

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,