

Statistical Procedures", the reader is introduced very briefly to some tests of significance and estimation theory. The exact test for proportionality of 2×2 tables is not presented but the reader will find a heterogeneity test which the author has recently proposed and of which he can write (p. 628) "it has not yet been carefully studied". No mention is made of maximum likelihood scoring in estimation and heterogeneity testing, a method that has been found extremely useful in genetics. Instead Dr Smith asserts that maximum likelihood is sometimes awkward to apply and proceeds to give a general discussion of theories of estimation. This will be of limited interest and probably of no use to biologists. In this same chapter the author manages to discuss regression and the fitting of curves by the method of least squares without any mention of least squares.

The book ends with chapter 22, "Colson Notation. Arithmetic Made Easy", an account of an arithmetical notation that is 228 years old and which, Dr Smith thinks, has been "strangely neglected". Those who are historically minded will enjoy this presentation of a fascinating notation long overlooked by mathematicians and now embellished with inverted numbers.

Those who are not historians should perhaps be told that the calculus was not discovered by the Chinese as is stated on page 198.

It is clear from his style of writing that the author possesses great enthusiasm for his subject. It is therefore all the more to be regretted that he has not given us a completely new book.

Because of the content of the first eighteen chapters, the present book should be specially useful to teachers and also to biologists wanting to build up their mathematical knowledge. But its price will place it beyond the reach of many for whom it is intended.

J. H. BENNETT.

RECENT DEVELOPMENTS IN CELL PHYSIOLOGY. Proceedings of the Seventh Symposium of the Colston Research Society. Edited by J. A. Kitching. London: Butterworths Scientific Publications. 1954. Pp. 206. £2.

There are fifteen not very well connected papers in this symposium (or polyposium) by Danish and British workers. Four are of genetical interest. Brachet discusses the lack of relation of the cell nucleus to oxidation and the mitochondria, and its effectiveness for enzyme activity, especially of the microsomes, and for nucleotide and protein production. Waddington explores the function of different types of plasmagenes in development. Westergaard and Hirsch describe an experiment in the genetics of melanin metabolism in *Neurospora* which has very wide bearings. Swann shows how the delay in one mitosis fails to delay the next mitosis in a sea-urchin egg: he discusses the nature of the reservoir of mitosis-producing materials which this implies.

ARTIFICIAL BREEDING AND LIVESTOCK IMPROVEMENT. By G. W. Stamm. Chicago: Popular Mechanics Press. 1954. Pp. 282. \$3.50.

An "easy-to-understand book" on stockbreeding with emphasis on artificial insemination and an account of American cattle, pig and sheep breeds. Over 100 illustrations, including one of a zebra-donkey and one of a unicorn (p. 117).