BOOK REVIEWS

Brain—Memory—Learning: A Neurologist's View. By W. Ritchie Russell. (Pp. xii + 140; illustrated. 18s.) Oxford: The Clarendon Press. 1959.

In this admirable little book, Dr. Ritchie Russell aligns himself firmly with those who regard psychological issues as inseparable from the problems of neurology. "The developmental of the human mind," he points out in his Preface, "... probably provides the most important evidence of all about cerebral mechanisms"—and it is just this evidence which the author seeks to embody in his general conception of brain function. In particular, he has been much impressed by the evidence relating to learning in early life and its importance for later development—evidence which has been culled from sources as diverse as comparative zoology, experimental psychology, and psycho-analysis. This leads him to consider with particular care the whole problem of memory, which he traces from its comparatively simple origins in synaptic plasticity to the complex systems derived from past experience which must be assumed to operate in recognition and recall. Although the gaps in our knowledge are enormous, Dr. Ritchie Russell makes a most praiseworthy attempt to bridge them. In particular, his excellent account of the traumatic amnesias leaves no doubt as to the contribution which clinical study can make to our understanding of memory. Of great interest, too, is his attempt to link the problem of early learning with the functions of the frontal lobes. Although admittedly speculative, this suggestion would seem well worthy of more detailed inquiry.

Not unnaturally, Dr. Ritchie Russell devotes a good deal of space to aspects of neurology in which his own special research interests have lain. Thus he presents an admirably lucid account of concussion in which emphasis is placed upon the widespread distortion of hemisphere tracts rather than upon localized damage to the brainstem. This account should do much to restore a more balanced perspective with regard to the problem of consciousness. Other chapters are devoted to the sensorimotor cortex, traumatic epilepsy, and the problem of pain. Although much of the material cited in these chapters will be already familiar to those who have followed the work of the author and his colleagues, the present account has particular value in bringing together a number of scattered contributions and in relating them to more general issues in neurology. Dr. Ritchie Russell also devotes some interesting pages to the problem of frontal lobe function and the rationale of leucotomy.

It is evident that a book which attempts to cover so much in so brief a scope cannot satisfy everybody. The present reviewer must confess to slight disappointment that the author has seen fit to devote only three and a half pages to aphasia and that apraxia and kindred

disorders receive no more than passing mention. He has also the impression that the author's treatment of theoretical issues leaves something to be desired. For example, there seems to be some real confusion regarding the Jacksonian concept of "levels of function" and its relation to the anatomy and physiology of cerebral systems. So far as the present reviewer has been able to follow Jackson, there is no suggestion in his writings that "levels of function" are to be regarded as governed in any precise way by considerations of structure. If this is correct, the fact that important aspects of behaviour may depend upon subcortical no less than upon cortical structures in no way invalidates Jackson's position. Whatever the precise cerebral systems involved, say, in the activity of swearing, the latter remains less complex and more automatic than propositional speech, and to this extent demands treatment as a "lower level" function. Had Dr. Ritchie Russell given more attention to levels of psychological function, and to the correlated distinction between "negative" and "positive" sequelae of brain injury, it is possible that he would have provided an even more satisfactory neurological framework for the analysis of behaviour.

It is noteworthy that Dr. Ritchie Russell lays particular stress on the work of Freud and his disciples in providing some account of the general development of human behaviour, if from a standpoint very different from his own. One might wish that this parallel had been developed somewhat more fully. Even within neurology itself, the role of psychopathological mechanisms of the type conceived by Freud is being increasingly acknowledged, as, for example, in recent studies of anosognosia and the mechanisms of denial. A more adequate appraisal of these mechanisms from the more cautious standpoint of neurology might appear both rewarding and timely. All the same, it may be hoped that psychoanalysts and others, whose attitude to neurology has not hitherto been marked by conspicuous tolerance, will take due note of Dr. Ritchie Russell's broad-minded and generous tribute to the work of their master.

This little book will have permanent value as recording the work and views of a physician whose vision extends far beyond the day-to-day preoccupations of clinical neurology. Its author combines the broad humanity of the good physician with the almost boyish curiosity of the born investigator. If he is at times simple-minded, it is a simplicity which surprisingly often proves nearer the mark than the sophistication of the professional scientist, at all events in the somewhat arid field of modern psychology. Anyone who cares about the mind and its physical basis will read this book with enjoyment and profit.

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