

## BOOK REVIEWS

*PHYSICAL BIOCHEMISTRY*, by Henry B. Bull. Second Edition. Pp. viii + 344 and Index. Chapman and Hall, London. 1951. 46s.

This new and revised edition of Professor Bull's book is a valuable contribution to the teaching of the sciences in which physical and physico-chemical methods are applied to biological problems; the copious references to the literature are a useful key to the large number of recently published research papers in these fields. The book is written in an interesting and straightforward manner with a minimum of complicated mathematical treatments and the text is fully illustrated with graphs and diagrams of apparatus. Apart perhaps from the last few chapters, the subject-matter should present no great difficulty to readers whose mathematical knowledge is limited. Professor Bull's use of the word "biopolymers" in place of "colloids," has much to recommend it. His frank admission (p. 106) concerning electrode sign conventions is refreshing and his statement that these signs can usually be guessed from a knowledge of chemistry is essentially that of a practical electrochemist who cannot be bothered with elaborate sets of rules.

Some criticisms of the book are: Chapter 2 dealing with energetics (i.e. thermodynamics) is much too short to give any real grasp of the subject; similarly the section dealing with dielectric constants and dipole moments (pp. 15-19) is too brief; p. 56, expressions for "probable errors" are given—these quantities have been long discarded by most experimental workers; p. 194, the imperfections of the Wilhelmy balance as an absolute method of measuring surface tensions should have been stated; pp. 198-9, the deduction of the Gibbs adsorption isotherm given here is not very satisfactory, since it does not clearly reveal the limitations of this approximate form of the equation; p. 268, in the deduction of the Donnan membrane equilibrium equation, the large amount of electrical work required to transfer one mole of chlorine or sodium ions from one compartment to another, is ignored. L. SAUNDERS.

*PRACTICAL PHARMACOLOGY*, by J. H. Burn. Pp. viii + 72. Blackwell Publications, Oxford. 1952. 12s. 6d.

In pharmacology there has long been a need for a book of simple practical exercises. This book is therefore especially welcome. In compiling it the author has borne in mind the restrictions imposed on the student by the Cruelty to Animals Act. The book contains 21 experiments illustrating the actions of drugs on isolated organ preparations, on the perfused heart and blood vessels, and on the cardiovascular system of the spinal and decerebrate cat; as well as a number of quantitative determinations and an experiment on man. Throughout, the experimental techniques are very clearly described with fully illustrated diagrams and some really excellent demonstration tracings. It seems a pity that the opportunity was not taken to include a description of the phrenic nerve diaphragm preparation, Dr. Bulbring's original description often not being easy of access. The book tends to be too thorough, for it leaves little to the student's personal observation. It is exceedingly well printed on surprisingly good paper and there are few errors, apart from an unfortunate series of misprints in the legend to Figure 30. There is a discrepancy between the text and Figure 18 where the coronary flow is increased by adrenaline in the rabbit; the activity of the International Standard Digitalis Powder, quoted on page 61, has not been brought into line with the 3rd International Standard. This excellent little book has much to recommend it and should become extremely popular in the teaching of practical pharmacology. G. F. SOMERS.