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Socialist Calculation : The Competitive 'Solution'¹

By F. A. V. HAYEK

I

Two chapters in the discussion of the economics of socialism may now be regarded as closed. The first deals with the belief that socialism will dispense entirely with calculation in terms of value and will replace it with some sort of calculation *in natura* based on units of energy or of some other physical magnitude. Although this view is not yet extinct and is still held by some scientists and engineers, it has been definitely abandoned by economists. The second closed chapter deals with the proposal that values, instead of being left to be determined by competition, should be found by a process of calculations carried out by the planning authority which would use the technique of mathematical economics. With regard to this suggestion, V. Pareto (who, curiously enough, is sometimes quoted as holding this view) has already said what probably will remain the final word. After showing how a system of simultaneous equations can be used to explain what determines prices on a market he adds :

“It may be mentioned here that this determination has by no means the purpose to arrive at a numerical calculation of prices. Let us make the most favourable assumption for such a calculation, let us assume that we have triumphed over all the difficulties of finding the data of the problem and that we know the *ophélimités* of all the different commodities for each individual, and all the conditions of production of all the commodities, etc. This is already an absurd hypothesis to make. Yet it is not sufficient to make the solution of the problem

¹ The two recent books with which this article is mainly concerned, Oskar Lange and Fred M. Taylor, *On the Economic Theory of Socialism*, edited by B. E. Lippincott, Minneapolis, 1938, and H. D. Dickinson, *Economics of Socialism*, Oxford, 1939, will be referred to throughout this article as LT (Lange-Taylor) and D (Dickinson) respectively.

possible. We have seen that in the case of 100 persons and 700 commodities there will be 70,699 conditions (actually a great number of circumstances which we have so far neglected will still increase that number); we shall therefore have to solve a system of 70,699 equations. This exceeds practically the power of algebraic analysis, and this is even more true if one contemplates the fabulous number of equations which one obtains for a population of forty millions and several thousand commodities. In this case the rôles would be changed: it would not be mathematics which would assist political economy, but political economy would assist mathematics. In other words, if one really could know all these equations, the only means to solve them which is available to human powers is to observe the practical solution given by the market."¹

In the present article we shall be mainly concerned with a third stage in this discussion, for which the issue has now been clearly defined by the elaboration of proposals for a competitive socialism by Professor Lange and Dr. Dickinson. Since, however, the significance of the result of the past discussions is not infrequently represented in a way which comes very near to an inversion of the truth, and as at least one of the two books to be discussed is not quite free from this tendency, a few further remarks on the real significance of the past development seem not unnecessary.

The first point is connected with the nature of the original criticism directed against the more primitive conceptions of the working of a socialist economy which were current up to about 1920. The idea then current (and still advocated, e.g. by Dr. O. Neurath) is well expressed by F. Engels in his *Anti-Dühring*, when he says that the social plan of production "will be settled very simply, without the intervention of the famous 'value'." It was against this generally held belief that N. G. Pierson, L. v. Mises, and others pointed out that if the socialist community wanted to act rationally its calculation would have to be guided by the same *formal* laws which applied to a capitalist society. It seems necessary especially to underline the fact that this was a point made by the critics of the socialist plans, since Professor Lange and particularly his editor² now seem

¹ V. Pareto, *Manuel d'économie politique*, 2nd ed., 1927, pp. 233/4.

² See B. E. Lippincott in LT, p. 7.

inclined to suggest that the demonstration that the formal principles of economic theory apply to a socialist economy provides an answer to these critics. The fact is that it has never been denied by anybody, except socialists, that these formal principles *ought* to apply to a socialist society, and the question raised by Professor Mises and others was not whether they ought to apply but whether they could in practice be applied in the absence of a market. It is therefore entirely beside the point when Professor Lange and others quote Pareto and Barone as having shown that values in a socialist society would depend on essentially the same factors as in a competitive society. This of course had been shown long before, particularly by Wieser. But none of these authors has made an attempt to show how these values, which a socialist society ought to use if it wanted to act rationally, could be found, and Pareto, as we have seen, expressly denied that they could be determined by calculation.

It seems then that, on this point, the criticisms of the earlier socialist schemes have been so successful that the defenders, with few exceptions,¹ have felt compelled to appropriate the argument of their critics, and have been forced to construct entirely new schemes of which nobody thought before. While against the older ideas that it was possible to plan rationally without calculation in terms of value it could be justly argued that they were logically impossible, the newer proposals designed to determine values by some process other than competition based on private property raise a problem of a different sort. But it is surely unfair to say, as Professor Lange does, that the critics, because they deal in a new way with the new schemes evolved to meet the original criticism, "have given up the essential point" and "retreated to a second line of defence" (LT 63). Is this not rather a case of covering up the own retreat by creating confusion about the issue?

There is a second point on which Professor Lange's presentation of the present state of the debate is seriously misleading. The reader of his study can hardly avoid the impression that the idea that values should and could be determined by using the technique of mathematical economics, i.e. by solving millions of equations, is a malicious

¹ The most notable exception is Dr. M. Dobb. See his *Political Economy and Capitalism*, 1937, chapter VIII, and his review of Professor Lange's book in the *Modern Quarterly*, 1939.

invention of the critics, intended to throw ridicule on the efforts of modern socialist writers. The fact, which cannot be unknown to Professor Lange, is of course that this procedure has more than once been seriously suggested by socialist writers as a solution of the difficulty—among others by Dr. Dickinson, who now, however, expressly withdraws this earlier suggestion.¹

II

A third stage in the debate has now been reached with the proposal to solve the problems of determining values by the re-introduction of competition. When five years ago the present author tried to appraise the significance of these attempts² it was necessary to rely on what could be gathered from oral discussion among socialist economists, since no systematic exposition of the theoretical bases of competitive socialism was then available. This gap has now been filled by the two books here to be discussed. The first contains a reprint of an essay by Professor Lange, originally published in 1936 and 1937, together with an older article by the late Professor Taylor (dating from 1928) and an introduction by the editor, Professor B. E. Lippincott, which in addition to a quite unnecessary restatement of Professor Lange's argument in cruder terms, does much by the unmeasured praise he bestows on this argument and the extravagant claims he advances for it,³ to prejudice the reader against the essentially scholarly piece of work that follows. Although written in a lively style and confining itself to the outlines of the subject, it does seriously grapple with some of the main difficulties in the field.

Dr. H. D. Dickinson's more recent book is a far more comprehensive survey of the field, proposing essentially the same solution.⁴ It is unquestionably a book of great distinction, well organised, lucid and concise, and should rapidly establish itself as the standard work on its subject. To the economist, the reading of the book provides indeed the rare pleasure of feeling that recent advances of economic

¹ D, p. 104, and K. Tisch, *Wirtschaftsrechnung und Verteilung im zentralistisch organisierten sozialistischen Gemeinwesen*, 1932.

² In *Collectivist Economic Planning*, London, 1935, essay on "The Present State of the Debate."

³ Dr. Lange's essay is described as the "first writing to mark an advance on Barone's contribution" and to show by "irrefutable" argument the "evident feasibility and superiority" of a socialist system (LT, pp. 13, 24, 37).

⁴ It is a curious fact that Dr. Dickinson nowhere in his book (except in the bibliography) refers to Professor Lange's work.

theory have not been in vain and have even helped to reduce political differences to points which can be rationally discussed. Dr. Dickinson himself would probably agree that he shares all his economics with—and indeed has learnt most of it from—non-socialist economists, and that in his essential conclusions on the desirable economic policy of a socialist community he differs much more from most of his socialist colleagues than from “orthodox” economists. This, together with the open-mindedness with which the author takes up and considers the arguments advanced by his opponents, makes discussion of his views a real pleasure. If the socialists, like the economists, are ready to accept his book, as the most up-to-date general treatment of the economics of socialism from the socialist point of view, it should provide the basis for much fruitful further discussion.

As has already been mentioned, the main outlines of the solution offered by the two authors are essentially the same. They both rely to some extent on the competitive mechanism for the determination of relative prices. But they both refuse to let prices be determined directly in the market and propose instead a system of price-fixing by a central authority, where the state of the market of a particular commodity, i.e. the relation of demand to supply, merely serves as an indication to the authority whether the prescribed prices ought to be raised or lowered. Neither of the two authors explains why he refuses to go the whole hog and to restore the price mechanism in full. But as I happen to agree (although probably for different reasons) that this would be impracticable in a socialist community, we can leave this question aside for the moment and shall take it for granted that in such a society competition cannot play quite the same rôle as it does in a society based on private property, and that, in particular, the rates at which commodities will be exchanged by the parties in the market will have to be decreed by the authority.

We shall leave the details of the proposed organisation for later consideration and first consider the general significance of this solution under three aspects. We shall ask firstly how far this kind of socialist system still conforms to the hopes that were placed on the substitution of a planned socialist system for the chaos of competition; secondly, how far the proposed procedure is an answer

to the main difficulty, and, finally, how far it is applicable.

The first and most general point can be dealt with fairly briefly, although it is not unimportant if one wants to see these new proposals in their proper light. It is merely a reminder of how much of the original claim for the superiority of planning over competition is abandoned if the planned society is now to rely for the direction of its industries to a large extent on competition. Until quite recently, at least, planning and competition used to be regarded as opposites, and this is unquestionably still true of nearly all planners except a few economists among them. I fear that the schemes of Professor Lange and Dr. Dickinson will bitterly disappoint all those scientific planners who, in the recent words of Professor B. M. S. Blackett, believe that "the object of planning is largely to overcome the results of competition".¹ This would be even more true if it were really possible to reduce the arbitrary elements in a competitive socialist system as much as is believed by Dr. Dickinson, who hopes that his "libertarian socialism" "may establish, for the first time in human history, an effective individualism" (D 26). Unfortunately, as we shall see, this is not likely to be the case.

III

The second general question we must consider is how far the proposed method of centralised price fixing, while leaving it to individual firms and consumers to adjust demand and supply to the given prices, is likely to solve the problem which admittedly cannot be solved by mathematical calculation. Here, I am afraid, I find it exceedingly difficult to understand the grounds on which such a claim is made. Professor Lange (LT 70, 86) as well as Dr. Dickinson (D 103 and 113) assert that even if the initial system of prices were chosen entirely at random, it would be possible by such a process of trial and error gradually to approach to the appropriate system. This seems to be much the same thing as if it were suggested that a system of equations which was too complex to be solved by calculation within reasonable time and whose values were constantly changing could be effectively tackled by arbitrarily inserting

¹ See Sir Daniel Hall and others, *The Frustration of Science*, London, 1935, p. 142.

tentative values and then trying about till the proper solution was found. Or, to change the metaphor, the difference between such a system of regimented prices and a system of prices determined by the market seems to be about the same as that between an attacking army where every unit and every man could only move by special command and by the exact distance ordered by headquarters and an army where every unit and every man can take advantage of every opportunity offered to them. There is of course no *logical impossibility* of conceiving a directing organ of the collective economy which is not only "omnipresent and omniscient" as Dr. Dickinson conceives it (D 191), but also omnipotent and which therefore would be in a position to change without delay every price by just the amount that is required. When, however, one proceeds to consider the actual apparatus by which this sort of adjustment is to be brought about one begins to wonder whether anyone should really be prepared to suggest that, within the domain of practical possibility, such a system will ever even distantly approach the efficiency of a system where the required changes are brought about by the spontaneous action of the persons immediately concerned.

We shall later, when we consider the proposed institutional setting, come back to the question how this sort of mechanism is likely to function in practice. In so far as the general question is concerned, however, it is difficult to suppress the suspicion that this particular proposal has been born out of an excessive pre-occupation with problems of the pure theory of stationary equilibrium. If in the real world we had to deal with approximately constant data, that is, if the problem were, to find a price system which then could be left more or less unchanged for long periods, then the proposal under consideration would not be so entirely unreasonable. With given and constant data such a state of equilibrium could indeed be approached by the method of trial and error. But this is far from being the situation in the real world, where constant change is the rule. Whether and how far anything approaching the desirable equilibrium is ever reached depends entirely on the speed with which the adjustments can be made. The practical problem is not whether a particular method would eventually lead to a hypothetical equilibrium, but which method will secure the more rapid and complete adjustment

to the daily changing conditions in different places and different industries. How great the difference in this respect would be between a method where prices are currently agreed upon by the parties of the market and a method where these prices are decreed from above is of course a matter of practical judgment. But I find it difficult to believe that anybody should doubt that in this respect the inferiority of the second method would be very great indeed.

The third general point is also one where I believe that preoccupation with concepts of pure economic theory has seriously misled both our authors. In this case it is the concept of perfect competition which apparently has made them overlook a very important field to which their method appears to be simply inapplicable. Wherever we have a market for a fairly standardised commodity it is at least conceivable that all prices should be decreed in advance from above for a certain period. The situation is however very different with respect to commodities which cannot be standardised, and particularly for those which to-day are produced on individual orders, perhaps after invitation for tenders. A large part of the product of the "heavy industries", which of course would be the first to be socialised, belongs to this category. Much machinery, most buildings and ships and many parts of other products are hardly ever produced for a market, but only on special contract. This does not mean that there may not be intense competition in the market for the products of these industries, although it may not be "perfect competition" in the sense of pure theory; the fact is simply that identical products are rarely produced twice in short intervals; and the circle of producers who will compete as alternative suppliers in each instance will be different in almost every individual case, just as the circle of potential customers who will compete for the services of a particular plant will differ from week to week. What basis is there in all these cases for fixing prices of the product so as "to equalise demand and supply"? If prices are here to be fixed by the central authority, they will have to be fixed in every individual case and on the basis of an examination by that authority of the calculations of all potential suppliers and all potential purchasers. It is hardly necessary to point out the various complications that will arise according as the prices are fixed before or after the prospective buyer has decided on

the particular piece of machinery or building which he wants. Presumably it will be the estimates of the producer which, before they are submitted to the prospective customer, will have to be approved by the authority. Is it not clear that in all these cases, unless the authority in effect takes all the functions of the entrepreneur on itself (i.e. unless the proposed system is abandoned and one of complete central direction substituted), the process of price fixing would either become exceedingly cumbersome and the cause of infinite delay, or a pure formality ?

IV

All these considerations appear to be relevant whatever particular form of organisation is chosen. Before we go further, however, it becomes necessary to consider somewhat more in detail the concrete apparatus of industrial control which the two authors propose. The sketches they provide of the organisation are fairly similar, although in this respect Professor Lange gives us somewhat more information than Dr. Dickinson, who, for most of the problems of economic organisation, refers us to the works of Mr. and Mrs. Webb and Mr. G. D. H. Cole (D 30).

Both authors contemplate a socialist system in which the choice of occupation would be free and regulated mainly by the price mechanism (i.e. by the wage system) and in which the consumers also would be free to spend their incomes as they chose. Apparently both authors also want prices of consumers' goods to be fixed by the ordinary market processes (although Dr. Dickinson does not seem to be quite decided on this point) (LT 78, D 60), and also to leave the determination of wages to the bargaining between the parties concerned (LT 78, D 126). Both also agree that for various reasons not the whole of industry should be socialised, but that, besides the socialised there should also remain a private sector, consisting of small enterprises run on essentially capitalistic lines. I find it difficult to agree with their belief that the existence of such a private sector parallel with the socialised sector creates no special difficulties. But as it would be difficult within the space of this article to deal adequately with this problem, we shall, for the purposes of this discussion, disregard the existence of the private sector and assume that the whole of industry is socialised.

The determination of all prices, other than those of consumers' goods and of wages, is the main task of the central economic authority, Professor Lange's Central Planning Board or Dr. Dickinson's Supreme Economic Council. (We shall, following Dr. Dickinson, henceforth refer to this body as the S.E.C.) As regards the technique of how particular prices are announced and changed we get more information, although by no means enough, from Professor Lange, while Dr. Dickinson goes more fully into the question by what considerations the S.E.C. should be guided in the fixing of prices. Both questions have a special importance and they must be considered separately.

According to Professor Lange, the S.E.C. would from time to time issue what, following Professor Taylor, he calls "factor valuation tables", that is, comprehensive lists of prices of all means of production (except labour) (LT 46, 52). These prices would have to serve as the sole basis for all transactions between different enterprises and the whole calculation of all the industries and plants during the period of their validity and the managers must treat these prices as constant (LT 81). What we are not told, however, either by Professor Lange or by Dr. Dickinson, is for what period these prices are to be fixed. This is one of the more serious obscurities in the exposition of both authors, a gap in their exposition which makes one almost doubt whether they have made a real effort to visualise their system at work. Are prices to be fixed for a definite period in advance, or are they to be changed whenever it seems desirable? F.M. Taylor seemed to suggest the former alternative when he wrote that the appropriateness of particular prices would show itself at the end of the "productive period" (LT 53); and Professor Lange, on at least one occasion, gives the same impression when he says that "any price different from the equilibrium price would show at the end of the accounting period a surplus or shortage of the commodity in question" (LT 82). But on another occasion he says that "adjustments of those prices would be constantly made" (LT 86), while Dr. Dickinson confines himself to stating that after, "by a process of successive approximation," "a set of prices can ultimately be established in consonance with the principles of scarcity and substitution," "small adjustments will be sufficient to keep the system in equilibrium except in the case of major technical innovations

or of big changes in consumers' tastes" (D 100, 102, 103). Could the failure to understand the true function of the price mechanism, caused by the modern preoccupation with stationary equilibrium, be better illustrated?

While Dr. Dickinson is very uninformative on the mechanism of bringing price changes into effect, he goes much more fully than Professor Lange into the considerations on which the S.E.C. would have to base their decisions. Unlike Professor Lange, Dr. Dickinson is not satisfied with the S.E.C. merely watching the market and adjusting prices when an excess of demand or supply appears, and then trying to find by experimentation a new equilibrium level. He rather wants the S.E.C. to use statistically established demand and supply schedules as a guide to determine the equilibrium prices. This is evidently a residue of his earlier belief in the possibility of solving the whole problem by the method of simultaneous equations. But although he has now abandoned this idea (not because he regards it as impossible, since he still believes it could be done by solving merely "two or three thousand simultaneous equations" (D 104), but because he realises that "the data themselves, which would have to be fed into the equation-machine, are continually changing"), he still believes that the statistical determination of demand schedules would be useful as an aid to, if not as a substitute for, the method of trial and error, and that it would be well worth while to try and establish the numerical values of the constants (*sic*) in the Walrasian system of equilibrium.

V

Whatever the method by which the S.E.C. fixes prices, and particularly whatever the periods at which and for which prices are announced, there are two points about which there can be little question: the changes will occur later than they would if prices were determined by the market parties, and there will be less differentiation between prices of commodities according to differences of quality and the circumstances of time and place. While with real competition price changes occur when the parties immediately concerned know that conditions have changed, the S.E.C. will be able to act only after the parties have reported, the reports have been verified, contradictions cleared

up, etc.; and the new prices will become effective only after all the parties concerned have been notified, that is, either a date will have to be fixed in advance at which the new prices will become effective, or the accounting will have to include an elaborate system by which every manager of production is constantly notified of the new prices upon which he has to base his calculations. Since in fact every manager would have to be informed constantly on many more prices than those of the commodities which he is actually using (at least of those of all possible substitutes), some sort of periodic publication of complete lists of all prices would be necessary. It is clear that while economic efficiency demands that prices should be changed as promptly as possible, practicability would confine actual changes to intervals of fair length.

That the price fixing process will be confined to establishing uniform prices for classes of goods and that therefore distinctions based on the special circumstances of time, place and quality will find no expression in prices is probably obvious. Without some such simplification the number of different commodities for which separate prices would have to be fixed would be practically infinite. This means, however, that the managers of production will have no inducement and even no real possibility to make use of special opportunities, special bargains and all the little advantages offered by their special local conditions, since all these things could not enter into their calculations. It would also mean, to give only one other instance of the consequences, that it would never be practicable to incur extra costs to remedy a sudden scarcity quickly, since a local or temporary scarcity could not affect prices until the official machinery had acted.

For both these reasons, because prices would have to be fixed for periods and because they would have to be fixed generically for categories of goods, a great many prices would be at most times in such a system substantially different from what they would be in a free system. This is very important for the functioning of the system. Professor Lange makes great play with the fact that prices act merely as "indices of terms on which alternatives are offered" (LT 78) and that this "parametric function of prices" (LT 70, 86) by which prices are guiding the action of individual managers without being directly determined

by them, will be fully preserved under such a system where prices are fixed. As he himself points out, "the determinateness of the accounting prices holds, however, only if all discrepancies between demand and supply of a commodity are met by an appropriate change of price", and for this reason "rationing has to be excluded" and "the rule to produce at the minimum average cost has no significance unless prices represent the relative scarcity of the factors of production" (LT 93/4). In other words, prices will provide a basis for rational accounting only if they are such that at the ruling prices anyone can always sell as much or buy as much as he wishes, or that anyone should be free to buy as cheaply or to sell as dearly as is made possible by the existence of a willing partner. If I cannot buy more of a factor so long as it is worth more to me than the price, and if I cannot sell a thing as soon as it is worth less to me than the price which somebody else would be willing to pay for it, prices are no longer indices of alternative opportunities.

We shall see the significance of this more clearly when we consider the action of the managers of the socialist industries. But before we can consider their action we must see who these people are and with what functions they are invested.

VI

The nature of the industrial unit under separate management and the factors which determine its size and the selection of its management is another point on which both our authors are deplorably vague. Professor Lange seems to contemplate the organisation of the different industries in the form of national trusts, although this important point is only just touched upon once when the National Coal Trust is mentioned as an example (LT 78). The very important and relevant question of what is *one* industry is nowhere discussed, but he apparently assumes that the various "managers of production" will have monopolistic control of the particular commodities with which they are concerned. In general Professor Lange uses the term "managers of production" exceedingly vaguely (LT 75, 79, 86), leaving it obscure whether the directors of a whole "industry" or of a single unit are meant; but at critical points (LT 76, 82 note) a distinction between the managers

of plant and the managers of a whole industry appears without any clear limitation of their function. Dr. Dickinson is even more vague when he speaks of economic activities being "decentralised and carried on by a large number of separate organs of collective economy" which will have "their own nominal capital and their own profit and loss account and will be managed very much as separate enterprises under capitalism" (D 213).

Whoever these managers of production are, their main function would appear to be to decide how much and how to produce on the basis of the prices fixed by the S.E.C. (and the prices of consumers' goods and the wages determined by the market). They would be instructed by the S.E.C. to produce at the lowest possible average costs (LT 75) and to expand production of the individual plants till marginal costs are equal to price (LT 76, D 107). According to Professor Lange the directors of the industries (as distinguished from the managers of individual plants) would have also the further task of seeing that the amount of equipment in the industry as a whole is so adjusted that "the marginal cost incurred by the industry" in producing an output which "can be sold or 'accounted for' at a price which equals marginal cost" is the lowest possible (LT 77).

In this connection a special problem arises which unfortunately cannot be discussed here as it raises questions of such difficulty and complexity that a separate article would be required. It concerns the case of decreasing marginal costs where, according to both our authors, the socialist industries would act differently from capitalist industry by expanding production till prices are equal, not to average, but to marginal costs. Although the argument employed possesses a certain specious plausibility it can hardly be said even that the problem is adequately stated in either of the two books, still less that the conclusions drawn are convincing. Within the space available on this occasion however we can do no more than seriously question Dr. Dickinson's assertion that "under modern technical conditions, diminishing costs are far commoner than increasing costs"—a statement which in the context in which it occurs clearly refers to marginal costs (D 108).

Here we shall confine ourselves to considering one question arising out of this part of the proposal, the question how the S.E.C. will ensure that the principle that prices are equalised to the lowest marginal cost at which the quantity

concerned can be produced, is actually put into force. The question which arises here is not "merely" one of the loyalty or capacity of the socialist managers. For the purpose of this argument it may be granted that they will be as capable and as anxious to produce as cheaply as the average capitalist entrepreneur. The problem arises because one of the most important forces which in a truly competitive economy brings about the reduction of costs to the minimum discoverable will be absent, namely, price competition. In the discussion of this sort of problem, as in the discussion of so much of economic theory at the present time, the question is frequently treated as if the cost curves were objectively given facts. What is forgotten here is that the method which under given condition is the cheapest is a thing which has to be discovered, and to be discovered anew sometimes almost from day to day, by the entrepreneur, and that, in spite of the strong inducement, it is by no means regularly the established entrepreneur, the man in charge of the existing plant, who will discover what is the best method. The force which in a competitive society brings about the reduction of price to the lowest cost at which the quantity saleable at that cost can be produced is the opportunity for anybody who knows a cheaper method to come in at his own risk and to attract customers by underbidding the other producers. But if prices are fixed by the authority this method is excluded. Any improvement, any adjustment of the technique of production to changed conditions will be dependent on convincing the S.E.C. that the commodity in question can be produced cheaper and that therefore the price ought to be lowered. Since the man with the new idea will have no possibility of establishing himself by undercutting, the new idea cannot be proved by experiment till he has convinced the S.E.C. that his way of producing the thing is cheaper. Or, in other words, every calculation by an outsider who believes that he can do better will have to be examined and approved by the authority, which in this connection will have to take over all the functions of the entrepreneur.

VII

Let us briefly consider a few of the problems arising out of the relations between the "socialist managers of production" (whether of a plant or an industry) and the S.E.C. The manager's task is, as we have seen, to order production

in such a way that his marginal costs are as low as possible and equal to price. How is he to do this and how is the fact of his success to be verified? He has to take prices as given. This turns him into what has recently been called a pure "quantity adjuster", i.e. his decision is confined to the quantities of factors of production and the combination in which he uses them. But as he has no means of inducing his suppliers to offer more, or to induce his purchasers to buy more, than they want to at the prescribed price, he will frequently be simply unable to carry out his instructions; or at least, if he cannot get more of a material required at the prescribed price, the only way for him, e.g., to expand production so as to make his cost equal to price, would be to use inferior substitutes or to employ other uneconomic methods; and when he cannot sell at the prescribed price and until the price is lowered by decree, he will have to stop production where under true competition he would have lowered his prices.

Another great difficulty arising out of the periodic price changes by decree is the problem of anticipations of future price movements. Professor Lange, somewhat too bravely, cuts this Gordian knot by prescribing that "for purposes of accounting, prices must be treated as constant, as they are treated by entrepreneurs on a competitive market" (!). Does that mean that the managers, although they know for certain that a particular price will have to be raised or lowered, must act as if they did not know? Clearly this won't do. But if they are free to meet expected price movements by anticipatory action, are they to be allowed to take advantage of the administrative delays in making price changes effective? And who is to be responsible for losses caused by wrongly timed or wrongly directed price changes?

Closely connected with this problem is another one, to which we also get no answer. Both our authors speak about "marginal costs" as if they were independent of the period for which the manager can plan. Clearly actual costs depend in many instances as much as on anything on buying at the right time. And in no sense can costs during any period be said to depend solely on prices during that period. They depend as much on whether these prices have been correctly foreseen as on the views that are held about future prices. Even in the very short run costs will depend on the effects which current decisions will have on future

productivity. Whether it is economical to run a machine hard or to economise in lubricants, whether to make major adjustments to a given change in demand or to carry on as well as possible with the existing organisation, in fact almost every decision on how to produce now depends at least in part on the views held about the future. But while the manager clearly must hold some views on these questions, he can hardly be held responsible for anticipating future changes correctly if these changes depend entirely on the decision of the authority.

Not only, however, will the success of the individual manager depend to a large extent on the action of the planning authority. He will also have to satisfy the same authority that he has done as well as was possible. Either beforehand, or more likely retrospectively, all his calculations will have to be examined and approved by the authority. This will not be a perfunctory auditing directed to find out whether his costs have actually been what he says they have been. It will have to establish whether they have been the lowest possible ones. This means that the control will have to consider not only what he actually did but also what he might have done and ought to have done. And from the point of view of the manager it will be much more important that he should always be able to prove that in the light of the knowledge which he possessed the decision actually taken was the right one than that he should prove to be right in the end. If this must not lead to the worst forms of bureaucracy I do not know what would.

This brings us to the general question of the responsibility of the managers. Dr. Dickinson clearly sees that "responsibility means in practice financial responsibility" and that unless the manager "bears responsibility for losses as well as for profits he will be tempted to embark upon all sorts of risky experiments on the bare chance that one of them will turn out successful" (D 214). This is a difficult problem with managers who have no property of their own. Dr. Dickinson hopes to solve it by a system of bonuses. This may indeed be sufficient to prevent managers from taking too great risks. But is not the real problem the opposite one, that managers will be afraid of taking risks if, when the venture does not come off, it will be somebody else who will afterwards decide whether they have been justified in embarking on it? As Dr. Dickinson himself

points out, the principle would be that "although the making of profits is not necessarily a sign of success, the making of losses is a sign of failure" (D 219). Need one say more about the effects of such a system on all activities involving risk? It is difficult to conceive that under these circumstances any of the necessary speculative activities involving risk-bearing could be left to managerial initiative. But the alternative is to fall back for them on that system of strict central planning to avoid which the whole system has been evolved.

VIII

All this is even more true when we turn to the whole problem of new investments, that is, to all the questions which involve changes in the size (i.e. the capital) of the managerial units, whether they involve net changes in the total supply of capital or not. Up to a point it is possible to divide this problem into two parts, the decisions about the distribution of the available capital supply and the decisions about the rate at which capital is to be accumulated, although it is dangerous to carry this division too far, since the decision about how much is to be saved is necessarily also a decision about which needs for capital are to be satisfied and which are not. Both our authors agree that, as regards the problem of the distribution of capital between industries and plants, the interest mechanism should as far as possible be retained, but that the decision of how much to save and invest would necessarily have to be arbitrary (LT 85, D 80, 205).

Now however strong the desire may be to rely on the interest mechanism for the distribution of capital, it is fairly obvious that the market for capital can in no sense be a free market. And while for Professor Lange the rate of interest is also "simply determined by the condition that the demand for capital is equal to the amount available" (LT 84), Dr. Dickinson takes great pains to show how the S.E.C. will, on the basis of the alternative plans of activity drawn up by the different undertakings, construct an aggregate demand schedule for capital which will enable it to determine that rate of interest at which the demand for capital will equal supply. The ingenuity and the astounding trust in the practicability of even the most complicated constructions which he displays in this connection

may be illustrated by his statement that in a certain case "it will be necessary to establish a provisional rate of interest, then to allow the different organs of collective economy to re-contract with each other on the basis of this provisional rate, and so to draw up their final demand schedule for capital" (D 83n).

All this, however, does not meet the main difficulty. If indeed it were possible to accept at their face value the statements of all the individual managers and would-be managers about how much capital they could with advantage use at various rates of interest, some such scheme as such might appear feasible. It cannot be too often repeated, however, that the planning authority cannot be conceived "simply as a kind of super-bank which lends the available funds to the highest bidder. It would lend to persons who have no property of their own. It would therefore bear all the risk and would have no claim for a definite amount of money as a bank has. It would simply have rights of ownership over all real resources. Nor can its decisions be confined to the redistribution of free capital in the form of money, and perhaps of land. It would have to decide whether a particular plant or piece of machinery should be left further to the entrepreneur who has used it in the past, at his valuation, or whether it should be transferred to another who promises a higher return for it."

These sentences are taken from the essay where the present author discussed five years ago the "possibility of real competition under socialism".¹ At that time such systems had only been vaguely discussed and one could hope to find an answer when systematic expositions of the new ideas should become available. But it is most disappointing to find no answer whatever to these problems in the two books now under discussion. While throughout the two works claims are made about how beneficial the control of investment activity would be in many respects, no indication is given of how this control is to be exercised and of how the responsibilities are to be divided between the planning authorities and the managers of the "competing" industrial units. Such statements as we find, as for instance that "because the managers of socialist industry will be governed in some choices by the direction laid down by the planning authority, it does not follow that they will

¹ *Collectivist Economic Planning*, 1935, pp. 232-237.

have no choice at all" (D 217), are singularly unhelpful. All that seems to be fairly clear is that the planning authority will be able to exercise its function of controlling and directing investment only if it is in a position to check and repeat all the calculations of the entrepreneur.

It seems that here the two writers are unconsciously led to fall back on the earlier beliefs in the superiority of a centrally directed system over a competitive system and to console themselves with the hope that the "omnipresent, omniscient organ of the collective economy" (D 191) will possess at least as much knowledge as the individual entrepreneurs and will therefore be in as good if not in a better position to make the decisions as the entrepreneurs are. As I have tried to show on another occasion, it is the main merit of real competition that through its use is made of knowledge divided between many persons which, if it were to be used in a centrally directed economy, would have all to enter the single plan.¹ To assume that all this knowledge would be automatically in the possession of the planning authority seems to me to be to miss the main point. It is not quite clear whether Professor Lange means to assert that the planning authority will have all this information when he says that "the administrators of a socialist economy will have exactly the same knowledge, or lack of knowledge, of the production functions as the capitalist entrepreneurs have" (LT 61). If the "administrators of a socialist economy" here means merely all the managers of the units as well as of the central organisation taken together, the statement can of course be readily accepted, but does in no way solve the problem. But if it is intended to convey that all this knowledge can be effectively used by the planning authority in drawing up the plan, it is merely begging the whole question and seems to be based on the "fallacy of competition".²

On this whole all-important question of the direction of new investment and all that it involves, the two studies do not really give any new information. The problem remains where it was five years ago and I can confine myself on this

¹ See the article on "Economics and Knowledge," *ECONOMICA*, February, 1937.

² Another and even worse instance of this fallacy occurs in Professor Lippincott's introduction to the essays of Professors Lange and Taylor, when he argues that "there can be no doubt that the Central Planning Board would exercise great power, but would it be any greater than that exercised collectively by private boards of directors? Because the decisions of private boards are made here and there, this does not mean that the consumer does not feel their collective impact, even though it may take a depression to make him aware of it."

point to repeating what I said then: "The decision about the amount of capital to be given to an individual entrepreneur and the decisions thereby involved concerning the size of the individual firm under a single control are in effect decisions about the most appropriate combination of resources. It will rest with the central authority to decide whether one plant located at one place should expand rather than another plant situated elsewhere. All this involves planning on the part of the central authority on much the same scale as if it were actually running the enterprise. And while the individual entrepreneur would in all probability be given some definite contractual tenure for managing the plant entrusted to him, all new investments will be necessarily centrally directed. This division in the disposition over the resources would then simply have the effect that neither the entrepreneur nor the central authority would be really in a position to plan, and that it would be impossible to assess the responsibility for mistakes. To assume that it is possible to create conditions of full competition without making those who are responsible for the decisions pay for their mistakes seems to be pure illusion. It will be at best a system of quasi-competition where the persons really responsible will not be the entrepreneur but the official who approves his decisions and where in consequence all the difficulties will arise in connection with freedom of initiative and the assessment of responsibility which are usually associated with bureaucracy."¹

IX

The question how far a socialist system can avoid extensive central direction of economic activity is of great importance quite apart from its relation to economic efficiency: it is crucial for the question of how much personal and political freedom can be preserved in such a system. Both authors show a reassuring awareness of the dangers to personal freedom which a centrally planned system would involve and seem to have evolved their competitive socialism partly in order to meet this danger. Dr. Dickinson even goes so far as to say that "capitalist planning can exist only on the basis of fascism" and that in the hands of an irresponsible controller even socialist planning "could be

¹ *Collectivist Economic Planning*, p. 237.

made the greatest tyranny the world has ever seen" (D 22, 227). But he and Professor Lange believe that their competitive socialism will avoid this danger.

Now if competitive socialism could really rely for the direction of production largely on the effects of consumers' choice as reflected in the price system and if the cases where the authority will have to decide what is to be produced and how were made the exception rather than the rule, this claim would be to a large extent substantiated. How far is this really the case? We have already seen that with the retention of the control over investment the central authority wields most extensive powers over the direction of production, much more extensive indeed than is easily possible to show without making this discussion unduly long. To this have yet to be added however a further number of arbitrary elements of which Dr. Dickinson himself gives a quite substantial although by no means complete list (D 205). There is in the first instance the "allocation of resources between present and future consumption" which, as we have already seen, always involves a decision about what particular needs will be satisfied and which needs will not be satisfied. There is, secondly, the need for arbitrary decision in respect to the "allocation of resources between communal and individual consumption" which, in view of the great extension of the "division of communal consumption" which he envisages means that another very large part of the resources of the society is put outside the control of the price mechanism and subject to purely authoritarian decision. Dr. Dickinson expressly adds to this only "the choice between work and leisure" and the "geographical planning and the pricing of land", but at other points of his exposition further questions emerge on which he wants effective planning in order to correct the results of the market. But although he (and still more so Professor Lange) frequently hint at the possibilities of "correcting" the results of the price mechanism by judicious interference, this part of the programme is nowhere clearly worked out.

What our authors here have in mind perhaps comes out clearest in Dr. Dickinson's attitude towards the problem of wage changes: "If wages are too low in any one industry, it is the duty of the planning organ to adjust prices and quantities produced, so as to yield equal wages to work of

equal skill, responsibility, and difficulty in every industry" (D 21). Apparently here the price mechanism and the free choice of occupation is not to be relied upon. Later we learn that although "unemployment in any particular job affords a prima facie case for lowering the standard wage" (D 127), a lowering of wages is objectionable "on social grounds, because a lowering in wages . . . causes discontent; on economic grounds, because it perpetuates an uneconomic allocation of labour to different occupations". (How?) Therefore, "as invention and improved organisation makes less labour necessary to satisfy human wants, society should set itself to discover new wants to satisfy" (D 131). "The powerful engine of propaganda and advertisement, employed by public organs of education and enlightenment instead of by the hucksters and panders of private profit-making industry, could divert demand into socially desirable directions while preserving the subjective impression (*sic*) of free choice" (D 32).

When we add to this and many other similar points where Dr. Dickinson wants his S.E.C. to exercise a paternalistic control,¹ the fact that it will be necessary to co-ordinate national production "with a general plan of exports and imports" (D 169), since free trade "is inconsistent with the principles of collectivism" (D 176), it becomes fairly evident that there will be precious little economic activity which will not be more or less immediately guided by arbitrary decisions. In fact, Dr. Dickinson expressly contemplates a situation where "the state, through a definite planning organ, makes itself responsible for the consideration of economic activity as a whole" and even adds that this destroys the "illusion" maintained in a capitalist society "that the division of the product is governed by forces as impersonal and inevitable as those which govern the weather" (D 21). This can only mean that, with most other planners, he himself thinks of production in his system as one which is largely directed by conscious and arbitrary decisions. Yet in spite of this extensive rôle which arbitrary decisions are to play in his system, he is confident (and the same applies to Professor Lange) that his system will not degenerate into an authoritarian despotism.

Dr. Dickinson just mentions the argument that "even

¹ Cf. for instance the passage (D 52) where Dr. Dickinson speaks about the "people who will not pay voluntarily beforehand for what they are only too glad to have once they have it."

if a socialist planner wished to realise freedom he could not do so and remain a planner", yet the answer he gives makes one doubt whether he has quite seen on what considerations this argument is based. His answer is merely that "a plan can always be changed" (D 227/8). But this is not the point. The difficulty is that, in order to plan at all on an extensive scale, a much more extensive agreement among the members of the society about the relative importance of the various needs is required than will normally exist, and that in consequence this agreement will have to be brought about and a common scale of values will have to be imposed by force and propaganda. I have developed this argument at length elsewhere and I have not space here to restate it.¹ And the thesis I have developed there, that socialism is bound to become totalitarian, now seems to receive support from the most unexpected quarters. This at least appears to be the meaning when Mr. Max Eastman, in a recent book on Russia, states that "Stalinism *is* socialism, in the sense of being an inevitable, although unforeseen, political and cultural accompaniment."²

In fact, although he does not seem to see it, Dr. Dickinson himself, in the concluding passages of his book, makes a statement which comes very much to the same thing. "In a socialist society," he says, "the distinction, always artificial, between economics and politics will break down; the economic and the political machinery of society will fuse into one" (D 235). This is of course precisely the authoritarian doctrine preached by Nazis and Fascists. The distinction breaks down because in a planned system all economic questions become political questions, because it is no longer a question of reconciling as far as possible individual views and desires, but one of imposing a single scale of values, the "social goal" of which socialists ever since the time of Saint-Simon have been dreaming. In this respect it seems that the schemes of an authoritarian socialist, from those of Professor Hogben and Mr. Lewis Mumford, whom Dr. Dickinson mentions as an example (D 25), to those of Stalin and Hitler, are much more realistic and consistent than the beautiful and idyllic picture of the "libertarian socialism" in which Dr. Dickinson believes.

¹ See *Freedom and the Economic System* (Public Policy Pamphlet, No. 29), University of Chicago Press, 1939.

² Max Eastman, *Stalin's Russia and the Crisis in Socialism*, New York, 1940. As the book is not yet available in this country, the quotation is taken from a review that appeared in the American press.

X

There can be no better testimony of the intellectual quality of the two books under discussion than that after having written about them at such length one is conscious of having only just scratched on the surface of the problems raised by them. But an examination in greater detail would clearly exceed the scope of an article; and since many of the doubts which are left with the reader concern points which are not answered in the two books, an adequate treatment of the subject would require another book even longer than those discussed. There are however also important problems which are discussed at some length, particularly in Dr. Dickinson's book, which we have scarcely been able to mention. This applies not only to the difficult problem of the combination of a private sector with the socialised sector, which both authors propose, but also to such important problems as the international relations of a socialist community and to the problems of monetary policy, to which Dr. Dickinson devotes a very brief, and on the whole the least satisfactory, section.

A fuller discussion would also have to point out various passages in the argument of both authors where apparently residues of earlier beliefs or views which are purely matters of political creed creep in and strike one as curiously inconsistent with the plane of the rest of the discussion. This applies for instance to Dr. Dickinson's repeated references to class-conflict and exploitation or his gibes at the wastes of competition (D 22, 94), and to much of Professor Lange's interesting section on the "economist's case for socialism", where he seems to employ arguments of somewhat questionable validity.

These, however, are minor points. On the whole the books are so thoroughly unorthodox from a socialist point of view that one rather wonders whether their authors have not retained too little of the traditional trappings of socialist argument to make their proposals acceptable to socialists who are not economists. As courageous attempts to face the real difficulties and completely to remould socialist doctrine to meet them they deserve our gratitude and respect. Whether the solution offered will appear particularly practicable, even to socialists, may perhaps be doubted. To those who, with Dr. Dickinson, wish to create "for the first time in human history, an effective individualism" (D 26), a different path will probably appear more promising.