

mortal combat but diminishes fertility. Some experimental researches on natural selection are noted but not described in detail. Genetic drift is discussed at some length. Fisher's proof of the ultimate extinction of a gene of neutral survival value is sketched and his result for the chance of survival in a finite population of an advantageous gene is given without developing the theory of gene diffusion. Otherwise Sewall Wright's methods are used. The book ends with a brief exposition of the Neo-Darwinian view of the origin of species and races. Taken in all this book is distinctly easier to follow than Malecot's, being in this respect similar to C. C. Li's though restricted to a smaller range of mathematical topics. It should provide French readers with a quite stimulating introduction to evolutionary theory and the mathematical challenge which that theory presents.

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THE MECHANISM OF EVOLUTION. By W. H. Dowdeswell. Heinemann. 1955. Pp. ix+99. 6s.

The Scholarship Series aims to offer "lengthy essays on selected topics not adequately treated in textbooks" and which are still rapidly advancing. Mr Dowdeswell's book has the distinction which we would expect from its author and can be read with pleasure and profit by an audience much senior to that for which it is primarily intended. The writing is clear, the examples fascinating and the development of the argument is skilfully carried through.

After a brief account of Lamarck's speculations, he sketches Darwin's views on the efficacy of natural selection operating on variation and shows how Darwin was led to postulate a high rate of induced mutation in order to extricate himself from the difficulty into which he was led by a belief in blending inheritance. Dowdeswell then defines the programme which Neo-Darwinism sets itself, as consisting in the determination of the sources of variation, and a quantitative approach to the study of natural selection as happening now. Assuming Mendel's Laws he reviews genetic variation in many aspects and leads to the conclusion that normally we have opportunity to observe only micro-evolutionary change. He next considers natural selection and adaptation, with examples from modern field work in many different species.

Mr Dowdeswell is concerned also with showing how such field studies can be carried out with profit to evolutionary science by schools or other groups of natural historians. He stresses the importance of design if the data are to be precisely evaluated. Data on dispersal, survival rates and population size are particularly important, and he sketches various methods elaborated by the distinguished group of investigators to which he belongs.

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DAS LEBEN DER GEWÄCHSE, EIN LEHRBUCH DER BOTANIK. Band I : Die Pflanze als Individuum. Fr. Oehlkers. Berlin : Springer. 1956. Pp. 463, 523 text figures. DM. 39.60.

This first volume considers the plant as an individual as opposed to the plant in the world to which the second volume will be devoted. The planning of the book goes back, according to the author, to 1935. In fact it seems to go back much further. Its proportions are surprisingly little changed to accommodate the new learning to which the author has for