

Religion and Science

By Bertrand Russell. (Home University Library of Modern Knowledge, No. 178.) Pp. 256. (London: Thornton Butterworth, Ltd., 1935.) 2s. 6d. net.

THIS small book displays the author's outstanding skill in the popular exposition of abstruse subjects. The earlier half of it is historical, dealing with the past relations between ecclesiastical Christianity and the natural sciences, and contains a depressing record of bigotry and cruelty; though we are warned that "the threat to intellectual freedom is greater in our day than at any time since 1660"—a threat which no longer comes from the Churches.

The later chapters are concerned with such subjects as determinism, mysticism, and the relations between science and ethics. On the bearing of the new quantum mechanics on the idea of determinism, the author holds that "Eddington's attempt to reconcile human free will with physics, though not at present strictly refutable, does not seem to me sufficiently plausible to demand a change in the theories on the subject which were held before the rise of the quantum mechanics". With regard to mysticism, we read that "when the mystics contrast 'reality' with 'appearance', the word 'reality' has not a logical, but an emotional significance". The same view is taken of ethics. Ethics "contains no statements, whether true or false, but consists of desires of a certain general kind, namely, such as are concerned with the desires of mankind in general". In a word, ethical, mystical, and (it would follow) æsthetic judgments are altogether devoid of objective validity. This is not a result in which we can comfortably acquiesce, and there is no doubt that some theory of values on quite other lines than the traditional ones needs thinking out.

Of interest also is the section on soul and body, which indicates how the conception of substance has disappeared from psychology and physics alike, whether as perception and consciousness, or as matter and motion. But does this shed more light on the nature of reality or upon the nature of scientific method?

This is a very stimulating book. J. C. H.

The Faith and Modern Science

By Reginald J. Dingle. Pp. xvii+195. (London: Burns, Oates and Washbourne, Ltd., 1935.) 5s.

THE central problem of this timely book is to determine how far speculation along the lines suggested by contemporary scientific writers is legitimate within the limits of theological orthodoxy. Though primarily addressed to Catholics, the book is certain of interesting a much wider circle of readers. The author, assuming the attitude of a man-in-the-street, develops his points with wit and persuasion. The new physics, the position of miracles and the new psychologies are submitted in turn to a pertinent criticism, with the result that several misconceptions on both sides are cleared away and placed in their correct setting. As Prof. Temple, who contributes a foreword to this work, puts it, there is no antagonism or contradiction between faith and science, but merely between scientific opinion and theological opinion. T. G.

Angewandte Geophysik: für Bergleute und Geologen Von Prof. Dr. Hermann Reich. Teil 2. Pp. iv+153. (Leipzig: Akademische Verlagsgesellschaft m.b.H., 1934.) 10.60 gold marks.

THIS small book is interesting, up to date and well-illustrated. It opens with a chapter giving a very useful account of the physical properties of rocks of various kinds, particularly of their density, elasticity, and magnetic and electric properties, with a brief notice of the methods of determining such properties of natural rocks. The high electrical conductivity of sulphide rocks is specially noted. The second chapter discusses the methods of geophysical investigation, magnetic, electric, gravimetric and seismic; the relative costs of the different methods are indicated. In the third chapter, the results of many such investigations are described, with maps and diagrams. The book concludes with a brief account of the application of geophysical methods for economic purposes, namely, for mineral prospecting, for the discovery of underground water, and for the investigation of the suitability of land on which large buildings are to be erected.

The book contains abundant references to original memoirs and other books.

Collective Index of the Journal of the Institute of Brewing, 1924 to 1934

Compiled by W. H. Bird and Kathleen F. Mapley. Pp. iv+232. (London: Institute of Brewing, 1935.)

SCIENTIFIC workers who have occasion to consult the *Journal of the Institute of Brewing* appreciate fully its great value as a source of information. This applies not only to matters of brewing interest, but also to the fermentation industries as a whole, as well as to their numerous scientific and technical ramifications; to many, therefore, the decennial index may be regarded as a necessity. It contains the usual author and subject indexes, followed by lists of book reviews, general business matters of the Institute, correspondence, journals abstracted and obituaries. The standard of production is similar to that of the *Journal* itself, and consequently requires no further praise from a reviewer; no serious errors have come to light from tests that have so far been made. Commendable features are the prompt rate of publication, the inclusion of a list of errata in the *Journal* and the fact that, unlike previous issues, the volume is already bound. J. G.

Relativity Physics

By Prof. W. H. McCrea. (Methuen's Monographs on Physical Subjects.) Pp. vii+87. (London: Methuen and Co., Ltd., 1935.) 2s. 6d. net.

THIS monograph collects, in 87 pages, those deductions of the results of relativity theory that find most frequent application in physics. The applications of special relativity to kinematics, mechanics, optics, electromagnetic theory, atomic physics, thermodynamics, statistical mechanics and hydromechanics, are dealt with in successive chapters, the results in each case being generally emphasised by italics. A good index, and a bibliography at the end of each chapter, complete a very handy book of reference.