

THE contributions to *The Modern Quarterly* upon the subject of Soviet genetics raise a problem which British scientists will sooner or later have to face—namely, to what extent can Marxism be applied to the solution of problems of scientific research. In Britain the application of Marxism in the field of economics and politics is well known, but its application in the field of scientific research may be said to have hardly yet commenced. This is not surprising in view of the strong empirical tendency manifest in British scientific work since the time of Bacon, and which was criticised by Engels many years ago. Many British scientists who are more or less in agreement with the principles of Marxism still hesitate to apply it in the field of science in which they are interested. They still retain the old empirical method of approach which is well expressed by Mr. R. G. Davies as follows:

“If a new experience conforms to the past ones on which our generalisation is based, then so much the better; the generalisation becomes more probable and constitutes a more effective implement in suggesting fresh hypotheses for whose verification further experience is required. If a new experience fails to conform to our generalisation then (assuming we are not subject to an illusion) so much the worse for the generalisation.”

In my opinion this assertion of the primacy of empirical experience is incorrect since it regards the experience as isolated from the material conditions which gave it birth. It also, in my view, may not take sufficient account of the relationship existing between the experience and nature as a single whole. If, however, Marxism is correctly adjusted to scientific practice and not subordinated to the role of a “useful implement in suggesting fresh hypotheses,” the planning of an organisation of scientific research in this country may be raised to a higher level of efficiency than is possible under the existing empirical method of procedure. Although an objective opinion about the genetical controversy in the Soviet Union is difficult to obtain, since Soviet scientific work of major importance is difficult to obtain in this country, and translations are often prepared by people with little knowledge either of Marxism or science, yet it does emphasise the very great care which will be required for the successful application of Marxist theory to scientific practice. A more thorough Marxist education of the scientist and the emergence of successful application of Marxist theory to scientific practice. A vast increase in the Marxist education of the scientist and the emergence of a new type of leader of scientific research able to apply a correct Marxist interpretation to scientific phenomena are obvious requisites in this respect.

With regard to the general controversy of Mendelism versus Lamarckism, a Marxist should not dispute the hereditary theories based on

Mendelism where these are applied to the field of inheritance covered by adequate experimental data which substantiates them. He would however disagree that these theories are universally applicable to all forms of inheritance irrespective of the conditions in which they take place. His disagreement is based on the belief that Mendelism, particularly in its classical form, attempts to explain in mechanical or chemical terms a phenomenon intimately associated with a form of material organisation (life) which cannot be completely assessed in terms of these entities. We have seen that attempts by 19th century chemists to explain all chemical phenomena in terms of the simple quantitative relationships existing between the chemical properties of the materials present in their laboratories (Dalton's atomic theory) was refuted when advances in chemical and physical technique led to the emergence of phenomena (isotopes, isobars, atomic disintegration) which were completely at variance with their theoretical deductions. Similarly a Marxist believes that analogous advances in genetical technique may lead to the discovery of forms of inheritance opposite in character to Mendelian heredity, i.e. to the discovery of some form of Lamarckian inheritance. It is therefore in his opinion, the task of genetics to study inheritance in all circumstances in order to ascertain precisely where, when, and how Mendelian inheritance ceases to predominate and other forms emerge. When this is accomplished a new theory explaining the facts of Mendelian and possibly Lamarckian inheritance, and which gives a more complete understanding of the nature of life, and hence of man himself, becomes possible. If however scientists cling to the old empirical method of work many years may elapse before this comes to pass.

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The Editor of *The Modern Quarterly* will be pleased to receive communications raising issues for discussion or criticising articles which have appeared. Suggestions as to full-length articles are welcome.

We should be glad to receive articles on physical science, economics, æsthetic and literary criticism, ethics and philosophy. All articles published are paid for.

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