The Story of the Plant Kingdom

By Prof. Merle C. Coulter. Pp. ix + 270. (Chicago: University of Chicago Press; London: Cambridge University Press, 1935.) 13*s*. 6*d*. net.

THIS book forms an eminently readable introduction to botanical science. It is intended primarily for the use of students at the University of Chicago, but should appeal equally to all those who are anxious to gain some knowledge of the structure and life-histories of representatives of the principal groups included in the plant kingdom. The American terminology and phraseology employed by the author may be found to be a drawback by students reading for examinations in Great Britain, but that should not deter those who are interested in the subject for its own sake.

After being introduced to the blue-green algæ, the reader is able to follow the various forms of internal and external differentiation of the plant thallus and the reproductive processes exhibited by selected members of first the green, and then the more complex brown and red algæ. Typical saprophytic and parasitic fungi are next described, after which the author gives an account of the life-histories and increasingly elaborate plant bodies of typical Bryophytes, Pteridophytes, Gymnosperms and Angiosperms.

Special emphasis is laid on the various specialisations of the higher plants by means of which they are particularly adapted for life on land. The phylogenetic treatment is, however, interrupted by a very clear account of the principal physiological processes in plants, and a chapter dealing with bacteria and the part they play in the nitrogen and carbon cycles. There are also chapters dealing with "The Process of Organic Evolution", "Classification" and "Seed Distribution and Germination".

The book is profusely illustrated by excellent line drawings and photographs. Minor errors worthy of attention are: (1) the term "spore" is inappropriate when applied to the asexual reproductive bodies of *Phytophthora infestans*, because these bodies, which are commonly referred to as 'conidia' or 'sporangia', sometimes give rise to zoospores instead of germinating directly; (2) the word 'tube' on p. 202 and the headline on p. 153 contain misprints. These points, however, do not seriously detract from an otherwise excellent book. C. R. M.

Annual Reports on the Progress of Chemistry for 1935

Vol. 32. Pp. 527. (London: Chemical Society, 1936.) 10*s*. 6*d*.

THE Annual Reports for 1935 fully justify anticipation; and this is an attainment of substance, since the standard which has been set by previous annual issues is indeed high. The whole field of chemistry cannot, of course, be covered; hence the selection of groups of topics is related to the interests of the reporters, and the volume catches something of the charm of personal commentaries.

Dr. H. J. J. Braddick discusses radioactivity and sub-atomic phenomena, and includes a section on cosmic radiation. Dr. C. B. Allsopp, Dr. S. Glasstone, Dr. E. B. Maxted, Dr. E. A. Moelwyn-Hughes and Dr. G. B. B. M. Sutherland deal with a number of problems in general and physical chemistry; a good deal of attention is given to the behaviour of deuterium and its oxide, 'heavy water'. Inorganic chemistry is discussed by Dr. S. R. Carter, Dr. E. S. Hedges and Dr. W. Wardlaw, who start by examining the evidence on which claims to the discovery of new elements have in recent years been made, and then turn their attention to the chemistry of certain selected elements and compounds, and to a review of non-ferrous alloy systems. The progress of crystallography over a period of two years is described by Dr. J. D. Bernal, Miss D. M. Crowfoot, Dr. R. C. Evans and Mr. A. F. Wells. Organic chemistry is entrusted to Dr. E. H. Farmer, Dr. E. L. Hirst, Dr. R. P. Linstead, Dr. S. Peat, Dr. F. S. Spring and Dr. E. E. Turner. The chapter on biochemistry is written by Mr. A. G. Pollard, Dr. C. P. Stewart and Miss J. Stewart, while analytical chemistry is reviewed by Mr. G. U. Houghton, Mr. L. S. Theobald and Dr. R. W. West.

It would be easy, but not very profitable, to list a number of intriguing matters which catch the eye as the pages are turned over; the development of spot tests, the accumulation of knowledge concerning vitamins and hormones, the phenomena of polymerisation, the problems of illinium, masurium, virginium, and alabamine. It must, however, suffice to repeat what has often before been said: that these are reports which chemists study as a matter of course, and that others will find in them an acceptable picture of progress in that branch of science. A. A. E.

Z Dziedziny Nauki i Techniki

Tom 6: W Poszukiwaniu istoty Życia: Historja naturalna Jednego Pierwotniaka. Napisał Prof. Dr. Jan Dembowski. Pp. xii + 356 + 8 plates. (Warszawa: "Mathesis Polska", 1934.) zl. 14.

PROF. DEMBOWSKI'S "In Search of the Nature of Life" is a second edition, greatly enlarged and brought up to date, of his book "The Natural History of a Protozoon", published about twelve years ago. The author tries to describe the problems of general biology, taking *Paramecium* as his example. In a series of chapters he discusses some technical problems of culture, the structure of *Paramecium*, movements, tropisms, the uptake of food and excretion, respiration, reproduction, variability and heredity, psychological phenomena.

The author has the very unusual gift of expressing complicated problems in a simple and attractive way, with a fine sense of humour, and moreover he never distorts the scientific truth. His dramatically written story of *Paramecium*, which "belongs to an old, aristocratic family, whose ancestors lived in times when man did not yet exist", is delightful reading for a scientific worker, who will find some new and interesting points of view. The layman and the student of biology will learn of many interesting problems and facts. W. W. N.