

Togliatti, in a speech which he made in 1963 at Bergamo, urged, after having renewed the appeal for mutual understanding between the Catholic world and the communist world, that we should persuade ourselves of the necessity for:

“regarding the Catholic world as a complex of real forces—states, governments, organisations, individual minds, movements of various kinds—and study whether and in what way, in face of the revolutions of the present time and future prospects, there may not be possible mutual comprehension, mutual recognition of values and consequently an understanding and also an agreement to achieve goals which will be common to the extent that they are necessary, indispensable for all mankind. . . . In all the aspects from which it may be desired to regard it.”

Togliatti went on:

“the problem of the relations between the Catholic world and the communist world takes a

central place. It is necessary to solve it in a positive way for the good of the working people and of all mankind. We want it to be solved in a positive way and we are working for this to come to pass. Even in face of the most frenzied anti-communist attacks.”

Togliatti said in conclusion:

“ we reply as forcefully as necessary, but we reiterate at the same time that we do not want a quarrel between Catholics and communists, because that would do harm to everyone and above all to the cause for which we are fighting, which is the cause of peace, of the salvation of our civilisation, of the coming to power of the toiling classes, of the building of a new society.”

In conclusion I can assure you, My Lord, that the Italian Communist Party has remained faithful to this inspiration and this line and will continue to do so.

Enrico Berlinguer

Review Article:

Radical Critiques of Science

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The publication of a collection of essays on natural science, written from radical and Marxist perspectives, is a welcome contribution towards filling what remains a glaring gap in the recent theoretical output of the Left.¹ The two volumes, edited by Hilary and Steven Rose (*The Political Economy of Science; The Radicalisation of Science*, Macmillan 1976), should be of interest to a wide audience, as an insight into some of the major problems of theory which have occupied the attention of the radical scientists' movement since its rebirth in the late 1960s. Many of the issues, and some of the papers, were aired at the British Society for Social Responsibility in Science Conference 'Is there a Socialist Science?' in 1975.

Central to these concerns has been the question of how a particular social formation influences both the practice and content of science. This has raised many theoretical issues which although having a

long tradition in Marxism remain problematic. One example is the relationship of science to the economic base—how useful or encompassing is the notion of science as a productive force? Another is whether the dominant ideology in a society influences the knowledge produced by natural science—if it does, then how and to what extent?

The resolution of these problems is not just an academic exercise but has important political consequences. At present does science serve primarily to buttress or undermine the present social order or is its role irrelevant to this? What is the political potential of scientists and how should the working-class movement relate to them? In a socialist society is the type of science inherited from capitalism to be totally transformed or will it be retained in a similar form?

The Political Background

Episodes in the past where the answers to these questions proved to be critical include the conflicts in the Soviet Union over 'bourgeois' versus 'pro-

¹ Relevant articles are also to be found in *Radical Science Journal*.

letarian' science, and the growth and decline of the radical movement among British scientists in the 1930s and 1940s. In fact it was the approach to two elements from these episodes—Lysenkoism and the demand for 'state support' of science—that the Roses, in their essay "The Radicalisation of Science", identify as a major obstacle to the development of an effective theory and practice for radical scientists in the post-war period.

They suggest that the justified hostility of many left scientists to Stalin's endorsement of Lysenko's erroneous genetic theories (some interesting insights into this episode, which resulted in persecution of biologists with opposite views and the setting back of Soviet genetics by 15 years, are given in a contribution by Lewontin and Levins) wrongly led many to completely exclude the nature and content of science from political analysis and action. In addition, they argue that the state's adoption, during and after World War II, of some of the notions of increased state intervention and support of science which had been propounded earlier by the left, exposed a theoretical weakness. The resulting inability of the left to sustain an effective political intervention in this area meant that what, in the preceding period, had appeared as a sharp critique simply lost its edge.

Eclecticism

Undoubtedly the Roses point here to very significant historical instances which deserve comprehensive analysis. Their emphasis on the contribution to these setbacks of an 'orthodox' Marxism which saw science, oversimply, as a predominantly progressive force in contradiction with capitalism has an important degree of validity but does so at the expense of both a full assessment of the diversity of the thirties 'scientists' movement and of the role of the wider political theory current among Marxists at the time. While Werskey, in his critique of the Roses' assessment,² makes both of these general points, his reliance on the 'Popular Frontism' of the Communist Party as the primary causal factor is quite unsatisfactory. Much more to the point was the lack of awareness of any substantial development of political theory within Marxism to analyse the complexity of the state and civil society in advanced capitalist societies, and the position and role of intellectuals within them. This was a weakness of the left in general and hindered long-term, effective political intervention not only in the sphere of science but also in other areas of intellectual activity.

Unfortunately this weakness, in spite of the

² G. Werskey, "Making Socialists of Scientists", *Radical Science Journal* 2/3 (1975).

more recent availability and awareness of the work of Gramsci and other contributors to Marxist political theory, remains apparent in this collection of writings. The strength of these books lies in their treatment of an implicit, received tradition by a sharp contestation which sparks interest and succeeds in rekindling an involvement with problems about science which has been allowed to remain dormant for too long. The inclusion of a number of contributions on specific areas—neurobiology, race and intelligence, reproduction control, ecology and physics—represents a welcome break from the habit of analysing science only in an overgeneral and undifferentiated manner.

Overall, the diverse range of contributions which include treatments of British science policy, proletarianisation of scientists, science in China, and the relationship of science to the oppression of women and black people, attempt different degrees of demarcation both from 'orthodox' Marxism and anti-science libertarianism. Yet the failure to elaborate a coherent theoretical framework means that the contributions still bear the marks of the "cheerful and energetic eclecticism", attributed perceptively by the Roses to the re-emergent radical science movement. There are, however, a number of unifying themes which are partially theorised in the Roses' general overview which it is useful to examine and illuminate by drawing on relevant aspects of other chapters.

The Use/Abuse Model and the Non-neutrality of Science

Central to the Roses' analysis is an attack on the 'use/abuse' model of science. By this they mean the view that science itself is neutral while its social applications may be either for good or ill depending on the political circumstances. At its simplest, the model could only be considered to represent a liberal view of science as completely autonomous and subject solely to internal influences. However, it appears to be also applied to any position which emphasises the application of science as the primary political issue rather than the content of science. Some socialist scientists who have justified their work in fields such as nuclear physics by distinguishing it from its military applications in the atomic bomb are therefore considered to subscribe to this model.

The alternative model that is proposed is the 'non-neutrality' of science. This involves a number of elements. The first of these is the role of political and economic institutions in determining which areas of science are undertaken and what problems are addressed. The Roses in their chapter "The Incorporation of Science" show that by a straightforward analysis of research expendi-

ture in Britain it is clear that the bulk of science undertaken has either the political aim of social control (mainly military) or the economic aim of production for profit. In an interesting account of the significance of the shift in science policy from the Haldane principle of resource allocation by the Research Councils to the Rothschild 'customer-contractor' approach they point out that, as a result, more science has come under direct political influence in recent years. While acknowledging that certain areas of 'pure' science are not subject to direct control by industry or the state the Roses stress that the dominant mode of science is that which is tightly incorporated by the ruling class and this influences the nature of all scientific activity. As an example of this influence Levy-Leblond in a detailed survey of Ideology in/of Physics suggests how ideological considerations resting on reductionist explanation and technical applicability may have contributed to the dominance of high-energy physics in the arena of pure science.

Coupled to this theory of incorporation is the view that science and technology, although institutionally separated, are intimately connected. Examples given to illustrate this range from an anecdote about napalm being tested on the playing-fields of Harvard to an account of the links between biological science and the control of reproduction. What the Roses argue is that the institutional separation of science and technology, and the secrecy surrounding the 'dominant mode' of military and industrial science have led to an elevation of the importance of academic science and a false consciousness within it based on a notion of autonomy.

Limitations

While undoubtedly pointing to some key trends in the nature of science within advanced capitalism which have been neglected by the Left, this analysis underplays certain features of the situation. First, it tends to overlook or deny some of the genuinely specific characteristics of 'pure' science which have important political implications. Its importance is indicated by Ciccotti, Cini and De Maria's observation that the bulk of Government advisers on science and technology policy are drawn from this section. The nature of this active connection which serves to bind the scientific strata and the state together in a politically supportive manner deserves much fuller analysis than it is given. Some of its specific characteristics rest on a real separation of some scientific activity from direct political and economic concerns. Simply because there may be some ultimate involvement of these should not lead to a conflation of the different types of

science and the denial of a real basis for the different ideologies found, for example, among industrial as compared to academic scientists. Linked with a lack of attention to the complexity of the contradictions within both tightly and loosely incorporated science, the implied model could be interpreted as a replacement of a simplistic notion of autonomy by a crude concept of subordination.

Ideology

This is also apparent in a third element in the model which concerns the influence of ideology on the content of scientific knowledge. Understandably, perhaps, in view of the difficulty of either demonstrating or explaining such a relationship, it is difficult to trace a consistent approach to this in the works. Although certain writers such as Needham and Levy-Leblond explicitly deny any value in seeking to show this, the Roses do suggest that it may be worthwhile. They do acknowledge two important points in this respect. First, that since the object that science addresses is a real and material nature then scientific theories do possess basic characteristics of validity and continuity although this need not exclude the influence of ideology. Second, that the exposure of ideological influences in science should be concentrated on those areas of science of clear political significance. The fact that this second pragmatic criterion applies to the main areas of science examined in this way—neurobiology and work on intelligence—should not obscure the fact that the object of investigation of these areas is largely socially-influenced in character. It therefore leaves the problem effectively unresolved and the sporadic use of the terms socialist and bourgeois science, combined with lack of a clear conception of ideology (sometimes influencing science, occasionally counterposed to science) often serves to confuse.

The contrasting of the 'non-neutrality' model to that of 'use/abuse' fulfils an important step towards developing a more adequate view of science. However, the political anxiety to differentiate from the earlier tradition results in an oversimplification of theory. The equation in "The Radicalisation of Science" of 'relative autonomy' with 'neutrality' of science is the clearest expression of this and results in the elimination of a concept which could have proved useful in the development of the non-neutrality view.

Scientism (The Ideology of Science)

A second theme treated throughout the books is that of scientism. This is the tendency to elevate natural science to a position where it lays sole claim to legitimacy as a method of enquiry and

explanation. The Roses suggest that this status derives from the liberating role played historically by natural science in challenging religious authority and scholasticism. But, they continue, this is no longer its primary role which is more generally a denial of the richness of social phenomena by attempts to provide answers from natural science alone. Examples of this are given in Steven Rose's description of the role of biologism in reducing human behaviour to a purely biological level and Levy-Leblond points to the utilisation of the uncertainty principle in physics as an ideological justification for the political *status quo*. Another feature of scientism, it is argued, is the extension of the manipulation of nature practised within science, to a general social principle of the domination of nature.

Although scientism is identified primarily as a feature of capitalist ideology, the Roses point also to its existence as a significant tradition within Marxism. This is traced to Engels' work on dialectical materialism and the special, progressive status attributed to natural science as a result. The common practice in Marxist education classes of equating the process of social revolution with boiling a kettle of water probably merits some critical reflection in this light. However, a wider implication is for those interpretations of Marxism which imply that the 'advance' of science comes into inevitable conflict with the social relations of advanced capitalism.

Joseph Needham in an essay on science in China, argues that scientism is very much a part of Western culture and that very different attitudes have prevailed in the Chinese tradition. The critiques of scientism offer some important insights into the ideological functions of science and also on the reasons for a lack of effective political intervention in this area.

The Internal Practice of Science

The preceding two themes examine the relations of ideology to the material by-products of science (technology), the content of scientific theories, and social and philosophical ideas derived from science. Sharply critical of many of these endeavours Levy-Leblond calls for much more attention to the practice of science, and how it is influenced. This, in fact, forms the third major recurrent theme in the collection. The characteristics of the internal practice of science, referred to by many writers, are identical to those of the economic sphere of capitalism. Ciccotti, Cini and De Maria in their analysis of 'the production of science' which draws heavily on commodity production as a parallel, summarise them as "the division of labour, with the relative fragmentation and repetitiveness of work, the hierarchisation of function (and) the

alienation of the products of labour from the worker".

The expression of these features in the changing character of scientific work in industry is profusely illustrated in Mike Cooley's chapter with examples of job-evaluation, speed-up and deskilling applied to intellectual labour.

While many of these features can be seen as social in origin there does remain the problem for science, as for production, of the technical circumstances necessary for effectively dealing with the complexities of nature. The implications of this for alternatives to the current practice of science are not seriously addressed so what are often valid criticisms of authoritarianism and elitism in science, lose some of their bite.

Sexist and racist characteristics of scientific practice are examined by Stehelin, Couture-Cherki and Anderson and present another feature of science which has received far too little attention for political action.

Marxist Theory and Political Practice

The strength of the three themes discussed—non-neutrality, scientism and internal practice—is that they clearly identify science itself as a valid terrain for political action. If this welcome break from a tradition that excluded these possibilities is to realise its political potential, then it must link effectively with a broader political theory and strategy. Without this the prospects could ultimately amount to no more than a radical 'internalism'. Yet it is in this area that the books are weakest. Confrontation of 'paper tigers' to make way for a genuine science of the people and an ill-defined 'prefiguration' of socialist science do not amount to a convincing perspective.

The Roses' treatment of science as production, and of the class character of science are two aspects that contribute to this. The quotation extracted from Marx's *Economic and Philosophical Manuscripts* that science is "a branch of production subsumable under the general laws of production" coupled with an uncritical borrowing of concepts from economic production ("knowledge as commodity, the transition from 'craft' to 'industrialised' science") does less than justice to the attempts both of Marx and subsequent theorists to analyse the location and role of non-economic activities in the social formation.

This is combined with an analysis of the social position of scientists which simply divides them into two camps—an 'elite' attached to the ruling class and an emergent scientific 'proletariat'. While it is necessary to develop a differentiated analysis as an alternative to a notion of a homogeneous scientific community, such an easy division can only be at the expense of a full understanding of

the interaction of economic, political and ideological factors in determining the social position and functions of members of the scientific and technical strata. This is essential to the develop-

ment of strategies and alliances appropriate to the question of hegemony and science. The value of this collection of essays is in posing this problem, although its resolution remains an ongoing project.

Some Reflections on the 'Revolutionary Communist Group'

Gerry Leversha

"There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy."—HAMLET Act 1 Sc. 5.

The Revolutionary Communist Group—RCG for short—is a relative newcomer on the Trotskyist fringe. Yet few people who regularly attend left-wing discussions and meetings can still be blissfully unaware of its presence. The RCG has a remarkable ability to dominate public debate by means of its own carefully rehearsed speeches, consisting for the most part of a small collection of standardised assertions rearranged in various permutations. This insistence is certainly a conscious strategy on their part to gain a wider audience, especially amongst the working class, and it cannot be denied that it has paid off in winning them a certain notoriety.¹

I think that it is important to examine the arguments of the RCG and to learn something from doing so. I do *not* think that the *content* of RCG politics is particularly illuminating—in a negative or positive sense—for serious socialists, but I do feel that it is worth our perusing their *method of analysis*. There are few groups on the left who take methodology as seriously as the RCG do, and there are even fewer which display such a misunderstanding

of what Marxist method consists. I believe that the RCG theoretical method is an extreme case of a phenomenon which I will describe as 'theoretical essentialism', a tendency whose roots can be traced back not to Marx but to Hegel. By studying the manifestations of this malady in RCG politics, we should find it easier to avoid falling prey to it ourselves in our own theory and practice. The negative example set by the RCG could thus turn out to be instructive for the evolution of a more mature and fruitful political understanding on our own part. I hope that that will be seen as adequate justification for what might initially seem to be a rather academic exercise.

Themes of RCG politics

A recent article in the RCG's theoretical journal began with an analysis of the crisis and of the cuts in the public sector.

"The crisis is not a peculiarly British crisis. Internationally capitalism faces a crisis of profitability. The profit rates of capitalists are falling."²

Connoisseurs will recognise here the quintessence of RCG theory. The crisis is caused by the long-term tendency of the rate of profit to fall. It can be solved only at the expense of either the capitalist or the working class. In attacking workers' living standards, the present Government has clearly chosen the latter alternative.

In order to force the level of wages below their value, unemployment is being encouraged. Unproductive state expenditure is being cut. These

¹ In recent months the RCG has not only suffered a breakaway—the Revolutionary Communist Tendency, or RCT—but also witnessed a further split within the breakaway—the Committee for a Communist Programme, or CCP. The rationale behind the splits does not seem to lie in any major disagreement on political orientation, but only over how sectarian the organisation should be towards other left groups, particularly the CPGB. For the purposes of this article, therefore, the three groups are treated as one. This is not unfair, for the three organisations share a common perspective on nearly all issues; for instance, both the RCG and the RCT publish a journal on Ireland called *Hands off Ireland* and the contents of the first issues of both journals are very nearly identical, the same signed articles appearing in both.

² *Revolutionary Communist* No. 5, p. 2: *Women's Oppression under Capitalism*, by O. Adamson, C. Brown, J. Harrison and J. Price.