basis,[1] (which I had not noticed or reduced till the new calculation was finished), may give statisticians new confidence in weighted averages, since we have here another instance of the small importance of a difference in systems of weighting.

A. L. Bowley

What is Capital?

Those who care for such trifling matters recognise three degrees of precedence in respect of the formulation of new economic doctrine. First, there is the discoverer; second, the anticipator of the discoverer; and third, the discoverer of the anticipator of the discoverer. Dr. Irving Fisher is entitled to the highest of the three places since he has been the first to announce the true relation of capital and income in the Economic Journal, and in such a way as to command attention. Not content with this position, he has laid claim to the third place also by attributing the second to me.[2]

I am not a believer in the heroic theory of discovery, still less in the heroic theory of anticipation. As is well known to readers of the book which Dr. Irving Fisher quotes, I have endeavoured to show that some of what are considered the finest products of the abstract reasoning powers of great economic geniuses were really generalisations made by very ordinary people—in one most important case by the very impersonification of respectable mediocrity, a House of Lords Committee. I am not the least inclined to make an exception in the present case; a short investigation among almost forgotten MSS. which was undertaken in consequence of certain inquiries privately sent me by Dr. Fisher, has convinced me that it was simply inevitable that I should perceive the very obvious truth that capital and income should be distinguished by their different relation to time.

An economist's conception of capital has always been very largely dependent on the form of the accounts kept in the business with which he happened to be most familiar or took as his type of all businesses. It happens that the accounts with which I was most familiar when I came to what in ordinary cases are years of discretion were the accounts of English railways. In no accounts are capital and income more plainly distinguished, and in very few is it more evident that the statement relating to the total amount of capital gives the condition of things at a point of time, while the revenue account deals with a length of time, namely a half-year. The fact that a thing is obvious is not of course always a reason for noticing it and realising its importance. Such a

[1] If p_3, q_3, &c., p_2, q_2, &c., p_1, q_1, &c., represent prices in 1895, 1881, and 1873, respectively, and α, β, γ, &c., declared values in 1873, Mr. Sauerbeck's index for 1895 is $\dfrac{\Sigma\alpha}{\Sigma\alpha \cdot \frac{p_1}{p_3}}$, while mine is $\dfrac{\Sigma\alpha}{\Sigma\alpha\frac{p_2}{p_3}}$.

[2] Economic Journal, Dec. 1896, vol. vi., p. 533.

reason was probably (my recollection fails me here) furnished by a search for a wages-fund. In no capital account does a wages-fund for current labour appear, and if any one is in search of the wages-fund and has looked for it in accounts like those of an English railway, he cannot fail to ask whether exactly the whole of, or more than, or less than a half-year's wages are supposed, according to the theory, to be a part of the capital of the company. Accordingly in an essay written for the Oxford Cobden Prize of 1886[1] I find the following passage, which I venture to transcribe in full, as we are now threatened with an attempt to revive the theory which it condemns :—

"What the wages-fund itself was supposed to be is not an easy question to answer. It was no doubt a part of 'wealth'; but was the wages-fund of a community a part of that community's income or a part of its realised possessions? Believers in the wages-fund do not tell us directly, but they certainly suppose the wages-fund of a community to be a part of its capital. Now whatever may be said of 'capital' without the definite article, it can scarcely be the case that any economist would venture to assert that *the capital of the community* is a part of the community's income. Mill, it is true, says of 'a manufacturer' that 'as much of his personal or household expenditure as does not exceed a fair remuneration of his labour at the market price, must be considered a part of his capital' (*Principles*, I. iv., § 2 *ad fin.*), and similar passages may be found in abundance, but no economist, if pressed, would deny that at any given point of time the capital of a community is not what the labour of the community is daily, weekly, and yearly producing, but (if not the whole of, at any rate a certain definite part of) the wealth which the community *has* at that particular point of time, then and there. John Smith's capital, as we all know, is at the present time not what he spends in a certain way, in a week or a year, but what he *has* at the present moment; it may be nothing but the clothes he stands in and sixpence in his pocket, or it may be £6,000,000 worth of railway, but it is not a pound a week or £300,000 a year. Similarly the capital of England is not a part of the income of the English people. The wages-fund of a community, then, as it is part of the capital of the community, must be at any particular point of time a definite amount, or quantity, or number of commodities, all in existence at that particular point of time. Once grant that the wages-fund of a community is a mass of existing wealth at any particular point of time, and the wind-bag collapses. Believers in the wages-fund theory assert that 'the average rate of wages' (that is, the wages which would be received by each labourer if all received equal wages), 'is equal to the amount of the wages-fund divided by the number of labourers.' To illustrate this proposition let us take an arithmetical example:

"Given the wages-fund to be worth £100,000,000, and the number of labourers to be 10,000,000, what will be the average rate of wages?

$$\text{Answer: } \frac{\text{Wages fund}}{\text{Number of labourers}} = \frac{£100{,}000{,}000}{10{,}000{,}000} = £10$$

"Had it been the custom to give 'examples in the wages-fund' in elementary

[1] Of course this essay was never published. The prize was won by Mr. Llewellyn Smith, and Mr. L. L. Price was honourably mentioned, so that though open only to members of the University of less than seven years' standing, it was competed for by no fewer than three present members of the Council of the British Economic Association.

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arithmetic books, the wages-fund theory would have been exploded long ago; for, after working out an example like the one just given, some intelligent child would have inquired whether the answer (£10 in this case) indicated the average rate of wages for an hour, a day, a week, a year, a lifetime or all eternity. It is almost incredible that the upholders of the wages-fund did not state explicitly whether they considered the wages-fund was equal to an hour's wages, or a year's wages, or ten years' wages. It is, if possible, still more amazing that their omission to do so has been calmly acquiesced in. Mr. Cairnes, who believed in the wages-fund theory, asserted that the proposition that the average rate of wages is equal to the wages-fund divided by the number of labourers, 'cannot be taken to contain controversial matter,'[1] and Mr. Jevons, who did not believe in the theory, denounced that proposition as 'an arithmetical truism.'[2] Both were wrong, for the proposition is absolutely meaningless; 'the average rate of wages' cannot by itself convey any idea to the mind. We know what 'a week's wages' means, and we know what 'a year's wages' means, but to talk of the average wages paid in a community being equal to something without mentioning the period of time for which the wages are paid is palpably absurd."

The essay proceeds to explain that the period of time more or less unconsciously understood was a year, and refers the origin of this idea to the old identification of wages with wheat. It then attacks the more general theory that wages are paid out of or advanced from capital, and draws a lurid picture of the L. & N. W. Railway directors issuing a report to the shareholders in the following terms:

"Your directors, having made some study of the works of Mr. Mill, Prof. Cairnes and other economists, are convinced that the wages of the company's servants, being productive expenditure, should be charged to capital. They therefore recommend the proprietors to authorise them to apply to Parliament for power to issue sufficient debenture stock to defray next year's wages account."

Then it explains the double meaning of "save," viz. to spare and to store up; and concludes:

"Every community has at any and every point of time, a stock of wealth which is called its capital; this stock is not actually divided, and cannot be divided in imagination into 'fixed' and 'circulating' capital, and even if it could be so divided, the amount of the 'circulating' capital would not in any way indicate the amount of wages paid in an hour, a week, or a year."

Soon after finishing this essay, I wrote in the spring of 1886, an article entitled "The Two Wealths," which was never published,[3] but was read in a somewhat amplified but less symmetrical form to the Oxford Economic Society on March 1, 1887. It begins thus:—

"It is a curious illustration of the crude state in which 'the science of economics' still remains, that economists do not yet appear to appreciate the fact that however they may define the term 'wealth,' the wealth of an individual or nation may mean either of two things, but cannot possibly mean both at once. The wealth of an individual or community may be either the wealth

[1] *Leading Principles*, p. 160.

[2] *Theory*, 2nd ed., p. 290.

[3] Several editors wisely declined it. The day of specialist economic periodicals had not then arrived.

possessed by the individual or community at a given *point* of time, or the wealth enjoyed by the individual or community in a given *space* of time; it cannot possibly be both at once."

It then instances Smith, who has much property and little income, and Brown, who has a large income and little property, and remarks: "the Chancellor of the Exchequer, if he were thinking of the death duties, would call Smith the wealthiest, but if he were thinking of the income tax, he would call Brown the wealthiest."

Two propositions are laid down in the article. The first of them is "that just as the wealth enjoyed by an individual or community in a given *space* of time is always called the income of the individual or community"—additions to the capital, which are not exactly "enjoyed," seem to be forgotten—"so the wealth possessed at a given *point* of time ought to be called, and is generally called, the capital of the community or individual." The proof of this proposition is not found very difficult:—

"It can hardly be supposed that any one will deny that an individual's income is described as 'so much a year,' or 'so much a week,' and that an individual's capital is described as 'so much at such and such a time.' It is, in fact, universally recognised, that an individual's capital exists at a point of time, and not in a length of time, and that his income exists in a length of time, and not at a point of time. The same distinction, surely, is to be found between the capital and the income of a community; a community has a certain amount of income in the year 1886 and a certain amount of capital at 10 a.m. on the 1st of June 1886, but it has not a certain amount of income at 10 a.m. on the 1st of June, nor a certain capital in the course of the year 1886. Consequently the only question at issue is whether the whole of the wealth possessed by a community at a given point of time, or only a part of it, is to be considered the capital of that community."

The article first deals boldly with the hackneyed objection "Your definition may be scientifically correct, but it is too far removed from ordinary language."

"There can be no doubt that in the language of every-day life an individual's capital is the whole and not only a part of the wealth which he possesses at a given point of time. 'John Smith's capital' is the whole of the wealth which John Smith possesses at the present moment, as opposed to the income which he receives in a certain length of time. It will be objected that a man does not usually call his land, house, furniture and clothes part of his capital. This, however, is a superficial view of the matter. A man usually speaks of his capital being so many 'pounds,' but this, of course, is merely metaphorical; his capital is not a certain number of gold sovereigns but certain other things which it is thought might be exchanged for so many sovereigns. Now very probably in reckoning up his capital, a man may often omit to reckon the value of his land and house, furniture and clothes, into the number of pounds which he calls his capital; but let the question be put to him: 'Is the capital of A, who has ten thousand pounds' worth of railway shares, as great as that of B, who has ten thousand pounds' worth of railway shares and a fine freehold house as well?' He will answer without hesitation 'Certainly not.' No one would think of saying that a man could increase his capital by either selling or letting his own house, and hiring another for himself; yet this is what we should be obliged to assert if a house inhabited by its owner is not a part of his capital. No one thinks that his railway shares are not all part of his capital because the railway company owns the land on which the railway is built."

Concluding that common usage affords no excuse for not identifying the whole stock with the capital, the article proceeds to the easy task of ridiculing the division of the stock into what is employed productively, and what is employed unproductively. "This division," it says, "is thoroughly unsound; it does not exist in fact, and it cannot be imagined to exist without confusion of thought." To reproduce the argument against it at this time of day is wholly unnecessary, as no one now really defends it.

The article postpones the question whether the land should be included in the capital of a community, and then apparently forgets it. The Economic Society paper rightly says it is a mere question of classification and nomenclature involving no confusion of thought, but finds room for a somewhat ferocious onslaught on President Walker's unhappy "two reasons why the economist insists upon treating interest and rent separately." It points out that the decline of interest which President Walker contrasts with the rise of rent, is a decline in the ratio which interest bears to principal, while a rise of rent is a rise of the absolute amount of income allotted to rent, and that there is not the least reason to suppose that the aggregate of interest is declining. President Walker's statement that, "there is not any no-interest capital," is met with a flat denial. He is supposed to have argued thus: "There is no pound's worth of capital for which a person does not get at least $7\frac{1}{2}d.$ of interest, *ergo* there is no no-interest capital"; whereas he might equally well have argued "There is no pound's worth of land for which a person does not get at least $7\frac{1}{2}d.$ of rent. Therefore there is no no-rent land." The law of rent, such as it is, applies to every kind of commodity—"there is a law of rent for every kind of useful material object, not only for pieces of land. There is always a number of ships just going to be broken up, a number of houses just going to be pulled down, a number of horses just going to the knacker. All these things are on the margin of cultivation, or rather of use."

Not finding much encouragement in private, I did not attempt to use the term capital in the new sense in *Elementary Political Economy*, published in 1888, and not being willing to pretend to use it in the old sense or non-sense, I avoided using it altogether, substituting "stock of useful material objects" when dealing with production, and "property" when dealing with distribution—rather an unsatisfactory subterfuge in both cases.

In 1890 appeared the first edition of Prof. Marshall's Volume I., in which, though no quite explicit statement is made on the subject, the capital of a community is obviously conceived as a portion of the goods possessed at a point of time, and no trace of the old confusion between capital and working expenses can be detected. The same thing of course may be said of some earlier works of importance, such as those of President Walker in America, and Prof. Sidgwick in England, but for some reason, probably connected with the fact that instead of using the bludgeon or the knife on decayed doctrines, he prefers to smother them like Tiberius under a heap of clothes, Prof. Marshall is accepted as an authoritative writer even by the stalwarts of the old school. Moreover he suggested the proper correlation of capital and income by the hitherto unusual course of giving a whole chapter to "income," and placing it immediately after the chapter on "capital," though the effect of this was slightly diminished by the fact that these chapters were immediately preceded by chapters headed "Productive" and "Necessaries," instead of by the chapter on "Wealth." Consequently since that time it has appeared to me allowable to treat the confusion between capital and periodical expenditure as dead, and it is so treated in the "incidental description" which Dr. Irving Fisher quotes:—"At the present time the wealth of an individual may mean either his possessions at a given point of time, or his net receipts for a given length of time. When we say that Smith is richer than Jones we may always be asked to explain whether we mean that Smith has more capital or more income, or more of both."

Dr. Irving Fisher's comments on this passage seem to be caused by some difference in the meaning attributed to "income" on this and the other side of the Atlantic. He objects altogether to the insertion of the word net, and says "it is obvious that the term income should be applied as freely to gross as to net receipts." Now whatever may be the case in America, there can be no doubt that in England the income of an individual is, in ordinary conversation, understood to be "the money he can spend on himself without encroaching on his capital," and not the whole of the money he receives in a given period. Dr. Irving Fisher quotes in support of his view the "income account" of every great business concern. I do not find the term in the accounts of four very great business concerns which happen to be before me, namely those of the L. and N. W. Railway, the P. and O. Steam Navigation Co., the Gas Light and Coke Co., and the London and County Bank. I presume the American practice is to give the name income account to what is called in the first and third of these the "revenue account," in the second the "general working account," and in the fourth the "profit and loss account." But this application of the name does not prove anything, since there is obviously much in the account which is not income, viz. the expenditure or outgo. Moreover, as against Dr. Fisher's income accounts, we may appeal to the term "income-tax." No one thinks an income-tax is or at any rate ought to be a tax on gross receipts; it is for the most part, and ought always to be, a tax on the net receipts of individuals, and in so far as it is not this, every actual income-tax is admittedly imperfect.

Inconvenient as it is to apply the term income to gross receipts when we are thinking only of separate individuals, it is much more inconvenient when we come to consider the community. Dr. Fisher objects, quite rightly, to the use of the word "ridiculous" in my remark that "to add together the gross receipts of every separate business would bring out a ridiculous total the amount of which would depend chiefly on the number of different owners into whose hands products pass successively on their way to the consumer." But he seems to shrink from asserting that this total is the income of the community: he only says it "is the work of exchange done by money."

Many, if not most, of the difficulties found in defining capital and income arise from our careless habit of using the terms as abbreviations for "*the* capital" and "*the* income" of some person or persons. This habit leads us into statements that such and such things are capital or income, which statements are just as absurd as the statement, "Human beings are population." The capital of a community is the mass of economic goods possessed by it at a point of time, just as the population of a country is the number of human beings alive in it at a point of time. The income of a community is the mass of economic goods produced or obtained by it in a given length of time over and above the mass which is necessary to maintain the capital, just as the natural increase of the population of a country in a given period is the number of persons born over and above the number necessary to maintain the population (by counterbalancing the deaths). The income is divided into two parts, (1) the increase of the capital, and, (2) the things enjoyed; just as the natural increase of population in a country into which there are no immigrants is divided into two parts: (1) the increase of the population, and (2) the emigrants. I do not see why this conception of the income as a surplus (or, as the individual would regard it, net receipts) "implies some difference in the kind of goods concerned" in capital and income, as Dr. Fisher says it does, nor why, if it did, that should be a fatal objection. It does not appear to imply such a difference any more than the definition of the natural increase of population as the excess of persons born over persons dying implies that the population and the natural increase do not both consist of human beings. So far as the part of the income which is added to the capital is concerned it is obvious that it must consist of the same kind of things as the capital. The second part must obviously have some qualities in common with the first, or we should not be able to conceive of the two as a whole; but there is surely no more reason why the things of which it is composed should not have some special characteristics distinguishing them from the things which compose the other part, than why emigrants should not have special characteristics distinguishing them from people who stay at home.

EDWIN CANNAN