be recognized by anyone who already knows them well. The few photographs are mainly of general views in gardens and are very well reproduced.

The large bibliography will be useful to most readers and is divided into (1) general references, (2) historical, (3) culture and propagation, (4) physiology, etc., (5) hybridization, etc., (6) pathology and insect pests. J. H.

Les conceptions modernes de l'hérédité

Par Prof. Maurice Caullery. (Bibliothèque de Philosophie scientifique.) Pp. 312. (Paris : Ernest Flammarion, 1935.) 15 francs.

THIS book gives a fairly adequate account of the physical basis of heredity and of the more conventional aspects of genetics. The general treatment is on the whole satisfactory, but scarcely original. Unfortunately, many of the more important modern advances are omitted. There is no discussion of auto- or allo-polyploidy, of the evolution of dominance, or of the gene-complex. The physiology of sex-determination, and the whole subject of genetic physiology, is also omitted. The treatment of cell-division is entirely out of date : no attempt is made to modify the older views of it in accord with the work of Bělař, Darlington and the modern school of cytologists. On the other hand, Stern's cytological proof of genetic crossing-over is explained in a helpful manner.

There is a somewhat inadequate index, from which all names of authors are omitted. The references are scattered throughout the book, at the foot of the pages on which they are quoted. This is an extremely inconvenient system ; they should be collected at the end, when they ought to form a useful bibliography. E. B. F.

Chemistry

A Text-Book of Organic Chemistry

By the late Dr. Julius Schmidt. English Edition by Dr. H. Gordon Rule. Third Edition, revised and extended. Pp. xxiv+865. (London and Edinburgh : Gurney and Jackson, 1936.) 25*s*. net.

THE appearance of a third English edition of Julius Schmidt's text-book bears witness to a steady demand for this work by advanced students of chemistry and biochemistry. This is not surprising, as the choice of comprehensive text-books of advanced organic chemistry in the English language is strictly limited. The work under notice deserves commendation as providing a coherent and well-documented background to the numerous monographs and series of lecture-notes with which the present-day student reading for honours in this expansive subject is hedged about. Although it has grown from 798 to 865 pages since 1926, this text still remains between two covers. This is a distinct merit ; for, as a modern Dean Swift might write, whoever can reduce two volumes of an advanced organic chemical text-book into one deserves better of the honours student than the whole race of Beilsteins and Richters put together.

The new edition is considerably in advance of the last German edition of 1929, as on account of the death of Prof. Schmidt in 1933 no later German issue has been made. Dr. Rule has added materially to the value of his English text by including accounts of recent advances in the biochemical zone of organic chemistry (polysaccharides, sterols, bile acids, vitamins, hormones, natural colouring matters, etc.) ; the physical zone, also, has received its share of attention through the treatment of such topics as recent work on the Beckmann transformation, dipole moments, and dissymmetric allene derivatives.

It may be suggested that a fuller reference to the subject of strainless rings would be of use. J. R.

Recent Advances in Organic Chemistry

By Prof. Alfred W. Stewart. Vol. 2. With the addition of Part 2, by Dr. Hugh Graham. Pp. xiv+519+2 plates. (London, New York and Toronto : Longmans, Green and Co., Ltd., 1936.) 21*s*. net.

THE reissue of the sixth (1931) edition of Prof. Stewart's well-known work contains a new supplement of four chapters by Dr. Graham, dealing with the bile acids and sterols (28 pp.), the cardiac aglucones (vegetable heart poisons) (7 pp.), the hormones (23 pp.), and the vitamins (19 pp.). Separate name and subject indexes are provided for the supplement. Dr. Graham has given a judiciously selective account of the important advances in these fields of work, so that in its extended form the book will continue to render valuable service to advanced students and research workers in organic chemistry and biochemistry. That progress during the past few years in the common domain of these two regions of chemical science has outstripped the most sanguine anticipations of the last decade is a reflection which must occur forcibly to readers of this supplement, with its review of so many spectacular achievements.

Engineering

Dielectric Phenomena in High Voltage Cables

By Dr. D. M. Robinson. (Monographs on Electrical Engineering, Vol. 3.) Pp. xii+173. (London : Chapman and Hall, Ltd., 1936.) 15*s*. net.

THE economies effected by the use of very high voltages when transmitting electric power have led to its rapidly increasing adoption, but the higher the voltage the greater the number of breakdowns of the transmission cable. In electric supply an interruption of this nature is most serious, so expensive and elaborate tests in specially constructed laboratories are being carried out by cable manufacturers on the wrappings which surround the cables (the sheath).

In some cases the breakdown leaves a clean radial hole between conductor and sheath. In others, scorched and brittle papers are found particularly in the inner portions of the dielectric. Often they leave tree-like or fern-like patterns accompanied by dry patches where scarcely any free impregnating oil

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