

the dust cover. This should prove no deterrent to those readers for whom content takes precedence over form. Indeed, we can but hope that the publishers feel the success of this volume merits an annual review along the same lines.

P. J. GRAHAM.

#### CLASSICS REPRODUCED

**Readings in Neurophysiology.** Edited by CHARLES D. BARNES and CHRISTOPHER KIRCHER. Chichester: John Wiley and Sons, Ltd. 1968. Pp. 482. Price 84s.

This is a collection of 18 papers, written between 1924 and 1962, reproduced photographically from the journals in which they originally appeared. This era saw the elucidation of the physiology of the action potential and the triumphant application of electrophysiological methods to the understanding of the spinal reflex arc, and the papers selected are confined to these two themes. All but a few of them are undisputed classics. They include Hodgkin and Huxley's definitive account of the electrical properties of the nerve membrane, with two of the earlier papers in which these were first elucidated in the large diameter fibres of the squid and lobster by Cole and Curtis and by Hodgkin and Rushton. Katz is represented by no less than four papers, an indication of the magnitude of his contribution in this field, two dealing with the relationship between the local 'generator potential' in the spindle and the propagated train of impulses in the afferent nerve, and two more, with Fatt and del Castillo respectively, on the relation of the end plate potential to acetylcholine release and the quantal nature of the miniature end plate potentials in resting muscle.

The remaining papers are all concerned, directly or indirectly, with the investigation of the spinal reflex. The book begins with Liddell and Sherrington's paper on the myotatic reflexes, communicated to the Royal Society in 1924, and perhaps the last great contribution before the era of electrical recording began. It also includes the four papers in which Lloyd, some twenty years later, established the monosynaptic character of the stretch reflex and distinguished it from the multisynaptic flexor reflex.

The 1931 paper in which Matthews investigated the character of the message sent in from the muscles during stretching by measuring the discharge from a single muscle spindle in the frog toe was an important landmark, but it is arguable that a stronger case could have been made for including his second paper, published two years later, which differentiated the various classes of muscle receptors in the cat and

showed clearly the A and B type, respectively silenced or accelerated during a muscle twitch and behaving in the way to be expected from endings in parallel or in series with the contracting muscle fibre. The further analysis of these discharges led, through the work of Leksell (whose monograph in 1945 is understandably not represented) to the investigation of the role of the gamma efferents in the control of the intrafusal muscle fibres and hence of spindle bias. Carlton Hunt, who played a major role in this analysis in the '50s, has two joint papers in the book.

There can be little criticism of the choice of papers in this collection, although it is not hard to find important gaps. Probably the authors were wise to restrict their readings to this relatively small, very fruitful, area of neurophysiology. Those who like mathematical rigour will certainly find it in the papers on the electrical properties of the peripheral nerve and the myoneural junction. But it is surprising in a collection largely devoted to the monosynaptic reflex to find that Sir John Eccles is represented only by his paper with Fatt and Koketsu on the inhibitory interneurone. The late Birdsey Renshaw might also have been better represented by his 1941 or 1946 papers on recurrent inhibition rather than by his earlier paper on synaptic delay.

The editors of the present volume have added a few pages introducing the various topics dealt with in the papers they have selected. They disarm criticism in advance by making it clear that the book is not intended to be read by their colleagues, who should be familiar with the papers already, but is meant for the student beginning to study neurophysiology. Any student who reads and digests these papers will have an idea of neurophysiology at its best, although he will certainly be in for a disappointment if he regards them as typical.

Out of a total of 482 pages, the book contains less than 25 pages of original material, and these show signs of careless proof-reading. There is therefore a certain irony in the fearsome announcement on the back of the title page: 'All Rights Reserved. No part of this book may be reproduced by any means, nor transmitted, nor translated into a machine language without the written permission of the publisher'!

A. M. HALLIDAY.

#### GENETICS

##### **Brain Damage by Inborn Errors of Metabolism.**

Symposium organised by the Interdisciplinary Society of Biological Psychiatry, Amsterdam; edited by H. M. Van Praag. Haarlem: De Erven F. Bohn N.V., 1968. Pp. 126. Price Hfl. 12.50.