spread across to adjacent bundles. The potential developed in the bundle controls the amount of smooth muscle contraction, and itself depends both on the number of nerves which are stimulated and on the frequency of impulses in those nerves. Transmitter action is probably terminated by diffusion of transmitters away from receptor sites, not by breakdown at the site as with somatic innervation. There may be several types of neuromuscular junction which still need further description by electron microscopy, as they are too small to be examined by light microscope. This book will prove valuable to those who wish to know the present position in this expanding subject.

J. M. K. SPALDING

CORE TEXT OF NEUROANATOMY By Malcolm B. Carpenter. (Pp. 269; illustrated; £4.25.) Churchill Livingstone: Edinburgh. 1972.

This book represents a welcome new trend. Textbooks intended for undergraduates have a problem of middle-age spread compounded by increasing numbers of 'essentials' for student digestion. Neurologists are well aware of the results of an expanding lesion in a non-expanding container. Headaches are too easily ignored until thinking stops and death is perilously near. Dehydrating the lecture-demonstration course is only palliative if textbooks grow to dimensions which make it impossible to read them through. When a book has to be used as a reference book it is no longer a textbook.

Professor Carpenter has produced a new book based on his well-known *Human Neuroanatomy* which is a welcome move to reduce the subject to essentials, and to reduce duplications (though Figures 8-5 and 9-4 are identical). There is an error of colour coding in Figure 3-25. Many teachers would still question whether 249 pages on neuroanatomy is appropriate but too much condensation makes an indigestible diet. This book seems about right. Illustrations (some borrowed from Mettler's *Neuroanatomy*) are well chosen.

J. A. SIMPSON

THE DIAGNOSIS OF STUPOR AND COMA Edited by F. Plum and J. B. Posner. (Pp. 286; illustrated; £4.75.) Blackwell: Oxford. 1972.

The contemporary social 'epidemic' of road accidents and self-poisoning makes the diagnosis of stupor and coma of vital relevance to doctors in accident and emergency departments and in acute receiving wards. Within our hospitals advances in cardiothoracic surgery, in prolongation of life in patients with chronic renal and hepatic failure, and

the resuscitation of victims of cardiorespiratory arrests makes this a matter of concern to many doctors outside the restricted field of neurosurgery and neurology. Indeed in Britain this problem lies largely outside the scope of traditional neurology, but when this book was first published in 1966 it marked the beginning of a new style of neurology which is steadily spreading in North America. This is concerned with the active management of the acutely ill in general hospitals. While diagnosis for the traditional neurologist is still more often an intellectual exercise than a prelude to action, the management of the patient in coma depends critically on an accurate assessment both of the primary cause and of the secondary processes which have been initiated. That is what this book is about. Because it avoids entanglement with therapy its message is clear and concise and it will not date. The stress is on bedside examination and it is a relief to open a book about clinical neurology which does not include a single radiograph or brain scan. Signs which are emphasized are those which became largely known from the first edition, namely those relating to brain-stem dysfunction (patterns of motor response, of respiration, and of ocular movements). The first four chapters deal with physiopathology of signs, with focal supratentorial and subtentorial lesions, with metabolic disease causing coma; the last two are new. In this edition, concerned with psychogenic unresponsiveness and with the prognosis of coma.

This book is short, but within its terms of reference encyclopaedic; there are over 600 references which are right up to date. It is clear, yet scholarly rather than didactic. The ambiguities and difficulties implicit in the subject are never avoided and the text is enlivened by some 40 case histories, tersely told, well-dispersed through the book, and identified by smaller type. Many modern medical texts are irrelevantly over-illustrated, but this book contains only 24 figures, mostly line drawings or pathological specimens, and all of them helpful and necessary. The first edition began the *Contemporary Neurology* series (edited by Fred Plum and Fletcher McDowall) and the second edition is the tenth of these outstanding texts. It is a model of how a book should be written and proposes a pattern for the practice of neurology in our time. In short, this book is both a classic and a milestone.

BRYAN JENNETT

REVIEW OF ANATOMIC FOUNDATION OF NEURO-RADIOLOGY OF THE BRAIN 2nd edn By McClure Wilson. (Pp. 390; illustrated; £7.50.) Churchill Livingstone: Edinburgh. 1972.

The first part of this book describes the embryology of the brain and the main features of the gross

anatomy. Then follow sections on the neuroradiological anatomy of the ventricular system, the subarachnoid space, and the arterial supply and venous drainage. The text is very readable, and, particularly in the two sections devoted to pneumographic and angiographic analysis, distinctly practical. In addition to the main anatomical variants which might mislead the inexperienced, many other diagnostic pitfalls are noted. Contributions to the literature during the last 10 years, such as those of Ring and Waddington on the small branches of the middle cerebral artery, and Wolf and Huang on veins, have provided much new material, and there has been a 60% increase in size since the first edition. In spite of this, it is still a small book containing a remarkable amount of well illustrated information. The names of all the main structures appear in the 14 page index, and as a guide to his sources and to further reading the author provides a list of 265 references. In these days of ever earlier diagnosis, when radiological changes may be minimal, a thorough knowledge of the normal is essential to the practising neuro-radiologist, and this book should be read and digested by all students of the subject.

J. LESLIE STEVEN

NEUROLOGICAL EXAMINATION IN CLINICAL PRACTICE
3rd edn By E. R. Bickerstaff. (Pp. 361; illustrated; £6.) Blackwell: Oxford. 1973.

The third edition of this popular book retains the style of previous versions, acting as a guide to the mysteries of the neurological examination. In spite of the growing importance of ancillary tests, neurology remains a branch of medicine in which diagnosis still largely rests on the result of the history and clinical examination and on the accumulated clinical skills of the physician. This diagnostic manual, written by an acknowledged expert, is to be welcomed by all those seeking to master the techniques without having to practise them personally for 30 years.

Almost by definition the book is limited in its scope by the horizons of a busy practising neurologist. Accurate diagnosis by the quickest and most convenient route is the beginning and end of the matter. There is scarcely a word about treatment, pathogenesis, or physiology. The style is intentionally didactic, easy to read, and intensely practical but anyone expounding a complicated subject in these terms cannot expect everyone to agree with him all the time. For the sake of future editions it may be helpful to list some of the points where further qualification or clarification is required:

The recommended technique for examining ocular movements (by following) would fail to detect supranuclear gaze palsy. Not all neurologists would accept isolated 3rd nerve lesions as commonly due

to demyelination, or essential tremor as not disabling and uninfluenced by emotion, or the Holmes-Adie pupil as 'contracting briskly' with Mecholyl. Nearly all the book bears the stamp of personal observation but in a few places the suspicion is raised that an untried statement is being passed on. I wonder if the author has really observed that Argyll Robertson pupil fails to react to mydriatics (it often reacts well) or that in hypertensive encephalopathy the ophthalmic artery pressure may be raised out of proportion to systemic hypertension (whatever that means).

These are small faults in an otherwise excellent well-produced book which compresses astute observations over many years into a few short pages and is warmly recommended.

R. W. ROSS RUSSELL

MALNUTRITION AND RETARDED HUMAN DEVELOPMENT

By Sohan L. Manocha. (Pp. 382; illustrated; \$19.75.) Thomas: Springfield, Ill. 1972.

More than two-thirds of mankind is crowded into areas which cannot provide adequate food for their inhabitants. Even in wealthy countries, under-nutrition occurs in many areas.

This book discusses the effects of undernutrition on children's physical and mental development and suggests that both may suffer. The evidence is presented clearly and critically. The author recognizes the difficulty of reaching exact conclusions, because malnutrition is usually accompanied by unsatisfactory educational, sanitary, and other circumstances which may exert similar adverse effects.

It is stressed that the prevention of malnutrition requires much more than the mere provision of a suitably balanced diet and some cultural patterns which may lead to undernutrition in the presence of abundant food are described. The administrative, clinical, and educational steps which should be taken to combat malnutrition are discussed in detail.

This is an informative and easily read book about a very important subject.

W. A. MARSHALL

MULTIPLE SCLEROSIS: A REAPPRAISAL By D. McAlpine, C. E. Lumsden, and E. D. Acheson. (Pp. 653; £6.) Churchill Livingstone: Edinburgh. 1972.

Multiple Sclerosis and *Multiple Sclerosis: A Reappraisal*, have occupied a pre-eminent place in the literature of this disorder. Beliefs about the nature of any particular disease are subject to changes of fashion. The newer the fashion, the more fanatical are its adherents. This reappraisal reviews the current beliefs about the nature of multiple sclerosis and sets the more rampant and recent concepts into a prac-