute people would subscribe for productive enterprises rather than towards non-productive expenditure, that is for " industrials " rather than government and municipal bonds. Although this should lead to a lowering of the rate of interest on new money invested in industry it would be at the expense of a corresponding appreciation of the capital values as regards existing indebtedness. As regards the non-productive class of loans, if not redeemable they should probably also appreciate in exchange-value, and, to a lesser extent, if redeemable. " O ! what a tangled web we weave when first we practise to deceive." Is this really the sort of monetary policy necessary in, or worthy of, a great scientific age?

Straightforward Debt Redemption by Taxation.—The author's plan for reducing the burden of debt is quite straightforward. It is to earmark the tax levied on what used to be termed "unearned income", or the part derived from savings, for the purchase of the investment, and the revenue from the part so acquired for the same purpose. The effect of this is to make all debts terminable by amortization. It is convenient to express the time required for complete amortization in units of time in which the principal returns the interest. That is, the unit of time is 100 divided by i, where i is the rate of interest per cent per annum—twenty years for a five per cent, twenty-five years for a four per cent investment, and so on. In these units, the times for various rates of income-tax are as follows:—

Rate of Tax:	6/-	5/-	4/-	3/-	2/-	1/- in the pound.
Units of Time:	1·73	1·84	2·01	2·23	2·56	3·29

As an example, taking the 4*s*. in the pound rate of tax, the time would be 40·2 years for an investment yielding five per cent and 50·25 years for one yielding four per cent per annum. At this rate of tax, about three-fourths of the redemption is effected by interest payments on the part already redeemed and only one-fourth by taxation.

In this way the productive capital wealth of the nation in the sense defined would automatically become the property of the nation after having returned to the owner interest varying from 1·73 times the principal for a 6*s*. rate of taxation to 3·29 times for a 1*s*. rate. It may be called compound redemption, in that the interest on the part already acquired is not used for national expenditure but " saved " to purchase the principal. For non-productive capital debts of the nature of the national debt, for which simple rather than compound redemption would be more natural, the time required is of course much longer, being, for half-redemption, about seventy years for a 4*s*. tax-rate and a five per cent investment. As the quantity of debt unredeemed is reduced, the rate of redemption is proportionately slower, so that, theoretically, it is always approaching but never reaching nothing. In the above illustration one per cent would be unredeemed after four hundred and sixty years. In many respects the suggestion of Paterson already discussed is superior for the amortization of this class of non-productive permanent debt.

The Nationalization of Capital is National " Saving ".—The main advantages claimed for the scheme are that it would be in accord with the physical decrement of accumulated capital wealth, and enable obsolete and obsolescent plant to be kept up to date by private enterprise. But in the future, when the existing debt was cleared off, a revenue would accrue to the nation from the ownership of the capital which could then be used to furnish national dividends to the nation. It need not be discussed here further except to call attention to its novel feature as compared with other so-called political nationalization schemes, which in effect do not vest the ownership of capital in the nation but merely redistribute it among individual owners, merely multiplying task-masters. This is because the nation is also "saving" instead of just spending its revenue from taxation.

It will be asked how the Chancellor of the Exchequer is to provide for the National Expenditure if so large a part of the taxes is taken for Capital Redemption, and the answer is from the sources now used to demoralize the community by ameliorative legislation. Almost from the moment the new monetary system was started, unemployment would cease, except in so far as the really unemployable were concerned, and there would be a great progressive expansion in the revenue of real wealth produced, with corresponding increase in the total proceeds of taxation if the rate remained unchanged. In addition, instead of all the capital depreciating with old age and new inventions and improvements being blocked from application by the accumulation of these colossal irrepayable debts, the proceeds from the redemption would be returned to the production system and be available for keeping the whole economic organization up to date, replacing obsolescent and outworn buildings and plant and employing the latest and most time-saving methods of production. In this the nation as the owner of an ever-increasing part of the capital through the redemption scheme would benefit no less than the individuals who supplied it by abstinence from their own consumption in the first instance.