

the absorption of matter and energy in which photosynthesis, the nitrogen cycle, and other growth factors receive adequate consideration. Water relations are examined in the second part from water absorption to transpiration. The third part considers the energy question in all its aspects, and growth movement and reproduction take up the fourth part.

The whole work is written in an attractive style and is well illustrated. All the familiar theories and hypotheses which pervade plant physiology to an inordinate degree are mentioned, but not overworked. British, American, and other physiologists are given a fair hearing. The excellent and well-balanced choice of material, the masterly way with which it is dealt, and the reference books and periodicals mentioned in an appendix, all make the book a splendid acquisition to plant physiological literature, and one to be recommended to students of the subject up to degree standard.

*Annual Reports on the Progress of Chemistry for 1930.* Issued by the Chemical Society. Vol. 27. Pp. 389. (London: The Chemical Society, 1931.) 10s. 6d. net.

THE Annual Reports for 1930, issued by the Chemical Society, comprise reviews in the following fields: general and physical chemistry (C. N. Hinshelwood); inorganic chemistry (H. Bassett); organic chemistry (aliphatic, E. H. Farmer; homo-cyclic, G. M. Bennett and A. W. Chapman; hetero-cyclic, S. G. P. Plant); analytical chemistry (J. J. Fox and B. A. Ellis); biochemistry (A. C. Chibnall and J. Pryde); geochemistry (A. F. Hallimond); radioactivity and subatomic phenomena (A. S. Russell); and the electrical conductivity of solutions (Sir Harold Hartley, O. Gatty, W. A. Macfarlane, and D. M. Murray-Rust).

It is customary to endeavour in these reports to present a fairly detailed picture of development in phases of the science, rather than to attempt an annual catalogue of even the more outstanding papers in every branch of pure chemistry. They are, in fact, reports rather than summaries, and are in consequence both readable and instructive. Thus the first chapter deals *inter alia* at some length with the quantum mechanical treatment of chemical forces, with the elementary processes of chemical change, and with chain reactions, while it intentionally leaves certain equally important matters for more profitable discussion on a future occasion.

The reporter on inorganic chemistry protests with justice against the tendency towards multiple publication, whereby the journal literature is distended unnecessarily. In the report on analytical chemistry, attention is directed to recent advances in the utilisation of physical methods for analytical purposes, and developments in micro-analysis are mentioned. The report on subatomic phenomena and radioactivity reviews work published in 1929 and 1930, most of which has been physical in character. The main object of the report on the electrical conductivity of solutions, which deals

chiefly with researches carried out between 1920 and 1930, is to show how far the Debye-Hückel theory is in accord with the results of conductivity measurements.

A. A. E.

*Our Catkin-bearing Plants: an Introduction.* By H. Gilbert-Carter. Pp. xii + 61 + 17 plates. (Oxford: Clarendon Press; London: Oxford University Press, 1930.) 4s. 6d. net.

THE object of the author in writing this book was to provide a short and concise account of the catkin-bearing trees that could easily be understood by students. That he has succeeded in his endeavour is very evident to those who possess an intimate knowledge of the several families to which the term applies. Although in the space at his disposal he was unable to deal with all the catkin-bearing trees that are hardy in the British Isles, his selection of representatives for each family is such that students should have little difficulty in finding living examples either wild or in parks or gardens. In his preface, Mr. Gilbert-Carter is very careful to point out the urgent need for students of botany acquiring a knowledge of living plants by studying them as they grow, instead of contenting themselves with the examination of specimens in the classroom, and that advice cannot be too strongly emphasised. Mr. Gilbert-Carter's descriptions of willows, poplars, elms, birches, oaks, walnuts, and other trees are excellent in every way. They all appear in easily understood language, and on each page there are explanatory footnotes of the scientific terms used. A number of excellent photographs add to the value of the work, which will be found very useful to both teachers and students.

*About Science: a Book for the use of Senior Science Students and those who are going to teach Science.* By Dr. B. Millard Griffiths. Pp. v + 142. (London: John Murray, 1931.) 3s. 6d.

DR. GRIFFITHS has written a pertinent little book, and one which ought to interest educationists and students alike. The unassuming title of the work makes it plain that the author had no intention of giving a complete survey of scientific method, though many of his arguments are framed in an original and persuasive way. In his introduction, Dr. Griffiths very rightly complains that students of science are told little or nothing about the foundations upon which science stands, because the foundations of knowledge form a part of philosophy; and he maintains, with equal reason, that such an omission is a handicap for them in life, because it makes it difficult for them to appreciate the relationship of science to literature, history, and art, which are important things in life. So his book is written mainly for the purpose of interesting science students in the more philosophical aspects of science. We wish him success in his attempt. But we would go further, and suggest that students would have everything to gain and nothing to lose if their science curricula were less crowded, and if they were given in exchange an introductory course in mental orientation and the methods of knowledge.

T. G.