instance, a vivid and intense visual image is explicable on the basis of slight muscular movements. In a measure this theory of thought would seem to weaken rather than strengthen the behaviourist position, because it is contrary to the facts of daily experience. Cognition is too fundamental a fact about the human being to be ignored successfully by the psychologist, and somehow or another it will have to be taken into account.

From the brief outline that has been given of the contents of this volume, it will be seen that Professor Watson adopts the conventional method of the psychologist in presenting the subject to the student. He artificially divides up the individual reaction systems of the individual for the purposes of description, just as it is customary to describe states of consciousness under the headings of cognition, conation, and affection. Having thus described the various part activities, he devotes the final chapter to the consideration of the totally integrated individual in action, or the personality and its disturbances. His practical treatment of this subject is useful, but the chapter is short, and, as the author explains in the preface, by the time attention has been paid to the necessary part activities there is but little space to consider the totally integrated individual.

This volume contains much of interest, and Professor Watson writes with clearness, vigour, frankness, and courage. It is doubtful, however, if his theoretical views will find general acceptance, and they would seem to need much more evidence to support them than is at present forthcoming. Consciousness as a fact cannot be dismissed in a few abrupt and vigorous phrases, and the reader will still probably feel after reading this volume that man has a psychophysical rather than a merely physical organization. As a method of approach, and on practical grounds, behaviourism may well be left to take care of itself, and it may be relied upon to furnish contributions of value to psychology. As a reaction against academic introspectionism its significance is readily to be understood, and by its emphasis on action rather than thought it has already exerted a considerable and beneficial influence upon normal psychology. The psychopathologist long ago discovered that the academic psychologist was unable to afford him much assistance in elucidating the problems he was called upon to solve, and he has tended naturally to develop a psychology which, in many respects, is closely allied to behaviourism. The aims are similar, though the methods and terminology differ.

H. Devine.


It is no easy matter to condense within a small compass a complete scheme of neurological examination; yet Dr. Monrad-Krohn has succeeded in presenting in a slim volume of less than 150 pages a detailed and practical account of the methods available in the study of nervous disease. The
subject is not one which is capable of great variety in the manner of its treatment, and Dr. Krohn adheres closely to the order of examination usually followed in British schools; but he has shown sound judgment in including an outline of the examination of the mental state of the patient.

Now and then the reader meets with novel phrases, and there is an occasional error in spelling; in the section devoted to aphasia there is one curious omission—nothing is said of the importance of ascertaining the right- or left-handedness of the patient. The author has included a number of diagrams, some of which are not particularly well executed or altogether free from error. In diagram 11, for example, the position of the gracile and cuneate nuclei is wrongly indicated. However, these are only venial faults, and are well atoned for by the general excellence of the book, which can be cordially recommended to all students wishing to acquire a reliable method of neurological examination.

Therapeutic Immunization in Asylum and General Practice.

In these days, when most forms of chronic nervous and mental disease are generally attributed to buried psychic complexes, it is refreshing to find a writer who, with equal dogmatism, bases their etiology on bacterial infection of the intestinal tract. Dr. Ford Robertson has long considered tabes dorsalis and progressive general paralysis to be due to an infection with diphtheroid organisms, but his earlier views of these diseases have been modified to some extent. He now allows to syphilis the rôle of a predisposing factor in that it damages the blood-vessels of the central nervous system and allows 'neurotoxic' diphtheroid bacilli to attack the nervous tissues. The field of action of these bacilli has now been widened to include all cases of neurasthenia and disseminated sclerosis. In these diseases he has constantly found anaerobic diphtheroid bacilli in the stools, and by injections of the dead bodies of these bacteria has been able to modify the course of the disease. Perhaps the weakest point in his argument is that he places implicit trust on the immediate effects of such injections as proofs that the organism injected is the causa causans. Throughout the book he frequently uses phrases such as "the evidence that anaerobic diphtheroid bacilli are a cause of neurasthenia lies in the phenomena observable when therapeutic immunization is carried out."

Diphtheroid bacilli are also considered to be the chief cause of certain mental diseases such as dementia praecox, manic-depressive insanity, and some forms of acute insanity. In these diseases they are aided by various neurotoxic cocci.

Exophthalmic goitre is "determined by the involvement of the cervical sympathetic nervous system in the neurotoxic action of intestinal diphtheroid bacilli." In this disease there is usually also heavy infection with the Streptococcus fecalis hemolyticus and the pneumococcus.

A new discovery is that diabetes mellitus is directly due to a special anaerobic streptothrix with amylolytic properties. This organism was
constantly found in diabetes, and frequently in other nervous disorders associated with glycosuria. Rats when fed on this organism developed glycosuria, and some died in diabetic coma. The author was not, however, able to cure the disease by therapeutic immunization against the streptothrix. This he explains on the supposition that a centre in the brain which governs sugar metabolism has already been damaged when the disease is sufficiently advanced to be recognized.

Many other forms of disease are also specified with regard to which the author's ideas are more in consonance with those of the majority of the profession. His claims in the territory of nervous diseases, however, appear to need more substantial proof before they are generally accepted. We should like to know, for instance, what results have been obtained by the experimental injection of the toxins of his 'neurotoxic' strains of bacteria. The evidence that these strains are 'neurotoxic' appears at present to be purely clinical, and there is at least a possibility that they produce their effects on the nervous system by some less direct mechanism. Thus it may be true that many forms of nervous and mental disease are due to alterations in the functions of the ductless glands, and certain of the latter appear to be influenced by enterogenous toxemia. This, however, does not appear to be quite the same thesis as that propounded by Dr. Ford Robertson, to whom the direct neurotoxic action of the bacteria appears to be the chief factor in determining disease in the nervous system.

J. G. GREENFIELD.


Professor Ransom has written a useful book on the anatomy of the nervous system, which is particularly well illustrated and in which morphological details are clearly set forth. It is true many of the illustrations are culled from other sources, and not a few are now becoming somewhat hackneyed, but it cannot be said that this detracts from the value of the book. Its general format leaves nothing to be desired.

Though in the introduction the author emphasizes the importance of the dynamic as opposed to the static point of view in the study of the morphology of the nervous system, we are of the opinion, on a perusal of his work, that it is less satisfactory on the physiological than on the anatomical side, and that if clinical data are to be utilized at all, they should be incorporated on a less sketchy scale. Thus, for example, a few lines (p. 295) are devoted to aphasia, but a mere paragraph can serve no useful purpose. Similarly, a brief reference to the Brown-Séquard syndrome (p. 112) shows the impossibility of giving an adequate account of that condition in seven lines.

On the strictly anatomical side the student of the subject will find in the book a sound compendium of knowledge, based on the most recent investigations and embodying not a little hitherto not commonly given in
Reviews

J. G. Greenfield

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