

number of disease, and other, organisms are clearly described and figured. This volume is not an exhaustive treatise on its subject; such an aim was not the author's intention. The reader will find some phases more fully treated than others, while certain aspects are omitted, or come in for very cursory mention.

The book is divided into seven parts: of these, the first four parts deal respectively with maladies of protozoan origin, fungal diseases, diseases due to viruses and to bacteria. The fifth part is concerned with anti-bacterial immunity and its phases among insects. The author discusses at length the subject of natural and acquired immunity and concludes that they are due to both cellular and humoral reactions. He considers, however, that the experimental evidence shows that the reactions of the blood plasma itself are of greater importance in this aspect than cellular, or phagocytic, activities.

Part six is a very full account of symbiosis in various species of aphides. Symbiosis is not discussed with reference to other insects since the

author's original observations are concerned with the group just mentioned. This part includes a very full account of the cytology and the transmission of the specific micro-organisms from generation to generation of their hosts. The biochemical side of the subject is not discussed and we are still in the dark as to the nature of the mutual reactions that are involved. Dr. Paillot elaborates the interesting theory that symbiosis in aphides has developed from bacterial infection. The micro-organisms, he claims, have been able to establish their permanent relationship owing to a progressive diminution of their virulence, so that they have become completely inoffensive and ultimately beneficial. Part seven is concerned with the practical side of insect microbiology. The utilisation of disease organisms in pest control and their rôle in the transmission of human and animal maladies are discussed in this section.

The book concludes with a classified bibliography, running to about fifty pages, together with indexes to subjects and authors' names.

A. D. IMMS.

Short Reviews

Allen's Commercial Organic Analysis. Vol. 10: *Hæmoglobin and its Derivatives, Albuminoids or Scleroproteins, Structural Proteins, Examination of Foodstuffs for Vitamins, the Hormones, the Identification of Unknown Woods and Charcoals, the Pectic Substances*. Editor: Dr. C. Ainsworth Mitchell. Fifth edition, revised and partly rewritten. Pp. xi+817. (London: J. and A. Churchill, 1933.) 32s.

WITH the publication of the tenth volume of "Allen's Commercial Organic Analysis", the fifth edition of this comprehensive work is completed. A decade has passed since the issue of the first volume of this edition and, in the interval, many branches of applied chemistry have increased in importance; even now a part of this edition is out of date, especially for data contained in the volumes published so far back as 1924 or 1925. The editor has taken advantage of the issue of this final volume to include a number of subjects of recent technical importance, so that there is no definite connecting link between the subject matter of the various chapters. These new sections include such subjects as hæmoglobin, albuminoids, vitamins in foodstuffs, hormones and special wood charcoals. A section on fibroids in a former edition has now been extended and includes a large amount of data on natural and artificial silk, furs, hairs and wool. Pectin substances have been given special consideration and the qualitative and quantitative examination of such substances is considered.

The reviewer has had an opportunity of checking

the methods of pectin analyses given in the work and finds them very detailed and reliable. In the estimation of pectin substances (p. 524) there is an inaccuracy in the making up of the standard solution, and the subsequent statement that a molecule of furfural liberates exactly two atoms of bromine from potassium bromide might be expressed differently.

This final volume also includes a useful 250-page subject index supplement for the whole edition. The fifth edition of 'Allen' is the most authoritative and complete work on commercial or applied organic analysis which has ever been published. It is absolutely indispensable to the analyst and works chemist, and no chemical reference library will be complete without it.

J. REILLY.

A Handbook of Child Psychology. Edited by Carl Murchison. (The International University Series in Psychology.) Second edition revised. Pp. xii+956. (Worcester, Mass.: Clark University Press; London: Oxford University Press, 1933.) 24s. 6d. net.

IF one turns over the pages of a psychological treatise written a generation or two ago, one finds that what it mostly comes to is a patient analysis of adult consciousness, the method employed being that of introspection. Experimental psychology, involving objective measurement and claiming to be scientific, was slowly making its way, and is now very extensively cultivated. Of child psychology the same can