

latter is coextensive with pharmacologic research, which eventually turns to the quantitative, the ambition of all science. The reactions of the living body with chemical substances offer an infinity of problems of absorbing scientific interest as well as of great practical significance to the human race, and the field of pharmacologic research is being cultivated with great intensity. As the problems shift and vary, new methods and points of view are developed. The theory of yesterday becomes the practice of to-day, the historical of to-morrow, then, the obsolete, and sometimes again the starting point of the new. In the bewildering activity of science, a knowledge of what has been done, a command of the "literature," becomes more and more imperative, but more and more difficult of attainment. Research runs in danger of being smothered by the products of its activity, unless it devises methods of organizing these products so as to render them reasonably accessible. One of the most practical methods of this orientation remains their digestion, critical selection and systematic orientation by experienced workers in the field. The present volume belongs to this class.

The book is a well-arranged guide to the extensive literature of quantitative pharmacology, sufficiently detailed to show the present status of each subject, and to orient the reader in the general directions and specific sources where further information may be sought. The presentation of the individual citations is generally objective rather than critical, but the "conclusions" at the end of each topic supply the welcome opinions of a man who is experienced in the field. There is no attempt to exhaust the papers; much of the material is presented in the numerous tables (which would be improved by citing the sources of the information in the tables themselves, instead of requiring the user to search through the text); but for details, especially of the methods, the reader is remanded to the original papers, which are presented by the systematic bibliographies of over 5000 titles, and by extensive and convenient indices. The general avoidance of exhaustive (and exhausting) detail of technic is an aid to orientation, although it may be a disappointment to the technician, to the inexperienced seeker of the rule of thumb, who is looking for a short cut to the little knowledge that is a source of self-deception. This is one of the recommendations of the

book. In bioassaying, as in other laboratory work, there is room for the honest technician, who, under competent supervision, acquires more or less insight into the subject; but the intelligent application of quantitative pharmacology to any task requires something more than a sheet of working directions. It demands a critical judgment, based on a sound grasp of fundamental principles, plus a broad knowledge of the literature, plus a specialized experience, plus good sense. Those who possess the last and first of these qualifications will find the book a valuable aid in acquiring the literature and the experience. It fills a place that has hitherto been vacant, and it fills it well. It is a credit to the author, whose labor has been well expended to the benefit of the subject and of the serious workers in the field.—TORALD SOLLMANN.

*The Chemist and Druggist Diary, 1931.* Sixty-third year of publication. Chemist and Druggist, London.

"*The Chemist and Druggist Diary* has many merits, but it excels in the progressiveness which takes the form of adaptation to and provision for new requirements in pharmaceutical business and practice. In this issue all the standing features, notably the Buyers' Guide and the Legal Section, have been brought up-to-date. The familiar list of registered formulas has perished in the massacre of the innocents by the Board of Customs and Excise, but as a succedaneum we are given a selection of American Formulas. There are two excellent illustrated articles, *viz.*, Pharmaceutical Manufacturing Apparatus, and The Optician's Workshop, which reveal to what an extent machinery has superseded manual operations in these industries, and every literary page contains something of practical value to the practising pharmacist."

The foregoing review is quoted from another publication, because it briefly, although not very completely, speaks of the *Chemist and Druggist Diary*. The book contains much information for the British pharmacists relating to laws, educational institutions, associations, etc. Its publication for 63 years speaks for its value.

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#### DEATH OF DEAN E. V. HOWELL.

Just before closing this issue we have advice of the death of Dean E. V. Howell, Chapel Hill, N. C.