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V.SHEMYATENKOV

The Enigma of Capital: a Marxist Viewpoint

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В. Шемятенков

ЗАГАДКА КАПИТАЛА: МАРКСИСТСКАЯ ТОЧКА ЗРЕНИЯ

На английском языке

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INTRODUCTION

Any science has its own hierarchy of concepts. Empirical research and individual theories always rest on certain fundamental ideas, forming the cornerstone of the department of knowledge in question.

One of the fundamental concepts in economics is the concept of capital which runs through the whole fabric of economic analysis. Unless the problem of capital is solved it is impossible to understand commodity exchange and price formation in a capitalist economy. Nor for that matter the factors of income distribution and the character of economic growth.

The scientific theory of capital, which stems from economic practice, retains strong umbilical cords with ordinary thinking, to which the process of capital's self-growth is a veritable enigma. Eugen von Bohm-Bawerk wrote in his day: "He who owns capital is usually in a position to derive a constant net income from it. This income has a few remarkable characteristics. It arises irrespective of any personal activity by the capitalist. It comes to the capitalist even when he has not lifted a finger to create it and it seems that this income is literally produced by capital, or to use the old phrase, is begotten by it. It comes from any capital irrespective of its constituent values which are either naturally multiplying or non-multiplying, those that are consumed or preserved, replaceable or irreplaceable ones, money or commodities. It comes about, finally, without ever destroying the capital which produced it and knows no time limits: it is capable of existing eternally if one might say that about anything existing on earth—

Now whence and why does the capitalist obtain this non-perishable and unearned income? This question sums up the theoretical problem of interest of capital."[1]

Any practising capitalist knows fairly well that whatever the shape of his capital, it will fail to yield an income until

[1] Eugen von Bohm-Bawerk, *Capital and Capitalzins*, Erste Abteilung, Innsbruck Verlag der Wagner'schen Universitäts-Buchhandlung. 1900, pp. 1, 2.

put into action, i.e. until, in the final analysis, it is invested in a functioning capitalist enterprise.

Herein, perhaps, lies the key to the mystery of capital's self-growth. Let us look at the economic activities of a typical capitalist corporation through the eyes of an accountant i.e., in terms of a balance sheet and a profit and loss statement.

The balance sheet is a sort of a snapshot of capital. The liabilities side shows the sources of capital formation in monetary terms while the assets side records the material structure of capital and the ways it is used (see Tables 1 and 2. The figures quoted are arbitrary).

A profit-and-loss statement reflects the results of capital's performance over a specified period of time.

In the accountant's view (and this is precisely how the capitalist and his executives perceive it) the movement of capital contains certain inherent features which we shall be repeatedly examining elsewhere in this book:

1) The difference between owned and borrowed capital as reflected on the liabilities side of the balance sheet disappears at the stage of utilisation of available funds. On the assets side capital appears as a conglomerate of many different things: money, securities and invisibles essential to production and marketing. In the process of utilisation the division of capital into the fixed and the circulating parts acquires importance;

2) To the accountant, capital is a self-reproducing stock, while profit is a flow produced by this stock;

3) The value of the product sold is a sum of costs and profit. The costs comprise the depreciation fund used to make up for the wear and tear of plant and equipment over the period under review, the cost of materials and labour, interest and rent payments. The costs of a particular enterprise are, at the same time, the income of other enterprises and individuals—manufacturers of plant and equipment, suppliers of materials, white-collar and blue-collar workers and landowners. Profit forms the income of the owners of capital, including the creditors who receive interest as their reward.

Inasmuch as the income of the manufacturers of plant and equipment and materials is made up of the same ingredients and is, in the long run, payment for the services of wage la-

Table 1

ABC Corporation
Balance Sheet as of December 31, 1980
(million dollars)

Assets		Liabilities	
Circulating capital	30	Short-term liabilities	6
Cash in hand	3	Long-term investments	94
Accounts and bills receivable	7	Advanced (stock) capital	34
Inventories and work in progress	20	Bond loans	20
Fixed assets	63	Reserve capital	40
Buildings	33		
Plant and machinery	30		
Intangible assets*	7		
Total	100		100

* "Intangible assets" are generally taken to mean a firm's reputation among its customers and business partners (i.e. "the firm's price"), production experience, know-how, industrial secrets, etc. This is a standard and (airly conspicuos item on the balance sheet of US companies (in the case of the Coca-Cola Co., for instance, it reaches as much as 19 per cent of total assets).

Table 2

ABC Corporation
Profit and Loss for 1980
(million dollars)

Total sales	125
Costs	110
Plant and machinery depreciation	5
Raw material costs	37
Labour costs (wages of production workers, salaries of sales and managerial personnel)	62
Rentals and interest payments	6
Cross profit	15
Income tax	7.4
Net profit	7.6
Dividends	5.6
Payments into the reserve capital	2.0

bourers, the use of land and capital the accountant's analysis suggests the existence of three kinds of primary income—wages, rent and profit.

Profit is the difference between the sum totals of sale receipts and costs;

4) Upon deduction of the income tax the profit breaks down into the personal income of capital owners (dividends) and the accumulation fund (undistributed profit) which is ploughed back into production.

To the accountant, the growth of capital depends exclusively on the good luck and thriftiness of his employer, on the rate of profit and the ratio of its distribution between the consumption and accumulation funds.

Although the accountant's analysis is illuminating in certain ways, it fails to bring us to the solution of the two interdependent problems:

1) What is it that unites things so dissimilar, in physical and economic terms, in the common quality of capital?

2) What is the final source of capital's self-growth?

The search for the answer to these seemingly simple questions represents one of the most exciting pages in the annals of economic thought. Centuries had passed before the laws governing the movement of capital were discovered. It was Marx who found that capital is simultaneously a vital prerequisite and the result of the capitalist mode of production. Therefore, the study of capital is inseparable from the study of the general laws of capitalism.

Marx successfully solved the problem of capital by employing the method of scientific abstraction which enabled him to see under the outer shell of particular forms of capital its essense — the social relations which account for the seemingly inexplicable capacity of capital for self-growth.

Non-Marxist economic theorists approach the study of capital from the opposite end. They seek to discover the source of capital's self-growth within the domain of economic phenomena directly observed by the capitalist and his executives.

For over a century now the ideological opponents of Marx have been attempting to provide their own solution to the problem of capital. Now let us have a look at some of the results this rather long drawn-out search has produced.

CHAPTER I

THE ORIGIN OF MODERN CONCEPTS

1. THE RISE AND FALL OF THE CLASSICAL SCHOOL

The scientific study of capital is inseparable from the historical evolution of the system which owes its name to it.

In an era when the elements of capitalist relations were diffused in the depths of the slave-owner and feudal modes of production, capital almost exclusively took the form of commercial or monetary capital, while capitalist profit was dissolved in the complex gamut of the incomes of the various estates. It was quite natural, therefore, that as Marx put it: "Before the Physiocrats, surplus-value—that is, profit in the form of profit—was explained purely from *exchange*..."[1] The thinkers of the antiquity and the Middle Ages focused their attention on the ethical aspects of commercial profit and interest, touching but in passing on their origin, i.e. the crux of the problem of capital.

As nascent capitalism was putting its ever more visible imprint on the social life of Europe, prerequisites appeared for the scientific study of capital and profit.

Capital is the true soul of the capitalist system. Each fleeting instant of the history of capitalism, each cell of bourgeois society is permeated by one and only fundamental motivation—the irrepressible pursuit of profit to be added to the original capital. Capital is both the end and the means of existence of the capitalist class. It is perfectly natural, therefore, that the problem of capital should have always been central to the ideal reflection of the "recorded" history of capitalism—the evolution of bourgeois economic doctrines. It would be no exaggeration to say that it was

[1] Karl Marx, *Theories of Surplus-Value*, Part I, Progress Publishers, Moscow, 1975. p. 41.

the prime motive force behind the formation of classical bourgeois political economy.

The glorification and idealisation of capital are the two dominant themes of the political economy of a nascent capitalism, of capitalism in its prime, which promised mankind the golden age of universal freedom, equality and brotherhood. The desire to discover the laws of the origin and distribution of the increment of social wealth was the super task facing the classical representatives of bourgeois political economy. Marx held that it was precisely the analysis of capital provided by the Physiocrats that made them "the true fathers of modern political economy..."[1]

The works of the bourgeois economists of the period were noted for their bold thinking, a close touch with practice, profound scholarship and brilliant literary style.

William Petty, Pierre Boisguillebert, William Franklin, Francois Quesnay, Jacques Turgot, Adam Smith, David Ricardo—the views of any of these outstanding thinkers, the men of the "Golden Age" of bourgeois political economy, could be the subject of an exciting and useful research in its own right. However, we shall confine ourselves to just one aspect—identifying the concept of capital they all share. This concept was destined to play a conspicuous role in shaping the destiny of the classical school which gave rise to two polarised trends of modern economic thought—Marxism and vulgar bourgeois political economy.[2]

In the 1980s the European economics of the classical era may appear primitive. But even so it was full of undiscovered mysteries and inexplicable contradictions which were beyond the comprehension of even outstanding minds with their contemplative approach. A science was required to explain those mysteries and contradictions and the greatness of the classics lay in the fact that they came very close to identifying a method which enabled them to systematise

[1] Karl Marx, op. cit., p. 44.

[2] The author offers no apologies to those readers who may, perhaps, wince at his use of the term "vulgar" with reference to traditional non-Marxist political economy. The subsequent analysis of the ideas and methods of the non-Marxist theories of capital will prove that the term "vulgar political economy", however unpleasant, is far from being a propagandists's cliche. On the contrary, it is an irrefutable fact.

the entire body of economic knowledge stored up by mankind over millennia.

Already William Petty had a clear appreciation of the need to "use only arguments of sense, and to consider only such causes as have visible foundations in Nature leaving those that depend upon the mutable minds, opinions, appetites, and passions of particular men".[1] In accordance with the spirit of time he looked for "natural laws", which governed human society.

Adam Smith, too, wanted to discover "natural order" in economic life. Adam Smith was able to arrive at the conclusion that one could only discover this order by relying on scientific categories expressing not chance but legitimate, law-governed, substantive features of economic phenomena.

David Ricardo was the first to link these categories into a neat and strict system which enabled the investigator to look at economics as an integrated entity. Marx saw David Ricardo's historic contribution in that he provided an accurate fix on "the starting-point for the physiology of the bourgeois system".[2]

The concept of value was central among the categories developed by the classics. Adam Smith developed William Petty's shrewd conjecture that "labour is the father of wealth" into an elaborate theory of labour values. He drew a sharp line of distinction between the many different forms of the commercial world made up of many different use-values and its common essence—value, the only source of which, according to Smith, was labour. Thus, for the first time in the chaos of commodity circulation the main element was identified, which made it possible to place economic analysis on a scientific footing.

Adam Smith realised that all types of labour were identical from the standpoint of the creation of value, that skilled labour created more value in unit of time than did unskilled labour, that the amount of value is determined not by the individual labour inputs, but rather by the labour inputs

[1] *The Economic Writing o] Sir William Petty,* edited by Charles Henry Hull, Vol. 1, University Press, Cambridge, 1899, p. 244.

[2] Karl Marx, *Theories of Surplus-Value,* Part II, Progress Publishers Moscow, 1975, p. 16(5.

which are average in a given society. David Ricardo later demonstrated that value is determined by the amount of working time expended to turn out the product. In this way, the accent in the explanation of economic phenomena shifted decidedly from the sphere of circulation to that of production.

The founders of bourgeois political economy were able to see beneath the ruins of disappearing feudal relations a new social structure which obliterated distinctions based on estate or guild, both of which had had their day. They were able to see in the teaming masses of personally free and formally equal citizens the main classes of bourgeois society—wage labourers, industrial capitalists, rentiers, landowners, the particular types of income such as wages, profit, interest and rent being the hallmarks of these classes. They attempted to link into a single whole the laws of price formation and those of distribution within a commodity-monetary economy, where there is no visible coercion of one set of people by another.

Along with wages Adam Smith saw profit as one of the two kinds of primary incomes, while he considered interest and rent as parts of industrial profit which the industrialists paid to the owners of the loan-capital and land he used. Since to Smith the only source of value was labour, profit appeared as a deduction from the value created by the workers' labour. Adam Smith stated bluntly that profit bears no resemblance to wages, that it rests on a quite different basis and has no relation to the amount, arduousness or difficulty of the supposed supervision and managerial labour, that generally speaking, profit was determined by the value of the capital used in an undertaking and was to a greater or lesser degree dependent on the size of the capital used.

David Ricardo was even more consistent in his treatment of profit as a result of the appropriation of the unpaid labour of others. Proceeding from the fact that the value of a commodity is a given magnitude and cannot be changed by the capitalists at will, David Ricardo made the size of profit inversely dependent on the size of wages: the greater the share of profit in the value of product, the lower the share of wages and vice versa. To Ricardo, wages were an independent variable which rose or fell depending on the level of productivity in the industries providing the means of subsistence for the workers.

As true representatives of their class, which personified social progress at the time, the classicists, notably Adam Smith, attached great importance to the accumulation of capital. The principles of thriftiness, personal asceticism and productive use of capital which the author of *The Wealth of Nations* advocated, played as it were the role of the eleventh commandment for almost a century and a half; and although far from all powers that be followed it, no one would challenge its validity.

The classicists did make a contribution of their own to the effort to discover the nature of capital. However, they regarded capital as little more than an accumulated stock of things and money essential to production and circulation.

Adam Smith actually claimed that the capacity to bring profit is dependent on the size of the stock: a small stock would only suffice to cover consumption needs, a bigger stock may be used for production and may, therefore, yield a profit. He failed to see any qualitative or social distinction between these two kinds of stock. To give Adam Smith his due it is fair to say that he made a shrewd conjecture that profit was a product of capital "commanding labour" but, nevertheless, he failed to pinpoint a specific source of profit.

For the classicists, the role of the various ingredients of capital in the origin of profit remained unclear. Smith drew a line of distinction between fixed and circulating capital proceeding primarily from the natural properties of their constituent objects. He included in the circulating capital food, raw materials and finished goods as well as money, i.e. all objects which are used singly in the process of production and objects used in the sphere of circulation. To Adam Smith, fixed capital was a set of material elements of multiple use in production (plant and equipment, buildings for commercial and industrial purposes, improved land) and also acquired useful faculties and skills of ail members of society. According to Adam Smith, fixed and circulating capitals were capable of yielding profit by themselves, although to realise profit from fixed capital, involvement of the circulating capital was required. He left unanswered the question

why these two kinds of capital yielded profit and what was the difference of the incomes derived from them.

As a more consistent advocate of the labour theory of value, Ricardo considered that the main role of capital was one of providing the means of subsistence for wage labour. He failed, however, to explain the role of other ingredients of capital.

The founders of bourgeois political economy could not disclose the socio-economic nature of capital. Paradoxical as it may sound, it was not capital but labour that was at the centre of "the system developed by these outstanding ideologists of the bourgeoisie, although they failed to identify the specific features of the capitalist mode of production. This failure left their theories full of unresolvable logical contradictions.

"The duality of Adam Smith" has long become proverbial. The root cause of this duality is Smith's methodology with its eclectic lumping together of analytical and descriptive methods. Needless to say, it would be absurd to reproach Adam Smith for his attempt to give a comprehensive description of the economic life of the society he lived in. Adam Smith's mistakes, as the Soviet student of his political economy V. Afanasyev notes, are attributable to the fact that "he placed two different results of his research side by side, thereby identifying them and obtaining two, three (and at times even more) 'substances' of one and the same phenomenon. Smith did not understand the relation between the external appearance of phenomena and their intrinsic essence, he failed to explain this external appearance by means of analysing the essence of phenomena".[1]

Let us examine Smith's definitions of value and the relation between value and the incomes of the agents of production who participate in creating a particular product. What Adam Smith meant by "value" was not only the quantity of necessary labour embodied in the commodity in question, but also the quantity of labour which one can obtain by selling this commodity on the market. It would seem that the distinction is unimportant given that commodities are

[1] V. S. Afanasyev, *Stages in the Evolution of Bourgeois Political Economy*, Moscow, 1977, p. 74 (in Russian).

exchanged on the basis of their value. But, and this is precisely the point, the first definition expresses the essence of value, while the second one—any of the chance manifestations of the essence of *other* commodities in the sphere of circulation. Therefore, chance circumstances such as fluctuations of the supply and demand ratio may cause the second measure of value to deviate from the first one.

It should be noted that even Smith's first definition failed to disclose the true nature of labour value. Like other classicists, he treated value in the spirit of metaphysical mechanicism. To him, value was nothing more than a quantity rather than the product of the historically determined social relations among the commodity producers. And it was quite logical, since Smith saw capitalism as a natural, eternal order and its laws—as the universal laws of an enlightened egocentric mankind. However, the concept of labour value, as interpreted by Adam Smith, came into conflict with reality the moment he attempted to extend it to the real capitalist economy.

If exchange based on value is the law of commodity circulation, then the worker should be rewarded for bis labour with wages large enough to acquire means of subsistence worth an equivalent value. For his part the capitalist by selling the product of the worker's labour at its value should receive a sum equivalent to the worker's wage. In other words, in the world of commodity exchange based on value there is no place for capitalist profit. But since capitalists do exist, we have no choice but to assume that the law of value either does not operate or, if it does, it does so differently from the way Adam Smith described.

Adam Smith attempted to resolve this contradiction by asserting that both definitions of value were valid in "the primitive state of society"—a hypothetical community of ordinary commodity producers who do not use wage labour. Under capitalism, as Adam Smith imagined, value was a derivative of the factor incomes such as wages, profit and rent. But having identified this (an essentially obvious fact of capitalist reality) Adam Smith unwittingly cast aside the only possible basis for investigating commodity economy—the concept of labour value—and found himself inside a vicious circle. Indeed, the incomes making up the value of

a commodity are themselves values, more specifically, parts of the value of the given commodity. The size of the incomes is a derivative of the market price of the commodity and the latter may be explained within the framework of the classical system only in terms of the value of a commodity.

By reducing value to the incomes of the production factors Adam Smith ignored the fact that the value of the commodity is not exhausted by the new value created during its production. The celebrated Smith dogma does not explain what happens in the course of production to the value of the object of labour and the tools of production.

The logical and sharp mind of David Ricardo, whose works mark the pinnacle of classical bourgeois economics, could not come to terms with the glaring contradictions of Adam Smith's definitions. Ricardo attempted to prove that the law of value in the sense of the first definition operated in a capitalist economy as well. However, not only did he fail to resolve the above-mentioned paradox, but he ran up against a new one. If, as Ricardo claimed, profit is determined only by the quantity of live labour used by the capitalists, different capitals should have different rates of profit. In labour-intensive industries profit should be high and, on the contrary, low in capital-intensive industries. However, in the first quarter of the 19th century, when Ricardo was writing his works the law of free competition had fully asserted itself—equal capitals as a rule yielded equal profits irrespective of the sphere of capital application. The reason for the existence of the average rate of profit—the migration of capital from less profitable industries to more profitable ones—was fully revealed. Ricardo's attempts to minimise and, in effect, ignore this fact were unconvincing not only in the eyes of an economist-theoretician, but even in those of any practicing capitalist.

But it was by no means its theoretical mistakes that played the decisive role in the disintegration of the classical school. Its downfall was due to radical changes in the real conditions of social life.

In the latter half of the 17th century capitalism was the trend setter of social progress, but it was the dominant mode of production only in Holland where a bourgeois revolution had been made as early as the 16th century. In other West European countries, above all in England, capitalist manufactories were proliferating, well-to-do farmers appeared in the countryside who maintained a capitalist-type system of farming. However, the bulk of the population was as yet largely outside the capitalist mode of production.

Within the manufactories, these early islands of industrial capitalism, manual labour was predominant and the relations between the capitalists and the workers were largely of a distinct patriarchal character. The shadow of feudalism was still hanging over the bearers of the new, bourgeois relations, and the inevitable conflicts within manufactories were like child's play compared with the intense hatred which the bourgeois employers and their employees felt towards the decendants of feudal lords, who held the reins of political power. This was an era of bourgeois revolutions during which all representatives of the "third estate" were natural allies. Capitalism symbolised progress and freedom, and seemed a natural order ideally suiting human nature.

By the 1830s the bourgeois system held a position of unchallenged dominance in England and was gaining ground in other countries of Western Europe and North America. Formation of capitalism in these countries was nearing completion. The industrial revolution provided a qualitatively new material and technical basis of production, and prepared the ground for an explosive progress of productive forces. The manufactories were superceded by a factory system with its machine production. Sucked into the orbit of capitalist relations was not only the majority of the populations of the more advanced bourgeois states, but also the peoples of semi-dependent and colonial countries. The elimination of the last vestiges of feudalism and the formation of a system of bourgeois democracy were in the offing in Western Europe.

By then internal contradictions of the capitalist mode of production had clearly revealed themselves.

Starting from 1825 the capitalist economy was rocked by cyclical crises of overproduction which occurred with something like an astronomic regularity. On the other hand, the colossal growth of industrial might and social wealth produced a legion of wage labourers. They worked 14 to 16 hours a day in cramped smoke-filled workshops exposing

themselves to the danger of injuries and occupational disease. The factory owners widely employed the cheap labour of women and children. Their wages were scarcely enough for the majority of workers and their families to keep body and soul together. In the years of crises they swelled the ranks of the reserve army of labour deprived of any means of livelihood whatsoever. A graphic example of the gulf that separated the once united "third estate" was the appearance of new factory towns with their typical crying contrasts between the luxurious mansions of bourgeois employers and the pathetic squalid hovels of the workers' suburbs.

The 1830s witnessed workers' unrest and disturbances, the appearance of the first trade unions and workers' co-operatives, the first attempts at the political organisation of the proletariat and the widespread dissemination of socialist doctrines. The conflict between the bourgeoisie and the working class in the industrialised countries became the principal contradiction of their social life.

Naturally, political economy, as the science of human relations in the production and distribution of social wealth, could not have remained on the side-lines of this conflict. The ideologists of the confronting classes sought to find in the works of economists an explanation of the acute social problems and a justification of their cause. What earlier had been a search for universal truth was now acquiring a definite class tinge and became a source of tense political passions.

Marx wrote: "Political economy belongs to the period in which the class struggle was as yet undeveloped. Its last great representative, Ricardo, in the end, consciously makes the antagonism of class interests, of wages and profits, of profits and rent, the starting-point of his investigations, naively taking this antagonism for a social law of Nature. But by this start the science of bourgeois economy had reached the limits' beyond which it could not pass."[1]

For several decades after the death of Ricardo the epigones of the classical school continued to popularise his ideas in an attempt to get on with their research basing it on his methodology. The spectacular growth of industry and commerce, the progress of commodity exchange and credit facilities, the ridding of capitalist enterprise and competition from the fetters of feudal survivals combined to provide economic investigators with a wealth of empirical data. Generalising this vast body of material the followers of Ricardo had to take into account not only the fact that the development of free-competition capitalism had accentuated still further the theoretical paradoxes of the Ricardo doctrine, but also the fact that an intensifying class struggle posed new questions before political economists. Marx wrote: "Men who still claimed some scientific standing and aspired to be something more than mere sophists and sycophants of the ruling classes, tried to harmonise the political economy of capital with the claims, no longer to be ignored, of the proletariat."[1]

Prominent among those men was John Stuart Mill. The duality of his class position was matched by the duality of his methodology. "Flat syncretism" is how Marx described his attempts to reconcile the irreconcilable, to unite eclectically mutually exclusive explanations of one and the same phenomenon.

On the one hand, Mill repeated Ricardo's thesis to the effect that profit is the unpaid labour appropriated by capital. He emphasises that capital has no productive power. *"Productive power of capital"* Mill explains, "can only mean the quantity of real productive power which the capitalist, by means of his capital, can command."[2] On the other hand, Mill without batting an eyelid says in the next breath the exact opposite, namely, that profit is the combined result of the payment for supervision over labour and the payment for the capitalist's refraining from consumption, and consequently, is not a deduction from the value of the product created exclusively by the wage labourers.

Marx in generalising his thorough analysis of the English literature on the subject wrote in 1851: "Essentially, since the days of A. Smith and D. Ricardo this science has not advanced even though there has been respectable progress in individual areas of economic research often involving a

[1] Karl Marx, *Capital,* Vol. I, Progress Publishers, Moscow, 1974, p. 24.

[1] Ibid., p. 25.
[2] Karl Marx, *Theories of Surplus-Value,* Part III, p. 236.

great deal of refinement."[1] What is more, Mill's works presented clear evidence of the insolvency of bourgeois political economy despite its ambitious claims to scientific character. In the mid-19th century while continuing to advance industry and science the bourgeoisie had already become a profoundly conservative class in the matter of social relations. A truly scientific, unbiased analysis of the realities and prospects of social development came into conflict with the class interests of the bourgeoisie which was becoming increasingly more interested in justifying the status quo and in holding back the rising tide of the working-class movement. Ricardo's bluntness in stating the polarised opposition of class interests was becoming harmful and dangerous. That is why long before John Stuart Mill came on the scene the Ricardo doctrine had undergone gradual disintegration.

The popularisers of Ricardo such as James Mill and John McCulloch departed from what was the hard core of the Ricardo system—labour theory of value—in an attempt to resolve the notorious paradoxes. They claimed that the value of a commodity includes wages and profit because capital is accumulated labour participating in production alongside the living labour. But this is no explanation since the capitalist has to pay the full cost of the means of production which is then transferred to the product. And the resultant formula again leaves no place for profit. Aware of this Ricardo's popularisers went a step further. They claimed that the value of capital in production is not only retained, but actually increases, since accumulated labour also "works". This argument undermined the very foundation of the labour theory of value for accumulated labour is not labour in the literal sense of the word, but rather its materialised and alienated result. If one were to follow the logic of Mill and McCulloch one would have to recognise as the source of value not only labour but the various physical properties of a great many things used in production as well. Thus, the scientific basis for explaining phenomena of commodity exchange, i.e. the very *raison d'être* of the labour theory of value, was lost. Actually from values Mill and McCulloch slithered back to indefinite prices. For if we assume that

[1] Marx/Engels, *Werke*, Bd. 27, Dietz Verlag, Berlin, 1973, p. 228.

"the value" of a product equals 100 because the "value" of labour just as the "value" of the things making up the capital equals 50, the legitimate question arises: what is it that determines "the value" of the latter? Such questions would be endless.

The popularisers of Ricardo were obviously losing ground and in the depth of the Ricardian trend the first albeit timid voice of subjectivism was heard: is it not possible to find the ultimate basis of prices in man, but not in his material activity such as his labour but rather in the subjective assessment of his personal burden and toil? Attempts were made to explain the "value" of labour by the degree of the "burdens of labour" and the "value" of capital, by the "burdens of abstinence" (Nassau Senior).

The disintegration of Ricardianism was part of the general evolution of bourgeois political economy. In the new historical setting, as Marx pointed out, "its professors fell into two groups. The one set, prudent, practical business folk, flocked to the banner of Bastiat, the most superficial and, therefore, the most adequate representative of the apologetic of vulgar economy; the other, proud of the professorial dignity of their science, followed John Stuart Mill in his attempt to reconcile irreconcilables".[1] Marx considered the year 1830 as the turning-point in the development of bourgeois political economy when "in France and in England the bourgeoisie had conquered political power. Thenceforth, the class struggle, practically as well as theoretically, took on more and more outspoken and threatening forms. It sounded the knell of scientific bourgeois economy. It was thenceforth no longer a question, whether this theorem or that was true, but whether it was useful to capital or harmful, expedient or inexpedient, politically dangerous or not. In place of disinterested inquirers, there were hired prizefighters; in place of genuine scientific research, the conscience and the evil intent of apologetic".[2] Naturally, this scathing description by no means applied to all bourgeois economists for among them there were still quite a few subjectively honest scholars who were looking for truth. However, owing to the circum-

[1] Karl Marx, *Capital*, Vol. T, p. 25.
[2] Ibid.

stances mentioned above, their efforts were doomed. Vulgar political economy was in the ascendent in the world of bourgeois economic thought.

Now what did Marx mean by this term? To quote Marx: "Vulgar economy actually does no more than interpret, systematise and defend in doctrinaire fashion the conceptions of the agents of bourgeois production, who are entrapped in bourgeois production relations."[1]

In other words, vulgar political economists confined themselves to the consideration of only external forms of economic phenomena as they were seen by the participants in capitalist production. From this standpoint, vulgar economic theories may be based either on the ideas of capitalists or on those of representatives of other classes, say workers, petty-bourgeois elements or landowners. The history of economic doctrines knows examples of this kind. However, it is for the most part bourgeois political economy that is vulgar, and it is by no means fortuitous that it should be that way. In the course of historical evolution it turned out that marking time while touching only on the surface of phenomena, the replacement of a scientific analysis of these phenomena by a mere systematisation had far-reaching ideological consequences. Indeed, in confining himself to a description of society in which the bourgeoisie is predominant, the investigator deprives himself of the opportunity to understand the reasons for this state of affairs and the trends of further development. Bourgeois political economy is, generally speaking, bourgeois since it regards the capitalist system not as a passing phase of history, but as an absolute, final form of social production. The vulgar method is ideally suited for absolutising existing order of things and as such is essentially apologetic. As Marx put it: "The well-meaning desire to discover in the bourgeois world the best of all possible worlds replaces in vulgar economy all need for love of truth and inclination for scientific investigation."[2]

The vulgar method is the exact opposite of its scientific counterpart in that it recognises only the external appearance of phenomena. But we all know, of course, that if the

[1] Karl Marx, *Capital*, Vol. III, Moscow, 1974, p. 814.
[2] Ibid. p. 844.

form and substance of things were the same, there would be no need for any science. The *raison d'être* of science is precisely to see behind the external appearance of phenomena, often paradoxical, the laws that govern their movement and development.[1]

While subjecting to merciless criticism the vulgar economists of his day, Marx was careful to remark on the shifting boundaries between scientific and vulgar trends in political economy. He wrote: "Vulgar economy in its early stages does not find the material fully elaborated and, therefore, assists to a certain extent in solving economic problems..." The subsequent vulgar economist "needs merely to busy himself with plagiarism and attempts to argue away the *unpleasant* side of classical political economy".[2]

Can one describe as vulgar modern, "pure" economic theory which uses not visible facts, but complex abstractions which are beyond the comprehension of all but the expert? To answer this question objectively we have to examine more closely some of the ideas of the 19th-century vulgar political economy.

The French populariser of Adam Smith, Jean Baptiste Say, was the father of the vulgar approach.

For a number of historical reasons the bourgeois revolution in France occurred later than in England and the Netherlands, but the historical limitations of capitalism and the

[1] The difference between vulgar and scientific political economy is in many ways akin to the difference between the systems of Ptolemy and Copernicus in astronomy. Ptolemy explained the construction of the Universe proceeding from "the obvious" fact of the Sun's movement across the Earth's firmament. Copernicus disclosed the internal laws of heavenly mechanics, seemingly contrary to the obvious ideas of the earthlings.

Copernicus has been fully borne out by the subsequent development of astronomy. In our own days no one would be so foolish as to defend the Ptolemy system not only because it is absurd, but also because no personal or group interests are any longer behind it. But note, and this is important for understanding the persistence of vulgar economic theories, that should anyone now wish to do so, his attempt would not be totally hopeless despite the false nature of his point of departure: the Ptolemy system does provide an opportunity to calculate correctly some of the quantitative parameters characterising the mutual position of the Earth and the Sun.

[2] Karl Marx, *Theories of Surplus-Value*, Part III, pp. 501-02.

class antagonisms inherent in it came to life in France earlier than in these two countries. As early as the start of the 19th century the first works of Utopian socialists Saint-Simon and Fourier appeared. Utopian socialists were spokesmen for the interests of the toiling masses. That is why the historical need to justify capitalism was felt in France earlier and more acutely than, say, in England. This need was filled by the works of Say who enjoyed tremendous influence among the French bourgeoisie even in his lifetime.

Say's vulgarising work revealed itself above all in that, having taken advantage of the duality of Adam Smith's methodology, he borrowed from it its superficial, non-scientific elements and then developed them to fit the conditions of his day. In fact, Say succeeded in reversing the onward march of classical political economy, which went from the description of the external forms of production to gaining an insight into its essence.

Characteristically, Say ignored the social content of economic processes and focused his attention on their material form. Thus, Say turned commodity, that dialectical unity of value, use-value and exchange-value, into a vehicle of good and utility. He saw production exclusively as transformation of one set of useful things into another, and exchange, as a matter of use-values changing hands physically. To him, value and quantity of utility were equivalent terms.

But "the quantity of utility" both in the early 19th century and today was and is a rather mystic notion. The quantitative relations of use-values are established through their exchange-values, while the latter have to be determined by a common measure—value. The price of one kilogramme of coal on the market is equivalent to the price of three kilogrammes of grain not because the specific utility of coal is three times that of grain. Both coal and grain possess several useful qualities and can be used for different purposes and for this reason a quantified "utility" attributed to them is an empty, unprovable abstraction. Utility is always specific and implies which of the many different useful qualities of a commodity is useful, useful to whom and in what situation.

Having failed to establish a monistic principle of commodity circulation and price formation, Say quite logically arrived at the conclusion that price is the resultant of several interconnected factors, such as utility, scarcity, demand and supply. In this scheme there is no place for the determinism of Adam Smith—Say was the pioneer of functional analysis which examines quantitative interrelations rather than the final causes of economic phenomena.

To Say, labour was a use-value, a "service" rendered by the worker in the course of production. How and why a working class appears, why it is capable of rendering specific "services", what makes the workers render those services, why they exist and reproduce themselves—these questions were of no interest to Say, who confined himself to examining the external appearances of the capitalist mode of production in the course of which equivalent "services" rendered by the worker, the capitalist and the landowner combine to yield a product whose size is determined by the "productivity" of labour, capital and land, while its value is made up of wages, profit and rent.

In advancing the idea of the equivalent productivity of the factors of production in opposition to the labour theory of value Say and his followers appealed to facts. Indeed, is it possible to obtain a product using labour alone without having anything to apply this labour to, without the tools of labour? Are not all the three factors equally necessary to create a product and, consequently, its value? Is the market mechanism not proof enough of this obvious truth daily and hourly with more or less essential disturbance of the equilibrium between them? At first sight, all these arguments are not without common sense, but nonetheless they are unsound. For they are based on a confusion of two qualitatively different things—"*productivity*" of factors and the *correlations* of factors in the process of production.

That factors of production are a reality, that the technology of manufacturing products demands combining factors in necessary proportion and not arbitrarily, is beyond question. But the theory of the factors of production does not stop there. From the techno-economic proportionality of factors follows the conclusion about their "productivity", i.e. the socio-economic identity of labour, materialised elements of capital and the materials supplied by Nature, as objects of private property which is what gives their owners an equal claim to an equal share in the distribution of the end product.

However, as John Locke earlier demonstrated, there are two kinds of private property—a kind that arises as a result of a man's personal work and a kind that arises as a result of a person appropriating the forces of Nature or the results of the work of others.

Ordinary common sense tells us that different factors of production have widely different roles to play in the process of production. Human labour is a conscious and purposeful, creative factor, while the land and capital are passive prerequisites of labour. Labour is inseparable from the personality of its "owner",[1] is the materialisation of his energy and skills, while land and capital can be and actually are alienated without losing anything of their "productivity". In other words, the right to claim an income from labour arises from one's labour, while the right to an income from land and capital is secured by the right of private property. Eliminate private ownership of the instruments of labour and means of production and the "eternal" and "natural" shares of land and capital in the distribution of the product will vanish instantly.

The "threefold" formula seems to be eternal, natural and inevitable because from the standpoint of material content any type of production includes the productive employment of living labour, of the results of past labour and the use of natural resources. In Marx's phrase: "This is a return not only to the time before capitalist production, but even to the time before there was simple commodity production."[2] Incidentally, it would have been hard for Say's disciples to explain why the "eternal" figures of capitalist, wage labourer and landowner, the rent recipient, came on the stage of history only in the late 15th century and why they began to disappear in the 20th century, when the transition from capitalism to socialism began.

The father of vulgar political economy in England was Thomas Malthus, a resolute opponent of Ricardo. It seemed to many contemporaries of Ricardo that Malthus' views had not half a chance of success in the struggle with the brilliant

[1] The word "owner" is used in inverted commas since a hired labourer, as we will see later, disposes of his labour force, not labour.

[2] Karl Marx, *Theories of Surplus-Value,* Part II, p. 501.

Ricardian system. Analysing the polemics between them Marx noted that "childishly weak, trivial and meaningless Malthus is when, basing himself on the weak side of Adam Smith, he seeks to construct a counter-theory to Ricardo's theory, which is based on Adam Smith's stronger sides".[1] However, it was not the intellectual power of the opponents that decided the outcome of their dispute. Already a few short years after the death of Ricardo the majority of his followers in effect deflected to the positions of vulgar political economy.

Apologetic political economy was acquiring more and more converts in other countries embarked on the path of capitalist development—the USA, Germany, etc., and it gradually ousted members of the "objectivist camp".

2. THE SWING TO SUBJECTIVISM

It was a salient feature of both the vulgar and the "objectivist" branches of bourgeois political economy in the mid-19th century that both were closely bound up with classical bourgeois political economy.

In revising the doctrine of Adam Smith, Say professed that he was no more than its populariser. He emphasised the objective character of economic laws and the decisive role of material production in social life. He even regarded his notorious "quantity of utility" as an objective category. Thomas Malthus proclaimed himself to be an advocate of the labour theory of value. However, he failed to contribute to political economy anything new, having confined himself to giving a vulgar interpretation to the doctrines of the classicists.

Following the publication of Marx's economic works, this distinctive feature of bourgeois political economy came into a sharp conflict with the interests of the ideological defence of the capitalist system, and became a veritable curse on bourgeois political economy.

The revolutionary upheaval in economic theory that Marx worked was based on a creative development of the scientific elements of the doctrines of Adam Smith and David Ricardo.

[1] Karl Marx, *Theories of Surplus-Value,* Part III, p. 53.

In his works, notably in his *Theories of Surplus-Value,* Marx showed what conclusions the starting premises of the classicists logically led to. It became plain that by remaining if only formally on the position of the labour theory of value it was impossible for anyone to seriously negate the appropriation of surplus-value.[1] The inherent contradictions of the vulgar theories weakened the positions of the bourgeoisie in the intensifying class struggle. The logic of this struggle dictated the need for a complete renunciation of the legacy bequeathed by the classicists. This command of the time was translated into life by the Austrian school of political economy.

That the desire to disprove Marxism was something in the nature of a lodestar for the theorists of this school is beyond any doubt. John M. Clark noted: "The marginal theories of distribution were developed after Marx; their bearing on the doctrines of Marxian socialism is so striking as to suggest that the challenge of Marxism acted as a stimulus to the search for more satisfactory explanations. They undermine the basis of the Marxian surplus-value doctrine by basing value on utility instead of on labour cost and furnish a substitute for all forms of exploitation doctrine, Marxian or other, in the theory that all factors of production are not only productive but receive rewards based on their assignable contributions to the joint product."[2]

The Austrians were the first to realise that the umbilical cord with the classical school had always been and would remain a veritable Achilles' heel for any theory postulating or based on the natural origin and just nature of the capitalist system. The remedy they offered for curing the preceding vulgar economy of its inconsistences and other ills was straightforward and clear-cut: abandon classical doctrines and develop a new monistic solution to the basic problems of political economy. It was not without reason that bourgeois historians of economic thought have described, albeit with a touch of irony, Bohm-Bawerk who was the most brilliant

1 More on this in Chapter V.

2 John Maurice Clark, "Distribution". In: *Readings in the Theory of Income Distribution*, The Blakiston Company, Philadelphia, Toronto, 1946, pp. 64-65.

and prolific representative of the new school of thought, as the "bourgeois Marx".[1] Rejecting any kind of duality he called for a theory which would deduce all phenomena of value from one and the same source and give them a most exhaustive explanation at the same time.[2]

The search for just such a source was conducted from positions diametrically opposite to the principles of classical political economy. Whereas the classicists waded through the chaos of economic phenomena in search of objective laws and regularities subject to no human will or consciousness, the Austrians thought it sufficient to put subjective perceptions and ideas into a neat system, and spurn the rest as so much "metaphysics". Not surprisingly, therefore, that instead of the materialistic approach they placed at the centre of their system an idealist approach, which led them to give precedence to consumption rather than to production, and to utility rather than costs of production.

To design a new system they needed above all a definition of value. It should be noted at this point, that value, a traditional term of political economy, may conceal widely different kinds of content. With the classicist, value was an objective category, a quantity of labour materialised in a commodity. To the Austrians, value is a subjective category, an estimate of utility which has no direct bearing on labour inputs.

Menger, Wieser, Bohm-Bawerk and their followers assumed that each seller and each buyer enter the market having a particular scale of subjective estimates of material benefits—the use-value of commodities purchased for personal consumption and the exchange-value of commodities offered for sale. The use-value of a thing according to the views of the Austrian school is determined by the size of its maximum usefulness to a particular person. The size of the subjective exchange-value of a thing coincides with that of the use-value of the material benefits exchanged for it. An objective exchange-value and a real market price are arrived at in the course of competition of sellers and buyers. The lowest

1 Joseph A. Schumpeter, *History of Economic Analysis,* Oxford University Press, New York, 1954, p. 846.

2 Eugen von Bohm-Bawerk, *Grundzüge der Theorie des wirtschaftlichen Güterwerts,* 1903, p. 92.

possible price is determined by the subjective assessments of the least interested buyer and of the most interested seller, who, for this reason, is inclined to make concession to the buyer. The highest possible price is determined by the subjective assessment of the most interested buyer and the least interested seller. Although competition makes the participants of the market exchange sell and buy at roughly the same level of prices, price, as Bohm-Bawerk claimed, was the product of subjective definitions of value from start to finish.[1] Each participant in economic activity is portrayed by the Austrian school as *homo economicus*, a constantly calculating machine ruled exclusively by the hedonistic impulses of pleasure-seeking and suffering.

The first question that arises concerning such an approach is this: what is the measure of the value of capital and labour that are not objects of personal consumption? Naturally, even the early theoreticians of marginal utility could not afford to by-pass this problem. Menger drew a line of distinction between immediate consumer benefits and "the benefits of a higher order". According to Wieser, the latter have value only inasmuch as they serve the production of consumer benefits their exchange-value being determined by the marginal utility of the least valuable product which can be produced with their help. To determine the value of each individual production benefit Wieser proposed to use a method of imputation, whereby this value is established by determining the share of the particular benefit in the value of the end product. Economists of the Austrian school hoped that his approach would enable them not only to lift the main theoretical stumbling-block of their theory, but also to explain the origin of capitalist income. In the difference between these two kinds of benefits they saw, in the words of Bohm-Bawerk "that fold which conceals profit on capital"[2].

The Austrian theory of capital was elaborated in a most comprehensive form by Bohm-Bawerk who began with a detailed criticism of his predecessors. With characteristic polemic boldness and brilliance he went hammer and tongs at just about every view that was dominant at the time. He

1 Eugen von Bohm-Bawerk, op. cit., p. 159.
2 Ibid., p. 100.

demolished what he described as "dull, colourless theories" of most of the followers of the classicists, along with the "naïve" and "motivated" theories of physical and value productivity, the theory of abstinence and the theory of entrepreneurial work. He gave special attention to a critique of socialist doctrines, above all Marx's theory of surplus-value.

As for his criticism of Marx, Bohm-Bawerk s conceptions from the very beginning were marked by a paradox, which eventually made it untenable. On the one hand, he lashed out at all other bourgeois theoreticians of capital for their attempt to explain profit empirically, for their failure to draw a line of distinction between the reason for the existence of interest and the factors determining its size. On the other, in criticising the monistic doctrine of surplus-value he thought of nothing better than countering this doctrine with concrete factors of competition and price formation, which were set out by Marx in his theory of the price of production but which allegedly were left out of account in his theory of value (the famous contradiction between the first and third volumes of *Capital*, of which more later). In an attempt to counter Marx's doctrine with a monistic scheme, Bohm-Bawerk in his search for a universal substance of capital's self-growth turned to such a factor as time.

This choice was not without a definite economic sense. Indeed, production is a dialectical unity of space and time factors, and capital is the category in which this unity finds its most graphic expression. Classical economists accepted as a deliberate assumption that in the course of the circulation of an individual capital social cost proportions remained unchanged. The entire structure of Böhm-Bawerk's system is based on negating this assumption.

He postulated that the value of current benefits, all the other things being equal, is always greater than the value of the same benefits in the future. Bohm-Bawerk explained this rather peculiar phenomenon by pointing to two factors of a psychological nature: the alleged underestimation by most people of the size of future needs and their overestimation of future resources available to meet them. This, in his view, is the explanation for the existence of interest: people exchange a particular sum of future commitments for a

smaller sum of money as the quantity of consumer benefits which they can buy with this money today is to them just as valuable as a greater quantity of the same benefits in the future. The exchange of unequal quantities of current and future benefits was regarded by Bohm-Bawerk as an exchange of equivalents which made it possible, so he believed, to dispense with the problem of exploitation once and for all. To him, interest was an eternal, natural feature of economic relations independent of the prevailing social system and the capitalist catches nothing more but the agio—the difference in the value of current and future benefits.

Wishing to provide a more substantial justification of "time preference", Bohm-Bawerk reinforced the two subjective-psychological arguments in favour of the existence of interest with a third, "real" argument: the use of the stock of current consumer benefits for productive purposes secures the receipt of a greater quantity of benefits in the future. This occurs above all when labour is hired at the expense of the "equivalent" exchange of current consumer benefits (wages) for a greater amount of future benefits—labour. However, the size of profit is not merely a matter of the difference between the values of the two sets of benefits.

The utilisation of current benefits for hiring labour and its maintenance for a more or less prolonged period, makes it possible to use more productive "roundabout" or indirect methods of production.

To corroborate this thought representatives of the Austrian school resorted to their pet method—the Robinson Crusoe saga. If Robinson Crusoe, their argument ran, had used part of his efforts for making a hoe, an axe and a fishing net, rather than for picking wild berries, building an improvised hut of tree branches and catching fish with his hands, the reserve of consumer benefits available to him during the base period would have shrunk. On the other hand, he would have tools of labour enabling him in the subsequent period to obtain far more consumer benefits than would have been possible without this intermediary stage. Bohm-Bawerk extended this crude scheme to a developed capitalist society. In the case of Robinson Crusoe capital is the amount of the potential consumer benefits which the prudent cast-away foregoes in order to make tools of labour. In capitalist society capital

is the sum of consumer benefits saved by the capitalist to provide for the upkeep of workers at different stages of production. Bohm-Bawerk assumed that the productivity of "roundabout" methods was directly proportionate to their duration. The interim period between the start of the production of indirect benefits and the output of consumer benefits was described by him as a period of production.

Of Böhm-Bawerk's three justifications for the existence of interest two are of a purely psychological nature. Actually, they prove nothing, and are in the nature of a suggestion and themselves have to be explained. Does "time preference" exist in reality? It is quite possible that in capitalist society the property classes, the owners of capital (but by no means the entire population) do indeed count on an uninterrupted growth of resources at their disposal. It is not to be ruled out that the "insufficiency of imagination", as Bohm-Bawerk supposed, leads them to underestimate their future needs as well. But it would be far more logical to explain the willingness to pay interest by the firm knowledge that the productive employment of capital would without fail yield a profit large enough to cover interest.

The hollowness of the principle of different psychological values of current and future benefits is particularly clearly seen in the sort of market transactions which are of decisive importance for the theory of capital—the purchase and sale of labour power. Both workers and their employers in reality are guided by quite different motives than those imputed to them by the theory of marginal utility. The workers are in no position to compare the utility of the consumer goods they buy with their wages to the burdens of their labour. Labour at a capitalist enterprise, its amount and quality is to them an imperative. Having sold their labour power to the employer they lose all control over the products of their labour and are completely excluded from the mechanism of establishing the "subjective and objective exchange-value" of the output of the enterprise. The idea that an individual worker may by means of imputation determine his contribution to the value of the product which brings together the value of the various means of production, materials and the labour power of his fellow-workers is quite absurd even from the standpoint of simple computation techniques. The capi-

talist, on the other hand, with his stable and high level of personal consumption is little worried by subjective assessments of current and future consumer benefits. The only thing that interests him is the monetary worth of his capital and his product. He values money at his disposal today far higher than future money, because ready cash enables him to increase his capital and obtain more money in the future through appropriation of unpaid labour.

As for the third substantiation, Bohm-Bawerk's remark on the inequality between wages and the product of labour is actually tantamount to an admission of the fact of capitalist exploitation, supplemented by the rather unconvincing psychological justification of the non-equivalence of the purchase and sale of labour power. The positive element in Bohm-Bawerk's discourse on the subject of "roundabout" methods of production lies in the fact that the application of more capital-intensive technology indeed creates the possibility of deepening specialisation and raising production efficiency. However, this process is far from being straightforward, especially inasmuch as it is affected by the factor of time. The growth of specialisation is discreet while profit exists permanently even under a stable system of the division of labour. What is more, within individual enterprises the real dependence between profit and the duration of production is directly opposed to Bohm-Bawerk's idea. Time lags yield a gain only in such productive processes as the ripening of agricultural crops or the maturing of wine and even then up to a certain time-limit; in all other cases they result in a loss. Of the various methods of production ensuring equal productivity the employer always goes for the shortest. Not lengthening but contracting the period of production along with specialisation is one of the laws of scientific and technical progress and the dynamic growth of capitalist economy. Bohm-Bawerk's attempt to explain the nature of capital by one or another aspect of its efficient utilisation proved no more successful than similar attempts made previously.

Having started out with a categorical rejection of the vulgar theories of capital he had in the end to borrow from them a whole number of basic elements. The idea of imputing the value of productive benefits was essentially akin to the theory of value productivity. The idea of the psychological difference of the value of current and future benefits is nothing more but the theory of abstinence projected into the future. Like his predecessors, Böhm-Bawerk ended up inside a vicious circle, when he attempted to explain capitalist income. The sole proof of the three substantiations of interest was, in the final analysis, the existence of the interest itself.

The Austrian capital theory represented, in effect, a step back compared with classical political economy or even its epigones. From an analysis of the commodity-monetary economy they reverted to analysing the subsistence economy, thereby hiding the contradictions of the fully developed capitalist economy behind a superficial analogies—Robinsonades, abstruse philosophising on the subject of "fundamental", "general", "natural" economic laws.

The implications of this replacement were so obvious as to be almost demonstrative. In the works of Bohm-Bawerk the characteristic features of the Austrian school found their most graphic expression.

Bohm-Bawerk's theory generated lively polemics and debate in his day and was subjected to sharp criticism not only by Marxists, but also by economists who by no means subscribed to Marxism. Modern Western students of economic doctrines are almost unanimous that Bohm-Bawerk's attempt to develop a monistic theory of capital ended in failure.[1]

But the chief reproach thrown at Bohm-Bawerk was that, having piled up a multitude of theoretical difficulties, he failed in his widely publicised intention to develop an al-

[1] "In order to make Bohm-Bawerk's conception of the structure of capital serve his analytic intention, this structure must be a physical fact; and the different quantities of product that different time-structures turn out must be comparable physically. In order to secure the first requisite, we need indeed a physically homogeneous resource, the elements of which differ in nothing but the time dimension; in order to secure the second requisite, the products that enter Bohm-Bawerk's tables must all be the same in kind and quality, differing in nothing but physical quantity. Neither requirement can be fulfilled except in special cases. And it is this which reduces the analytic value of Bohm-Bawerk's capital theory... to the non-operational illustration of an aspect of reality." (Joseph A. Schumpeter, *History of Economic Analysis*, p. 909.)

ternative to Marx's doctrine. What is more, Bohm-Bawerk's conception whether he wanted or not proved to be indirect corroboration of the correctness of Marxism. Seligman writes: "The agio arose from basic class relationships, with capitalists exploiting the workers. The fact was that Bohm-Bawerk's own process of valuation had put the surplus into the coffers of the capitalists. It was, after all, the system that generated exploitation."[1]

Böhm-Bawerk was the last of non-Marxist theorists who attempted to build a monistic theory of capital and profit. His failure had far-reaching implications for the subsequent development of bourgeois political economy. After him bourgeois authors abandoned for a fairly long time attempts with pretensions to a scientific approach to settle the issue of the origin of capital and embraced, instead, a frankly eclectical approach.

The moods of that period are well illustrated by the pronouncements of the Italian economist and sociologist Vilfredo Pareto, who held that the search for the source of interest was simply a mistake. The rate of interest, in his view, being one of the elements of the general equilibrium system, is determined simultaneously, with all its other elements, which makes it meaningless to look for a single source of interest. Pareto supposed that capital productivity presented no bigger problem than a cherry-tree bearing cherries. Other eclectic economists did not go quite so far in negating the existence of the problem of capital and profit, but after Bohm-Bawerk's failure a disguised departure from it was almost the rule. For fifty years after 1870 bourgeois political economy was, as one contemporary aptly put it, *kapitallose Wirtschaftstheorie*, the theory of an economy without capital.

Paradoxically enough despite the criticism of the theory of marginal utility and despite its rejection as a system by the majority of bourgeois economists, it nevertheless became the starting-point for the entire subsequent development of bourgeois political economy, especially for the evolution of the theory of capital. A radical swing to subjectivism delivered bourgeois political economy from the rudiments of the

[1] Ben Seligman, *Main Currents in Modern Economics. Economic Thought Since 1870*, The Free Press of Glencoe, New York, 1963, p. 309.

labour theory of value that weighed heavy on its chest. Marginalism furnished a universal method of research into the functional interdependence of empirical phenomena. Bohm-Bawerk's theory made a direct impact on the subsequent development of the non-Marxist theory of capital. As Schumpeter pointed out, it happened because it could be reduced to a simplified principle. "This simplified version reads like this: interest arises from the interaction of 'psychological' time preference with the physical productivity of investment".[1] In this diluted form Bohm-Bawerk's theory became the basis for all subsequent models although each author added special features of his own that did not as a rule meet with the approval of any considerable number of other authors.

Among Bohm-Bawerk's successors the Swedish economist K. Wicksell was a prominent figure. Having preserved the basic premises of his predecessor, Wicksell, at the same time, attempted to break free from the cramping fetters of Bohm-Bawerk's monism and rescue the principal postulates of the Austrian school by surrounding them with eclectically assembled "scaffolding".

In terms of political convictions, Wicksell typified well-wishing reformism, which sought to unite the liberal condemnation of the more inhuman aspects of the capitalist system and the substantiation of the inevitability of preserving it as a whole. Wicksell began his analysis with a proposition which seemed to exclude any apologetics. He wrote: "As soon as we begin seriously to regard economic phenomena *as a whole* ... consideration for the interests of the proletariat must emerge.... If, for example, we regard the working classes as beings of a lower type, or if, without going so far as this, we regard them as not yet being ready for a full share in the product of society, then we should say so clearly and base our further reasoning upon that opinion. There is only one thing which is unworthy of science—to conceal or pervert the truth; that is to say, in this case, to represent the position as if those classes had already received all they could reasonably wish or expect, or to rely upon unfounded, optimistic

[1] Joseph A. Schumpeter, op. cit., p. 930.

beliefs that economic developments in themselves tend to the greatest possible satisfaction of all."[1]

Wicksell's theory contains not a few realistic observations drawn from the practice of capitalist economy. In this respect it is far more substantive than the primitive schemes of the Austrian school. Thus, Wicksell stated bluntly that the first two substantiations of interest provided by Böhm-Bawerk "are only indirectly significant for the productive employment of capital. Those who borrow capital for the purpose of production, will not, because of anticipated future supplies or of subjective overvaluation, pay more in interest than they actually obtain themselves by the technical employment of capital."[2]

Wicksell's social conclusions were at times rather critical, while in some cases he unequivocally favoured "a collectivist system" over private enterprise. Thus, Wicksell attributed the subjective underestimation of future needs and overestimation of future resources, which Böhm-Bawerk remarked upon, to risk and uncertainty with regard to the future, characteristic of the capital system, and thought that" "a collectivist society would afford a much better guarantee for the rapid accumulation of capital". The capital saved by joint efforts would equally benefit the whole of society. Wicksell supposed and with good reason, that "it is precisely in a collectivist society that we should expect a progressive accumulation of capital until production was fully supplied with new capital and the national dividend reached its technical maximum—assuming that interest in the well-being in the future generations was not less than in existing society".[3]

Wicksell held that it was right to criticise capitalism. At the same time, his radicalism was unequivocally restricted within a reformist framework: the maximum he was prepared to attempt was to work out the question how "to obtain the greatest possible social gain, and what changes

[1] Knut Wicksell, *Lectures on Political Economy*, Vol. 1, George Routledge and Sons, Ltd., London, 1938, p. 4.
2 Ibid., p. 154.
[3] Ibid., pp. 211-12.

in the existing economic and legal structure of society are necessary to this end".[1]

Actually, Wicksell was the first to draw a clear line of distinction between "pure theory" and "institutional research" for purposes of apologetics. The logic of his system consisted in ascending from the elementary to the complex. Wicksell took the view that economic problems began not in exchange, but in one person settling the question of a rational employment of the stock available to him (for instance, a farmer deciding what to do with his grain: whether to use it as food, as seed, forage, or whether to distil it into alcoholic beverages, etc.). Unlike other supporters of the Austrian school he made no attempt to deduce all economic laws from Robinsonade. Wicksell maintained that more advanced forms of economic relations are matched by new and qualitatively different laws.

Thus, when two use-values are exchanged it turns out that the proportions of exchange are determined not only by the marginal utilities, but also by the scarcity of the commodities being exchanged. At the stage of mass exchange of the same kind of commodities powerful social forces come into play, such as demand and supply, which complicate the system of economic laws still further: demand is determined by the sum total of the incomes of the agents of production, supply—by the technology used and by other factors influencing the output of goods.

The next stage of the analysis, in Wicksell's view, should take into account the specificity of capital. He then passed on to a consideration of the competition among many capitals. He examined the special role of money separately, which Bohm-Bawerk, following the traditional view of money as a "veil" of material processes, in effect, ignored. All these elements in their totality, Wicksell believed, should furnish a scientific resolution of the problem of price formation.

According to Wicksell, the term "utility" reflects not just a subjective estimate of use-values, but an estimate which allows for particular social conditions. Therefore, "utility" has such a complex structure that an abstract use of this notion results in truisms.

[1] Ibid., p. 5.

Commodities are nothing more than aggregations of productive services. Productive services may, in the final analysis, also be offered in exchange for commodities. However, unlike the founding fathers of the Austrian school and many of the present-day bourgeois economists, Wicksell took exception to regarding the economic process as an indirect exchange of productive services in accordance with the usual rules of the market, without allowing for the independent role of production and productive capital.

In his theory of production Wicksell resurrected the conception of factors of production, which had been rejected by Bohm-Bawerk, and took a step forward towards the idea of marginal productivity of factors as a regulator of product distribution.

The starting-point of his theory of capital was a hypothetical instance of non-capitalist production, when the level of technical experience is low and production does not require a good deal of capital, when there is abundance of free capital and its economic significance is not great. There are owners of land and owners of "labour" who depend one upon another equally, production is maintained for a year at the end of which its fruits are distributed. During the year the workers maintain themselves with what they earn, and free competition reigns supreme. Assuming that the landowners are the employers, in accordance with the laws of diminishing returns they would be able to hire labour until the product of the last hired worker is worth less than his wages. If in this case a proportion of the workers is unemployed the level of wages will go down. Equilibrium is reached at the point of full employment, while the level of wages will be determined by the marginal productivity of labour. After the wages have been paid, the remainder of the product is rent or rather, to be more precise, rent and entrepreneurial profit together. Thus, wages are determined by marginal labour productivity, while the rent, by the difference between the product and wages, and is distributed in accordance with the soil fertility of individual land possessions. If a labourer or a third person acts as an employer and all land available for cultivation is uniformly fertile, the level of rent will be determined by the marginal productivity of land and the workers will be getting the remainder of the product as income. Thus, labour and land are rewarded in accordance with their marginal productivity respectively.

Wicksell examined the productivity of capital in the light of the above scheme. To him, capital was the products of past labour, which had a value and which increased the productivity of labour and land in current use (what Wicksell called "current" labour and land). Capital was just as indispensable for production as were land and labour. The task of the political economist, Wicksell believed, was above all to ascertain just how the product is distributed among the various factors of production, in other words, to ascertain the mechanism of imputation.

However, like Bohm-Bawerk, Wicksell could clearly see that such a theory of production, while capable of disclosing some of the aspects of the functional interdependence between the basic types of income in capitalist society, failed to supply the answer to the question of the ultimate origin of profit and rent. Like his predecessor, Wicksell associated the origin of profit with the time factor, although, doubtless, his version had the virtue of being more subtle. Wicksell did not deny that in a real sense, it is not capital but living human beings and the eternal forces of Nature, especially the Sun, the physical and chemical forces of the Earth that are really productive. However, he believed, the productivity of man and Nature increases if the process of production is directed not at manufacturing immediate items of consumption, but aims at more long-term goals, namely, capital formation. The increase in efficiency attained in this case is the source of interest, in the same way as the fertility of land is the source of rent and labour productivity the source of wages. However, it does not determine the rate of interest. A proportion of the surplus product obtained as a result of the investment of capital must go to other factors of production since their "co-operation" itself has been part of the employment of capital. To quote Wicksell: "Capital is saved-up labour and saved-up land. Interest is the difference between the marginal productivity of saved-up labour and land and of current labour and land."[1]

[1] Knut Wicksell, *Lectures on Political Economy*, pp. 153-54.

Wicksell made no bones about his apologetic stand on matters relating to the social nature of the capital as the instrument of the exploitation of hired labour power. The marginal productivity of "saved-up" labour and land, according to Wicksell, is greater than the marginal productivity of "current" labour and land only because the latter exist in a relative abundance, while the accumulation of capital is of a necessity subject to limitations. Not appropriation of unpaid labour on the basis of private ownership of the means of production but rather the relative scarcity of capital—this, to Wicksell, is the ultimate source of interest. He ignored the fact that an excess supply of labour is generated by the very nature of the capitalist mode of production, by its specific goal. He turned a blind eye to the overaccumulation of capital, to the situation so typical of capitalism where all three factors of production may be in relative abundance but fail to be employed because of the narrow goal of capitalist private enterprise.

Wicksell associated the growth of capitalist income with the lengthening duration of capital's functioning. He believed that a period of capital investment of from one to two years makes it possible to boost the productivity of the tools of labour in which "saved-up" labour and land are embodied. Therefore, the marginal productivity of a two-year capital is higher than that of a one-year capital, or "current" labour and land. The rate of interest on this capital should be higher accordingly. The state of equilibrium between "current" resources and one-year and two-year investments of capital is arrived at through fluctuations in the marginal productivity of the factors of production.

On this basis Wicksell put forward a series of proposals which have since become firmly established in the modern macro-economic theories of growth. In particular, he drew a distinction between the growth of capital in "breadth" and in "depth", or in the "horizontal" (spatial) and "vertical" (temporal) dimensions. The productivity of social capital was made dependent by him on its structure and on the size of the share of long-term investments in it.

Wicksell was one of the first bourgeois economists to have associated the analysis of real capital with the relatively independent role of money. He distinguished between the

"natural" rate of interest which reflects the marginal productivity of capital and the market (monetary) rate which allows for the anticipated rate of income on reinvested capital. Wicksell's highly original judgements on the laws of the credit and monetary system of mature capitalism give reason to regard him as one of the founders of modern monetarism. However, in the final analysis, he remained on the positions of the quantitative theory of money and the neo-classical dogma of mandatory equalisation of supply and demand of capital through the medium of the mechanism of two rates of interest.

Wicksell devoted a good deal of attention to impact of technological progress on the distribution of the product among the factors of production. The introduction of machinery exerts a twofold influence on the level of wages. On the one hand, the machines help increase the output per unit of labour which tends to increase the level of wages but, on the other, the machines oust manual labour and the resultant competition among the workers should depress the level of wages.

Without denying the historical tendency towards greater exploitation Wicksell made unequivocally apologetical conclusions as to the causes of exploitation, when he wrote: "The capitalist saver is ... fundamentally the friend of labour, though the technical inventor is not infrequently its enemy. The great invention by which industry has from time to time been revolutionised, at first reduced a number of workers to beggary, as experience shows, whilst causing the profits of the capitalists to soar. There is no need to explain away this circumstance by invoking 'economic friction', and so on, for it is in full accord with a rational and consistent theory. But it is really not capital which should bear the blame; in proportion as accumulation continues, these evils must disappear, interest on capital will fall and wages will rise—unless the labourers on their part simultaneously counteract this result by a large *increase in their numbers*."[1]

In terms of its theoretical content Wicksell's conception was little more than an eclectical fusion of the factors of

[1] Knut Wicksell, op. cit., p. 164.

productivity theory in its marginalistic version and Böhm-Bawerk's ideas about the role of time in the process of production and the theory of abstinence. Repeating Adam Smith's dogma Wicksell saw capital as "saved-up land and labour" and, accordingly as payment for the dual property of capital: its higher productivity compared with "current productive benefits" and its scarcity due to the costs of accumulation. Paraphrasing Wicksell's own apt expression, we may say that what comes out of the eclectical retort is the same amount of truth, and not one atom more, as has been put into it. His theory which, in the final analysis, is geared to the same end as the theories of his predecessors, repeated just about every of their defects and logical incongruities. Moreover, like earlier theories, Wicksell's failed to disprove the fact of capitalist exploitation. No matter what determined the concrete role of physical capital in the process of reproduction its socio-economic specificity stems from the monopoly on the means of production enjoyed by a particular social class, the capitalists, who derive an unearned income with the help of goods turned into capital.

For many years Wicksell's ideas remained outside the mainstream of bourgeois political economy. It was not until the 1930s and the 1940s that they were developed further by representatives of the Stockholm school B. Ohlin, G. Myrdal, E. Lindahl, G, Åkerman, E. Lundberg and others. His works have been translated into English and have begun to exercise appreciable influence on the theoretical thinking of bourgeois economists in other countries.

3. THE FORMATION OF NEO-CLASSICAL CANONS

Ambitious aims and the poor equipment of reasoning and analysis which characterise Böhm-Bawerk's system sprang from the relative backwardness of stagnant Austro-Hungarian capitalism—the breeding ground of the Austrian school. The economic theorists of more advanced capitalist countries, above all British economists, realised that the heritage of the classical school which epitomised the two hundred years' history and practical experience of capitalism could not be just thrown overboard. But Bohm-Bawerk, rejected by them arrogantly as an upstart, did his deed: he created

a new intellectual climate in which the *classical system* was no longer surrounded by a formal halo. In so doing he cleared the way for the further vulgarisation of political economy, for the merciless vivisection of truly scientific conjectures of the classicists, the development and reinterpretation of individual ideas and superficially descriptive techniques snatched out of the living context of their works. He paved the way for a wide employment of non-economic phenomena for explaining problems of political economy proper.

By the 1900s in the course of the "criticism" of Bohm-Bawerk and reappraisal of the classical heritage, a new system of views had emerged which came to be known as the neo-classical school. Its chief architect was Alfred Marshall.

Whereas Wicksell built his system proceeding from the doctrine of the Austrian school, Marshall came to essentially the same conclusions moving in the opposite direction—from the classical doctrine as interpreted by John Stuart Mill towards marginalism. In theoretical terms, his theory of capital was more superficial than those of Wicksell or Bohm-Bawerk. It exerted, however, a more profound impact on the subsequent evolution of non-Marxist political economy than any other theory of his day.

The bourgeois historians of economic thought see the strength of the Marshallian system in its encyclopaedic character and close relevance to the hard facts of economic life as seen by the practical capitalist. Marshall's success is attributable above all to the fact that his system was more in harmony with the logic of the contemporary stage in the evolution of capitalism than that of any of his rivals.

There is a certain gap in time in the dynamic movement of history and their ideal reflection in the concepts and categories of social sciences. As a rule, theory lags behind practice even though the aim of any theory is to develop such conclusions and recommendations which would race ahead existing practice. In other words, political economy lags behind practice in what it reflects but it races ahead of it from the standpoint of *how* it interprets reality.

Marshall's system, being an ideal reflection of free capitalist competition, appeared at a time when its real prototype was past its heyday and was irretrievably making way for monopoly capitalism. However, the contradiction between the old and the new phases had not yet reached the intensity which would clearly mark the qualitative boundary crossed by capitalism in the 1870s. The bourgeois theorists of that period held that production concentration was only a source of greater "capital productivity", that the growing position of dominance of finance capital and financial oligarchy paled into insignificance beside the omnipotence of the ubiquitous "invisible hand" of the free market, that the struggle for an economic and political division of the world was only a manifestation of the competitive substance of international relations. The rise of a labour aristocracy who received extra benefits made possible by the economic plunder of the colonies, once again fostered illusions of class harmony, which, in the opinion of bourgeois theorists, made the problem of capitalist exploitation an anachronism. Marshall's historical contribution was that he generalised the logic of a stage that represented "the Golden Age" of capitalist private enterprise, of capitalist private property. In the light of this, it is not surprising that Marshall's book was destined to become for several subsequent decades something of a bible of bourgeois political economy.

Marshall, just as the Austrians before him, came up, first of all, against the need to formulate his stand on matters of value and, at the same time, define his attitude to the classical heritage. What Böhm-Bawerk had sought to achieve by a radical replacement of the labour theory of value with the subjectivist principle of marginal utility, Marshall tried to do through reform and compromise.

Above all Marshall excised all truly scientific elements in the works of Adam Smith and David Ricardo and interpreted their theory of value exclusively as a theory of actual costs. What is more, having explored the assumptions required for the abstract analysis of value, he concluded that value acts as a regulator of prices only in the "normal period", i.e. a hypothetical state, towards which an economy tends in a long-term sense without ever achieving it. Thus, he actually excluded value from "positive" economic analysis, reducing the latter to an analysis of the functional interdependence of economic phenomena, above all, supply and demand on the particular markets. Whenever the logic of his own system made it impossible for Marshall to evade the issue of real bases of prices he inclined towards a subjectivist interpretation of value. All this predetermined the way he solved the problem of capital.

At the centre of his neo-classical system Marshall placed the analysis of individual commodities. In itself this choice does not raise any objections: as is known Marxist political economy also uses this elementary cell of the commodity economy as its point of departure. However, as distinct from Marx who disclosed beneath the material outer shell of commodities an intricate pattern of socio-economic relations between commodity producers, Marshall and his followers singled out only one aspect of these relations, namely, the system of prices, quantitative interrelations in the market between a particular commodity and other commodities measured in money and physical units.

It would be absurd, of course, to deny the cognitive value of research into the quantitative market interrelations, the widespread pairs of interdependent market forces. Prices are the regulator of production and their analysis may yield a good deal of useful data for the study of the capitalist economic mechanism. A scheme of demand and supply furnished a basis for this kind of analysis. But this basis is too narrow for developing a universal scientific system of political economy. Marshall's method is based on formal logic which excludes dialectics and admits of only one-dimensional and strictly functional relations. As such it distorts and detracts from the qualitative content of reality.

The advocates of the supply and demand analysis, which is subjective in its form, will squeeze the entire diversity of socio-economic relations into numerical magnitudes, neutral from the standpoint of their qualitative content, the subject of economics is thus turned into a stilted caricature of "economic man". They reduce class relations to the level of an orderly competition of private owners. The nature of the principal method of enquiry determines the content of bourgeois micro-economic theory: only those aspects of reality are studied which lend themselves to functional

interpretation and formal logic.[1] All other phenomena are left out of account as "institutional" or "ethical" problems which do not constitute a proper subject of economic research.

The basic propositions of *Principles of Economics*[2] are all too familiar, which makes any detail description unnecessary. We shall confine ourselves to examining some of the fundamental elements of Marshall's system essential for analysing the further evolution of the non-Marxist conception of capital.

Already the simplest diagrams of supply and demand relating to an individual commodity reveal those aspects of reality which constitute the subject matter of the analysis:

1) The reaction of supply and demand to price changes—the elasticity of supply and demand;

2) The character of the function of demand.

Bourgeois political economists, naturally, are not interested in the class structure of a society nor in the relations between classes which determine the qualitative composition and movement of social demand. The consumer is the subject of demand irrespective of whether individuals or organisations are involved, whether we speak of productive or consumer demand. Social demand for a particular type of commodity is the arithmetic sum total of individual effective demands, whatever the factors determining them.

From the standpoint of functional analysis only quantitative values are of interest which determine the shape of the demand curve or its position on the diagram (curve shift); the dynamics of demand as the need for the commodity in question is satisfied (the curve of diminishing marginal utility); the movement of prices for products that supplement or substitute for the commodity in question (cross elasticity); the dynamics of consumer income of the buyers of the commodity in question; the impact of advertising and other means of non-price competition, etc.

[1] "A major problem in capital theory is to so limit the number of axioms that the techniques of arithmetics, algebra, geometry and calculus employed will yield useful results." (Donald Dewey, *Modern Capital Theory*, Columbia University Press, New York and London, 1965, p. 3.)

[2] Alfred Marshall, *Principles of Economics*, London, 1946.

Since the employment of the concepts of cardinal utility and ordinal utility involves considerable theoretical difficulties, modern bourgeois investigators of demand frequently make use of indifference curves, which indicate points of coincidence of the marginal utility of two or more interdependent commodities.

3) The character of the supply function. It is here, to use the phrase coined by Marshall himself, "on the supply side" that bourgeois economists assign a rather modest place to capital alongside other factors of production.

Marshall's heavy reliance on the findings of the marginalistic "revolution" enabled him to transfer the idea of the productivity of factors from the crude materialistic plane where it had been left by J. B. Say into a more refined and camouflaged world of subjective utilities and marginal ratios.

Within the neo-classical conception the very idea of the transformation of factors into a product is logically based on the assumption that by their nature the factor productive services do not differ from the services of consumer goods, since the subjectivist theory of value is equally applicable to both. The proportions in which these factors are combined are subject to the same law—their marginal productivity. The distribution of scarce resources as applied to the factors of production is carried out on the basis of the so-called law of diminishing productivity: if the diminution of the useful return from each subsequent unit of factors were not postulated it would be impossible to equalise the magnitudes of their marginal productivity. The value of the factors is determined by the value of the product and not vice versa, with the value of the product becoming split into factor costs (Euler's theorem).

At first sight, Marshall seems to have corrected Say's "mistake" who confused the proportionality of factors with their productivity. Marshall focused his attention on the real problem of the interchangeability of factors which takes on special importance under an accelerated scientific and technological progress, providing for many alternative technological solutions. The choice in favour of more or less capital-intensive technology is attributable, other things being equal, to the ratio of the prices of production factors.

And since these prices represent the income of the owners of the factors, it seems that the proportions of product distribution are determined by the spontaneous relationships of supply and demand.

However, if we accept at its face value the neo-classical explanation whereby the ratio of *marginal* magnitudes of factors depends on their comparative prices, the following question remains open: what is it that determines the *absolute* magnitudes of factors and, consequently, the absolute shares of their owners in the eventual product distribution? Replying to this question the neo-classicists appeal to the laws of technology which lie outside economic analysis. But what it means then, is that while dissociating themselves from the absurd idea of physical productivity of factors they eventually get back to square one, back to marginalism, which does not and cannot yield any other solution to this key problem of political economy.

To Marshall, capital constitutes things which form the prerequisites of production, while wealth is things representing the results of production. The movement of the elements of capital is subject to the universal laws of supply and demand, but in a specific form, due to the fact that this movement incorporates spatial and temporal elements in dissoluble unity. According to Marshall, demand for capital is determined by the productive services it may render, while supply is determined by the size of savings and the supply of free money (the famous "scissors").

In his explanation of capital formation Marshall shared the views of N. Senior, but maintained it was necessary to replace the word "abstinence" by the term "waiting". Marshall wrote: "The sacrifice of present pleasure for the sake of future has been called abstinence by economists. But this term has been misunderstood: for the greatest accumulators of wealth are very rich persons, some of whom live in luxury and certainly do not practise abstinence in that sense of the term in which it is convertible with abstemiousness. What economists meant was that when a person abstained from consuming anything which he had the power of consuming, with the purpose of increasing his resources in the future, his abstinence from that particular act of consumption increased the accumulation of wealth. Since, however, the term is liable to be misunderstood we may with advantage avoid its use, and say, that the accumulation of wealth is generally the result of a postponement of enjoyment or of a waiting for it."[1]

A change of terminology, however, does not change the substance of the issue. "Abstinence" by itself does not lead to an increase in capital—savings yield a profit only if they are invested in production, in which a money capitalist does not participate directly.

The puritan fetish of thrift and frugality embraced by classical bourgeois political economy which did have rational meaning in the era of the early manufactories acquires a downright mocking ring under advanced capitalism. The record shows that once it has been invested in production capital acquires an ability for self-growth which is largely independent of the capitalist's personal ability. The operation of the objective logic of competition compels the capitalist to increase his savings in every way. However, as soon as his operations reach a certain scale, his access to credit and, consequently, his profit are increasingly dependent on his social status which is strengthened by conspicuous consumption. The postponement of consumption is a prerequisite for the expansion of the productive potential in a society as a whole, and not in respect of individuals. The idea of "waiting" as interpreted by Senior-Marshall is, thus, one of the most graphic examples of the way bourgeois apologists for capitalism distort reality.

In Marshall's view, interest is determined by the ratio of supply and demand for capital. In its turn, it influences both the size of savings and the prospects for the productive employment of capital. Marshall distinguished between real and money interest rates which, due to fluctuations in market conditions, may diverge pretty widely. However, in the long-term they tend to be equal.

It is easy t,o see that in his purely theoretical treatment of such macro-economic entities as accumulation, investment, productive capital, interest rates, Marshall actually reproduced the laws peculiar to an individual capitalist firm.

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1 Alfred Marshall, op. cit., pp. 232-33.

Marshall's method is one of static micro-economic analysis. This method reached its logical culmination in the model of the so-called representative firm. The theory of factors in its original form does not explain what unites the factors into a single whole. Marshall was the first to have clearly singled out the capitalist's activities on combining land, labour and capital into an independent, fourth factor of production and ascribed the service of "organisation" to the firm and its capitalist owner. In Marshall's view, the profit of such a firm is divided into the salaries of the managerial personnel, interest on capital and payment for organisation. Since the entire profit is distributed between the contributing factors of production, Marshall included it among the costs. In conditions of "pure" competition the costs of a representative firm equal price, i.e. profit as the excess of prices over costs is absent. Marshall conceded that the costs of certain enterprises in certain periods may be below price. The resultant additional profit, however, is quickly cancelled out by competition.

The investment process is absent from the Marshallian scheme of instantaneous equilibrium, while in the schemes of short-term and long-term equilibrium it is an essential component in the establishment of "normal" prices. The realisation of long-term interest takes time; therefore, the "normal" price of the future product must incorporate not only the labour inputs, but also the employer's sacrifices arising from his waiting, and must be sufficiently high to overcome threats bred by the inevitable risks involved. The longer the time span separating the start of investment from the marketing of the end products the greater should be the rate of profit. Marshall considered the rate of interest as the landmark in determining the effectiveness of individual investment.

From the standpoint of the internal evolution of bourgeois political economy, Marshall's theory signified a break with the classical theory of value and the adoption of a new system of views. As for the problem of capital, Marshall broke it down into the following sections:

1) Capital in the sphere of exchange: factors of supply (accumulation) and demand (production needs), interest rate as the price of capital;

2) Capital in the sphere of production: the organisation of a firm, its internal and external equilibrium, competition, marginal productivity of production factors and the distribution of income among them;

3) Capital in the process of growth: factors behind investment.

This classification forms the basis of modern non-Marxist conception of capital.

The functional analysis of the above-mentioned phenomena is of major theoretical and especially practical importance from the standpoint of the rational running of a capitalist enterprise. Marshall's methodology later furnished the basis for numerous empirical research projects, some of which were of interest. However, from the standpoint of the subject matter of political economy—the nature of socio-production relations, Marshall's system was yet another attempt at apologising for capitalism.

In theoretical terms, it was a version of earlier attempts to unite the theory of productivity with the theory of abstinence, transferred, incidentally, from the sphere of substantive value analysis into a quite different sphere—a sphere of pure functional analysis. The problem of distribution was actually dispensed with by Marshall's postulate on the stable equality of the marginal productivities of all the four factors of production. It means that each of the factor owners receives, according to Marshall, a reward which corresponds exactly to his contribution to production. Marshall resurrected the theory of the productivity of factors in the form of a more subtle and logical theory of "marginal productivity". After Böhm-Bawerk's failure none of the subsequent bourgeois economists ever dreamed of criticising Say's dogma.

The theory of production factors, as we know it today, reached its final shape in the works of John Bates Clark, an eminent American economist of the late 19th and early 20th centuries, who was one of the fathers of the Anglo-American school.

Clark's system of views evolved along the path different from that followed by Marshall, since he lived in the atmosphere of the comparatively young and rapidly growing American capitalism. Like Böhm-Bawerk, Clark with the

naïve simplicity of a provincial raised the problem of class relations bluntly in an attempt to justify the capitalist system.

Clark wrote: "The indictment that hangs over society is that of 'exploiting labour'... If this charge were proved, every right-minded man should become a socialist; and his zeal in transforming the industrial system would then measure and express his sense of justice."[1] Clark once undertook to verify this charge without making bones about his eventual socio-political aim, which, in his words was "to show that the distribution of the income of society is controlled by a natural law, and that this law, if it worked without friction, would give to every agent of production the amount of wealth which that agent creates."[2]

Like Böhm-Bawerk, Clark sought to rebuff the critics of capitalism on the basis of a monistic solution to the problem of capital; however, in many instances he resorted to eclectics, retreated to the positions abandoned by the Austrian school, seeking to bring theory closer to capitalist practice. This made his conception less orderly and neat, but, in the final analysis, it was more convenient for purposes of apologetics than Böhm-Bawerk's system.

Clark was a "realist" in the modern sense of the term. Following the traditions of classical bourgeois political economy, he believed that income arises not in the sphere of circulation, but rather in the sphere of production. Like Marshall, he made the method of static partial equilibrium the basis of his conception. At the same time, keenly aware of the limitations and conventionality of his method, Clark was the first bourgeois economist who drew a clear line of distinction between statics and dynamics. He described in graphic detail the dynamic processes which characterised the dominant features of the social development of Western Europe and North America at the turn of the century: the changing pattern of needs and use-values to meet them, the invention of new technologies, the replacement of manual labour by machines and the replacement of primitive machinery by more efficient, the discovery of new sources of

[1] John Bales Clark, *The Distribution of Wealth. A Theory of Wages, Interest and Profits*, MacMillan & Co., Ltd., London, 1908, p. 4.
[2] Ibid., p. V (Preface).

energy and new raw materials, the population growth and migration, the rapid growth of large-scale idustry and the improvement in agricultural techniques. At the same time, Clark was convinced of the primacy of static laws. He believed that the operation of dynamic factors boils down to consequences of two kinds: temporary deviation of actual economic magnitudes from natural ones, i.e. static standards, and the slow alteration of the standards themselves in the long-term period. Clark's "dynamics" as a succession of discrete states of static equilibrium forms the basis of the methodology of today's neo-classicists on these questions.

Like Wicksell, Clark recognised the specificity of the capitalist economy as compared with the artificial subsistence economy of Robinson Crusoe. At the same time, he claimed that there exist universal laws, which operate irrespective of the prevailing social organisation. He counted among such laws the laws of distribution, proclaiming thereby the character of class differentiation and social inequality as natural and permanent. The ideological intent of this position was transparent. Having accepted the basic apologetic technique of the Austrian school (camouflaging class relations with "universal" economic categories), Clark analysed in greater detail the specific laws of class society in order to show that they are subject to universal laws.[1]

Central to Clark's conception is the assertion that capital and labour are above all the eternal physical prime factors of the production process. Each possesses physical productivity which manifests itself only in their joint action. Therefore, the product is the result of the interaction of the two prime factors with the material of nature and nothing more.

Clark substantiated with great care his definition of capital as a stock of goods which can be productively employed.

[1] "Market value ... is a social phenomenon; hut the principle of final utility, by which values are fixed, is universal in its scope. So, too, the division of the income of an industrial group into wages and interest is a social phenomenon; but the principle that governs that division—the principle, namely, of specific productivity—is as dominant in primitive life as it is anywhere." (John Bates Clark, *The Distribution of Wealth*, p. 47.)

In this sense, the primitive hunter, too, "uses capital and includes in his equipment both the fixed and the circulating varieties of it".[1]

Clark's work contains a hint at capital being a category that belongs not only in the natural economy of humans, but also in the animal kingdom.[2]

Clark unequivocally dissociates himself from the proposition of the classics that the capitalists advance the worker's wages. In his conception, capital and labour remain at all stages of production special albeit inseparable agents, each of which creates its own share of the product. The employer only helps the worker to discover what it is that is actually the product of labour and to receive remuneration approximating in size to this product.

Ignoring historicism, Clark extrapolates the concept of capital, which is specific to capitalism, into the past, into the conditions of primitive commodity economy and proclaims "the independent man" who produces to be "both a labourer and a capitalist".[3] The artificial nature of this technique is obvious. A simple commodity producer can be neither a labourer nor a capitalist. The very problem of the distribution of the product between the working class and the capitalist class is a problem specific to the capitalist mode of production, and not to any previous social systems.

"The specific productivity" of capital and labour is deduced by Clark through imputing specified shares of the product to the corresponding factors. Resorting to the traditional line of argument based on the Robinsonade, Clark claims that the imputation was instinctively performed by early man with his primitive economy and that the equalisation of labour efforts made to secure the current consumption and the production of "capital" is carried out on the basis of the universal law of the diminishing marginal productivity of factors.

The social transformation of physical productivity, Clark supposed, is effected through a system of prices. Market

[1] John Bates Clark, op. cit., p. 26.
[2] Ibid., pp. 41-42.
[3] Ibid., p. 83.

prices for particular types of commodities determine the income of the industry producing them, i.e. the fund which is distributed among the factors of production. At the same time, the distribution carried out inside industry groups, in the sphere of production, has a reverse impact on the market prices. In a static state, Clark believed, prices fluctuate around normal prices, while incomes, around natural levels of wages and interest.

Substantiating this proposition Clark resorted to the stereotyped arguments of the theoreticians of "perfect competition". In particular, he saw the individual worker as a passive molecule which is acted upon by a force similar to pressure acting on a particle of water. To Clark, this force was the universal and absolute impulse to acquire the desire to go to an employer who pays more.

One of Clark's more brilliant achievements, in the opinion of his modern followers, is the line of distinction he drew between capital and capital goods. Undeniably Clark's reasoning on this score has a good point to it. Clark wrote that social capital must be preserved and increased in order to ensure that mankind should not find itself empty-handed in the face of nature. At the same time, the constituent "capital goods, then, not only *may* go to destruction, but *must* be destroyed, if industry is to be successful, and they must do so, in order that capital may last",[1] as the continuous flow of production is the condition of maintaining social capital.

Clark believes that the difference between capital and capital goods permits to explain intersectoral capital migrations—in physical terms particular capital goods remain in the initial industry while depreciation deductions supplied by them move to other industries. Capital as value is an abstraction, Clark rightly remarks. The question is what is the nature of the objective reality at the bottom of it? As Clark sees it, it is an infinite succession of changing goods used as capital and possessing a particular value in the abstract. To illustrate his point Clark draws an analogy with human life embodied in successive generations of men, with a water-

[1] Ibid., p. 117.

fall existing in the form of a myriad of particles of water flowing through it.

At the outset, inherent in this scheme is the sought solution to the problem of capital, which is in harmony with the interests of an apologia of capitalism. If capital goods as interpreted by Clark are particular physical objects, instruments of labour or means of production, then capital is a physical abstraction, the aggregate of goods which appear and disappear, notably in their value terms, too. Thus, the nature of Clark's scheme is such as to exclude not only socio-class elements, but also such an important element of capital formation as human labour.

Clark was the first bourgeois economist who had to tackle the tough problem of measuring and comparing the constituent elements of capital. He tried to find the way out in terminological juggling, calling abstract capital "pure", "permanent", etc. However, this did not help him resolve the obvious theoretical difficulties his own conception gave rise to. Inasmuch as both capital goods and capital are physical entities, they must have a common unit of measure, in the same way as the power of a waterfall can be expressed only through quantifying the mass of the particles of water flowing through it. Clark's "permanent capital" is little more than an unfortunate surrogate of the classical notion of capital, an attempt to resolve the problem of value theory without giving a scientific definition of value.

Clark deduced the difference between interest and rent from the difference between capital and capital goods.[1]

Since the income from social capital obeys the law of diminishing returns and is dependent on the total number of the capital goods used, the size of rent is governed by the size of rate of interest.

In Clark's system labour is also an indestructible physical productive force. "Men are as perishable as are capital goods, but labour is as permanent as is capital... There are, then, two permanent entities combined in the industry of the world. The one is capital, or the wealth that continues

[1] "Rent is the aggregate of the lump sums earned by capital goods while interest is the fraction of itself that is earned by the permanent fund of capital." (John Bates Clark, op. cit., p. 124.)

for ever by casting off and renewing material bodies—capital goods. The other is labour, which continues in a similar way. It is represented today by one set of men, and tomorrow by another."[1]

Now what is it that determines the product of each of these factors, the] rate of interest and the level of wages? Clark claimed that interest equals the product obtained through the marginal unit of capital, and the wages equal the product of the marginal worker. The equilibrium of marginal productivities of labour and capital is the supreme law governing the distribution of social income. Among the marginal workers Clark included also those who operated unprofitable equipment which yields the owner no product whatever as the whole of the additional product goes to cover the wages of the marginal worker; those who derive the final increment of the product from the best available equipment; those who work waste or fallow lands or who secure the final increment of the useful effect through intensive cultivation of good lands.

Clark's discourse on the distribution of the products between the two main factors of production is a classical example of *petitio principii*. If production is a purely physical process of obtaining products as a result of the interaction of two production factors, then the end product is always the sum total of the products of the two factors involved. Since both "obey the law of diminishing productivity, the marginal productivity of labour determines the wages, while the marginal productivity of capital determines the interest. But for this proposition to be true we must accept the idea of the physical productivity of labour and capital. So, there we are, back to Say's initial postulates which Clark failed to prove.

Tools of labour and the means of production which embody past materialised labour are indeed created at the price of current consumption. They do indeed increase labour productivity and thus the amount of the use-values they create. An optimal relationship does exist, and can be calculated, between the diminishing fund of current consumption and the expanding fund of future consumption

[1] Ibid., pp. 157-59.

as a result of the manufacture of additional tools of labour, but always provided that we speak of the personal labour workers and the tools of labour they own as personal property.

Clark carefully skates around the real problem of the conversion of the means of production into capital—the instrument of exploitation reproduced through the appropriation of the unpaid labour of others and used not to increase consumption, but to increase the capitalist's profits in every way. Clark's scheme of "real" distribution within the framework of social organisation masks the real socio-economic relations in the ownership of the instruments of labour and means of production that develop in capitalist society.

Whereas in a "primitive" economy both living and materialised labour represented one and the same agent—the labourer himself, in a capitalist economy two figures, the worker and the capitalist, are visible. Clark portrays the division of society into the owners of labour power and the owners of capital not as the result of the historically constituted class differentiation of human society but as a consequence of technological expediency, as a part of the universal process of the social division of labour.[1]

On this issue, too, Clark builds his apologetic constructions on anything but a hollow foundation. Historically, it was capitalism that gave a powerful impetus to the progress of the social division of labour. It was precisely in the form of capitalist ownership that large-scale industry arose. However, the capitalist form of ownership is by no means immanent for the latter, and the best proof of that is the record of existing socialism. Machines and raw materials are indeed essential for modern industry; however, there is no reason to believe that a special class should have the exclusive function of "supplying" them. The monopoly of the bourgeoisie on the instruments of labour and means of production is itself in need of a justification.

Clark's conception is another evidence of the peculiar "law" of apologetics for capitalism we mentioned earlier: the closer to reality the apologists move, the weaker their

[1] Joht Bates Clark, op. cit., pp. 54-56.

initial premises become. Clark's conception was without question closer to actual reality than the subjective psychological constructions of the advocates of the theory of abstinence, or the Austrian school. However, from the standpoint of apologetics, the theory of the physical productivity of capital is weaker than the conception of the capitalist's "personal sacrifice" or the net productivity of time. If interest is the payment for the product of capital and if wages are the payment for the product of labour, one finds it impossible to explain the self-growth of capital which even Böhm-Bawerk could clearly see, as well as the conspicuous lack of this ability in the case of labour. Clark failed to achieve the socio-political aim he set out to achieve.

The slide from the theoretical abstraction in the analysis of capital to a generalisation of the empirical, visible forms of its movement reached its logical conclusion in the works of Irving Fisher.[1]

Fisher's conception marked a stage in summarising the experience of capitalist entrepreneurship, as well as, in the improvement and updating of apologetics for capitalism. Bohm-Bawerk and Fisher who was widely regarded in his lifetime as the principal opponent of the Austrian school, represent two branches of the subjective idealism of modern non-Marxist political economy.

Fisher's methodology is built in the form of a catechism—chains of consecutive formal definitions. Actually, all the defects of his system are inherent in the initial links which deserve close scrutiny. Fisher wrote: "Wealth is wealth only because of its services; and services are services only because of their desirability in the mind of man, and of the satisfactions which man expects them to render... The mind of man supplies the mainspring in the whole economic machinery. It is in his mind that desires originate, and in

[1] In an introduction to his work he wrote: "This book is an attempt to put on a rational foundation under the concepts and fundamental theorems of capital and income. It therefore forms a sort of philosophy of economic accounting, and, it is hoped, may supply a link long missing between the ideas and usages underlying practical business transactions and the theories of abstract economics." (Irving Fisher, *The Nature of Capital and Income*, The MacMillan Company, New York, 1923, p. vii.)

his mind that the train of events which he sets going in nature comes to an end in the experience of subjective satisfactions. It is only in the interim between the initial desire and the final satisfaction that wealth and its services have place as intermediaries".[1]

In other words, according to Fisher, material production, exchange and distribution have no independent role to play. They are but intermediaries between a need and its satisfaction. Man is free from the operation of any objective laws of nature and society with one exception—"that great 'independent variable' of human experience, *time*..."[2]

If we take wealth at a given point in time it will constitute "a stock of wealth"; if we regard it through a period of time, wealth is "a flow". This distinction, which had definite rational meaning, has long been known to economists and after Böhm-Bawerk's death it acquired special importance for bourgeois political economy. It figures prominently in the conceptions of Marshall and Clark. Fisher went further and converted the difference between a stock of wealth and the flow of services into a pivotal, cardinal element of the theory of capital and the whole of economic analysis. Fisher wrote: "A stock of wealth existing at an instant of time is called capital. A flow of services through a period of time is called income." [3]

Fisher tried to prove that there was no point in limiting the framework of capital with particular kinds of wealth, as all objects of wealth are productive, i.e. capable of generating services the realisation of which takes time. For in the case of some objects (say, a course served in a restaurant) the waiting period is short, in the case of others (railways construction), it is extremely long, in the case of land and natural resources—infinite. During its lifetime, however, short as it may be, any object is capital and yields an income in the form of services (use-value) and since wealth and ownership are inseparable and unthinkable without each other, everyone is a capitalist, although the size of the "capital" owned by different individuals vary. To quote

[1] Irving Fisher, op. cit. p. 41.
[2] Ibid., p. 51.
[3] Ibid., p. 52.

Fisher: "The income of an individual is the total flow of services yielded to him from his property."[1] Whence and why income comes and what is the mechanism "of the productivity" of different objects of wealth, these are the questions Fisher simply ignores.

To Fisher, the process of production is identical with the process of consumption. "Just as there is a gradual transformation of services through the farm, flour mill and bakery, so is there a final transformation within the human body itself. It is a sort of factory, the products of which are the only uncanceled income of the consumer. In a complete view of productive processes, the human machine is no more to be left out of consideration than machines which handle the wheat in its prior stages."[2]

The subjective-idealist interpretation of economic life finds its supreme expression in the concept of "subjective income" introduced by Fisher. "We define subjective income ... as the stream of consciousness of any human being. All his conscious life, from his birth to his death, constitutes his subjective income. Sensations, thoughts, feelings, volitions and all psychical events, in fact, are a part of this income stream. All these conscious experiences which are desirable are positive items of income, or services; all which are undesirable are negative items, or disservices."[3]

It would seem that the entire experience of mankind suggests that it is impossible in many cases to distinguish between positive and negative emotions, let alone to quantify them. Fisher, however, took a different view, boldly equating "the value" of objective and subjective incomes. He wrote: "A loaf of bread which yields ten cents' worth of services presumably gives ten cents' worth of immediate satisfaction. When one enjoys a musical concert worth one dollar, it does not matter whether we say that the services of the musicians ... are worth one dollar of the enjoyment..."[4]

It is easy to see that with this sort of initial premises complex problems of relationships between different classes of society and of the distribution of national income were

[1] Ibid., p. 101.
[2] Ibid., pp. 167-68.
[3] Ibid., p. 168.
[4] Ibid., p. 169.

reduced by Fisher to a matter of different subjective perceptions and sensations. Everyone has sensations and feelings, and everyone thinks, and if so, everyone has a positive subjective and consequently an objective income. If we are to follow Fisher's logic why not consider an ant in possession of a straw a real capitalist, apparently, able to keep count of its income and loss.

If a worker and a capitalist get five hundred dollars each, their objective incomes are the same. The fact that the worker has to earn his five hundred dollars in the sweat of his brow, while the capitalist picks up his as interest on invested capital, signifies for Fisher nothing more but the inequality of subjective incomes. If the worker's labour effort is worth two hundred and fifty dollars, his subjective income is only half of the capitalist's subjective income. According to Fisher, there is no exploitation in the capitalist economy. There are only different subjective perceptions: one set of people have more pleasant sensations, while others are not so lucky. But why should it be that way? This question is not reflected in business accounts, and, consequently, has no cognitive interest for Fisher.

Having originally set out to embrace realism, to keep in close touch with practice, Fisher ended up constructing a system that is a hollow and crudely apologetic abstraction. He left out of his analysis just about every technological, social and historical conditions of economic activity. Instead of placing at the centre of his system relations among people Fisher focuses on relations among things owned by the people. The only economically significant factor in Fisher's system is time. Quite logically, too, though, Fisher grossly exaggerates its role.

According to Fisher, the rate of interest is the ratio between income on capital and the size of the capital itself. Like Bohm-Bawerk, Fisher believed that interest arises as a result of the exchange of a sum of current goods for a greater sum of future goods. But whereas Bohm-Bawerk described interest as a premium for the postponement of consumption, Fisher saw it as the current price of capital on the scale of future benefits, which are the result of capital productivity. Herein lies the central bone of contention in the once hotly contested polemics between Fisher and B6hm-Bawerk, although as we have just seen, their positions 011 fundamental issues were fairly close.

Fisher's theory of capital bears a close relation to the definition of interest given above. Essentially it replaces the political-economic problem of "productivity" of capital with the techno-economic problem of investment profitability, and that in a subjective-psychological interpretation.

The current value of the flow of future incomes at a given rate of interest is determined by means of discounting. The methods as formulated by Fisher can be described as follows: if investment method A yields a series of incomes $I_1, I_2, \ldots, I_n = \sum I_A$, whose discounted value $K_A = \frac{\sum I_A}{r}$ (r—rate of interest) and method $BI'_1I'_2\ldots$ $\ldots, I'_n = \sum I_B$ of value $K_B = \frac{\sum I_B}{r}$ and $K_A > K_B$, then method A is preferable. An alternative version of the same problem: if capital goods K_A and K_B are available those goods are preferable which yield the larger discounted income.

Naturally, Fisher was not the inventor of discounting. It had long been part of the business practice for estimating ficticious capital and the claim of property to a specified income.

The new element in Fisher's conception was the fact that he extended this stock-exchange technique to real investment. In so doing, he relied on a number of objective and historically established factors.

The physical shape of capital is of interest to the capitalist only in so far as it helps him to attain his sole and dominant goal—to derive maximum profit. This is what Marx described as "the compelling motive of capitalist production—money-making. The process of production appears merely as an unavoidable intermediate link, as a necessary evil for the sake of money-making."[1]

Capitals have different circulation periods. The owner of capital with a short circulation period is in a position to capitalise his profit more quickly and as a result obtain additional income, denied to the owner of capital with a longer turnover. The discounting technique is very suitable

[1] Karl Marx, *Capital*, Vol. II, Moscow, 1978, p. 58.

for calculating the profitability of individual capitals with a circulation of different duration.

The historical evolution of capitalism extends the sphere for the application of the discount. In the era of *laissez-faire* capitalism, the discount technique was of chief interest to the owner of loan capital or to the stock-exchange speculator. A functioning capitalist had a limited degree of freedom with regard to the funds already advanced. The concentration and centralisation of production, the appearance of big industrial monopolies, the advent of finance capital, the development of the credit system and the relative extension of the horizons of intra-company planning combined to provide broad scope for the application of discounting to industrial entrepreneurship.

All this was the background to the popularity Fisher's theory enjoyed among the US bourgeoisie and explains why Fisher earned the reputation of the greatest authority on "the science of investments", which has survived to the present-day.[1]

However, as soon as we leave the sphere of applied economics and enter the world of political economy we see Fisher's theory in a totally different light. The vulgar apologetic essence of his theory resides in the fact that it presents the subjective ideas of a capitalist as a scientific definition of capital. Fisher claimed: "The value of the capital depends exclusively on the income from it, and not directly upon its physical condition... That value is simply the present worth of the future income from the specified capital."[2] The assertion that the real value of capital is determined by the way it is employed is, to our mind, the height of the subjective-idealist distortion of reality.

As if anticipating the appearance of Fisher's theory Marx wrote in his day: "The form of interest-bearing capital is responsible for the fact that every definite and regular money revenue appears as interest on some capital, whether it arises from some capital or not. The money income is first converted into interest and from the interest one can determine the capital from which it arises... All connection with the actual expansion process of capital is thus completely lost, and the conception of capital as something with automatic self-expansion properties is thereby strengthened."[1]

The analysis of capital ends up in the maze of the capitalist's subjective calculations. Needless to say, this offers unlimited scope for all manner of apologetic inventions.

[1] The US economist John Lintner, one of the leading specialists in this field writes: "All modern studies of investment decisions and their financing must build essentially upon Irving Fisher's *The Theory of Interest*, published more than a third of a century ago." (John Lintner, "Corporation's Finance: Risk and Investment". In: *Determinants of Investment Behaviour*, New York, 1967, p. 215.)

[2] Irving Fisher, op. cit., pp. 202, 211.

4. "REVOLUTIONS" OF THE 1930s

By the late 19th century the break-up of classical bourgeois political economy had been basically completed. Of the various schools that arose on its ruins the theory of Marshall and his followers enjoyed the most widespread popularity. His method and system were universally recognised and considered as an incontestable dogma. However, as early as the first half of the 1930s the conflict between the Marshallian schemes and actual reality brought about a new deep crisis.

Marshall proceeded from the indestructibility of capitalism, from the eternal and natural character of its laws. And yet in 1917 the Great October Socialist Revolution in Russia signalled the start of the actual fall of capitalism which had been theoretically predicted by the founders of Marxism-Leninism. Marshall advocated free competition as the supreme law of capitalism, while in real life *laissez-faire* capitalism had long evolved into state-monopoly capitalism with its rejection of free competition. Marshall embraced the idea of the uninterrupted functioning of capitalist economy, but in real life the cyclic crises of overproduction in the capitalist world were becoming ever more acute and eventually reached catastrophic proportions in the crash of 1929-1933. Marshall's conception is permeated with faith in the creative power of spontaneous competition and with conviction that government inter-

[1] Karl Marx, *Capital*, Vol. III, pp. 464, 466.

vention in the economy is inexpedient. However, the prolonged crisis of the 1930s prompted many bourgeois economists of the time to believe that it could not be overcome without an active anti-cyclical government policy. The brilliant success of the first five-year plans of the USSR also made active government economic policy look more attractive to them.

That is how preconditions for the subsequent downfall of the Anglo-American school took shape. However, the "revolt" of bourgeois critics of Marshall was of a rather abstract nature, as they remained on the same class positions as the patriarch of the neo-classical school. They critically examined those assumptions which formed the basis of the Cambridge professor's system and attempted to develop no less abstract alternatives. Any other approach more relevant to the problems of real life was being rejected as unscientific.

The criticism of Marshall, which gained momentum in the 1930s, was levelled in two basic directions:

1) John Keynes advocated the restoration of the macro-economic method and urged the abandonment of the idea of the uninterrupted functioning of the capitalist system;

2) Edward Chamberlin and Joan Robinson subjected to strong criticism Marshall's ideal type of "pure" or "perfect" competition. They demonstrated that monopoly was an unalienable feature of modern capitalism, pervading every element of production and exchange and constituting, therefore, an organic element of any micro-economic analysis.

Although Marshall's critics concentrated on such problems as overall conditions of capitalist reproduction, economic crises and cycles, the laws of competition, they could not fail to adjust and refine the concept of capital, the key concept in any economic theory of capitalism.

The profound impact of Keynes' theory on the development of modern non-Marxist political economy is well known. In fact, this theory was a reflection of a qualitatively new stage in the development of capitalism—state-monopoly capitalism. Keynesianism exerted a tremendous influence on the formation of state economic policy and, consequently, on the entire subsequent development of capitalism.

The publication of *The General Theory of Employment, Interest and Money* in 1936 worked a veritable upheaval in the make-believe world of neo-classical abstractions. Instead of the micro-economic partial equilibrium of an individual firm Keynes placed at the centre of his theory such macro-economic magnitudes as national income, employment, saving, consumption and investment funds. From the "real" analysis which left out of account the relative independence of money, he came to a "monetary" analysis with its detailed examination of the specific laws governing money markets. And most importantly, whereas Marshall who followed Say's dogma on the equality of supply and demand advocated automatic self-adjustment of the capitalist economy, Keynes had strong doubts about the existence of such a mechanism. He went on the assumption that the internal contradictions of the free enterprise system lead to stagnation and that the condition of its normal functioning is active government intervention.

The concept of capital runs through every chapter of Keynes' magnum opus. However, careful analysis of his ideas and statements on many different subjects will indicate that Keynes did not create any complete and comprehensive theory of capital. Not surprisingly, many bourgeois investigators do not regard him as "a theoretician of capital" in the strict sense of the term.[1] The concept of capital is of secondary importance in his system due to the logic of his doctrine as a whole and the general thrust of his prescriptions for economic policy. As far as the theoretical aspects of value and capital are concerned, notably their socio-economic nature, Keynes confines himself to making "a few remarks" in Chapter 16 of *The General Theory...* At first glance they look rather unusual for a bourgeois economist of the imperialist era, for he called capital "the results of past labour, embodied in assets, which also command a price according to their scarcity or abundance".[2] What is more, Keynes proclaimed labour as the only productive

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1 Axel Leijonhufvud, *On Keynesian Economics and the Economics of Keynes*, Oxford, 1968, p. 198.

2 John M. Keynes, *The General Theory of Employement, Interest and Money*, London, 1936, p. 213.

factor (labour including the personal services of the employer and his helpers), maintained in a particular medium made up of technology, natural resources, capital equipment and effective demand.

However, these propositions, which were later developed by the left-wing Keynesians, played but a limited role in his own system. In the micro-economic field they were designed to disprove the idea of "productivity" of capital along with the idea of "productivity" of time. In the macro-economic field the propositions set forth in Chapter 16 were designed to furnish a philosophical basis for his theory of employment. But actually Keynes' micro-economic conceptions of capital remained within the framework of the Marshallian tradition, which regarded the interaction of supply and demand as the universal and ultimate principle of economic life. In the final analysis, Keynes accepted the productivity of capital as a self-evident fact.

Like Marshall, Keynes did not concern himself with the cause-and-effect relationships in the process of capital's self-growth. What is more, having shifted the centre of emphasis onto the physical size of the national income and its techno-economic division into consumption and accumulation, Keynes, in effect, dispensed with the problem of socio-economic distribution of income, the core of Ricardo's doctrine, which figured to a greater or lesser extent also in the Marshallian system. The social content of economic life remained outside Keynes' system. B. Seligman's remark "that Keynes' economics failed to achieve the status of a true political economy"[1] is quite correct.

From the standpoint of the functional role of capital in the mechanism of capitalist economics Keynes' views deserve close attention. Marshall and his followers examined capital at the demarcation point between accumulation and production, i.e. at the moment it appeared in the market as an article of purchase or sale. They reduced the laws of accumulation to the mere function of capital supply, while the laws of production, to the function of demand for capital. The cornerstone of their system was the

[1] Ben B. Seligman, op. cit., p. 746.

price of capital, which is but a fleeting instant on its complex route of circulation. Accumulation and production were regarded as appendages to the purchase and sale of capital, which operate continuously and have no autonomous role to play which would go beyond the linear functions of supply and demand. Keynes, while not abandoning the basic approach of the Anglo-American school (the study of the functional interdependence of economic magnitudes as cardinal to economic analysis) thought it necessary to split the movement of capital into a number of independent components and to identify factors which, he believed, were independent variables with regard to the supply and demand of capital. This approach was attributable to Keynes' desire to identify within the system of capitalist economy the principal "rupture points", where the potential possibility of crisis originates.

First of all, Keynes drew a clear line of distinction between the sphere of production and the sphere of circulation. Actually, the substance of the micro-economic part of his theory was an examination of the various aspects of the interaction between "real" and money capital.

Keynes believed that the revenue from productive capital was a form of rent, a payment for scarcity, whose economic nature was akin to increased payment for fertility of land and higher remuneration for rare, unpleasant or risky types of labour. Unlike Marshall, he explained the scarcity of capital not only and not so much by the burdens of "waiting", but rather by the objective consequences of the existence of money and interest on loans.

Taking the view, shared by all non-Marxist economists, that interest is a market phenomenon, Keynes, nevertheless, considered it to be the price of money rather than the price of capital. In this conception, interest is paid not for "abstinence", or for "waiting", and not even for "giving up current consumption for the sake of future goods", but for the willingness of the owner of money to give up part of his property in liquid form. According to Keynes, liquidity in assuring free flexibility in spending money offers a series of advantages: it secures a link between income and its expenditure; it makes it possible to cover the costs of production before the products are marketed; it guarantees the

preservation of the enterprise in the event of contingencies; and it furnishes a basis for speculation.

One can understand the role of liquidity in Keynes' system only in the light of the importance he attached to the factor of chance. Keynes believed that one of the principal ways of maximising profit is participation in increasingly more risky transactions involving a growing probability of ruin. Liquidity in raising the "threshold of security", Keynes believed, prepared the ground for a higher rate of profit.

In other words, adhering like his predecessors to the apologetic concept of the "services" rendered by the owners of capital in his explanations of the existence of interest, Keynes believed that this service consists in giving up liquidity. As far as the quantitative magnitude of interest is concerned, Keynes associated it, on the one hand, with the intensity of "liquidity preference" and, on the other, with the amount of money in circulation.

One of the possibilities of crisis, Keynes believed, lay in a gap between saving and investment. To him, accumulation was not a simple function of the rate of interest. The influence of the rate of interest was reinforced by the impact of an even more powerful prime factor—the famous "fundamental psychological law", which shaped the accumulation irrespective of the rate of interest, especially in the long term. Personal savings, which Keynes examined in accordance with the Marshallian tradition, were represented by him as income minus consumption. The size of the consumption fund and, consequently, of the saved remainder of income was determined, in Keynes' view, by the "propensity to consume", and if we look at the process in movement—by the marginal propensity to consume. Keynes claimed that "men are disposed... to increase their consumption as their income increases, but not by as much as the increase in their income".[1] In other words, accumulation in the long run tends to increase irrespective of fluctuations of the rate of interest.

In Marshall's system interest was an organic link between accumulation (supply of capital) and investment (demand

[1] John Maynard Keynes, op. cit., p. 96,

for capital) and it left no place for disparity between these two magnitudes. From Keynes' system, by contrast, it followed that saving and investment obeyed different laws. An increase in saving may lead to an increase in the free money capital which fails to find a profitable application, and, on the contrary, an increased demand for capital, despite a certain increase in the rate of interest, may remain unsatisfied due to a shortage of free money. Keynes believed, incidentally, that the capitalist economy was threatened by the former discrepancy rather than the latter. Keynes' discovery of the possibility of rupture in the movement of money and productive capital, prompted by the destructive crisis of the 1930s, was a forced admission of a real law governing the movement of capital.

Keynes attributed the extent of employment of the accumulation fund to the entrepreneur's subjective calculations which determined the size of investment depending on the ratio between the marginal efficiency of capital and the rate of interest. The higher the former compared with the latter, the greater the propensity to invest.

Keynes' category of marginal efficiency of capital exhibits elements inspired by Böhm-Bawerk, Fisher and Marshall. Keynes wrote: "When a man buys an investment or capital asset, he purchases the right to the series of prospective returns, which he expects to obtain from selling its output, after deducting the running expenses of obtaining that output, during the life of the asset."[1] Keynes calls a series of annuities "prospective returns" on investment. They are opposed by the price of the capital asset supply by which he means the replacement cost of the goods involved rather than their current market price. The relationship between the prospective returns on capital assets and the price of their supply, or replacement cost, i.e. the relati'on between the prospective yield of one more unit of this type of capital and the cost of producing that unit furnishes us with the marginal efficiency of capital of that type.[2]

Keynes did not limit himself to refining the traditional micro-economic model of supply and demand of capital,

[1] Ibid., p. 135.
[2] Ibid.

Using his model he made a conclusion about the need for a macro-economic long-term equilibrium between the marginal efficiency of capital and the rate of interest on loans. Any disturbance of this equilibrium has far-reaching consequences. A divorce of the rate of interest from the marginal efficiency of capital due to a speculative demand for money prepares the ground for unexpected financial crashes. Keynes believed that a fall in the marginal efficiency of capital as a result of overaccumulation of capital and its relative abundance was one of the chief causes of the trend towards stagnation, which was so much in evidence in the principal capitalist countries in the 1930s. His reactionary recommendations for increasing the marginal efficiency of capital are well known.[1]

Keynes attempted to close the chain of the circulation of social capital which had been broken by Marshall and his followers. In his view, capital circulated in the following way. The national income of the forthcoming period is determined by the number of workers involved in production and this, in turn, depends on the basic law of Keynes' system—effective demand, i.e. on how the national income of the base period is spent.

Proceeding from the availability of unemployed labour and free capital, Keynes thought that the purpose of expenditure was unimportant—any demand (consumer or productive) generated employment, while employment generates new demands, etc. As a result, an increase in expenditure results in an increase in the national income by more than unity in the next period (the multiplier effect). The extent of the utilisation of national income and, consequently, the rate of economic growth are subject, according to Keynes, to two subjective-psychological factors: marginal propensity to consume and marginal efficiency of capital.

Thus, unlike all non-Marxist economists before him, Keynes did not concern himself with developing a definition of capital designed to justify capitalist exploitation in moral terms. He was interested, above all, in finding out why capital whatever it is failed to function as the theories of the self-adjusting capitalist economy suggested it should. Naturally, he could not do without a theoretical basis of some kind. His concept represented an amalgam of the theory of "abstinence", "uncertainty of the future" and the "marginal productivity of capital". Keynes' novel contribution to discovering "the services" of capital was his idea of "liquidity preference". At the same time, inherent in his concept was the possibility of casting aside all the theoretical problems which had constituted the focus of attention for his predecessors. Keynes paved the way to an analysis of macro-economic laws governing the movement of capital in techno-economic terms, completely divorced from the undesirable social problems associated with the existence of classes and the class struggle.

[1] "In so far as millionaires find their satisfaction in building mighty mansions to contain their bodies when alive and pyramids to shelter them after death, or, repenting of their sins, erect cathedrals and endow monasteries or, foreign missions, the day when abundance of capital will interfere with abundance of output may be postponed". (John Maynard Keynes, op., cit., p. 220.)

Naturally, Keynes' categories screen complex socio-economic processes, which he failed to discover because of his world outlook. The abstract possibilities of a crisis that he described have long become a real and well-known aspect of capitalist reality. A good seventy years before Keynes, Marx wrote: "Capital describes its circuit normally only so long as its various phases pass uniterruptedly into one another. If capital stops short in its first phase $M—C$, money-capital assumes the rigid form of a hoard; if it stops in the phase of production, the means of production lie without functioning on the one side, while labour power remains unemployed on the other; and if capital is stopped short in its last phase $C—M$, piles of unsold commodities accumulate and clog the flow of circulation."[1]

The problem is how and why these possibilities turn into realities of capitalist reproduction. Unlike Marx, who discovered the ultimate source of crises in the immanent contradictions of capitalism, Keynes focused his attention on secondary, derivative manifestations of these contradictions in the sphere of circulation and in that of the subjective motivation of economic agents.

[1] Karl Marx, *Capital,* Vol. II, p. 50.

Keynes' attempts to deduce a single universal psychological law allegedly regulating the movement of aggregate demand are patently unsound—no serious analysis of the magnitude is possible without allowing for the qualitative differences in consumption and the way of life of different social classes. The concept of the multiplier reflects the indisputable proposition that in a situation where free resources are available any increase in expenditure through the new demand thus created stimulates a production expansion. Yet, it fails to disclose the complex mechanism of the extended reproduction of social capital and does not give an overall picture of economic growth, which is also inextricably bound up with the struggle of class interests, and the specificity of the capitalist system of wage labour exploitation.

The Keynesian doctrine is a good example of the tendency of modern capitalism to try to adapt itself to the changing pattern of historical conditions. The effectiveness of Keynesian policy is attributable to the fact that, under the pressure of historical circumstances, Keynes took a step forward in exploring individual aspects of the real contradictions of capitalism. Its limitations and inherent contradictions which manifested themselves particularly in the 1970s spring from the fact that this step forward had been prompted and limited by the pragmatic interests of defending the bourgeois system.

Parallel to the rise of Keynesianism another "revolution" occurred in bourgeois political economy. It took the form of the monopolistic competition theory, whose authorship is usually credited to Edward Chamberlin.

Like Keynes, Ghamberlin laid claim to developing a generalised system incorporating neo-classical theory as one of its elements. Many students of modern bourgeois economics think that Chamberlin's theory was just as important for modern micro-economic analysis as Keynes' theory was for macro-economic research. Although Chamberlin did not carry out any special research into the problem of capital and profit, his system, which radically changed the non-Marxist view of competition, left an indelible imprint on most subsequent works on the theory of capital.

It should be noted at the outset that Chamberlin's "revolution" was a belated one, occurring half a century after

a turning-point in the history of the capitalist countries of Western Europe and North America, which entered on the stage of monopoly capitalism. Thirty years before Chamberlin, when bourgeois political economy was totally dominated by illusions about "perfect competition", Marxists discovered the basic laws governing this qualitatively new stage in the evolution of capitalism. Nonetheless, the works of Chamberlin and other theorists of "monopolistic" and "imperfect" competition contain not a few conclusions and observations relevant to the scientific analysis of modern capitalism.

The ideas of Marshall, which Chamberlin used as his point of departure, were a fusion of the theory of value and the theory of competition. Having cast aside the classical theory of labour value, Marshall and his followers deduced the value of commodities from the interaction between the forces of competition. They looked upon a capitalist economy as a conglomerate of individual industries each of winch establishes its own supply and demand equilibrium through the market price mechanism. The equilibrium of price corresponding to the equality of supply and demand was regarded by Marshall as a stable centre of fluctuating current market prices, or as the "value" of the given type of commodity.

Chamberlin gave a different interpretation to Marshall's theory. He took Marshall's theory of price for what it really was—a theory of competition rather than one of value. In particular, by borrowing from Marshall's scheme of the self-adjustment of supply and demand, Chamberlin distinguished between the *law* of supply and demand, whereby they inevitably tend towards equilibrium, and a curve of supply and demand, reflecting simple functional dependence between three magnitudes—supply, demand and price.[1]

[1] Chamberlin wrote: "The equilibrium of economic forces has boon wrongly identified with an equilibrium between demand and supply. Tho latter is merely a special case of the former. Curves of demand and supply tell nothing, either by themselves or by their intersection, as to what price will be established until other conditions are known. They are so to speak, landmarks, but no more." (Edward Hastings Chamberlin, *The Theory of Monopolistic Competition. A Re-orientation of the Theory of Value*, Harvard University Press, Cambridge, 1956, p. 15.)

Marshall and his followers believed that partial equilibrium was an adequate reflection of reality, and deviations from it were temporary and unstable. The only exception was the state of "pure" monopoly, i.e. the control of an entire industry by one company, which upset the natural equilibrium between demand and supply by artificially contracting supply and increasing the price to a monopoly level limited by the elasticity of demand alone.

Chamberlin demonstrated the unrealistic nature of "pure" competition and "pure" monopoly. Marshall's theory presupposed that an individual industry is small enough for brief deviations from the equilibrium within it not to seriously upset equilibria in other industries. At the same time, the number of firms in an industry should be sufficiently large for the conditions of "pure" competition to prevail. Chamberlin showed that, for "pure" competition to exist, the number of firms in a small industry must tend to infinity, which, needless to say, is out of the question.

Another logical condition of the models of "pure" competition and "pure" monopoly is the complete homogeneity of the output of all the firms involved in competition within an industry and the absolute heterogeneity of the output of other industries. Chamberlin demonstrated that no monopoly can be "pure", if only because there are no absolutely unique and non-substitutable goods. Besides, within an industry the products of individual firms are not absolutely identical. Thus, within a particular industry we have not only price, but also non-price competition based on the dissimilarity between the products of individual firms and their positions in the market. Chamberlin's overall conclusion was that, in real life neither "pure" competition nor "pure" monopoly is possible with few exceptions. To quote Chamberlin: "The two forces are complexly interwoven with a variety of design..."[1] Capitalist markets are dominated by monopolistic competition or by competition with a strong monopolistic element.

The concept of "pure" competition formulated by Chamberlin as a logically strict summary of Marshall's system throws into bold relief the difference between this system and the

[1] Edward Hastings Chamberlin, op. cit., p. 3.

Marxist doctrine of free competition. The theoretical concept of free competition borrowed by Marxism from classical bourgeois economics arose as a generalised expression of laissez-faire capitalism, free from feudal monopolies and other non-economic limitations inherited from the Middle Ages. The term "free competition" was also used to characterise the laws of pre-monopoly capitalism. Used in this sense, the concept of free competition is perfectly scientific and meaningful.

The concept of "pure", or "perfect", competition has a different origin. It appeared in the period of maturing monopoly capitalism, when competition was, squeesed out being by capitalist monopolies. The concept of "imperfection" of competition was used to denote those individual manifestations of monopoly that came within the field of vision of bourgeois economists. A hypothetical system, free from these phenomena, was looked upon as a state of "perfect" or "pure" competition. As competition became less "perfect", so the concept became increasingly meaningless. Chamberlin took this process to its logical conclusion, demonstrating that the concept of "pure" competition had long lost any real historical basis.

Incidentally, Chamberlin himself was far from being a historicist. He believed that his conclusions were true for all periods in the evolution of capitalism. Even so, it was only logical that his theory should have emerged in the formative period of monopoly capitalism, when the stage was being set for the inevitable passage from the set of ideas of the era of free competition to a new theoretical system more in harmony with the changed realities of capitalism. Chamberlin was one of the bourgeois economists who were destined to carry out this inevitable transition.

Until the early 1920s a paradoxical duality was in evidence in non-Marxist political economy. On the one hand, as early as the 19th century business practices provided incontestable evidence of the advantages offered by large-scale production, which became particularly obvious when the first monopolistic associations appeared. On the other, the prevailing abstract economic theory made no provision for the growing concentration and centralisation of capital. Within the rigid framework of the neo-classical model,

under ail circumstances competing firms remained small and helpless in the face of the market. One condition for equilibrium was invariable costs in relation to the scale of production. Even in the 1920s the economists of Cambridge, Oxford, London, Harvard, Chicago and other universities were still debating whether costs would decline as the scale of production expanded. For the sake of theoretical elegance most of Marshall's followers preferred to ignore the impact of concentration. It was not until the mid-1920s that the idea of the obvious advantages of large-scale production and inevitability of concentration began to assert itself in abstract theory. In the early 1930s G. Means' statistical research showed just how far concentration in US industry had gone. It turned out that, in many key industries, the bulk of production and distribution was in the hands of a few giant firms. It was quite obvious that in these industries the logical conditions of "pure" competition were not being observed. Subsequent empirical research confirmed that price formation in monopolised industries exhibited inflexibility in respect of demand and supply and was, apparently, subject to other laws.

The gap that emerged in the set of theoretical tools available to non-Marxist economists was conveniently filled in by Chamberlin's theory of oligopoly. Chamberlin proved that irrespective of the subjective intentions of oligopolists, they were bound together by a measure of interdependence, simply by virtue of the giant size of their production and marketing operations with respect to one another and to the entire supply and demand situation in the given industry. The tendency towards collusion is stronger, therefore, than the counteracting centrifugal factors. This results in the establishment of a new system of price formation in the industry.

Chamberlin advanced the general proposition that the oligopoly price is higher than the competitive one, otherwise there would be no point in colluding. At the same time, the oligopoly price may not coincide with the hypothetical monopoly price at the given level of demand. As oligopolists have different costs of production the levels of prices at which their individual profits are maximised vary. There are other objective and subjective reasons for

the different aims pursued by those entering into a collusion. Thus, the oligopoly price, as a rule, is a compromise established at a somewhat lower level than the monopoly price.

Cessation of price competition under the conditions of oligopoly does not mean that rivalry between the participants stops for a new flare-up of the "price war", prepared by a period of secret redeployment of forces. Given fixed prices, the struggle is waged by other means. The main weapons of non-price competition are product quality, advertising and servicing.

Having exposed the significance of quality competition, Chamberlin put forward the proposition that objective differentiation of the products of individual firms within a particular industry may produce a relative independence of their prices with respect to the market price in that industry, i.e. it may lead to a certain "monopoly effect".

Chamberlin considered product differentiation and production concentration as equally effective ways for forming a monopoly. This proposition was subjected to sharp and well-founded criticism by Marxist writers, since there is a fundamental difference between a monopoly resulting from production concentration and centralisation and a monopoly based on product differentiation. The latter is engendered by a variety of factors, including the efforts of firms to lend their products a measure of uniqueness. A major instrument for creating a monopoly of this type is monopolisation of scientific and technological advances. For the subjective actions of rival firms to be successful, however, objective prerequisites are essential, above all, large-scale capital and production.

A monopoly that arises by exploiting the fruits of scientific and technological progress is normally smaller and less stable than one based on production concentration. The statical analysis made by Chamberlin fails to supply the answer to the question as to the nature and stability of such a monopoly, and yet it is precisely this aspect that is of the greatest importance for its evaluation in socio-economic terms.

Chamberlin claimed that a capitalist enterprise was not a passive mechanism for maximising profit within the given

parameters of market demand and price. On monopolised markets, a firm enjoys a measure of freedom not only in respect of its own productive resources, but also to its rivals and consumers. A firm excercises a measure of control over price and may influence the volume of demand by means of non-price competition in order to create stable preferences among its customers. These conclusions drawn by Chamberlin furnished the basis for the modern theory of the firm.

It subsequently turned out that Marshallian industries concealed a wide diversity of specific market structures. Chamberlin demonstrated that the laws of price formation are by no means universal, but depend on market structure, that in most cases the market price is no mere result of the interplay of spontaneous market forces, but rather the product of engineered conflicts and collusion among rivals.

Although Chamberlin did not, indeed, concern himself with the problem of monopoly stability in the face of new capital flows, his theory made economists take a fresh look at the problem of capital migration and the establishment of the inter-sectoral equilibrium. If flows of capital from one industry to another remained free, the emergence of monopolistic structures and monopoly prices would have simply been impossible. Thus, in order to prove the existence of monopolistic competition, it was first necessary to prove that of reliable barriers against the entry of outsiders into oligopolistic industries. This problem was solved by Chamberlin's followers. Using a series of empirical and theoretical investigations into the problem of "entry into an industry" they showed that most industries do have such barriers. These investigations yielded many valuable observations and conclusions about mergers, combinations and diversifications which are the new forms of the spontaneous regulation of inter-sectoral proportions.

Chamberlin's book undermined the views of earlier bourgeois economists concerning the structure of capitalist economy, systematised in the scheme of general equilibrium. The British economist, J. Hicks, remarks quite rightly that "a general abandonment of the assumption of perfect competition, a universal adoption of the assumption of monopoly, must have very destructive consequences for economic theory".[1] Chamberlin failed to develop a new morphology to replace the neo-classical schemes of general and partial equilibrium. His work is clear evidence of both the logical unsoundness of the neo-classical system and of the inability of bourgeois political economy to forego the basic postulates of the system despite their manifest untenability.

As for the ideological content of the bourgeois theory of monopolistic competition, it is frankly apologetic. Chamberlin was one of the first economists to use analysis of new phenomena in the development of capitalism to camouflage capitalist exploitation, which was to become the dominant method in the arsenal of present-day apologists for capitalism. To reduce the problem of monopoly to its individual and secondary aspects (product differentiation, collusion of several sellers, etc.) is to ignore the socio-economic essence of monopoly as a special historical form of capital. To assert that monopolistic income is a legitimate, though the only, deviation from the zero profit of "pure" competition is not to deny but rather to corroborate the theory of production factors. In the light of the foregoing it is small wonder that Chamberlin subscribed to conservative political philosophy and maintained that only the "monopoly" of labour needed to be fought.

The "revolutions" of the 1930s basically completed the protracted formative process of modern non-Marxist economic concepts, including the theories of capital.

Each of the above-mentioned theorists has contributed to the elaboration of the fundamental elements of the latest theories and models. To Böhm-Bawerk, non-Marxist economics owes the principles of intertemporal shifts in value and the interaction of "time preference" with the application of "roundabout" methods of production. Wicksell was one of the fathers of the monetary approach to the study of interest and to the theory of the marginal productivity of factors. Having discovered two forms of capital growth—"in-depth" and "in-breadth", Wicksell anticipated many of the present-day ways of allowing for the impact of scientific and technological progress on capital formation. Marshall

[1] J. R. Hicks, *Value and Capital. An Inquiry into Some Fundamental Principles of Economic Theory,* The Clarendon Press, Oxford, 1946, p. 83.

has pioneered a wide gamut of methodological premises that, to this day, determine the basic features of bourgeois economic thought: the demand and supply principle in a state of partial equilibrium as the basis for a functional analysis of economic phenomena; the theory of the firm which integrates the three traditional factors of production and the factor of organisation; the zero profit principle; and the concept of the marginal productivity of capital and investment. Clark is still the foremost authority on the neo-classical concept of distribution resting on the principle of marginal productivity. Fisher has introduced the mandatory discounting of intertemporal magnitudes without which no modern model of capital is conceivable.

Keynes equipped bourgeois economists with the tools of macro-economic functional analysis, including the categories of "marginal efficiency of capital" and "liquidity preference". He also outlined the modern monetary concept of interest. Ghamberlin showed the need to take account of the monopolistic nature of capital in present-day conditions.

A salient feature of the modern non-Marxist concept of capital is its pragmatic integration of all these elements. Bourgeois economists seek to present the historical and logical continuity of these elements as real progress in economic knowledge and to interpret improvements in the technical arsenal of economic research as far-reaching discoveries in the study of the substance of economics. We acknowledge that in methodology, present-day theorists of capital have indeed made substantial headway over the primitive Robinsonades of the Austrian school. They make wide use of some of the recent achievements of mathematics, exemplified by functional analysis, vector and matrix algebra, topology, games theory and linear programming. They also draw heavily on achievements in logic, sociology, information theory, operations and systems analysis. There is no denying the superficial attractiveness of the formal models. The impressive mathematical back-up creates the illusion that non-Marxist political economy has reached or, at any rate, is moving towards the frontiers of the modern natural sciences which have made a spectacular headway over the last few decades.

It is common knowledge, however, that mathematics describes quantitative relationships and the spatial forms of the real world. The abstract character of mathematics resides in the fact that the nature of the phenomena it studies is unimportant to it. That is why the subject matter of economics sets limits to the application of mathematics to it. Present-day non-Marxist economists have upended everything by squeezing the subject matter of economic research into the Procrustean bed of formal mathematical techniques. No wonder, therefore, that the improvement in form has failed to bring any appreciable changes in content in its wake: esoteric mathematical lingo disguises the traditional ideas of vulgar political economy. Today's bourgeois theorists, as a rule, prefer to avoid examining fundamental socio-economic problems, pretending that these were solved in the periods of the second (the 1870s) and third (1930s) "classical situations".[1]

Among the concepts used by the present-day exponents of micro-economic theory there are hardly any that are beyond dispute and not open to doubt or criticism. Yet, the paradox here is that the theories and models of the critics differ from the mainstream of the predominant ideas in this field about as much as the branches of a tree differ from its trunk. Thus, despite the apparent "war of everyone against everyone", it is safe to say that there exists a relatively stable set of views, which can be described as "the modern non-Marxist concept of capital".

By its nature, this concept is an amorphous, eclectic jumble of many different ideas and concepts. In terms of *subject matter* it is divided into the theories of interest, profit and investment. In terms of *content* it incorporates the two basic currents—the neo-classical and the neo-Keynesian, which have been closely intertwined to consummate in what is known as the neo-classical synthesis.

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* Joseph A. Schumpeter, op. cit.

CHAPTER II

THE THEORY OF INTEREST

An analysis of the historical evolution of the bourgeois theories of capital shows that a gradual shifting of emphasis occurred in the subject matter of economic research, and, more specifically, in the very interpretation of the problem of capital. Bourgeois economists have moved from the "metaphysical" depths of the capitalist mode of production to an examination of the "obvious" facts of the visible forms of capital movement, above all in the sphere of circulation, and on to the emasculated abstractions of "pure theory".

The ability to yield monetary income in the form of interest is among the more obvious properties of capital. That is why, as early as the 19th century Marx noted a shift away from the formula: capital-profit, land-ground-rent, labour-wages to the formula: capital-interest, land-ground-rent, labour-wages.[1] This shift has by now been completed. In contrast to classical bourgeois political economy which focused on profit, present-day theories of capital give pride of place to interest.[2] This evolution is a perfectly logical development. From the standpoint of the inner logic of vulgar political economy, Marx pointed out: "Formula capital-interest, as the third to land-rent and labour-wages, is much more consistent than capital-profit, since in profit there still remains a recollection of its origin, which is not only extinguished in interest, but is also placed in a form thoroughly antithetical to this origin".[3]

[1] See Karl Marx, *Capital*, Vol. III, p. 814.

[2] Interestingly, the authoritative *Encyclopaedia Britannica* treats of capital and interest in one and the same entry, while considering th category of profit separately, outside the context of capital.

[3] Karl Marx, *Capital*, Vol. III, p. 829.

What all bourgeois concepts of capital have in common is that they deduce socio-economic phenomena (the capitalists' appropriation of interest) from the particular physical or techno-economic properties of objects making up capital. Two basic approaches have been crystallised in modern bourgeois economics in defining "real" or "monetary" capital by elevating into an absolute the material or monetary forms of capital respectively. In addition to this definition, today's bourgeois economists proclaim time and the various manifestations of the inter-temporal factor in economics to be among the chief properties of capital generating interest.

1. THE PROBLEM OF THE DEFINITION OF CAPITAL

Within the framework of the supply and demand method, which is the universal method of analysis in vulgar economics, capital figures primarily as the object of demand and supply, while interest, as the price of capital. The problem of defining capital in this context is tackled accordingly.

It is common knowledge, that in the course of its circulation, capital takes on three successive forms—monetary, productive and commodity. Inasmuch as vulgar political economy gives primacy to the circulation sphere, it is understandable why, in the theory of capital, it is precisely the unproductive forms that are given preference. Money or material goods such is the essence of the various definitions of capital current in bourgeois economics today.

The opposition between the money and material forms of capital goes back to the 18th century. Marx wrote: "The peculiar role played by capital in this instance is the reason why bankers' economics teaches that money is indeed capital *par excellence* as insistently as enlightened economics taught that money is not capital."[1] At that time, the material concept of capital was only one of the interpretations of the classical doctrine, whereby capital as a stock of material things was looked upon as the source of profit, in contrast to monetary capital, which yielded interest. In

[1] Karl Marx, *Capital*, Vol. II, p. 463,

present-day bourgeois economics, the absolutisation of the two forms of capital mentioned above is embodied in the confrontation between the "monetary" and "real" concepts, the advocates of which agree, however, that capital, whatever its form, is a source of interest rather than of profit.

The problem of proving the existence of a positive rate of interest has been tackled by bourgeois theorists in the context of the demand and supply scheme. This approach predetermines the direction of and limitations on their search. From the standpoint of a partial market equilibrium a positive rate of interest may only arise given a stable excess of demand for capital over its supply. Whereas, before Marshall, mutually exclusive explanations of the existence of interest were current (either factors of demand *or* those of supply), today's theories are dominated by the Marshallian principle of "scissors", i.e. the interaction of both sides of the market mechanism.

All present-day bourgeois concepts of interest, apart from the method of demand and supply inherited from Marshall, are based on the rigid line of distinction between capital as stock and income as a flow, as pioneered by Clark.

This distinction interrupts dialectical interrelations among the phenomena of real life not in the spatial dimension, but in the temporal one. This predetermines the essentially static nature of all bourgeois theories of capital, including those that claim to have discovered "economic dynamics". They are in sharp contrast to the doctrine of Marx who proceeded from the realisation that "it [capital. —*Ed.]* can be understood only as motion, not as a thing at rest".[1]

The absolutisation of the "discrete nature" of the movement of capital finds its logical conclusion in the universally recognised division of all economic phenomena into ex post and ex ante ones. This idea, pioneered by the Swedish school (G. Myrdal) stems from the fact that one and the same economic event can be examined either a priori or a posteriori. If A is the state of the world at the initial moment, A_1 and A_2—at subsequent moments 1 and 2, at the initial moment A_1 can only be examined as ex ante, while at Moment 2 as ex post.

[1] Karl Marx, *Capital,* Vol. II, p. 108.

In practical usage this distinction takes on a far more profound, multidimensional and, essentially, philosophical character. If we examine economic processes ex ante we cannot afford to leave out of account their uncertainty springing from the possibility of the subjective choices made by the participants and many alternative objective sequences of events. This being so, the possibility arises of placing the logic of subjective behaviour at the centre of research into not only concrete problems, but also into abstract theoretical ones, which form the subject matter of political economy.

The ex ante technique is a logical consequence of the shift in the analysis of capital from the sphere of production to that of circulation, from profit to interest, and the extrapolation of the laws governing the movement of fictitious capital to "capital in general". Marx noted that the market value of securities "is in part speculative, since it is determined not only by the actual income, but also by the anticipated income, which is calculated in advance",[1] that all this paper "represents nothing more than accumulated claims, or legal titles, to future production..."[2]

The ex ante technique offers new opportunities for tackling the problem of capital from positions that suit the interests of the bourgeois apologists for capitalism. In contrast to the "naïve" subjectivism of the Austrian school, which set it up as an absolute in opposition to the investigation of objective laws, the subjectivism of the present-day theory of capital is more sophisticated, admitting the possibility of not only analysing "the future", the world of expected magnitudes and proportions, but also "the past", the world of objective, long-established magnitudes and proportions. Yet, most bourgeois theorists deny the cognitive value of the objective approach. Hicks writes: "Ex post calculations of capital accumulation have their place in economic and statistical history; they are a useful measuring-rod for economic progress; but they are of no use to theoretical economists, who are trying to find out how the economic system works, because they have no significance

[1] Karl Marx, *Capital,* Vol. III, p. 467.
[2] Ibid., p. 468.

for conduct."[1] In particular, if we examine ex post income, it includes "unexpected" and, consequently, accidental profit. That is why, Hicks believes, ex post income is irrelevant to the investigator.

"These definitions of capital goods and capital values are *forward-looking,* not *backward-looking.* While it may be true that a capital good somehow [?!] 'embodies' productive services of previous dates, the origin of a good representing a source of future productive services is not economically relevant,"[2] writes the US economist J. Hirshleifer, echoing Hicks.

It would be wrong to equate ex post analysis, as understood by bourgeois economists, with the analysis of objective reality as understood by Marxists. Both ex post and ex ante approaches are based on categories endemic to bourgeois economics, which are designed primarily to aid research into the subjective motivation of economic agents. It is only natural, therefore, that the ex post approach, however paradoxical it may sound, is even more devoid of substance than is the subjective ex ante. A peculiar extension of the ex ante technique is its retrospective projection into the past to a point where ex post magnitudes begin to be treated as the result of the preceding ex ante decisions. Thus, the subjectivist treatment of economic phenomena reaches its logical conclusion.

The method of demand and supply, the portrayal of capital as a stock and of income as a flow, the distinction between ex post and ex ante phenomena, as well as the shift of emphasis to a priori analysis, constitute the fundamental characteristics of the monetary and "real" concepts of capital and interest.

2. THE "REAL" CONCEPT

The proponents of the "real" concept give extremely broad definitions of capital.

To the US economist D. Dewey "a capital asset" is "anything that yields a flow of services over time". He equates

[1] J. R. Hicks, op. cit., p. 179.

[2] J. Hirshleifer, *Investment, Interest, and Capital,* Englewood Cliffs, New Jersy, 1970, p. 154.

the "product" of the capital asset with this flow of services, and defines "income" as the product minus the services that must be used to keep the capital asset in working order and replace it when it wears out. Given this usage there can be no such thing as a "consumer good". "'Capital' is purely and simply a synonym for 'productive power'. Capital includes everything useful in production—the skills of human beings, their personal integrity in business transactions, cut flowers, land, raw materials, roads, bridges, buildings, machinery, and even the cohesion of the social order."[1]

K. E. Boulding in his entry "Capital and Interest" for the *Encyclopaedia Britannica* believes that "capital may be broadly defined... as the set of economically significant elements in existence at a moment of time. The various concepts and definitions of capital revolve around the question of defining what is economically significant. In its broadest possible sense capital includes the human population; nonmaterial elements such as skills, abilities and education; land, buildings, machines, equipment of all kinds; and all stocks of goods—finished or unfinished—in the hands of both firms and households."[2]

J. Hirshleifer gives two definitions of capital. According to one, capital is a set of capital goods, i.e. physical objects existing in the present but constituting a source of income or consumption opportunities in the future. Resorting to analogies usual for representatives of the subjective-psychological school, Hirshleifer likens capital to an apple-tree, the source of future apples, and to seed as the source of next year's grain, and to a house, as the source of future shelter. To him, capital goods are of value not per se but rather in so far as they create an opportunity to produce consumer goods. Hirshleifer represents capital-value as a current market equivalent of a future sequence of incomes or as a flow of payments associated with a particular capital good.

In his famous textbook *Economics,* Paul Samuelson portrays capital as social wealth, the consequence of past

[1] Donald Dewey, *Modern Capital Theory,* Columbia University Press, New York and London, 1965, p. 24.

[2] *Encyclopaedia Britannica,* Vol. 4, London, 1963, p. 835.

labour, which is privately owned and capable of yielding income.[1]

Describing the substance of bourgeois political economy, Marx noted that, in the alienated forms of the manifestation of economic relations that it studies, these latter are "prima facie absurd" and as a result perfect contradictions appear.[2] This organic feature of vulgar political economy is very much in evidence in the "real" definitions of capital, which are full of unresolvable logical contradictions mirroring those in objective reality.

Capital enjoys a demand in excess of supply because it yields an income, in other words, because it is "productive". The perennial question following from this is: what is the source of capital's "productiveness"?

Bourgeois economists make no secret of the fact that "capital productivity is still one of the haziest ideas in economic theory".[3]

The amplifying definitions of Dewey and Boulding are very convenient for the purposes of an apologia in that capital being the only factor of production, the entire increment in social wealth is a consequence of its functioning. Labour power is portrayed as a variety of capital, while wages, as a form of interest.

From the common sense viewpoint, however, this conception implies *reductio ad absurdum* of the very idea of capital productivity. Indeed, this conception ignores the social and historical origin of production. If we are to follow the logic of Dewey and Boulding, the same laws of production and distribution operate not only at every stage in human history but in the animal kingdom as well, where "wealth" is also stored up for the purpose of the subsequent realisation of its "services". Marx ridiculed attempts made back in the 17th century to portray labour power as capital, when he wrote: "Unfortunately two disagreeably frustrating facts mark this thoughtless conception. In the first place, the labourer must work in order to obtain this interest.

[1] See Paul A. Samuelson, *Economics. An Introductory Analysis*, McGraw-Hill Book Company, New York, Toronto, London, 1961, pp. 46-49.
[2] Karl Marx, *Capital*, Vol. III, p. 817.
[3] Donald Dewey, op. cit., p. 30.

In the second place, he cannot transform the capital value of his labour power into cash by transferring it."[1]

Today's followers of Fisher also fail in their attempts to buttress their basic concept with references to scientific and technological progress and to the continuous progressive shifts in the quality of use-values. Dewey, for one, writes: "Given continuous technical change, the service of the existing set of capital assets can always be used to build a new set of new, different, and better capital assets. In the long run, this change-over has no cost."[2]

The factor of scientific and technological progress and the economic effects of product quality improvement are inseparably bound up with a process of production and capital accumulation. It raises labour productivity which enables technologically advanced enterprises to obtain excess surplus-value. Generally speaking, however, it is inadmissible to confuse it with surplus-value : in principle, the appropriation of surplus-labour on a capitalist basis is also quite possible in an unchanged technical environment. To attribute the continuous technical change to capital "productivity" is especially absurd when we examine the early stages of capitalism. Aware of the deficiency of his concept, Dewey ends up by accepting the "reasonable and inevitable solution" and says that "the 'brute fact' of capital productivity is taken as given"[3], which is the usual practice.

The more consistent "realists" in the Dewey mould make no bones about their rejection of the subjectivist explanations of interest in the Böhm-Bawerk tradition, citing quite reasonable references to the fact that the psychological time preference does not explain the existence of interest. On the contrary, time preference is explained by the existence of interest, which makes it possible to obtain a greater quantity of goods in the future at the expense of current ones. Yet, the crying contradictions inherent in the "real" concept in its extreme forms compel bourgeois economists to seek a way out of the difficulty in the realm of eclecticism, above all, by borrowing some of the basic ideas of

[1] Karl Marx, *Capital*, Vol. III, p. 405-66.
[2] Donald Dewoy, op. cit., p, 29.
[3] Ibid., p. 9.

the Austrian school.[1] This inevitably entails a set of new and no less glaring logical contradictions. So-called pure capital productivity is interpreted by many of today's bourgeois economists, notably the authors of standard economics textbooks, almost literally in the spirit of Böhm-Bawerk: if part of the efforts in the base period which could have been applied to the production of consumer goods, is instead invested in making requisite equipment for more sophisticated production methods, the sum total of consumer goods in the next period, given a specified intensity of efforts is greater than it would have been had the original, direct methods of production been maintained. In other words, the sum of consumer goods obtained with the help of capital (gross income) is greater than the sum of consumer goods which have been sacrificed to create the basic ingredients of capital (depreciation). This difference, which bourgeois economists believe represents the net productivity of capital, constitutes interest on an annual basis.

Thus, Samuelson, following the Böhm-Bawerk tradition, starts out by reducing capital productivity to the growth of efficiency through the employment of indirect methods, which take more time. On closer examination, however, we find that what was involved was a more complex spatial structure of production, rather than a more complex time structure.[2] Further, we find that in Samuelson's system time is not a direct productive force, as it is in Böhm-Bawerk's, but rather one of the factors that inhibit the progress of the division of labour alongside scientific and technological progress, transport development, etc., since the application of "roundabout" methods requires a postponement of consumption.

This erosion of initial premises is not without its logic: any attempt to "improve" apologetic schemes by bringing them closer to reality proves fatal for the apologia. Böhm-Bawerk's roundabout production methods" are an abstraction which in many ways contradicts the actual laws of

[1] Hicks writes: "Nearly everyone who comes to the study of capital falls a victim to Böhm-Bawerk's theory at some stage or other." (J. R. Hicks, op. cit., p. 192.)

[2] See Paul A. Samuelson, *Economics. An Introductory Analysis,* pp. 62-63.

capitalist production, but which fits in well with the "time preference" formula. To make his system accessible to the layman Samuelson calls indirect methods of production by their proper name—the social division of labour in which the capitalist has virtually no role to play: the means of production, or to be more precise, specialised tools used in individual sectors of the social division of labour, may be owned by the workers themselves, the capitalists or by society as a whole. Yet, irrespective of the form of ownership, this system will work and its productivity springs from a single source which is the creative power of labour.

Against this setting, Samuelson's "second line of defence"—his attempts to explain the "service" of capital by sacrificing current consumption is manifestly unsound. The extent of the employment of indirect production methods, i.e. of the division of labour is dependent not so much on the subjective intentions of income recipients, as on objective factors flowing from the prevailing level of productive forces. Free money is but a prerequisite for the further development of the division of labour, which requires suitable technological and economic conditions. Similarly, in the reverse case, if for a variety of reasons, the rate of accumulation declines, production methods do not become "less indirect" and the level of the division of labour attained usually remains unchanged. Naturally, within the social division of labour the capitalist's "personal sacrifice" has no place, since what is involved is the quantity of embodied labour used for consumption and accumulation, and the quality of labour, which determines the structure of production and its efficiency. The sole bond linking the capitalist to the productivity of social labour is private ownership of the means of production, which as Samuelson himself admits, is by no means absolutely necessary for the production process itself.

The problem of measuring capital is a vivid example of the unresolvable contradictions inherent in the visible forms of capital, which baffle bourgeois economists guided by formal logic alone. In order to trace capital demand and supply curves it is necessary to reduce the capital's heterogeneous elements to a common denominator. It is evident that for bourgeois economics money value is the only sui-

table means. Yet a change in the price of just one of the commodity ingredients of capital would undermine the whole system of measurement. Strictly speaking, the existence of a single monetary denominator is possible given the existence of only two kinds of goods in an economy: those being measured and money serving as the measure.

The attempts to by-pass this difficulty have led to the appearance in Western economic literature of a great many models in which capital takes the form of some homogeneous entity. Back in the 1920s the US economist F. Knight introduced into the imagery of bourgeois economics what he called "Crusoenia", an economic plant which meets all human needs and at the same time represents a stock of capital. In subsequent decades, P. Samuelson contributed to the efforts to design a "substance" of capital by introducing the notion of "surrogate capital"—a kind of uniform homogeneous jelly which can be transformed cost-free into any kind of consumer or capital goods. E. Phelps contributed a notion of income as a pliable mass and of capital, as hardened, set clay.[1]

Normally, artificial constructions such as these are presented by their authors with a touch of humour, as a conventional pedagogic device designed to explain particularly difficult laws governing the movement of capital in easy-to-understand terms. On close scrutiny, however, we find that the deep-seated flaws of the methodology ruling out the category of value compel bourgeois economists to confine themselves to single or two-good models and avoid those with a greater relevance to the actual situation. Even assuming the impossible—the homogeneity of capital and the measurability of its marginal productivity in consumer goods, the question inevitably arises as to what units can be used to express the quantity of different consumer goods produced with the help of capital? The only way to get round this assumption is to make another one, viz. that consumer goods represent one and the same commodity

[1] See Paul A. Samuelson, "Parable and Realism in Capital Theory: The Surrogate Production Function". In: *Review of Economic Studies*, No. 80, 1962, pp. 193-206; E. S. Phelps, "Substitution, Fixed Proportions, Growth and Distribution", *International Economic Review*, No. 4, 1963, pp. 265-88.

that is identical with capital. The absurdity of this assumption is obvious.

In the article mentioned above, Samuelson assumes the heterogeneity of capital and product, given the same level of production factors intensity throughout the economy. Thereby, he dispenses with the need for them to be measurable in physical terms. However, to assume the existence of the same capital ratios in all industries does not bring one any closer to reality than does the idea of a uniform "jelly-capital product".

The intractability of this problem finally compels bourgeois economists to rest content with the assumption that there exists some homogeneous, self-growing magnitude K which can presumably be measured in unknown, mystic units. Thus, T. Haavelemo writes: "I think that the way out of this intricate maze must be to start out with no more of an a priori fixed idea as to what capital is and what it is not than to agree that it has the form of a stock of some kind of economic objects, and then to study more explicitly the role played by such stocks in various kinds of productive processes."[1] He builds his own model on the basis of this "definition" of capital: "We shall use K [?!] exclusively to denote a stock of capital measured in some physical units..."[2]

The last word of bourgeois economics in its search for a way out of these irresolvable contradictions has been the improvement of Fisher's original device, viz. the replacement of the politico-economic definition of abstract capital by a techno-economic definition of the ex ante value of a specific investment. If we take the average discounted profitability of a capital investment as the basis, all the data we may need to calculate the value of such "capital" (the functioning period, future returns and future interest rates) take on the character of comparable indefinite magnitudes relating to the future.

In the absence of a scientific definition of capital, it is impossible to disclose the origin of interest on the basis of a "real" conception. The existing plethora of "real" defini-

[1] Trygve Haavelemo, *A Study in the Theory of Investment*, The University of Chicago Press, Chicago, p. 44.
[2] Ibid., p. 24.