What is Capital?

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WHAT IS CAPITAL?

OF economic conceptions few are more fundamental and none more obscure than capital. The long and unsatisfactory controversies over the relation of capital to wages, production and interest, have been accompanied by controversies equally long and unsatisfactory over the meaning of capital itself. It is obvious that the two sorts of controversies are inseparable. We should as reasonably expect to establish the theory of the conservation of energy without clear ideas of energy, as to set up an authoritative doctrine of capital before conceiving what the term capital precisely signifies.

It is sometimes said that no great harm is done in whatever manner a term is defined, provided only we are consistent in its use. This is undoubtedly true in the sense that no logical fallacy will result from any definition once adopted and faithfully adhered to. If an author should insist on calling capital 'any commodity which will last more than seventeen days' or 'that portion of wealth owned by persons of the male sex,' it is unquestionably true that no mistaken conclusions would necessarily follow. But it is also true that no conclusions whatever, of scientific import, could then be stated or proved of 'capital.' Moreover, such definitions would not correspond to those ideas of capital which, though undefined, exist deep-seated in the popular mind. Here, then, are two fundamental requisites to which the proposed definitions fail to conform, and because of this failure they strike us at once as inadmissible and absurd.

The first requisite is a scientific one. A good definition must designate something which plays a real and important rôle in science. We give no name to the product of the mass of a body by the cube of its velocity divided by five ($m\ v^3/5$) because this magnitude appears to have no significance in the theory of mechanics; we can state or prove no property or theorem concerning it. But the product of the mass of a body by the square of its velocity divided by two ($m\ v^2/2$) we call kinetic energy; for it is found to possess important properties and uses and affords the key to many of the most fundamental problems of physical science.

The second requisite is a practical one. A good definition ought to replace and explain the primitive popular notions which have preceded it. The youth who enjoys his first study of geometry or physics finds part of the pleasure to consist in recognizing the carefully defined straight line, circle, symmetry, velocity, momentum, force, as familiar faces which before he had seen as blurred images through an unfocussed lens, but now with every feature distinct and clear-cut. Science is nothing if not explanatory. To be explanatory she must take pre-existing ideas as she finds them, and mould and interpret them to the satisfaction of those who previously held them. To appropriate familiar words to foreign uses is simply to shirk the problem which their existence imposes. It is just because we are acquainted with capital in the concrete that we need to define it in the abstract. Our freedom of choice in framing a definition is strictly limited. As all are agreed that specified groups of commodities are capital, any formula for capital must cover these admitted groups, while at the same time it should leave no doubtful cases, and, when pushed to its extreme consequences, should not end in hopeless confusion and self-contradiction.

Were it not for the indomitable faith which every economist and business man feels that capital is something real and definite, one would be strongly tempted to conclude, from the repeated failure to fit any formula to it, that it is incapable of exact and scientific meaning, and that the best course for economists to pursue is simply to relinquish the search as for an *ignis fatuus*. It is certain that no one of the scores of rival definitions has won general acceptance. Almost every earnest student will confess that he has found none of them satisfactory, and that his acceptance of any particular one is only a choice of evils. What Senior wrote half a century ago is far truer to-day: 'Capital has been so variously defined, that it may be doubtful whether it have any generally received meaning.'[1] In consequence, the incessant criticism and efforts at reconstruction go on unabated. 'Almost

[1] 'Political Economy,' *Encyclopædia Metropolitana*, vol. vi., p. 153.

every year there appears some new attempt to settle the disputed conception, but, unfortunately, no authoritative result has as yet followed these attempts. On the contrary, many of them only served to put more combatants in the field and furnish more matter to the dispute.' [1] A mere bibliography of the works which investigate the nature of capital would fill several pages. Many of their authors admit frankly that they are dissatisfied with their results, while others make the same confession indirectly by recasting their treatment of the whole subject in successive editions of their works.[2] Out of the large accumulation of definitions which economic literature now contains, the following may be selected as chief types:

TURGOT:—'Whoever . . . receives each year more value than he has need of spending, can put in reserve this surplus and accumulate it. These accumulated values (*valeurs accumulées*) are what is called Capital . . . It is of absolutely no consequence whether this sum of values or this capital consists of a mass of metal or of anything else, since money represents every kind of value just as every kind of value represents money.' *Réflexions sur la formation et la distribution des richesses*, § LIX.

ADAM SMITH:—'[A man's] whole stock, therefore, is distinguished into two parts. That part which he expects is to afford him this revenue is called his capital.' *Wealth of Nations*, Book II., Chapter i.

RICARDO:—'Capital is that part of the wealth of a country which is employed in production and consists of food, clothing, tools, raw materials, machinery, etc., necessary to give effect to labour.' *Principles of Political Economy*, § 37.

SENIOR:—'[Capital is] an article of wealth, the result of human exertion, employed in the production or distribution of wealth.' *Political Economy*, *Encyclopædia Metropolitana*, vol. vi., p. 153.

JOHN STUART MILL:—' . . . besides the primary and universal requisites of production . . . there is another . . . namely, a stock, previously accumulated, of the products of former labour. This accumulated stock is termed Capital . . . The distinction, then, between Capital and Not-capital, does not lie in the kind of commodities, but in the mind of the capitalist—in his will to employ them for one purpose rather than another; and all property, however ill adapted in itself for the use of labourers, is a part of capital, so soon as it, or the value to be received from it, is set apart for productive reinvestment.' *Principles of Political Economy*, Book I., Chapter iv., § 1.

KLEINWÄCHTER:—'The conception of capital should be limited to tools of production.' *Grundlagen des Socialismus*, 1885, p. 184. He excludes raw materials as passive. They are worked up by means of tools but are not themselves tools.

BÖHM-BAWERK:—'Capital in general we shall call a group of Products which serve as means to the Acquisition of Goods. Under this general conception we shall put that of Social Capital as narrower conception. Social Capital we shall call . . . a group of Intermediate Products.' *Positive Theory of Capital*, English translation, London and New York, 1891, p. 38.

[1] Böhm-Bawerk, *Positive Theory of Capital*, English translation, London and New York, 1891, p. 23.

[2] *E.g.*, Marshall, Knies, Roscher, Schäffle.

MARX:—'We know that the means of production and subsistence, while they remain the property of the immediate producer, are not capital. They become capital only under circumstances in which they serve at the same time as means of exploitation and subjection of the labourer.' *Capital*, English translation, London, 1887, vol. ii., p. 792.

MCCULLOCH:—'The capital of a country consists of those portions of the produce of industry existing in it, which may be *directly* employed either to support human beings, or to facilitate production.' *Principles of Political Economy*, 4th edition, p. 100.

KNIES:—'"Capital" is to be regarded as a stock of goods which are left over from or cannot be employed for the satisfaction of current present wants and therefore are free to be applied to economic employment at another time.' *Das Geld*, 2nd edition, 1885, pp. 69-70.

HERMANN:—'[Capital is] every durable source of utility which has exchange value.' *Staatswirthschaftliche Untersuchungen*, Munich, 1832, p. 59.

WALRAS:—'I call, as did my father in his *Théorie de la richesse sociale* (1849), *capital* in general every kind of social wealth which is not consumed at all or which is consumed only after a long time, every commodity limited in quantity which survives the first use to which it is put, in a word, which serves more than one use.' *Éléments d' économie politique pure*, Lausanne, 2nd and 3rd editions, p. 197.

JEVONS:—'Capital, as I regard it, consists merely in the *aggregate of those commodities which are required for sustaining labourers of any kind or class engaged in work.*' 'I would not say that a railway *is fixed capital*, but that *capital is fixed in the railway*.' *Theory of Political Economy*, 3rd edition 1888, chapter vii., pp. 222 and 242.

MACLEOD:—'Capital is any Economical Element [including land, workman's labour, credit, incorporeal estates such as "the Law," "the Church," "Literature," "Art," an author's "mind," "Education," etc.] appropriated to the purpose of profit, or increase.' *Dictionary of Political Economy*, Article 'Capital,' p. 331.

J. B. CLARK:—'The fund, Capital, resides in many unlike things, but consists of a single entity that is common to them all. That entity is "effective social utility." So much of this as a business man retains embodied in instruments of production constitutes his permanent capital, however the instruments may come or go in exchange, and however they may perish or be restored through use.' *Capital and its Earnings*, Publications of the American Economic Association, 1888, p. 11.

Many minor variations of the foregoing conceptions of capital could be given. Furthermore, if the works of any two authors employing the very same nominal definition be carefully examined, they will usually be found to differ widely in the interpretation of its meaning, and in the enumeration of the objects to which it applies.

It would be a needless waste of space to discuss, on their several merits, these numerous definitions with their still more numerous variations. There are many obvious and well-known difficulties connected with applying any of them to the actual facts of life. I shall simply remind the reader of a few of these difficulties, in the case of the definition most in vogue, that of Adam Smith.

According to Adam Smith, capital should produce a revenue. A merchant ship is capital. A private yacht is not. But what shall we say of an excursion steamer which carries freight as well; or of a doctor's gig when used for a pleasure drive, but also for visiting a patient, or of a luxurious carriage, employed by the merchant to carry him to his place of business? Are the mahogany desk in the office of a bank president, or the silver inkstand, the pictures on the wall, and the Turkish rug, capital? Why are the cooking ranges in a bakery capital, ('national' as well as 'individual,') while the stove in a private kitchen is not capital? Why distinguish between the shears of the tinman and the scissors of the housewife, or the sewing machines under a factory roof from those in a private house? Or, if the home implements be included, where shall we stop? At the furnace for heating, the pots and pans for cooking, the knives and forks for eating, the beds for sleeping, the easy chair for resting, the Japanese fans for cooling the face, or the tapestries and lace curtains for pleasing the eye? Some writers, such as Roscher, have boldly gone the full length of these alluring extensions of 'profitable employment,' or 'means of production,' maintaining that any employment of an article is truly profitable, if it produces the 'inward goods' of enjoyment, health, etc. Thus the terms 'productive,' 'profitable' soon cease to convey a real limitation, for all wealth is productive of some sort of good.

Similar difficulties attend every effort to delimit capital from 'other wealth.' The definitions, so smooth and glib to the tongue, have meaning only by stretching the use of the terms involved and, what is worse, by stretching them in one direction in one connection, and in another in another connection. Hence arise the discussions as to whether dwelling houses are capital, or labourer's subsistence, land, improved or unimproved, a good business name, bonds and stocks, skill and ability, good government and climate. One writer insists on a literal interpretation of his chosen formula. Another insists on common sense. The latter demolishes the formula but, unfortunately, always fails to supply its place.

This perpetual collapse of proposed definitions suggests that the foundations have not been properly laid. Now we find, beginning with Adam Smith, that every definition of capital has been erected on the unquestioned assumption that the problem was one in the *classification* of wealth. Every writer has tried to separate wealth into capital and non-capital. This, I believe, is the faulty foundation which has weakened all structures built upon it. Mr. Cannan forms an important exception.

To call all wealth capital would, by most persons, be pronounced ridiculous at once. What would remain against which capital could be distinguished? This objection, however, is only apparent. It overlooks the fact that all wealth presents a double aspect in reference to *time*. It forms a *stock* of wealth, and it forms a *flow* of wealth. The former is, I venture to maintain, capital, the latter, income and outgo, production and consumption. Stock relates to a *point* of time, flow to a *stretch* of time. Food in the pantry at any instant is capital, the monthly flow of food through the pantry is income. Machinery existing is capital, its annual replacement or increase is income. The total capital in a community at any particular instant consists of all commodities of whatever sort and condition in existence in that community at that instant, and is antithetical to the streams of production, consumption and exchange of *these very same commodities*.

Capital is in this view the simplest of economic conceptions. Of the two terms, stock and flow, the latter is the more in need of explanation. Its important features are its *duration* and its *rate*. The rate may be variable, but the *average* rate multiplied by the duration gives the total magnitude of the flow. The rate of a flow is of greater significance in most economic problems than either the duration of the flow or its total magnitude. We seldom care to know the answer to such queries as how long wheat has been cultivated or how much the wages paid since the last tariff act would foot up in the aggregate; but the *annual* supply of wheat or the *rate* of wages are quantities of prime importance in economic statistics and theory.

Two flows of equal magnitude are not of equal value. A total flow of £12,000 may be produced by £4,000 a year for three years, or by £2,000 a year for six years; but the former is obviously the more valuable. Thus, to state the mere magnitude of a flow, is not to give a complete description of a flow. It is like mentioning only the size of a building lot without specifying its shape.

The *rate* of a flow possesses the important property that the value of the flow is proportional to it. This cannot be said of the *duration*. An annuity of £200 a year is worth twice as much as an annuity of £100 a year for the same period; but an annuity for 200 years is not worth twice as much as an annuity for 100 years, at the same rate per annum. For these reasons it happens that the rate of flow is more often mentioned than its duration or amount. This is especially true if the duration is indefinite or perpetual. We say a barrister is making £5,000 a year, without troubling ourselves about how long he has had or will continue to have such an income. A *rentier* holds a perpetual annuity of £1,000. The total income to him and his heirs (if the contract be fulfilled) is in this case infinite, but the important item is the *rate* at which this infinite sum can be obtained.

Thus, behind and more important than the distinction between stock and flow is that between stock and *rate* of flow. Stock and flow are both measured in pounds, gallons, or tons; but rate of flow is measured in pounds per year, gallons per month, or tons per day. The distinction is one of *dimension*, analogous to the distinction between distance and velocity, momentum and force, or work and horse power. If capital be denoted by c, rate of flow will be ct, where t stands for time.

It will not be possible, in the present article, to exhibit all the uses to which this distinction of dimension may be put. Suffice it to point out that it brings Capital into the simplest and most intimate relation to Interest. When a stock of goods or capital is exchanged for a perpetual flow of goods or income, the ratio of exchange constitutes the *rate of interest*. If £100 will buy an income of £3 per year, or if 100 tons of beef are worth a perpetual supply of three tons annually, the rate of interest is three per cent. per year. It may be worth noting also that this view comes into close harmony with business usage which calls interest the 'value' of money. It has been customary for economists to ridicule this usage, and to point out that the value of money means, not the rate at which it is 'lent,' but its purchasing power, or the quantity of other things which a unit of money will buy. But, as Böhm-Bawerk has insisted, capital is not 'lent' at interest but *sold* for interest. In consequence, the 'purchasing power' of a stock of money applies not simply to its command over other stocks, but also over flows. If one wishes to compare the wealth of the Rothschilds of to-day and the Fuggers of the fifteenth century, it will not do simply to find the relative mass of real wealth which their accumulations would purchase in a lump; we must know what these stocks are worth in annual real income. With equal stocks of goods the Fuggers could buy two or three times as much income as the Rothschilds.

The reciprocal of the rate of interest is the rate of capitalisation or number of years' purchase. Here again business usage tallies with the present view. The verb 'capitalise' means to find what a given income is worth in 'ready money' or what *stock* of wealth will be equivalent to a given *flow* of wealth. It is somewhat extraordinary that this business term 'capitalise' should never have given economists the requisite hint for defining capital. Not only does it suggest the definition here advanced, but it is incompatible with any other. What has capitalising an income to do with 'productive' goods, 'durable' goods, 'goods for future use,' or any one 'portion of a man's stock' rather than any other? Nevertheless, I have come to believe that the distinction between 'stock' and 'rate of flow' underlies, in some unconscious way, all definitions of capital. These definitions have aimed at or groped for the distinction, but have sought it in the wrong direction. They recognise capital and income as the antithetical terms, but assume that capital is one sort of wealth and income another. Just as the ancients regarded solids, liquids and gases as different *kinds* of matter (earth, water, air) instead of different *states*, so economists have thought of capital and income as different kinds of commodities, instead of different aspects of commodity in time. The first view of nature reveals few bodies in more than one of the three states; each object thus becomes associated with that particular state in which it is observed. So the first view of the economic world discerns very few commodities in the double aspect of stock and flow, and each becomes associated either with 'capital' or 'income.' Commodities of which a large stock exists are usually commodities whose flow is not conspicuous, while in those where the flow is large the stock in turn is insignificant. Factories, ships and railways illustrate the first class; food, drink, fuel, illuminants, the second. The former are therefore set down as capital and the latter as income.

In much the same way popular usage classifies bodies of water into lakes and rivers. When we speak of Lake Superior, we think, not of the annual inflow or outflow, but of the absolute number of gallons contained in it; but when we speak of the waters of Niagara we think, not of the absolute number of gallons contained at any instant between imaginary planes at the top and bottom of the falls, but of the gallons per second which rush past one of these planes. Physicists, however, remind us that the distinction between lakes and rivers is merely one of degree, and that behind this useful but arbitrary classification lies the real scientific distinction between 'gallons' and 'gallons per second'; a distinction which applies equally to Lake Superior and to Niagara Falls.

Before I can ask acceptance of the new definition on its merits, *i.e.*, by showing its usefulness in economic theory, I am, perhaps, bound to explain, so far as possible, why, hitherto, it has been ignored. In a field which has been so often and so thoroughly threshed over, the presumption certainly is that so simple a conception has been omitted only because it was considered worthless.

The word capital was originally an abbreviated form of *Capitalis pars debiti*, the principal of a debt. In this sense it was used during the middle ages, and was antithetical to the interest paid. This antithesis, though limited in its application to *money* and to money actually *loaned*, is at bottom identical with the antithesis between stock and flow, the sum lent being a stock, and the succession of interest payments constituting a flow. Since money is merely the 'wheel of circulation' and the real proceeds of a loan are the goods purchased with the money, it was natural to make the distinction more general. 'And, indeed, popular language seems to have made this change before science did. At least, as early as the year 1678, in a glossary of that year, besides the meaning of a sum of money there appears this farther interpretation of the word capital, "Capitale dicitur bonum omne quod possidetur" [quoted by Umpfenbach, "Das Kapital in seiner Kulturbedeutung," Würzburg, 1879, p. 32]. But science was not long behind in sanctioning the adoption of the conception. We find it substantially in Hume in his essay on Interest, when he shows that the rate of interest altogether depends, not on the amount of money, but on the amount of riches or stocks available; the only thing wanting is that he should have formally called these riches or stocks "real capitals." This formal change was finally made by Turgot.'[1]

As we have seen, Turgot regarded capital as savings. If this term be used to include all commodities acquired, but not yet consumed, *i.e.*, all in existence at any one time, his conception agrees precisely with the one here advanced. But it would seem from the passages previously quoted that Turgot meant to exclude all goods of 'current' consumption. Nor did he apply the term capital to individual things but rather to their collective value. Except for these differences and for the fact that the other term of the antithesis viz., income, was not definitely mentioned, may say that his conception was practically the one here

[1] Böhm-Bawerk, *Positive Theory of Capital*, English translation, p. 25.

proposed. At the worst his definition errs in omission rather than in commission. He did not fall into the error of ascribing 'productivity' to all capital. When the physiocrats wished to speak of aids to production they used the term *avances*. Moreover, they recognised in effect that these aids may be either stocks of wealth or flows of wealth (*avances primitives* and *avances annuelles*).

The first positively false step was taken by a far more celebrated writer. We must, I fear, admit that in his treatment of capital Adam Smith succeeded only in diverting discussion from fruitful channels into foreign and barren territory. He seized upon the distinction between capital and income, but, instead of noting their different bearings to the element of time, he sought to describe the different sorts of objects constituting capital and income. He wrote:—

'When the stock which a man possesses is no more than sufficient to maintain him for a few days or a few weeks, he seldom thinks of deriving any revenue from it. He consumes it as sparingly as he can, and endeavours by his labour to acquire something which may supply its place before it be consumed altogether. His revenue is, in this case, derived from his labour only. This is the state of the greater part of the labouring poor in all countries.

'But when he possesses a stock sufficient to maintain him for months or years, he naturally endeavours to derive a revenue from the greater part of it; reserving only so much for his immediate consumption as may maintain him till this revenue begins to come in.[1] His whole stock, therefore, is distinguished into two parts. That part which he expects is to afford him this revenue is called his capital. The other is that which supplies his immediate consumption; and which consists either, 1, in that portion of his whole stock which was originally reserved for this purpose; or, 2, in his revenue, from whatever source derived, as it gradually comes in; or, 3, in such things as had been purchased by either of these in former years, and which are not yet entirely consumed; such as a stock of clothes, household furniture, and the like. In one, or other, or all of these articles consists the stock which men commonly reserve for their own immediate consumption.'[2]

Previous to Adam Smith the tendency had been to set [a stock of] wealth lent at interest over against the [flow of] wealth or interest which it thus earns. Adam Smith seeks to generalise. According to him a stock may earn [a flow of] wealth or 'revenue' in many other ways than by being lent. The only essential feature is that it be so employed as actually to earn a revenue. Any such stock is capital. Here is certainly a latent conscious-

[1] It is worth observing, as illustrating the curious twists and reverse turns which the discussion of capital took after Adam Smith, that many economists, such as McCulloch and Fawcett, or more especially Hearn and Jevons, have insisted that this stock which will 'maintain him till this revenue begins to come in,' so far from being opposed to capital, is the most typical, or even the only capital!

[2] *Wealth of Nations*, Book II., chapter i.

ness of the antithesis between stock and flow. Capital and revenue are the contrasted ideas. But we are told expressly that not all stock is capital. Adam Smith appeared to reason that, since capital is opposed to income or revenue it cannot include all stock, for there would then be no room left for revenue. In fact he expressly states that the portion of stock which is not capital consists, among other things, in his revenue 'as it gradually comes in.' But how can one's 'stock,' or any part of it, consist of something *gradually* coming in? Stock refers to an instant, while 'gradually' indicates duration.[1] The use of this time-word 'gradually' shows that Adam Smith felt instinctively the necessity of describing the peculiar relation which revenue bears to time; while the fact that he includes revenue in stock shows that he had not worked out this relation. He had not definitely conceived that stock has reference to a particular instant. When, in the opening sentence of the above quotation, he speaks of a man's stock as sufficient to maintain him a few days or weeks, the implication is that these days or weeks are reckoned from some specific date and thus the fact that stock refers to a specific date is indirectly acknowledged. The same might be said of the phrase concerning the stock left over 'from previous years.' And yet it is clear that in Smith's mind this instant of time was drawn out into an appreciable stretch of time during which income 'gradually comes in.'

Defenders of Adam Smith may contend that he was quite justified in calling 'revenue' as it gradually comes in a part of a man's stock, not at one instant, but at every one of a succession of instants. But this device, if we admit that it makes revenue a part of stock, would now cause it to swallow up all stock, even that which Adam Smith called capital. For this 'portion of his stock' must also have 'gradually come in.'

It is not forgotten that stock, as described by Adam Smith, included, besides capital and revenue, two other elements, viz., 'that portion of his whole stock originally reserved for this purpose' (of immediate consumption) and whatever had been purchased by this portion or by 'revenue' in former years and is not yet entirely consumed. Taking this in connection with other passages, we see that the reference was to what is usually called 'current' expenditure. A man may pay his grocer's and butcher's bill, not only out of his current income, but out of some portion

[1] *Cf.* Sir Travers Twiss: 'Revenue as it gradually comes in is incoming produce; stock is accumulated produce.' *View of the Progress of Political Economy*, 1847, p. 186.

of what he has laid by. Goods for immediate consumption were thus considered rather as current expenditure than as current income. They formed an outflow rather than an inflow, but still a flow. Unfortunately, this inflow or outflow was confusedly described as a part of 'stock.'

Similar confusion is observable in numerous other passages. One of the most curious is the long explanation (Book II., Chapter ii.) that 'money is the only part of circulating capital of a society of which the maintenance can occasion any diminution in their nett revenue.' We are told that the three other sorts, viz., 'provisions, materials, and finished work,' enter sooner or later into consumers' hands, and thus form part of the net enjoyable revenue of society. But this is not true of money. 'The great wheel of circulation is altogether different from the goods which are circulated by means of it. The revenue of the society consists altogether in those goods, and not in the wheel which circulates them. In computing either the gross or the nett revenue of any society, we must always, from their whole annual circulation of money and goods, deduct the whole value of the money, of which not a single farthing can ever make any part of either.' Thus Adam Smith proposes to subtract a stock ('the whole value of the money') from a flow ('the annual circulation of money and goods'). It is quite evident that the result of this subtraction will be of very different significance according to whether the minuend is the annual circulation, or the monthly, weekly, or daily circulation.[1] In fact, in the last case the subtrahend would exceed the minuend and the result would be a negative 'nett revenue.' Yet Adam Smith goes on to explain that 'the amount of the metal pieces which circulate in a society can never be equal to the revenue of all its members,' 'revenue cannot consist in those metal pieces, of which the amount is so much inferior to its value.'

The explicit statement that stock consists of two parts, only one of which was capital, coming as it did from an economist of so commanding a position in economic literature as Adam Smith, is, I believe, the historical key to the confusion and disagreement that followed. It turned the discussion of capital from the true road, and converted it into a vain search for some criterion of classifying wealth into capital and income. Into the byways and hedges of this fruitless chase I shall not follow. The instant a satisfactory definition is found, the unsatisfactory ones will

[1] *Cf.* Cannan, *History of the Theories of Production and Distribution.* London, 894, p. 79.

drop aside without argument. This is precisely what has happened to the physiocratic distinction, adopted in a modified form by Adam Smith, between productive and unproductive labour. It is noteworthy that in Smith's mind this distinction was strictly parallel to that between productive and unproductive stock. Chapter iii of Book II. is entitled 'Of the Accumulation of Capital, or of Productive and Unproductive Labour,' and in it we find: 'Whatever part of his stock a man employs as a capital, he always expects it to be replaced to him with a profit. He employs it in maintaining productive hands only; and after having served in the function of a capital to him, it constitutes a revenue to them. Whenever he employs any part of it in maintaining unproductive hands of any kind, that part is, from that moment, withdrawn from his capital, and placed in his stock reserved for immediate consumption.' The attempt to define the 'productivity' of labour has led to merging it in the broader conception of utility. 'Labour does not produce objects but utilities,' and as all labour is performed with the purpose of producing utilities, all labour is now regarded as 'productive,' so far as that word has any exact or useful meaning. It is certainly odd that followers of Adam Smith should let go the distinction of productivity applied to labour but hold fast to the same distinction applied to 'stock.' One would suppose that, parallel to the extension of the term 'productive labour,' which brought it to include the labour of the policeman, the domestic servant, or the teacher, there would have been an extension of 'productive stock' so as to include a dwelling house, a private carriage, or a diamond necklace.

The productivity test of capital was not the only one proposed by Adam Smith. After describing capital as that portion of stock employed for deriving a revenue, he did not confine himself to describing negatively the remaining part as that which is *not* so employed. He carefully explains that this residuum is that part devoted to immediate consumption. He therefore virtually defines capital as that portion of stock *not* devoted to immediate consumption. This has therefore become a second mode of defining capital. It also has many variations, of which the chief are those of Hermann, Knies, and Walras. Adam Smith himself was not bound by the vague phrase 'immediate consumption.' He even states that dwelling houses, though they 'may last many centuries,' are still 'reserved for immediate consumption.' This inconsistency has been made the point of departure for a third group of definitions. It is argued that dwelling houses are non-capital because they are available for *immediate enjoyment*, not immediate consumption. There follows the distinction between goods which have 'direct' utility, or finished goods, and those which have only 'derived' utility or 'inchoate goods.' Adam Smith himself practically identifies this distinction with that employed in his definition: '. . . every man . . . will endeavour to employ whatever stock he can command in procuring present enjoyment or future profit. If it is employed in procuring present enjoyment, it is a stock reserved for immediate consumption.'[1] And later, in explanation of this phrase, he says: '. . . for immediate consumption, or to spend upon his table, equipage, the ornaments of his house and furniture, his private enjoyments and amusements.'[2]

We thus see that Adam Smith, so far from improving on Turgot's vague characterisation of capital, succeeded only in substituting conflicting criteria and tests which cannot be applied with precision. He did not, however, lose sight of the fundamental fact that capital and income are the two great antithetical ideas. This has been reiterated by later writers and emphasised anew by Marshall.[3]

One further circumstance tending to divert the discussion of capital was Adam Smith's distinction between the capital of an individual and that of a nation. The two differed in the fact that stocks lent at interest or hire are excluded from national but included in individual capital. Though an individual may employ his stock profitably by lending it, society as a whole cannot. Interest is simply paid from one member of society to another and therefore does not enrich society as a whole. Social enrichment comes only from productive employment of stock.

In the course of time, as Böhm-Bawerk has shown,[4] the conception of National Capital became the more prominent of the two, and, in consequence, the relation of capital to interest shrank more and more into the background, while its relation to production stood out more and more prominently. The modern association is clearly with production rather than with interest, and is embodied in the phrase 'Land, Labour, and Capital' used to express the requisites of production. Many students of economics have to-day become so accustomed to the latter view that at mention of the word capital, the image of an instrument or tool

[1] *Wealth of Nations*, Book II., chapter i.
[2] *Ibid.*, Book II., chapter ii.
[3] *Principles of Economics*, vol. i., 3rd edition, p. 143.
[4] *Positive Theory of Capital*, English translation, p. 26 ff.

of production comes to mind rather than the 'capital' the abundance of which makes interest low. Worst of all, the two are commonly assumed to be identical.

The reason why national capital should supplant the more comprehensive individual capital appears to be twofold. First, Adam Smith had shown that individual capital can earn interest in the long run only by the profitable use of the loan by the borrower. He cannot perpetually pay interest out of accumulations, but must win *profits* out of which interest is paid. Thus, in Adam Smith's view, the true source of interest is profits, the reward of productive use of tools, materials, etc. In this way the problem of interest is reduced to the anterior problem of profits, which is an affair of *production*.

The second reason lies in the growing attention to questions of production and labour which, soon after Adam Smith's time, completely eclipsed the problem of interest. With the recognition of interest as lawful, the popular mind found no further attractions in its study. On the other hand, the effects of capital on production and commerce were hotly discussed in the Free Trade controversy which the *Wealth of Nations* aroused, as were also its effects on wages in the Wages Fund controversy a little later. In consequence, we hear much to-day of the conflict or harmony of 'capital and labour' while the original couplet 'capital and interest' is heard far less frequently.

It was in connection with production that Malthus conceived capital, while Ricardo, as the definition already quoted clearly shows, conceived it in connection with production and labour. It soon became the central conception in the wages fund controversy. Adam Smith had said that wages 'of productive labour' are paid out of capital (and that of unproductive out of revenue). He had also taught that an increase of capital increased the employment and reward of labour. This vague thought combined with the doctrine of Malthus on the inverse relation of population and subsistence soon grew, at the hands of Ricardo, James Mill, and McCulloch, into the doctrine that wages depend on the ratio of capital (or some part of capital) to population. No better illustration could be found of the hopeless confusion in which the conceptions of stock and flow were now involved than the attempt to obtain the *rate* of wages per unit of time by dividing a *fund* existing at some one time by the number of inhabitants or labourers. It would be as accurate to say that the average rate at which each of the seven ancient mouths of the Nile poured into the Mediterranean was determined by the ratio of all the water in the Nile basin to the number of mouths. And yet so acute a writer as John Stuart Mill unhesitatingly states:[1] 'Wages, then, depend mainly upon the demand and supply of labour; or, as it is often expressed, on the proportion between population and capital. By population is here meant the number only of the labouring class, or rather of those who work for hire; and by capital, only circulating capital, and not even the whole of that, but the part which is expended in the direct purchase of labour. To this, however, must be added all funds which, without forming a part of capital, are paid in exchange for labour, such as the wages of soldiers, domestic servants, and all other unproductive labourers. . . . With these limitations of the terms, wages not only depend upon the relative amount of capital and population, but cannot under the rule of competition be affected by anything else. Wages (meaning, of course, the general rate [*sic*]). . . .'

Mill regarded this statement of the case as almost self-evident. What is really self-evident is that the average rate of wages per *man* is equal to the rate of wages for the *nation* divided by the number of wage-receivers in the nation. This is all that can be said for the wages fund theory as a quantitative doctrine of wages. Many economists now content themselves with the mere qualitative statement that wages are paid 'out of' capital. This is true, but the same is true of all income, *e.g.*, profits, rent, etc. *All* material wealth must exist, that is, be capital, between its production and consumption, but the truth is no more profound than that the waters which a river empties into the sea come 'out of' the water in the river bed.

These sorry remnants of the famous wages fund doctrine are all that now exist among the best writers.[2] Naturally, if these truisms had constituted all of the original doctrine, no wages fund controversy could have existed, nor would any one have professed to see in the theory a profound explanation of the rate of wages. The mere fact that this controversy existed, to say nothing of the character of the arguments of which it consisted, bear witness to the mental confusions consequent on overlooking the function of time.

Occasionally a ray of light would penetrate these dreary fogs.

[1] *Political Economy*, Book II., chapter xi., § 1.

[2] The conception of a Wages Stream in place of a Wages Fund is most clearly expressed by Marshall (*Principles*, I., 3rd edition, p. 572), while the picture of wages as issuing out of capital is presented as the final conclusion of the latest elaborate examination of the wages fund doctrine. (Taussig, *Wages and Capital*, New York, 1896, p. 325.)

These would come in stray hints at a missing time element. These allusions gradually developed into the explicit conception of a 'production period' as finally formulated in Böhm-Bawerk's carefully thought-out treatise. This statement of the relation of wages and capital, which may be called a sort of revived wages fund theory, possesses at least the merit of equating two quantities of the same kind. Mill himself had vaguely admitted a difficulty connected with the time element when he attempted to answer sundry objections. 'Capital which the owner does not employ in purchasing labour, but keeps idle in his hands, is the same thing to the labourers, for the *time* being, as if it did not exist.'[1] This was written in reference to the influence of brisk or dull trade on the wages of labour. Now it is quite evident that the only difference between the payment of capital in the two cases is one of degree. We cannot think of capital in one case as being perpetually paid and in the other as absolutely idle. It is merely a question of the *rate* of payment. If Mill had reflected on the subject he would have introduced this rate or velocity as an explicit factor. In this way the wages fund formula could have been converted into a homogeneous equation, as every concrete equation ought to be.

This amendment was actually suggested by Charles Morrison, who described the source of wages as 'the sum of the funds available . . . multiplied by the average rapidity with which those funds are turned over.'[2] By this multiplication he converted a fund into a rate of flow, and, though the resulting formula can scarcely be accepted as a doctrine of wages, it is at any rate self-consistent. Unfortunately, Morrison's suggestion was not taken up and developed. The controversy proceeded on very different lines, and when Mill surrendered to Thornton it was on the question of the 'determinateness' of the wages fund.

The writer who first pointed out with any exactness or clearness the mathematical incongruity of the wages fund formula appears to be the astronomer, Professor Simon Newcomb. The economic work of this brilliant and versatile writer has not yet received the recognition it deserves. This is doubtless owing in part to the fact that he preferred to address himself to a popular audience. It is quite natural that economists should not search for new contributions in a popular text-book. In spite of its elementary character, however, the book is in many parts strikingly original. Written by a master of the most exact of

[1] *Political Economy*, Book II., chapter xi., § 2. The italics are mine.

[2] *Essay on the Relations between Labour and Capital*, London, 1854, p. 211.

natural sciences, it possesses a precision and finish which make it deserving of careful examination. It contains the first statement, so far as I know, of the distinction in economics between a stock and a flow or, in the words of the author, between a 'fund' and a flow.[1] In illustration of this distinction he wrote:[2] 'No matter how vast the fund, it would in time be all absorbed in the payment of wages; then, were the fund never replenished, no more wages could be paid, and society would come to an end. The fund must therefore be continually replenished. Now, this being so, the payment of the wages depends, not upon the magnitude of the fund, but upon the rate at which it is replenished. This rate is not a fund at all, but a flow. It bears the same relation to a fund that a flow of so many gallons per hour does to a reservoir holding so many gallons of water.'[3]

Newcomb applied his distinction only to problems of monetary circulation; the reference to the wages fund idea was purely incidental, and was expressed in a note at the end of a chapter on money, 200 pages after the chapter on capital. Intent on elucidating questions of monetary circulation, Newcomb failed to see that the same conception would clear up questions of capital. It did not occur to him that the long-sought distinction between capital and 'other wealth' was really contained in his own distinction between a fund and a flow. He states with characteristic directness, 'Capital is a kind of wealth. That is, all capital is wealth, but not all wealth is capital.'[4] Non-capital he calls 'sustenance,' meaning 'wealth desired for its own sake.' He defines capital as 'wealth desired, not for its own sake, but for the sake of the sustenance which it will enable us to produce,'[5] a definition nearly equivalent to that of Böhm-Bawerk.

The fact that the author of the distinction between stock and flow did not apply it to capital, and the fact that also Professor Marshall, who was quick to perceive the importance of Newcomb's distinction, did not so apply it, have often caused serious doubts in my own mind as to the propriety of that application. It seems probable, however, that the omission was not deliberate,

[1] My reasons for employing the word 'stock' in preference to fund are: (1) The former is the older and more established term to convey the idea intended; it is more usual and natural to speak of a stock of cloth than a fund of cloth, a stock of books than a fund of books, etc.; (2) The word 'fund' suggests the value of goods rather than the goods themselves. It suggests the common reduction of all goods to 'pounds sterling,' whereas the primary study of goods must be related to tons yards, etc.

[2] *Principles of Political Economy*, New York, 1886, p. 325.

[3] *Cf.* Cannan, *op. cit.*, p. 273, and Hadley, *Economics*, New York, 1896, p. 315.

[4] *Ibid.*, p. 55.

[5] *Ibid.*, p. 82.

but rather that the thoughts of the two writers concerning capital had not been shaken out of the grooves into which antecedent discussion had set them running. In the preface to the third edition of his *Principles*, Marshall wrote: 'I have steadily grown in the conviction that there is, and from the nature of the case there must be, something artificial in every broad distinction between capital in general (or "social" capital, *i.e.*, capital not regarded from the point of view of the individual) and other forms of wealth.' In one place he emphatically states that capital is correlative with income,[1] and in another he says of income: 'In Professor Newcomb's words, it is a *flow* and not a fund.'[2] But these two statements are 150 pages apart. In speaking of authors who have sought to define capital in terms of its reference to future enjoyment, he says most appropriately: 'But those who have tried to take their stand definitely on this notion have found themselves on an inclined plane: and have not reached a stable resting-place till they have included all accumulated wealth as capital.'[3] The idea, however, that accumulated wealth should really be capital is not entertained by him. After a brilliant discussion of the many rival definitions of capital, he concludes: 'Thus we finally arrive at the conclusion foreshadowed at the beginning of this chapter. There are several more or less precise definitions of capital, which are useful for certain special purposes: and there may be something to be said for inventing separate terms for each of them. But there is no one rigid definition which is universally available. Something must be left for explanation by the context.' These several quotations seem to indicate a general dissatisfaction with all definitions rather than any determinate point of view. One step further would have brought out the enunciation that capital and income are formed out of the very same goods, but one as a stock and the other as a flow. Possibly the reason why this step was not taken lies in the fact that Marshall conceives of income as a flow of pleasure rather than of goods. He conceives of capital as antithetical to the enjoyable income which it brings in. But the simpler antithesis is not between a stock of goods and the particular flow which it may earn or purchase, but between the stock and the flow of goods of the *same* kind. The stock of carpets in a store is not so closely associated with the flow of interest paid by the merchant in maintaining this stock, or of profits earned by its use, as it is with the flow of *carpets* into and out of the store. The

[1] *Principles*, I., 3rd edition, Book II., chapter iv.
[2] *Ibid.*, p. 588, note. [3] *Ibid.*, p. 148. [4] *Ibid.*, p. 152.

distinction between a stock and a flow of the same kind of goods is prior to that between a stock of one kind and a flow of another. Marshall, by fixing on the latter first, allowed the notion to survive that capital is one species of wealth and income another.

Professor Taussig, following Marshall, expresses this more explicitly[1]: 'The total flow of enjoyable goods and services which is regularly coming into the possession of society is thus best considered as one great mass of homogeneous income, different from the inchoate wealth which is on all hands admitted to be capital.'[2] 'Doubtless some of the enjoyable goods now available possess the characteristics of a fund rather than of a flow. Those of a more durable sort exist rather as a fund, those of a more perishable sort rather as a flow. Houses and house-furniture are fully furnished and ready, available now and likely to remain available for a considerable space to come. Food stands at the other extreme, being usually perishable, and existing in no great stock. . . . *The difference clearly is one of degree, not of kind.*'[3]

After what has been said, the error of all this is apparent. A fund or stock is not one sort of wealth and a flow another; they are both attributes of any sort of wealth. It is somewhat strange that Professor Taussig, while finding difficulty in making enjoyable wealth coincide with a flow, should not also remark upon the parallel difficulty in making 'inchoate wealth' tally with a 'fund.' If houses exist 'rather as a fund,' and food 'rather as a flow,' why should not the coal burned in a locomotive exist 'rather as a flow' while the locomotive exists 'rather as a fund'?

This mode of conceiving the matter was actually adopted by Léon Walras and his father. He classifies all wealth into capital and income (*capital et revenu*), and proposed to give the classification definiteness by calling income wealth consumed by a single use, and capital wealth which serves more than one use. This includes as 'income' or non-capital, a great deal which is classed by other writers as capital. 'Parmi ces revenus figurent, a côté des objets de consommation privée, les matières premières de l'agriculture et de l'industrie : semences, matières textiles, etc.'[4] Thus the attribute of productivity is taken away from capital,

[1] He attributes to Marshall, instead of to Newcomb, the distinction of stock and flow (*Wages and Capital*, p. 20). If he had examined Newcomb's application of the distinction he would have been saved the curious slip of defining the rapidity of circulation of money as 'the quantity in use for purchases at any moment' (*Ibid.*, p. 252).

[2] *Wages and Capital*, New York, 1896, p. 36.

[3] *Ibid.*, p. 38. The italics are mine.

[4] *Eléments d'économie politique pure*, 2nd and 3rd editions, p. 197.

and its place supplied by 'fecundity' of services rendered. But why draw a sharp line between the first and second service, and none at all between the second and third? Why should a sulphur match be 'income,' but a wax taper 'capital'? Why should emery or sand-paper, destroyed by several uses, but in rapid succession, be called capital, while a mould for casting, destroyed by a single use, but that use occupying a long time, be called non-capital?

Walras comes very close to distinguishing a stock and a flow when he points out the incongruity of the triad 'land, labour, and capital,' labour being a 'succession of services of workmen' and therefore not co-ordinate with land or capital, themselves the subject of services successively rendered. As Walras says, we ought either to speak of land, *man*, and capital, or services of land, services of man (labour), and services of capital. But so far from perceiving the bearing of the time element, and referring capital to a point and income to a period of time, Walras rather makes the former refer to the period and the latter to the point of time.[1]

Pareto follows Walras closely, but explains that the definition is not to be taken literally. Capital, if destroyed, is replaced out of product; it is then to be considered as not destroyed but surviving and serving more than once.[2] But this reconstitution of stock is also applicable to food and to everything else which Professor Pareto would call non-capital.

The idea of a quantum of capital, the constituent elements of which are ever changing, but which is nevertheless considered self-identical, has been taken up by many writers and particularly emphasised by Professor J. B. Clark: 'Tools and machines are worn out and replaced. True capital abides, because the things that at any one instant constitute it do not abide. . . . A waterfall consists in particles of water. . . . The water moves; the fall stays where it is . . . Capital goods are, like particles of water, vanishing elements. True capital is like the fall; it is an abiding element, owing its continuance to the constant wasting and replenishing of its substance.'[3]

[1] In fact, a general defect of Walras's work (as well as that of Pareto) is in his unsatisfactory treatment of the time element. He considers only an instantaneous market in which the supply curves are subject to a discontinuity when the *quantité possédée* is reached. He even speaks of a *quantité possédée* of services, whereas it is obvious that there can never be any 'stock' of services, but only a flow. These arbitrary conceptions have given an air of unreality to the work of Walras which has prevented many persons from recognising its real merits.

[2] *Cours d'économie politique*, I., Lausanne, 1896, p. 40.

[3] *Yale Review*, November, 1893, p. 308.

It is not denied that this view of the matter is admissible in many cases, and serves a useful purpose. It also comes close to the distinction between stock and flow. But it would not include the numerous cases in which capital is not reconstituted but lost or destroyed. In fact, if *perpetual* reconstitution is essential to the idea of capital, the word can scarcely have any scope whatever. If the reconstitution need not be perpetual, the question arises, How long or how often must it occur? Any answer to this question must obviously be too arbitrary to have any real significance, or else it must be replied that reconstitution is not a necessary attribute at all; the water in the waterfall at an instant is capital. A further and even more serious objection applies to Clark's definition, and that is his effort to include different sorts of capital under the same fund, reduced to a commom equivalent in terms of 'value.' The objection is, not that this summation of value is inadmissible, but that it is a secondary operation. Objects of capital are antecedent to the value of those objects, as is obvious from the fact that we cannot express the value without reference to the objects themselves, concretely described and measured. Wheat must be measured in bushels before it is measured in dollars. Ricardo long ago pointed out that capital may be increased without a corresponding increase, or even without any increase, in its value. Suppose the number of ploughs is doubled, causing the value of each to sink one-half. The total value is unchanged. Can it be said that there is no change in the quantity of capital through thus doubling the number of ploughs?

Karl Knies is another writer who has come very near to the conception of capital as stocks in general. He maintains[1] that the word capital has been used to cover two distinct conceptions applicable to two distinct classes of problems. These conceptions are a stock of goods laid up *for the future*, the characteristic quality of which is *possession*, and means of production, the characteristic quality of which is industrial *technique*.

The first[2] of these conceptions differs from the one here pro-

[1] *Das Geld*, 2nd edition, Berlin, 1885, pp. 24–83.

[2] Knies proposes to retain the word capital in both the senses quoted. A similar double use of the word is made by many other writers, in particular Adam Smith and Böhm-Bawerk, under the titles 'Individual' and 'National' capital, the former being associated with problems of interest, the latter with problems of production. The bond of connection between the two meanings was, in the view of Adam Smith, 'profitable employment,' and in the view of Böhm-Bawerk, 'means of acquisition.' But if the conception of 'stock' should find acceptance and become one of the two meanings of capital—the so-called 'individual' capital—then all bond of connection between the two meanings would immediately disappear. The conception 'National' capita was, as Böhm-Bawerk points out, an offshoot of the parent conception of

posed by the limiting clause 'for the future.' All goods are excluded which are used for present or 'current' wants. But the words 'for the future,' taken literally, express no limitation, for, as Böhm-Bawerk says,[1] 'every atom of wealth in my possession at this moment has been acquired at a previous point of time, with the view of being spent at a future point of time. That point of time may not be far away; it may, perhaps, be the next day, or the next hour; but certainly it is still in the future.' But Knies had no thought of identifying capital with all existing wealth. He distinctly states the contrary.[2]

'Individual' capital. By Adam Smith, who originated it, this derivative conception was supposed to mark a classification of goods according to the same criterion (productiveness) as that employed in the parent conception of individual capital, the only difference being in the point of view. But if it turns out that the parent conception has nothing whatever to do with a classification of wealth, then clearly there remains no organic connection between capital in the sense of 'stock' and agents of production which are dependent for meaning on some classification of wealth. Thus the original reason and analogy for the double use of the term disappears. Further reasons for abandoning 'National Capital' as a conception peculiar to production are: (1) the danger of confusing the two meanings, a danger exemplified even in so careful a writer as Ricardo; (2) the fact that capital, in the sense of stock, is itself important in problems of production; (3) the apparent impossibility of securing any agreement among economists as to the best single classification of wealth as related to production; (4) the fact that all these so-called classifications of goods into productive and unproductive, durable and perishable, inchoate and enjoyable, etc., are not true classifications at all, but differences of degree only. I do not for a moment deny that productivity, durability, 'prospectiveness,' instrumentality, etc., are notions of great importance in special questions of what Knies calls 'industrial technique.' But they are diminished rather than increased in importance by being made a criterion for classing goods into only *two* groups. It is as if the statistician, instead of dividing population into several age groups, should insist that all persons are either old or young; or again it resembles the primitive ethical classification of men into good and bad, or the ancient division of objects into wet and dry, hot and cold, etc. Nothing is gained, but much is lost in such a dual view of the world, and particularly in economics, where we observe an infinite variety of industrial processes and relations. For instance, instead of viewing goods as simply finished and unfinished, we ought to picture a long line of goods progressing by successive stages from the raw state toward the goal of consumption. This, it is true, is portrayed vividly enough by Menger, Böhm-Bawerk, and Marshall, but the continuity and rhythm is marred and broken when the attempt is made to insert some cæsural pause in the series. Moreover, there are many goods which have no place as 'intermediate goods' in this consecutive line, such as land, machines, and tools, which only by the severest stretch of metaphor can be said to 'ripen into' wheat or cloth. They stand outside the line of march, by the wayside—helping it on, to be sure, but themselves moving little or not at all. In economic theory, as it seems to me, these manifold relations enter into the *form of the functions* of utility and disutility, but cannot be forced into any useful twofold classification of wealth. Much less can the word capital, so closely associated in all minds with income, be applied to one wing of any or each of these arbitrary divisions.

[1] *Positive Theory of Capital*, English translation, p. 47.

[2] 'Ist aber einmal sicher dass unter Kapital nur wirthschaftliche Güter zu verstehen sind, so wird denn doch wohl Niemand beanspruchen, dass "Kapital" einfach identisch mit "wirtschaftlichen Gütern" sei.'—*Das Geld*, 2nd edition, p. 42.

What then could have been the thought of Knies in clinging so tenaciously to the distinction between goods for the future and goods for the 'present'? Some light seems to be thrown on this question by the circumstance that, in referring to goods which satisfy 'present' wants, Knies usually adds, as if in necessary explanation, the extra word 'current' (*laufenden*). If he were simply thinking of two sorts of goods existing at a *single* instant, the word 'current' would not be needed. It seems clear that the image in Knies's mind was one involving successive points of time; during these successive instants the goods for 'present' use were consumed and disappeared; in short the conception which he was seeking was a 'flow' of goods as contrasted with a stock of goods.

Professor Böhm-Bawerk, in showing that Knies's definition leads him logically to include all goods as capital, was not seeking to justify or rectify that definition, but to reduce it to an absurdity. 'If, therefore, we take the word "future" in its strict sense, Knies's formula has obviously defined not only capital but wealth; and his conception of capital coincides with the ordinary conception of wealth.

'If Knies had actually contemplated this, it would not be difficult to pronounce upon his conception of capital. We should have to accuse him of waste of terminology.' [1]

In answer to this view it may be urged first that the word 'wealth,' has never been defined in the distinct sense of referring to all the goods existing at a particular instant of time. No one could claim, I think, that 'wealth' and 'stock of wealth' are synonymous expressions. The words 'stock of' convey a definite limitation. The word wealth used by itself is vague, and applies equally to stock and flow. A 'wealthy' man includes an actor who earns and spends £10,000 a year, and possesses very little at any one time, as truly as the man who owns empty city lots which bring in no income. In fact, ordinary usage would call the former man wealthy rather than the latter, who is, on the contrary, often designated as 'land poor.' We have it on the authority of Adam Smith that 'real wealth . . . is in proportion . . . to . . . nett revenue.' [2] This is, in fact, what Adam Smith meant by the '*Wealth* of Nations.' The very opening sentence of that work begins: 'The annual labour of a nation is the fund [*sic*] which originally supplies it with the necessaries and conveniences of life. . . .'

That wealth is used both for capital and income is emphasised

[1] *Positive Theory*, p. 47.

[2] *Wealth of Nations*, Book II, chapter ii.

by Mr. Edwin Cannan, who appears to be the first to have enunciated the precise time-relation between these two ideas: '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; it may, in short, be either his capital or his income. 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.' [1]

The wonder is that so lucid a statement of the essential distinction between a stock and a flow should not have opened up new vistas to writers who, like Marshall and Taussig, had made a study of Cannan's excellent work. The explanation appears to lie in three circumstances which at first would seem to be of a very trivial nature. They are (1) the omission of the explicit statement that income and capital consist of the self-same goods, (2) the insertion of the word 'nett,' (3) the absence of any reference to interest. A reader, taking up a book whose main purpose is historical, and coming upon an incidental description of what capital is considered to be in the business world, is not prepared to note the implications of such a definition. When he reads that income relates to a length of time, and capital to a point of time, he is apt to think, 'Yes, of course; nobody ever denied that,' and to continue, as of old, picturing 'income' as consisting of the successive [stocks of] enjoyable wealth purchased by money income from time to time—food, fuel and clothing, not raw materials, machinery and ships. In order to show that the new definition is really new, it must be shown that it affirms something which other definitions denied. Although the preceding quotation implies that capital includes *all* wealth at an instant, any person who has formerly regarded this as impossible will only consider it a defect or an oversight in the definition, and ask 'of what articles could nett income possibly consist if all of a man's wealth is included under his capital?'

Mr. Cannan himself, although he doubtless meant to exclude no kind of goods from capital, explicitly excludes certain kinds from income. The latter he says, consists only of *nett* receipts. 'Nett' is a small word, but to explain it involves a vast amount of discussion and the recognition of many difficulties, as the investigations of Marshall [2] and Kleinwächter [3] have abundantly shown.

[1] *Theories of Production and Distribution.* London, 1894, p. 14.
[2] *Principles*, 3rd edition, Book II., chapter iv.
[3] *Das Einkommen und seine Verteilung.* Leipzig, 1896.

To make it an essential quality of the idea of 'income' is not only to involve that idea in obscurity but to destroy the simplicity and generality of the distinction between capital and income, and to allow the old and harmful notion to survive—that this distinction implies some difference in the kind of goods concerned. It is obvious that the term 'income' should be applied as freely to gross as to nett receipts. In the two great accounts of any business concern, the 'Capital Account' and the 'Income Account,' the entries in the latter are not all characterised as 'nett.' Why apply both capital and income to enjoyable commodities but only the former to other commodities? In Cannan's view the coal in a man's cellar and the coal in the bunkers of a steamship are both capital, but though the annual replenishment of the cellar is income, the annual replenishment of the bunkers is not. Like Marshall, Cannan seems to conceive of income as a flow of *pleasure*, but capital as a stock of *things*; and thus, in spite of the clear statement of the time distinction between them, this distinction is not regarded as fully adequate, and there persists a trace of some additional distinction between the substances of which capital and income are composed. Cannan had in view the old problem of measuring the 'wealth of nations.' His intentness on this particular application of the distinction between capital and income led him to overlook other applications. Thus he writes (p. 77): '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 possession products pass successively on their way to the consumer.' So far from being ridiculous, this total is the work of exchange done by money, the 'societary circulation' of Newcomb.

It is clear that any special flow of wealth such as 'net income' is not the *only* correlate of capital. Just as population is correlative to the various rates of births, deaths, marriages, 'coming of age,' emigration, immigration, etc., so capital is correlative to income, expenditure, production, consumption, 'ripening' of goods in process of production, exports, imports, monetary circulation, etc.

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