

in *Chenopodium album*, where a leaf section shows the unusual type of pubescence in this species. In *Taraxacum officinale* the regeneration from mutilated roots under various environmental conditions is demonstrated, together with sections showing the origin of secondary shoots. It is impossible to indicate the wide range of developmental stages covered in these plates, but it is

safe to say that all teachers of agriculture and students will find the plates a mine of information, and that experts are the richer by a valuable work of reference. Prof. Korsmo is to be congratulated on the outstanding merit and value of this work and, not least, upon the ability and sympathy of the artists responsible for the drawings.

W. E. B.

### Short Notices

*The Endless Quest : Three Thousand Years of Science.*

By F. W. Westaway. Pp. xx+1080+51 plates. (London, Glasgow and Bombay : Blackie and Son, Ltd., 1934.) 21s. net.

It is very difficult to review such a book as this—or perhaps we should say “this book”, for there can scarcely be another such. Judged by the aim which the title suggests it is, of course, a failure: to deal adequately with 3,000 years of science in a single volume is a sheer impossibility. The impossibility is, in fact, so obvious that such a judgment would clearly be absurd. We can only take the book as an isolated phenomenon and record its effect on a mind freed from preoccupation with ideas of what it should be. When this attitude is adopted, the result is wholly pleasurable. The author talks to us out of a vast store of knowledge in a manner which, subject to a broad classification on a chronological and subject basis, is delightfully informal. Biographical notes, descriptions of scientific institutions, quotations, expositions, criticisms, reflections mix with one another in the most casual way, and it is hard to imagine a more satisfying book into which to dip at those not infrequently occurring intervals which are too brief for systematic work and too long to be wasted. Photographs and diagrams are numerous and excellent; there are questions for the problem-minded and bibliographies for those who wish to pursue the subjects raised; and there is a good index.

Of the two possible viewpoints—those of the present time and of the timeless observer—Mr. Westaway has chosen the former: hence recent work assumes a prominence even greater than that to be expected from its great bulk. From this cause arises what is perhaps the chief defect of the book; it is difficult on any grounds to justify the inclusion, in an account of 3,000 years of science, of the remarks of individual speakers at a Royal Society discussion on heavy hydrogen, for example. But away with criticism: the book is a pleasure to read, and we are grateful to Mr. Westaway for it. H. D.

*Annual Reports on the Progress of Chemistry for 1934.*

Vol. 31. Pp. 442. (London : Chemical Society, 1935.) 10s. 6d.

MUCH fundamental work is summarised in the Chemical Society's Annual Reports for 1934. Mr. R. P. Bell gives an account of the heavy isotope of hydrogen. ‘Heavy water’, or deuterium oxide, is in

fact now an article of commerce, being separated by an electrolytic method. Dr. L. A. Woodward's section on the Raman effect gives a connected account of some of its applications; Dr. N. V. Sidgwick discusses the theory of resonance and the co-ordination of hydrogen, and presents a short statement on heats of formation in homologous series; Mr. E. J. Bowen contributes a review of work in chemical kinetics; Mr. Bell is responsible for sections dealing with electrolytes, kinetic salt effects, and acids and bases; whilst Dr. H. W. Thompson refers to the emission of electrons in chemical change, to certain spectroscopic considerations, to nuclear moments, to the structure of liquids, to optical activity, to valency and the structure of molecules, to supersonic waves, and to optical phenomena and energy transfers. Prof. R. Whytlaw-Gray gives an account of atomic weight work; Dr. W. Wardlaw of metallic carbonyl and nitrosyl compounds, of molecular structures, and of some of the rarer metals; Dr. E. S. Hedges discusses the corrosion of metals. The report on aliphatic organic chemistry is presented by Dr. H. D. K. Drew, Dr. R. S. Morrell, Dr. E. L. Hirst and Dr. S. Peat; Dr. G. A. R. Kon and Dr. T. G. Pearson are responsible for that on the homocyclic division, and Dr. E. E. Turner for that on the heterocyclic division. Analytical chemistry is in the charge of Mr. B. A. Ellis, Dr. J. J. Fox, Dr. S. Glasstone and Mrs. J. W. Matthews. Dr. C. P. Stewart and Mr. A. G. Pollard present an account of advances in biochemistry, whilst Dr. N. Feather discusses radioactivity and subatomic phenomena. These reports are universally valued by chemists and others who wish to keep abreast of modern developments in the subject.

A. A. E.

*Chemical Engineering Plant Design.* By Prof. Frank C.

Vilbrandt. (Chemical Engineering Series.) Pp. x+341. (New York and London : McGraw-Hill Book Co., Inc., 1934.) 24s. net.

ANYONE who purchases this book from its title and expects to acquire information on the design of various machines and plant used in chemical works will be disappointed, since the various chapters are devoted to such subjects as location, foundations, drainage, buildings, pumps, piping, and flow diagrams, power and power transmission, and preconstruction cost accounting. The problems considered, therefore, are those associated with the layout and construction