

Our Bookshelf.

- (1) *The Future of the Earth*. By Dr. Harold Jeffreys. (Psyche Miniatures: General Series, No. 24.) Pp. 72. (London: Kegan Paul and Co., Ltd., 1929.) 2s. 6d. net.
- (2) *Earthquakes and Volcanoes*. By Prof. J. W. Gregory. (Benn's Sixpenny Library, No. 97.) Pp. 80. (London: Ernest Benn, Ltd., 1929.) 6d.
- (3) *The Restless Earth: An Introduction to the History of the Rocks*. By Prof. Herbert L. Hawkins. (Routledge Introductions to Modern Knowledge, No. 10.) Pp. iv + 76. (London: George Routledge and Sons, Ltd., 1929.) 6d. net.

THE first of these "little books on great subjects" is considerably shorter than the other two and costs five times as much. But in view of the facts that it will appeal to a much smaller circle of readers, is well bound and is printed on good paper, it cannot be regarded as overpriced; it is rather the others that are extraordinarily cheap.

(1) Dr. Jeffreys entertainingly summarises some of the theories more technically discussed in his larger book, "The Earth". He deals with the history of the sun, and the age and origin of the solar system; the cooling of the earth and the 50,000 million years of cooling still before it; and the past and future of the moon. The title of the booklet indicates only a point of view.

(2) Prof. Gregory's contribution to Benn's inimitable Sixpenny Library is tightly packed with good things. In eighteen short but intensely interesting chapters, he surveys every important aspect of volcanoes and earthquakes, and it is safe to say that there is no better short account of these subjects available in English. The book should have a big sale, and its influence on teaching in schools, as well as directly on the reading public, should go far to remove many current misconceptions. The chapter on "The Inner Structure of the Earth" is, however, less up-to-date than it might be; it is certainly not in accordance with modern evidence to describe the shell between the rocky crust and the iron-nickel core as consisting "mainly of the rigid nickel-iron mass of the earth". It is much more likely to have a composition akin to that of stony meteorites.

(3) Prof. Hawkins is not altogether happy as a popular writer, despite the attractive vitality of his style. The use of metaphor and analogy is sometimes far-fetched and undignified. Denudation is "grinding the dust"; the interior of the earth is "beneath the dust"; earthquakes are "shivering fits"; and volcanic activity is "feverishness". When the author writes: "the earth is bleeding to—perfection", or "water is more obedient [than the wind] to the call of gravitation", he runs the risk of irritating some of his readers. Apart from this occasional defect of manner, the matter of the book is excellent, and the name of the author is a sufficient guarantee of its trustworthiness as a popular introduction to geology.

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Royal Agricultural Society of England. Agricultural Research in 1928. Pp. viii + 193. (London: John Murray, 1929.) 1s.

THE Royal Agricultural Society has issued its fourth annual summary entitled "Agricultural Research in 1928". As in previous years the publication is divided into a number of reports, each written by an acknowledged expert in the particular subject.

Fruit and vegetable canning, though a comparatively new industry, appears to have made a promising start and should provide excellent new markets for farm produce provided suitable organisation, including standardisation and grading, is built up. The importance of obtaining a full and even plant in cereals and sugar beet is emphasised if the best yields are to be secured.

Progress is being made in the production of tuberculin-free herds of dairy cows, and the importance of progeny rather than ancestral performance in estimating the worth of a breeding animal is becoming more clearly recognised. Farm costings of all kinds, including questions concerning marketing and co-operation, are being thoroughly investigated. The effect of the Agricultural Credits Act on insurance and credit is also dealt with. Among engineering problems, drainage is receiving considerable attention, and recent trials in other countries, notably France, are described. Of the newer implements, the combine harvester seems to have proved its usefulness in the English climate, provided that a drier is regarded as a necessary part of the equipment. Methods for drying grain, grass, and sugar beet are also being developed.

No outstanding new discovery is mentioned in the animal nutrition section, but the most recent views as to the nutritive value of grass, sugar beet pulp and tops, silage, and milk are fully discussed. As regards fertilisers, nitrogen occupies the most important position, its world production and consumption having enormously increased during 1927–1928. Potash, on the other hand, shows only a small increase over previous years, and phosphorus none at all. The success of Danish agriculturists in the production of feeding stuffs is attributed to their large increase of acreage under root crops. In England, on the other hand, the reverse is the case. The major portion of the report on veterinary science deals with vaccination against tuberculosis, and it is shown that the different types of tubercle bacilli are capable of infecting species other than those from which they take their name. To each report a large number of references are appended, and the publication should prove useful to farmers, agricultural organisers, and students.

The Theory of the Gyroscopic Compass and its Deviations. By Dr. A. L. Rawlings. Pp. x + 191. (London: Macmillan and Co., Ltd., 1929.) 10s. 6d. net.

It was about eighty years ago that Foucault carried out his ingenious experiments with the gyroscope, but for half a century the apparatus had no practical application. It has now, however, been applied