

and these are quite large for small samples. Example 2 on page 113 has twelve pairs and a rank correlation of  $-.451$ . If there is no population correlation the standard error is  $1/\sqrt{11}$  or  $.302$ , and the observed correlation is not obviously significant although the text implies that it is. The chapter on analysis of variance raises a number of doubts. First, the rule for pooling the residual with the interactions provided that no interactions are significant (p. 175) is not entirely correct from a theoretical point of view and needs amplifying if it is to be taken as a practical rule. In the example following this (p. 182) the rule is not followed, but it is important to realize that there are alternative methods of analysis of this particular problem. The author treats it as a cross-classification using the systematic form of set-up, whereas a study of the original data as given by P. R. Rider, suggests that it would be more appropriate to use the random model allied to a hierarchical form of set-up. The latter leads to different conclusions demonstrating the importance of choosing the correct model.

A large number of misprints and arithmetical slips have been noticed. Many of them are obvious and easily corrected, but some might lead a student astray and it is to be hoped that an early opportunity will be found to correct them.

As a whole this book would be difficult for a student new to the subject to master on his own. It tends to present statistics as a series of mathematical and arithmetical problems. In the reviewer's experience newcomers to statistics find this facet of the subject less difficult than making the correct choice amongst the various tools available and selecting that one which is the most suitable for any particular problem. This requires rather greater insight into many of the methods put forward in this book than is given and probably more experience in the handling of data. It seems, therefore, that the book would be of most value for a student to have at his elbow whilst attending a course on statistics. The scope and contents have been carefully chosen and could form the nucleus of a very valuable statistical training.

P. G. M.

*Sixty Years of the Chartered Insurance Institute. 1897-1957.* By H. A. L. COCKERELL.

[Pp. 92. London: The Chartered Insurance Institute. 1957. 5s. 6d.]

THIS short history is written in a fascinating manner by the present Secretary of the Institute and is attractively produced with many interesting illustrations.

The first insurance institute was set up in Manchester in 1873 and, by 1897, nine other institutes had been established in provincial cities although, significantly, not in London, Edinburgh or Liverpool. It was therefore appropriate that Manchester, in 1897, should have taken the initiative in forming the association called the Federation of Insurance Institutes of Great Britain and Ireland, which was the forerunner of the Chartered Insurance Institute.

Mr Cockerell pays tribute to the part played in the evolution of the Institute by a number of enthusiastic insurance officials. In particular, Samuel J. Pipkin prepared the way for a new constitution in 1908, which made possible the granting of a royal charter in 1912.

From the earliest days, examinations were held in a number of subjects in a dozen centres and the Institute has throughout its history remained primarily an examining body. The value of its diplomas is now widely recognized within the insurance business and no fewer than 11,000 candidates sat for the examinations in 1956.

The Institute's impressive Hall in Aldermanbury was opened by King George V in 1934. It survived the 1939-45 war practically intact, and accommodation was kindly provided there for Sessional and Council meetings of the Institute of Actuaries for ten years after the destruction of Staple Inn Hall.

The way in which the author brings to life the personalities and events of the past sixty years makes a most readable and instructive book.

C.J.B.

*English Life Table No. 11 (Males). Mortality Functions and Monetary Tables.*

[Pp. 132. Printed privately for the Industrial Life Offices Association by the offset lithographic process.]

THIS book includes monetary tables based on English Life Table No. 11 (Males) and reproduces the Life Table with the addition of a column giving values of  $\mu_x$ . At ages over 84 the  $l_x$  and  $d_x$  columns have been recalculated to retain five significant figures.

At each of the nine rates of interest of 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ , 3,  $3\frac{1}{4}$ ,  $3\frac{1}{2}$ ,  $3\frac{3}{4}$  and 4% values are given of  $D_x$ ,  $10^5 D_x^{-1}$ ,  $\bar{N}_x$ ,  $\bar{C}_x$ ,  $\bar{M}_x$ ,  $\bar{R}_x$ ,  $\bar{a}_x$ ,  $\bar{A}_x$ ,  $\bar{P}(\bar{A}_x)$  for ages 1-100 and  $\bar{a}_{x:\overline{n}|}$  for all  $x \geq 1$  and  $n \geq 1$  such that  $x+n \leq 90$ .

The work was a 'combined operation', the functions at each rate of interest being calculated by a separate Industrial Life Office or Friendly Society, and the work of co-ordinating the methods and reproducing the tables was undertaken by Mr S. S. Townsend, F.I.A.