

THE PHILOSOPHY OF SCIENCE. By Stephen Toulmin. (Hutchinson's University Library; 8s. 6d.)

The results of physical science cannot be understood without a correct notion of the relation between facts of observation and the models (such as optical diagrams and dynamical equations of motion) which represent them. The value of Mr Toulmin's discussion of this question is that he talks about the things physicists actually do, and not what he thinks they ought to do. By this criterion he rejects views which identify the fact with the model (a gas is a collection of billiard-balls); or think of the model as a highly probable generalisation, inferred from the facts. In contrast to so strict a connection, the model has also been called merely subjective, as though we could somehow get at the real facts without it; or arbitrary, an agreement to represent the facts in this way, rather than an explanation of them. Mr Toulmin uses the analogy of a map to express a better idea of the relation in question. The map shows the facts in a new way; providing we know how to use it, we can draw further inferences which are exactly true, though the facts which correspond to them must then be experimentally verified, in order to discover the scope of the map.

This is a book which should be read by all who are responsible for the teaching of physics, since the majority of their pupils, even at the University, are lamentably ignorant of how to interpret what they have learned. No doubt the training they get is useful in many ways, but it is difficult to see what possible educational value it can have. On the other hand, a metaphysician should be grateful to Mr Toulmin for having disposed of the opinions that physics says everything or nothing about the world; he can accept this account, though he may think it needs completion by a rather different way of looking at and speaking about the same world.

L.B.

RICHESSSE ET MISERE. (Actes de la 39ème Session des Semaines Sociales de France). (Aux éditions de la Chronique Sociale de France, Lyon; Frs 950.)

This book comprises seventeen lectures delivered at Dijon in July, 1952, each of them marked with the high degree of competence and erudition to be expected from leaders of the French Catholic world. Although the basic theme of the removal of gross inequality of wealth in modern society is common to them all, the field of enquiry ranges from the right ordering of human desires to professional and academic opportunity, the growth of under-developed territories and the role of public finance in the redistribution of incomes. Treatment is naturally varied; Fr Sommet on the distribution of wealth is almost wholly philosophical while M. Couton, on the problems facing the French economy,

is severely technical. This is, indeed, as it should be: but one could wish that some final synthesis of the theological and the economic had been attempted—the ‘general conclusions’ read suspiciously like a mere list of points made by individual speakers which is concerned with offending no one by omission rather than its own internal consistency. The major weakness in this impressive survey is undoubtedly its failure to consider the significance of the distribution of property rather than of income as the fundamental malaise of the modern economy. Fr Sommet alone discusses property at any length, and with admirable lucidity, but in such general terms as to reach few practical conclusions. M. Piettre’s technical competence commands such respect that one regrets the more keenly that on several occasions he looks the problem squarely in the eye, and then, like the famous divine, passes it by. The most significant fact in the book is that thrown out almost absent-mindedly by M. Closon—that in 1949 ‘mixed incomes’ (i.e. those arising from a combination of work and property ownership) amounted to some 43 per cent of total French incomes. This suggests a very much wider distribution of property than in Britain, which should surely qualify the approving glances directed by several speakers to British income-redistribution. But there is no discussion whatever of this tremendously important point.

The book remains, however, a magnificent stimulant for anyone concerned (and who is not?) with the problem of the reconstruction of the social order. Space permits merely an *aperitif* or two: M. Piettre’s remark that France has passed from the stage of ‘atomic’ capitalism to ‘molecular’ capitalism, and, in Canon Mouroux’s eloquent and moving address, the statement of man: ‘Quand son corps a faim, son bien, c’est le pain; quand son coeur a faim, son bien, c’est la vérité; quand son esprit a faim, son bien, c’est Dieu même’. Innumerable such discoveries await those who, equipped with a little French, care to try their hand at prospecting in the fascinating territory which this book comprises.

EDWARD NEVIN

LORD BYRON: *Christian Virtues*. By G. Wilson Knight. (Routledge and Kegan Paul; 30s.)

Nobody of this generation has written so well about Shakespeare as Mr Wilson Knight. He is one of those few in the history of criticism who make plain in their writing the difference, one of kind, not of degree, between living thought and the manipulation of received ideas. His work has suffered the common fate of extreme originality, which is to be both pilloried and plagiarised, sometimes by the same persons; and it is still too early to be certain how much of the contemporary attitude to Shakespeare and dramatic poetry is of his making.

The present study of Byron is disappointing in its uncontrolled