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Notes on Contributors.

Printer's Forward.

In the last issue of this Bulletin we announced that we would ruthlessly adhere to our copydate ..... with the result that no new articles were forthcoming. We have, therefore, chosen to reproduce papers already familiar to some members of the C.S.E.

Ian Steedman has contributed the succinct paper he delivered to the day school on capital theory. We continue by printing the first part of a paper by Bob Rowthorn, suggesting that Marxists should distance themselves from the neo-Ricardian terms of this debate, rather than tailing the internal quibbles of bourgeois economics.

Alfred Sohn-Rethal's paper, an essay in the interpretation of transitional capitalism, is best introduced with that overworked adjective, "controversial". He attempts to elucidate the essential features of this transitional capitalism pursuing it "beyond the point where Lenin left it". His arguments are bound to provoke considerable discussion amongst Marxists grappling with the problems of contemporary capitalism.

R. M. Goodwin has submitted a neat note which, we believe, can largely speak for itself.

We also print two reports discussing the situation facing those who seek to teach Political Economy in two very different countries.

Bob Sutcliffe and John Harrison review two books which, they believe, make important contributions to understanding the present, and the previous, crisis of capitalism. Finally, David Yaffe contributes an article reviewing the debate on imperialism in the Germany of the 1920's, focussing on the recently published contributions of Luxemburg and Bukharin.

Members will notice that we have xeroxed this issue. This saves sweat and is comparable in cost to the old method. However, the results of the learning process are embodied in the final product, so we apologise for the poor quality of the print where it may occur. The process also has certain advantages for contributors: work can be submitted as typed up, and the miracles of modern technology do not demand that original copy be A4 size (although this prints best). The next issue is given over to papers for the annual Conference, and we shall announce the copy-date for the subsequent issue there.

AN EXPOSITORY NOTE ON THE SWITCHING OF TECHNIQUES

After the recent (April, 1972) C.S.E. conference on capital theory, it was suggested that I might set out in writing what I had said in order that people might consider at leisure some of the questions discussed at the conference. I have decided to concentrate on the "switching" debate and to relegate to an appendix a few references to other aspects of the recent discussions in capital theory. To avoid any misunderstanding, may I stress that the purpose of this note is purely expository and that it does not contain any original ideas.

The Corn Production Function

Consider an economic system in which there is quite literally only one commodity, "corn". Corn here is not a fixed basket of commodities, national income at constant prices or any other sophisticated aggregate; it is a single homogeneous commodity, the quantities of which can be measured in physical units, e.g., tons. Corn is planted as seed at the beginning of the annual economic cycle and at the end of the year the harvest is divided into replacement of the seed and net output. We are thus faced with no problems of the depreciation, malleability etc. of fixed capital. Suppose first that there is only one, constant-returns-to-scale, production process available in the economy which requires the planting of  $k^*$  seed per man and yields a net output of  $q^*$  per man. (See Diagram 1.) If

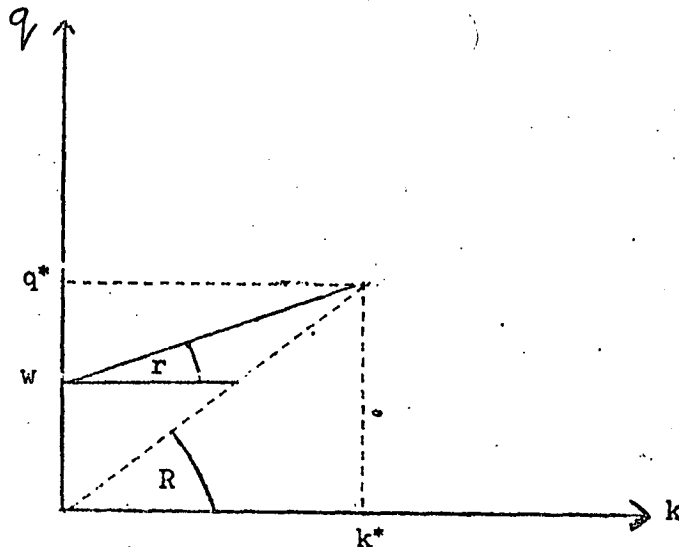


Diagram 1

the real wage per man is  $w$  then real profits per man are  $(q^* - w)$  and hence the annual rate of profit  $r$  is given by

$$r = \left( \frac{q^* - w}{k^*} \right) \quad (1)$$

as shown in Diagram 1. If we denote the maximum possible rate of profit, equal to  $q^*/k^*$ , by  $R$  then (1) may be rewritten as

$$w = q^* \left( 1 - \frac{r}{R} \right) \quad (2)$$

Equation (2) is the wage-frontier showing the relation between  $w$  and  $r$  and is illustrated in Diagram 2.

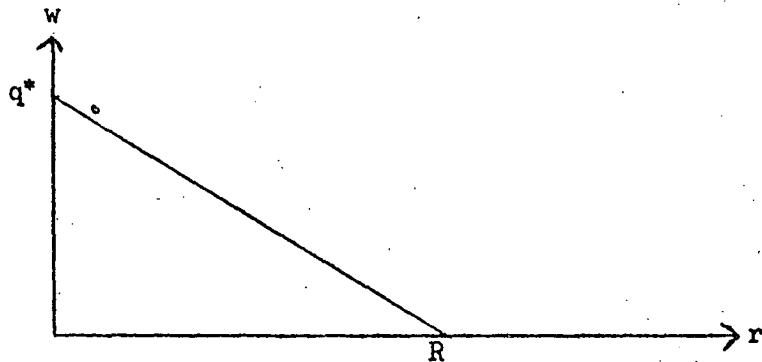


Diagram 2

Suppose now that two, constant-returns-to-scale, processes, with capital (seed) per man and net output per man of  $(k_1^*, q_1^*)$  and  $(k_2^*, q_2^*)$ , are available as shown in Diagram 3. With the

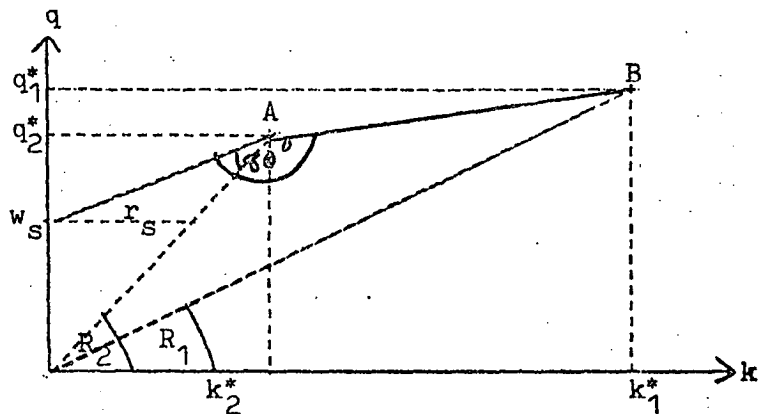


Diagram 3

usual additivity assumption, production is now possible anywhere along AB. In Diagram 4 we draw both the wage-frontier for process 1  $(q_1^* R_1)$  and that for process 2  $(q_2^* R_2)$ . It will be clear that for

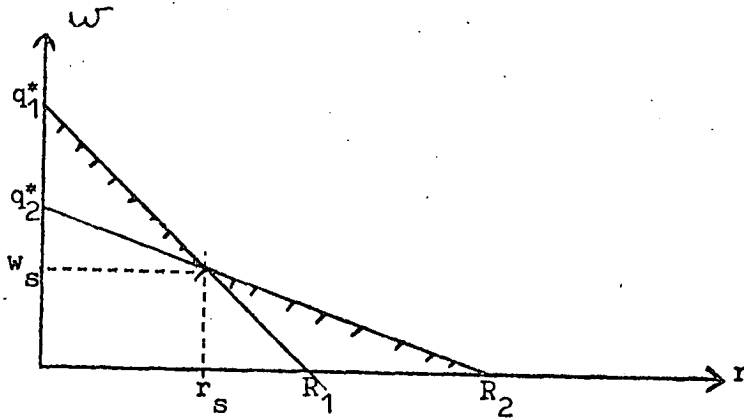


Diagram 4

rates of profit less than  $r_s$ , process 1 will yield the higher real wage but that for rates of profit greater than  $r_s$ , process 2 will yield the higher real wage. Thus if we assume the existence of competitive forces leading to the maximisation of the real wage for any given  $r$  (or the maximisation of  $r$  for any given  $w$ ) we can assert that process 1 will be in use if  $r < r_s$  while process 2 will be in use if  $r > r_s$ . Hence  $r_s$  is the rate of profit at which a switch of processes takes place as  $r$  is increased from zero to  $R_2$ . (This increase of  $r$  is a notional or logical increase and not an increase through time.) In other words,  $r_s$  is the "switch rate of profit." It will be clear that the effective wage-frontier for the economy is the broken dashed line in Diagram 4.

Now let the number of available constant-returns-to-scale, processes, each of which appears somewhere on the economy wage-frontier, tend to infinity. The economy  $k, q$  relation will then tend to that shown in Diagram 5 where we assume for simplicity that there is a

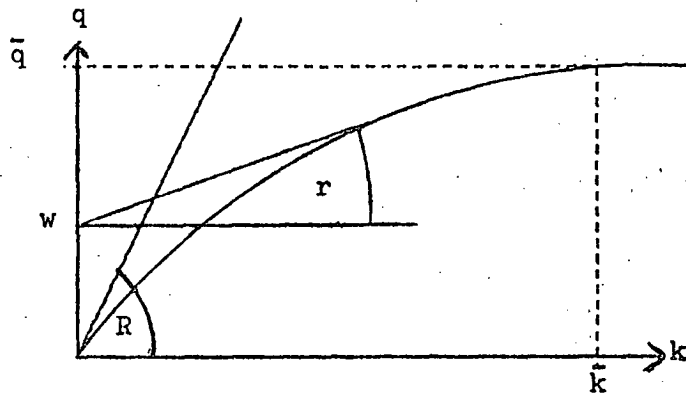
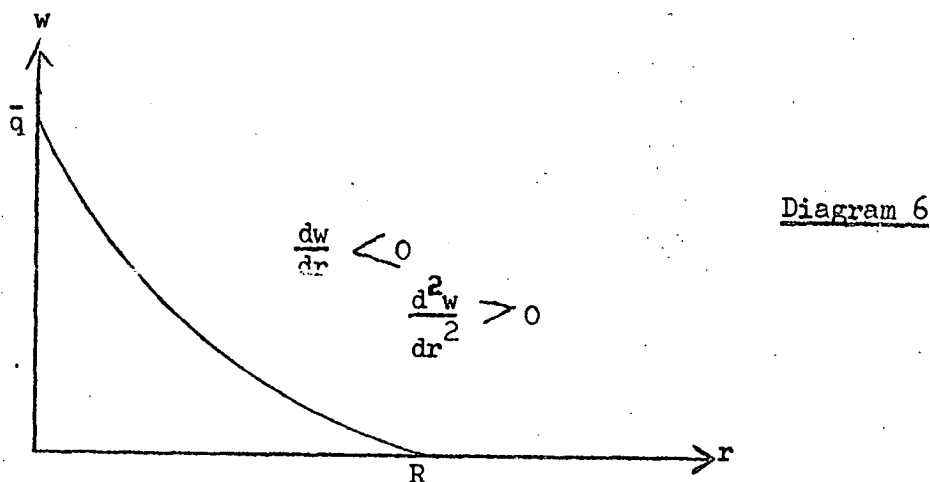


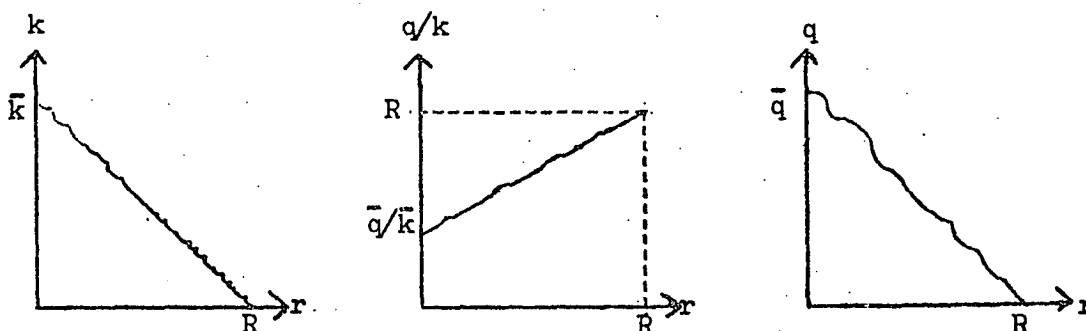
Diagram 5

maximum achievable net output per man,  $\bar{q}$ , produced with  $\bar{k}$  capital per man,  $k > \bar{k}$  yielding no increase in  $q$ , and that the slope of the

$k, q$  relation at the origin is finite and equal to  $R$ . The corresponding economy wage-frontier is then as shown in Diagram 6; the wage-frontier is necessarily of negative but increasing slope.



This economy wage-frontier is the envelope of the set of linear process wage-frontiers and it is easy to see that each relevant process appears at one and only one point on the economy frontier, with the result that there is a one-to-one relation between the rate of profit and the process in use. It will also be clear (from Diagram 5 to those not familiar with Diagram 6) that as we (notionally) increase  $r$  from zero to  $R$ , the capital/labour ratio steadily falls, the output-capital ratio steadily rises and the net output per man steadily falls. (See Diagrams 7.)



Diagrams 7

The Neo-Classical Production Function

The  $k, q$  relation shown in Diagram 5 and the implied relationships shown in Diagrams 7 will be familiar enough since they pervade much of neo-classical writing. The neo-classical production function is

not, of course, normally understood to show a relationship between the amount of corn sown per man and net output of corn per man but the relationship between net output per man and capital per man, where certainly the latter and possibly the former also are bundles of heterogeneous commodities aggregated in some way or other. The transition may appear unimportant since "the belief has become widespread that, in general, an economic system in which commodities are produced by labour and capital goods behaves like the particular case of an infinite-techniques one-commodity world." (Pasinetti, 1969) It has come to be assumed, that is, that the corn model is a close analogue of a multi-commodity model and that the relationships established for the corn model (Diagrams 7) will also hold for the more complex one. If this were so then the production function would be a brilliant theoretical construct capturing, in a simple and readily comprehensible way, important truths about a complex world.

#### A Multi-Commodity World

Suppose now that there are, say, three commodities, corn, tractors and steel and that there is available a large number of fixed proportions, constant-returns-to-scale, processes by means of which each of the commodities can be produced from inputs of corn, tractors, steel and labour. We assume no joint production, which entails, of course, that all capital is circulating capital. Our technology is thus just the same as that of the corn-only world except that there are now other commodities. To emphasise the similarity and to provide an obvious unit of measurement we assume that net output in the economy still consists of only corn. Gross output of tractors and steel is positive, of course, but only just large enough to keep on replacing the tractors and steel used in production. To a process in the corn-only world there now corresponds a technique i.e., a set of processes for producing corn, tractors and steel which, when operated simultaneously at the appropriate levels (with the appropriate quantities of labour), produces net output consisting simply of corn.



In the corn-only world we faced no valuation problems whatever since everything could be measured in tons of corn. In our multi-commodity world net output, wages and profits per man can still all be expressed in physical units but tractors and steel must be valued in corn if we are to be able to also express capital per man in terms of corn. Let the input requirements per unit of gross output of corn, tractors and steel in some particular technique be

	corn	tractors	steel
corn	$a_{11}$	$a_{12}$	$a_{13}$
tractors	$a_{21}$	$a_{22}$	$a_{23}$
steel	$a_{31}$	$a_{32}$	$a_{33}$
	---	---	---
labour	$a_1$	$a_2$	$a_3$

where we read down the first column to find the inputs for corn production, the second for tractor production, etc. If  $w$  and  $r$  are the corn wage and the rate of profit as before and  $\beta_2$  and  $\beta_3$  are the corn prices of tractors and steel then in an equilibrium situation we must have

$$\left. \begin{aligned}
 1 &= (a_{11} + a_{21} \beta_2 + a_{31} \beta_3) (1 + r) + w a_1 \\
 \beta_2 &= (a_{12} + a_{22} \beta_2 + a_{32} \beta_3) (1 + r) + w a_2 \\
 \beta_3 &= (a_{13} + a_{23} \beta_2 + a_{33} \beta_3) (1 + r) + w a_3.
 \end{aligned} \right\} \quad (3)$$

Solving (3) we can find  $w$ ,  $\beta_2$  and  $\beta_3$  as functions of  $r$ ; it can be shown that  $w$  must be a decreasing function of  $r$ , as in the corn-only case, but it is no longer possible to say that the wage-frontier will be a straight line or, indeed, to say what will happen to the slope of the wage-frontier as  $r$  varies. All of the wage-frontiers in Diagram 8 are possible. When  $r = 0$ , the wage is equal to net output per man, of course.

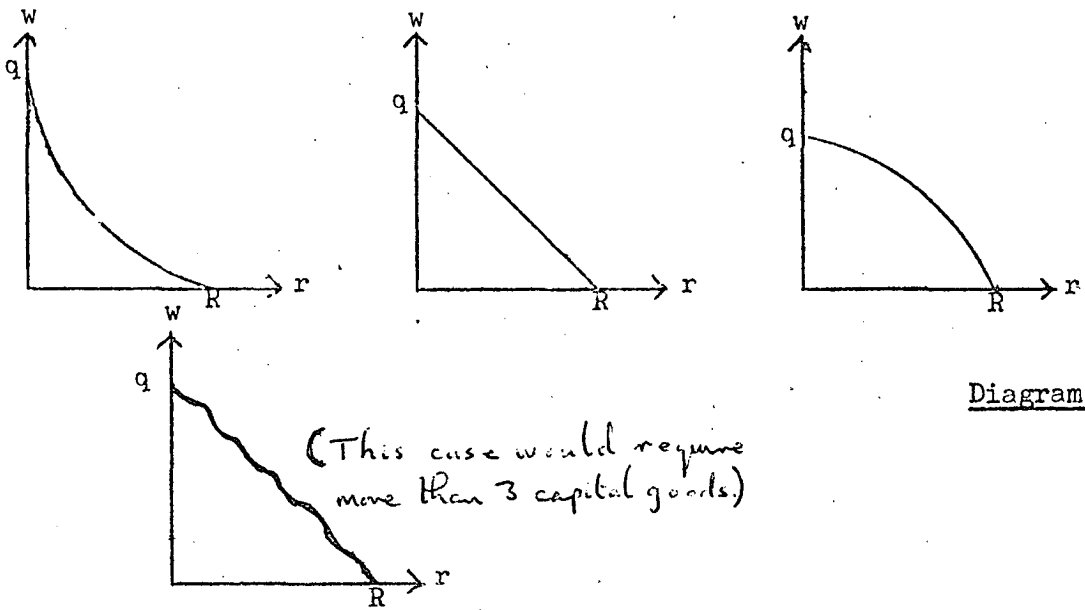


Diagram 8

Suppose that for a particular technique the wage-frontier is as in Diagram 9 (nothing turns on its having this particular curvature) and that the wage and profit rates are  $\bar{w}$ ,  $\bar{r}$ . Profit per man is

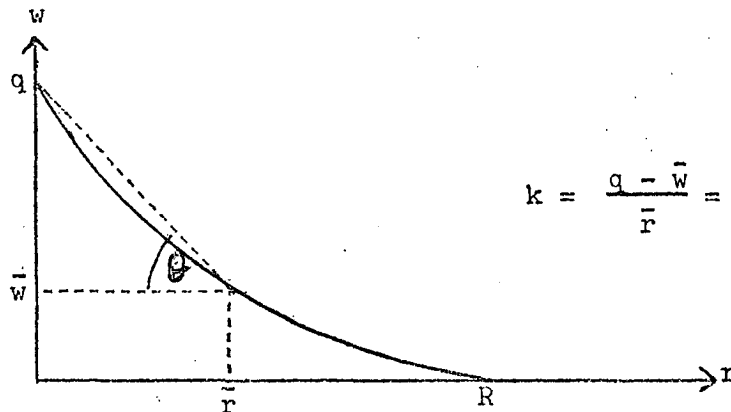


Diagram 9

$$k = \frac{q - \bar{w}}{\bar{r}} = \tan \theta$$

$(q - \bar{w})$  and hence capital per man valued in corn is equal to  $\tan \theta$ . The value of capital per man is thus easily found for any  $r$  and its variation with  $r$  should be noted - since it depends on relative prices,  $\beta_2$  and  $\beta_3$ , it is not determined by technology alone but by technology and the distribution of real income.

In Diagram 10 the wage-frontiers for two different techniques, "a" and "b" are drawn and it will be noticed that there are two switch rates of profit,  $r_1$  and  $r_2$ . This could not, of course, occur in the corn-only model since each individual wage-frontier is then a straight line and straight lines tend not to intersect twice.

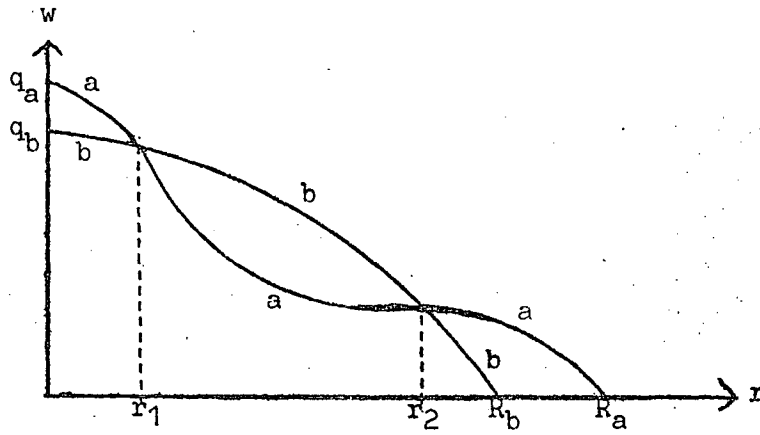


Diagram 10

A moment's reflection will show that, since technique "a" has the higher net output per man, at any switch rate of profit technique "a" has the greater capital per man. Thus as we (notionally) increase  $r$  from less than  $r_1$  to more than  $r_1$  the value of capital per man falls and we have the so-called normal association of a higher rate of profit with a lower value of capital per man. But as we (notionally) increase  $r$  through  $r_2$  we clearly obtain exactly the opposite relation, with  $r$  and the value of capital being positively related. Thus in this (perfectly plausible) system there is not an inverse monotonic relation between the rate of profit and capital per man.

Three further points may be noted.

i) We could not restore the monotonic relation by measuring capital per man in some physical unit, say tons of inputs per man. Since "a" disappears and then reappears as  $r$  "increases", capital per man in physical units must either fall and then rise or rise and then fall as  $r$  "increases".

ii) If there are more than two techniques then a monotonic relation may not exist even if there is no reswitching on the economy wage-frontier, i.e., there is no technique which disappears from the economy frontier and then reappears again as  $r$  "increases". The reader can easily convince himself of this by looking at Diagram 11. Indeed with a large number of techniques, as we (notionally) increase

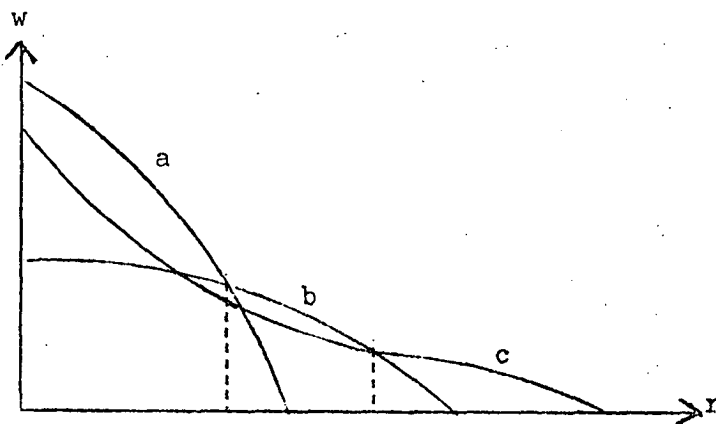


Diagram 11

r every switch except the first one could be to a higher value of capital per man.

iii). It is perfectly possible for two different profit rates to give the same value of capital per man, even when there is no reswitching on or below the frontier - see Diagram 12.

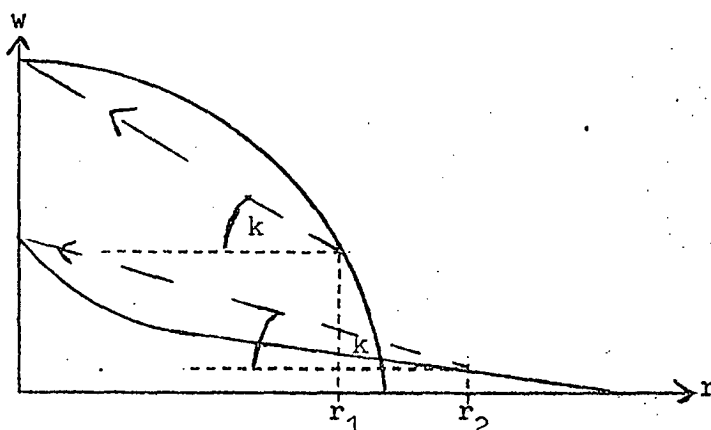


Diagram 12

We conclude that in a multi-commodity world there is no logical basis for assuming an inverse monotonic relationship between the rate of profit and capital per man rather than, say, one of the relationships shown in Diagram 13.

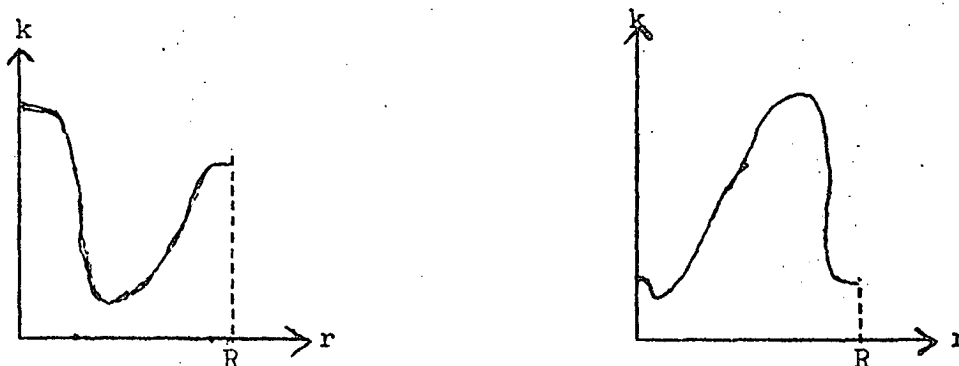


Diagram 13

Much the same kind of argument can be used to show that there is no reason to assume a positive monotonic relationship between the rate

of profit and the output-capital ratio. In Diagram 14,  $qR$  is the wage-frontier for a particular technique and  $(\bar{w}, \bar{r})$  a point on it. Since we already know that  $\tan \theta$ , the absolute slope of the line

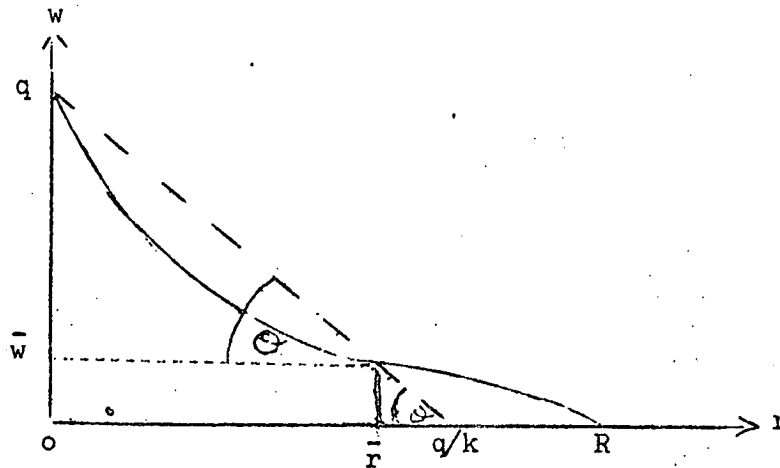


Diagram 14

joining  $q$  and  $(\bar{w}, \bar{r})$ , is equal to  $k$ , it follows immediately that the continuation of that line must meet the  $r$  axis at  $(q/k)$ . It is thus very easy to find the output-capital ratio at any point on the wage-frontier. If we now return to Diagram 10, it will be obvious that at each switch point technique "a" has the lower output-capital ratio and hence that across the first switch point,  $r$ , we have the so-called "normal" positive relationship between rate of profit and output-capital ratio while across the second switch point,  $r_2$ , we have exactly the opposite relationship. Even with an "infinite" number of techniques, the output-capital ratio may rise or fall as  $r$  (notionally) increases. (This result is, of course, relevant to the neo-classical solution to Harrod's problem concerning  $g_w$  and  $g_n$ .)

From Diagram 10 we may also derive Diagram 15 showing that there need not be an inverse monotonic relationship between the rate of profit and net output (sustainable <sup>stationary</sup> ~~stationary~~-state consumption) per man. Indeed it will be clear from Diagram 11 that no such relationship need

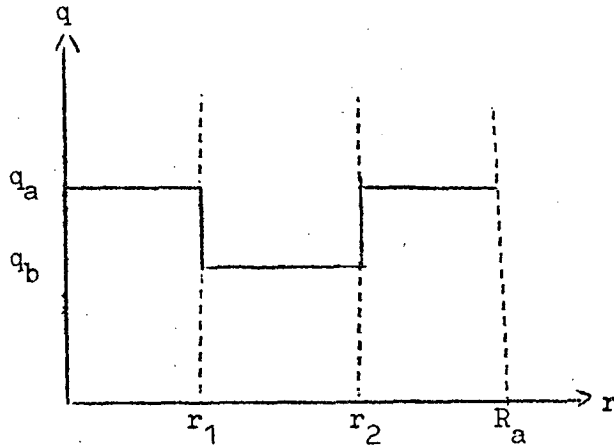


Diagram 15

exist even if there is no reswitching on the economy wage-frontier. In his summing-up of the Q.J.E. Symposium (1966) Samuelson states that he found this the most surprising of the reswitching results and adds that it makes life more difficult for the "apologist for capital and for thrift."

Samuelson's Surrogate Production Function

In 1962 Samuelson presented a multi-commodity, linear process model in which all the relationships between  $q$ ,  $k$ ,  $w$ ,  $r$  etc. along the economy wage-frontier, could be represented, to any desired degree of accuracy, by a relation between (in my notation)  $q$  and  $k$  when it was assumed that  $w$  and  $r$  were equal to the appropriate partial derivatives of this relation. This relation Samuelson dubbed the surrogate or "as if" production function, the implication apparently being that he had provided a justification for the use of an aggregate to neo-classical production function.

Suppose that the available processes had the peculiar property that within every relevant technique made up from some of those processes, the production of each commodity required the same ratio of direct labour use to total (direct plus indirect) labour use. In Marx's terminology the organic composition of capital would be the same for each commodity ~~within~~ <sup>within</sup> a given technique and in Böhm-Bawerk's terminology the ratio of direct labour to indirect labour would be the same. In such a system every technique would have a linear wage-frontier, just like the frontier for an individual process in the corn-only model. This close similarity to the one commodity case results

from the fact in an equal organic composition of capital system, relative commodity prices are independent of the distribution of income so that we are, in effect, back in a one commodity world - tractors and steel can be valued in corn at an exchange rate which is independent of  $r$ . It will be obvious that if every technique has a linear wage-frontier then reswitching is impossible, both on the economy wage-frontier and beneath it, that there is therefore a one-to-one relation between  $r$  and the technique used and that the capital/labour ratio, the capital/output ratio and net output per man will all vary with  $r$  in the manner assumed by neo-classical writers. It is thus not surprising that a technology with the peculiar property here assumed should generate a surrogate production function - and this peculiar property is precisely what Samuelson assumed.

Suppose that we have an "infinite" number of techniques in a technology with the "peculiar property." The slope of the economy wage-frontier at any point will be equal to the slope of the wage-frontier of the technique used at that point and, as can be seen from equations (1) and (2), it follows that at any point on the economy wage-frontier

$$\frac{dw}{dr} = -k \quad (4)$$

where  $k$  is the value of capital per man for the technique in question. Now it is identically true that

$$q \equiv rk + w$$

or

$$dq \equiv rdk + dr \left( k + \frac{dw}{dr} \right); \quad (5)$$

(5) is, of course, valid for any technology but if we add the very special condition (4) we see that (5) reduces to

$$\frac{dq}{dk} = r,$$

and that the elasticity of the wage-frontier is given by

$$E = -\frac{dw}{dr} \frac{r}{w} = \frac{rk}{w} = \left( \frac{\text{Profits}}{\text{Wages}} \right).$$

Again it is not surprising then that Samuelson is able to show that  $w$  and  $r$  are given by the appropriate partial derivatives of his surrogate production function.

What we have shown above is that a surrogate production function will exist in an equal organic composition of capital world; Garegnani, in his ~~paper~~ <sup>(1970)</sup> R.E.S. paper, shows that it will only exist in such a world. In other words the neo-classical production function exists only if we assume a world of equal organic compositions of capital, a world in which relative commodity prices are equal to relative quantities of embodied labour whatever the distribution of income may be. As Harcourt puts it (1969), "It is ironic that, nearly 100 years later, the rival theory of value and distribution to that of Ricardo and Marx should founder on the assumption which Böhm-Bawerk found objectionable in Marx's theory."

#### Distribution Theory

With the disappearance of the aggregate production function there is clearly no scope left for explaining the macro distribution of income between wages and profits in terms of the overall endowments of "capital" and labour and the corresponding marginal products. As soon as we leave the world of linear wage-frontiers for every relevant technique, it is impossible that  $r$  should be equal to  $\frac{dg}{dk}$  for all  $k$ ; it is identically true that

$$\frac{dg}{dk} \equiv r + \frac{dr}{dk} \left[ \frac{g-w}{r} + \frac{dw}{dr} \right]$$

and the expression in the square bracket is zero only if the wage-frontier for the technique in use is a straight line. At this level at least one may agree with Joan Robinson that "the marginal productivity theory of distribution is all bosh." (O.E.P., 1961)

As far as the more careful, disaggregated "demand and supply" versions of marginalist distribution theory are concerned, two points may be noted. First, no such theory can be acceptable until it is shown that the rate of profit implicit in the commodity prices to



which all economic agents adapt is the rate of profit which results, at the economy level, from the individual decisions of those agents. The second point, made by Pasinetti (1969) and Garegnani (~~1970~~<sup>1970</sup>), is that the absence of an inverse, monotonic relationship between the rate of profit and the value of capital per man for the best technique at that rate of profit, holds at the industry level as well as at the economy level. Thus one is not entitled to assume the existence of downward sloping "demand curves for capital" in each industry or, Garegnani argued<sup>s</sup>, the existence of downward sloping "demand curves for labour." In Garegnani's view, ~~it is~~ "It is thus hard to resist the conclusion that no ground is left for explaining distribution in terms of demand and supply for capital and labour." Attempts to elaborate (and to rebut!) this line of argument can clearly be expected to multiply, as can essays in the erection of an alternative theory of distribution.

### Conclusion

It is important to note that the reswitching critique of neo-classical theory is concerned with questions of logic and is not based on (perfectly respectable) doubts about the realism of assuming a technology containing an "infinite" number of divisible, additive, constant-returns-to-scale processes. It is thus not surprising that "the neo-neoclassicals are losing their self-confidence" (J. Robinson) and that Ferguson, in the preface to his "Neoclassical Theory of Production and Distribution" (1969), should state quite openly that, "placing reliance upon neoclassical theory is a matter of faith. I personally have faith ... ." A question of realism is, of course, involved since it is logically possible that technology should be of the "Samuelson-Surrogate, Marx-Volumes I and II" kind. Any direct investigation of whether technology is of this type is at present quite out of the question, of course, but one can say a priori that the assumption that it is, is very much more restrictive than the assumption that it is not.

Since neoclassical theory has pervaded many areas of both theoretical and econometric work in economics, it is to be expected that the results of the reswitching debate will prove to have important implications in many fields other than pure capital theory. I hope that this expository note will stimulate others to examine whether this is so in their own particular field(s) of specialisation.

Ian Steedman

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- L. Spaventa. Rate of Profit, Rate of Growth, Value of Capital per Man etc. O.E.P.

\* This has recently been published, in an expanded form, as a book (C.U.P., 1972).

Harcourt (1969) provides a good survey of several recent debates within capital theory.

- i) For discussions of the problems of measuring capital, which arise from the fact that any such measurement must involve relative prices and hence must depend on income distribution, see, for example, Robinson and Champernowne (1953-54), Sraffa (1960) and Mathur (1965).
- ii) For discussion of the malleability of capital and its relevance to neoclassical theory see, for example, Mathur (1965) and Harcourt (1969).
- iii) Even at a constant rate of profit, the same value of capital per man may obtain in economies with the same technology but different rates of growth - see, for example, Nuti (1970), Spaventa (~~1970~~<sup>1970</sup>) and Garegnani (~~1970~~<sup>1970</sup>).
- iv) There is currently much discussion around the notion of a "rate of return". Pasinetti (1969) argues that it is not possible to define a rate of return which is a purely technical indicator of the "quantity of capital" and which is independent of the rate of profit. See also Solow's "Capital Theory and the Rate of Return" and Joan Robinson's review thereof in E.J., 1964.

MARXISM AND THE CAPITAL THEORY CONTROVERSY

Vulgar Economy

Academic economics in the capitalist world is in a state of confusion as the dominant system of thought - neoclassical economics - comes under attack. Despite the elaborate mathematical reformulations it has undergone in recent years, this kind of economics differs very little in its fundamentals from what Marx, a century or more ago, contemptuously described as 'vulgar economy' - the systematisation of what is immediately visible in the sphere of market relations: individual preferences, prices and exchange. Throughout this paper, therefore, the terms 'vulgar economy' and 'neoclassical economics' will be used interchangeably.

The effect of vulgar economy has been twofold: at a scientific level it has inhibited, although not entirely prevented, serious study of the capitalist mode of production and the 'laws of motion of modern society'; and at an ideological level it has provided a moral justification of the existing social order.

Vulgar economy can be characterised in the most general terms as follows. In the first place, it is individualist, and subjectivist, seeing society as a collection of individuals whose nature is, for analytical purposes, assumed to be given or predetermined, quite independently of the social phenomena under consideration. Its object is to explain these social phenomena by relating them to the psychological characteristics of the given individuals and the initial situation in which they find themselves. In vulgar economy the individual plays a precisely analogous role to the atom in Newtonian mechanics. Just as Newtonian mechanics sees material reality as the interaction of unvarying or eternal atoms, so does vulgar economy see social reality as the interaction of individuals whose natures are unvarying or eternal. Society is explained in terms of the individual, rather than the individual in terms of society. This stands in sharp contrast to the view of Marxists and such non-Marxists as Durkheim who see the individual as the product of society and who see to explain social phenomena in terms of social laws which do not derive from the individual. Indeed, in Marx's work the individual appears merely as the representative or bearer (Träger) of

specific social relations. The accumulation of capital, for example, is not seen as the result of capitalist greed or subjective time-preference, but as an expression of the immanent laws of capitalist development, which can be understood without any reference to the subjective characteristics of the individual capitalist.

In the second place vulgar economy suffers from what might be described as technologism. Since even the most superficial description of what are generally regarded as economic phenomena cannot escape the fact that things are produced, production must somehow or other be included within the scope of vulgar economy. The way in which production is treated, however, is remarkably similar to the way in which the individual is treated. Just as the individual is assumed to be a-social, so too is production. Instead of seeing production as a social process in which human beings combine together within a specific framework of social relations, vulgar economy sees production as an a-social or natural process in which inputs of labour, land and means of production, misleadingly described as capital, are mysteriously transformed into outputs of material and non-material goods.

Insofar as property relations enter into this picture, they relate not to the labour process, or what Marx called the appropriation of nature, but to the distribution process, or what Marx called appropriation of the product. Thus, when Debreu talks of a private ownership economy he is referring, not to the fact that the capitalist employs the worker and organises production, but to the fact that some people have a claim to part of the social product, deriving from their 'ownership' of the means of production.

Finally, vulgar economy is characterised by primacy it accords to market phenomena or exchange. This is hardly surprising. Given the fact that society is seen as an agglomeration of individuals whose nature is eternally give, who do not combine together in a social production process and whose only link with each other is through the buying and selling of commodities, market phenomena must inevitably assume primary position.

Thus, vulgar economy or neoclassical economics is characterised by subjective individualism, technologism and the primacy it awards to exchange.

Although useful as an ideology justifying the capitalist system and inhibiting fundamental inquiry into its functioning, neoclassical economics is incapable of handling the problems of control and organisation confronting capitalist enterprises or the state. As a result, there have arisen a series of practical disciplines which, either implicitly or explicitly, reject some element of neoclassical theory. Keynesianism, for example, which in its most general terms is the theory of demand management by the state, rejects individualism, seeking laws which cannot be directly reduced to statements about individuals. For Keynes, the capitalist whole was not the sum of its parts. Scientific management, to take another example, rejects the notion of production as a natural process and, within the confines laid down by bourgeois property relations, examines the rational, (profitable) organisation of the labour process and control of the workforce. What all of these practical disciplines have in common, however, is the lack of any grand vision comparable in scope to that of vulgar economy, being all more or less eclectic in approach. Despite the mushrooming of applied economics and related disciplines in recent years, vulgar economy remains the dominant, indeed to all intents and purposes the only, general system of thought within the world of academic economics. At one time, Keynesianism, with its rejection of individualism, appeared capable of providing an alternative, but after twenty five years of successful application it has been reduced to the status of a practical discipline and provides no real challenge to vulgar economy. Indeed, a watered-down version of Keynesianism has been incorporated into what Samuelson has called 'the grand neo-classical synthesis'.

Vulgar economy achieves its ideological impact in two distinct ways: through the picture of the world given by its apparently neutral variants, and through the openly apologetic use made of certain of its findings. The apparently neutral variants analyse the capitalist system as if it were an inherently stable and smoothly self-regulating mechanism. Unemployment, crises, uneven development and similar negative features of the system are regarded as deviations from 'equilibrium', and their existence is for analytical purposes ascribed to 'frictions' or 'imperfections', such as monopoly or imperfect information. Quite apart from its inhibiting effect on scientific work, such an approach has direct political implications. In consistently treating such negative features as deviations from equilibrium, vulgar economy suggests

that they may be eliminated by the introduction of more competition, better information or some other piecemeal change designed to remove imperfections in an otherwise perfect mechanism.

The openly apologetic uses of vulgar economy frequently derive from its emphasis on the correspondence between the subjective preferences of individual participants and the technical configuration of the economy. In cruder versions the equilibrium conditions, expressing this correspondence, take the form of a series of equalities between the 'subjective' rates of substitution of one good for another and the corresponding 'objective' or technical rates of substitution. In more sophisticated versions certain of these equalities are replaced by inequalities, to allow for the possibility of boundaries, corners or other irregularities. Since apologetic uses rely largely upon cruder versions of the theory, let us assume that all equilibrium conditions take the form of equalities. The argument which follows can be modified to cover the case of inequalities.

The apologetic possibilities of the above correspondence can be seen with the aid of a simple example. Suppose the technology is such that the use of 1 additional unit of a good, say corn, as an input to the production process will, if efficiently utilized, cause the output of the same good in the following year to rise by  $1 + x$  units, all other inputs and outputs remaining constant - in the language of vulgar economy  $x$  is the 'marginal product' of corn. Under the assumed conditions, any individual who reduces his current corn consumption by 1 unit can, if he wishes, receive in return an amount of corn in the following year equal to  $1 + x$  units. In other words the 'corn rate of interest', measuring the return in terms of corn to the individual saver, is equal to the marginal product of corn.

Now, since the system is in equilibrium, there can be no individual consuming corn who would prefer  $1 + x$  units in the following year to 1 unit in the current year, for, should such an individual exist, he would make use of the possibility of substitution offered by the corn rate of interest, reducing his current consumption, and the configuration of the economy would change, contrary to the assumption that the system is in equilibrium. Indeed, since



the equilibrium conditions are assumed to be equalities, one can go further and say that every single individual, without exception, will be just at the margin of choice, just indifferent between the consumption of one unit of corn in the given year and  $1 + x$  units in the following year. If he gives up the consumption of an additional unit of corn he will require exactly  $1 + x$  units in the following year to restore him to his original level of satisfaction. Any less and he will be worse off, any more and he will be better off. In the language of vulgar economy,  $x$  is his 'subjective rate of time preference' in the consumption of corn, and is taken to be a measure of the subjective loss he experiences when postponing the consumption of corn.

Thus, provided the equilibrium conditions take the form of equalities, and we consider only changes in the production and consumption of a single commodity, which we also take as numeraire, we find that marginal products, rates of interest, and subjective rates of time preference are all equal.

Now, although these equalities are unlikely to hold in practice, their assertion does not in itself constitute an open apology for the capitalist system. To convert them into such an apology something more is needed, and this is provided by the manner in which the various terms are interpreted in apologetic writing. The postponement of consumption is described as a sacrifice to be measured by the relevant subjective rate of time preference, the receipt of extra commodities is described as a reward to be measured by the relevant rate of interest, and finally marginal products are described as the marginal contribution to production of capital in the particular form it happens to be. With this terminology the above equalities can be re-expressed as: the saver receives a reward in the form of interest, proportional both to his sacrifice and to the marginal contribution of his capital to production.

Even when equilibrium conditions take the form of inequalities rather than equalities, this apologetic terminology can be used. Interest remains the reward for sacrifice or abstinence, and it is still related, although not necessarily proportional, to sacrifice involved, and the marginal contribution of capital to production.

More generally, the various categories of income are described as rewards for various kinds of sacrifice, each of which provides a necessary contribution to production: the capitalist foregoes the consumption of his capital, receiving interest (or profit) as his reward; the landlord foregoes the use of his land, receiving rent as his reward; and, finally, the worker foregoes his leisure, receiving wages as his reward. Having described the situation in this way, it is but a short step to seeing the relationship between the capitalist, the landlord and the worker as an essentially harmonious one, in which each makes his distinct contribution to production, and receives his appropriate award. Marx expressed this very clearly in the following rather lengthy passage.

'This, moreover, renders a substantial service to apologetics. For [in the formula:] land-rent, capital-interest, labour-wages, for example, the different forms of surplus-value and configurations of capitalist production do not confront one another as alienated forms, but as heterogeneous and independent forms, merely different from one another but *not antagonistic*. The different revenues are derived from quite different sources, one from land, the second from capital and the third from labour. Thus they do not stand in any hostile connection to one another because they have no inner connection whatsoever. If they nevertheless work together in production, then it is a harmonious action, an expression of harmony, as, for example, the peasant, the ox, the plough and the land in agriculture, in the real labour process, work together *harmoniously* despite their dissimilarities. Insofar as there is any contradiction between them, it arises merely from competition as to which of the agents shall get more of the value they have jointly created. Even if this occasionally brings them to blows, nevertheless the outcome of this competition between land, capital and labour finally shows that, although they quarrel with one another over the division, their rivalry tends to increase the value of the product to such an extent that each receives a larger piece, so that their competition, which spurs them on, is merely the expression of their harmony. (Theories of Surplus Value, Vol.III p.503)

Note the double harmony between the factors - in production they co-operate, and in distribution their competitive struggle is merely the manifestation of a deeper community of interest.

This harmony of interest is most simply expressed in popular versions of vulgar economy based upon the marginal productivity theory associated with the so-called aggregate production function. In this theory it is assumed that commodities can be reduced to a common standard in such a way that, for analytical purposes, the existence of many different commodities can be ignored and, therefore, income distribution, equilibrium and other features of the system can be analysed as though there existed only one homogeneous commodity, such as the corn we used in the above example. This commodity

appears both as an input, where it is called capital, and as an output, where it is called income. Inputs are transformed into outputs by means of a production function, which determines the amount of output produced with given inputs of land, labour and capital.

There are a number of reasons for the popularity of this theory. It is simple, being suitable for teaching and more openly propagandist purposes, lending itself readily to diagrammatic exposition. Moreover, although simple, it purports to be based upon the more complex 'general equilibrium' theory, in which an unlimited number of commodities can appear. Indeed, until recently, it was claimed that nothing significant was lost in the transition from the multi-commodity world of general equilibrium to the single commodity world of the aggregate production function. Finally, the apparent success of the theory in practical application has been an important factor in its popularity. A whole range of supposedly scientific work has been based on the aggregate production function, in particular that of Solow, Denison and others dealing with the causes of economic growth and the contribution of non-material inputs to production.

When dealing with questions of equilibrium and income distribution, certain assumptions are usually made about the shape of the aggregate production functions and the preferences of individuals. The production function, for example, is assumed to exhibit constant returns to scale and uniformly diminishing marginal products with respect to the three factors land, labour and capital. Provided the preferences of the participants display certain well-known properties, these assumptions will be sufficient to ensure that corresponding to each initial endowment, specifying the resources possessed by each individual participant, will be a unique equilibrium position. In this position every factor is rewarded according to its contribution to production, which is, in turn, equal to the subjective sacrifice the owner of a factor makes when he allows his factor to be used for production rather than consumption.

Since the equilibrium position depends only upon the initial endowment of resources, there is no point in workers organising to raise wages, improve conditions, or control the production process. As a rule, all such organisation will cause some kind of inefficiency, in the form of

either the under-employment or misallocation of some factor. Even where one group of workers does improve its position by organisation it can only be at the expense of other workers, who will be forced either to accept lower wages or worse conditions, or else lose their jobs.

This does not mean that workers cannot redistribute income towards themselves. What it does mean, however, is that such redistributions should be achieved through taxation, preferably lump-sum so that marginal equalities are not disturbed. Taxes may be levied on either income or wealth.

Now, taxes cannot be charged through the economic struggle of workers against their own employer or a group of employers. In this theory therefore, workers have no real need to organise themselves at the work-place level, except perhaps to help the competitive process by putting pressure on the backward employer. If they must organise, workers should do so at the political level, perhaps even forming their own political party to fight for their interests.

Superficially, this view appears consistent with a militant class politics - workers could, after all, use their party to press for the most radical changes. Its real content, however, is quite the opposite. The basis of any class politics is the day to day struggle of the worker at his place of work, against his employer. Only in this way, by spreading and unifying such struggles, do workers learn to act as a class. Without such a foundation, working class politics, no matter what their beginning, degenerate to a point where the working class ceases to act as a class. To the extent that he remains politically active the worker then fights, not as a member of his class, but as an individual, as a citizen. Thus, no matter how radical its slogans, the practical content of a theory, which argues that all changes should be affected by means of taxation and property redistribution, is ultimately the political participation of the worker as an individual citizen and the dissolution of the working class on an organisational level. In a nutshell, workers must abandon class struggle and devote themselves to bourgeois politics.

It follows quite naturally that many radical exponents of marginal productivity theory, who advocate a drastic redistribution of wealth and income through taxation, should at the same time be bitter opponents of

trade unionism and all other kinds of working class struggle, outside of the traditional framework of bourgeois politics. Thus, James Meade can in one breath expose and condemn widespread poverty and unequal distribution of property, advocating redistribution to establish a property owning democracy, and, in the next breath, rant against the trade union movement as the fundamental cause of Britain's economic ills.

More conservative exponents of marginal productivity theory, of course, do not even go this far. For them the existing distribution of property is sacrosanct, representing the reward for past effort. If workers want property they should save! However, amongst academic economists this view is no longer very fashionable, and the mainstream opinion is that property and income should be redistributed via the means offered by the bourgeois political process - taxation. Naturally, redistribution must not go to the point where it destroys 'incentives'.

#### The Neo-Ricardians

Vulgar economy has been severely criticised by a school of economists, who are best described as neo-Ricardians, as much of their work takes the form of a more or less conscious return to the method if not the exact propositions of Ricardo. They have also been called the Cambridge or Anglo-Italian school. The main characteristics of the economists of this school are their rejection of subjective individualism, of supply and demand as determinants of income distribution and the explicit inclusion of economic classes in their analysis. From this position they have undertaken an immanent critique of vulgar economy, showing that many of its central propositions are not consistent with its own assumptions, and in particular that marginal productivity theory based on the aggregate production function cannot be derived from the general equilibrium system.

The starting point of their critique is the observation that means of production in a capitalist economy have a dual nature. On the one hand, they are physical objects and as such their use in the production process leads to the creation of greater output. On the other hand, they are the property of certain individuals, and as such their ownership entitles these individuals to a certain portion of the total product. As physical objects, means of

production, or capital as they are called, cannot be reduced to any economically meaningful common standard. Of course, they could be measured by their weight, volume or some other physical attribute, but such a reduction would be irrelevant to the study of such questions as income distribution or equilibrium. As property, however, means of production can be reduced to a common standard, namely their price or, as the Neo-Ricardians misleadingly say, their value.

This opposition can be expressed in Marxist terminology by saying that capital is both a heterogeneous collection of use-values and a homogeneous collection of exchange values. With this distinction in mind, the Neo-Ricardians show that, in the marginal productivity theory based on the aggregate production function, the reduction of all commodities to a common standard must be done on the basis of exchange values, rather than weight, volume or any other physical attribute. Now, as the rate of profit varies, exchange values will generally alter and, as a result, the exchange value or price of any given collection of commodities may alter. In other words, the reduction of commodities to a common standard depends on the rate of profit. It is not, therefore, generally possible to perform this reduction before the rate of profit is known.

This result is used by the neo-Ricardians to discredit the aggregate production function, which vulgar economists supposed could be constructed independently of the rate of profit. They also show that it may be impossible to order production techniques according to their 'capital intensity' - the exchange value of capital per man. One technique may be more capital intensive than another at both high and low rates of profit, yet be less capital intensive at intermediate rates of profit. Under these circumstances, there can be no one to one correspondence between techniques of production and the rate of profit, or for that matter between techniques of production and the wage rate. Associated with this phenomenon is the famous 'reswitching paradox'. Capitalists may choose one technique when the rate of profit is low, switch to another technique as the rate of profit rises, and finally, as the rate of profit rises still higher, they may switch back to the original technique. At both high and low rates of profit capitalists therefore choose the same technique, but at intermediate rates they choose another. More

generally, it may happen that, although there is a one to one correspondence, it is 'perverse', with capital intensity rising as the rate of profit rises. Significantly, these conclusions of the neo-Ricardians are not mere curiosa, for the switching or perverse correspondences may occur under quite plausible assumptions.

Finally, the neo-Ricardians show that, if capital is interpreted as a homogeneous fund of exchange value, the marginal product of capital may not be equal to the rate of profit or interest, even though all the necessary continuity and other conditions of the cruder versions of general equilibrium theory are satisfied.

These achievements of the neo-Ricardian school are real and substantial, and ought not to be under-estimated. They amount to a complete demolition of the aggregate production function and the marginal productivity theory based on it. As a result vulgar economy, in so far as it retains any scientific pretensions, is now forced to rely upon general equilibrium theory. This theory is far less suitable for teaching and propagandist purposes than the old aggregate theory. Moreover, stressing as it does the dependence of everything on everything else, general equilibrium theory has the disadvantage of appearing vacuous and irrelevant to all but the most committed of observers. Finally, this theory is unable, except under the most restrictive assumptions, to show that equilibrium is unique. When there exists more than one equilibrium, it is quite possible to maintain that working class struggle at the economic level could shift the system from one equilibrium to another, thereby improving the position of the working class as a whole. Thus, in contrast to its discredited aggregate version, general equilibrium theory is less deterministic in its view of the capitalist system.

Having listed the achievements of the neo-Ricardian school, perhaps I should say something about the more exaggerated claims made by some of its adherents, although not, it should be noted, by most of its principal exponents who, with the exception of Joan Robinson, have been characteristically modest in their claims. As this is not the subject of the paper I shall restrict myself to a few remarks.

The work of Sraffa has not proved that the distribution of income is independent of supply and demand. By their nature, supply and demand

can only take effect in a situation where there exists the possibility of variation in either production, consumption, or the supply of labour. In Sraffa's system such variations are explicitly excluded, as the author's stated objective is to study properties of the economy which do not depend on variations other than those of prices, wages and the rate of profit. As a result, supply and demand play no role in Sraffa's system. To conclude from this, however, that supply and demand play no role in the real world is to make the most elementary error. It is to confuse the world, as we think about it, with the world as it really is, or, if you like, to confuse the object of knowledge with the real object. The fact that Sraffa, with good reason, chose to hold production, consumption, and the supply of labour constant in his model, says nothing whatsoever about how these elements behave in reality. If, in reality, production, consumption or the supply of labour alter in response to changes in the wage rate or rate of profit, then it is conceivable that supply and demand may determine the level at which the actual wage or profit rate settles.

Under these circumstances, the correct scientific procedure is not to deny that supply and demand may exert such an influence, but to seek for the fundamental laws of which supply and demand are merely a manifestation. Even Marx, a bitter opponent of vulgar economy, admitted that supply and demand had a proximate effect on wages when he said:

"As to the limits of the value of labour, its actual settlement always depends upon supply and demand, I mean the demand for labour on the part of capital, and the supply of labour by the working men" (Selected Works, p.227)

Naturally Marx did not leave the question here. Much of his work was devoted to revealing the objective determinants of capital's demand for labour and its supply by the working men. In this context it should be said that the analysis of the neo-Ricardian school is formally consistent with general equilibrium theory. This theory does not depend upon the possibility of measuring capital independently of the rate of profit. Moreover, the fact, that capital, considered as a homogeneous fund of exchange value, does not receive its marginal product in the general equilibrium system, has no bearing whatsoever on the existence or non-existence of an equilibrium. Moreover, if an equilibrium exists where average rates of profit in each



industry are equal, all the Sraffa equations will be satisfied at this point. If this equilibrium happens to be unique, wages and the rate of profit will be uniquely determined, and we shall have a case in which Sraffa's equations have been combined with the determination of distribution by individual preferences. In general, average rates of profit will not be equal, even though there is competition, for competition equalises marginal and not average rates of profit. This does not, however, discredit general equilibrium theory. All it shows is that, under these conditions, Sraffa's equations are not a correct representation of the competitive equilibrium.

Finally, it should be noted that, although capital as a homogeneous fund of exchange value may not receive its marginal product, certain marginal equalities may still hold. Provided sufficient continuity assumptions are made to ensure that all equilibrium conditions take the form of equalities, rather than inequalities, the following marginal quantities will be equal: the degree of subjective 'loss' involved in saving, the 'reward' received for saving, and the 'contribution to production' of saving. This equality was illustrated in our earlier example where saving, interest and extra production consisted of a single commodity corn. It is possible to extend the equality to more general cases in which more than one commodity may vary. Thus, within the general equilibrium framework, there remain certain apologetic possibilities. Interest can still be seen as a reward for a sacrifice which leads to greater production. The apologetic possibilities are, of course, limited by the fact that there may exist many different equilibrium positions, each of which is equally justifiable by the moral standards of bourgeois apologetics.

#### Marxism and the Neo-Ricardian School

During the last decade or so, there has been a considerable revival of interest in Marxist political economy and valuable work has been done on such topics as imperialism and the role of the state. On the level of fundamental or 'high' theory, however, Marxists still find themselves trapped within a debate whose terms of reference were laid down by vulgar economists such as Bohm-Bawerk, on the one hand, neo-Ricardians such as Bortkiewicz on the other. This debate, which has dominated the interpretation of Marx's

political economy throughout the entire twentieth century, has received a powerful stimulus from the recent growth of neo-Ricardianism.

In the Anglo-Saxon world at least, Marxists have mainly addressed themselves to such topics as: is the choice of techniques based on values or prices; what is the role of demand in determining prices; what is the formally correct solution to the transformation problem; when is the average rate of profit equal to the ratio of surplus value to the value of capital advanced; when is the rate of surplus value equal to the ratio of profits to wages? In some cases their answers have been rather different from those of the neo-Ricardians, but in general their differences have not been very great. Indeed, many Marxists, such as for example Dobb in his later writing, regard Sraffa's work as providing both the solution to a number of problems, whose treatment by Marx was unsatisfactory, and perhaps an alternative, more modern, version of the labour theory of value. Other Marxists, although welcoming Sraffa's work, insist, usually for not very clear reasons, that prices of production should be derived from values.

Now, important though some of these questions may be, Marxist political economy, as a distinct system of thought, cannot be understood in terms of the answers it gives to them. So long as the theoretical work of Marxists is restricted to such questions, Marxism, with good reason, will appear as a rather eccentric wing of neo-Ricardianism - its specific characteristics being a somewhat tedious insistence on the need for a 'historical approach', a frequent dogmatic insistence on the explanation of prices by values, and a particularly militant class rhetoric. Indeed, this is reflected in the widespread identification of neo-Marxism with neo-Ricardianism, an identification which follows Bortkiewicz in seeing the specific characteristics of Marxism as a harmless, but useless, eccentricity.

This view of Marxism, or rather of the system of thought of Karl Marx himself, is in my opinion mistaken. Marx's problematic differs fundamentally from that of Ricardo and the neo-Ricardians. In the second part of this paper, therefore, I shall examine crucial ways in which these two problematics differ. In my discussion the influence of the Althusserian school, particularly Balibar and Rancière, will be clear.

THE DUAL ECONOMICS OF TRANSITION by Alfred Sohn-Rethel

I regard as deceptive the commonly held view of the present world as divided between a "capitalist camp" and a "socialist camp" with the "Third World" undecided and torn between them. I hold rather that all parts of the present world are societies in transition, the advanced capitalist ones no less than the socialist countries and the rest, although the transition is in different stages and in different forms. I shall in this paper concentrate mainly on advanced capitalism where the process of transition originated. Speaking of monopoly capitalism Lenin says in his study on imperialism: this "new capitalism bears the obvious features of something transitory. The question naturally arises: What is this new, 'transitory' capitalism leading to? But the bourgeois scholars are afraid to raise this question." I pick up this question and shall try to pursue it beyond the point where Lenin left it.

By societies in transition I understand societies under the impact of two different and heterogeneous economic laws. I do not speak of a "mixed economy" in which contrasting elements like competition and monopoly, private and public enterprise, planned and unplanned sectors, etc. are seen as coexistent under one law of economics. Instead I speak of dual economics, meaning thereby that capitalist society in its advanced stage stands under the simultaneous action of two contrasting and incompatible economic laws - like law and counter-law - , one being the economic law of private appropriation, the other being a distinct economic law to which the increasing socialisation of labour was given birth at a certain definite point of its development.

This duality of economics marks a crucial change in the conditions of capitalism as compared with its classical system of free competition. This I define as the epoch in which the reproduction process of capital could be regarded as identical with the reproduction process of society itself. The change in question has come about as a result of capitalism surviving the Great Depression (1874/5 - 1895/6) when, for the sake of society, it should have been abolished. From the turn of the century on, roughly speaking, the progressive socialisation of labour has entered into that economic conflict with the system of private appropriation which Marx and Engels had predicted and which Lenin has thrown into relief.

- The particular thesis argued in this paper is that
- (a) in monopoly capitalism the reproduction of capital parts company with the reproduction of society and increasingly jeopardizes the survival of society,
  - (b) the specific economic law of a socialist mode of production is already operating within capitalism, albeit in an adulterated and irrecongnisable form,
  - (c) this novel economic law can be traced to its roots/in the labour process of modern mechanised mass production, and
  - (d) it can be defined with sufficient precision to help us to understand the dialectics of transition in which present society is convulsing.

1. THE BASIC IMPORTANCE OF THE LABOUR PROCESS OF PRODUCTION

Marx, in his critique of political economy, views capitalist production under two distinctive aspects: the aspect of its labour process

(Arbeitsprozess) representing man's practical relationship to nature as determined by the specific stage of development of the productive forces; and its aspect of profit making process for the capitalist owner (Verwertungsprozess)<sup>(1)</sup>. The second aspect capitalist economy as the system of production relations necessitated by the conditions of the labour process. The economy of private appropriation through its intrinsic competitive nature itself acts back upon the conditions of production under the first aspect, enforcing their development towards an ever increasing socialisation of labour. In the course of this interaction the social production relations in turn are changed, giving way to the necessities emanating from the progressive developments in the labour process of production. Thus the basic and decisive impulses to social change must be seen as emanating, not from the economics of the profit making process, but from the developments of the labour process evolving under the impact of the profit making process; or emanating indeed from the economics of profit making, but only indirectly and by way of the changes occurring in the labour process of production. In this Marxian method of the materialistic understanding of history we learn to grasp the forcible change of the capitalist system of private appropriation in its "transition to something else". In other words, we learn to grasp the "critique of political economy" being enacted as a live process in history and constituting the essential process underlying the bewildering appearances of "the facts".

Generally speaking, economics are met on both levels, as part of the essence and as part of the appearance. Seen as the economics of the social production relations determined by the material conditions of the labour process they constitute the "economic basis" of society, its economia formans, so to speak. But as the economics operated by the profit making private appropriators acting under the necessities of the economia formans, economics constitutes on the contrary a mere economia formata and the most deceptive part of appearances. If, therefore, in studying monopoly capitalism and imperialism the underlying, empirically non-apparent, causality of changes in the labour process are neglected and overlooked so that the economics of profit making then assume the place of primary causality, we may fall victim to the appearances of the economia formata.

On the surface of things the two distinct economic laws whose dual operation underlies the transitional state of society, are apparent in the shape of the traditional market economy of private appropriation, on the one hand, and of so-called "scientific management", on the other. Scientific management affords a flagrant example of economia formata in that its very purpose is the subordination of the modern labour process to the requisites of private profit making so that the mere possibility of there being something essentially different involved in its subject matter does not come within its vision. In order to detect the economia formans contained in the modern labour process it is necessary to retrace the novel managerial disciplines to their origin and to study the work of Frederick Winslow Taylor their acknowledged founder. So as to have two convenient terms by which to speak of the dual economic systems coexisting in present-day advanced capitalism, I choose the name of "plant economy" - "plant" in the sense of a factory, etc., as production unit - in contradistinction to "market economy" as the system of private appropriation.<sup>(2)</sup>

F.W.Taylor's first writing was "A Piece Rate System, being a step towards partial solution of the labor problem", which was read as a paper in 1895 to the American Society of Mechanical Engineers.<sup>(3)</sup> It was the first public intimation of the major work he was engaged in the results of which did not appear before 1906 under the title "The Art of cutting metals", a very meticulous publication indeed divided in 1198 paragraphs and supplemented by 24 folders of charts. It has fallen into undeserved oblivion, and his only writings still referred to are the two more popular books "Shop Management" (1903) and "Principles of Scientific Management" (1911). Taylor's pioneer enquiry must be understood against the background out of which it grew, the conditions of the Great Depression, the "hungry eighties", more than twenty years of almost uninterrupted economic deadlock and stagnation, of mass unemployment comparable to that of the 1930's, of hunger marches and mass demonstrations, of riots and strikes, of rising revolutionary agitation when socialism for the first time became the catch word of broad political movements resulting in the foundation of the first socialist and social-democratic mass parties accompanied by the organisation of the unskilled and semi-skilled workers in a new type of trade union. The most ominous features of the picture drawn by Marx of the forthcoming "expropriation of the expropriators" seemed to come true, foremost among them the paralysing decline of the rate of profit, root cause of all the trouble, and most acutely felt in the heavy industries such as iron and steel where Taylor had his place of employment. The obvious imperative necessity was for two things: first, the expansion of markets and opening up of new territories, i.e., the way out of imperialism practicable for the rich European creditor nations, and second, a substantial increase in the rate of exploitation of labour in the production process of the industries at home, the way most urgently required in a country in the position of America, then still a debtor nation, but in the full sweep of industrialisation and landed with the world's highest wage level. In the subsequent course of events both these ways combined proved necessary to keep capitalism afloat, particularly after the first world war when the USA had turned into the foremost capitalist creditor power and the weakened European countries felt pressed to adopt the methods of mechanised mass production, foremost among them Germany who by her defeat was changed into a debtor country. But even though pursued together and both of equally essential importance in the make-up of monopoly capitalism, the two lines of development, the external dynamic of imperialism and the internal pressure upon labour exploitation, have their distinctive economic and political significance and consequences. They have, however, attracted a very different measure of attention on the part of Marxist thinkers. While imperialism has been studied by a host of writers, beginning with Hilferding, Rosa Luxemburg and Lenin, followed by Fritz Sternberg and Henryk Grossmann, and continued to Paul Sweezy and Harry Magdoff, the study of the corresponding advance of capitalist exploitation of the labour process has been left almost entirely to the bourgeois experts and students of "scientific management!"

## 2. STRUCTURAL SOCIALISATION OF LABOUR

The cornerstone of scientific management is the time and motion study of operations, a technique first worked out and institutionalised by Taylor. He says: "What the writer wishes particularly to emphasize is that this whole system rests upon accurate and scientific study of unit times which is by far the most important element in scientific management" (Shop Management, p.58). Time and motion study brings a definite methodical principle to bear upon the practice underlying the secular trend towards growing socialisation of labour in capitalist production. Given manual operations are analysed and broken down to their component smaller and simplest elements of motion. Gilbreth, one of the assistants of Taylor,

carried this principle to the limit by assuming something like an atom of manual labour, the "therblig", an absolutely simplified fragment of labour from which he might build up elementary constructs of actual operations by way of "synthetic timing". This had no great practical importance but it shows the essence of the whole technique as being aimed at finding a way of direct economic quantification of human labour time. "Economy of time, this is wherein ultimately all economy resolves itself", says Marx (in "Grundrisse", edn. Dietz-Verlag p.89). The standards of measurement of human labour time in Taylorism are derived from the mechanical and technological part of the operations concerned. Wherever a task of time and motion study is successfully accomplished the result is an amalgamation of technology and labour in such a way that the motions of the machinery are measured in terms of labour and the motions of labour in terms of machinery. The operative principle involved in time and motion study is the unity of measurement of labour and machinery in their productive application. It is the principle of the structural socialisation of labour, meaning that the socialisation of labour, from merely being graded smaller or greater, has crystallised to the quality of a new economic law that has come into being. This has happened as a result of the socialisation of labour reaching the point where the reintegration of atomised labour into production processes follows economic laws of its own, not derived from the value standards of commodity exchange.

The measured atomisation of labour has given rise to the organisation of mass production on the lines of continuous-flow.<sup>(4)</sup> Different technical devices can serve this purpose and one of the simplest, the conveyorbelt, may be chosen for demonstrating the principles applying to all. A conveyorbelt operates between a multitude of machine-tools positioned in line in accordance with the sequence of the particular part-operations they perform in the manufacture of a series of products of an identical kind. The essential contribution made by the conveyorbelt is the setting of a common standard of pace for all the part-operations or rather of their manual elements is made. The different manual operations involved are thereby made commensurate but for the different standards set to their place by the machine at which they are performed. This difference is eliminated by the introduction of the conveyorbelt, enforcing the subordination to its own uniform pace of the working speed of each machine (necessitating a design permitting this subordination). As a result the conveyorbelt supplies a common denominator to the economic efficiency of the part-operations. The reason for the economic significance inherent in its function lies in the combination of machine and labour which it effectuates in linking the manual functions of the workers and the machine functions together on a basis of the unity of measurement of them both. This effect is, of course, not thought out theoretically before it is put into practice. Far from it. The place of the conveyorbelt is found in a pragmatic, purely factual way, subject to trial and error. Compared to the part-operations done separately, independently of the conveyorbelt and before it was introduced, so to speak, the pace of the belt is too quick for some, too slow for others, right at random for a few. The evenness of pace which the belt enforces is imposed on them by the force of fact.

On this factualness I lay such stress because it is of the same quality as the function of the exchange process of commodities in effecting a commensuration of the labour spent on making them. This labour, in contrast to the socialised labour in modern mass production, is individual labour separately performed in production processes out of touch with

each other. To make society workable on a production basis such as that a system of communication in terms of property among all people as private owners has to make up for the missing links in production. Here the socially indispensable quantification and commensuration of labour and labour time takes place indirectly and not in terms of labour at all but in terms of the enigmatic category of value, itself a creation of the exchange process in its socially synthetic capacity. All this in its far-reaching implications and consequences has been explained and explored by Marx. My suggestion here is that as a result of the degree of the socialisation of labour brought about by capitalist competition modern production has been given, under the mere instigation of the private profit interest, an organisation in structural conformity to socialised labour. This structure is, in a great many cases, characterised by even-flow methods of production, but it allows for either organisational procedures as well. Fundamental to this structure is a direct quantification and commensuration of labour effected within the labour process of production and in its own terms. It is a commensuration of labour not on its own, but of labour in conjunction with and dependent on the technology with which it combines in production and answering the formula of unity of measurement of human and technological functions in their combined productive application. This formula allows for the use of automation. Provided the automated sections link up, as they needs must, with combined processes of labour and machinery within a wider scope of production, the automated sections partake in the common time measure embracing them both. This common time measure basic to the organisation of modern production by socialised labour has the force of an economic law. In fact, it is its economic law. The scope of this law is as yet confined to single factories or complexes of factories under one financial control. But there is no reason why it would not also serve as the basic economic regulative of the organisation of the entirety of social production on the lines of the socialisation of labour. By the very fact of its utter abstractness - implying little else than the unity of the synthesis of events in time - it could apply to the scope of a practically unlimited extension. Such application, however, presupposes the abolition of the capitalist or any other system of market economy obeying the value standard of labour commensuration. The two standards are mutually exclusive and cannot apply side by side to the same phenomena.

A plant organised on principles of continuous flow must follow its own rules of development. Any unevennesses, hold-ups and bottle-necks in the production flow impair its economic working. When run as a private business the production manager will tell the director that the capital invested in the plant is wastefully employed. To maximise the profits the money must be found to iron out the unevennesses. As a result the output capacity of the plant will be increased. As we are still in capitalism with this plant, the output depends for its value on being marketed. But between the increase of the output and the capacity of the markets no intrinsic correlation exists, since they are governed by economic laws of a heterogeneous nature, the one related to socialised labour, the other by origin to individual labour, the one as a law of the labour process, the other as a law of property relations. If the market capacity is inadequate, the capitalist owner of the plant stands in danger of losing in the market economy what he has gained in production economy. To avoid this he must lower the price, or restrict the output of his streamlined plant. Obviously the first way will not spare him the loss, but neither will the second, for here we come up against the peculiarities of the new plant economy again. The more a modern plant is utilised below its rated capacity the higher rises the unit cost of its output, and this coincides with the need for lowering prices and decreasing cost to meet an insufficient, if not receding market demand. The modern plant economy has made production

inadaptable to the postulates of market economy. This, in a nutshell, is the effect which the coexistence of the two heterogeneous economics amount to. The market economy has lost its regulating power over social production, but its continued existence prevents the modern law of production from becoming the regulative of social economy. As a result the economics of social reproduction is without any effective regulator, or put in different words, social survival is in jeopardy. The discrepancy between the new economics of production and the old economics of the market needs to be taken care of by artificial means. It is this that lies at the root of private planning as an indispensable strategy of large-scale modern business. But it is a remedy which does not, of course, eradicate the underlying discrepancy but only allows its further growth. I am inclined to regard the duality of two economics as the root of monopoly capitalism from its very inception. Production that for structural reasons cannot, without undue economic loss, obey the rules of the market must necessarily attempt to obtain control of the markets. The inadaptability and inflexibility of the cost structure of production developed gradually, from slow beginnings perhaps, long before it reached the stage marked by Taylorism and mechanised mass production analysed above. It develops, just as Lenin described it, as a function of the growing organic composition of capital.

Looking at the transitional nature of modern capitalist society from the angle of wider historical perspective the contrasting substance of the two economics involved should be viewed in greater depth. They should be viewed as different forms of social synthesis. This is a methodological concept relating to the connection which exists between the economic basis of a given society, its economia formans, and the forms of consciousness to which it gives rise.<sup>(5)</sup> The word synthesis here is used free from all harmonistic implications. Even the capitalist anarchy of free competition and antagonistic class relations requires an element of functional coherence as a precondition of social survival. The working of socially synthetic functions to constitute its nexus. The concept of social synthesis simply serves to pinpoint this formative element, and it is indispensable for detecting in commodity production (simple or capitalist) the genetic and formative root of intellectual labour divided from manual labour.

Generally speaking, the socially necessary forms of thinking of any age are deducible from the functions of the social synthesis of that age. Even the blind societies based on commodity production bring about, by devious but clearly traceable means, their socially necessary modes of thinking, modes of a thinking which work correctly but with a false consciousness.<sup>(6)</sup> Since the social synthesis in commodity production comes about, not by the order of the labour process, but by dint of an activity distinct and separate from it (the activity of exchange qua reciprocal appropriation of the labour products of others), the socially necessary thinking has a constitution of insuperable division from physical activity. We thus arrive at the fundamental distinction between societies of appropriation and societies of production according to whether their synthesis rests upon acts of appropriation (which, in turn, can be either reciprocal or unilateral) or upon the labour process of production. Ever since the departure from primitive communism (which is a concept of problematic reality) mankind has lived in one or other of an inexhaustible variety of societies of appropriation. All of these are systems of economic exploitation, social class antagonism, and division of intellectual and manual labour. Capitalism is the last of them, their highest form.<sup>(7)</sup> Societies of production, on the contrary, are classless societies, based on an order of communal co-operation of their members in social production, but they



necessarily require undivided unity of intellectual and manual work. Such a unity can only come about as a result of manual labour reaching a degree and structure of socialisation such that it can find a common level with intellectual labour in terms of universal socialisation. If properly understood, the formula of the unity of measurement of labour and machinery in their productive application holds out exactly this promise of a community of terms with science of which all modern-style machinery is, after all, the technological construct.

This formula and the economic law emanating from the structural socialisation of labour is, however, only a necessary and not a sufficient condition for making a classless society possible. The factories and plants of socialised labour are as yet still firmly held under capitalist control and run for private profit. Viewed from a bourgeois angle, under the categories of capitalist market economy, the plant economy of socialised labour assumes the aspect of "scientific management" or "managerial economics". The need, from a socialist standpoint, is for a critique of scientific management not dissimilar in intention for our epoch of transition from Marx's critique of political economy for the classical epoch of capitalism.

### 3. CRITIQUE OF SCIENTIFIC MANAGEMENT

Within the limits of a short article capitalist scientific management can be reviewed only in a few features of essential significance. They are nowhere more clearly exposed than in the major writings of F.W. Taylor, the founder himself. His witness may, however, be brushed aside by present-day spokesmen of the subject on the ground that Taylorism is altogether a mere thing of the past, long ago superseded by different methods and principles, that the sciences of physiology, psychology, sociology, etc. have been brought to bear upon management to make it truly scientific, especially in its regard for the "human factor" so badly ignored and neglected by Taylor. That much is true: in its prime conception, inspired by the open and undisguised concern for the steepest possible increase of the rate of labour exploitation, Taylorism aroused the opposition and revulsion of the workers to an extent which threatened, at least the long run, to defeat its own objectives. A great deal of considered modification and careful mitigation was called for to make Taylorism really workable. What it makes workable, however, was and remains Taylorism if we understand it as defined by the principles expounded in the following extracts from his writings, in the first place from his main work "The Art of cutting Metals":

"In the fall of 1880, the machinists in the small machine shop of the Midvale Steel Company, Philadelphia, most of whom were working on piecework in machining locomotive tires, car axles, and miscellaneous forgings, had combined to do only a certain number of pieces per day on each type of work. The writer, who was the newly appointed foreman of the shop, realised that it was possible for the men to do in all cases much more work per day than they were accomplishing. He found, however, that his efforts to get the men to increase their output were blocked by the fact that his knowledge of just what combination of depth of cut, feed, and cutting speed would in each case do the work in the shortest time, was much less accurate than that of the machinists who were combined against him. His conviction that the men were not doing half as much as they should do, however, was so strong that he obtained permission of the management to make a series of experiments to investigate the laws of cutting metals with a view to obtaining a knowledge at least equal to that of the combined machinists who were under him. He expected that these experiments would last not longer than six months." (37)

- Instead of six months his investigation took him 26 years.

"A study of the recommendations made throughout this paper will illustrate the fact that we propose to take all of the important decisions and planning which vitally affect the output of the shop out of the hands of the workmen, and centralise them in a few men, each of whom is especially trained in the art of making those decisions and in seeing that they are carried out, each man having his own particular function in which he is supreme, and not interfering with the functions of other men." (§ 124)

While his experiments resulted in many valuable discoveries and inventions (e.g., self-hardening steels and new designs of machine-tools) we regard as of by far the greatest value that portion of our experiments and of our mathematical work which has resulted in the development of the slide rules" which enable the shop managers, without consulting the workmen, "to fix a daily task with a definite time allowance for each workman who is running a machine tool, and to pay the men a bonus for rapid work" (§ 51) - a slide rule which "serves to make out the effect which each of 12 variables has upon the choice of cutting speed and feed" (§ 6) - ; and again: "The gain from these slide rules is far greater than that of all the other improvements combined, because it accomplishes the original object for which in 1880 the experiments were started; i.e., that of taking the control of the machine shop out of the hands of the many workmen, and placing it completely in the hands of the management, thus superseding the 'rule of thumb' by scientific control." (§ 52) "Under our system the workman is told minutely just what he is to do and how he is to do it; and any improvement which he makes upon the orders given him is fatal to success." (§ 118)

Towards the end of his paper he emphasizes that "he did not underestimate the difficulties of and resistance to using the slide rules. He would add, however, that he looks upon task management as of such great moment, both to the workmen in raising their wages and rendering strikes and labor troubles unnecessary and to the manufacturers in increasing and cheapening output", that he staked the remainder of his days to further assisting in the putting into practice of his conception of management (§ 1197):

The crucial advantage and novelty he claimed for his system of management was that it made the rise of profits for the manufacturer compatible with rising wages for the workers. In his own words: "High wages and low labor cost are not only compatible, but are, in the majority of cases, mutually conditional." (Shop Management, p.21/22) This is why he saw in it "a partial solution of the labor problem", and in 1895 he even expressed the hope that it would contribute to the elimination of the trade cycle, thus freeing capitalism of its two major evils. When Ford developed Taylorism further into the continuous process of mechanised mass production, these very claims resounded throughout the capitalist world in the heedless rationalisation drive of the Great Prosperity of 1921-1929. However, it would be unfair to blame these exuberances only on Taylor. His hard core argument in his paper of 1895 is in terms of the economics of overhead costs and the inflexibility resulting from a high organic composition of capital, i.e., the root cause of monopoly capitalism. "Indirect expenses equal or exceed the wages paid directly" and "remain approximately constant whether the output...is great or small"; therefore, the operating economic factor is "the effect that the volume of output has on the cost" (§ 37; A piece rate system ..., cf.

also the discussion between F.A.Halsey and Taylor). In other words, the governing consideration is focussed upon the degree of utilisation of the given plant capacity, not on the wage rates. Wages are evaluated in relation to output, that is to say, as incentive wages. Even "extraordinarily high wages" will lower the labour cost if they stimulate high output. Taylor's examples given in "Shop Management" show increases in workers' output up to 300% and even 400% relative to a wage increase of 60%! Inflexibility of the cost structure being also the main element making for monopolism, it becomes apparent why Taylorism has its roots in monopoly capitalism. Nor does the causality stop there. Taylorism also acts on monopolism, as Taylor's own case can serve to illustrate. After 3 or 4 years of work at the Midvale Steel Co. he transferred his activity to the Bethlehem Steel Co. where he totally reorganised the system of management; subsequently the latter forced a merger with the former to found the United Steel Co., the biggest of its kind in the United States. Thus Taylorism, in turn, helped to increase the stimulus entailing monopolism.

In his book "Shop Management" Taylor makes an additional point of interest in stressing that his system "is aimed at establishing a clearcut and novel division of mental and manual labor throughout the workshops". The unity of head and hand by which a worker formerly did his job on his own judgment and skill is broken up by the introduction of "science" for the rule of thumb. All that the worker is now left to do is the mere physical execution of instructions worked out by the experts and arrived at on purely mental resources. "Any improvement which he (the workman) makes ... is fatal to success". The knowledge of the experts is gained "without consulting the worker". One thread nevertheless remains by which the knowledge of the experts is linked with the workers' manual performance: the managerial instructions to the workers are "based upon the precise time and motion study of each workman's job in isolation". We remind the reader of the quotation made earlier on (at the opening of Section 2) where Taylor "wishes particularly to emphasize that this system rests upon accurate and scientific study of unit times". This link is of essential significance for reaching a critical decision as to whether the novel division of mental and manual labour which Taylor aims at establishing in the labour process of monopoly capital is of a genuine or of a spurious nature.

The "Critique of scientific management", which these extracts from Taylor are intended to serve, is occupied with the contradictions arising from the fact that the economics of socialised labour, and potentially of socialism, originates within capitalism as the art of the most intensified and sophisticated extraction of surplus-labour from the workers ever, in fact as the extraction of surplus-labour made into a "science". The appearance totally belies its essence and makes it well-nigh irrecongnisable. To a student of scientific management in its acknowledged form the entire conception and formal analysis of what we called the structural socialisation of labour is bound to present itself as sheer metaphysics. This is only as it should be, however, as his thinking is confined to a bourgeois understanding of realities destined to supersede the bourgeois world. More interest and greater importance lies with the question why the workers in their vast majority are also blind as to the essence of these appearances. And it is to the answer of this question that the critical undertaking as conceived here is in the main devoted.

The vital contradiction is already contained in the structural formula of socialised labour, i.e., the unity of measurement of the functions of labour and machinery in production. This formula allows for the complete subjugation of labour to the technocratic rule of the machinery in its managerial manipulation, but it also allows for the control of labour over the technology and its productive application. In other words, it allows for a relationship making for communism.

This might seem an outrageous conclusion unless it is understood in the full light of the implications involved. In the first case - i.e., the technocratic subjugation of the workers under the compound machinery of modern production - we have human labour in its extreme forms of alienation, manual labour severed from every element of mental labour, even from the worker's own mental control over his very movements, a control now transferred upon the machinery operating under the command of management. The conditions of capitalism under which the economics of socialised labour have arisen and developed are, of course, the diametrical opposite of the conditions required to make this economics a basis of socialism. To achieve this reversal would be synonymous with an overthrow of capitalism resulting in workers' control over the process and organisation of production so that the existing alienation of labour could be obviated by a gradual (and arduous) process of unification of manual and mental labour. For the purposes of our theoretical exposition the contrasting condition of socialised labour placed under socialism or placed under capitalism can be defined by the difference as to whether the workers are in possession, or whether they are dispossessed of the socialisation of their labour. If we review Taylor's system of management from the viewpoint of this alternative, it becomes clear at a glance that it contains all the essential elements making for the capitalist relationship, and in what way it does so.

Taylor proposes (in § 124) "to take all the important decisions and planning which vitally affect the output of the shop out of the hands of the workmen". That is to say, he proposes to dispossess the workers of the control over the sum total of the functions constituting the socialisation of their labour," and (to) centralize them(it) in a few men ... especially trained" etc., that is, to lodge that control firmly and indisputably with the management. By this transfer of control the socialisation of labour becomes the instrument of the domination of capital over labour. This alienation from the workers of the social character of their labour is, of course, nothing new but rooted deep in the capitalist production relations as such and forming one of the ineradicable normalcies of bourgeois society. The dispossession of the social character of his labour leaves the worker in the status of an individual labour-power. This is the necessary correlate of capital appropriating the control. Marx describes the basic relationship thus:

"The labourer is the owner of his labour-power until he had done bargaining for its sale with the capitalist; and he can sell no more than what he has - i.e., his individual, isolated labour-power. This state of things is in no way altered by the fact that the capitalist, instead of buying the labour-power of one man, buys that of 100, and enters into separate contracts with 100 unconnected men instead of with one. He is at liberty to

set the 100 men to work without letting them co-operate. He pays for the combined labour-power of the hundred. Being independent of each other, the labourers are isolated persons, who enter into relations with the capitalist, but not with one another. This co-operation begins only with the labour process, but they have then ceased to belong to themselves. On entering that process, they become incorporated with capital. As co-operators, as members of a working organism, they are but special modes of existence of capital. Hence, the productive power developed by the labourer when working in co-operation, is the productive power of capital... it appears as a power with which capital is endowed by Nature - a productive power that is immanent in capital." (Capital I, p.323) - "The simultaneous employment of a large number of wage-labourers in one and the same process ... forms the starting point of capitalist production. This point coincides with the birth of capital itself. If then, on the one hand, the capitalist mode of production presents itself to us historically, so, on the other hand, this social form of the labour process presents itself as a method employed by capital for the more profitable exploitation of labour, by increasing that labour's productiveness." (ib.p.326)

The relations here described by Marx have developed a step further in monopoly capitalism. The capitalist, for one thing, who in the classical epoch of capitalism was as a rule a unity of capitalist and entrepreneur has become a "finance-capitalist", while a part of the entrepreneurial functions have undergone the transformation into management, and this as an evolution progressing in step with the socialisation of labour moving towards its structural climax. As this climax is reached management is perfected into a "science". It becomes "a system", the system of "functional management", as Taylor terms it. On transferring it out of the hands of the workmen into the control of management, the functional complex of a high-grade socialisation of labour splits up into a multitude of separate functions, each one looked after by its own specialist, making up an intricate bureaucratic hierarchy of functional divisions which themselves create new divisions in charge of holding the others together and requiring that special brand of managerial genius which draws the top executive pay. It is even said that a good part of the "science" that modern management is so full of is needed for seeing through the fog which they themselves create. While this may be true at the top, at the bottom the whole structure rests on that "accurate and scientific study of unit times" declared by Taylor to be "by far the most important element in scientific management".

This also is an element a step further than the relationship described by Marx. He contrasts the labour contract between the capitalist and the worker, which is in terms of the "dead labour" embodied in value, with the labour process where the "live labour" is at work. In time and motion study, however, quantifying standards which are rooted in the sphere of dead labour relations come to be applied directly to live labour. Live labour is placed under the microscope, so to speak, and reduced to "unit times", i.e., the precise amount of time absorbed by the smallest elements of which the particular kind of work under review is composed as a strictly repetitive performance of the worker, cleared from waste. All qualitatively different kinds of live labour occurring in a given labour process are thus expressed as commensurate isolates in terms of given labour process can be

so reorganised as to yield the mathematically calculable maximum of output per time unit, say, one hour. The calculated isolates serve to the "rate fixer" as basis for assessing the wage rates to be paid to each worker as the necessary incentive for him to perform his task "in the allotted time". And to the management in general the calculation of the commensurate isolates of live labour is to serve as the "strictly scientific basis" for organising and running production as a profit-bearing business entity. This is, of course, an idealised construction of Taylor's conception which no management could ever live up to and which by now has been superseded by more accomodating and more practicable replicas. But for our purposes it is of interest to take Taylor's system at its strictest.

It is clear that this conversion of a live labour performance into a methodological managerial isolate also converts the worker himself into a psychological isolate chasing after his maximum pay. This was one of Taylor's conscious intentions. He even dreamt of having a different rate of pay fixed for every individual worker in a shop so as to eliminate any community of interest between them. Again this may no longer now be consumed as hot by "any modern and enlightened" management as it came out of Taylor's kitchen. But as a regulative principle it is not altogether discarded as it constitutes the essential correlate to the alienation from the workers of the socialisation of their labour which is and certainly remains the foundation of the very institution of capitalist management. Also the economic justification for Taylor's scheme, namely, the preponderance of volume of output over wage rates in enterprises with a high inflexibility of the cost structures, more than retains its validity. It is closely connected with the trend towards steeply rising capacities of potential output resulting from the structural laws of the socialisation of labour. I speak of potential output because under the "break-even point" calculations for present-day investments, rising production capacities are no longer left to take full effect as they were in the heydays of the twenties preceding the big slump that ended in Hitler's war economy getting monopoly capitalism off the rocks. That war economy has since become endemic, with its causes still very much alive.

Among the essential features of Taylor's conception is further the establishment of the "novel division of mental and manual labour" which was listed above. It is aimed at driving an insuperable wedge into the labour process and isolating the live labour within its very realm from the management of production by a division in terms. If this division was an authentic one it would render impossible a possession by the workers of the socialisation of their labour. But is that division authentic? It was pointed out that the terms upon which the managerial science is founded have first to be extracted from the live labour before they become the mental possession of the management. The time-study men themselves, who do this extraction, do not descend from a sphere of the pure intellect like Platonic spirits into the nether regions of the labour process to cast it into their inconvertible measures. These time study men are mere doubles of the workers themselves and should, in order to do their job properly and not be fooled by the workers, be able to do the jobs they are to study and gain personal experience of them. But, however sufficient their experience and however competent their analysis, the people far more experienced and far more competent to do the job would be the workers themselves. There are many good reasons why the workers do not do it, the epistemological one of a division of head and hand not being among them. In the hands of the workers, if ever they did take the job into their hands, its function and its methods would be totally transformed. As done by the workers

themselves the study would be of the economics of their socialised labour understood on their terms and on its proper level, and the knowledge gained would incorporate the functions now alienated and usurped by the management. Obviously, however, such a transformation presupposes the overthrow of capitalism and a successful establishment of the dictatorship of the proletariat. In fact, the mental and functional appropriation by the workers of the socialisation of their labour describes the dictatorship of the proletariat as extending to production and to the social economy. It also describes the formative process of socialist man.

Within the social relations of capitalism, however, the workers need an enormous effort to combat the limitations of their wage-labour status, the status more impotent today within the production process than in any previous epoch of capitalism; for never before has the individual performance of a worker been reduced to such fragments and fractions of fragments of a job as is his contribution to the present-day high-grade socialised labour process. At the same time, the productivity of his labour has increased a thousandfold compared to the labour done in the one-man shops of the Middle Ages. But the productivity is not his in terms of his individual labour, and taking his individual operations as a standard of judgment the productivity is that of the capital in whose employment he works and dependent on the efficiency of the management. Hence the managerial fetishism that pervades our society, the accepted belief that modern industrial establishments or indeed large-scale establishments of any kind cannot be run without their hierarchy of managers in control of every detail of production and of organisation and in particular, of course, of the workers. This fetishism accrues to the socialisation of labour by the fact that it is in the wrong hands, wielded by management in the service of capital and for the exploitation of labour instead of being the foundation for working class power in a society of production. The reason for the fetishistic character of management is not in its "science" and still less in that this science is beyond the workers' grasp. Not only is it all based on the study of manual labour, but all that this science serves to achieve is to make the individual workers term it, nor how the workers see it, pinned down as they are to the sub-standard of their individual status. As seen from that angle the functions and conditions of their own socialised labour take on an appearance as of an object-nature extraneous to them, to be studied, elaborated, and enforced upon them by separate agents.

These few and unsystematic remarks on the subject of "scientific management" are all that I find time and space for in this paper. General and abstract though they are, they are intended to advocate the critique of scientific management as a programmatical discipline which could be carried into the details of the class struggle on the factory floor. Some such critique as a weapon for countering every move of the management is of vital necessity for any Party leading these struggles with a long-term revolutionary aim in view.

#### 4. HITLER-FASCISM AS A CASE IN POINT

(I must preface the following remarks by saying that I am concerned here exclusively with the economic aspects of Hitler-Fascism and its rise to power.)

In Germany 1924-1930, as in USA 1921-1929, the new economy of the labour process had been allowed to develop full tilt in an enormous investment boom where the gospel of "rationalisation" had led to intensive concentration of capital (by mergers and trustification) and extensive centralisation and reorganisation of production on the lines of mechanised mass production. This development had taken place without apprehension in nearly all fields of industrial production regardless of whether they were "new industries" (electrical, chemical, motor, etc.) or "old" (iron & steel, coal, cotton). In fact, in iron and steel the rationalisation had been, if anything, even more thoroughgoing than elsewhere. It had led to the formation of the Steeltrust in 1926 (Vereinigte Stahlwerke A.G.: "Vestag") by a merger of 4 or 5 big companies (Thyssen, Stinnes, Otto Wolff, Phoenix), with a rated global capacity of 10 m. ton of pig iron and 9.5 mill ton of raw steel (equal to 40% of the total German production). (8) Working at full capacity the trust gave employment to close on 200,000 people. Vestag was the biggest single firm in Europe. The new labour process was of the type of "Verbundwirtschaft" (plant combination), based on the utilisation of the blast furnace exit gas as fuel and source of energy for the whole works; it operated a timing mechanism such that practically no one section of the combine could be worked independently of the others. The whole colossus of the main Thyssen works at Hamborn, for instance was effectively controlled from one central switchboard by a chief engineer with two assistants. The financial basis was a long-term dollar loan worth RM 800m. of debentures against a share capital of RM 750m. (under the aegis of the Danatbank, the first of Germany's big five to collapse in June 1931). The main combine of the Steeltrust had an absurdly restricted margin of elasticity; it could not divide its process of output and it could not slow it down to less than 66-70% (I seem to remember the precise figure of 68%) of its rated capacity. The whole organism was the last word in "scientific management and rationality", and the foremost plant economist (Betriebswissenschaftler) of Germany, Prof. Ernst Schmalenbach, had been engaged as consultant. (9)

In 1930/31, as the slump gradually took effect, German monopoly capital, its leading sections, split into two clearly divided camps. On the one side were the great exporting industries (Siemens & AEG, I.G. Farben, Mercedes & Opel, heavy & light engineering like M.A.N., Demag, Julius Berger, etc.), financially sound and strong enough to abide by the traditional rules of market economy (aimed at restoring the equilibrium by means of ruthless deflation), and accordingly arrayed in support of the Brüning Government. But deflation did not make for a viable policy under the circumstances then prevailing internationally and further aggravated in Germany's case by her condition as a debtor country (10). Adherence to the principles of market economy proved a cause of political weakness and vacillation. In the other camp the opposite was the case, economic weakness combined with political strength. Here were the so-called "autarchists", representative mainly of the heavy industries spearheaded by the Steeltrust, and advocating entirely different ways to recuperation. In October 1931 this second camp went over to the attack and grouped in the "Harzburg Front" or "Natopp" (Front der Nationalen Opposition, also aptly nicknamed "Fronde der Grossbankrotteure") under the political leadership of Hugenberg, Dr. Schacht, Hitler, and Selde (for the "Stahlhelm"), unmistakable partisans of rearmament and military expansion in Europe. One of their leading slogans was "Grossraumwirtschaft", pleading the need of mechanised mass production for enlarged mass markets of the size of,



say, USA or the USSR. The intended autarchy was for such a Grossraum, say, "Mitteleuropa", not for the Reich within its extant boundaries. This oppositional camp made a vociferous appeal to the mounting mass of unemployed but more specifically to the millions of petty-traders and consorts whom the slump held mercilessly by the throat and who formed the main voting reservoir for Hitler; while these were backward and outmoded elements of the German economy, the potent spearheads of the movement were, on the contrary, some of the modern - most paradigmatata of mechanised industry. In between these two main camps a very few particularly powerful firms like Krupp stood astride the gap and took an active hand in trying to work out a platform for a new concentration of German monopoly capital as a whole on the line of the Harzburg Front. And this attempt was finally successful in lifting a Hitler Government into the saddle early in 1933.

The establishment of this government signified the termination of the slump for Germany, a termination which for the first time in history did not represent and was not intended to represent a state of economic equilibrium. It was a regime politically and economically streamlined for rearmament and war, without acting in self-defence and without any possible pretence at self-defence except against the mythical "Jewish menace". As it worked out, this emphatic non-equilibrium economy entailing, from 1936/7 onwards, the arms race heading for WW 2 overtook the entire world economy; and there is today a fairly unanimous consensus of opinion among economists that without this intervention of war economy the slump would in all likelihood have resettled itself upon world capitalism. There is also a widespread conviction among economists that present-day advanced capitalism could not easily dispense with the "military-industrial sector" of its activities without courting the danger of a slump not unlike the 1930s. It is therefore of importance to focus upon the precise economic mechanism which was at the root of the developments fraught with such far-reaching consequences in Germany and for capitalism as a whole.

This mechanism amounts to nothing more complicated nor more controversial than the fact of the inflexibilities of modern industrial structures, of their inability to respond to the postulates of capitalist market economy, or to put it the other way round, the fact that these structures are endowed with certain definite economic necessities of their own which make them resistant to the economic necessities of the markets. I wish to hark back to that highly significant piece of conversation with the deputy-head of the German Steeltrust, quoted in footnote (10). The state of affairs in which the Steeltrust had been landed in the winter and spring of 1932 was that of an alternation of a fortnight's operation and a fortnight's stoppage of the giant works at Hamborn and elsewhere.<sup>(11)</sup> The orders, which, even at the peak of the boom had never exceeded 80% of the output capacity, had dropped to 60% in 1930 and to less than 40% by the end of 1931 and stood now at about 20%, and of course not at equal amounts of all the hundreds of specifications produced, but a few of some, more of others, none of most. For a long time Vestag had kept producing for stock, thereby still further choking the market, until there was now only the utterly ruinous choice left of regular stoppages altogether for fortnights on end. Needless to say, the enormous overheads went on even with no output to carry it, and so did the cost for maintenance which was

very considerable. When work was resumed after the stoppage, a day or two was wasted on frictional runs until the entire machinery was back in gear. This kind of regime did not only lose the profits, it piled up debts and ate relentlessly into the firm's capital. On standards of market economy the Steeltrust was bankrupt and should have been liquidated, but such a thing was politically unthinkable. There was thus only one remedy left to save the Steeltrust and all other firms similarly placed: to put the works back into full-scale production regardless of the markets. If production of marketable goods was impossible, then it had to be of non-marketable goods, non-reproducing values, in other words armaments. The economic necessity of this way out imposed itself almost coercively, but it is of course difficult if not impossible to say whether in a different nation, with a different background of tradition and ideology this way would have been embraced with a similar resolve and throughgoing consequence. It must also be said that I use the case of the German Steeltrust here only as paradigm for demonstrating purposes. There were other economic factors of a similar and similarly compelling nature pointing in the same direction, for instance, the I.G.Farben trust being caught just then (in the summer and autumn 1932) in a venture of research and development involving risks of a colossal magnitude which they sought to devolve upon the State; but a State ready to accept that risk had first to be created in agreement with the Steeltrust. This case, too, is of obvious paradigmatic significance in the light of the present-day fusion of armaments with "R and D" under State tutelage.

My argument here in all this is concerned with the dual economics involved in this development, plant economy versus market economy. Embarking upon the Fascist course the capitalists forfeited their stake in the market economy to satisfy the exigencies of their plant economy. Their profits out of a war economy were all fictitious unless and until Germany won the war. Also they broke with the entire morality of the past in jeopardizing the aim of social reproduction as the end of the economy. And they handed over their fate and their initiative into the care of the State. The economy of this system demanded a hermetic division into two spheres, the economy of the reproducing values and the economy of the non-reproducing values, neither of them spilling over into the other. To keep the nation working it had to be fed and clad (no new residential housing and hardly any repair was permitted in all the Hitlerite years), and the rate for this was set at a wage level which hardly exceeded the unemployment benefits during the slump. Wages and prices were frozen under a "wage-stop" and a "price-stop" which only in 1938 and 1939 showed first signs of yielding. No renewal whatever and only the most essential replacement and repair was allowed for the productive equipment of consumer goods industries. Conversely, no expenditure on any but the essential consumer goods was supposed to take place out of profits in the armament sector so that all money equivalents of the non-reproducing values produced could be kept in circuit spiralling up to the mounting total of armaments expenditure. This total Hitler himself in September 1939 gave as RM 90 billion. Within this totalitarian framework the economy was indeed totally etalisee, state-run for private account. One might liken the bisection of the economy into the two spheres and the sealing off of the civilian sphere with the rather timid and tentative efforts at an incomes policy these days although the difference in grade is such as to constitute a difference in essence perhaps. In Hitler Germany it was linked with a compulsory cartellisation of industry, banking, commerce, and even of agriculture (under the Food Estate which, but its original industrial inventors, had been conceived as "Agrar-Kartellierung"), the whole making for the Corporate State. The

over-all relationship between the State and the Fascist Party can best be understood on the analogy of the relationship between capital and management in the modern industrial firm. The firm belongs to the capitalist, but it is run by the management on behalf and for the benefit of the capitalist. Capital is dependent on the management for running the business, but the management is dependent upon capital, upon its service to and employment by capital, for its position of rulership over the workers. This mutual dependence does not make for a harmonious relationship between management and capital and between the Party and the State. Rather the contrary. Each of them labours under the illusion that it might and ought to be able to do without the other and take all the power and all the gain for itself, only to discover the self-deception in the attempt at acting on it. The entire history of the relations between the Party and the capitalist class in Hitler Germany, a history of incessant friction and tension, fits in with this analogy and for very good reasons.

FOOTNOTES

1. I employ the term "profit" instead of the correct one of "surplus-value" for the sole purpose of a more convenient wording; in the context of this paper the inaccuracy is of no consequence.

2. The term "political economy" is unsuited for my purposes because it is applicable only to the classical system of capitalist economy as defined above. Only by adopting the different methodological scope of the "economia pura" since the 1870's does bourgeois economic thinking follow suit to the historical change and relinquish the claim upon objective social validity which marked the classical system of the founders.

3. In this same year there took place that revealing conversation of Cecil Rhodes to Wickham Stead which Lenin quotes in his "Imperialism" and which because of the significance of the parallel I wish to recall here: "I was in the East End of London yesterday and attended a meeting of the unemployed... the wild speeches... were just a cry for 'bread', 'bread', 'bread', and on my way home I pondered over the scene and I became more than ever convinced of the importance of imperialism...If you want to avoid civil war, you must become imperialists."

4. "The collective machine (die kombinierte Arbeitsmaschine), now an organised system of various kinds of single machines, and of groups of single machines, becomes more and more perfect, the more the process as a whole becomes a continuous one, i.e., the less the raw material is interrupted in its passage from its first phase to its last...(Capital I, p.376(Moore/Aveling,1943)). It would be interesting to find out why and where this Marxian concept of capitalist production as a continuous process differs from the continuous process of mass production initiated by Ford in 1922, for instance, and why the latter, but not the former, implies the operation of a new economic law calculated first to upset and finally to supplant the system of market economy."

5. For fuller details I must refer the reader to my book "Geistige and körperliche Arbeit, zur Theorie der gesellschaftlichen Synthesis"(Mental and manual labour, theory of the social synthesis): Suhrkamp, 2nd. ed. 1972.

6. As rooted in the social synthesis, the necessary forms of thinking are social; in fact, they are forms of the socialisation of thinking. The measure of socialisation determines the logical independence of thinking, its relation to objective truth. But the independence is that of individual thinking! It is just because the constitution of the thinking is social(determined by the prevailing social synthesis), not individual(not determined by the particle an individual contributes to the social product) that the thinking carries logical authority: vested in the ego cogito. From this paradox one may gauge the depth and intricacy of the false consciousness that must needs attach to the forms of thinking in a society which blinds the individual as to their origin.

7. It is essential to realise the dependence of capitalism on the division of head and hand besides the private property of the means of production. A capitalist control of production would be a complete impossibility if the mastery of the technology of production were provided by the workers.

Capitalism presupposes a reliable knowledge of nature from sources other than manual labour. Kant asked the question how such knowledge was intrinsically possible and answered it in a way postulating the inalterable necessity of the division of head and hand (as a variant to the economic class division). This made him the founder of philosophical epistemology. His answer, and all epistemological ones, is however untenable also on logical grounds. Marxism alone can hold the correct answer. Actually, the materialist theory of the social synthesis is calculated critically to supplant the idealistic theory of the transcendental synthesis, thereby supplanting the epistemological fetish concept of "Knowledge" by the historical concept of the division of head and hand.

8. From 1923 to 1929, raw steel output nationally rose in Britain by 13.6%, in France by 83.2%, and in Germany by 158.1%.

9. In the autumn of 1931, when the disaster began to take shape, he issued a memorandum in which he reached the conclusion that the planned giant works of modern industrial production could be a blessing to society only if operated in the framework of a planned national economy. The memorandum aroused such indignation on the part of the German big industrialists that they asked the then Reichsminister of National Economy to suppress and destroy the paper, which he did. In the winter of 1932 the second in command of the Steeltrust in a conversation in which I dared to make a reference to science, burst out: "Don't mention that word! We have been fed on nothing but science and have heard of nothing but science - scientific management, scientific technology, scientific market research, scientific planning of this, scientific calculation of the other - and where has it landed us?!"

10. Adherence to the principles of market economy proved a cause of political weakness and vacillation. In the other camp the opposite was the case, economic weakness combined with political strength. Here were the so-called "autarchists", representative mainly of the lack of foreign assets, to these industries, made for an enhanced appreciation of scientific progress so that they might at least earn the royalties for their patents if they could not secure the tenders themselves. Hence, when in 1933 the Jewish scientists were driven out of Germany and the Americans and the British made sure not only of their persons but often of their laboratories as well, the exporting firms sent Max Planck, the great old man of German science, up to Hitler to tell him what this exodus involved for Germany. Hitler turned to him with his hands in the air: "Dear Geheimrat, what is the great loss if Germany has no leading physicists for a generation; there are greater issues at stake for me! The purity of the German race ranks higher in my mind!"

11. The iron and steel works of the Luxemburg ARBED, incidentally, were in precisely the same situation at that time, although entirely unrelated to the German Vestag.

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Die technische Intelligenz zwischen Kapitalismus und Sozialismus  
Suhrkamp

Die ökonomische Dualität des Spätkapitalismus  
Luchterhand

(The last-named is a much revised and expanded version of the article published here, and will be translated into English shortly.)

CAPITALISM'S GOLDEN RULE by R. M. Goodwin  
Peterhouse,  
Cambridge.

A set of simple, interrelated propositions, based on premises widely accepted by bourgeois economists.

1. To each profit rate corresponds a set of relative prices. A change in relative prices alters the technique of production chosen by competitive producers.

2. To any particular growth rate there corresponds an efficient technique, i.e. that collection of production processes which, after allowing for necessary accumulation, yields a greater consumption than any other technique.

3. This best technique will be chosen by competitive producers if the profit rate on invested capital equals the growth rate.

4. Any consumption by owners of produced capital goods means that the profit rate is greater than the growth rate. The result is the choice of an inefficient technique, in the sense that both capitalists and workers could consume more had the technique associated with equal growth and profit rates been chosen.

5. All capitalist economies are inefficient in this sense, since capitalists do in fact consume a part of profits.

6. Any profit rate greater than growth rate amounts to levying taxes on output for the benefit of a particular class. Like all such taxes they fall unequally on different goods, so that there is an alteration of relative prices which corresponds to no operative aspect of the production process. The result is an inefficient technique and a sub-optimal allocation of resources. This is separate from and additional to the unjustifiable distribution of consumption.

7. Therefore, optimality requires in effect expropriation of capitalists, since if the owners of capital can never, now or in the future, consume any of the income, the ownership of capital is nominal, its 'fruits' accruing to the whole society.

8. Just as to each profit and growth rate there corresponds a best technique, so also is there a best technique for the stationary state with zero growth rate. Only a zero profit rate will lead producers to choose that technique.

9. Therefore, if capitalists cease, either voluntarily or under compulsion, their accumulation, optimality requires the reduction of their revenue to zero in the absence of growth.

10. Capitalists have been, and still are, engines of growth, however imperfect or wasteful their performance may have been. Consequently, as the industrialised economies gradually but inevitably decelerate, the capitalist loses his function. The determination of the rate of return on capital then becomes a naked struggle over shares in the product. But also the outcome will affect adversely the size of the product to be shared in exactly the same way as monopolistic pricing or excise taxes.

ON THE SITUATION AT THE FREE UNIVERSITY OF BERLIN AND THE UNIVERSITY REFORM  
IN WESTERN GERMANY  
by Marios Nikolinakos

I

Although Berlin is still considered to be the battlefield of the university reform, it must not be forgotten that the clash between progressive and reactionary forces takes place in every university in Western Germany. Berlin makes the most impressive example, not only for historical reasons (being the university which initiated in 1968 the student movement and consequently the university reform), but also because students in Berlin are traditionally more active. It is also for this reason that reaction on the part of the conservative forces both in the governmental apparatus and within the university itself, although not unique in Western Germany, makes itself apparent in its most representative form in Berlin.

It is important to put the so-called university reform, as it finds expression in the new statutes of German universities, in its real historical perspective. It has indeed removed the despotic position of full professors within the different institutes and in the central administration; it has strengthened to a certain extent the position of the "university middle class", i.e. assistants and tutors; it has opened some doors through which marxist theory moved into the curriculum itself; it has given the opportunity to alter the examination statutes. Nonetheless, the professorial body is still in power, given that professors have the majority in every university body according to the law. The fact that information is now accessible to students and assistants as well has made it possible to limit somewhat the previously unlimited professorial power.

At some other new universities, like that of Bremen or Constance, the representation proportions are better, i.e. professors are equally represented with assistants and students in the university bodies. Recently, the authorities of the university of Constance were obliged to resign due to the intervention on the part of the Minister of Culture that aimed at undermining this successful tripartite model. In most of the universities that have been reformed in a more or less formal sense, the situation is worse than that of Berlin.

Taking all this into consideration, the university reform must not be overestimated. It is a reform only within the frame of the existing system. In other words: on the one hand an adaptation of the university to the new needs of a mass consumption society as they articulate themselves in the respective needs of capital; and on the other a way of giving a vent to the aspirations and pressure exercised by students and intellectuals. This reform has a stabilising function for the system in this phase of transformations taking place on all levels. Important in this respect is a general "university law" that the coalition government of social democrats and liberals intended to pass through parliament in order to institutionalise the reform and give it a common line for all German universities. (It must be remembered that



culture in general falls in Germany under the jurisdiction of every member state, not of the central government). Because of the difficulties met, this law was dropped by the government and could not be discussed by parliament. Also important in this respect is the statement made on 21st July by the Minister for Science of the Central Government, that "the needs of the economy (read capital) must play an important part in educational planning of German universities."

It is for this reason that the motto under which the Students' Communist Association (KSV) fight the reactionary university reform, "erkämpft das sozialistische Studium" (i.e. fight for a socialist education), sounds somewhat silly and out of place. It implies the false assumption that a socialist education could be realised within a capitalist framework. Mistaken also is the implied strategy that through changing the university a change of society could be achieved too, although the KSV denies that it follows such a strategy. On the other side stands the Action of Democrats and Socialists (ADS), a group sympathising with the SEW (the communist party of the German Democratic Republic in Western Berlin) - its corresponding part in Western Germany is the students' organisation "Spartakus" - who contend that no radicalism can help, and that one should exploit the possibilities offered by the reform law. In between, with no quite clear cut policies, stand the MLHs (university groups of Marxists and Leninists).

These policies show clearly the impasse to which the so-called university reform has brought the students' movement. On the one hand it set in motion some processes which helped the system to renew itself, and on the other it realises now that what has emerged from this glorious struggle, is at least not that which it had fought for. It is only now that the powerlessness of the students' movement and the helplessness of the "long march through the institutions" as a revolutionary way of changing society have become apparent. The result is a split of the students' movement, disorientation (MLHs), integration (ADS), or adherence to utopian goals (KSV). It could not be otherwise. For those who believed that they could initiate revolutionary processes through the students' movement failed to see that the mechanisms of control of the system lie elsewhere, that the universities are part of this system, and that the ruling classes have learnt one thing at least, to be flexible and adapt the system to new situations. The fundamental question is: How far does the Left objectively help them every time in this?

## II

It is in this scenery that the case of Mandel appears as the most characteristic example (le cause célèbre) that brought to light the reactionary character of the university reform. A whole number of other cases could be mentioned as well as a series of other events that reveal the real goals pursued by this reformatory movement. First was the decision of the government of the city of Hamburg not to appoint as civil servants persons belonging to radical groups of the right or the left. The decision was initiated by the refusal to appoint an elementary school teacher because he was a member

of the communist party. On the 28th January there followed the common declaration of the Bundeskanzler and the prime ministers of states that extended the Berufsverbot (prohibition of exercising one's profession) of the Hamburger Senate to all other states. The peculiarity in the case of Mandel is that he had been proposed by the council of department 10 (economics) of the Free University of Berlin as a unique candidate for the chair of social policy by thirteen votes (one against and one blank) since his qualifications ranked far above those of the other candidates. It must also be remarked that the professorial body has the majority in the department's council according to the law. In this case the Senator for Science of Western Berlin denied the appointment of Mandel not on the grounds of missing qualifications (as had been the case previously in Marburg, for example, with a philosophy professor) but on the grounds that Mandel's political activity and theories are in contrast to the German Constitution. The most spectacular was the prohibition on Mandel from entering West Germany and West Berlin which was issued the next day by the Minister of Interior of the Central Government in Bonn. Most important in this respect is the reaction of the students. Between a long lasting strike to paralyse the university life (KSV) and a one-day strike as a way of protest (ADS), one agreed upon a one-week strike during which a congress with eminent speakers was organised. That was all. University life continued afterwards normally! The Mandel affair must be seen consequently not only in the light of the attack of reactionary forces, but also in the light of some decadence of the student movement.

For the sake of history, it must be mentioned that at the same time as Mandel, appointment was also denied to Lefèvre in Department 11, who had been one of the leaders in the student revolt of 1968. Professor Domdey was denied the right to examine his students, Deppe and Wulff were not accepted for the Institute of Social Medicine, etc., etc., to name only some other examples. Lately the reactionary forces in the Otto-Suhr-Institut (for Political Science) that counts already three thousand students, have been trying to dissolve it, the two parts out of this division being attached to other departments on the ground that no cooperation can be achieved between marxists and non-marxists! Behind such movements of the reaction is the association of professors all over Western Germany called "Notgemeinschaft für eine freie Universität" (Necessity Association for a Free University) that has initiated a campaign against the university reform. Its actions are being financed by industry.

Recently there have been attempts to reanimate the once existing Bund Demokratischer Wissenschaftler (Association of Democratic Scientists), which aims at gathering together all those persons who support the reform and are against the politics and tactics of the Notgemeinschaft. It is important to note that while members of the Notgemeinschaft are almost exclusively professors, the members of the Bund are also recruited from among scientists as well (working in so-called free institutes) and teachers. A congress was held on 1st and 2nd July in Marburg, and a second one was decided on for the coming autumn. Sections have been already formed in some cities. The West Berlin section already numbers more than a hundred members.

Finally one should also mention the results of the elections held in the last week of June for the constitution of the new university bodies. While the position of the right is more or less determined by the law, particularly as regards the position of professors, the left among the students was once again divided. On the student side the candidates of the ADS (Action of Democrats and Socialists) - the integratory left - were the most successful.

### III

How it will go on? To repeat some of the thoughts already expressed above: one should not estimate the university reform as more than it really is, a readaptation of the system to the new needs and aspirations, in order to avoid any danger. The contradictions within the ruling class as they appear in the differences existing between the forces advancing the reform and those denying it, are at this moment on the way to be levelled off through administrative measures like the Berufsverbot or through denying higher posts to marxists. To this levelling off helps also the end of the revolutionary theatre of the Meinhof-Baader group, that lasted for almost two years, damaged and discredited the left, strengthened the reaction, found no echo either among the masses or among the students and can be explained only as the personal tragedy of the student movement that realised at some moment its helplessness and the impasse it was brought to by the idea at some time that society could be changed through conquering and changing the university.

The only positive result of the university reform until now is, as already stated, some intrusion of marxist theory in the curricula and the appointment of some younger marxists as professors, although quantitatively this is insignificant. The life of the middle personnel (assistants and research fellows) has been bettered a little through confining the rights of professors. It is out of this category of people that a renewal of the professorial body can be expected. But one must be clear that all these are only some small steps on the evolutionary way. It has nothing to do with "revolutionary processes". How far then, in this respect, does the Left, so long as it is no more revolutionary in the whole sense of the word and with all corresponding consequences, become an integrated part of the system, being the factor that lends it flexibility to adapt itself to new situations, helps it out of its contradictions, and has finally a stabilising effect on it? On thinking again over the student revolt we should pose this question to ourselves and draw the necessary conclusions for practical work. The dialectics of social phenomena cannot determine anything for the future. But looking backwards in Berlin, how it all began and to what it has developed, and, worse, what the perspectives at this moment are, the above question, although hard, hardly fails not to be justified.

THE TEACHING OF POLITICAL ECONOMY AT THE UNIVERSITY OF DAR ES SALAAM  
by Lionel Cliffe (former Director of Development Studies)  
and Peter Lawrence (former Lecturer in Economics)  
University of Dar es Salaam.

## 1. The Context

In 1966 some 300 students at the University demonstrated against their compulsory participation in National Service. President Julius Nyerere correctly interpreted their actions as resistance to the country's socialist aspirations by a privileged elite and promptly expelled those who had demonstrated. In the aftermath of these events and of the 1967 Arusha Declaration on 'Socialism and Self-Reliance', discussions were held about the University that had allowed this to happen and about appropriate changes in the still largely colonial educational system. Suggestions that were made included the introduction of political education to try to combat elitism and changes in the orientation and content of other courses taught at the University.

By 1969 two major changes had been made. First the introduction of a course in 'Development Studies', compulsory for all students in the University and intended to explain 'underdevelopment' and the rationale for Tanzania's strategy for getting out of that condition. Secondly, the Economics Department developed a new syllabus and began to hire staff on the basis of their socialist commitment. While the Development Studies Course was taught as a practical application of Marxian theories of underdevelopment as they applied specifically to the Tanzanian case, the Economics syllabus became a theoretical companion in Political Economy. At a time when students in the developed centres of the capitalist world are rejecting neo-classical economic orthodoxy and seeking to get more Marxist courses established, it seems useful to present our experiences as teachers in an ex-colonial University modelled on the British pattern trying to implement these courses.

## 2. The Courses and their Structures

Development Studies is a two-year course taught over the first two terms of each year. Its aim is to achieve an understanding of the causes of underdevelopment and to discuss socialist solutions. Basing itself on the thesis that these causes lie in the historical relationship between the underdeveloped countries and capitalist imperialism, the course involves an examination in historical perspective of the totality of that relationship. Hence the first year is devoted to a study of pre-colonial society, feudalism and capitalism in Europe, the rise of imperialism, a study of the colonial system, the experience of socialist countries and finishes with an analysis of the nationalist movements and the process of 'de-colonisation' (or 'false de-colonisation'). The second year involves a study of the contemporary problems and policies of East African society and economy, with the emphasis on Tanzania and its attempts to build socialism. Students are organised into workshops to examine specific areas - Industrialisation and Rural Development strategies in socialist countries, culture, the role of women, science and technology policy, etc., - in order to give them a chance to combine the theory with practical problems, but within a total interdisciplinary framework, rather than from the mystifying separatism of bourgeois social science.

Changes in the economics syllabus involved the introduction of a first year course in Political Economy, which is taken by most first year Arts and Social Science students. The course dealt with the different modes of production, the labour theory of value, production and reproduction, the dynamics of capitalism and imperialism, and the transition to socialism and then tried to relate such basic theoretical issues to the East African countries. The concepts of supply and demand, perfect competition, etc., were introduced within the context of the overall approach and, needless to say, not much time was spent on them. In the second and third years, students took a course in Economic Theories, taken and analysed historically<sup>1</sup>, The Political Economy of Development, Economic Policy and Planning as well as the usual options (Agricultural and Industrial Economics, Finance, etc.). These latter, of course, had to be taught from a different perspective which in effect required the teachers to write their own coursebook as they went along: the material and to relate to the underdeveloped, African situation and not developed capitalism, and had to discuss industry, agriculture, labour, finance or whatever in the context of their socialist transformation.

### 3. The Problems

Not that this was easy. Development Studies, responsible for teaching two-thirds of the University (i.e. 1,200 students) at any one time was always short-staffed<sup>2</sup>, thus depended on help from other departments (particularly Economics) and could not always rely on the political commitment or the philosophical outlook of the volunteers (although conversely there was a useful learning effect on some of the young Tanzanians who were drafted). Secondly, there were problems in teaching the totality of the imperialist mode of production historically in the time available. Thirdly, Development Studies was an addition to the existing curriculum, was seen by many students as an added burden, and also had to try to cut its coat to suit what was being taught in the disciplines. In fact, it was only with the introduction of a new course structure for the whole of the Faculty of Arts and Social Science that the course (renamed East African Society and Environment but with the same content and approach) was placed at the core of the first year teaching programme (at least in the social sciences) - and given proper weight, thus emphasising the centrality of the interdisciplinary approach. Fourthly, methods of teaching of necessity could be little different from the large lecture (200 students plus) and the seminar (20 students) of other subjects. The 'workshop' formula was introduced as an attempt to focus on applied problems of socialist transition and thus change method, getting students to organise their work in groups. Ways of achieving a more revolutionary teaching structure to fit a revolutionary course continue to be discussed. But beyond this, one must even question whether the aims of understanding or commitment can be met while ever the learning process is

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1 It was for this that our former colleague, Tomas Szentcs, then head of the Economics Department, wrote his book, The Political Economy of Underdevelopment, (

2 As a result of right-wing administrative and academic opposition to the Course.

confined to the campus; on the practical level, most of the future public enterprise managers have never seen the inside of a factory and, more generally, one must confront the fact that the main obstacle to socialism within the country is the extent to which the elite has lost touch with the masses. Never was there a greater need to combine practice and theory!

Problems of content and interpretation accompanied these organisational problems. Students in both Development Studies and Political Economy and some of the staff initially questioned the relevance of the study of feudal Europe or any non-African material and further endorsed the popular myth that Marx is only relevant to nineteenth century Europe and not to contemporary Africa. This problem was accentuated by the absence of a suitable textbook which introduces the Marxist method by treating of problems that are within African students' experiences. Duplicated materials selected from introductory texts, such as Eaton's Political Economy, which is out of print, had to be used and were supplemented by odd references to Lange, Sweezy, Mandel and Capital itself. Thus it was only at the end of the course that students were able to fit all the pieces together and see the point of studying each part of the whole. Political Economy students reared on the A-level Cambridge syllabus (i.e. Benham's Economics) questioned this 'socialist economics', demanding in a letter to a newspaper after only the second week more of the 'other side'. They got it and were able and happy to reject it at a later stage.

Certain issues had to be dealt with in an open-ended way either because they were controversial in the political context of Tanzania or because they were unresolved or even ignored within the socialist intellectual tradition: whether (in fact) pre-colonial Africa was classless, and how in any event one characterises the pre-contact social formations (not slave, scarcely yet feudal, a uniquely 'African mode of production'<sup>3</sup>); to what extent do the origins of 'underdevelopment' in Africa date back to the mercantile, pre-colonial period<sup>4</sup> and what then is the explanation for the 'new imperialism' that brought colonial rule to Africa? What, indeed, is the economic basis for modern imperialism itself, and is underdevelopment an inevitable concomitant of the 'unequal exchange' or merely a product of the particular agricultural-industrial division of labour which has marked Africa's most recent relations with the West? As one turns to the problems of the transition to socialism, other problems of treatment are posed: how does one present a brief but not oversimplified, non-sectarian, critical but not negative evaluation of socialist experience elsewhere? In trying to explore the prospects before Tanzania, one is forced to venture into areas which have not been pronounced upon by official policy and which raise basic issues, such as the nature of industrialisation strategy, the revolutionary potential of African workers as opposed to peasants, the weaknesses and possible advantages of a nationalist party, and even more generally whether a socialism in a single African country is at all a possibility.

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3 In fact, a Hungarian sociology colleague explores this possibility - Ivan Varga: 'African Mode of Production', Universities of Eastern Africa Social Science Conference Paper, 1970.

4 Another colleague, Walter Rodney, has outlined the significance of this earlier period in a series of articles, The Roots of African Underdevelopment, shortly to be published in book form.

#### 4. The Results

Generally, the students appreciated the new courses, though as pointed out to them in one concluding lecture their new awareness might merely make them better equipped to defend their elite privileges rather than to take their place at the vanguard of the revolutionary forces. However, when some academics launched an attack on Development Studies, they were repelled by the students' body and the more radical, University branch of the TANU Youth League, as well as by a large number of staff. However, the move towards new courses had been largely expatriate-led, albeit with some Tanzanian support from inside the University and a good deal more from outside - although many progressive Tanzanians tended to write off the University as beyond redemption. Since the Right was not able to remove the courses, they did the next best thing and began to pick off the lecturers one by one as their contracts came up for renewal, using the chauvinist 'expatriate plot' bogey to mobilise several hitherto progressive Tanzanians into full or tacit support. This was especially easy after the University crisis of 1971 in which the Administration had been attacked by the students (unlike 1966, this time from the Left) - and to make matters easier for the nationalists they were led by the Kenyan President of the Students' Union. The Tanzanian right-wing academics seized their chance to deflate the impact of the first year courses and of Development Studies by introducing such new social science courses as Comparative Economic Systems, Theories of Planning and Planning Experiences under Socialism (as though there was any other relevant sort!), in an Economics Department now led by a Harvard-trained Tanzanian. Staff in that department are now hired to teach these and other courses on the sole criterion of mathematical ability or degree level. In addition, the Rockefeller and Ford Foundations and moving back into the University, especially in the field of Economics, to give financial support to the reaction - both by financing posts and personnel to teach and research in Tanzania and by financing Tanzanian students to study in the United States. These foundations have also made a determined effort to move in on the all-important post-graduate programmes in Economics that have been organised for national planners.

We learnt a great deal from teaching these courses and in particular from being required to try to unite the theoretical underpinnings to the practical problems which Tanzania faces. As a group of 10 to 12 radical academics from Eastern and Western Europe, North America and Africa, we were able to work, read, write and discuss together in a unique atmosphere of international cooperation. Those of us who now have to go back to the UK or who (as in our case) have returned, plan to continue our work in the context of research and propaganda on Imperialism together: first in trying to meet the need we experienced for material written from a socialist perspective which is clearly relevant to Africa and the Third World, and then specifically to help arm British revolutionary movements with information and insights. Indeed, this report constitutes our first collective endeavour in this field.

H.W. Arndt, The Economic Lessons of the Nineteen-Thirties, Frank Cass, reprint 1972, £3.50.

If the state is a committee of the whole bourgeoisie, then Chatham House (the Royal Institute of International Affairs) is a seminar of the whole bourgeoisie. It organises (often 'secret') meetings and discussions and study groups of capitalists, the press, foreign office and other government officials and academics on a wide range of political and economic topics. One of these lengthy study groups in the late 1930s, the Economic Group of the Chatham House Reconstruction Committee (which aimed to help reconstruct capitalism, not Chatham House), decided to prepare a long report on the economic lessons of the crisis of the 1930s. The original intention was for an agreed report of the whole Committee on the lines of other Chatham House documents. There was so much disagreement, however, about the report which was produced by H.W. Arndt, secretary of the Group, that the Council insisted not only that it should be published under his name, but also that other members of the Group should be permitted to add notes of reservation.

This is an unpromising origin for what turned out to be and remains the best general study in English of the crisis of the 1930s, now available again in a timely reprinting. The book begins with a brief survey of the 1920s, followed by an examination in turn of the domestic and foreign economic policies of the United States, Britain, France and Germany and a brief note on the Swedish recovery policy. There is then a chapter on international action in the economic field between the wars; and the book ends with an examination of the internal and international lessons of the crisis.

The great virtue of Arndt's study is its comprehensiveness. He has synthesised a gigantic amount of information about the world economy and the major capitalist countries and presented it in an accessible and very readable form. And the main reason for reading the book now is to find out what actually happened.

But the presentation of the facts is naturally determined by theory. Arndt's theoretical perspective is not very explicit. Implicitly, however, he sees crisis as an inevitable consequence of the 'instability which is inherent in the operation of the market mechanism'; and the particular crisis of the 1930s, though he presents a very complex view of its causation, was basically the outcome of the disequilibrium in the capitalist system produced by the first world war and the inability of the gold standard in the new epoch of capitalism to maintain stability.

Unlike most bourgeois economists, however, Arndt does not see the crisis as being exclusively a crisis in the international system of trade and payments, but as a very complex interaction of national and international problems in the capitalist system. And in seeing the national elements in the crisis Arndt is



aware of the impossibility of dividing economic and political factors in the causation of the crisis as well as in the solutions which the bourgeoisie sought for it. For instance, of Germany Arndt observes that 'frightened by the prospects of revolution from the Left, big business helped to instal Fascism in power.' And of France, 'the destruction of the Front Populaire at the hands of the Conservatives left the industrial working class resentful and embittered and left the direction of French industry and finance in the hands of men who, while able for a time to run the economy successfully on their own terms, were prepared to deliver themselves up to Hitler rather than risk the danger of another attempt from below to oust them from their position of privilege'.

All this was not surprisingly too much for some of the members of the Chatham House Committee to stomach. And on their behalf Sir Andrew Macfadyean (director of a number of imperialist companies in S.E. Asia and a prominent Liberal), with the support of Professor A.G.B. Fisher (later an economist with the I.M.F.), wrote a retching concluding note. Arndt, he said, was oversimplifying complex political events which might offend Frenchmen. The study was, he implied, 'unconsciously tendentious'. 'It is quite gratuitous', he goes on, 'to represent that failure (the crisis) as the weakness of *laissez faire* or of free enterprise and market forces'. Naturally what worried Macfadyean most, as a representative of international capital, was Arndt's recommendation for the general planning of international trade (as well as of domestic capitalist economies) after the war as the only method of holding the inherent instability of the system at bay.

Although he had a holistic view of the national and international, political and economic elements of the crisis, and while he recognised the importance of class forces, Arndt was not a Marxist. The intellectual influences on him were mostly from Keynes, though he was not a Keynesian who believed that the system would work given merely enough state spending and international credit. He believed it required thoroughgoing planning and he fails to come to grips with the political changes which his policies implied. Nonetheless the book is very stimulating and given that no Marxist has yet managed a better comprehensive analysis of the 1930s it should be read by all socialist economists, especially now at a moment when the rapid development of a new capitalist crisis makes it imperative to understand the last one.

Bob Sutcliffe.

British Capitalism, Workers and the Profits Squeeze by Andrew Glyn and Bob Sutcliffe; Penguin Special 55p.

All economists should periodically sit back, unplug their calculating machines, and take stock of what they are doing. And this applies to Marxist as well as to bourgeois economists. It is all too easy for economists on the Left to become complacent and self-satisfied about their work. While bourgeois economists are churning out ideology, we are busy exposing it and providing scientific analyses. While they are representing the interests of capital, we are fighting for the working class. The problem is just how our work relates to the class struggle.

Of course, "without revolutionary theory there can be no revolutionary movement", and sound strategy depends on sound analysis. All theory may represent "an intervention in a particular conjuncture", but the problem is to sort out the importance of the intervention. Apart from the quality of the theory two other important considerations spring to mind. First, the relationship between a particular piece of analysis and any concrete political practice can be a very mediated one. Thus it is hard to see, for example, how the outcome of disputes about whether there is a unique quantity of socially necessary labour time embodied in a commodity with a particular price of production will affect the contemporary class struggle. Secondly, there is the question of when the analysis is produced. If we can understand a historical process at an early stage in its development, we are more likely to be able to intervene successfully. Thus economists should always be thinking about how their interpretation of the world is going to help to change it. If our analysis has no relevance to political practice, it is onanistic, and economists, like philosophers, have a tendency to come post festum.

British Capitalism, Workers and the Profits Squeeze is a piece of analysis which does constitute an important intervention. Andrew Glyn and Bob Sutcliffe's work is the first serious analysis of the current crisis of British capitalism and the book is the first presentation of it that is likely to have an impact on the class struggle. They have produced an analysis of a concrete crisis at an early stage in the development of that crisis and consciously worked at presenting the analysis in a form that will enable it to play a role in determining the outcome of the class struggle. (At least half the work put into turning the original New Left Review article into a book was directed at making the analysis comprehensible to people without an academic economic background). This point about practical relevance can be nicely illustrated by reference to the Industrial Relations Act. The book continually stresses the importance of the Act, against the mainstream of academic economists and industrial relations experts (though not militant trade unionists). When it became available on the bookstalls, five dockers were in Pentonville, and the Sunday Times ended their review by saying the CBI had better read it before Bernie Steer did. It is in this light that the book should be seen, and the importance of producing a popular readable account quickly should be offset against its weaknesses and limitations.

Glyn and Sutcliffe present detailed data to show that the share of profits in value added for the company sector nearly halved between 1964 and 1970 (21.2 per cent to 12.1 per cent), and the rate of return fell almost

equally drastically over the same period (pre-tax 13.7 per cent to 9.7 per cent, post-tax 7.1 per cent to 4.1 per cent). The account of methods of measurement employed is satisfactory, and I think they show conclusively that a fall of that order of magnitude did occur. They then produce a thesis to explain the 'profits squeeze' and attempt to test it by regression analysis. Their argument is, crudely, that the period was one of intensifying competition internationally, and of increasing wage militancy at home. Firms were forced to concede wage increases which they were unable to pass on, in total, in higher prices. Hence their profits suffered. The regression analysis concentrates on assessing the effect of changes in three variables on profits; wage increases (both rate and rate of acceleration), world export prices (as a proxy variable for international competition) and the level of output and productivity (to assess how much stagnation and reduced capacity utilisation are responsible).

The use of standard regression analysis for the third variable (output) is illegitimate, since profitability and the level of capacity utilisation and rate of growth are clearly codetermining to a significant extent, and there is no sound a priori reason for thinking that there is a uni-directional causality from the level of capacity utilisation to profits. Clearly, one of the major determinants of the level of capacity utilisation is profitability. However, this strengthens rather than weakens their main argument (that the fall in profitability is to be explained by wage pressure and international competition, and not by stagnation), since the small amount of the fall in profits they attribute to stagnation is, if anything, an overestimate. (As the degree of stagnation was in large part brought about by the fall in profitability).

There are clearly much sounder reasons for thinking that wage increases and profits and world export prices and profits are not codetermining in the same way, and for making a priori assumptions about the direction of causality. In general, the evidence here bears out their hypothesis very well. There are three relatively minor exceptions. These are that although profit shares tend to rise when world export prices rise, the effect is apparently not more significant in the countries and sectors most exposed to international competition, that a rise in import of manufactures into the UK in relation to UK output of manufactures is correlated (fairly badly) with a rise in the profit share, and that for individual industries in the UK there is no apparent relation between those most susceptible (in terms of profits) to wage pressure and those most exposed to international competition. The explanation given for the first and third of these exceptions is the crudity of the data available (especially the fact that no data of world export prices by industry was available). The second is explained as a reaction. UK firms raise their prices because their profits are hit, which causes a switch towards foreign manufactures by UK buyers. As things stand, none of these exceptions are serious objections to the basic theses, although if calculations done with world export prices by industry failed to show any correlation between the intensity of competition, wage pressure and profitability in those industries, the argument would be seriously damaged. A final minor point about the statistical evidence is that one reason why profits net of depreciation have fallen so drastically is that depreciation has become a higher proportion of gross profits. This is shown in an appendix, but no mention is made of it in the text.

Where the book is weakest is on the theoretical level. It does not provide an adequate explanation of why the 'squeeze' occurred when it did. There are partial answers. The authors argue that the squeeze was going on more slowly in the 1950s, and the late 1960s saw an intensification rather than a wholly new situation. They explain the intensification in terms of expectations of a steadily rising standard of living, born of the long boom, which were not relaxed when growth fell; an intensification of competition internationally when profits began to be hit in a number of important capitalist countries; and a period of severe weakness on the part of the British state (basically the last months of Labour's period in office and the change-over to the Tories).

An adequate theoretical account would entail explaining the post war boom. (Again, there is the nucleus of an explanation based on Fascism succeeding in establishing a high rate of exploitation in Germany, Italy and Japan, and trade liberalisation and interpretation of capitals 'exporting' this to the rest of the advanced capitalist world). It would come firmly to grips with the 'standard' theories of crisis based on an increase in the organic composition of capital. (The fact that the share of profits has fallen as drastically as the rate shows that this cannot adequately explain the current crisis, since the classic model shows the rate of profit falling because of a rise in the organic composition with the share remaining unchanged). And, finally, it would deal with theories of the role of the state; both the Keynesian and the arms economy models.

It is especially disappointing that the theory is not brought to the surface and developed more because it contains, I think, the basis of a more profitable (sic) approach to post war capitalism than any of the other schools of thought. Perhaps the next CSE conference will come to grips with this.

Finally, the book examines the various courses of action available to both capital and the state to reverse the decline in profitability. It concludes that all methods contain serious contradictions (most have already been tried and have failed) and that an increasingly serious attack on organised labour can be expected. This is likely to centre, at least while the Tories remain in office, on legislation. If the working class are not to suffer a serious defeat (a fall of around £2 a week in real wages on the purely economist level), they must develop a socialist perspective and seize control of the means of production and state power.

John Harrison

Review article

IMPERIALISM AND THE ACCUMULATION OF CAPITAL<sup>1</sup> by David Yaffe

The appearance of two major essays by Rosa Luxemburg and Nikolai Bukharin in English translation, more than forty years after they were first published in German, at last, gives some indication, to non-German readers, of the important debate that took place within (and beyond) German Social Democracy from about 1913 to 1930. The only widely known summary of the discussion on the Marxian crisis theory and 'breakdown' controversy is in P. Sweezy's Theory of Capitalist Development published in 1942. Henryk Grossmann's major contribution and survey of the issues in Das Akkumulations - und Zusammenbruchsgesetz des kapitalistischen Systems, 1929, has still not been translated into English. Quite clearly, a re-examination of the major issues is called for. It is therefore important that Allen Lane (Penguin Press) has seen fit to publish two of the major contributions in book form, with an introduction and biographical notes by Ken Tarbuck.

Rosa Luxemburg's Anti-Critique, written in prison in 1915 and not published until 1921, is her answer to the heated controversy, in the German Party press and elsewhere, generated by her book The Accumulation of Capital, 1913. Nikolai Bukharin's Imperialism and the Accumulation of Capital written in 1924 is a direct attack on both the ideas expressed in the Accumulation and the Anti-Critique. Despite his sharp and devastating attack on Luxemburg's position, Bukharin, nevertheless, recognised and acknowledged Luxemburg's significant contribution to the revolutionary movement.

"She has raised the question about the necessity of imperialism and in general answered it properly, although her answer was based on theoretically wrong arguments. . . . It represents a daring theoretical attempt, it is the deed of a brilliant theoretical intellect."

What he refers to is her revolutionary approach to the problem. She understood clearly that this discussion was about the foundations of scientific socialism. As she had earlier pointed out,

"If the capitalist mode of production can ensure boundless progress, it is invincible indeed. The most important objective argument in support of socialist theory breaks down; socialist political action and the ideological import of the proletarian class struggle cease to reflect economic events, and socialism no longer appears an historical necessity."<sup>2</sup>

To show the limitations of capitalist expansion, she developed a theory that saw non-capitalist social strata and countries as the key to that expansion.

"Thus capitalism expands because of its mutual relationship with non-capitalist social strata and countries, accumulating at their expense and at the same time pushing them aside to take their place. The more capitalist countries participate in this hunting for accumulation areas, the rarer non-capitalist places still open to the expansion of capital become and the tougher the competition; its raids turn into a chain of economic and political catastrophes: world crises, wars, revolution."(p 60)

Since capitalist accumulation needs, according to Rosa Luxemburg, an additional market outside that provided by capitalists and workers, the necessity to expand into non-capitalist markets follows (p 80). Imperialism becomes an historical necessity and follows from the requirements and conditions of capital accumulation. Those who deny the phase of imperialism as an historical necessity, those who say that capitalism does not require imperialistic and militaristic expansion to survive, logically at least, are driven towards reformist conclusions. Tactically they call for a 'bloc' of the proletariat with broad sections of the bourgeoisie in order to 'moderate' imperialism, to contain it by 'partial disarmament' and so on. The final confrontation between the proletariat and capital is converted into the 'utopia' of historical compromise to 'moderate' the imperialist contradictions between capitalist states (p 148).

This latter point is of great significance. It shows the importance of a correct theoretical understanding of imperialism. Unfortunately, Rosa Luxemburg's theory is untenable. A consequence of it, as Bukharin points out with considerable effect, is that the fight for territories that have already become capitalist or that are already 'occupied' is not imperialism according to her definition (p 253). Her theory cannot also explain why the export of capital from one capitalist land to another capitalist land takes place and, indeed, today has become one of the more important features of modern capitalism.<sup>3</sup> Her examination of international loans to Egypt in the Accumulation of Capital<sup>4</sup> points to very different conclusions than those suggested by her analysis. The historical evidence, far from showing how surplus-value produced in the capitalist lands is 'realised' (in the Luxemburgist sense), tells us how the export of capital helps to produce additional surplus-value in non-capitalist lands and how this is returned to the old-capitalist countries through interest payments, etc. She actually says, "the greater the debt to European capital became, the more had to be extorted from the peasants". It is precisely this kind of phenomenon that her theory cannot explain and which is in direct conflict with her point of view.

Bukharin particularly stresses the role of the export of capital in his own analysis. His explanation is very different to Rosa Luxemburg's. The question remains: does his analysis satisfy the two criteria that he quite clearly accepts,

- (i) that there is a long-term secular tendency towards 'break-down' in the capitalist system,<sup>5</sup> although Rosa Luxemburg gives no adequate explanation of this.
- (ii) that imperialism is an historical necessity.

Unfortunately, Bukharin has a number of explanations for both crises and imperialism. He is never particularly clear and his points are sometimes so general that we cannot deduce a consistent theoretical framework.

Crises, we are told, stem from the disproportion of social production, and the factor of consumption forms a component part of this disproportionality. This is the view of Marx, Lenin and the orthodox Marxists (and presumably Bukharin) (p 225). If this disproportionality could be overcome, then clearly crises would disappear (a position held by Bauer and Hilferding). The difficulty, though, for capitalism lies in its anarchical structure, in which, of course, production is not controlled (p 216). In another place, while maintaining the mutual dependence of production and consumption, he states,

"Once labour-power has entered into commodity circulation . . . the contradiction between use-value and exchange-value appears here in the shape of the contradiction between the production of surplus-value, which strives for boundless expansion, and the limited purchasing power of the masses, who are realising the value of labour-power. This contradiction finds its solution in crises." (p 234)

This is an underconsumptionist position. And, finally, in order to cover all possibilities, he relates the expansion of capital to the movement of profit, its amount and rate (pp 254-255, and pp 261-262). In Imperialism and World Economy, he talks of the tendency towards lowering the rate of profit and his theory of imperialism rests on the attempt to achieve higher rates of profit. He clearly needs some such theory to explain his assertion that 'disturbances' which are 'imminent' for capitalism are 'done away with' periodically only to reappear stronger periodically (p 265) but this is not forthcoming in Imperialism and the Accumulation of Capital. All we are told is that capitalist society is a 'unity of contradictions' and the process of expanded reproduction is a process of expanded reproduction of these contradictions ( p 264). This is clearly true, but no explanation of precisely the tendency he ought to explain.

His explanation of imperialism is likewise, at times, eclectic, and, at others, unconvincing. Nevertheless, there is a wealth of ideas that can contribute to the discussion today. The critical point is to understand that it is the export of capital not commodities which is the distinguishing feature of modern imperialism. He quotes Marx with approval in saying,

"If capital is sent abroad, this is not done because it absolutely could not be applied at home, but because it can be employed at a higher rate of profit in a foreign country", (Capital, Vol. III, p 251, Moscow edition),

So that capital is exported because it gains an additional profit (p 245). This is made more explicit in Imperialism and World Economy where it is the race for higher rates of profit that is the motive power of world capitalism, and lower rates of profits are said to drive commodities and capital further and further from their 'home'.<sup>6</sup>

Likewise, foreign trade can yield a surplus profit for the advanced country, due to the productivity differentials of the goods exchanged (p 245). This is the basis of the theory of Unequal Exchange.<sup>7</sup>

In Imperialism and World Economy another factor is mentioned; the need to avoid and take advantage of tariff walls. Insofar as capital has been imported and begins to function in the foreign country as capital, it receives as much 'protection' from the tariff as the capital of native businessmen. This is said in turn to cause a tremendous increase in capital export.<sup>8</sup>

In all these points it should be stressed that when Bukhasm speaks of capital he refers to its specific characterisation as finance capital. This must not be confused with money capital for finance capital is charac-

terised as being simultaneously banking and industrial capital. Rosa Luxemburg failed to recognise the concrete, historical form of capital in the epoch of imperialism (p. 253). There is barely any mention in her major work of the 'treatment of cartels and trusts' (p. 252). She cannot therefore understand the struggle of the big monopoly capitalist organisations and the extension of imperialist operations not only to the non-capitalist world but also to capitalist territories and the foreign territories of finance capital. 'The struggle has changed from a mere fight for the distribution of the agrarian countries into a division of the world' (p. 254).

This point is correct and yet it nevertheless shows the weakness of Bukharin's own position. Why should capital move across national boundaries to different advanced industrial nations. Is the rate of profit significantly higher on average in Europe or America, than in Japan (taking into account risk, transport costs etc.)? Capital will certainly seek areas of higher profits but can this really be the general explanation of the movement of capital between advanced industrial countries?<sup>9</sup>

In his three fundamental motives for the conquest policies of modern capitalist states Bukharin is nearer the answer. They are increased competition in the sales market, in the markets for raw materials, and for spheres of capital investment.<sup>10</sup> But it is precisely this increased competition and the form it takes that has to be explained. To do this we need a systematic explanation of the Marxian crisis theory and this, nowhere, Bukharin produces. The rest of this review will examine the Marxian theory of crisis and, in particular, the role of the reproduction schema in that theory. It will then attempt to give a framework for discussing imperialism based on the theory of crisis.

Rosa Luxemburg in her discussion of the Reproduction Schema of Volume II of Capital was critical of them on two accounts.

1. These precise rules laid down for the relations of Department I (means of production) are gained at the cost of any kind of principle in construing these relations for Department II (means of consumption); and this calls for a revision of the immanent connections revealed by the analysis.<sup>11</sup>
2. The problem that is posed and left unanswered in the second volume of capital - to show how accumulation takes place under the exclusive rule of capitalism - is insoluble. Accumulation is simply impossible under such conditions (p. 145). Therefore Marx's assumption in the 2nd volume of capital of a society of only capitalists and workers has to be criticised. Not to do this means that we cannot explain imperialism.

The first point is a technical one and Rosa Luxemburg is clearly wrong. Bukharin shows there is a strict equilibrium relation if expanded reproduc-



tion is to take place. That is

$$v_1 + \alpha_1 + \beta_{1v} = c_2 + \beta_{2c} \quad (\text{p. 158})$$

Subscripts 1, 2 denote departments.  $c$  is constant capital consumed in the production process,  $v$  is variable capital and  $s$  is surplus value.  $\alpha$  is capitalist consumption,  $\beta$  represents the part of the surplus value which is destined for accumulation.  $\beta_{1c}$ ,  $\beta_{2c}$  and  $\beta_{1v}$ ,  $\beta_{2v}$  are parts of the accumulated capital turned into constant capital and variable capital respectively. It can be shown that if we follow Marx and assume equal rates of exploitation in both departments, and unchanging organic compositions and rates of accumulation in succeeding production periods for both departments then:-

$$\frac{\beta_1}{s_1} : \frac{\beta_2}{s_2} = \frac{v_2}{c_2+v_2} : \frac{v_1}{c_1+v_1}$$

That is, that the rates of accumulation in both departments are inversely proportional to the organic compositions.<sup>12</sup> Rosa Luxemburg was indeed wrong.

Rosa Luxemburg's second point is wrong because she does not understand the role of the reproduction schema in Marx's total conception. In these schema Marx shows the necessary relationships that must hold between the two principle departments if the process of simple and extended reproduction is to continue undisturbed. His aim is to show that the exchange relations between the two departments must be in accordance with regard to their value as well as use-value side, if the equilibrium conditions of the reproduction of total social capital are to be maintained. Supply and demand are perfectly balanced and Says law of markets is presupposed. In this sense, as Rosdolsky has pointed out, the reproduction schema can be regarded as a (provisional) solution to the so-called realisation problem.<sup>13</sup> They indicate the necessary relations for equilibrium. In other words Marx shows that if certain conditions of proportionality in the exchange between the two departments are observed, all commodities are sold at their value and no over-production of commodities would occur. That is, the general cause of the capitalist crisis does not lie in the circulation process.

The general theory of capital accumulation developed in volume I of capital shows that even if all goods sold at their value, and Say's law could operate, crises and ultimate breakdown would follow.<sup>14</sup> The law of the falling tendency of the rate of profit is the kernal of Marx's theory of crisis.<sup>15</sup> He himself called it 'the most important law of modern political economy' and it forms the basis of any real understanding of imperialism.

It is interesting to note that even Bauer's schema discussed somewhat dismissively by Rosa Luxemburg (p. 90 ff) eventually break down due to a shor-

tage of surplus value if an attempt is made to keep the departments in equilibrium. Outside Rosa Luxemburg's correct criticism that Bauer has somehow managed to assume technological progress and a constant rate of surplus-value, her other points are of little consequence (p. 98). It took Grossmann's analysis and extension of the Bauer schema for 35 periods of production to show that Bauer's system will break down due to a lack of surplus-value.<sup>16</sup> The passage quoted from capital volume III by Bukharin (p. 244-5) to show that his argument that capital invested in foreign trade can yield a higher rate of profit was accepted by Marx, is just in that section concerned with counteracting tendencies to the fall in the rate of profit. And yet Bukharin does not give the impression that it is precisely the tendency of the rate of profit to fall that forces capital to seek other outlets of surplus-value elsewhere. It is not merely a question of seeking higher rates of profit but of seeking additional surplus-value in order to capitalise investments already made. This means that capital must maintain its share of old markets and fight for a share of newly expanding markets, wherever these markets are. Bukharin comes nearest to recognising this when in Imperialism and World Economy<sup>17</sup> he discusses the absolute over-production of capital.

'The export of capital from a country presupposes an overproduction of capital in that country. The over-production would be absolute were the increment of capital to yield nothing from the capitalist point of view, namely, if capital,  $c$ , having increased to  $c + \Delta c$ , were to yield as much profit as it would without the increment  $\Delta c$ . For the export of capital, however, it is not necessary that over-production should have reached that limit'.

But, as Marx points out, the same laws produce for social capital an increase in the absolute mass of profit and a falling rate of profit. So long as  $c + \Delta c$  yields a greater profit than  $c$ , then accumulation is possible. It is not merely that monopoly organisations can overcome the tendency of the rate of profit to fall by receiving monopoly superprofits at the expense of the non-trustified industries. Marx puts it more generally.

\* A fall in the rate of profit connected with accumulation necessarily calls forth a competitive struggle. Compensation of a fall in the rate of profit by a rise in the mass of profit applies only to the total social capital and to the big, firmly placed capitalists. The new additional capital operating independently does not enjoy any such compensating conditions. It must still win them, and so it is that a fall in the rate of profit calls forth a competitive struggle among capitalists, not vice versa.<sup>18</sup>

Capital has to expand in order to 'realise' investments already made. This accentuates the tendency of the rate of profit to fall and therefore increases the competition for the mass of profits produced. Large capitals are in a stronger position to hold their own in this struggle but as capitalism develops this competition intensifies. It is only on the basis of such a theoretical framework that we can understand why the struggle for advanced

country markets has become a central feature of imperialism today.

A feature of this tendency and the increasing concentration and centralisation of capital is the necessity of large firms to attempt to plan their production, markets, inputs etc. in spite of the anarchy of capitalist production. Nationally, this involves the increasing role of the state in the production process, both as buyer of the products and with subsidies to help firms exporting. With any downturn of production in the world economy this increases the world over-capacity of the industry in question. The shipbuilding industry is an acute example of this situation. Likewise raw material resources have to be planned and organised against risks of exhaustion, nationalisation, and other factors. Similarly markets have to be maintained and often the state will come to the defence of the national industry to secure these markets for domestic capital. Countering this process there is an increasing tendency towards the internationalisation of capital, as capital attempts to break out of the narrow limits of the nation state in search for additional profits and markets elsewhere. All these features and contradictory tendencies belong to modern imperialism. But to understand them we need to locate these developments within the framework of Marx's general theory of capital accumulation. The appearance of Imperialism and the Accumulation of Capital is a major contribution to the clarification that is necessary. The review has been a critical one but it recognises 'the daring theoretical attempt' of both authors to understand and lead the fight against imperialism.

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Studies,  
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#### Notes

1. Rosa Luxemburg and Nikolai Bukharin. Imperialism and the Accumulation of Capital. Edited with an Introduction by Kenneth J. Tarbuck. Translated by Rudolf Wichmann. Allen Lane, The Penguin Press, 1972.
2. The Accumulation of Capital. Routledge & Kegan Paul 1963, p. 325. See also Anti-Critique, p. 76.
3. For an interesting analysis of this tendency see Bob Rowthorn, Imperialism: Unity or Rivalry, New Left Review 69, September/October, 1971.
4. op.cit. pp. 429 ff. This point is very clearly discussed in Grossmann, p. 528-9. Henryk Grossmann, Das Akkumulations - und Zusammenbruchsgesetz des kapitalistischen Systems. Archiv sozialistischer Literatur 8, Verlag Neue Kritik Frankfurt.
5. This is in no sense 'deterministic' or 'fatalistic'. Historical necessity can only find its expression through the actions of people, the struggle of classes etc. Bukharin makes this point admirably clear in his Imperialism and the World Economy (Merlin Press edition 1972) p. 130-1. We use 'break-down' in the sense of the increasing difficulties and contradictions within the system. No crisis can be said to be definitely the last crisis for capitalism and while the crisis indicates the disease, it is also the cure, the means to a new cycle of expansion.

6. op.cit. p. 84.
7. See in last Bulletin vol 2,1 , the article by C. Palloix.
8. op.cit., p. 98.
9. Arghiri Emmanuel produces evidence to show that taken as a whole overseas investment does not give a bigger return than is obtained by capital inside the home country. See A. Emmanuel Unequal Exchange: A Study of the Imperialism of Trade, New Left Books, 1972.
10. Imperialism and World Economy op.cit. p. 104.
11. Accumulation of Capital op.cit. p. 122. This is repeated in the Anti-Critique, p. 88.
12. R. Rosdolsky quotes this formula in his Zur Entstehungsgeschichte des Marxschen 'Kapital' Band II p. 528. Europaeische Verlagsanstalt Frankfurt, 1968. Roy Tarse has given me a proof of this relationship and we hope to produce it with other material as part of a Note on the Reproduction Schema in a later volume of the Bulletin. Marx failed to work out the first year of the schema correctly (according to the formula) and it is only after the second year that the pattern emerges. This accounts for Bukharin's error in making both,

$$(1) v_1 + \alpha_1 = c_2$$

$$\text{and } (2) \beta_1 v = \beta_2 c$$

Simple reproduction is not a sub-set of expanded reproduction as Bukharin's analysis suggests.

13. Rosdolsky op.cit. p. 539.
14. For an excellent discussion on Karl Marx and Say's Law see Bernice Shoul's article in J. J. Spengler & W. R. Allen (eds), Essays in Economic Thought (Rand McNally, Chicago, 1960), pp. 454-469.
15. See my forthcoming article in the next issue of the bulletin for a full exposition of this theory.
16. Grossman op.cit. p. 99 ff.
17. op.cit. p. 96-7.
18. Capital volume III p. 251 (Moscow Ed).

Notes on Contributors

Lionel Cliffe is now a Fellow of the Institute of Development Studies at the University of Sussex, Brighton.

R. M. Goodwin teaches economics at Cambridge.

John Harrison is on the dole.

Peter Lawrence was until recently teaching at the University of Dar es Salaam.

Marios Nikolinakos teaches at the Free University of Berlin.

Bob Rowthorn teaches at Cambridge.

Alfred Sohn-Rethel is now a Visiting Professor at the University of Bremen.

Ian Steedman lectures at Manchester.

Bob Sutcliffe is now teaching in Cuba.

David Yaffe is a research officer at the Institute of Development Studies at the University of Sussex, Brighton.