

The work, as the author's preface points out, falls into two parts. The first, dealing in 500 pages with fundamental properties, has chapters on circuit constants, properties of resonant circuits, vacuum tubes, vacuum-tube amplifiers, power amplifiers, vacuum-tube oscillators, modulation, vacuum-tube detectors and sources of power for operating vacuum tubes. The second part, devoting nearly 300 pages to more specialized radio topics, covers radio transmitters, radio receivers, propagation of waves, antennæ, radio aids to navigation, television, sound and sound equipment. It is far from adverse criticism to say that the whole forms a connected and reasoned guide to the last ten years' issues (up to a remarkably recent date) of the *Proceedings of the Institute of Radio Engineers*, to which the reader is, in copious and well-chosen footnotes, referred for fuller information. That air of intellectual nationalism which results from the natural tendency of an American teacher to refer American students mainly to American books and periodicals is not

very offensively marked for the British reader, but the German, French and Dutch contributions to radio engineering are severely attenuated by the band-pass filter of an assumed unilingualism.

The first part of the book, on circuits and their components, is clearly the author's own territory, and is extremely good and comprehensive, with considerable tracts of original work which will be valuable to all radio engineers. The second part, and particularly the chapters on propagation of waves and on radio aids to navigation, are much less satisfactory, mainly because the light and shade of these subjects lend themselves badly to that sharp black and white treatment which so notably smooths the student's way through circuit work.

Prof. Terman's second edition will enhance the high reputation gained by his first, and should be at the right hand of every radio engineer. His half-tone blockmaker has invariably, and his line draughtsman not infrequently, served him ill, but the book is otherwise very pleasant to handle.

A New Guide to the Organic Molecular World

Dictionary of Organic Compounds:
the Constitution and Physical and Chemical Properties of the Principal Carbon Compounds and their Derivatives, together with the Relevant Literature References. Edited by Prof. I. M. Heilbron and H. M. Bunbury. Vol. 3: Naphthacarbazole—Zygadenine. Pp. xii+943. (London: Eyre and Spottiswoode (Publishers) Ltd., 1937). £6 6s. net.

THE appearance of this volume completes the production of the first dictionary of organic compounds in the English language. The high standard of the first two volumes (*NATURE*, 134, 751, Nov. 17, 1934; 137, 342, Feb. 29, 1936) has been maintained, and the whole work has been published within a period of three years. This is a truly remarkable achievement, in which all concerned may take a pardonable pride. More than that, the publication of such a work by a team of British chemists speaks volumes for the wonderful progress which organic chemistry and biochemistry have made in Great Britain during the past twenty years.

Only those whose duties call for daily references to the vast and complicated literature of organic chemistry can realize to the full the great service which Prof. Heilbron and his collaborators have

rendered to the *Fachgenossen*. Here is a work of some 2500 pages, printed in beautifully clear type, occupying less than 7½ inches of shelf-space, self-indexing, and affording thoroughly up-to-date information concerning the great majority of important organic compounds: a magic casement looking out upon that boundless organic molecular world "whose margin fades for ever and for ever when we move".

Even the unremitting expansion of this organic universe is to be followed, although not (we are glad to notice) by the issue of an indefinite succession of supplementary volumes. The editors propose to adopt a more practical and time-saving method for keeping a work of this nature up to date, by issuing revised volumes at regular intervals, beginning probably in 1939. Thus the three-volume format will be a recurring characteristic of the "Dictionary", which will also, of course, remain as a self-indexing entity.

Prof. Heilbron, Mr. Bunbury, their growing team of skilful and enthusiastic collaborators, and their publishers, deserve the thanks of all workers in organic chemistry and biochemistry for this elegant agent, which will catalyse so effectively the future labours of the fraternity.

JOHN READ.