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The Modern Quarterly is published by Lawrence and Wishart Ltd., 81 Chancery Lane, W.C.2. Subscriptions (11s. per year, post free) should be sent to Central Books, 2 Parton St., London, W.C.1.

Editorial Communications should be sent to the Editor, Dr. John Lewis, 28 Leaside Avenue, Muswell Hill, N.10.

Printed in Great Britain by  
The Camelot Press Ltd., London and Southampton

# LA PENSÉE

Revue du rationalisme moderne

ARTS—SCIENCES—PHILOSOPHIE

Le numéro 25 de *la PENSÉE* (Juillet-Août 1949) contient d'abord deux textes très importants :

La première traduction française complète et fidèle de l'introduction de Friedrich ENGELS à son livre fondamental : *la Dialectique de la nature* (la suite de ce texte figurera au numéro 26).

Un discours de Frédéric JOLIOT-CURIE : "La recherche scientifique est-elle menacée?"

La discussion sur les problèmes de l'hérédité et la génétique de MITCHOURINE et LYSSSENKO se poursuit avec la fin de l'étude de Marcel PRENANT : "L'influence du milieu et l'hérédité des caractères acquis" et un article d'Ernest KAHANE et Victor NIGON : "Le problème de l'hérédité—Son évolution."

A signaler encore tout particulièrement, du peintre André FOUGERON : "Le rôle du *sujet* dans la peinture" et de l'économiste soviétique I. BLOUMINE : "Les économistes bourgeois d'Amérique au service des monopoles."

On lira encore dans ce numéro extrêmement riche en articles de fond la fin de l'étude d'André LANGEVIN sur "la Télévision." "Sur un type nouveau d'intellectuels que la Sorbonne ne connaît pas" par André PARREAUX et "Le problème des colonies italiennes" par le docteur L. K. HYDER du Pakistan.

A côté des habituelles chroniques de Francis JOURDAIN et Jean LARNAC figurent des chroniques de René CREUSSOL, Jean VARLOOT et André PARREAUX (sur le nouveau roman d'ARAGON, *les Communistes*).

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## The Situation in Biological Science

### I

THE development of industry in the U.S.S.R. has been so rapid and so striking that there has been a tendency to regard it as the characteristic feature of the developing Soviet economy. Especially in England, with our overwhelmingly industrial economy, are we apt to forget that the Soviet industrial development rests on and demands a parallel development in agriculture to provide the food for the growing industrial population. The progress from Socialism to Communism calls forth even greater demands on both industry and agriculture, if "to each according to his work" is to change into "to each according to his needs."

One way in which the young Soviet state sought to assist this development of agriculture was to give the science of genetics full opportunity to show its value in practice. Under Vavilov—generally considered a first-class geneticist and administrator—a vast nation-wide system of experiment stations was set up, ample funds were provided and every possible support was given. We now see that in face of this unprecedented opportunity, genetics failed. The decision has now been taken to replace the old Mendelian-Morganist genetics by the new Michurinist genetics. The importance of this book<sup>1</sup> is that it shows how and why this decision was arrived at; the object of this review is to show why it is important to read and study the book, to try to help towards an understanding of the decision, to try to expose the absurdity, if not downright wickedness of the picture of a dictatorial decision, imposed on scientists by politicians; my task is not to justify the decision or otherwise—that will be the task of the future historian.

In his agrarian studies, Lenin never tired of exposing the fallacy of the bourgeois "law of diminishing returns." Russian agricultural scientists, clearly influenced by Lenin's writings, have been at pains to show by concrete examples that the so-called "law" is an error, due to a failure to appreciate the interaction of qualitatively different factors (see, for example, V. E. Williams, *Principles of Agriculture*, now available in English translation). If this is so, then the possibilities of advance in agricultural production are, in principle, unlimited and the whole Malthusian doctrine falls to the

<sup>1</sup> *The Situation in Biological Science*. (Proceedings of the Lenin Academy of Agricultural Science of the U.S.S.R. July 31–August 7, 1948). (Collet's 9s 6d.)

ground. The contrast between this confident Soviet outlook and the prophets of woe, especially in America, who see the only hope of survival of the human race in famine, pestilence and atom bombs to remove "surplus" people, is probably the clearest example of the influence of society on scientists.

What is important to our argument is the importance of integrating the advances in agricultural technique: the erroneous "law" of diminishing returns rests on a too mechanical analysis, considering the action of factors one at a time accurately enough but failing to see how they interact. Conversely, the way to avoid the operation of this restrictive "law" is through planned, all-round improvement so that no factor is held back in producing its full effect because other factors are becoming limiting. Herein lies one of the essential differences between Socialist development and capitalist growth.

It is this concept of planned, all-round improvement which is at the heart of the *travopolye* system, based on the work of Russian soil scientists and plant physiologists, two fields of study in which Russia has long held a leading place. Briefly, it consists in the use of sown grasses and legumes to provide forage and improve soil structure, cultivation with the right implements and at the right times to maintain the structure, correct use of crop rotations, of stock, of fertilisers, of shelter belts and so on. It bears some resemblance to the British practice of ley farming but is far less one-sided in that neither the sown grasses nor any other feature is regarded as the pivot or keystone: the central feature of the *travopolye* system is the integration of all features so that the maximum return is obtained from the labour expended. Clearly this is a system peculiarly appropriate for a Socialist country with collective agriculture. The breath-taking scope of the great shelter-belt programme gives an indication of the incalculable advances which it is destined to produce. The Tennessee Valley Authority is the nearest thing the capitalist world has produced, but even it is the exception which proves the rule that planned advance is in principle impossible under capitalism. Its very success was enough to evoke organised opposition and kill the Mississippi scheme, which might have been comparable with the Soviet programme for Don and Volga. A more typical capitalist effort is the groundnut fiasco.

Another factor in this drive to increase productivity, a factor which occupies a special place, is the Soviet people, incomparably the most valuable asset of the Union of Soviet Socialist Republics.

In Stalin's words, "cadres decide everything." The Soviet worker is not merely an item on a balance sheet, selling his labour power for a capitalist to exploit. He is a living, human being actively and consciously building Communism, a new civilisation. He has to know where he is going, to understand and participate in the technical and scientific advances involved in that progress.

The first important point to note about the book is that all these aspects are covered by it. They are important in themselves, but particularly important if the new trend in biological science is to be understood. In the discussion at the Lenin Academy of Agricultural Sciences, Soviet workers, administrators and scientists discussed all these aspects with the utmost freedom and we have the opportunity of studying the discussion in an extremely good translation.

The second important point about the book is that the exposition and elaboration of the Michurinist approach to the problems of heredity and development, given by Academy President T. D. Lysenko and many others, are not merely clear, uncompromising and unambiguous, but are related to the aspects we have briefly indicated and to many other more immediately practical aspects of agriculture as well as to biological science in general, both bourgeois and Soviet. It is clear from Lysenko's definition of heredity as the capacity to require definite conditions for development, that the interrelations of heredity and environment have the central place in Michurinist biology and it becomes clear as the discussion continues that here is its great strength. On the basis of this theory, Soviet workers of all kinds testify, their understanding of the qualitative features of plants and animals has been deepened and extended and their control of them correspondingly increased. Formal genetics, on the other hand, shows how to handle differences in breeding work but fails to develop this understanding of the differences themselves, especially if one asks how they are integrated in the living organisms, inseparable, while it is growing and developing, from its environment.

It would be unprofitable in this review to elaborate the theoretical differences between Michurinism and Mendelism. The former is developing so rapidly that a detailed comparison might be out of date before it was completed. The latter, if we may judge by a comparison of the 1939 and 1948 International Congresses, is badly bogged down at present, but does nevertheless contain the internal contradictions which may make its further advance possible. The most important theoretical difference between the

two theories is the refusal of the Michurinists to accept a hard and fast distinction between genotype and phenotype, leading to their acceptance of the inheritance of adaptive changes and of graft hybridisation. The important practical difference lies in the emphasis on studying the organism's development in relation to the environment. The book shows very clearly how much more appropriate this method is for the struggle towards a new Soviet agriculture. The concept of Mendelian genetics as a general theory of breeding equally valid for all higher organisms with sexual reproduction, regardless of the special features of those organisms, is well adapted to the needs of specialist research workers and, especially, of scientific bureaucrats. Even in capitalist countries its weaknesses become more evident in proportion as practical improvements are sought, because here the qualitative features of the organism become all-important. In a socialist country, with radically different concepts of labour and of the relation between theory and practice, events have shown this approach to be quite inadequate.

These ideas may sound controversial to the English reader, but the book shows that they are no longer controversial in the U.S.S.R. Nobody taking part in the discussion was concerned to defend formal genetics. What was controversial there was whether the two trends could continue side by side, with the Mendel-Morganist approach predominating in the universities and some research institutes, the Michurinist approach dominant in other research institutes and on the collective farms. A quite casual perusal of the book is enough to show that such a situation could not last without the most harmful effects on the unity of theory and practice. It also shows how Soviet scientists, administrators and workers *themselves* decided to end it. Remembering that while the discussion was proceeding the reports of it were filling the columns of Soviet newspapers, we are forced, if we are still capable of facing facts, to conclude that this was an outstanding example of democracy in science.

When we turn from these general considerations to the more special aspects of the discussion, we find equally strong reasons why everybody concerned in any way with the science of biology should study the book. I can only point to some of them. Much food for thought is provided by the striking similarity between stockbreeding methods in the U.S.S.R. and in Britain. Plant-breeders will find the discussion of the application of Michurin's methods and principles to agricultural crops most stimulating. We

note again certain basic similarities between Soviet and capitalist plant breeding, but also certain new methods. We seem to note some reluctance on the part of plant breeders to take part in the discussion, as though some of them were not yet fully convinced. The rye-breeder, Dolgushin, however, made a very illuminating contribution which very concisely demonstrates certain weaknesses of the Mendelian approach.

On the question of evolutionary theory, the report is again very stimulating. For example there is so drastic a re-evaluation of the significance of Lamarck that from now on it will no longer be possible to damn a theory with the simple label, "Lamarckism." Marxist students of evolution (and no serious Marxist can afford to neglect evolution) will find much to ponder concerning the dialectic relationship between the organism and environment in development, in heredity and in evolution. Other sides of biological science are covered by various speakers.

To sum up, the report gives a clear, instructive and stimulating account of a most fundamental turning point in the history of Soviet science and possibly of world science. It is essentially a human picture, built up by the protagonists themselves in their own words; their individual characteristics, failings, strong points, animosities, humour are all there, adding to the fascination of the book and effectively disposing of the "dull-uniformity-of-Socialism" type of propaganda. Any account of geneticists stricken with terror will henceforward bring only ridicule to its inventors. Its main value is for the general reader and consists in the light it throws on Soviet society in general and on the advance of Soviet agriculture and Soviet culture in particular. Biologists will find it an intensely, almost painfully, stimulating book and will be driven by it to re-examine their own work. Of the biologists, those directly concerned with practical application will find the book of especial value, for whether they accept the Michurinist trend eagerly or maintain reservations, the work reported here and the new methods of approach cannot be ignored.

J. L. FYFE.

II

IT would take a long review to do justice to this book. It covers a lot of ground; problems of animal and plant breeding, the principles of rotational cropping, the correct use of fertilisers, cytology, cell-biochemistry and the theory of the gene all receive



attention. But it is not so much the breadth of the field covered in discussion that is remarkable as the breadth of outlook shown by the participants. We are frequently over-specialised in this country and it is unusual and stimulating to read the speeches of people who are trying to understand nature, and the practical problems of the control of nature, in all their true complexity.

The polemical vigour may be unpalatable to some, but it would not have appeared out of place to an English intellectual of the eighteenth century. In any case, the polemical style in no way conceals the fact that theoretical issues of the greatest importance to the future of biological science are involved.

Though the discussion was allowed to develop in a broad field, one theme was of special importance—the attack on the theory of the gene. In an intervention, Lysenko protests when Professor I. M. Polyakov takes up the views of Lysenko on intra-specific competition—“. . . the question of intra-specific competition is not only a second-rate but even third-rate question in our controversy . . . the issue is . . . the significance of environment for the organism, the evolution of variability.” So, although many intriguing problems are raised, this review will concern itself only with the criticism of the theoretical basis of genetics as we know it.

Considerable variation in detail may be detected between the theoretical views of leading geneticists but there is fairly general agreement nowadays on certain basic principles. Put briefly and doubtless rather crudely, these are as follows. The likenesses between parent and offspring are determined by the distribution from parent to offspring of certain genetic material. This material is particulate, the particles being known as genes, which are, in the main, arranged in linear order on certain well-defined organs in the nucleus of the cell—the chromosomes. It is considered that these genes, nucleoprotein in chemical nature, owe their specific properties to their specific chemical constitution. Occasionally a gene may change, by an apparently random process known as mutation, and this change may be reflected, in the offspring receiving this changed gene, in a changed physiological or morphological character. Consequently the inherited characters of an organism depend primarily on the nature of the genes passed to it on the chromosomes of the gametes involved in the sexual reproductive processes of its parents. Some of the earlier Mendelians regarded a given gene as rigidly determining a certain character but it has now for some time been recognised that, in the develop-

ment of an organism, the genes it has received interact with one another and with the products of environmental conditions, to produce the characters of the mature organism. Thus a gene may express itself differently under different circumstances. But, as the American geneticist Muller has been at pains to make clear in his recent Pilgrim Trust Lecture on “The Gene” (*Proc. Roy. Soc.*, (B) 134, 1, 1947), these interactions are of *gene effects* only, the genes in the process of self-reproduction and passage from parent to offspring remaining independent of one another and of environmental conditions. This rigid distinction between phenotype and genotype, this belief in the insulation of the gene from its environment, is the aspect of genetical theory attacked by the Michurinists.

Their theoretical attack is very weighty and must surely make anyone stop to think. All scientific investigation of recent years, above all in the field of biology, has emphasised the inter-connectedness of phenomena and the importance of *processes*. For example, the nature of the vegetation in any given situation, and the historical changes in the vegetation, are the consequence of multifold effects of organisms upon one another, of mutual interactions between organisms and soil conditions, of mutual interactions between organisms and climate, and so on. Or again, in the study of cell-metabolism, one may for convenience separate the processes taking place under such categories as respiration and nitrogen metabolism, or one may distinguish between processes of synthesis and processes of degradation, but the real picture is one of great complexity, all these processes being linked in a web of reactions, so that in fact the molecular groupings composing the protein of the cell are never the same from one moment to the next. But the gene, we are asked to believe, is unique in the whole natural world in that, though admittedly chemically reactive, it is isolated from this flux and, unlike everything else around it in the cell, is utterly unaffected in its essential properties by all surrounding processes and changes. The effects of the gene may interact with the effects produced by environmental change, but the gene itself is an unalterable and stationary rock in a raging sea of change and motion. The Michurinists say that they cannot believe in such a situation; it is, they say, an undialectical conception quite out of accord with all our knowledge of nature. Now that it is pointed out to us, it is difficult to disagree.

The Michurinists' criticism of the gene theory was based on doubts aroused by experimental observations. It is obvious from

the book that a wealth of significant experimental work exists, well known to all the participants in the discussion. Unfortunately we know little of the details of these experiments and all we get is a series of fascinating glimpses. Nevertheless it is possible to give some idea of the kind of work on which their criticism has been based. The present writer confines his attention to the botanical examples, this being the field most familiar to him.

There is first of all the evidence from vegetative hybridisation. Apparently there are now many examples of hereditary changes induced in either stock or scion after grafting procedures. No answer to demonstrations of such experiments was made by the "orthodox" geneticists attending the conference. It is difficult to find any reason for rejecting these results except that they fail to agree with preconceived theories and that is not a good reason. I. I. Prezent tells an amusing story of the passers-by who leaned over the fence round the plantations of the Timiryazev Academy and picked and ate the fruit from some tomato plants. Unfortunately, these originated from flowers of tomato grafted on *Datura stramonium* stocks; the capacity to synthesise poisonous alkaloids had been transmitted to the "tomatoes" and the passers-by finished their experiments in hospital. The proof of the pudding is in the eating!

Then there is the work on "training" plants by exposing them, over several generations, to new environmental conditions at certain stages of their development. Lysenko and other speakers describe experiments in which a spring wheat, characterised by low resistance to winter conditions, was changed by such a process of training into a winter wheat, characterised by resistance to winter conditions and failure to form ears if sown in spring. This startling change, in which a hard, *durum*, 20-chromosome wheat was transformed into a soft, *vulgare*, 42-chromosome wheat, was discontinuous, without the formation of intermediates. This experimental claim has caused much astonishment and even ribaldry in this country; the kindest critics have suggested that the stocks of wheat used in the first place were mixed, less kind critics that the result was faked. Time will show who is right; meanwhile, an equally astonishing change will be discussed below, which has been observed in laboratories both in England and America.

In addition to providing their own experimental evidence that characters may be inherited in a non-Mendelian way, in circumstances where the chromosomes are unlikely to intervene, and that

with suitable experimental methods (contrasting remarkably with some of the methods used by geneticists to increase the mutation rate) adaptive changes may be induced in an organism and transmitted to offspring, the Michurinists point with effect to data obtained by workers in other countries. Much of the apparent solidity of the gene theory is based on the close parallels said to exist between the behaviour of the chromosomes during meiosis and the segregation and distribution of inherited characters; I. I. Prezent quotes with effect the damaging blows at the chromosome theory recently made by the American cytologists E. C. Jeffry and F. Schrader (*Science*, October 3rd, 1947; *ibid.*, February 13th, 1948). Again, several contributors mention the growing number of cases of non-Mendelian inheritance which are nowadays explained by various subsidiary hypotheses to the classical gene theory. They pointed out, however, that the theoretical explanations evolved by geneticists to account for those facts, being based on a variant of the gene theory, were quite distinct from Michurinism.

In conclusion it is interesting to consider certain recent work carried out in this country, not in the main field of genetical research, which has a bearing on the points at issue. In recent years biochemists have directed much attention to micro-organisms; there is every reason to believe that their fundamental processes of cell-metabolism are comparable with those of higher plants and animals and they are very convenient working materials. Geneticists, too, are devoting more and more attention to them. Recently, work on adaptation to drugs has achieved prominence, partly because of its obvious practical significance. The fact is, that if a population of bacteria is grown in the presence of a sub-lethal dose of a drug, a measure of resistance frequently develops and by increasing the dose of the drug in steps a strain of the organism may be obtained which is highly resistant to the drug.

E. F. Gale (*J. Gen. Microbiol.*, 3, 127, 1949) has recently published some work on adaptation of *Staphylococcus aureus* to penicillin. Penicillin is a specific drug affecting certain bacteria in very low concentrations and others scarcely at all. By and large, the penicillin-sensitive organisms possess certain characteristic staining reactions (so-called *Gram-positive*) and, for growth and multiplication, have to be supplied with a variety of amino-acids, being unable to synthesise them for themselves; on the other hand *gram-negative* organisms which do not show the staining reaction

and are nutritionally non-exacting, are generally resistant to penicillin. Gale, in the process of training his *Staphylococcus aureus* (which is a Gram-positive, nutritionally exacting, spherical organism) to grow in the presence of ever-increasing concentrations of penicillin, found that at a certain stage a discontinuous change took place, and his organism had become Gram-negative, nutritionally non-exacting, and rod-shaped! Any systematic bacteriologist would agree that this is a change of far greater magnitude than Lysenko's change of a spring wheat into a winter wheat.

There are roughly two ways of interpreting the body of knowledge of bacterial training, including the specific case described. Michurinists would postulate a direct action of the drug on the organisation of the cell, producing a heritable adaptive response. Mendelian geneticists postulate a simple selection of chance mutations involving several genes, but all they have been able to do to support this view is to show that, with certain accessory hypotheses, the observations *could* be explained on such a basis. Professor Sir Cyril Hinshelwood, a physical chemist at Oxford who has been responsible for much valuable work on the kinetics of drug-adaptation in bacteria, discussing this phenomenon of training and its explanation, says:

"With suitable auxiliary assumptions [my italics—P. W. B.] some form of the selection hypothesis can be made to account for nearly all the facts; but it is because these auxiliary assumptions themselves appear to increase in arbitrariness and complexity as one proceeds, that one concludes by declining the main thesis as improbable" (C. N. Hinshelwood, *Chemical Kinetics of the Bacterial Cell*, Oxford, 1946).

He then proceeds to offer a much more simple explanation based on "direct action of the new environment in causing (a) the operation of alternative modes of growth, (b) the quantitative increase of certain parts of the cell-material, (c) the quantitative modification in the texture and configuration of certain parts of the cell-material, (d) a mode of cell-division likely to favour growth in the new environment." This point of view, unorthodox though it may be, is supported by a mass of experimental evidence. The analogy with the views of the Michurinists in an analogous field is striking. Further, Hinshelwood's criticism of the over-elaboration of Mendelian explanations of training is essentially similar to that made by N. V. Turbin in the Soviet discussions, dealing with current genetical explanations of non-Mendelian inheritance:

"The appearance of these new ideas, of the new hypotheses of Morganist genetics, is in itself striking evidence that some of the prominent adherents of this theory of genetics, who up till now have ignored the facts obtained by Michurinists and which undermine their theory, are themselves coming up against such facts more and more often, but they are incapable of breaking away from the fundamental pseudoscientific dogma of Mendelist-Morganist genetics, from the theory of a hereditary substance; they are incapable of drawing correct conclusions from these facts. These scientists are trying to save the bankrupt metaphysical dogma about a hereditary substance *by means of various supplementary hypotheses.*" [My italics—P. W. B.]

Both Hinshelwood, in his book, and Turbin, in the Soviet discussions, call attention to the numerous accessory hypotheses needed by the Mendelians to account for certain biological observations. Hinshelwood's explanation of bacterial training is essentially the same as the Michurinist explanation of "training" of higher plants. If, by calling attention to this parallel, the present writer has helped to convince readers that the Michurinists have a serious scientific case, he will be satisfied. The book under review is at present the best entry into Michurinist literature.

P. W. BRIAN.

NOTE

In his article "In Defence of Genetics," Professor Haldane writes: "I am much more convinced that collective farming is superior to capitalist farming than that Soviet breeding practice excels our own. If, of course, they can produce more wheat per acre, or more milk per year from a cow of given weight, than the best British or Danish farms, I shall have to change this opinion."

In *Soviet Weekly* of July 28th it is reported that the top yield now obtained from the branched wheat being grown over an area of 1,000 acres or more in Moscow Region is 80 cwt. per acre. This compares with the highest-ever yield of the capitalist world which was 65.2 cwt. per acre in New Zealand. The highest-ever yield in Britain was 53.5 cwt. per acre obtained in Kent.

Secondly, the Kostroma cow bred in the Karavayevo State Farm mentioned by V. A. Shaumyan during the discussions at the Lenin Academy of Agricultural Sciences, yielded 16,262 litres of milk in one year. This compares with the best British Friesian which yielded in 1947 a little over 14,000 litres. The fat content of the British Friesian's milk was 4.76 per cent. The fat content of the Kostroma cow's milk is said to be over 4 per cent.

A last point to note is that the high yield cows of this Kostroma breed have a milking life of anything from 15 to 20 years.

MAURICE CORNFORTH.

## The Sociology of Knowledge<sup>1</sup>

BY V. GORDON CHILDE

AT its birth bourgeois society inherited from Classical Antiquity a world view which involved a rigid cleavage between mind and matter, subject and object. The distinction was an essential condition for any advance on the mythological outlook of the Oriental Bronze Age. But it made knowledge a problem. How could the subject, mind, know the object, matter, which was thus alienated from it and opposed to it? One school, let us say empiricist, assigned a passive role to "the mind"; it merely registers impressions received by the sense organs and becomes a *tabula rasa* on which a reflexion of the material world is impressed. But of course even registration is an activity, so let us say the mind is an automatic machine. You feed in sensations, and out come concepts or ideas. As all human minds seem to turn out the same sorts of ideas, that must be because they are mass produced. The so-called categories—space, time causality—are just the interchangeable parts of the machines. The laws of thought or logic can then be regarded as descriptions of how the mind-machines operate. They are universal and eternal precisely because they apply to all machines, just as the categories are because they will fit equally any machine at any time. In fact the English empiricists sought to prove that individual minds produced the categories out of experience—the stuff fed in by the senses—in just the same way as they produced any other general idea; so the congruence of the categories in all sane minds must be due to the homogeneity of the stuff fed into them—the common object of experience. Kant on the contrary regarded the categories as innate—as ready-made mental shelves on which experience had to be arranged, and without which minds would have only amorphous heaps of disjointed sense data to work on.

But for the idealists the mind not only creates the categories, but also their contents; it not only provides the shelves on which experience is arranged, but also their furnishings. In Hegel both the categories and their content result from a dialectical process of development. But this process is not really historical—i.e. temporal—but only logical. The final result is implicit in the Absolute Idea from the start—if you can speak of a start. Indeed the eternal laws

<sup>1</sup> A general account is given under this title by R. K. Merton in Gurvitch, *Twentieth-century Sociology* (New York, 1945), pp. 375-401.

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of logic thus not only ceased to be descriptive and became statutory, but actually turned into generative forces! Of course there was no longer any difficulty in getting matter into mind in knowledge since it started there; though how Mind turned into minds might be a bit obscure!

It was at this point that Marx, in founding a new science of society, observed that categories and "laws of thought" are neither absolute nor eternal but conditioned by the productive forces used by society and must change with the appropriate relations of production. "The categories are no more eternal than the relations they express." He used the discovery, however, primarily to unmask the unconscious prejudices of bourgeois thinkers and to expose the distortions thus introduced into social sciences or pseudo-sciences. The concentration by Marx and his successors on this immediately practical application of the discovery has in fact been perversely mistaken by Mannheim<sup>1</sup> for a reluctance to follow up its more purely theoretical implications.

On the other hand academic philosophers naturally ignored a discovery that would disturb the tranquillity of their ivory towers. Natural scientists in the meantime were content to go on transcending the subject-object opposition in practice, unworried by epistemological or metaphysical puzzles, till they realised quite recently that their empirical data just will not fit into the categories of Aristotelian logic and that observation alters the object observed. Anthropologists had realised this earlier.

The pioneers in the nineteenth century had indeed assumed the uniformity of all human minds; they naïvely took their society's categories as absolute and its laws of logic as final descriptions of any "rational" thinking. So they interpreted the behaviour of savage and barbarian tribes in terms of their own bourgeois thinking and translated magical and religious rites as expressions of "scientific" reasoning, rather uncritically applied to very inadequate data. In fact they had succeeded in stripping ceremonial actions of all the vital significance they had possessed for the societies that practised them. At the same time, when more closely examined, the beliefs and practices of savages turned out not to exhibit the consistency depicted by Sir James Frazer. Levy-Bruhl<sup>2</sup> demonstrated these inconsistencies and logical contradictions

<sup>1</sup> K. Mannheim, *Ideologie und Utopie*. (Bonn, 1929); quoted from the English version, *Ideology and Utopia: An Introduction to the Sociology of Knowledge* (London, 1936), p. 249.

<sup>2</sup> *How Natives Think and Primitive Mentality*.

in the "savage philosophies" his predecessors had so vividly described. So he deduced the idea of a "prelogical mentality." Still assuming that twentieth-century bourgeois logic described the only possible operations of any rational mind, he concluded that savages must have inferior minds—a conclusion eminently soothing to imperialist colonial powers.

From the same ethnographic data his countryman, Emil Durkheim<sup>1</sup> drew quite contrary inferences that in fact could be used to illustrate our quotation from Marx's letter to Annenkov.

The categories are intellectual tools and, like all other tools, are essentially social facts; they "are priceless instruments of human thought which human groups have laboriously forged through the centuries and where they have accumulated the best of their intellectual capital" (p. 19). He then proceeds to demonstrate inductively from aboriginal societies in Australia and America the social origin of the categories. The notion of class for instance is founded on that of the human group. "But if men form groups, so too do things." In Australia trees, smoke, stars and so on are classified in totemic groups. But the social origin of space, time and other categories does not deprive them of objective value. Yet the objectivity and necessity of general ideas is not guaranteed either by individual experience nor by mystic properties of an abstract Mind, but by the social need for co-operative action if the group is to survive. "If men did not agree on these essential ideas at every moment, all contact between their minds, and therefore all life together, would be impossible. If society is to live, a minimum of logical conformity is needful" (p. 17).

"Reason is only the fundamental categories taken together." While it is not just a form of individual experience (the natural end of Locke's empiricism), that does not involve conferring on "the mind" any "power of somehow transcending experience and of adding to what is given to it directly," as the idealists and *a priorists* contend (p. 14). On the contrary, the individual experience, to which the English empiricists had appealed, can be replaced by the collective experience of a society, transmitted by language and pooled to form what Durkheim calls a "collective representation." Collective representations add to what we can learn by our own personal experience all that wisdom and science which the group has accumulated in the course of centuries (p. 434). But still, very much as Marx said, "each civilisation has its own organised system

<sup>1</sup> *Elementary Forms of Religious Life.*

of concepts which characterise it" (p. 435). And so "logic presents different characters at different periods of history; it develops like societies themselves" (p. 439). "Its laws, far from being graven from all eternity on the mental constitutions of men, depend upon factors that are historical and consequently social" (p. 13).

Durkheim derived his epistemology inductively from a study of tribal societies and applied it to tracing the origin of religion. In the sequel equally empirical data supplied by child psychology, linguistics<sup>1</sup> and comparative mythology have led others to similar conclusions, while in Germany Mannheim<sup>2</sup> and Scheler<sup>3</sup> have developed them into a "pure," philosophical theory of scientific knowledge. The results are really complementary to Marxist theory at least on the following heads:

I. The function of knowledge is to provide a guide to action, in fact to co-operative, i.e. social, action. "The sociology of knowledge," wrote Mannheim (p. 268), "regards the cognitive act . . . not as insight into 'eternal' truths, arising from a purely contemplative urge, but as an instrument for dealing with life situations."<sup>4</sup> A science then is not just a set of rules and formulae that describe things and their relations, but rather formulae that yield rules for action. The truth of the rules is guaranteed by the success of actions guided thereby. Thus the test of truth is practice. And as the actions it guides involve collaboration with other men, its universality and objectivity is social too.

II. The structure of knowledge is social. (1) The general principles—the categories of space, time, class, order, cause—on which the data of sensory experience are systematised and built up into sciences are neither innate in each individual mind nor have they to be discovered by each individual for himself. They have been elaborated by society and transmitted, ready made, to all its members. For just as the individual learns from his society how to make or acquire a material tool and how to use it, so he receives by education intellectual tools<sup>5</sup>—the language he learns to speak and the categories embedded in it—and thereby learns at the same time how to apply concretely the rules of grammar and the more general rules of logic—in fact how to think rationally.

<sup>1</sup> E.g. by Malinowski, "An Ethnological Theory of Language," *Coral Gardens and Their Magic*, Vol. II (London).

<sup>2</sup> Op. cit.

<sup>3</sup> *Die Wissensformen und die Gesellschaft*, 1926.

<sup>4</sup> Cf. "Marx's Theses on Feuerbach," *Ludwig Feuerbach*.

<sup>5</sup> Durkheim, "Qu'est-ce que c'est un fait social," in *Les Règles de la méthode sociologique*.

(2) But at least in origin the categories or logical relations are modelled on social relations. The notion of space or cause is neither inherent in mind as such nor revealed supernaturally to minds. Nor is it generated by some mystical "faculty" for the "association of ideas" from isolated experiences, but rather from the concrete apprehension of actual social relations, experienced as relations.

(3) Finally the function of logical categories and rules as of language itself is also social in as much as their primary use is found in co-operative action. Malinowski's often reiterated statement<sup>1</sup> that "language in its primitive function and original form has an essentially pragmatic character; it is a form of behaviour, an indispensable element of concerted human activity" is equally true of thought which could not be expressed, if it could exist, without language. What distinguishes rational human activity from the instinctive activity of brutes (save the social insects), is that it is characteristically the co-ordinated activity of members of a group.

III. But the content of knowledge is social too. (1) Education largely determines which out of the chaos of impressions that are assailing the sense organs at every instant receive attention. A town-bred hiker, a sheep-breeder and a botanist actually make quite different observations when walking over the same tract of Sussex downland.

(2) No individual can personally apprehend more than a tiny fraction of the world in which he plans to act. A Hebridean crofter may write to Argentina or tune in his radio to Moscow; for him Buenos Aires and Moscow are real, parts of his world, though he has never visited South America nor the U.S.S.R. They are parts of the world, known to or believed in by his society, of a collective representation. So too I have forgotten the proof of Pythagoras' theorem and I never had the training requisite to enable me to observe microbes and their maleficent activities but I cheerfully lay out a right angle by constructing a 3-4-5 triangle and take the prescribed precautions against germ infection.

IV. If the "known world" or the object of science be a collective representation, it is obviously not a photographic copy of the real world. It must be rather an ideal diagram or working model of the real world, full enough and accurate enough to enable us to find our way about in the latter and to change it. And if "explanation" consists, as Durkheim argues, in tracing new and strange experiences to known and familiar ones, the ideal model must be based on what is "familiar" and yet accommodate the new and strange.

<sup>1</sup> In Ogden and Richards, *The Meaning of Meaning*, p. 481—and often thereafter.

Now, since society and the relations of persons in it are "better known than anything else," Scheler expects that modes of thought and the classification of knowable things should be co-determined by the division and classification of groups in society. The working model of reality should thus be constructed after the pattern of society.

In fact this expectation is historically justified. Preliterate peoples not only tend to regard nature as part of society, but their conception of nature is a reflexion of the structure of tribal society. The same is true of the "world view" recorded in the oldest written documents from Mesopotamia and Egypt, as expounded by Frankfort and his colleagues<sup>1</sup> at Chicago. In the earliest speculative thinking the clerks of these first class societies, "exempted from all manual tasks," still envisage an "I-Thou" relation between man and nature and imagine a world, that had not yet been depersonalised, as ordered like their own states. Such a view is just a translation into theoretical terms of the practices of magic and religion, but could of course provide a "theoretical" justification therefore. So again according to child psychologists the helpless infant not only fails to distinguish between things and persons, but also attends most to the latter and finds appeals to them by gestures, noises and eventually words the most efficacious means of changing its environment—of securing food and getting rid of discomforts.

But if Durkheim's and Scheler's accounts of the genesis of a hylozoistic, daemonic or mythopœic view of nature be confirmed by the data of comparative ethnography, ancient history and child psychology, the explanation they proffer is incorrect. It is not because society is the "most familiar," but because it seems the most easily controllable, aspect of experience to the primitive and to the infant that it is taken as the model of reality. For the end is not to interpret reality but to change it; the model must provide a guide for action in altering the environment. The infant obtains satisfaction of its wants by appeals to its elders. In primitive societies with a rudimentary technology, but a uniform behaviour pattern prescribed by rigid custom, the actions of the group's members are the most predictable and, within the limits of the customary pattern, the most easily controllable changes and movements in his environment perceived by the tribesman. Magic is largely a transfer to inanimate nature of techniques found to be effective in changing social configurations.

What Durkheim overlooked was that no people can survive at

<sup>1</sup> *Before Philosophy* (Pelican, 1949).

all without some rudiments of practical techniques—for securing food, producing fire, fashioning tools and so on.<sup>1</sup> And after all even an infant can begin to change its environment directly, by appropriate actions of its own. At first, no doubt these actions would be accompanied by irrelevant symbolic gestures or noises. In primitive societies the effective manipulations of hunting, fire-kindling and tool-making are certainly mixed up with symbolic actions and magical practices. But with the gradual growth of technical skills, successful craft practices begin to infect society's view of nature. The decisive contributions of the "natural philosophers" of ancient Ionia, as Farrington's recent book<sup>2</sup> so brilliantly explains, was that they tried, for the first time as far as we know, to construct a working model of nature based on the successful operations of the crafts. They at least started the search for a method of explanation, for a model of reality based on the analogy of processes completely under social control and therefore intelligible. While the muscular energy of men, cattle and donkeys were the only motive-power regularly controlled by society, the search could not reach a satisfactory model. It is water-power, steam and electricity that have made a completely depersonalised model of nature conceivable.

VI. Knowledge, conceived as a model, is still social even when no longer modelled on society. Not only is it a co-operative product based on the pooled experience of society. Since its function is to guide co-operative action, it must also be intelligible to all society's members. Therein lies its universality.

VII. Knowledge remains socially determined in the further sense that it is limited by the productive forces controlled by society.

If the history of particular sciences be scrutinised, what is seen is not merely a cumulative succession of new discoveries, accompanied by appropriate revisions of theory or adjustments of the model, but just as much a reluctant elimination of pseudo-facts, entailing rejection of erroneous theories. Whether science be derived from craft-lore or magic, that happened by a dual process of addition and subtraction. In preliterate societies the craft-lore of farmers, potters or metal-workers prescribes spells and symbolic ritual acts side by side with effectual operations just as much as does the art of alchemists. And in each case the elimination of the

<sup>1</sup> Cf. e.g. Malinowski, "Magic, Science and Religion," in Needham, *Science, Religion and Reality* (1925), p. 35.

<sup>2</sup> *Greek Science* (Pelican, 1944), Vol. I.

dross of magic meets with social opposition. Magic survives in spite of all disillusionments because it serves the particular interest of classes or at least groups in society. (After all possession of the right *mana* and esoteric familiarity with the proper spells and rites was just as valuable to a Maori woodcarver or a Bantu smith as his command of manipulative skill, and a survival of that tradition is seen in the ritual of medieval guilds and even early craft unions.) At the same time in all class societies magic and kindred superstitions have notoriously been an essential buttress to the authority of the ruling class. Magic, once the placenta of science, has been transformed to the domain of ideology, and become a brake upon the progress of knowledge.

The distorting effect of ideology was first exposed by Marx, but now some of Mannheim's disciples would invoke it as a refutation of Marxism. Social sciences, where class interests are immediately involved, are peculiarly liable to ideological distortion. If Marxism banished classical economics and Hegelian metaphysics to the domain of ideology, why, they ask, should not Marxism itself suffer the same fate? But of course a scientific system that from the outset is conscious of this danger and expressly guards against it, is the least likely to fall a victim to it.

Again they say, "Since all knowledge is socially determined, can Marxists claim exemption from such determination?" But why should they? "Absolute knowledge" has no meaning unless knowing be regarded as passive contemplation, as in the Aristotelian deity or the Hegelian Absolute. The Sociology of Knowledge admits as much as Marxism the practical function of knowledge. Science does exist and is justified in its works. Admittedly the science of any period is limited *by* the collective representation, the knowledge already accumulated and applied in practice by contemporary society. It is not limited *to* that. New data are observed; new productive forces are applied; and old categories are transformed. Doubtless the natural sciences are limited by the technical capacities of society; they are not limited thereto. The physicist's model of a molecule or a solar system may be suggested by machines that his society uses, but his ideal model far surpasses any machine that his contemporaries could construct or even design.

The sociological limits of knowledge can be transcended if only so far as to guide the next step in practice. We need not predict what will happen thereafter when ideological distortions have been eliminated by the abolition of classes with class interests.

## The Marxist Theory of Crisis

BY J. WINTERNITZ

ACADEMIC economic theory has become "crisis conscious." This is a new phenomenon, resulting from the shattering experience of the world economic crisis of 1929-32. From the times of Adam Smith and Ricardo up to recent times the prevalent opinion among bourgeois economists was that the "free enterprise" system was self-regulating, automatically adapting supply and demand, and crises were just exceptional disturbances like floods and earthquakes, the explanation of which was not the business of economists who had proved to their satisfaction that such a thing as general overproduction could not exist. This attitude was aptly summed up by Professor Hicks when he wrote in his review of Keynes' *General Theory of Employment*: "Ordinary (static) economic theory explains to us the working of the economic system in 'normal' conditions. Booms and slumps, however, are deviations from this norm, and are thus to be explained by some disturbing cause."<sup>1</sup>

It is a symptom of the general crisis of capitalism that this naïve faith in the internal harmony of the capitalist system is shattered in the minds both of practical businessmen and of the theoreticians of capitalist economy. The fear that the boom in U.S.A. must end sooner or later is as general now as was the belief in everlasting prosperity in 1929. In the last two decades more theories of the trade cycle were produced than in the preceding century, although the periodical alternation of booms and slumps is as old as industrial capitalism.

But none of the numerous bourgeois theories explain why from the very conditions of capitalist production periodical crises arise from necessity. These economists still believe that crises could be avoided, the swings of the economic pendulum damped, the irregularities of the cycle ironed out, by some adaptation of the monetary or credit system, by state intervention, by increased "elasticity" of wages or by a more equal distribution of incomes with the help of taxation; shortly, by reforms which would improve the workings of the capitalist system without touching its basis—private property in the means of production. The various proposals for guaranteeing full employment are based on this

<sup>1</sup> *The Economic Journal*, June, 1936, p. 239.

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conviction that nothing is fundamentally wrong with the economic system.

While for the apologists of capitalism, economic crisis is a dismal paradox which has not so much to be explained as to be explained away. For Marx and Engels, the revolutionary critics of this system, economic crisis was the most obvious, the outstanding empirical proof of their fundamental ideas, proof of the irreconcilable, ever sharpening internal contradictions of capitalism, its growing inability to put to productive use the tremendous productive forces which have grown up under this system. In the writings of the founders of scientific socialism, we find numerous references both to the theoretical explanation of capitalist crisis and to the revolutionary implications of these recurring upheavals.

Unfortunately, Marx was not able to complete his great work on capitalist economy as he had outlined it in his *Introduction to a Critique of Political Economy* in 1859. Therefore we do not find an elaborate and systematic presentation of the theory of crisis in the writings of Marx. But it can be claimed that all the elements of such a theory are to be found in *Capital* and in the *Theorien über den Mehrwert*, posthumously published by K. Kautsky.<sup>1</sup>

But as the different aspects of this complicated problem are treated by Marx in various contexts, his ideas have been interpreted in different ways by Marxists and it is not easy to connect the links in one consistent chain of thought.

There are two basic ideas in Marx's analysis:

1. Capitalist crisis is an expression of the underlying basic contradiction of capitalist society; the social character of production and the private character of appropriation and consequently the tendency of boundless, rapid expansion of production on the one hand, the limitations of consumption on the other hand.

2. The internal contradictions involved in the tendency of the rate of profit to fall, find expression in crises.

These two ideas are closely interconnected, they are not two alternative theories between which we have to choose, they are two aspects of one clear-cut economic theory.<sup>2</sup>

<sup>1</sup> These four volumes of contributions to a critical history of economic thought are of inestimable value to every serious student of economics. Vol. II, Part 2, contains a long chapter on "Accumulation of Capital and Crisis." I learn that a shortened English edition is being prepared by Lawrence and Wishart.

<sup>2</sup> The American Marxist, Paul M. Sweezy, in his interesting *The Theory of Capitalist Development* (Dennis Dobson), goes so far as to distinguish between two kinds of crises; those associated with the falling rate of profit and those arising from under-consumption, pp. 145 ff.



A theory of crisis, to be satisfactory, has to explain the trade cycle, the regular periodical alternation of booms and slumps, both the fact that for some time a relative equilibrium, a certain proportion between the various branches of production, between supply and demand, is established and the fact that this equilibrium cannot be maintained and breaks down suddenly and violently. Therefore neither underconsumption nor the anarchy of production in itself can be regarded as an explanation of crisis.

Marx and Engels repudiated a crude, oversimplified theory of underconsumption.<sup>1</sup>

Marx points out that "crises are precisely always preceded by a period in which wages rise generally" and that this "relative prosperity" of the working class occurs always only "as a harbinger of a coming crisis." Engels stresses the point that underconsumption of the masses, i.e. the limitation of their consumption to the bare minimum, existed thousands of years before capitalism emerged, but only with capitalism does the new phenomenon of over-production emerge. Underconsumption is a chronic fact in capitalist society while crises recur periodically.

If we take into account that even in modern monopoly capitalism with its high concentration of production and capital there are many thousands of independent productive units, every one producing for the unpredictable contingencies of a vast market, every one dependent on the decisions of millions of other private producers and consumers, and every one directed only by the desire to make the maximum profit, it is not so astonishing that this absurd system tends to break down. It is astonishing that it functions somehow, for some time. The whole process of production, normally a process of expanding production, can only continue if the mass of capitalist producers find on the market a sufficient demand to enable them to sell their product at what they regard as a reasonable profit and a sufficient supply of the means of production (machinery, raw materials and labour) and at such prices as will enable them to reproduce their capital, to continue their production on an enlarged scale.

Marx (in Volume II of *Capital*) derived a formula which gives the quantitative relations which must obtain between the two main departments of social production, the production of means of production and the production of means of consumption, to

<sup>1</sup> *Capital*, Vol. II, pp. 475 f., Engels, *Anti-Dühring*, Third Part, Socialism, III, p. 314.

make expanded reproduction of capital accumulation possible.

As long as commodities are produced and exchanged in these proportions production can continue on an ever enlarged scale. This equation symbolises in fact numerous quantitative relations of this type.

How are these proportions established and maintained in an unplanned market economy? By the so-called price-mechanism, the "law of supply and demand." When there are deviations from the socially necessary proportions, the over-produced commodities will fall in price, the under-produced commodities will rise, an under-average rate of profit will be realised in the over-expanded branches, an over-average rate in the under-sized branches, capital will flow from the first to the second till equilibrium is restored. In this way, for some time (to a certain degree), with continuous deviations and vacillations, a relative equilibrium of supply and demand can be maintained. *Partial* crises of overproduction, overproduction of some commodities parallel to underproduction of other commodities, are thus a regular feature of capitalist economy.

But those economists are mistaken who think they can explain the periodical crises from disproportions of this sort.<sup>1</sup>

The anarchy of production only explains the *possibility* of crises, it does not explain their necessity. If we abstract from the basically dynamic character of capitalist production the rapid growth of the productivity of labour, it is easy to construct a model of an expanding capitalist system which would maintain the equilibrium once established, by increasing working class and capitalist consumption at the same rate as the increase in capital and output.

Capitalism is distinguished from all previous systems of production by the continuous, rapid growth in the productivity of labour which is reflected in the steady growth of the organic composition of capital, in the growing mass of "dead labour" put into motion by living labour.<sup>2</sup>

Capitalism revealed the tremendous productive forces which—as *The Communist Manifesto* says—"slumbered in the lap of social labour." For it is not the ingenuity of the capitalist class which

<sup>1</sup> The ex-Marxist, K. Kautsky, asserted solemnly that all crises could have been avoided if only capitalists had studied and applied the reproduction schemes of Marx (in his Preface to the German popular edition of Volume II of *Capital*). The reformist illusion that the development of monopolies would lead to an "organised capitalism" without crises (Bernstein, Hilferding) was based on the same mistake.

<sup>2</sup> i.e. Machinery (embodying labour) put into motion by man-power. The proportion of constant capital to total capital is growing larger.

develops the productivity of labour on an unprecedented scale. It is the higher stage of integration of social labour, the development of the division of labour and the assembly and organisation of thousands of workers in one process of production, and the application of science to the technique of production, which achieves these miracles of productivity.

It is the accumulation of capital itself which implies the constant growth of productivity. It makes the application of technical improvements possible on a larger scale, and the concentration of production in itself without technical revolutions enhances productivity as a growing share of the total is produced in more efficient large-scale enterprises.

This social character of production, which causes the volume of production to rise much more quickly than the numbers of workers employed in production, conflicts with private appropriation, the fact that the whole product is appropriated by the private owners of the means of production for whom the realisation of a maximum rate of profit is the only motive for production. To achieve this the capitalist has both to keep down wages and to limit his own consumption so that the maximum is left for accumulation. Both these tendencies imply the restriction of the consuming power of society. So the contradiction results which finds its expression in *general overproduction*, the main feature of crisis.<sup>1</sup>

The so-called orthodox economists never even came near to an explanation of crisis as they refused to recognise the possibility of general over-production. They accepted the dogma, first pronounced by J. B. Say and then adopted by Ricardo, that total demand always equals total supply, that production creates incomes equal to the values produced.

The price, according to this theory, consists of the sum of wages, profits and rent. So total income must be equal to the total value produced.

This specious argument forgets, first, that the value of a commodity becomes income only after it has been sold, and while wages as a rule have to be paid beforehand, profit income arises only when the product has been sold at profitable prices, secondly that income is not identical with demand, for a capitalist who has exchanged his commodities against money is not forced to exchange his money for commodities. "Say's Law" begs the question by

<sup>1</sup> Cf. Engels, "Socialism, Utopian and Scientific," Marx: *Selected Works*, Vol. I pp. 175 ff.; *Capital*, Vol. III. pp. 286-7.

assuming that commodities produced are commodities sold and it fails to take into account the fundamental difference between the function of money as a medium of circulation, serving merely the interchange of different use-values, and money as the embodiment of value in a capitalist economy where the realisation of surplus value, the accumulation of capital, and therefore the appropriation of more and more money is the only purpose of those who dominate production.

Marx explains how the dual character of a commodity as use-value and value appearing in exchange, involves the *possibility* of crisis. The fact that commodities are useful, needed to satisfy human wants, does not guarantee that they are saleable at prices corresponding to their values and realising the surplus value which alone makes production worth while from the point of view of a capitalist producer.

When the value aspect of commodities finds a separate embodiment in money, the "general commodity" which in itself has no use-value, the same contradiction reappears and reveals the possibility of crisis. An exchange of commodities, mediated by money, is not barter. It consists of two separate acts. "If the interval in time between the two complementary phases of the complete metamorphosis of a commodity become too great, if the split between the sale and the purchase become too pronounced, the intimate connection between them, their oneness, asserts itself by producing—a crisis."<sup>1</sup>

A theory of the trade cycle has to explain both why production can expand over a period of time in spite of the underlying permanent contradiction between the increasing productive power and the limited consumption capacity, and why this contradiction must in the end find expression in a violent crisis. The answer to these interrelated problems lies in the conditions of reproduction of fixed capital on the one hand, and in the contradictions involved in the tendency of the rate of profit to fall on the other hand.

The classical economists, A. Smith and D. Ricardo, regarded a long-term trend of the rate of profit to fall as a fact proved by

<sup>1</sup> *Capital*, Vol. I, pp. 87 f. Marx devotes a long, detailed argument to a devastating criticism of Say's dogma in *Theorien über den Mehrwert*, in the Second Part of Vol. II, pp. 274 ff. J. A. Hobson's critique of Say's Law (*Evolution of Modern Capitalism*, pp. 288 ff.) was obviously written without knowledge of Marx's penetrating analysis. J. M. Keynes knew somehow that Marx did not accept the demand-equals-supply dogma, but his abysmal ignorance of Marx's economic theory finds expression in his slighting reference to "the underworlds of Karl Marx, Silvio Gesell or Major Douglas" (*The General Theory of Employment*, p. 32).

experience, by the continuous fall of the rate of interest from 10 per cent. in the middle of the sixteenth to 3-5 per cent. at the end of the eighteenth centuries.<sup>1</sup>

Marx's theory connects the tendency of the profit rate to fall with the increasing productivity of labour by means of the increase in the organic composition of capital. If—using the usual symbols—we denote the organic composition of the capital  $\frac{c}{v}$  by  $r$ , the (annual) rate of surplus-value  $\frac{s}{v}$  by  $s'$  and the rate of profit by  $p$ , we have:

$$p = \frac{s}{c+v} = \frac{s'}{r+1}.$$

If  $s'$ , the rate of exploitation, remains constant, the rate of profit must fall as the organic composition of capital ( $r$ ) increases with the progress of technique, which implies that more machinery and raw material is used and used up per worker. But  $p$  will fall, too, if  $s'$  is growing at a slower pace than  $r+1$ . Generally speaking, the rise of  $s'$  which is a normal feature in capitalism, is a force counteracting the falling tendency of  $p$  and may even reverse it—for a time.<sup>2</sup> The other main counteracting tendency is the depreciation of constant capital. The same process of increasing productivity which appears in a higher *technical* composition of capital (a bigger *volume* of machinery and raw material per worker) reduces the value of those commodities of which  $c$  consists so that to this extent the increase of the organic composition is checked.

Discussing the internal contradictions of the law of the tendency of the rate of profit to fall, Marx says: "These different influences make themselves felt, now more side by side in space, now more successively in time. Periodically the conflict of antagonistic agencies seeks vent in crises."<sup>3</sup>

The long-term tendency of the rate of profit to fall is important as one of the causes of the continuous sharpening of the internal

<sup>1</sup> *The Wealth of Nations*, Book I, Chap. IX.

<sup>2</sup> J. Robinson is puzzled by Marx's "drastic inconsistency" which she finds in his demonstration of the tendential fall of  $p$  under the assumption of a constant  $s'$  while the argument of Vol. I of *Capital* implies a tendency of  $s'$  to grow with the growing productivity of labour. (An Essay on Marxian Economics, pp. 42 f.) The conflict of these counteracting tendencies is expressly dealt with in *Capital*, Vol. III, Chaps. 14-15. But as dialectics is a *terra incognita* for Mrs. Robinson, she fails to understand that there is no "inconsistency," but a contradiction in reality reflected in Marx's theory. Also N. Moszkowska in *Das Marx'sche System* (Berlin, 1929) grossly misinterprets Marx when she tries to prove that either  $p$  falls with constant  $s'$  or  $s'$  rises with constant  $p$  (p. 118).

<sup>3</sup> *Capital*, Vol. III, Chap. 15, p. 292.

contradictions of capitalist society. For an understanding of the trade cycle, however, we have to analyse the movement of the rate of profit during the cycle. For this purpose we have to drop the assumption (made by Marx when concerned with the long-term analysis) that prices equal values. The regular deviation of market prices from values is an essential element of the cyclical movement.

The general price level and the rate of profit go up in the phases of revival and boom, they drop suddenly and violently in the crisis, and depression persists till prices and the rate of profit begin to rise again.

The cyclical movement of the rate of profit is in a sense the motive force behind the cycle. For capitalists expand production when profit prospects are bright and stop expansion or even contract when profit prospects deteriorate.

Some economists of the subjectivist school solemnly "explain" the trade cycle by "a rhythmical recurrence of errors of optimism and pessimism." But even if there are "errors" of judgment, e.g. over-estimation of the prospects of profits at the end of the boom, they are not essential. Essential is the fact that for a considerable time there are good and even growing profits, justifying "optimism," while, sooner or later, irrespective of the feelings of the capitalists the tendency is reversed and a more or less sudden fall in the rate of profit sets in.<sup>1</sup>

On the face of it this seems to contradict the Marxist analysis. For the upward phase of the cycle is just the time when, with increasing investments, accumulation of capital and concentration of production, technical improvements, etc., the organic composition of capital is growing, the tendency of the rate of profit to fall is developing. But here one must bear in mind that the fall in the rate of profit becomes effective only when market prices go down, corresponding to a general reduction of values.

If by technical progress costs of production are reduced while prices of finished goods remain stable or are even rising, then

<sup>1</sup> In his *Notes on the Trade Cycle* ("General Theory," Chap. 22), Keynes also stresses the psychological element very strongly. "When disillusion falls upon an over-optimistic and over-bought market, it should fall with sudden and even catastrophic force" (p. 316). What he calls "the marginal efficiency of capital" though defined with his usual ambiguity and confusion, is roughly the expected rate of profit. About revival he says: "It is not so easy to revive the marginal efficiency of capital, determined, as it is, by the uncontrollable and disobedient psychology of the business world" (p. 317). But he hints at least at the *objective* facts which determine the changing moods of the "business world": "The disillusion comes because doubts suddenly arise concerning the reliability of the prospective yield, perhaps [!] because the current yield shows signs of falling off."

evidently the rate of profit will rise and not fall. And this is just what normally happens in the upward phase of the cycle.

So just when the value of commodities is falling, prices tend to rise. This is not a logical contradiction in the labour theory of value, but a real contradiction in capitalist economy.

Prices are kept above values as long as demand exceeds supply. At the end of a depression stocks are at an ebb, the productive apparatus is run down, necessary replacements have not been made, there is a low rate of interest, reflecting an abundant supply of capital looking out for profitable investment. The possibilities of satisfying this pent-up demand are, however, limited by a productive capacity reduced in crisis and depression. A substantial increase in the supply of consumption goods will not begin before a re-equipment and expansion of industrial plant has been effected.

This is the basis of the revival in production goods industries. Growing employment in the investment goods industries increases workers' incomes and so the demand for consumption goods expands again. This is the way in which one cogwheel drives the other in the upward phase of the cycle.

Reproduction of fixed capital is concentrated in the upward phases of the cycle. In crisis and depression hardly any net investments take place and even replacements are reduced to a minimum. Marx stresses the connection between this discontinuity in the reproduction of fixed capital and the trade cycle:

"It is true that the periods in which capital is invested are different in time and place. But a crisis is always the starting point of a large amount of new investments. Therefore it also constitutes, from the point of view of society, more or less of a new material basis for the next cycle of turn-over."<sup>1</sup>

It is easy to understand why the process of expansion, once it has got under way, is cumulative. It cannot be proved that there is a constant relation between the amount of net investments and the growing demand for consumption goods—as the theory of the multiplier implies<sup>2</sup>—but there is no doubt that an increase in the production of each of the two main departments stimulates production in the other department. The problem is why this process cannot go on without limit, why the boom must end.

The question is then: Why cannot the rate of profit be maintained?

<sup>1</sup> *Capital*, Vol. II, p. 211.

<sup>2</sup> The contradictions in which the Keynesians get involved with their attempts to use the theory of the multiplier as an element of a theory of the cycle were well exposed by G. Haberler in his book, *Prosperity and Depression*, 3rd edition, Chap. 13.

The rate of profit depends on the general level of prices compared with the cost of production. Both tend to go up in the upward phase of the cycle. As long as prices are not forced down by overproduction, the rate of profit tends to grow because the increase in the organic composition of capital is overcompensated by the increase in the rate of surplus value.

Technical improvements are introduced by capitalists only because they increase their rate of profit. They reduce the cost of production per unit, which means extra profits—as long as prices are not reduced to a level corresponding to the reduced value. Marx stresses this point very clearly:

"No capitalist voluntarily introduces a new method of production, no matter how much more productive it may be, and how much it may increase the rate of surplus value, so long as it reduces the rate of profit. But every new method of production of this sort cheapens the commodities. Hence the capitalist sells them originally above their prices of production, or, perhaps, above their value. He pockets the difference which exists between the prices of production and the market-prices of the other commodities produced at higher prices of production. He can do this, because the average labour time required socially for the production of these commodities is higher than the labour time required under the new method of production. His method of production is above the social average. But competition generalises it and subjects it to the general law. Then sets in the fall of the rate of profit—perhaps first in this sphere of production and then levels with the other spheres—which is, therefore, wholly independent of the will of the capitalists."<sup>1</sup>

It might be assumed that extra profits made in this way are made at the expense of other sections of the capitalist class and do not increase the rate of profit for the capitalist class as a whole. Marx is explicit on this point:

"It might be asked, whether the causes checking the fall of the rate of profit, but always hastening it in the last analysis, include the temporary rise in surplus value above the average level, which recur now in this, now in that line of production for the benefit of those individual capitalists who make use of inventions, etc., before they are generally introduced. The question must be answered in the affirmative."<sup>2</sup>

<sup>1</sup> *Capital*, Vol. III, Chap. 15, pp. 310 f. I have adapted Untermann's translation more closely to the original.

<sup>2</sup> *Capital*, Vol. III, Chap. 14, p. 274.

This is so because wage rates never increase in step with the growing productivity of labour. Wage costs per unit are reduced or—this is only another expression of the same fact—the rate of exploitation grows. In fact, workers frequently have to put up a stiff fight even to maintain their real wages while living costs are going up. But even if they succeed in increasing their real wages which the better organised skilled workers as a rule achieve when the demand for labour is high in times of prosperity, wages still lag behind productivity. Those interpreters of Marxist theory who try to explain the fall in the rate of profit by a fall in the rate of exploitation, caused by wage increases in a time when the industrial reserve army is absorbed in production and demand for labour exceeds supply, are as far away from the facts of modern capitalism as from the spirit of Marxism.<sup>1</sup>

It is true that when the general price level rises, the prices of the elements of constant capital go up too, and this tends to increase the organic composition of capital and to reduce the rate of profit. But firstly as far as fixed capital is concerned the rate of profit is as a rule calculated in relation to the capital actually invested when the turn-over began, not in relation to what plant and equipment would be at current prices, and secondly when raw material prices rise the increased costs are automatically calculated in the prices of finished goods—as long as goods find a market at prices of production.

The crisis sets in when at the inflated prices which have been established during the boom a considerable part of the commodities produced are not saleable any more, when general overproduction becomes apparent. As it takes years from the beginning of the large new investments undertaken in the revival phase of the cycle, to the full operation of the new plant, when the market is flooded with consumption goods, there is no gradual adaptation of supply and demand, of actual market prices and prices of production, but

<sup>1</sup> Sweezy and Moszkowska (in their books quoted above) fall into this trap misled by an argument of Marx (in *Capital*, Vol. III, Chap. 15, p. 295), where he discusses the possibility of a crisis arising when an increased capital would not find any exploitable labour. But he stresses more than once the great difference between pointing out diverse possibilities of crises and finding the law of the regular reproduction of crises. See also *Capital*, Vol. III, p. 281: "Nothing is more absurd, than to explain a fall in the rate of profit by a rise in the rate of wages, although there may be exceptional cases where this may apply." Marx proved in *Capital*, Vol. I, Chap. 25, that as a rule the working population increases more rapidly than the means of employment on account of the growth in the organic composition of capital. He discusses the problems arising from a shortage of labour with reference to England in the fifteenth and during the first half of the eighteenth centuries.

this adaptation can only be effected by way of periodical catastrophes as Marx explains:

"As the process of circulation of capital is not a matter of days, but lasts for a longer period till capital returns to its starting point, as this period coincides with the period when market prices are adapted to production prices, as during this period great revolutions and changes happen on the market, as great changes take place in the productivity of labour, therefore also in the *real value* of commodities, it is very clear that from the starting point—the presupposed capital—to its return after one of these periods, big catastrophes are bound to happen and elements of crises must accumulate and develop."<sup>1</sup>

The process of adaptation of prices to values or to production prices follows the pattern of other dialectical processes. There may be some gradual, continuous adaptation, but this does not solve the contradictions, the tension is growing till it finds a violent solution in the sudden slump of the crises.

*Overproduction* is always overproduction at certain prices. The market could absorb all the commodities produced in the boom period—at lower prices. But at lower prices the original capital would not be replaced with the usual average profit.

So capitalists at the peak of a boom are faced with a dilemma. When they observe that the demand is flagging, they may first reduce prices and try, at the same time, to reduce their costs of production. The largest, technically best developed enterprises may maintain their rate of profit in this way for a time while even increasing production and conquering a bigger share of the market. Smaller and weaker enterprises, forced to follow suit, will not be able to compensate losses in prices by reduction of production costs. Their rate of profit is falling, they are threatened with losses.

But when they reduce production, they cannot make full use of the capacity of their plant, they are not able to reproduce their capital with the expected profit either.

So with overproduction and the fall of prices the fall of the rate of profit sets in.

If there were continuous adaptation of prices to value, as they are being reduced by growing productivity, and if the nominal income of the workers and the other productive classes would remain stable, purchasing power would grow in step with production and no general overproduction would arise. But then there would be

<sup>1</sup> *Theorien über den Mehrwert*, II, 2, p. 267.

a continuous fall of the rate of profit, and the capitalists would lose their incentive to accumulation.

The demand of the working class for consumption goods cannot offer a sufficient market because it lags behind the growing productivity of labour.<sup>1</sup>

Nor does the purchasing power of the lower middle class increase, if it increases at all, at the same rate as large scale industrial production.

They are losing ground in the competition with big capital, and can hardly maintain their share of the national income. This holds true particularly for the peasants. As all real crises are world market crises, and in the world as a whole the vast majority of the population are small holders, the importance of this fact—the poverty of the masses of the agrarian population—is evident. They share the catastrophe of the slump while they hardly share the benefits of the boom. Seasonal variations of agricultural income, at its lowest before the harvest, may explain the fact that most of the crises began either in autumn or in spring.<sup>2</sup>

The essential question, however, is whether capitalist income, the growing sum of profits, interests, and rents, can compensate the *relative* decrease of mass demand. This would be so if profits were used mainly for the individual consumption of capitalists, if personal luxury were the purpose of capitalist economy. But capitalist reality is not like that.

Capitalists “save” part of their profits for investment, not because their “propensity to consume” is lacking, but because their power as capitalists, their chance of continuing their profitable business, their ability to stand up against competitors, depends on the amount of capital they command. Therefore accumulation of capital, not maximisation of luxury consumption, is the driving force of capitalist production.

In this way both workers’ and capitalists’ demand for consumption goods tends to lag behind growing production. Therefore Marx in developing the contradiction between production and

<sup>1</sup> This is a common experience which will be confirmed by every trade unionist. There are, however, questionable statistics which try to prove the contrary. E.g. Professor L. Robbins (*The Great Depression*, p. 211) compiled an index of consumers’ goods production which—from 1924 to 1929—rose only by 7 per cent. while wage income rose by 12 per cent. But he takes into account only textiles, leather, and food, while the biggest increase was in durable consumers’ goods. Motor-car production which played a leading part in this boom increased by 79 per cent., textiles by 33 per cent., tobacco by 43 per cent. The general index of production was up by 33 per cent.

<sup>2</sup> Beveridge, *Full Employment*, p. 303.

consumption stresses not only the reduction of the consumption of the great mass of the population “to a variable minimum within more or less narrow limits,” but also the restriction of consuming power “by the tendency to accumulate, the greed for an expansion of capital and a production of surplus value on an enlarged scale.”<sup>1</sup>

Keynes in his *General Theory* propounds the idea that deficiency of demand is the basic cause of mass unemployment, but he fails to take into account the dependence of demand for investment goods on demand for consumption goods. This is his criticism of underconsumption theories:

“Practically I only differ from these schools of thought in thinking that they may lay a little too much emphasis on increased consumption at a time when there is still much social advantage to be obtained from increased investment. Theoretically, however, they are open to the criticism of neglecting the fact that there are two ways to expand output” (*loc. cit.*, p. 325).

“Theoretically,” there are no limits either to increasing the means of consumption (as human needs grow with the means to satisfy them) or to increasing investments, i.e. improving and expanding the means of production. In a capitalist society, however, investments are limited just by the limitation in the amount of consumption goods which can be profitably sold. Keynes’ criticism amounts to this:

If there is overproduction of textiles, let us make more spindles; if not enough cars, locomotives and other useful things made of steel can be sold, let us produce more steel and build new furnaces! It is the essence of commodities that they must have also use value to have an exchange value and the use value of investment goods is to help to produce consumption goods, a simple truth which is forgotten also by practical capitalists as long as prosperity prevails.

When the crisis begins the fall in production is more marked in investment goods than in consumption goods. If demand for consumption goods only remains stable after having steadily grown for some time, consumption goods production could be maintained at that level for some time. But demand for production goods would be instantly cut down to the necessities of simple reproduction.<sup>2</sup>

This explains why overproduction may appear first in a striking

<sup>1</sup> *Capital*, Vol. III, Chap. 15, pp. 286 f.

<sup>2</sup> This is an application of the so-called “acceleration principle.” For literature on this principle see Haberler, *loc. cit.*, p. 87.

way in production goods. Nevertheless, it is evident that the real starting point of the crisis must always be in deficient demand for consumption goods.<sup>1</sup>

If we remember that throughout the upward phase of the cycle productivity of labour is growing, the sudden and violent fall of prices, characteristic of crisis, is understood as a violent adaption of the level of market prices to the level of value.<sup>2</sup>

Prices may swing deeply down below values. "Such a collapse of prices," Marx says, "merely balances their inflation in preceding periods."<sup>3</sup>

This is what Marx has in mind when he says the law of value regulating exchange relations of products according to the labour time socially necessary for their production "asserts itself like an overriding law of nature. The law of gravity thus asserts itself when a house falls about our ears."<sup>4</sup>

For a clear understanding of the connection between overproduction and the fall of the rate of profit we have to distinguish between the cyclical up and down movement and the long term tendency. Marx explains the latter by a permanent feature of capitalist accumulation—the increase in the organic composition of capital:

"If Smith explains the fall of the rate of profit by superabundance of capital, accumulation of capital, then this is regarded as a *permanent* effect, and this is wrong. However, transitory superabundance of capital, overproduction, crisis, this is another matter. There are no permanent crises."<sup>5</sup>

This is not in contradiction to what Marx says in another context: "Overproduction produces a *permanent* fall of profit, but it [i.e. overproduction—J. W.] is permanently *periodical*. It is followed

<sup>1</sup> Throughout the nineteenth century railways played a leading part in the industrial cycle; after 1900 the electrical industry, mainly in Germany and U.S.A., played a similar part. In Britain textiles used to be ahead of other industries. (Beveridge in the *Economic Journal*, 1939, pp. 52 ff.) In the 1929 crisis in U.S.A. overproduction emerged first in motor cars and other durable consumers' goods.

<sup>2</sup> This explains why there was a violent crisis with a big slump of prices in U.S.A. in 1929 although there was no preceding "inflationary" rise of the price level. The increase of productivity by 25 per cent. corresponds to a fall in values by 20 per cent. But prices fell only by 10 per cent. It is the relation of prices to values that counts.

<sup>3</sup> *Capital*, Vol. III, Chap. XXX, p. 577. There is a small element of truth in the idea, current among modern economists, that there is an alternation of "inflation" and "deflation" in the trade cycle. This, however, is no explanation of the cycle, but just one of its aspects.

<sup>4</sup> *Capital*, Vol. I, p. 46 (Allen and Unwin edition). It is evident that Marx refers here to crisis. In a note he quotes Engels: "What are we to think of a law that asserts itself only by periodical revolutions?" This idea is also most forcefully expressed in "Wage-Labour and Capital," Marx: *Selected Works*, Vol. I, p. 261.

<sup>5</sup> *Theorien*, loc. cit., p. 269, note.

by underproduction, etc. Overproduction follows from the fact that the average mass of the people can never consume more than the average mass of means of consumption, that their consumption does not grow correspondingly with the productivity of labour."<sup>1</sup>

In capitalism there is a *permanent* tendency both to overproduction and to the fall of the rate of profit. But neither of these tendencies are permanently in evidence; they assert themselves periodically in crises. The tendency to a fall in the rate of profit develops during prosperity, but asserts itself in the crisis. The counteracting tendencies come into play again in crisis and depression when prices of raw materials and wages reach their lowest level, existing fixed capital is depreciated and new conditions for profitable investments are thus created.

The depreciation of the elements of constant capital has a contradictory effect: it intensifies the crisis, but it also helps to solve the contradiction which finds expression in crisis.

When a general fall of prices sets in this also cheapens the elements of constant capital. But this is no help to the capitalists, who have to assess their rate of profit by comparing sales proceeds with the capital they have invested before and not with the capital they would need now for renewing their equipment and stocks of raw material. Therefore the reproduction of capital at a new level of technical development and at prices which correspond to this new level is connected with those numerous bankruptcies which are characteristic of crises.

The crises of the twentieth century have been aggravated by the fact that the power of monopoly capitalism is particularly strong in some of the basic raw materials, like iron and steel. When in a general slump of prices the prices of these essential elements of constant capital follow late and slowly in the downward movement, crises become more violent and depressions are prolonged. The adaptation of price levels to the needs of reproduction of capital is delayed by monopoly prices.

"The world market crises," Marx sums up, "have to be understood as the real condensation and violent solution of all contradictions of bourgeois economy."<sup>2</sup>

For the explanation of crisis it is obviously not essential that the rate of profit should actually fall from cycle to cycle; Marx was not dogmatic about this thesis. He says:

"The law therefore shows itself only as a tendency, whose effects

<sup>1</sup> *Theorien*, loc. cit., p. 216.

<sup>2</sup> *Theorien*, loc. cit., p. 282.

become clearly marked only under certain conditions and in the course of long periods."<sup>1</sup>

The slackening of accumulation in highly developed industrial countries, the growing pressure to export capital to backward countries, where the rate of profit is higher, seem sufficient empirical evidence that the tendency asserts itself in the long run. For the theory of crisis, however, the conflict of counteracting causes is essential. The capitalists, fighting against the tendency by pressure on wages, by reducing costs of production with the help of technical improvements, by the struggle for new markets, are intensifying those contradictions which land the whole system in crises.

The Marxist theory makes it clear beyond doubt that there will be crises as long as capitalism exists and that crises tend to become deeper and more violent as the basic contradictions of capitalist production grow.

The progress of technique, the growth of the productivity of labour, which is the necessary precondition of an improvement of the living standard of the people, of progress to a higher level of civilisation, becomes, under the contradictory conditions of the capitalist system, a curse, a cause of permanent economic insecurity, of mass unemployment and recurring crises.

The cure of the evil is not to stop or to retard the development of productive forces, but so to change the basis of economic life that the satisfaction of the needs of the people, instead of capitalist profit, becomes the driving and regulating principle.

<sup>1</sup> *Capital*, Vol. III, Chap. 14, p. 280.

*The Value of Marxism to the Modern  
Natural Scientist*

By J. B. HASTED

THE research scientist is frequently interested in one aspect of Marxism—namely, how its method would improve his work—and it must be admitted that the answer is not easily given in a few sentences. Nor is the detailed answer as extensively discussed in this country as might be expected in one of the world centres of science, which is also one of the representative centres of communist thought. This is no doubt because the major achievements of Marxism have been in the social sciences; the number of natural scientists who are conscious Marxists is as yet extremely small. It is likely that when this number increases greatly the impact on science will be as considerable as has been the case in human affairs. Another reason for the paucity of material on the relevance of Marxism to natural science is that those natural scientists who are Marxists display it habitually and unconsciously in their studies, without caring to review frequently in detail the value of their training, which itself can hardly be summarised in the form of a number of rules or dogmas; there still remain memories of mistakes, such as those made in the early days of the Soviet Union, arising through over-zealous, mechanical applications of dialectical materialism, which thereby lost credit in the scientific world; and finally, as has been mentioned in a recent contribution to *Modern Quarterly*, the characteristic empirical approach of the British scientist does not lead naturally to a conscious dialectical approach.

Yet it is important to build up material from which a detailed answer can be given, so that the scientist may be attracted by the logic and success of the method and so that the world-changing results of science may themselves be enriched and strengthened. The modern scientist, in some ways less prone to make the mistakes of other bourgeois intellectuals, may realise that he is in sympathy with many of the ideas set out below, and may apply them both in his laboratory and in his political conduct.

This article seeks to show the relevance of Marxism to each of the following tasks which confront the scientist:



1. The achievement of high personal incentive.
2. The choice of research he undertakes.
3. The understanding of accumulated knowledge.
4. The design of experiment.
5. The formulation of hypotheses.
6. The testing and modification of hypotheses, the making of predictions from theory, and the distribution and use of the knowledge thus gained.

This treatment is chosen as being that most likely to appeal to the modern natural scientist; it is in direct contrast to the historical approach to science, which, however, it is necessary to have continually in mind. It is of course true that the "tasks" mentioned above are largely abstractions made for convenience. The so-called "choices" and personal activities of the scientist are only part of the picture of the advance of science. To some scientists their work is just a job; to others, the opportunity of following the paths of their choice, of designing their own experiments, or of testing their own hypotheses, are not given; from others, recognition and the usage of their work is withheld. Very often the scientist's adoption of a line of country is determined by chance events or by practical necessities, and his flexibility is called upon to help him through. The framework of all these cases, and the framework of each process in the advance of science are determined by the social background of the period.

It is clear that there is a need, as a long-term project, for a drawing together of experiences and theoretical material on the contributions of Marxism to the organisation and the development of science, into the form of a textbook of science method.

The first contribution of Marxism is in its recognition of the general dialectical laws which matter is observed to obey; a thorough knowledge of these laws is of understandable value in the further study of matter.

The second contribution lies in the Marxist attitude to the historical process, through which an understanding of the nature and purpose of science is possible. It is likely that this is of greater value to the scientist, than a detailed knowledge of dialectics; for a very high level of scientific achievement has been reached with only an unconscious use of dialectical principles.

The relevance of both of these contributions will become apparent in the following sections.

THE ACHIEVEMENT OF HIGH PERSONAL INCENTIVE

The work of industrial, social and medical scientists is of obvious value, and their decision to follow these paths hinges on this fact; the Marxist can only point out how and why they may be frustrated. We are more concerned here with the "fundamental" scientist, who has often only a woolly idea of the motives prompting him. He may be just curious, a disinterested seeker after truth, he cannot tell why; in fact this attitude is deliberately fostered in centres of bourgeois learning, where many cling forlornly to the idea of an Aristotelian leisured class which makes investigations out of idle curiosity. At the court of Louis XIV such curiosity took the form of lifetimes spent in problems about the royal games of chance. Shorn of its trimmings the disinterested pursuit of useless truth seems a wanton and parasitic occupation, only one stage better than idleness. The theoreticians of truth-chasing have indeed been unable to retain their leading position when confronted by the impact of twentieth century science upon the world; their standpoint is usually adopted passively and not with militancy.

In contrast, Marxism offers the alternative of science as a mastery of man's environment and of himself. Complete mastery of environment comes only as complete understanding of nature, for which both "fundamental" and "applied" science are studied; complete mastery of oneself can only be attained through the possession of a guiding philosophy, and a materialist one at that. Now materialism could not have reached anything like its full stature without "fundamental" scientific discoveries, which form the most positive side of this philosophy. Knowledge of the history of the universe, of the evolution of species, of the nature of living organisms, of cosmology, and of mathematical method have all their value to the materialist philosopher. For example, English seventeenth century philosophy confined science to the study of "things," as opposed to that of human senses; but investigations into the process of smell, and later into the physical basis of perception, killed this idea and extended the frontiers of materialism. Moreover, materialist philosophy itself is not "mere curiosity," but a basis for mastering and changing the environment of man.

The possession of such a consistent viewpoint is of great incentive value to the scientist. It is no doubt true that, whilst the major advances in science are certainly dependent on the social framework, many individual scientists have had a high incentive

from "mere curiosity"; this can be so without affecting the materialist view of the history of science; moreover such curiosity can often be attributed to religious (idealist) or materialist partisanship, which itself has an historical interpretation. A materialist outlook implies a unity of purpose in what are divided for convenience into fundamental and applied researches; and this simplifies and makes concrete the incentive which the scientist needs.

Furthermore, of all those who realise that bourgeois culture is critically ill, it is only the Marxists who can point to a positive cure, on the basis of an analysis of the features and causes of the sickness. The crisis takes on various forms injurious to science; for example, a return to magic, and to ideas exploded by scientists long ago, philosophical attempts to limit severely the domain and capabilities of the scientific method; more serious forms are the revival of pessimism, and the curbing of scientific effort on the grounds that society cannot control its results—a suggestion that was made about electricity long before it was made about atomic energy. To all these things there is but one answer: the exposure by materialist analysis of their social roots and their unreasonableness, so that science may be restored to its rightful position.

#### THE CHOICE OF RESEARCH

There are several advantages which Marxists enjoy when choosing their line of country.

First of all, an understanding that the lines in which major advances are made are determined socially is the key to the estimation of what will be important in the future. The very idea of "fundamental importance" is itself socially determined, and it often happens that research regarded as important is in reality a backwater. For instance, in organic chemistry. One must see beyond the accepted type of study in this field, and the surest basis from which to start is that from which we considered the problem of why be a scientist at all. There is much valuable scientific resource wasted on endless repetitive syntheses of organic compounds (which *might* be of practical value) when what is needed is to step back from the whole subject, forget the prejudices of training, and examine the chemistry of organic molecules in its relation to the world as a whole; for example, to study physical and biological properties in relation to molecular structure.

This brings us to the second faculty which a well-trained Marxist should possess, that of seeing scientific knowledge as a whole,

integrated at various levels. This should facilitate a full realisation of the importance of border-lines, which is precisely where many major advances have been, and will continue to be made. It is surprising what a large proportion of Marxists elect to work at these frontiers. The tendency in bourgeois science is rather the contrary, despite the apparent absence of restriction on the university scientist; it frequently happens that universities tend to organise themselves in watertight compartments, between which a borderline worker may easily fall. Furthermore the emphasis on the unity of scientific knowledge is essential for a good synthesis of specialised knowledge and general background, and is of value in the selection of key problems at a particular level. Of recent years the interconnections between widely separate levels have greatly increased in number and complexity. A scientist who has an overspecialised, insufficiently integrated world-picture is unlikely to achieve as much as he otherwise would.

Lastly, the Marxists are among the modern champions of the Baconian plea for the universal application of the scientific method; they have played a significant part in the struggle for the transformation of history and sociology into the historical and sociological sciences, and have understood the importance of operational research. The teaching of scientific method as such is almost entirely overlooked at the bourgeois universities, but this is certainly not the case in Marxist study. Only by the correct emphasis on scientific method is it possible to avoid backwater research, which simply provides repetitive verification of a theory whilst not itself forming any new or necessary part of our knowledge.

With this, and with many other points we have made, most scientists will be in general agreement; they will have thought the same things quite independently. The Marxist, through a study of social phenomena, has in fact noticed the same general laws and features that are apparent in natural phenomena.

#### THE UNDERSTANDING AND DESCRIPTION OF ACCUMULATED KNOWLEDGE

The categories of dialectics are found to be of value, not so much in day-to-day laboratory problems, as in developing a general method of thought which is fruitful in ideas and helpful in understanding processes. Particularly is it of value in the newer, social and psychological sciences. We will first consider the understanding

of accumulated knowledge, especially in the evolutionary and descriptive sciences, and give examples of the relevance of the dialectical principles. We have already mentioned the first of these, namely, that even when abstraction is necessary for convenience, any description must never lose sight of the phenomenon regarded as a whole. For example, it is impossible to understand a liquid, a crystalline solid, or a protein solely through the properties of its individual molecules; in addition one must have a picture of a complex whole that may be of any size. The short and long range forces between molecules in liquids, the arrangement of atoms or molecules in crystalline solids, and the configuration of amino-acids in a protein are all of importance. The particulate nature of matter is now shown by quantum mechanics to be an incomplete picture, for under certain conditions it is more exact to treat matter as non-particulate. For a liquid of zero entropy, such as one type of liquid helium at very low temperatures, that is so, because the Heisenberg uncertainty in the position of the particles is so large. The liquid has peculiar, though exactly predictable properties, and can apparently flow through particulate matter without disturbing it. When the uncertainty becomes sufficiently small our conception of matter undergoes a qualitative change from the amorphous to the particulate state. Whether or no this theory of liquid helium is a true picture is still open to question, but as a type of treatment it illustrates the point at issue very well.

By now the Marxist insistence on the reality of change, in contrast to eternal states and absolute values, has been amply vindicated in the field of science. The nineteenth-century interpretation of energy as the motion of matter, which Engels championed, is followed by the twentieth-century interpretation of light as the causal relations of atoms, which is greatly clarified by Caudwell, and by the explosive proof of the identity of matter and energy. In the words of Bernal, concerning atomic energy, "Motion as the mode of existence of matter would here acquire its final proof." How does this emphasis on change assist us in describing the world? A good example is the process of classification. This can be extremely mechanical, but if for once we classify a group of objects in terms of their evolution or of their development, we place them in an entirely new light. Consider, for instance, the value of so classifying weapons, psychological types, rocks, and eventually elements.

The naturalness of revolutionary change is something to which

Marxists have always drawn attention. At molecular and atomic levels one need look no further than such examples as change of state, co-operative phenomena in general, and molecular dissociation to see the importance of the category. Yet the very simplicity of this general principle of the behaviour of matter may lead to its being applied in an oversimplified, mechanical way. Even the well-known example of change of state is by no means simple, since some physical properties show no discontinuity at the point of change; for instance, recent measurements of anomalous dielectric absorption of gases under increasing pressure show no significant break at the (sharp) liquefaction point. We should not expect all the subsidiary properties of a human society to change magically at the instant of a revolution; characteristics of socialism are present under capitalism, namely, in the organisation of the technique of production; whilst features such as human clothing will long retain under socialism the forms held in capitalist society. In natural science it is sometimes difficult to know when it is possible to speak of a qualitative change at all. The determining factor is the usefulness of the definition for the prediction of properties, or in the design of experiment; "action is the referee," as Caudwell has it; action is, in fact, the guide to Marxism.

We have already mentioned the dialectical categories which are manifested in a revolutionary change. A further point is that such a change usually occurs through the interaction of opposites that can no longer be reconciled. The interaction of two factors is indeed concerned in all change, and is of particular importance in science when it occurs in a series of stages. For example, the level of techniques has a fundamental influence on social structure, and may lead to striking social changes; these in turn have their effect on the progress of science and techniques; this progress has itself further influence on the development of society (for instance, the nineteenth and twentieth century advances); this development may itself exert new and different influences on science (in this example, the effects of the advent of monopoly conditions); so there is continual change brought about by the interaction of two factors. The scientist is accustomed to this type of behaviour of the world and so his thinking develops on similar lines; there emerges a "dialectics of thought processes," and in descriptions it is often difficult to distinguish between this and natural dialectic; an instance, analogous to the above, in which such distinction would be drawn, is in the interaction of an ion in solution and the solvent

water. An ion has a "structure-breaking" effect on water; but the water forms a "hydration sheath" round the ion, increasing its effective size; it has now a different structure-breaking effect, and the water no doubt forms a different sheath, although this last effect is small, since it is the water molecules and not the structure that form the sheath.

From numerous such examples the relevance of the dialectical categories in the description of natural phenomena is apparent. Nothing more is invoked than a number of general principles whose truth is in less dispute than their value. But at the same time it is superfluous to write scientific descriptions continually in the language of dialectics. For the descriptions framed in normal scientific terms demonstrate the principles to those who are accustomed to think dialectically.

The accusation that Marxists superimpose dialectical categories on the unsuspecting universe arises from the danger that the principles may become static themselves, so that their use ceases to be of living value. The rules must themselves develop, as indeed the original categories of Engels were developed by Lenin and further by Caudwell (his sixteen points in *Crisis in Physics*).

#### THE DESIGN OF EXPERIMENT

We come now to the choice, design and execution of experiment, in which the majority of scientists spend the greater part of their time. Yet this was not always so; there have been periods of theoretical speculations unaccompanied by factual research, for instance, the epoch of the decline of Greek science. It is a cardinal point for dialectical materialists that there must always be a close correspondence between experiment and theory, and between theory and application. Only under these conditions can science advance unchecked. At present the new problems of relationship between experimentalist and theoretician need detailed study, no less than the much-studied relationship between the scientific discovery and its social application. There are such varied examples of the relation between theoretical and experimental scientist that it is necessary to review the conditions under which either can make contributions by himself. It is hardly possible in physics to combine the experimental and theoretical scientist in one man, but the relationship between the two must remain productive. In American post-war nuclear physics, a subject on which a great deal of work is being done, the theoreticians seem to be isolated from the

experimental projects, so that the subject is not advancing as fast as should be the case.

From the fact that all material phenomena take place according to dialectical principles, it follows that experimental methods which are of value in dealing with one level of matter should prove of use when studying another. This has in fact been the basis of many great experimental advances, which should encourage scientists to train themselves accordingly. The usual type of experiment consists of maintaining all variables constant except one, the changing of which gives changing and measurable results. The very level at which the matter is being studied may itself be varied, with remarkable success. For example, nuclear magnetic measurements may be used to gain otherwise unobtainable data on (molecular) dielectric relaxation and the rotation of atoms and molecules; the use of nuclei of different weights—radioactive, or non-radioactive isotopes—is of value in numerous chemical, biological and perhaps even sociological problems; and evidence for particular molecular structures may come from as far removed a field as immunology.

What are the initial stages in the choice and design of an experiment? In every problem all the inter-relating factors are considered in the subject as a whole, and the limits within which each is likely to be effective are discussed. The possibility of maintaining the constancy of unwanted variables is studied, and the choice of a suitable changing variable is made. When the situation is complex, a type of mathematical treatment of design of experiment is used; this has long been standard for biological and sociological studies, and is now being applied to the physical sciences. Sometimes a problem consists of the study of two things in their inter-relation, rather than a study of one thing; in many cases a knowledge of the answer to either of two problems is of importance in the solution of the other; and in addition, a problem may consist of the study of a thing in relation to what it is becoming, rather than to what it is. This is the type of procedure which a Marxist would apply at all levels at which controlled experiments are possible.

Probably the most important instance of the relevance of Marxist teaching to the conduct of experiment is as follows. The scientist must beware of becoming a spectator of matter, scrutinising it with a "scientific objectivity" unconditioned by the matter itself; in this state he may ignore the fact that his observation often

seriously changes the object of scrutiny. The study of animals out of their environment is a case in point; and such a mistake is not unknown in chemical kinetics, although workers have been careful to devise such techniques as the sudden arrest of an uncompleted reaction, the removal of small quantities of material for analysis (a striking example is the new mass-spectrographic technique of Urey), and the use of a continuous removal technique, resulting in a dynamic equilibrium concentration (as in the diffusion method for gas reactions, and a similar technique recently devised for reactions in solution). It is interesting to note that the Uncertainty Principle of Heisenberg is a statement of the fact that the scientist cannot be a spectator; for the principle is often put in the form that knowledge of the exact position of a particle is impossible because that knowledge is only obtained by the impingement of radiation which alters its position.

The development of experimental science is itself a dialectical process, as will be apparent from the following example. To solve a problem science devises a new technique, the development of which itself points the way to problems themselves not previously envisaged. This has been pointed out recently by Hartree, who instances the experience of electronic calculating machines. These machines were devised to assist in the solution of certain physical and mathematical problems, but their working has suggested new questions for the mathematician to ask. Thus theory and practice are closely and dialectically related.

It will be noticed that these examples, and the great majority of others which could be mentioned, are not concerned with day-to-day laboratory problems, but with the general features of development of the scientific method. The Marxist approach is likely to be of greater value to the organisation of science as a whole than to that of individual experiments or research projects. The science of science is a subject neglected by bourgeois scholars, and what experience has been gained of it is not circulated widely.

#### THE FORMULATION OF HYPOTHESES

The social origins of hypotheses and theories are frequently studied by materialists. The work of Newton, Darwin and Marx has been considered from this angle. Yet such analyses are not always used to discredit scientific theories in the same way that they might be to discredit philosophical or aesthetic theories. On the contrary they often deepen the theories by explaining the

processes by which they were arrived at. The test of a scientific theory is its correspondence with the whole of available reality. But the fact that so many great scientists have been unconsciously influenced by their historical background indicates that such an influence enriches their ideas, and assists them in the formulation of hypotheses. The greater the social understanding of the scientist, the more likely he is to have a fruitful, imaginative conception of how the material world works. Marxists claim that they have a deep social understanding; they are therefore likely to be greatly assisted in the formulation of hypotheses. The study of the history of science and of mankind becomes an essential prerequisite for the further advance of science.

Insistence on the unity of theory and practice is the most important safeguard that Marxists have against their hypotheses being valueless. An example of the dangers of "empirical" formulation of hypotheses is as follows. Some of the best electrochemists made very accurate measurements of the conductivities of salt solutions at varying concentrations, but attempted crude fitting of equations of no sort of theoretical basis to the curves so obtained. It may have been thought that the theoreticians could come along and straighten out the ideas afterwards. The theory must develop alongside of the experimental results; the empirical rule, and the empirical property (such as the parachor) have a certain place in science, but it is often a place of transient or solely of practical importance.

The actual development of genuine hypotheses is undoubtedly a dialectical development. For example, the Newtonian laws apply for man-size objects, but were later found to be negated for very large and very small objects. From these contradictions arose more general theories without these disadvantages. Yet these theories in their turn are not completely true; theories may be partly, successively, simultaneously or relatively true. Most scientists would be in sympathy with this "total relativism." It frequently happens that advances are made precisely by the realisation that what look like opposing theories are each part of the truth. The apparent contradiction between a wave, which spreads energy in all directions, and a particle, which absorbs it at a point, may not be so absolute as at first appears. The position is paralleled earlier in history by the failure to recognise inanimate matter as having an existence independent of life; matter was full of spirits, and was living, like a human being; man made matter in his own familiar

image. To-day we have got used to the existence of inanimate matter, but we have made microscopic matter in the familiar image of the macroscopic; we regard it as fundamentally particulate, and if we are told that matter is waves, we still ask the question, "Waves of what?", for we are used to waves of sound and water. Surely the waves have real existence in themselves—they are matter at the lowest level. When certain quantities of the wave become large enough, a qualitative change occurs, and matter at a new, particulate level emerges. But when these quantities are not large enough, the matter apparently exists as a wave, and energy transfers obey equations usually associated with waves. In the form of liquid helium mentioned earlier, it is impossible to treat the matter as particulate, for the uncertainties in the positions of the particles, if these are taken as existing, is very great. So the liquid can best be studied as amorphous substance, about which exact knowledge is, or will be, possible. It would seem that a great extension of our knowledge of wave-like matter is likely to form the next great step in scientific advance. That is why the study of the atomic nucleus, whose behaviour is best explained by wave equations, is of such importance.<sup>1</sup>

#### TESTING, PREDICTION, DISTRIBUTION AND USE

The testing of hypotheses until they are discarded or become established theories, the prediction of properties from them, and the distribution and use of the knowledge thus gained are all essential features of scientific advance. They have been included largely for the sake of completeness, and will not be treated in detail; distribution and use are both extensively studied; and about testing and prediction there is not a great deal that Marxism can offer. The testing of theory against the yardstick of experiment often leads to its continual modification and qualification; in fact theories themselves undergo a process of change and development. The key question in each case is, how far can this process be carried before it is necessary to discard the theory and break fresh ground. Marxists are inclined to lay great stress on the conditions and qualifications that apply, and the danger arises that they may so overload a theory with exceptions, generalities and modifications that it becomes almost valueless. This criticism has been used by, and levelled at Lysenko. It is, however, an error on the

<sup>1</sup> Caudwell's angle on this should be studied in *Crisis in Physics* (John Lane, The Bodley Head, 1939), p. 174.

right side, and one that should be comparatively easy to avoid.

Prediction from a theory is usually regarded as a comparatively simple process; in fact the scientist often has some ideas about prediction when he is constructing the theory. The most difficult question is, how far it is possible to predict the properties of something which has undergone a qualitative change from a knowledge of its old properties. This is of great importance in the evolutionary sciences; a good example is the prediction of the properties of a socialist society from those of a capitalist one. It is possible to make general predictions about the properties of things which exist in both societies, such as men, food, or science, but very difficult to predict the nature of entirely new phenomena that may, and in fact have, developed. This applies in other predictions of a similar nature.

The distribution and use of scientific knowledge have not in all periods of history been recognised as being the responsibility of the scientist himself. Under monopoly capitalism the position of the scientist as a wage-slave led to the strong discouragement of any such "political" interests. It has fallen to the Marxists, with concrete explanation of why this was so, to lead the struggle against isolationism, and it may fairly be said that scientific opinion has swung round; the social edge of the scientists, whilst it may point in either direction, is at all events keen. Marxists have also laid great emphasis on the development of distribution of scientific knowledge, both for serving the scientists themselves, and for developing the scientific method as the popular basis of approach to all problems. Success in the tasks of distribution and popularisation, in which nearly all scientists are interested, requires a clear perception of the purpose and value of each of them. For example, there is prevalent a completely false attitude to popularisation, namely that of drawing the attention of people away from social problems to the wonders that science can provide; a false optimism is preached, together with the idea that science can do it all for you; this is responsible for much of the fireside science, so popular in America, which degenerates into descriptions of interesting domestic gadgets.

#### CONCLUSION

Our treatment of the scientist's problems step by step has certainly shown the relevance of Marxism to them, and possibly also a part of its value. The central fact is that a prerequisite of

success is a sound awareness of the picture, the functions and the method of science; many scientists may achieve this awareness independently of Marxism, although by a route similar to it; but for students of Marxism the path is smoothed and the snares exposed. When the number of such students can be increased qualitatively, the impact on science should be considerable.

*Bertrand Russell and the Illusion of Freedom*

By JOHN LEWIS

I

RUSSELL'S Reith Lectures on *Authority and the Individual*<sup>1</sup> mark the return of a prodigal and his acceptance and welcome by the society from which he was long an outlaw. For many years his scepticism, his unconventional morality, his bitter attacks on Christianity, his pacifism, marked him out as a man more to be feared as an anti-social force than honoured as a pillar of society. Now all is forgiven and forgotten and the final seal of approval, the Order of Merit, has been conferred upon him as a distinguished philosopher, and a stalwart defender of our "Western civilisation."

The Reith Lectures in themselves give little indication of the strange metaphysics which underlies them. Indeed, it might easily be argued that Russell keeps his philosophy and his social propaganda in water-tight compartments. The philosophy is abstruse, abstract and so repugnant to common sense that few of those who eagerly applaud his broadcasts would approve even if they understood it. His philosophy is a rigorous dualism which abruptly sunders thought and reality. The existence of the external world and of other people is reduced to a precarious inference. There is, he declares, "little but prejudice and habit for the view that there is a world at all." Between knowledge of our own sensations and rational knowledge there is an insuperable barrier which he often essays to surmount, but never with any success. His philosophy may be described as an attempt to sever metaphysical inquiry from actual life, reason from ethics and politics. He has declared that the real domain of philosophical inquiry is formal logic. No answer can therefore be given to those questions which ever since men became capable of free speculation have been debated by philosophers, even though, as he admits, the conduct of life depends upon the answers. Reason cannot be at home, or help men to be at home, in this actual concrete world of ours, nor has it anything to say in respect of values. The true home of reason is another world, a world of abstract, logical entities and relations, with a perfection of its own which the intellect can enjoy untroubled by passion and desire. In choosing a system of philosophy Russell has

<sup>1</sup> Bertrand Russell, *Authority and the Individual* (Allen and Unwin).

confessed that he prefers credibility to consistency and there is indeed very little consistency in his speculations and none at all between his ethics and his metaphysics. Russell has deliberately turned, to use Collingwood's phrase, from the philosophy that gives meaning and significance to life "to building card-houses out of a pack of lies." It is no doubt to this fundamental scepticism that we must attribute the lack of guiding principle and serious thought which characterise these lectures.

It would be incorrect however to imply that this philosophy was without significance for Russell's sociological views. On the contrary the refusal to be rational and philosophical about society is itself a profoundly significant social philosophy. Does it not indicate that the fatal contradictions of modern society if dealt with rationally must lead to revolutionary conclusions?

Moreover the background to his social and political propaganda is a philosophical individualism which can be traced to the influence of Leibniz and the English empiricists. It is in fact this eighteenth-century aristocratic individualism that is so stimulating and valuable to those who are seeking everywhere for help and comfort in the struggle against socialism. His individualism is, of course, the other side of his subjective metaphysics, and the "personal atom" whether conceived as an economic unit with Adam Smith (1776), or a succession of sensations with Hume (1749), or simply as Robinson Crusoe with Defoe (1719), is simply the monad of Leibniz (1716), the ultimate entity, atomic, separate, "without doors or windows," exerting no influence on other monads, but functioning in relation to them by reason of a "pre-established harmony" reminiscent of Adam Smith's "unseen hand," which he declared would bring social welfare and general good out of the selfish activities of *laissez-faire* capitalists. It is in this atomism that we find what is most essential to understand in the outlook of Bertrand Russell.

## II

It finds typical expression in these lectures in his views on human nature, which are crucial for his whole argument. Man is essentially an aggressive animal, his instincts driving him to hate everyone outside the narrow limits of the family. "*Always when we pass beyond the limits of the family it is the external enemy which supplies the cohesive force.*"<sup>1</sup> Against all attempts to establish human co-

<sup>1</sup> *Authority and the Individual*, p. 19.

operation and world peace rise up "*the old instincts which have come down to us from our tribal ancestors,*" telling us "*that life would lose its savour if there were no one to hate*"<sup>1</sup> and that "*struggle is the law of life.*" Natural man exists in a condition of perpetual strife, the *bellum omnium contra omnes* (the war of all against all) of the philosopher Hobbes (1651), who is clearly a powerful influence in Russell's thinking. Government is thus rendered necessary in order to hold aggression in check. Russell applies the same reasoning to the endless strife of nations and calls for a World Government overriding national sovereignty. He fails to notice, or is not greatly concerned to notice, that world government to-day means the hegemony of the United States, an imperialist power, ruthless to colonial peoples and "inferior" races, and ruled by the representatives of a philistine monopoly capitalism, illiberal, unscrupulous and the enemy of the working class. Russell knows that to bring such a world state into being it would be necessary to destroy Soviet Russia, and reconquer the Eastern Democracies for reaction. But Russia is menacing the peace of the world and such measures are necessary! Russell has been reported as saying elsewhere "Either we must have a war against Russia before she has the atom bomb or we will have to lie down and let them govern us." Therefore he advocates presenting an ultimatum to Russia requiring what would amount to her complete submission to allied dictatorship, political and economic, and therefore the end of Russian socialism. If she refuses, and Russell believes that of course she will refuse, then we must use the atom bomb. A successful war against Russia, he affirms, "*would produce a renaissance of hope and joy and creativeness, a great leap of the human spirit, leading to a new achievement in art, in science, in politics, and in the organisation of a humane way of life.*"<sup>2</sup> This then is the philosopher-pacifist's road to world peace. Even *The Times* reviewer is compelled to say that "his arguments are clearly of the kind which can lead men of sense to kill one another on the assumption that one more war will do the trick."

But even if world peace came about the real problem would remain—how to find a force of cohesion without an enemy, seeing that there is no spirit of co-operation inherent in man sufficient to hold society together. Neither self-interest nor benevolence will suffice for this task, for man is a beast of prey. This degradation of

<sup>1</sup> *Authority and the Individual*, p. 20.

<sup>2</sup> *Morning News*, May 28th 1949. (Published by the Allied Commission in Austria).



humanity to the animal level is characteristic of modern bourgeois reflections on the nature of man and of much bourgeois art (the novels of Aldous Huxley, Evelyn Waugh, etc.). We have undoubtedly entered an era of anti-humanist thought as far as these thinkers and writers are concerned.

There is a second problem with which these lectures are concerned, by no means unrelated to the first. The tendency of social development is not only to world federation but to large-scale industrial and administrative organisation. How are we to preserve freedom and individual initiative in face of this growth of the "totalitarian" state? He has no clear answer to this problem, which he really regards as insoluble. His remedies can hardly be taken seriously and are not advanced with any conviction: "*Controlled devolution, and opportunities for desirable more or less independent action by individuals or by groups that are not very large.*"<sup>1</sup> The adoption of Mr. John Spedan Lewis's co-partnership plan, he suggests might overcome some of the worst effects of large-scale organisation. But at present there is no sign of anything able to change the direction or even mitigate the slow strangulation of liberty. "*This will only be avoided if liberty is as much valued as democracy and it is realised that a society in which each is the slave of all is only a little better than one in which each is the slave of a despot.*"<sup>2</sup>

Russell holds one of those cyclical theories of history which under the influence of Professor Toynbee have lately become fashionable among writers on current politics. His thesis is that personal freedom diminishes as the community increases in size. It becomes increasingly necessary in large social organisations to introduce a coercive discipline in place of the societal bond. Every increase in the strength of central government involves an increased use of force, and therefore a diminution of liberty. The tendency towards centralisation continues until a point is reached at which it is impossible to maintain sufficient initiative and interest in work to keep the community in being. Society then disintegrates, and the historical cycle starts again.<sup>3</sup> According to Russell the small tribal community allows the maximum personal liberty and freedom from rigid conformity. Is this correct? Anthropologists tell us that there is no more rigid control of the individual than in the small primitive community. The Greek city states easily fell into tyranny. The Italian free cities, Geneva under

<sup>1</sup> *Authority and the Individual*, p. 75.

<sup>2</sup> *Ibid.*, p. 80.

<sup>3</sup> *Ibid.*, p. 41 f.

Calvin, imposed a severer discipline on their citizens than any of the Grand Monarchies. What determines the degree of freedom is not the *size* of the state but whether its social structure requires a political dictatorship, as it invariably does if it is a class society, and whether the danger of social collapse and revolution requires an intensification of class dictatorship.<sup>1</sup>

This then is the substance of the Reith Lectures. It is clear that from the standpoint of scholarship Russell has very little to say. Were it not for the fact that he lends the authority of a philosopher and the dexterity of a brilliant propagandist to a cause which the authorities have very much to heart these lectures could hardly have been delivered. The discussion is superficial and confused, even though the style is epigrammatic and lucid. His argument is undocumented and there is scarcely a mention of any previous political thinker. The picture he paints of the nature of man and the origin and development of society is fictitious and *a priori* and as one critic has already observed the only fame that these lectures are likely to have is that they will constitute a permanent memorial to a social myth. Is it possible that this intellectual irresponsibility arises from Russell's denial of the validity of philosophical reasoning in the field of ethics and society? Such a view might well be expected to hand such problems over to mere prejudice and political passion.

### III

Of course Russell presents his case with a semblance of reason and brings forward evidence to show that man is inherently aggressive and anti-social. What basis has he for this picture of man's nature, for "*our largely unconscious primitive ferocity . . . the old instincts that have come down to us from our tribal ancestors . . . all kinds of aggressive impulses, impulses to hold what we possess and to acquire what others possess . . . inherited from long generations of savages,*"<sup>2</sup> an instinctual hatred of mankind that only gives way to the social instinct within the narrow limits of the family?

One would have expected in lectures like these, not one short broadcast but a whole series, that the authorities would have been marshalled and detailed evidence brought forward to substantiate the theory upon which, after all, his whole case rests. Instead this

<sup>1</sup> Within a class society, the dictatorship of an exploiting class diminishes freedom, whereas the dictatorship of the working class widens freedom and leads the way to the end of all forms of dictatorship.

<sup>2</sup> *Authority and the Individual*, p. 20.

view is treated as if it were an acknowledged law of nature. The only authority actually quoted is Sir Arthur Keith, whom we remember for his declaration that war was "nature's pruning hook" and promoted the survival of the fitter human type. Keith's eccentric views are not generally accepted by other anthropologists. Russell ignores the great mass of evidence which has accumulated in recent years and seems to follow an *a priori* method in constructing his picture of primitive man, manipulating his facts to suit his own thesis.

Workers in this field, however, are fairly unanimous in rejecting the notion that early man was a ferocious animal engaged in perpetual warfare with his neighbours. There is little archaeological evidence for weapons and their use in warfare between the period of the earliest stone implements (say 500,000 years ago) and the Late Neolithic Age. Childe records the fact that "one man of the middle Palæolithic age, buried in a cave on Mt. Carmel, had been wounded possibly with a spear"; and that Upper Palæolithic or perhaps Mesolithic paintings on rocks in Eastern Spain depict combat between bowmen." It is only later that evidence appears in the form of weapons and fortifications to suggest inter-tribal warfare, and even then it is by no means universal. Malinowski also supports the view that warfare is by no means widespread among primitive peoples. Sir Arthur Evans testifies to the generally peaceful character of the Minoan civilisation. It is only in the late Minoan period and the Mycenaean (i.e. after B.C. 1580) that evidence of military activities is found.

Turning to existing primitives, the greatest possible variety of behaviour is found; for instance Margaret Mead's investigation of New Guinea tribes shows that while some are ferocious others but 100 miles away are gentle and inoffensive. Head-hunting, cannibalism and the blood feud do not appear to be connected with warlike activities or even to reflect an innate ferocity but are rather ritual activities or, in the case of the blood feud, a primitive form of legal sanction comparable to capital punishment.

We do not say in opposition to Keith and Russell that human nature is "good", but we deny the existence of an innate aggressiveness conducive to warfare. This is supported by the special inquiry of the American Psychological Association in 1935 into this question. Over 90 per cent. of the participants found no evidence for this. What emerges is firstly the limitless plasticity of human nature. The question is not what human nature is in itself but what

happens to it under specific conditions. When we examine actual cases of aggressive communities we find that hostility and violence appear as reactions to a frustrating environment, under conditions of abnormal strain, e.g. shortage of the food supply, rather than as natural trends of personality demanding expression irrespective of circumstances.

Russell's conception of society as formed by a reluctant union of ferocious human units is an inversion of the facts. Man begins as a social animal and warfare and class divisions supervene under certain conditions.

Primitive man is the earliest maker and user of tools; from the first this means *co-operation in production*. Here we have the basis for the first human social units, the family, the matriarchal clan, the patriarchal clan and so forth, in which we find different forms of division of labour corresponding to developing productive technique. This is not the picture of the extension of bestiality upwards into developing society, but development upward and away from the ape and tiger *through human co-operative labour*. Here lies the promise of human betterment, a view of man which honours him for his real worth, instead of a view which unspeakably degrades him. Here lies too that hope of a future in which mutual struggle among members will cease and will be carried on with the outside world; a struggle no longer against our own kind, but for subsistence, a struggle against nature. Here a new chapter of human history begins.

Russell tries to show that deprived of the healthy outlet for aggressive impulses which war affords life loses its zest for primitive peoples. The only evidence he adduces is from North American Indians living an abnormal life in a reservation. Evidence to the contrary is plentiful. In recent years aggressive, raiding tribes in Papua have been induced to build joint villages which have proved very successful, with the result that a peaceful and prosperous society has developed and the old habits have died out.

We are beginning to see what are the factors making for aggression and how they may be controlled. Frequently these factors are economic. For over a century Britain maintained a considerable armed force in the North West Frontier of India and engaged in intermittent warfare, alternating with police measures and supported by subventions. But aggression did not decline. Experienced administrators have frankly admitted the futility

of this century of repression. Russell would no doubt attribute this to incurable predatory instincts. The most authoritative observers have traced it to a different cause. Dr. C. Colin Davies says: "Life in the independent hills is as much a struggle between man and nature as between man and man. We can never hope to solve the Frontier problem until the tribesmen are able to gain a livelihood without being forced to raid the settled districts. So long as the hungry tribesmen inhabit barren and almost waterless hills, which command open and fertile plains, so long will they resort to plundering incursions in order to obtain the necessities of life. When writers describe the Pathan as having the lawlessness of centuries in his blood, what they really mean is that he has been forced by his environment to play this role in the drama of life. Environment has definitely shaped the natural character of the Frontier tribesmen. It has produced a race of men who are the most expert guerrilla fighters in the world; it has made them hardy mountaineers; it has developed in them a hatred of control and a warlike spirit amounting to a religion."<sup>1</sup>

North of the Afghanistan frontier very similar tribesmen, ethnically identical with the Pathans, living under similar geographical conditions have passed from poverty and turbulence to a settled and prosperous industrial life under the Soviet system. The "instinctive ferocity" of the Pathan will give way to peaceful impulses only when a similar economic solution is found to the south of the Afghan frontier.

#### IV

When we examine the biological evidence for man's innate aggressiveness we see that Russell is repeating the nineteenth-century error of transferring to human society the laws proper to sub-human nature, ignoring the fact that here new relationships obtain and the more primitive and unconscious struggle for existence which we find, to some degree, in the sub-human world is superseded.

Evolution in the higher anthropoids is marked by the appearance of new behaviour of the collaborating sort which is required by the use of tools in production. At this level specialisation either in the direction of offensive mechanisms, as in the Carnivora, or in the direction of flight or concealment as in other mammals, gives way to more generalised abilities and great plasticity of

<sup>1</sup> C. Colin Davies, *The Problem of the North-West Frontier*.

habit. By this step a new evolutionary level is attained and predatory behaviour is superseded as the normal manner of life. The animals which have specialised as beasts of prey represent an evolutionary dead end. The human type has survived and multiplied chiefly because of the extent of its collaborations, and not because it is a peculiarly successful predatory type.

"The mechanical transference of the laws of animal societies to human society is incorrect. At the basis of the evolution of human society, lie laws peculiar to it, laws of development of material production, which are qualitatively different from the biological laws of evolution characteristic of the organic world as such."<sup>1</sup>

It is instructive to see how this error arose.

It was the capitalist competitive struggle which served Darwin as the picture for the struggle of existence prevailing in nature. It was not through his own observation that this solution presented itself to him. It came to him by his reading of the works of the economist Malthus. Malthus had argued, like Vogt in our day, that the population inevitably increases faster than the food supply, so that war, pestilence and famine are inevitable. By this theory capitalist competition as well as the social misery and war resulting from it is seen as an unavoidable natural law. The Darwinian theory, Engels pointed out, "is simply the transference from society to organic nature of Hobbes' theory of *bellum omnium contra omnes*, and of the bourgeois economic theory of competition. When once this feat has been accomplished . . . it is very easy to transfer these theories back again from natural history to the history of society."<sup>2</sup> He adds: "Darwin did not know what a bitter satire he wrote on mankind and especially on his countrymen when he showed that free competition, the struggle for existence, which the economists celebrate as the highest historical achievement, is the normal state of the *animal* kingdom."<sup>3</sup>

The economists and sociologists who take this view, including Russell himself, are really confessing that bourgeois society has not yet succeeded in getting beyond the social and economic forms of the animal world. It is tantamount to a refusal to discuss man in human terms. The consequence is that capitalist competition and class inequality are justified by the "struggle for existence," and war is exalted as "nature's pruning hook."

This view of human nature and society "reveals with peculiar

<sup>1</sup> *Handbook of Philosophy*, article, "Social Darwinism."

<sup>2</sup> Engels, *Dialectics of Nature*.

<sup>3</sup> *Ibid.*

vividness the class limitations of scientific theory, and the role of the bourgeois scientist as the ideologue reflecting the interests of his class, at the same time these theories suffer from the basic methodological defect of failing to understand all the specific conditions, in the shape of social-economic productive relations which condition the laws of the social-historic process, allotting to biological factors a remotely subordinate importance. . . . Reflecting the state of the material forces of production and the socio-economic relations of the particular historical epoch, scientific theories express not only the actual state and level of knowledge attained by science, but also the ideological justification of the economic interests of warring groups and classes.”<sup>1</sup>

V

Russell’s psychology is as false and obscurantist as his anthropology and his biology. The explanation of human nature in terms of a great variety of instincts, of which pugnacity or aggression is the one with which we are concerned, is not regarded to-day with much favour. The American psychologist E. B. Holt comments ironically upon the arbitrariness of this procedure: “. . . man is impelled to action, it is said, by his instincts. If he goes with his fellows, it is the ‘herd instinct’ which actuates him; if he walks alone, it is the ‘anti-social instinct’; if he fights, it is the instinct of pugnacity; if he defers to another it is the instinct of ‘self-abasement’; if he twiddles his thumbs, it is the thumb-twiddling instinct; if he does not twiddle his thumbs it is the thumb-not-twiddling instinct; thus everything is explained with facility of word-magic.”<sup>2</sup>

Russell appears to follow Freud in attributing to man certain fundamental instincts of this kind of which aggression is one. There is a great reservoir of instinctive energies from which all our desires are ultimately derived. These tendencies, especially those of aggression and sex, are subject to severe repression at the behest of the Super-Ego, which represents the moral standards of his environment or, in part at any rate, the requirements of society. Freud held that the real desires of the individual were against society and against his fellow, and this is Russell’s view. Civilisation is a fight against nature in which the masses must be coerced and the *élite* must learn how to repress their aggressiveness. Society is thoroughly neurotic because in general it is the scene of conscious renunciation and unconscious repression of instinctive hate. For

<sup>1</sup> Zavadovsky, in *Science at the Cross Roads*.

<sup>2</sup> E. B. Holt, *The Concept of Consciousness*.

Freud, no socially beneficent impulses can arise from within the soul of man, who is not primarily a social being. He thus reduces the specifically human to the purely animal, like the Social-Darwinists.

Freud can offer little in the way of remedies for this condition of repressed or overt aggression. Sublimation is suggested, and this is Russell’s half-hearted solution. We must seek some safe method of expressing our repressed impulse, a moral substitute for war. This, however, is to accept as unalterable the animal nature of man and a society based on inevitable and unceasing conflict of interests.

This Freudian view of the nature of man has been subjected to severe criticism. Firstly, as we have seen, there is no reason to suppose that man is a creature of instinctual drives. The nature of man is a resultant of the interaction between biological and social inheritances and is for that reason variable and mutable.

Basic are the biological (non-instinctual) needs for food, shelter, warmth, sex and the like. From these arise various impulses depending on the social circumstances in which man seeks to fulfil them. Aggression results from the thwarting of any vital need, and is a powerful impulse, but it is not an instinct, since in the case of the normal satisfaction of the need it does not appear. An instinct being part of the inherited constitution of man must manifest itself under all circumstances.

Ian Suttie<sup>1</sup> has shown that there is no such state of nature before society as Freud, following Hobbes, supposes and as Russell assumes—that non-historical, imagined state, into which man would relapse if this or that quality, which he has always manifested, were removed from him. Any “state” of man other than as a social being is an unnatural state, and in the long history which biology and anthropology now give to man there is no room at all for any conception of an isolated natural man. A “state of nature” before society, and a “state of nature” *against* which all man’s social achievements have been won, are both inventions, figments, one might guess, of an unnatural imagination or reflections of an effort to idealise bourgeois rule in the seventeenth and eighteenth centuries as Russell idealises the “freedom” of our own times. Suttie’s starting point is a human being adapted to its functions; out of the inherent sociality of all members of this species social feeling arises (quite independently of sexuality). Aggression, desire for power, and other impulses are secondary reactions

<sup>1</sup> Ian Suttie, *Origins of Love and Hate*.

resulting from the thwarting of human needs. Suttie takes as a primary relationship between individuals in society the fellowship of recognised mutual dependence, which arises on the basis of work—work implying, necessarily, such co-operation.

Ranyard West, in his discussion on the *Psychological Theories of Human Nature*,<sup>1</sup> brings forward much evidence from Freud's own writings to show that he was himself a neurotic of the obsessional-aggressive type and that his work is in consequence gravely biased. This reveals itself very clearly in his personal reactions, especially to other psychologists, and in his general social (or anti-social) attitude as set down in *Civilisation and Its Discontents*. Hobbes, Freud and Russell all take up a similar attitude. They regard man as an isolated individual engaged simply in seeking the maximum satisfaction of his personal desires, a point of view which surely reflects the break-up of the organic society of feudal times and its supersession by the competitive individualism of the bourgeois world. This frame of mind is therefore an effect of the social fragmentation of capitalist society. Out of it emerges a theory of society which assumes that the normal man is what should more properly be called the victim of a neurosis. When Freud found conspicuous cases of obsessional aggression he took them not for abnormalities but simply as examples of *failure of repression*. When he failed to find any evidence of aggressive tendencies he explained this as due to exceptionally powerful and successful repression which indicated the damming up of aggressive emotion, likely at any moment to burst forth in some manifestation of violence, including of course war and revolution.

In recent years Karen Horney, Ian Suttie and others have reversed Freud's diagnosis. They recognise aggression as a neurosis and are therefore driven to inquire into its origins. They reject the notion of aggression as a primary and ineradicable impulse of human nature. They regard Freud as himself a victim of this neurosis, which accounts for his abnormal attitude to his fellow men and to society. They have, however, gone much farther than this and have succeeded in breaking away from the general psycho-analytical practice of attributing the neurotic condition exclusively to personal causes. Karen Horney, for instance, regards the major cause of neurosis to be a basic anxiety arising from the defective social environment. This can produce neurotic trends such as aggression on the one hand or extreme timidity and withdrawal

<sup>1</sup> Ranyard West, *Conscience and Society*.

on the other. The aggressive trend, she says, arises "from the feeling that the world is an arena where, in the Darwinian sense, only the fittest survive and the strong annihilate the weak. . . . Hence a callous pursuit of self-interest is the paramount law."<sup>1</sup> From this trend or neurotic condition is derived the tough type, the rugged individualist, who though he regards himself (and is sometimes regarded by others) as being typical of human nature as it really is, is actually inhibiting his capacity for friendship, love, sympathetic understanding and co-operation. Moreover, beneath this aggressive front is invariably the component of fear, never admitted or displayed.

This aggression is not the instinctual cause of a competitive society, as the individualists and Russell himself would affirm; on the contrary, it is a neurosis which arises out of the anxieties which beset men in a competitive society, above all from the conflict between human ethics and the hard facts of the competitive system, between the constructive and destructive aspects of our dying capitalist order. "The environment is dreaded as a whole and is felt to be unreliable, mendacious, unappreciative, unfair, unjust, greedy and a menace to the entire development of the individual."<sup>2</sup> The victim of the system finds himself in a threatening world whose innumerable contradictory demands and influences pull him in many directions at once.

Erich Fromm<sup>3</sup> has also shown how capitalism by abandoning the organic conception of society with its network of obligations and responsibilities for competitive freedom has left the individual naked and isolated, to become in due course the mere sport of uncontrollable economic forces or a helpless cog in the machine. "The rising bourgeoisie," says Fromm, "is freer than ever before from social regulation, but free also from security and fellowship."<sup>4</sup>

The result may be one of two possible neurotic conditions—either self-depreciation and the cult of humiliation, that is to say submission to the mighty forces which threaten one, or, on the other hand, aggressive identification with the state, the nation, or whatever is held to be all powerful. Frequently both tendencies exist side by side in a condition of ambivalence. Thus according to Fromm it is not the neurotic condition which is responsible for the sickness of society and the emergence of such phenomena as fascism, as some psychologists have argued. On the contrary it is

<sup>1</sup> Karen Horney, *Our Inner Conflicts*.

<sup>2</sup> *Ibid.*

<sup>3</sup> Erich Fromm, *The Fear of Freedom*.

<sup>4</sup> *Loc. cit.*

the economic and political situation which gives rise to the neurosis, and the abnormalities of fascism are a product of the distortions and contradictions of declining capitalism.

This is, of course, a very one-sided picture of capitalism, though it is refreshing to find psychologists who are not engaged in adapting men by analytical treatment and the devices of industrial psychology to the requirements of modern capitalism with its worsening contradictions. Capitalism has its positive and creative side and has itself given birth to the proletariat and the working-class movement. In the various branches of that movement and the class solidarity of the workers man has found a security and a fellowship which enables him to transcend those influences making for psychological abnormality. Particularly is this so in all forms of class struggle and co-operation, especially when this reaches the level of conscious organisation against capitalist society. Freud regarded revolt as neurotic; on the contrary participation in the class struggle is the only *escape* from neurosis.

Now this feeling of "cosmic loneliness", to use Russell's phrase, and lack of social support, this sense of helplessness and panic experienced in a society of hostile individuals, in which every man's hand is against every other man's, is precisely the atmosphere of Russell's thought. It can only be described as the psychopathic condition of an intense individualism. Fromm has drawn attention to the intellectual consequences of this abnormal state of mind. Along with the fear and anxiety there springs up a neurotic condition of intellectual uncertainty and doubt, "the irrational doubt which springs from the isolation and powerlessness of an individual whose attitude towards the world is one of anxiety and hatred."<sup>1</sup> This again is an apt characterisation of Russell's philosophical nihilism and radical scepticism.

## VI

Our inquiry into the validity of Russell's psychological theory has shown us that it is not man's nature which is responsible for his social organisation and disorganisation, but man's disorganisation of society which is reflected in the distortions of his personality. The opposite view, that man is inherently aggressive, reflecting as it does the attitude of those who cannot conceive any fundamental reorganisation of society, justifies reactionary social policy and exonerates those responsible for bad conditions. It thus helps

<sup>1</sup> *op. cit.*

to perpetuate the situation responsible for aggression and war.

The varied assortment of ideas assembled in these lectures are not as chaotic, detached and lacking in unity, as might appear. They constitute an ideological whole even though they are un-scholarly, inconsistent and confused. They are not only the contemporary expression of an extreme form of atomistic liberalism, but also serve an important counter-revolutionary purpose in preaching helplessness and hopelessness, and thus promote the interests of those concerned to maintain society as it is.

In the present phase of society, which is already in process of transition to socialism, this ideology, either in the highly abstract form of a philosophy, or as a farago of pseudo-scientific theories, is also a powerful instrument for defending the *status quo* and counter-attacking the rising working-class movement.

The rise of libertarian ideas in the eighteenth century served the social and political aims of the class which had successfully carried through the English Revolution. Locke's idea of democracy was sufficient curtailment of the state power to give the bourgeois effective economic power, and his idea of liberty was the enforcement of the rights of individual property against the state. When the Revolution gave the bourgeoisie control of the state, that control was used *negatively* to prevent it interfering with the now politically dominant middle class, but also positively in a whole series of repressive acts directed against the rising trade-union and working-class movement, against freedom of speech and publication, against Chartism, and against those who sympathised with the French Revolution. Similarly the assertion of individual rights was intended mainly as a safeguard to private property and to prevent the law being used to cripple and hamper their activities. The development and extension of libertarian and democratic principles, to secure for the masses what had already been achieved by the industrial capitalists, required a complete reformulation of theory in the form of *social democracy*—that is to say, the completion of democracy which we only reach with the destruction of capitalism and the birth of communism. When capitalism reaches the point at which its continuance can only be at the expense of the working class and involves war, fascism and permanent economic crises, what was once a progressive ideology which broadened the liberties of all (even though it was primarily in the interests of a class) now becomes the propaganda instrument for

defending these interests now threatening the liberty and well-being of mankind. It is in this form that so-called libertarian ideas confront us to-day and typical of this use are the ideas of Bertrand Russell. Liberalism of this type exploits the conceptions of liberty and individual rights for the purpose of sanctifying the power of the capitalist class and securing their freedom from social control. The classical doctrines of liberalism, conceived as a tool of the rising middle class in their struggle with the nobility, becomes an instrument to justify socially unrestrained commercial and industrial greed.

This is well illustrated in the Reith Lectures: "*Between those who care most for social cohesion and those who primarily value individual initiative there has been an age-long battle ever since the time of the Ancient Greeks.*"<sup>1</sup> In our day, argues Russell, the growth of state power has been accompanied by little care for the preservation of individual initiative. He deplores "*the increasing power of the state as against the individual.*" He goes on to speak of the "*lack of spontaneity*" in our highly organised society, of the crushing of our creative instincts, of the lust for power and aggression which every man desires to indulge but which government restrains. Turning to modern industrialism he complains of the interference of large-scale organisation with the freedom of the individual and contrasts the happiness of free life in a Greek city-state (ignoring the fact that this "freedom" was based on slavery and a total denial of rights to three-quarters of the population) with the universal pessimism, listlessness and fatalism which supervened when Rome organised the world as a unity. He sees in the increasing degree of organisation the cause of that stagnation and ossification which marks the decline and fall of a civilisation. "*There has never in past history been any large state that controlled its citizens as completely as they are controlled in the Soviet Republic, or even in the countries of Western Europe.*"<sup>2</sup> Hence to-day we are becoming "*static and unprogressive,*" and he sees ahead only "*slavery, bigotry, intolerance and abject misery for the majority of mankind.*"<sup>3</sup> In the face of this danger "*emphasis upon the value of the individual is even more necessary now than at any former time.*"

This is a typical expression of what Christopher Caudwell calls the great bourgeois illusion "that man is naturally free—'naturally' in this sense, that all the organisations of society are held to limit and cripple his free instincts, and furnish restraints which he

<sup>1</sup> *Authority and the Individual*, p. 119.

<sup>2</sup> *Ibid.*, p. 42.

<sup>3</sup> *Ibid.*, p. 44.

must endure and minimise as best he may. From which it follows that man is at his best and noblest when freely working out his own desires."<sup>1</sup> From this point of view the social aim is to have as few social bonds as possible; the atomic, competitive man is the ideal.

Freedom, however, is not found in the mere satisfaction of animal instincts or in the isolated exercise of personal initiative. On the contrary, the freedom that Russell defends and calls for "generates a mass of unfreedom as the opposite pole to the freedom that is so highly prized." "This bourgeois freedom of each man struggling for his free desires and his own profit, so far from making us free, has long delivered us over, bound to chance. Blind fate, in the shape of war, unemployment, slumps, despair and neurosis, attacks the 'free' bourgeois and his 'free' followers. His struggles put him into the power of finance capital, trustify him, or if he is a free labourer, he is herded into the mass-production factory. So far from being free, he is whirled like a leaf on the gales of social change. And all this anarchy, and impotence, and muddled dissension is reflected in his culture. Productive forces have outgrown the free bourgeois, and mercilessly crush him and his illusions."<sup>2</sup>

Here we have the key to Russell's pessimism. Because "economic relations in capitalism are simply each man struggling for himself in the impersonal market, the world seems torn apart with the black forces of envy, covetousness and hate,"<sup>3</sup> men succumb to the neurosis of anxiety and aggression and deadly fear, and are unable to believe that their fellows can be anything but their enemies.

Deliverance, says Caudwell, is only to be found in the realisation that society is a creation by which man attains a fuller measure of freedom than by the rejection of social restraints. It is the constraints, obligations, inhibitions and duties of a properly organised society that constitute the very means by which freedom is obtained by men. This doctrine is only open to question if we speak of society as though in *any* organised form its obligations secured the welfare of all the individuals composing it. This was indeed the view of the disciples of Hegel, who argued that it was right for the individual to submit to all the requirements of actually existing society, which was a class society. But what Caudwell claims is not true of any and every society. The restraints and bonds of a class society *ought* to be resisted, as the restraints and bonds of a socialist

<sup>1</sup> Christopher Caudwell, *Studies in a Dying Culture*.

<sup>2, 3</sup> *Ibid.*, p. xxii.

society ought to be accepted. The first imply submission to exploitation, the second the realisation of the self in the achievement of a common good. Russell in the name of liberty is opposing socialist obligations, we in the name of liberty oppose capitalist obligations.

It is only in a society in which the means of production are communally owned that it is possible to work for the common good, the good of the social body. This is a common good of human persons, not a mere collection of private goods, which is what Russell and the utilitarians are after. Nor is it the good proper to a whole, as though there could be a whole which enjoyed a good not belonging to its parts. The common good is the good human life of the multitude, of a multitude of persons. The common good of society is their communion in the good life. It is therefore common to the whole and to the parts, the individual members over whom it flows back and which must all benefit from it. It involves as its chief value the highest possible attainment of persons in their lives as persons, and ensures to them, in point of fact, the maximum opportunity to appropriate the fruits of their social labour for individual use.<sup>1</sup>

## VII

The best evidence that capitalism cannot achieve a genuine common good is the fact that its defenders find it impossible to conceive of a harmony of private and social interests. Russell feels that there is a hopeless antithesis of individual and social welfare. This axiomatic belief is perfectly understandable within a capitalist society if no alternative system can be considered. If the problem were how to reconcile these interests under capitalism, the antithesis would indeed remain, and attempts to reconcile them would be rightly condemned as unrealistic. This is why Russell cannot see any solution. He sees how capitalism crushes initiative and sacrifices the individual; he knows that socialism would put a new ruling class—workers, in place of the capitalists, and so without considering the qualitative difference that this implies (because socialism for him can only be a form of state capitalism), he argues that socialism, to an even greater degree than capitalism, would crush initiative and sacrifice the individual. That is why he cannot understand how security can be obtained without the sacrifice of liberty, and how social organisation can fail to

<sup>1</sup> See *The Communist Manifesto*, Chapter II.

crush initiative, or social welfare not demand the sacrifice of the individual. He is obsessed by the inevitable consequences of capitalist relationships, and the totally different situation in a really socialist society is beyond his comprehension. Having to choose then between society and the individual, he chooses the individual. It would make no difference if, like the Nazi philosophers, he chose society, for both conceptions in his mind reflect opposite aspects of one evil whole, the class society of capitalism.

Russell's libertarianism, however, has become the rallying cry against the transformation of the divided society into a true society. The individual has become the principal theoretical justification of exploitation. What is meant by the liberty we are told not to sacrifice to security is not the liberty of the millions who get the security but of the thousands whose interests have to give way to security. We sentimentalise a great deal about the individual, his potentialities, his sacred person, his freedom, his opportunity—at this point we are thoroughly idealists—then we turn him loose in modern capitalist society to devour and be devoured. After he has been thoroughly mauled we realistically analyse his mental condition and deplore his twisted instincts and aggressive neuroses.

The individualist theory of society, as set forth by Russell rests on the assumption that the action of the whole is to be explained by the working of the parts and that human personality is something which exists in and for itself. The result is a mechanistic and atomistic view of society which considers it as simply an aggregate of personal units. On this view the individual determines for himself and out of his own private resources the goal he seeks and the energy with which he seeks it. It is, however, a mistake to assume that men owe little to their membership of the community, that the state is set up by individuals to fulfil purposes already conceived by them in a pre-social state of nature, and that the process of setting it up was a matter of bargaining with rights which they already possessed as isolated individuals in virtue of their quality as human beings. From such assumptions the principle that the state should interfere as little as possible can easily be deduced; and it is a short way from the belief that the liberty of the individual is precious to the doctrine that his unrestrained activities will necessarily promote the welfare of mankind. The individualist makes the mistake of attributing to man apart from society thoughts and purposes and rights which he only has and only can have, as a member of society. He fails to perceive that what we



call individual man is what he is because of and by virtue of the community. Men cannot live and be men apart from social relations and social obligations. But no Marxist believes that these exist for any other purpose than the well-being of individual men. "There is no good over and above the life of individuals in society. The question should society serve the individual or the individual serve society is a false question, which arises only when there is a strain between individual needs and existing institutions. Society is something *more than* the separate individuals that compose it. But society can have no good, no end, no justification apart from its individual components. It is neither a person nor a thing, but a complex network of individuals standing in complicated relationship to one another."<sup>1</sup>

The object of society is the common task, the betterment of the conditions of human life itself. This is not a mere aggregate of individual goods, which would dissolve society as such for the benefits of its parts and would lead to an anarchy of atoms, thereby enabling the strong freely to oppress the weak. Such a view is based on the illusory divinity of an abstract individual supposedly sufficient unto himself, but as such only in a state of latent life, an animal born more poverty stricken than all other animals, stripped and succourless and full of needs. The complements of being spring from society. Entering society man becomes part of a larger whole. Man finds himself by combining with his fellows in a community, and the community attains its goal only by serving man and seeking his personal fulfilment.

Marx pointed out that it was under capitalism that "human individuality, human morality itself, becomes at once a commercial article and the fabric in which money operates."<sup>2</sup> It is capitalism which "estranges man from nature, from himself, his own active functioning, from his universal essence. It estranges his spiritual, his human essence. . . . It is the alienation of man from man."<sup>3</sup> Marx proceeds to show how impersonal capitalist relationships are to give way to a return on a higher level to the genuine personal and co-operative relationships of primitive classless society. This is not to be attained by the severing of all human bonds, as if this were the only means whereby the individual could find himself, nor on the other hand by the absorption of the individual in the community. "Above all," says Marx, "one must

<sup>1</sup> Selsam, *Socialism and Ethics*, p. 135.

<sup>2</sup> Marx, *Ökonomisch-philosophische Manuskripte*, 1844.

<sup>3</sup> *Ibid.*

avoid setting society up as an abstraction opposed to the individual. The individual is the social entity. Man is a distinct individual and his very distinctness makes him an individuality, a real collective being. His life is therefore an expression and verification of the life of society."<sup>1</sup> The future society of socialism, he goes on to say, produces man in the whole riches of his nature; it will guarantee to men the completely unrestricted development and exercise of their physical and mental faculties. But this is not to be attained outside society. Indeed it is man's societal relation which liberates him towards completest and richest personal fulfilment. Marxism is the only real humanism; it is a return to, or more accurately the first real achievement of, the integrity of the human personality from its alienated condition. Here man is liberated in all spheres. Industry, law, the family, science, art, *all* affirm man's nature instead of denying it. "In the place of the old bourgeois society, with its classes and class antagonisms, we shall have an association, in which the free development of each is the condition for the free development of all."<sup>2</sup>

### VIII

Russell is convinced of the failure of motive, the cramping of individual creativeness in the large-scale organisation, whether capitalist or socialist—he makes no distinction. The result is stagnation, the ultimate collapse of society. In the large scale industrial concern, for instance, "*the purpose of the organisation is to make cars, but the purpose of the workers is to earn wages. . . . The producer has no interest in the product. Subjectively there is no common purpose. . . . This evil is inseparable from mechanisation combined with large size. Some way must be found of making work interesting. Can we restore to the workers some of the feeling connected in the part with ownership?*"<sup>3</sup> Finally there is the problem of management, the absence of solidarity between employers and employees; bureaucracy, the misuse of power, the laziness that grows with the size of the organisation.

Russell's remedies are fantastic: John Spedan Lewis and his co-partnership scheme, the breaking down of large into small units, the syndicalist proposal that foremen and managers should be elected. Even so Russell has no real conviction that anything would

<sup>1</sup> Marx, *Ökonomisch-philosophische Manuskripte*, 1844.

<sup>2</sup> Marx-Engels, *The Communist Manifesto*.

<sup>3</sup> *Authority and the Individual*, pp. 65, 80, 81.

come of these proposals and his outlook is a pessimistic one. The endless cycles roll on and society falls into dissolution. Nothing, he says, can harmonise the irreconcilable interests of the individual and society short of a war, nothing can provide incentive except competition. The sense of duty is utterly inadequate, human nature being what it is.

When Russell sees little difference between capitalist large-scale industry and nationalised industry he is correct, but he fails altogether to see that the real distinction is between both these forms and genuinely socialised industry in a society in which the workers rule, in which they exercise an iron dictatorship over capitalist elements and ultimately eliminate them. It is the dictatorship of the proletariat that makes real and effective workers' ownership and control of industry, out of which arises the new motive of working for the common good and in which is attained for the first time since primitive communism the genuine harmony of interests of a classless society. This alone lays the foundation for a new attitude to work, a new type of economic organisation and trade union, above all for mass participation in all forms of government and administration. This achievement has been recognised by Professor E. H. Carr who says: "The broad lines of Soviet policy may be dictated from the centre. But the Soviet Union has never ignored the human element, or underestimated the extent to which the execution of any policy depends on the enthusiasm and initiative of the individual citizen."<sup>1</sup> It has shown itself aware, he says, that the main function of democracy is to "enlist the effective thought of the whole community in the operation of discussion."

The objective observer cannot fail to remark that the radical changes in ownership and political power have certainly changed the attitude of the Soviet citizen to work and to his industrial organisation. Even a liberal journalist, Philip Jordan, whose frequent strictures on the Soviet Union indicate a critical attitude and who shares many of Russell's views, is constrained to admit in Soviet industry "a sense of shared possession that makes the urgency greater and the interest in the job profounder. The first time I have ever seen in the faces of men on a conveyor belt the slightest indication that they knew what they were doing."<sup>2</sup> Andrew Rothstein, in his recent *Man and Plan in Soviet Russia*, says that "Soviet planners are well aware that men and women, and not

<sup>1</sup> E. H. Carr, *The Soviet Impact*, pp. 18, 19.

<sup>2</sup> Philip Jordan, *The Russian Glory*.

orders, 'trends' or statistics are the ultimate and decisive factor in economic affairs." The more successful planning has been "the more effectively have millions of ordinary men and women been drawn into the effort of collective planning. . . . Direct participation of the individual in the planning is an integral part of the Soviet way of life, the individual's sense of proprietorship in the Soviet enterprise is a matter of personal experience and not of propaganda."

Socialism even more than other forms of democracy demands the whole-souled co-operation of the masses. Not alone opposition but even indifference is fatal to it. As Zhdanov said: "What we build cannot be built with passive people."<sup>1</sup>

Whether Russell can understand it or not his antithesis has been resolved concretely. What Marx called the contradictions of capitalism, to which Russell pays unwitting tribute when he confesses his insuperable dilemma, have been resolved.

## IX

In the *Yogi and the Commissar*, Arthur Koestler was faced with the same problem which Russell fails to solve in *Authority and the Individual*. The Commissar wants to put everything right except human personality. The Yogi wants to put human personality right by itself, leaving everything else to follow. Both fail completely to unite the rights of the individual and the necessities of organisation. The Yogi in fact, far from being a saint, sometimes turns into a man-eating tiger. Koestler admits that no clumsy synthesis of Saint and Commissar, of individual and authority will suffice, "The two elements do not mix. That may be one of the reasons why we have made such a mess of our history." Russell's lectures are an eloquent commentary on the same theme.

Indeed, no synthesis is possible on the level of the bourgeois individualism of Russell and Koestler. The dilemma reflects the dualism of society, that class division which puts on one side the owner and on the other the worker, on one side the speculative thinker who fears contact with the material world and on the other the manual worker and the technician; that class society which first makes the scientist the impersonal instrument of

<sup>1</sup> The question of creative genius and its relation to social control in a genuine socialist society is one of considerable importance. Russell holds that the creative worker is *essentially solitary*. On the contrary, isolation ultimately means sterility. The genius is the product of society, thinks representatively and creates consciously for the benefit of society. But this subject demands special treatment elsewhere.

other men's purposes and then rebukes him for being concerned with means rather than ends and for his sordid materialism; that class division which expresses itself in the spiritually minded saint, who may at any moment be transformed into a homicidal maniac howling for atomic war,<sup>1</sup> and the commercially minded man of action, the degenerate parasite and the degraded slave; the class society one half of which is the ineffectual ideal, and the other sordid reality—in short the inescapable dualism, philosophical, spiritual and material of a divided capitalist world.

Philosophers, preachers, psychologists and Reith lecturers have here a pretty problem to tease them until the end of time. But it is not to be solved by philosophical cunning, political expediency or deep analysis. Nothing will suffice but that reconstruction of society which destroys simultaneously the false halves of one unnatural whole.

Russell cannot accept the abdication of his class as the solution of his problem and is therefore condemned to paralysis and sterility of the mind. He is constrained by the desire to preserve the privileges and freedoms which he and his class have always enjoyed, to use his whole intellectual armoury and his great gift of exposition in finding new and ever more subtle sophistries to carry on the cold war against communism. His arguments are merely those of the usual Tory propaganda expressed in more scholarly terms. There is no profound philosophical approach, no scientific analysis of the problems with which he is concerned, only the commonplaces of current anti-communist slander, advanced with the authority of a philosopher and the polished skill of an able controversialist.

He has strange but quite appropriate allies to-day. The authorities who once imprisoned him now use him. The B.B.C. which will not allow him to express his views on religion, without a Catholic priest at hand to dot every 'i' and cross every 't', gives him unlimited scope for propaganda against socialism and the Soviet Union. Russell, the apostle of "freedom" and "tolerance" does not, of course, desire to speak on those topics which would embarrass the authorities to whom his individuality is so successfully subdued. He does not use his eloquence and authority to fight for American negroes, or the Africans of the Copper Belt, or to denounce the political tyranny of the United States or the activities of the Klu Klux Klan. He has not one word to say in criticism of the

<sup>1</sup> E.g. Middleton Murry in *The Free Society*.

America in which a court decided that he was unfit to hold a professorship of philosophy and in which to-day every principle for which he stands is openly flouted. On every violation of individual rights from Greece to Spain, from Malaya to Cyprus, from the U.S.A. to Indonesia, this great defender of human liberty is silent.

Russell has spent a life-time in denouncing Christianity, its founder and its ethics.<sup>1</sup> Yet in these lectures he is at pains to prove that the views he is putting forward are in the closest harmony with Christian ethics. *The Times* reviewer declares that bishops now listen to his pronouncements with awe. Have his views on religion changed? It may be a case of sudden conversion, or it may be that, in defence of a dying social order, strange allies have gathered in the last ditch. Here are the bishops and the atheist professors, the mystics and the misanthropes, the racialists and the defenders of abstract equal rights, the pacifists and the advocates of atomic warfare, the earnest advocates of the sacredness of the individual and the fascist employer and colonial administrator. This is the camp in which Russell, the one time heretic, liberal, and defender of freedom, is now to be found, and this is the cause for the defence of which he has been honoured.

<sup>1</sup> He speaks of serious defects in Christ's moral character and finds the manner of his preaching "not quite the best tone." "I cannot," he says, "feel that either in the matter of wisdom or in the matter of virtue Christ stands so high as Buddha or Socrates." "The fundamental doctrines of Christianity demand a great deal of ethical perversion before they can be accepted." (*Why I am not a Christian and Has Religion Made Useful Contributions to Civilisation?*)

## Reviews

*Man and Plan in Soviet Economy.* By ANDREW ROTHSTEIN. F. Muller. 300 pp. 10s. 6d.

THIS book sets out to show, with a wealth of documentation and practical examples, both the theory and the method of Soviet planning.

For economists, for Socialists, and for all who have admired the wartime achievements and the astonishing post-war recovery of the Soviet Union, this is an extremely important study of the patient, painstaking work by which the "miracles" of Socialist construction are achieved, and in the technique of planning. But it is also a most impressive answer—the more impressive because Rothstein makes no attempt to hide weaknesses and difficulties—to those who argue that the Labour Government has found new principles of "democratic planning" infinitely superior to the crude "totalitarian" methods of the Communists.

Soviet planning is shown against the background of the formidable difficulties under which the Soviet Government has had to work: the backwardness of Tsarist Russia, the devastation after World War I, the boycott by capitalist states, the need to devote precious resources to defence against threatening Fascist aggression—finally, the immense strain on the whole economy in the war against Germany, and the almost inconceivable devastation that it left behind (about which so little has been written in the British Press). The Germans wrecked factories employing two-fifths of all industrial workers in 1937, 40,000 miles of railway in a country which had only 54,000, and coal-mines which in 1938 produced three-quarters of the total output.

There is no pretence that all the problems have been solved. But a country which could overcome these disasters with notably little help from outside, and by 1948 could increase production to 18 per cent. above pre-war level, is in small need of lectures from Mr. Attlee about how to "reach the standard of civilisation of the West."

The book deals in considerable detail with the drive for efficiency and economy in Soviet production, both by managements and workers. Here money still plays an important part. Soviet industry is run on a strict cost-accounting basis, with prices fixed by the State, so that the profits and losses of each industry and factory give a rough check on how it is carrying out its tasks and management can be held responsible.

The development of the most important industries and the supply of capital for them is assured, however, not by driving their workers harder (like the British miners), but by the State fixing their prices at a level further above costs than in other industries, and investing funds

from the State Budget. The Gaitskell-Morrison argument that a nationalised industry has got to "pay for itself" without State help thus finds no support whatever in Soviet experience; it is essentially the argument of a capitalist State which is using its nationalised industries to provide cheap service for those which are privately owned.

The workers' initiative is enlisted by individual and collective bonus systems, but above all by the knowledge that all increases in production are for the benefit of the people—that there is no private profit-making class to exploit their efforts and no danger of unemployment as production increases. Because of this, it has been possible for the workers *themselves* to organise to reach and exceed the objectives planned. The book gives a fascinating account of the growth of this new driving force in Socialist society, from the earliest days of voluntary Sunday work, through the shock-brigades, to to-day's development of Stakhanovites, thousands of workers at the bench who are themselves technical innovators and who make it possible for existing plans to be recast on a tremendous scale.

British politicians and trade union leaders have looked with wonder at these voluntary movements for increasing production. Some have been sceptical, suggested that all this was really compulsory slave-driving; others, more naïve, have thought it would be nice to transplant Stakhanovism to Britain and let the British workers get together to surpass Cripps's austerity plan.

But in reality, of course, this movement is only possible because there is no fear of unemployment and because the whole aim of Soviet planning is to raise living standards—the Fourth Five Year Plan aims at earnings 48 per cent. above pre-war by 1950, and already in 1948 real wages doubled as the result of lower prices. That gives something to work for.<sup>1</sup> In Britain, where a rise in output of 14 per cent. since 1947 has been accompanied by a fall of 3 per cent. in real wage rates, the working-class naturally does not go in much for emulation movements.

One of the most striking contrasts revealed with the so-called planning measures in Labour Britain is the really democratic nature of Soviet planning, the extent to which the ordinary workers are drawn into making, revising and improving on the plans. "What has any other system of planning to show," asks Rothstein, "that is comparable with the practice whereby, in the U.S.S.R., the plans drafted are sent down, stage by stage, for discussion in the lowest units of the economic machinery of the country—the factories and the collective farms, the village meetings and the town soviets; and this not once, but several times yearly, in one shape or another (results of the last year's working,

<sup>1</sup> In this connection, Rothstein's earlier book, *Workers in the Soviet Union*, should be studied. The point about increasing living standards is, of course, brought out in *Man and Plan*, but the assumption is made—I think too hopefully—that the reader will have read much of the evidence on it elsewhere.

supervision of fulfilment of the present year's plan, plans for next year?"

In 1949, for example, when 46,000 collective agreements (which cover both the workers' wages and conditions and the production plans for each factory) were signed in Soviet industries, 85 to 90 per cent. of the workers took part in meetings which discussed them and about 1 million proposals were submitted, more than 71 per cent. of which were accepted by managements for application. Out of these suggestions and criticisms by thousands of ordinary people, out of their initiative for improving the production of their own gang, in their own workshop, are built up the "counter-plans," whereby the Soviet people have time and again surpassed the production expected of them by the Soviet Government and are now working to fulfil the Five Year Plan in four years. Mr. Rothstein quotes the words of Stalin:

"No Five Year Plan can take into account all the possibilities which lie concealed in the heart of our social system, and which become revealed only in the course of work, in the process of applying the plan in the factory, the works, the collective farm, etc. . . . Only bureaucrats can imagine that the work of planning is *concluded* with the compilation of a plan. The compilation of a plan is only the *beginning of planning*. Real planned guidance develops only after the compilation of the plan, after the testing on the spot, in the course of its application, its connection and rendering more exact."

What can the Labour Government offer the British workers to compare with this? In private industry, there is not even the pretence of a plan. The Government puts out plenty of statements about "economic strategy," but there is and can be no attempt to lay down detailed plans or enforce them on any particular employers. The actual production plans for any factory are simply the employers' plans for making the maximum profit, which, taken all together, bear no relation to the "targets" piously set up in the Economic Surveys. So that what all the talk about "new industrial relationships" really boils down to is that the workers are invited through joint production committees (purely advisory, of course) to suggest to the capitalist ways and means of increasing his profits—and for this they show a notable lack of enthusiasm, knowing that they may well organise themselves out of a job in a few weeks' time.

And it is really no different in nationalised industry. The National Coal Board in its last report informs the miners that any national plan is largely guesswork, and they must not expect to benefit from mechanisation and increased output, since no one can guarantee the future (which, under capitalism, is perfectly true). Like private industry, nationalised industry cannot give the workers a real say in planning, because the economy as a whole is unplanned, private profit-making economy.

Hence the contrast between the "democratic" ex-mineowners and ex-railway general managers insisting on the exclusive managerial functions of their nationalised boards, and the "totalitarian" Stalin, who declared that management cannot solve its problems by scribbling in an office, but only by "taking into account the experience of the masses, who test the results of our management on their own backs."

The Labour leadership has frequently argued that Soviet planning cannot be imitated by a British Government, which must preserve "the maximum possible freedom of choice for the individual citizen." For all except the capitalists, as Rothstein shows in a pithy afterword, Soviet planning is the guarantee of individual freedom—freedom to choose and to change one's job, freedom to organise, freedom from the compulsions of unemployment and victimisation, from discrimination on grounds of race or sex, and, above all, freedom for the masses of the people to make their own future, to learn and grow in intellectual stature, and to build a happier life.

MARGOT HEINEMANN

*Der junge Hegel.* By GEORG LUKACS. Zürich and Vienna, Europa Verlag, 1948.

THE most familiar aspect of Hegel's thought is his formulation of the idea of a divinely ordained process of history, leading up to a powerful and august national monarchy limited to some extent by a constitution. Though it is usual to think of Hegel in his later period as conservative rather than liberal, his conception of constitutionalism was fundamentally little more restricted than that enunciated by Dahlmann, of whose *Politics* (1835)—which is generally regarded as a textbook of German liberalism—it is as true to say as of Hegel's *Philosophy of Right* (1820) that it is, as far as Germany is concerned, "the philosophy of middle-class society come to full self-consciousness" (Herbert Marcuse). Hegel reached a philosophical position which, though it was often viewed with distrust by the reactionaries of his time because of the revolutionary implications inherent in his dialectics, could none the less serve as a philosophical justification for the *status quo*; Dahlmann's work, characteristic of the right-wing of German liberalism, was designed not to go beyond "the basis and scope of the existing circumstances." Both were concerned with consolidating and safeguarding the gains of the bourgeoisie in the first stages of German capitalism amid the social and economic stresses of their age; their method was alliance with the princes rather than revolution. Again, the abstractions of Hegel's later work should not obscure the fact that his political philosophy in its

final form had a parallel in the power-political leanings of certain leading liberals, like Gervinus, who made quite revolutionary demands, but supported his claims for constitutional rights by arguments about increasing the power of the state and stamping out the "anarchism" of the masses. Thus, Hegel's social and political doctrines, in their later form, corresponded closely to the character and policies of the German bourgeoisie in the period between the Congress of Vienna and the revolution of 1848 both in its progressive aspects and in those conservative features that were to ripen into authoritarian Prussianism in the age of Bismarck.

The later work of Hegel has been given a disproportionate prominence by most of his commentators, who, coming from a class that had cast aside almost the last vestiges of its revolutionary aspirations, regarded as significant only those features in his writings that could be used to support its increasingly illiberal purposes. At the same time, they distorted the interpretation of Hegel's early work, because they could no longer grasp the deeper implications of ideas arising out of progressive social and economic movements. They overlooked or concealed the fact that his earlier work was based on a concrete analysis of the actual conditions of its time. They disregarded his profound interest in the economic problems of his age (and they even, as Lukacs establishes, lost certain manuscripts of vital importance in this connection, such as the commentary on the eighteenth-century English mercantilist, James Steuart). They paid no attention to the fact that the young Hegel regarded himself as one of the heirs of the French Revolution, that he was, as Lukacs stresses, "the only German thinker who came to grips with the problems of the industrial revolution in England, the only one who linked the problems of classical economic thought in England to the problems of philosophy, of dialectics." They ignored his approaches to the methods and conclusions proper to the dialectical character of historical development, they veiled his highly critical statements about Christianity and presented their hero as the exponent of irrationalism.

Lukacs emphasises that this process of mystification set in earnest after the failure of the 1848 revolution, beginning with Schopenhauer who dismissed as nonsense all attempts to overcome the Kantian contradictions. It continued, in the period between 1848 and the foundation of the Reich in 1871, in the work of the Neo-Kantians who (e.g. Otto Liebmann) mobilised Hegel's thought in the service of an uncompromising subjectivism calculated to undermine all the claims of science. These tendencies, as Lukacs repeatedly stresses, left their mark on the influential book on Hegel by Rudolf Haym in 1857. In the age of imperialism, these falsifications were pushed a stage further, and in a double sense. On the one hand, the stress was placed on the authoritarian features of his later work. On the other, the various irrationalist trends

in German intellectual life in the period of bourgeois decadence (Neo-Romanticism, *Lebensphilosophie*, etc.) were brought to bear on the interpretation of Hegel, notably by Nohl and Dilthey. This tradition, as Lukacs points out, was continued between the wars by Richard Kroner, for whom Hegel was "without doubt the greatest irrationalist in the whole history of philosophy" and who, it might be added, has recently gone even further by claiming, in the Introduction to a translation of Hegel's early theological works (published in America) that Hegel "was the inaugurator of existential philosophy."

From these fantasies, Lukacs recalls us to the fact that Hegel "strives intellectually to grasp the real inner structure, the real motivating forces of his age, of capitalism, and to penetrate to the dialectics of its motion." Therefore, the sub-title of his book is "On the Connection between Dialectics and Economics." Hegel was handicapped in his understanding of economic development by the backwardness of Germany, by the fact that his own knowledge of the processes of capitalism was largely second-hand. The study of Adam Smith (whose *Wealth of Nations* was only just beginning to be known to small circles in Germany through the translations of J. F. Schiller in 1776-8 and of Chr. Garve in 1794) marked a turning-point in his thought. Without grasping the full truth about capitalist exploitation, Hegel perceived—first through his study of Smith—that productive relations condition the course of history. It was, as Marx emphasised, part of the greatness of *The Phenomenology of Mind* (1807) that it rested on this awareness, though (as Marx also observed) Hegel saw only the positive aspects of labour. The stages by which Hegel moved in the direction of a dialectical understanding of historical development are laid bare under Lukacs's relentless and penetrating analysis. In this connection, there are, to take a single example, vital passages in the lectures of 1805-6. It is significant that by this time Hegel had taken his first important step beyond the dualism of Kant and Fichte, who in Hegel's view had made the error of seeing on the one hand a fixed system of institutions and on the other the abstract inwardness of moral man without perceiving the dialectical and developing relationship of the subjective and objective factors in human life.

The recognition of the importance of the economic realities moulded the changing attitude of the young Hegel to the past and its bearing on the present and future. In his most revolutionary, Republican period at Berne (1793-6), he was, above all, preoccupied with the harmony, as he thought, that had existed in the Greek city-states between the individual and social activity. While he saw that their decay was to an important degree conditioned by a developing maladjustment in property-relations, his attitude was merely utopian in that he suffered from the illusion—laid bare by Marx in *The Holy Family* with special

reference to this very attitude to Greece in the wake of the French Revolution—that the problems of a later age with its totally different material foundations can be solved simply by a renewal of Greek antiquity. Having gained insight into the dialectical character of historical development through his economic studies at Frankfurt (1797–1800) and with increasing experience of the dynamics of emergent bourgeois society, we find him in Jena (1801–3) asserting that the disintegration of the city-states was not only inevitable in the circumstances (as he had perceived at Berne), but that out of the decay there had emerged the possibility of something higher. Here he advanced beyond his friend, Hölderlin, the poet whose elegiac hellenism derives much of its poignancy and tragedy from his inability to reconcile what he regarded as the vanished beauty of Greece with the prose of his own environment and age. The insight into the dialectical character of historical development influenced the thought of the young Hegel in a wide range of problems, many of which centre on the questions of “positivity” and its application to Christianity.

“A positive faith,” he wrote in Berne, “is a system of religious principles which we have to regard as true, because we are ordered to do so by an authority, to which we cannot refuse to subordinate our beliefs.” When a creed becomes “positive,” it ceases, in Hegel’s view, to be free or to make freedom possible. It is important to emphasise, as Lukacs demonstrates (in contrast to those apologists of Hegel who seek only mysticism and irrationalism), that the young Hegel placed Christianity in this category and he set his hopes initially on a re-creation of Greek antiquity. During his stay at Frankfurt occurred the seizure of power by Napoleon, from which time onwards Hegel more and more came to regard bourgeois society as firmly established. Though conscious of the contradictions between the claims of humanism and a society based on the division of labour, Hegel felt now compelled to seek a deeper understanding of the inner nature and dynamics of the new society and also of the Christian religion which he recognised to be intimately bound up with the modern world, the moral system in which it enveloped its processes and purposes. However, his “acceptance” of bourgeois society side by side with his increasingly acute insight into its contradictions created for the young Hegel a number of profound problems, which find their expression, for example, in *The Spirit of Christianity*, the most extensive of the Frankfurt essays, and in the new introduction (written at Frankfurt) to *The Positivity of Christian Religion*. If in Berne he had been primarily concerned with the question, What is “positive”? he now asks rather: How did it become “positive”? If a religion has become “positive,” he concludes, it is a sign that history has superseded it. (Here he stands in flat contrast to the Romantics and the writers of the Historical School (Savigny, etc.)—with whom his latter-day bourgeois

apologists like to associate him—who in the name of “organic” development argued in effect that, if an institution had become “positive,” it was all the more reason for defending it, justifying (as Marx put it) the misery of the present by the misery of the past). This was a great advance for Hegel, but, as Lukacs shows under the most penetrating analysis, like almost all Hegel’s advances it had two aspects. It marked a vital step forward in his dialectical understanding, but, his dialectics having undermined the basis of his acceptance of Christianity, he felt impelled owing to their idealistic foundations to bring religion back in another form, in the guise of philosophy. Thus, in *The Phenomenology of Mind* his examination of the question of freedom and necessity leads, notwithstanding Hegel’s deep dialectical analysis in this work, to the idealistic conclusion that Mind is the factor underlying all historical development. Nevertheless, his subsequent thought, though it moved ever further into the sphere of idealist abstractions, by no means shed all its revolutionary implications. Thus, although in *The Science of Logic*, for example, of which the first volume appeared in 1812, Hegel endeavours to reconcile all contradictions and antagonisms in the Absolute Idea, we find here (as Lenin insisted) striking approaches towards historical materialism. “In his tools,” Hegel wrote in this work, “man possesses power over external Nature, even though in his aims he is subjected to her.”

Whence did Hegel derive the profound dialectical understanding that amazes us in passage after passage in the early fragments and essays? Lukacs shows that this insight was the consequence of the need felt by the young Hegel to grapple with the problem of reconciling the deepest needs of man with the facts and processes of emergent bourgeois society in Germany and to come to grips with its contradictions. Herein lay the essence of the crisis of his thought at Frankfurt, which forms really the nodal point of his early development and to which Lukacs applies perhaps his most brilliant piece of analysis, and it is noteworthy that it was at this stage that he began his critical scrutiny of the ideas of Kant, based on his dissatisfaction with the fact (as Lukacs puts it) “that in Hegel’s view Kant treats the separate factors of the dividedness of bourgeois society as absolutes.” “Men cannot live alone,” Hegel wrote in an early essay, “and man is always alone. . . . The condition of the man whom the age has driven astray into an inner world can either, if he wishes to maintain himself therein, be only perpetual death, or, if nature drives him to life, only be an effort to resolve the negative features of the existing world in order to find himself in it and to enjoy existence, in order to be able to live.”

Hegel grew up in an age in which outworn institutions were being swept aside by the French Revolution. Though he soon came to reject the most radical trends, he took his stand for the most part on the side

of all the progressive forces of his time. He was uncompromising in his criticisms of the absolutism of eighteenth-century Prussia and he spoke with respect of the more enlightened régime of Joseph II in Austria. He was a supporter of the Confederation of the Rhine and (as is seen particularly in his letters to Niethammer) an admirer of Napoleon. His antipathy to all the feudal institutions and traditions of his day (clearly evident in his two early pamphlets on the contemporary situation in Germany) was linked to this admiration for Napoleon, in whom he saw the means whereby all the remnants of feudalism could be destroyed (and to whom another of his admirers in Germany, Goethe, referred in *Faust* as the man "who smashed kingdom after kingdom"). He regarded the fall of Napoleon as a tragedy, the betrayal of the cause to the mediocrity of the existing German society. His early investigations were founded on the faith that the task of philosophy was to further the growth of the new world that was arising from the disintegration of the old. "A new advance of the spirit," he said in concluding his autumn lectures in 1806, "is in preparation. Philosophy has above all to welcome and affirm its appearance, while others, impotently resisting it, cling to the past." It was from this angle that he viewed his own *Phenomenology of Mind*, which was completed immediately before the Battle of Jena, where the armies of Napoleon sealed the fate of the Holy Roman Empire. It was a sign of the trend of Hegel's later work that, in contrast to the buoyant optimism of this statement, he declared in the Foreword to *The Philosophy of Right* that philosophy could not "teach the world what it ought to be. For such a purpose philosophy comes in any case too late. Philosophy, as the thought of the world, does not appear until reality has completed its formative process and made itself ready." "When philosophy," he gloomily continued, "paints its grey in grey, then has a shape of life grown old. By philosophy's grey it cannot be rejuvenated but only understood. The owl of Minerva spreads its wings only with the falling of dusk."

R. HINTON THOMAS

*Civilisation on Trial*. By ARNOLD J. TOYNBEE. O.U.P., 1948. 263 pp. 12s. 6d.

*Western Political Thought*. By JOHN BOWLE. Jonathan Cape, 1947. 472 pp. 21s.

**S**UPERFICIALLY, these two books have little in common. Professor Toynbee's work is a collection of essays and lectures on miscellaneous historical and contemporary themes; Mr. Bowle's a fairly systematic history of political ideas from the earliest times to Rousseau. But the purpose behind each would appear to be the same: to present and defend those "Western values" which are being offered to the intelligentsia of America and Europe as an alternative to Communism. As might be expected, neither writer states his case with much conviction. Professor Toynbee, as is well known, believes that only a miracle—in the most literal sense—can save Western civilisation, while Mr. Bowle, whose outlook is more optimistic and positive, finds considerable difficulty in giving his values a definition precise enough to provide a secure basis for practical politics, and in the end raises doubt in the reader's mind whether he is really a "Westerner" at all.

Toynbee, of course, is the more important of the two writers. His major work, *A Study of History*, has had an immense influence on bourgeois political thought both in Europe and in America. *Civilisation on Trial* is essentially a popular exposition of the fundamental doctrines of that lengthy treatise, with special emphasis on their alleged significance for our times. It deserves reading, if only because it reveals so clearly the intellectual perversity and political bankruptcy of its celebrated author.

Christopher Hill's able critique of the Toynbee gospel (*Modern Quarterly*, Autumn, 1947) makes detailed analysis of the new work redundant. In general line of argument, it closely follows the *Study*. We have the now-familiar twenty-one civilisations, each defined in terms of its prevailing religious ideology, and all, apart from the Christian civilisation of Western Europe, dead or dying. As these civilisations, when measured against a time-scale beginning with the appearance of man as a distinct species, may be regarded as "philosophically contemporaneous," there is no such thing as over-all progress. Each separate civilisation achieves a limited and precarious progress towards a hazily-defined goal, but eventually, owing to the degeneracy, complacency or "loss of nerve" of its ruling minority, commits suicide and makes way for its successors, which follow its example with dismal ineptitude. There is, however, no "inevitability" about this cyclic process (here Toynbee parts company with Spengler). A civilisation may achieve permanent success, and this civilisation may be our own, but the omens are unfavourable, for Western civilisation, which achieved its zenith under the medieval Papacy, is already far advanced in its



"Time of Troubles." The "triumphs of clockwork of the western middle class" (i.e. modern technological advances) have "unified the whole world in the literal sense of the whole habitable and traversable surface of the globe" and simultaneously "inflamed the institutions of War and Class, which are the two congenital diseases of civilisation, into utterly fatal maladies." "Class has now become capable of irrevocably disintegrating society, and War of annihilating the entire human race." Thus we are "confronted with a challenge that our predecessors never had to face: we have to abolish War and Class—and abolish them now—under pain, if we flinch or fail, of seeing them win a victory over man which, this time, would be conclusive and definitive."

How then, if at all, shall we be saved? A Marxist, without accepting Toynbee's analysis (which, in its presentation of the issue, is no more than a muddled and idealist version of Engels' famous alternative, "Socialism or Barbarism"), would say, "Wage the class struggle, which is the struggle of the proletariat to abolish classes and to bring the 'clockwork triumphs' under conscious communal control, with all your might, until it achieves its ultimate triumph and self-negation in a world federation of socialist states." Not so Toynbee. To him, Communism is an alien creed, Western in origin, but transformed by Russia into an instrument of the "Byzantine totalitarian State." Hence the struggle between capitalism and Communism is nothing more than the age-long conflict between two rival civilisations, the Western Christian and the Eastern Orthodox. Russia, in fact, has simply taken over "the traditional Byzantine attitude towards the West." Even the internal politics of the Bolshevik state can be thus explained. For instance, "the issue between Trotsky, who wanted to make the Soviet Union an instrument for furthering the cause of Communist world revolution, and Stalin, who wanted to make Communism an instrument for furthering the interests of the Soviet Union, is the old issue on which battle was once joined between St. John Chrysostom and the Empress Eudoxia and between Theodore of Studium and the Emperor Constantine VI." It's as simple as that! If history follows the Toynbee pattern, all you have to do is to look for an analogy in the past and everything is explained. *Naturam expellas furca. . .* There is no need to examine the actual issues. Trotsky is St. John Chrysostom, Stalin the Empress Eudoxia—and Marx a Jewish prophet. In spite of its impressive parade of historical learning, Toynbee's essay on "Russia's Byzantine Heritage" is on the same intellectual level as an obsolete type of ancient history lecture, unhappily familiar to me in undergraduate days, in which the events of the Peloponnesian War were used to underline the importance of Britain's keeping command of the seas.

If, then, salvation is not to be found in the East, where is it to be sought? For all his mysticism, Toynbee is too much of a realist to accept

the easy panacea. U.N.O.? A utopian dream. *Pax Americana?* Achievable only by wading through blood—and whereas "the present American ideology lays great stress on the value of freedom," it "seems less keenly alive to the need for social justice" (delicious understatement!). A *modus vivendi* between the U.S.S.R. and the U.S.A.? No delimitation of spheres of influence is likely to be permanent. What about Western Union as a go-between? Toynbee dwells lovingly on the possibility of a Western Europe, with a social system "lying at some point between the two theoretical poles of undiluted socialism and undiluted free enterprise," acting as "one of the influences that would gradually break down the social, cultural and ideological barriers between the United States and the Soviet Union." But alas! the revival of Western Europe depends on the Marshall Plan, and "if the Marshall plan bears fruit, the result will be to salvage the countries of Western Europe by building them into an economic system, centring round the United States, that will embrace the whole world except for the Soviet sphere." Marshall can do no more than allow Western Europe "the solace of seeing her dead supremacy given a Christian burial." ("Third force" social-democrats please note!)

As in the *Study*, Toynbee takes refuge in mystical religion. "For religion, after all, is the serious business of the human race." And the book ends with two essays, "Christianity and Civilisation" and "The Meaning of History for the Soul," in which sickly religiosity and logic-chopping theological speculation vie for supremacy.

Such is Toynbee's outlook on the present crisis of the capitalist order of society. To those who are building, or preparing to build, the new socialist order on the ruins of the old, it merely emits a stench of decomposition. But to many people, particularly in Western Europe, who can only see that the times are out of joint, it has a fatal attractiveness. For all Toynbee's insistence that "the political task is the most urgent of all" and that "our future largely depends upon ourselves," the general effect of his teaching is to promote passivity, resignation and introspection. That is why his work is of value to the Anglo-American capitalists and their social-democratic allies, who are making great efforts (and not only ideological ones) to prevent middle-class intellectuals from identifying themselves with the proletarian cause, yet cannot offer them a practical alternative which does not violate their intellectual integrity. A writer who has "seen through" the traditional bourgeois ideologies; claims to have "seen through" Marxism as well; declares his faith like any Salvationist tub-thumper, for regeneration by the Blood of the Lamb; and, moreover, presents his views as the distilled essence of years of patient, objective, "humanistic" scholarship, in a style that is the envy of both philosophers and historians—such a writer is a pearl of great price to the bourgeoisie to-day. Hence the Toynbee cult.

Turning from Professor Toynbee to Mr. Bowle, one is aware of a sharp

change of intellectual and emotional climate. Mr. Bowle is an optimist. He believes in Progress. "Modern society," he says in his first chapter, "is the heir to an accumulated intellectual, moral and artistic inheritance, which, independently of any metaphysical justification, provides a realised basis for values emergent in the life process at the highest power apprehensible by the human mind, values which are the most vivid expression of material evolution and as much bound up with it and dependent on it as the flower with its roots." I am not quite sure what this means, but it seems to be somewhere along the road which leads to historical materialism. Unfortunately, Mr. Bowle does not choose to travel this road, and the excellent intentions proclaimed in his Preface—of describing "the main evolution of western political thought in its historical context"—are very imperfectly fulfilled. True, he understands that political and intellectual progress has material foundations, and has learnt from Professor Childe to think in terms of the Neolithic, Urban and Industrial Revolutions. But when he attempts to relate his political thinkers (whose contributions are ably analysed and presented) to their "social background," he betrays a woeful lack of consistency in his historical outlook. His "social background," in fact, is chaotic: a jumble of interacting "factors," with ideologies predominating at one time, economic or political conditions at another.

Outstanding, for instance, is his failure to find a consistent relationship between capitalism and the Protestant ethic. Is capitalism a product of the Protestant ethic, or vice versa? Where does Mr. Bowle stand in the famous controversy in which Weber, Tawney and Robertson have been the leading protagonists? The only clear indication I can find is in the bibliography, which mentions Weber's *Protestant Ethic and the Spirit of Capitalism*, but neither Tawney's *Religion and the Rise of Capitalism* nor Robertson's *Aspects of the Rise of Economic Individualism*.

All too often he takes to the last refuge of the historical eclectic—"national consciousness," "racial characteristics," etc. We read of "the Jewish mind, with its fatalistic worship of power," and of the "common sense and compromise" of the Southern English, "which came into its own with the Anglican Church." Irish Christianity is alleged to derive its characteristics from "a world of soft air and brown water, with a tang of peat smoke on the wind, where rain drifted across landscapes of heather and sea," while Roman Christianity reflects "the harder Mediterranean environment." Similarly, the Reformation represents the "Northern point of view against the South." From which we may gather that Mr. Bowle's view of history, while undoubtedly healthier than Professor Toynbee's, rests upon rather shaky foundations.

Nor is Mr. Bowle's optimism much more solidly based. Following Toynbee, he finds the "best traditions of European thought and practice" jeopardised by the impact of the "twin drives of industrialism and

democracy" upon the "dangerous anachronism" of national sovereignty. But although the situation has now become critical, "it is unthinkable that the inheritance of European thought should be inadequate to meet the challenge of the new times." One can agree; but Mr. Bowle will have to make the nature of that inheritance and its practical application much more specific if his opinion is to be more than an unsupported assertion. "Free speculation, justice, Caritic Christianity and individual liberty," which in his view constitute the "traditional values of European culture," mean nothing when torn from their social context. In England and America to-day, they have become a wordy smoke-screen to conceal preparations for a Third World War, by which American imperialism hopes to annihilate those who (to borrow Mr. Bowle's own phraseology) are building "a progressive society, reflecting, within its agreed framework of security and order, the initiative of an intellectual and administrative *élite* responsive to public opinion."

At the end of his lengthy work, Mr. Bowle has what may be a sympathetic reference to "the Soviet Socialist order," which "includes the masses behind their rulers in a common drive," and emphasises the need for a reinterpretation of the traditional ideas which he holds dear to meet the needs of a new age. So, at the end, one is left wondering which camp he is really in. Is he an exponent of "Western values" *à la* Russell, Toynbee and Murray, or a faint-hearted "fellow-traveller," muffling himself up against the chill trans-Atlantic wind? Whatever his personal outlook, he has written a book that gives very doubtful service to the cause of progress.

A. H. HANSON.

## Review of Foreign Publications

WE commence in this issue a new feature, a review of foreign publications of similar standing or with approximately the same approach as *The Modern Quarterly*. We hope to cover something like twelve countries during the next few months. We shall be pleased to exchange publications with any editors of foreign journals with whom we are not in touch, and to receive copies of all suitable publications for the purpose of these reviews.

### FRANCE

Among the many important articles in *La Pensée* (No. 23, March-April, and No. 24, May-June, 1949) the following are of outstanding interest. (a) "A Controversy on Freedom" (No. 23) between the late Henry Daudin (a distinguished university professor) and Professor Henri Wallon. This takes the form of a letter forwarded after Daudin's death to *La Pensée* with its author's request that his views on the meaning of freedom be published therein and a reply by Professor Wallon. Wallon comments on Daudin's liberal opinions and gives a Marxist answer which might well serve as a model. (b) "Problems of Soviet Aesthetics," by M. Rosenthal (No. 24) deals with general questions of Soviet, as opposed to bourgeois, culture and draws special attention to the work of the "revolutionary-democratic" critics of last century—Belinsky, Chernyshevsky, Dobrolyubov—who laid the foundations of a progressive and popular theory of aesthetics, and who are too little known in this country.<sup>1</sup>

Two articles in Nos. 23 and 24 on "Juvenile Delinquency" are of considerable interest, and deal thoroughly and from a Marxist angle with this problem which is even more serious in France than in Britain. The suggestions as to cause, effect and remedy are, however, equally applicable to conditions over here.

No. 23 contains the second part of an important article by Marcel Prenant on "Heredity and Environment" (the first part appeared in No. 22, and the third will follow). Here Prenant surveys the work of Lamarck, Weismann, Mendel and Morgan, in the light of Soviet biologists' criticisms. In conclusion,

<sup>1</sup> Selections of the work of Dobrolyubov and Belinsky in English translation are now available (Foreign Languages Publishing House, Moscow) from Collet's Bookshop, 66 Charing Cross Road, W.C.2.

while applauding the discoveries and practical results of Lysenko's work, he draws attention to the dangers of underestimating the indisputable truths in Mendelism, and of depreciating the scientific method which led to the foundation of most of our established scientific knowledge. He thinks that the two methods of research can be mutually beneficial: "Modern science is founded on a form of laboratory research which cannot be ignored by the new scientists, but should be absorbed by them . . . the method and its results are part of our heritage which the proletariat has no advantage in rejecting, but should exploit in the best interests of humanity. . . ."

"The Political Activity of the Holy See" (E. Chollet, *La Pensée*, Nos. 23 and 24) is a study of the Roman Catholic Church as a big landowner and international capitalist organisation. It describes the anti-Communist directives distributed by the Vatican to the faithful through preachers and Press. *La Nouvelle Critique* (No. 7) has a parallel article, "The Christian World is Divided," which amplifies this with details from the writings of various dignitaries, and points out the difficulties that face honest Catholics with a social conscience, bombarded as they are by these instructions.

*La Pensée* (No. 24) has an interesting letter from Charles Koechlin the musician in defence of Saint-Saëns as a progressive composer. Musicians and those interested in the question of music and society will find more on this subject in *La Nouvelle Critique*—notably the articles, "Towards New Sources and New Inspiration" in March (No. 4), "On Progressive Music" in April (No. 5). The first of these examines the *impasse*

## Review of Foreign Publications

before modern composers such as Schoenberg ("the music of despair for the despairing, of death for the dying"), and others who have lost touch with the public: the second goes into the question of the "abyss which separates most serious composers from the masses—lack of melody." It suggests that composers must become aware of the "emotional capacity of the masses—immense, and far superior to that of the 'élite'." Both conclude that musicians must find their salvation not by a return to outworn "folklore," nor to the idiom of popular commercial numbers, but partly by developing a choral tradition based on progressive movements, but above all by re-establishing contact with real life and its struggles, and making these its themes.

In a third article Elsa Barraine describes (*N.C.* No. 6) the conditions of so-called "freedom" under which French musicians have the "liberty" of slaving at commercial hackwork or facing starvation.

*Nouvelle Critique* contains (No. 7) an interesting article entitled "Negritude," by Gabriel D'Arboussier, who disposes in a biting analysis of Jean-Paul Sartre's theory of the Negro problem, proving it, where it pretends to be most advanced and class conscious, to be both reactionary and obscurantist.

*Science.* We would draw the attention of scientists to the following: S. I. Vavilov on "Lenin and Modern Physics," in *La Pensée*, No. 23, and Vassails on the same subject in *N.C.*, No. 4. Also to the "Chroniques scientifiques" in *La Pensée*, No. 23, dealing mainly with the work of J. B. S. Haldane.

*Literary Criticism.* Aragon writes in *N.C.* No. 6 on "Socialist Realism and French Realism"; Pierre Daix has two articles on "Balzac" in *N.C.*, Nos. 5 and 6.

*Philosophy.* Professor George Lukacs writes on "Humanism in Art" in *N.C.*, No. 3, and Garaudy on "Zhdanov" in *N.C.*, No. 5.

*Economics.* Almost every number of *Nouvelle Critique* has a useful survey or article on economics. "The Keynesian Pseudo-revolution" in Nos. 6 and 7 being of special interest.

It is not easy to pick out special articles from these journals, packed as they are with interesting material. Both periodicals deal with subjects of im-

mediate and living interest, *La Pensée* from the angle of Marxist scholarship, *La Nouvelle Critique* from the critic's point of view. *La Pensée*, far from confining itself to abstract, academic or remote topics, is extremely readable and equally stimulating on most subjects, from atomic energy to juvenile delinquency, from Soviet aesthetics to Saint-Saëns.

FRIDA STEWART

### GERMANY

The "Cultural League for the Democratic Renewal of Germany" publishes a monthly, *Der Aufbau*. The League itself unites the progressive writers of Germany and is the main organ of cultural Marxism—its editor is Bodo Uhse, and on its editorial committee are such men as Johannes Becher, Alfred Meusel and Klaus Gysi. It is published from the Soviet Sector of Berlin. It includes several articles by non-Marxists who realise the necessity of German co-operation with the Soviet Union and of a better understanding of Marxism.

Though *Aufbau* is concerned mainly with cultural questions, there is, of course, no arbitrary exclusion of political issues, particularly in their bearing on culture. No. 5, 1949, was devoted almost entirely to a discussion of peace. Several writers wrote about the Paris Peace Congress, at which a German delegation was present, e.g. Arnold Zweig and Alexander Abusch. Amongst the non-Marxists, Professor Noack, the liberal, expounded his notions of a "neutral" Germany, a conception sharply criticised in other articles; and the poet R. A. Schröder pinned his hopes on "moral renewal." The guiding principles of the editorial committee can be considered to be expressed in Zweig's firm support of the aims of the Peace Conference, and his rejection of the unrealism of views such as Noack's and Schröder's.

Articles are focused in different numbers on particular cultural problems. The novel is dealt with in contributions by Arnold Zweig, himself a novelist of considerable attainment, Bodo Uhse, and a reprint of Ralph Fox (No. 2, 1949). Music is dealt with in an interesting article by Hans Eisler in No. 3, "Audience and Composer", an extract from Thomas Mann's *Dr. Faustus*, and a speech of Shostakovich. There is an article on the plastic arts by Bodo Uhse,

and in most numbers there are reproductions of modern art. Kuczynski has an article on economic science, and there is an interesting reprint of speeches of Einstein and Planck and Schrödinger on the philosophy of science (No. 4). There is space for poems, too, and one might mention in particular those of Johannes Becher and Bertolt Brecht.

Anna Seghers, the gifted novelist—known to the world for her *The Seventh Cross*—writes a thoughtful review of the novel of the Brazilian Jorge Amado, which has been translated into French (as *Terre violente*) and into German, but not so far as I know into English. The outstanding contribution of this year is probably Georg Lukacs' review of the great novel of Thomas Mann, *Dr. Faustus*, in which Lukacs discusses some of the fundamental principles of the modern novel.

In most numbers of *Aufbau* there are translations of foreign authors, articles from *La Pensée*, etc., and passages from books by Russians, French and English. There are pieces from Blackett and Bernal, and a notice of a translation of Haldane's *Dialectical Materialism and Modern Science*. Well-selected passages from German writers of the past, from Goethe, Marx, Engels, Karl Liebknecht, are most stimulating. There is in addition an interesting contribution on Marx's three visits to Carlsbad in the 1770's by Egon Erwin Kisch.

Altogether, *Aufbau* is a very lively and stimulating journal which gives evidence of a vigorous cultural life in progressive circles centring in the Soviet sector of Berlin.

(A review of recent issues of *Einheit* will appear in the December issue.)

ROY PASCAL

#### POLAND

*Myśl Współczesna* (Warszawa-Łódź) (*Contemporary Thought*).

*Myśl Współczesna*, though a monthly and longer than *Modern Quarterly*, has the same purpose. Frequently a whole issue is given over to a single topic. The April, 1949, issue contains a series of articles on the biological question, including a translation of J. B. S. Haldane's "Biology and Marxism" (*Modern Quarterly*, 1948, No. 4), with the letter of the four British biologists; the editors are alive to developments in Western as well as Eastern Europe.

Likewise, the issue of November-December, 1948 was devoted entirely to the Centenary of 1848. This number was naturally international in its scope, but probably of greater interest for the British reader are the articles on the Central European aspects of 1848. The Soviet scholar, Professor Iwan Udalcow, an expert in nineteenth-century central European problems, who was present at the Seventeenth General Conference of Polish Historians (Wrocław, September, 1948), contributes an article upon Slavonic questions in 1848, in which he states that "the method of approach to Slavonic movements as movements exclusively national, with no social or political character, is fallacious." Similarly in the March, 1949, issue Dr. Henryk Raort, in a thirty-page review of H. Wereszycki's book, *Historia Polski, 1864-1918*, makes the criticism in connection with the treatment of the Poznań problem, that "the author . . . makes use of the term 'Poles' without differentiating between Polish social groupings. . . ." This is a criticism of much of previous Polish historiography, that it represented "Poles" as a mystical unit, struggling for freedom, differing only on the question of tactics, whether they should follow Pilsudski's Romantic Bonapartism or Dmowski's "anti-everything" including anti-Semitism. The simplicity of the issue, presented in these terms, has encouraged the belief, in Britain at least, that the Poles had very little history in the nineteenth century. The class struggle was in fact as acute as the national struggle, and, moreover, closely related to it. As Dr. Raort points out, the conservative régime in Galicia existed more to bolster up the position of the propertied classes than to achieve national liberation. This is but one example. By asking different questions, as Dr. Raort and other Polish scholars are prepared to ask, of Polish history, historians can present the problem of Poland in a fresh and more convincing light. The application of the methods of historical materialism to Polish history should lead to interesting developments. History has always been the central study in Poland. It has never been more important than it is at the present time.

*Życie Nauki* (Kraków)

There is no British publication which is the equivalent of the monthly, *Życie Nauki*. The translation of *Życie Nauki*

as *The Life of Science* gives the British reader a false impression of its purpose. The Editors declare that *Życie Nauki's* purpose is all-round discussion, criticism and information on the problems of learning and higher education in Poland and abroad. Articles are the expression of the personal viewpoints of the writers. In other words, *Życie Nauki* is a periodical linking learning with everyday life, a workshop of ideas in which the practical problems of the arts and sciences are discussed side by side. What is so encouraging about this publication is that it takes its stand on the unity of intellectual effort, whereas in our own society it is isolated into its separate groups. The latest issue to hand, February, 1949, is concerned in the main with the question of education and its organisation. It contains a verbatim report of the Inaugural Lecture at the Jagellonian University, Session 1948-9, by Professor S. Skowron on "The Meaning and the Problems of Modern Biology." This lecture deals very fully with the Lysenko controversy and concludes that in the near future it will be possible to combine the principles of orthodox genetics with the new discoveries of the Russian biologists.

ROBERT LESLIE

#### U.S.S.R.

*Literature and Language*

Study of one year's issue of the *U.S.S.R. Academy of Science News—Otdelenie Literatury i Yazyka* (Department of Literature and Language)—a bi-monthly journal of some ninety closely-printed pages per issue, reveals an interesting combination of articles on the theory and practise of literature and language.

A ten-page article (Vol. VII, No. 4, 1948), analysing the reasons for the writing of "country tales," by I. S. Turgenev, the French writer, Georges Sand, and the German B. Auerbach, in the 'forties of the nineteenth century, is of particular interest. An analysis is made

of the specific national characteristics of each of these writers in the light of national events at that time.

It is pointed out that it was not the prolonged agrarian crisis and hunger of the 'forties which, in general, turned attention to the village, but rather the struggle against serfdom in Russia, protest against the mercenary July monarchy in France, seeking a return to "semipatriarchal village relations"; and, finally in Germany, a striving for the establishment of a "German spirit" in the struggle for the unification of that country.

The foundation work by the Soviet philologist Academician, N. Y. Marr (almost unknown in this country—E. F.), forms the basis for theoretical articles which engage in argument with bourgeois language specialists in three articles of interest.

The first article (Vol. VII, No. 3, 1948), discusses the problem of the historical community of the Indo-European languages. The article points out that comparative grammars in bourgeois language study have frequently been made to fit a long since established theory, ignoring new, concrete historical features, which might alter this theory; on the other hand, Soviet language teachers on many occasions, have failed and still fail to give the problems of comparative grammar the study and thought they require and, consequently, evade the Marxist theoretical language issues from which their work stems.

The second (Vol. VII, No. 6, 1948), is written against agnosticism in linguistics, which leads to scepticism. In this field agnosticism results in the bourgeois token theory of language.

The third article (Vol. VII, No. 6, 1948) deals with the two contemporary trends in linguistics—the one trend based on the work of N. Y. Marr and his pupils, the other an idealist trend in the "Indo-European" tradition, as founded by the German language expert, F. Bopp.

ELEANOR FOX

## *Our Contributors*

*P. W. Brian* studied Botany at Cambridge; his main scientific interest at present is in antibodies and other substances selectively toxic to micro-organisms.

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## *Modern Quarterly Groups*

### NEWCASTLE-ON-TYNE

A new group is to be formed in this district, the Secretary of which will be Charles D. Archbold, 25, Monks Road, West Monkseaton, Whitley Bay. Will those interested kindly write to Mr. Archbold.

### BRISTOL

September 15th. "The Poetry of Pushkin." Speaker, Henry Gifford.

September 29th. "What is Beauty in Music?" Speaker, Rutland Boughton.

October 17th. Professor George Thomson. Subject to be arranged.

December 15th. "Pantomime." Speaker, Arnold Rattenbury.

All meetings in the Grand Hotel at 7.30 p.m.