

physical and physiological investigations that later grew out of Mach's work. This chapter, in fact, is a general review of the literature, which is, however, extremely well digested and clearly expressed. The third chapter is on mathematical models of neural networks, and includes discussions on the studies of Huggins and Licklider, and of Bekesy; of both Mach and Fry, of Hartline and Ratliff and of Taylor. Although this chapter is in part rather difficult, it is possible to recognize a fair degree of self-criticism in the author when referring to some of his own previous work. The fourth chapter deals with the functional significance of inhibitory interaction, and in a way represents the key to Ratliff's views on the understanding of the organization of complex receptive fields such as the retina.

The fifth chapter discusses the relationship between appearance and reality as a crucial issue for the theory of knowledge. It is an entertaining and tantalizing chapter showing the impact of Mach's thinking on the evolution of Ratliff's thought.

The second part of the book consists of a translation of some of Mach's papers, with the original diagrams and illustrations. The present reviewer would be unable to comment on the fidelity of the translations, not having read the original papers. There is, however, some similarity in style between this translation of some of Mach's work and the rest of the book by Ratliff, which is not surprising in view of the deep admiration of the Ratliff of today for the Mach of a century ago.

G. PAMPIGLIONE.

3. MENTAL DEFICIENCY

Down's Anomaly. By L. S. PENROSE and G. F. SMITH. London: J. and A. Churchill, Ltd. 1966. Pp. 218. Price 42s.

This excellent and beautifully illustrated book should prove to be a classical work. It is very readable, and covers in a most comprehensive way clinical, psychological, biochemical and cytogenetical aspects of mongolism. There is a chapter on treatment, including a section on genetical prognosis.

In the preface, the authors express their feeling that although it was their aim to present the data as objectively as possible, their own interests had "no doubt unavoidably introduced bias". The approach, in fact, is essentially biological, as would be expected from the authorship of Penrose, but, characteristically of his writing, a scrupulously fair picture is presented, complete and uncoloured by subjectivity. The apology in the preface for possible unevenness in

treatment of various parts of the subject seems superfluous.

It is interesting that despite the title of the book, the term "mongolism" is used throughout. This is a traditionally used term for the condition, and has advantages, including those of verbal economy and of not being eponymous. It is well-known nowadays that the term is used in this context without racial connotation, and it is so widely accepted that parents have been confused and even distressed when an alternative name which they did not understand has been used for their child's condition. As the authors point out, the term "mongolism" has been used extensively in the world literature, and there has been no general agreement on an alternative. Therefore it seems rather a pity that they preferred an eponymous variation for the title of the book, though this pays homage to the memory of Langdon Down in the centenary year of his classical description.

As Penrose himself has pointed out, for many years it has seemed that mongolism must hold a very special position in medicine. "It does not fit in easily with classical pathology; everything in the body is morphologically a little out of the true, and each case varies somewhat from every other in diagnostic points in spite of a mysterious similarity between them all." (Penrose, 1962). Since the time of Langdon Down's description the syndrome has been a source of fascination, and a great variety of aetiological theories have been put forward. In 1932, Waardenburg suggested that a gross chromosomal defect might give rise to the condition. It was not, however, until 1959 that Lejeune, Gautier and Turpin in Paris established the presence of an extra chromosome in the cells of mongols, thus distinguishing mongolism as the first syndrome in man to be associated with a demonstrable chromosomal defect. During the past seven years, since this discovery was made, a vast amount of literature has accumulated bearing upon the cytogenetics of mongolism and reflecting concentration of research in this area. In a very lucidly written chapter on cytology, Penrose deals with this vast new field of knowledge. In contrast, one is struck by the relative paucity of existing knowledge in certain other fields relating to mongolism, such as neuropathology. Mongolism provides a kind of natural experiment or model whereby the physical and psychological concomitants of a chromosome defect can be studied. It is to be hoped that the cytogenetic breakthrough will give impetus for research to be done in those fields where information is lacking.

This book has been written to stimulate further researches. The authors express their hope that it will be useful as a reference manual for students, physi-

cians and research workers. Indeed, it provides a wealth of facts and should provoke much new thought. It stands as a great contribution to medical and scientific literature.

VALERIE COWIE.

REFERENCE

PENROSE, L. S. (1962). Biological Aspects. *Proceedings on the Scientific Study of Mental Deficiency*, 1960, 1, 11-18.

Mental Deficiency—the Changing Outlook.

Edited by ANN M. CLARKE and A. D. B. CLARKE. 2nd Ed. London: Methuen and Co. Ltd. 1965. Pp. 596. Price 63s.

This book, which was first published in 1958, is now in its second edition. It is a valuable source of information on recent advances in social, psychological and educational fields relating to mental subnormality. This is clearly its aim, as is indicated in the foreword by its editors.

If, however, the potential reader is looking for a comprehensive clinical textbook on mental subnormality, he will be disappointed. This book is one of the series of Methuen's Manuals of Modern Psychology edited by C. A. Mace and is not orientated towards the biological and medical aspects of the subject. This is reflected in the fact that only one writer amongst its eight contributors holds medical qualifications. The section by Dr. J. M. Berg on pathological factors in connection with the aetiology of mental subnormality is contained within only twenty-eight pages. In this remarkably short section Dr. Berg covers the categories of environmental and genetical causation, giving examples of conditions in a way that suggests a desire to have written at greater length. In the foreword, the editors state as their first aim the intention to "summarize as comprehensively as possible the literature on psychological and social aspects of mental deficiency (particularly that of the last decade) against a background of genetics and neuropathology". In view of this, their book would have been greatly enriched by the inclusion of more biological and clinico-pathological subject matter. For example, an excellent contribution, perceptive and critical, has been made by Miss Elspeth Stephen on the subject of cerebral palsy, with the main emphasis on its psychological implications. This would have been very suitably complemented by a neurologically-orientated contribution on this essentially clinical entity, extending to cover such important aspects as minimal brain dysfunction.

A chapter by Dr. Neil O'Connor on learning and mental defect stands out as especially noteworthy. In it he discusses the central problem of learning theory

and techniques applied to the training, education and treatment of defectives. He discusses basic work along these lines in America and in the Soviet Union. His sections are particularly succinct, in contrast with some other parts of the book, which are more diffusely written and add to the length of this fairly large volume without perhaps adding in proportion to the hard facts contained in it.

This is an earnestly written and edited book, and includes a reference list of some 1,200 items. As indicated by its title, its main overall theme is the advancement in recent years from an almost nihilistic outlook to one of positive endeavour in the field of mental deficiency.

VALERIE COWIE.

4. PSYCHOLOGY

A New Introduction to Psychology. By JOHN COHEN. London: George Allen & Unwin Ltd. 1966. Pp. 220. Price 25s.

A Textbook of Psychology. By DONALD OLDDING HEBB. London: W. B. Saunders Company. 1966. Pp. 353.

The days are gone when D.P.M. candidates, in search of a "psychology book", dragged their feet through Thouless's unreadable neo-McDougallism and added Woodworth's "Contemporary Schools" to answer an inevitable question about the legendary Gestaltists. Nowadays there are many first-class elementary books, and this is a competitive market. In reviewing a new book by Professor Cohen and a second edition by Professor Hebb one is bound to ask whether these books have anything to say that has not already been equally well, or better, said by others. The answer, in both cases, is that they have. Having said this, one can add that there are few points of contact between them, and they provide an interesting contrast. Professor Cohen's book is written with style, is cultured, broadly based and remarkably free from bias, and gives a genuinely all-round view of the current psychological scene. Professor Hebb's book is written drily in the self-conscious tradition of a "scientific" psychology, and presents an unabashed behaviourist viewpoint. Light relief is offered only once by the reprinting of a behaviourist joke. This shows two rats in a Skinner box, one about to press and saying to the other: "Boy, have I got this guy conditioned! Every time I press the bar he drops in a piece of food." Both books compare interestingly with similar books of ten or so years ago. Topics that are now "in" include ethology, linguistics, communication theory, Piaget and the