

itself from 405 to 625 lines involves problems enough, and although the White Paper gives no details it seems that the Government's policy is reasonable. The creation of a national network of U.H.F. stations is a major undertaking and while existing V.H.F. sites and masts will be used to the fullest possible extent, many new U.H.F. stations must be built. Further, as is pointed out in the *BBC Record* for June, much more care has to be taken in locating the receiving aerial, which by and large will itself be more costly. In most locations it will be necessary, first, to have an outside aerial and secondly to have an aerial of high-gain costing appreciably more than the indoor and outdoor aerials which are often adequate for Bands I and III. The method by which the change-over is best affected is a technical problem which has still to be examined fully, and if the adoption by the Government of the Pilkington Committee's recommendation in this field has made this a matter of some urgency it is as well that the user should appreciate that the cost of technical advance is not something which should be borne entirely by the State. It is right and salutary that some of the charge should fall on those who immediately benefit by it, and that in itself should help to keep the further discussion of the organization of television and sound broadcasting on sensible and realistic lines attuned to technical and social needs rather than political prejudices.

METAPHYSICS FOR EMPIRICISTS

Foundations of Empiricism

By James K. Fiebleman. Pp. xi+389. (The Hague: Martinus Nijhoff, 1962.) 27 guilders.

THIS book is very ably written. The author has a long list of philosophical works to his credit, dealing with almost every aspect of the theory of knowledge, including the social sciences. There are seven parts: categorematics, axiomatics, systemics, ethics, practices, histories and epistemics. Such a formal framework keeps the argument neat and tidy. The aim throughout is to regenerate metaphysics in a way calculated to make the subject amenable to empiricism. In other words, the metaphysician should be constrained within the boundaries of logic and fact. It is true that there have been several varieties of this discipline in the past, on the whole unsuitable, or at least unhelpful, for an age of advancing scientific enterprise. A writer of Thomist sympathies, Fr. F. C. Copleston, has remarked that metaphysics must come to terms with empiricism. The changeless view of being, as we should say, "independent of a mechanism", is too uncritical, and it is no wonder that scientists have found it unacceptable. By a deliberate search for a finite metaphysics we are invited to overcome this defect.

So far so good. Perhaps subject and object have become out of step in the course of time, with the former predominant. It is maintained that subjectivism, Greek as it was, represented at least a partial decline from the summit of Hellenic philosophy. There is no reasonable doubt that such is a true reading of history. What is odd, is that the author should belabour the theologians for their handling of these matters. Nobody to-day would

try to justify the unhappy events of a century ago, for they are over and done with: so much so, in fact, that no reputable scholar is likely to make the mistake of asserting that theoretical physics can be used as a prop for religion. (Symbolic logic may possibly capture ethics and aesthetics, but that is something quite different.)

All this, however, is not to deny a place for a further plane of discourse whereon epistemic conditions are "wholly other", and to which its own metaphysics may apply. They should indeed be humble and searching. As regards the Metaphysical Society of 1869, the author has presumably read the penetrating record by his fellow-countryman, Prof. A. W. Brown (1947), of this phase of thought, remembering that the original title was "Theological" and not "Metaphysical". The whole purpose of the change was to make for obvious impartiality.

The association of metaphysics with some kind of transcendentalism is largely a matter of language, and one can sympathize with the writer in his desire to reduce the number of assumptions supporting an objective ontology.

The interplay of belief and reason goes on. The West has inherited the Augustinian "*Credo ut intelligam*", and passed it on through Anselm and Duns Scotus. Without rejecting it, there is an honoured place awaiting the empirical metaphysics for which this volume so clearly strives. F. I. G. RAWLINS

THE M.K.S. SYSTEM AND ELECTRICAL THEORY

Electrical Theory on the Giorgi System

By P. Cornelius. Translated from the third Dutch edition by Dr. L. J. Jolley. Pp. x+187. (London: Cleaver-Hume Press, Ltd., 1961.) 32s. net.

PUBLICATIONS emanating from the Philips Research Laboratories have a high reputation, and this English translation of a book which has reached a third edition on the Continent will be read with great interest throughout Great Britain.

The battle for the m.k.s. system advocated by Giorgi is almost won. There can be few electrical engineers remaining who are not convinced of its merits and the objections of physicists to this system do not appear to be insuperable. Advocacy of the m.k.s. system is, however, only a minor purpose of the author, whose main objective appears to be the expounding of electrical theory up to quite advanced levels with a minimum use of mathematics.

His starting point is Ohm's law, and one suspects that he would have preferred both the volt and the ampere to be regarded as fundamental units, dispensing with one of the mechanical units. From this familiar law he develops the ideas of electric field strength and current density as vectors, passing easily from there to the concepts of electric and magnetic flux. In the space of 45 pages electrical theory is developed up to Maxwell's laws and divergence and curl are introduced so naturally that the least mathematical of his readers should have no difficulty in following his argument.

Mechanical forces are not introduced until the second chapter, but this inversion of the normal order of developing electrical theory is not without its difficulties. In establishing Ohm's law the author uses mechanical forces to detect and measure both