Book Reviews

Harvey Cushing: Selected Papers on Neurosurgery
Edited by Donald D. Matson, William J. German, and a Committee of the American Association of Neurological Surgeons (Pp. xviii + 669; illustrated, 180s.)
Few specialties can have been so dominated by a single man and for so long as neurosurgery has been by Harvey Cushing. His influence owes much to his pioneer work in establishing neurosurgery soon after the turn of the century. This he achieved by showing that meticulous technique in diagnosis, in the operating room, and in the post-operative period could yield spectacular results in a field hitherto considered too unrewarding to be taken seriously. But his influence derives even more from two other characteristics: his prolific writings and his success in attracting and sustaining a devoted body of pupils. The last of those who worked directly with Cushing will soon retire and it is timely that some of them should have produced this book to mark the centenary of his birth. With the gradual passing of his pupils, and with the Harvey Cushing Society having agreed to give up its romantic name in exchange for one which will neither offend nor inspire anyone, there is a danger that Cushing may not be remembered as often as he ought to be.

He deserves to be read, and not only by neurosurgeons, both because of his historical importance and because so many of the general principles he enunciated are equally applicable today. These include the importance of applied physiology, of learning from the patient as well as doing good to the patient, of the surgeon participating fully in diagnostic procedures rather than acting on the instruction of others, the need for critical assessment of operative results by someone other than the surgeon. We get a full measure of these in the papers reproduced here, because many of them were invited lectures before general audiences (several of them given in Britain) which allowed full rein to Cushing's literary and historical flair. His writing is superb and it is no surprise to be reminded that he won the Pulitzer Prize for his biography of Osler. His papers convey fully the excitement of success and progress in this difficult field, together with the self-reproach which he characteristically felt when things went wrong with an individual patient.

Reviewers always differ from anthologists in their selection of material, but when a book of over 600 pages reproduces only 24 of more than 300 possible papers, the choice is crucial. That so few can be included is a reminder of the more expansive and leisurely style of those days – one paper of some 12,000 words is introduced as the best brief consideration of facial neuralgia. However, Cushing is never for a moment dull even when he is taking his time – but like all of us he repeats himself from paper to paper knowing, like the good teacher he was, that this is the only way to get a message across. With space at a premium in this volume it seems strange, however, not to have minimized these areas of overlap. Having rightly settled for his definitive papers both on cerebellar astrocytomas and on cerebellar medulloblastomas, why include also a general address on intracranial tumours of pre-adolescence, which amounts to no more than a clinical demonstration of 18 children of whom, as would be expected, 14 had cerebellar tumours? Similarly, there are no less than six pituitary papers, yet the classic on Cushing's syndrome is omitted. Also omitted are the papers on the use of silver clips, his contribution with Bovie on electrosurgery, and his early paper on neurosurgical technique. These, together with the Cushing's syndrome paper, have all been reproduced within the last few years in the Journal of Neurosurgery and in Wilkins' Neurosurgical Classics, and this no doubt influenced the compilers of the present book; but its balance and value is undoubtedly affected by their omission. A complete bibliography is given, however, so that the gaps can soon be spotted. Some of them are quite tantalising – 'From Tallow Dip to Television' written in 1931 and translated into Rumanian; and what about a paper on chronic valvular lesions of the heart in the dog with their possible relation to future surgery of the cardiac valves, published in 1908?

There are brief introductions to each group of papers but these would have been more useful if related to each paper in turn, and if they had been more informative, and had made a bolder attempt to put Cushing's contribution critically into perspective. Cushing's writing is too good for us to need reminding repeatedly that it reads as freshly today as when it was written; neither need we pretend that we have not advanced since then by claiming that, but for one or two minor alterations, Cushing methods still stand today. This sycophantic strain would not have pleased Cushing who in his Macewen lecture said 'Macewen would much prefer to hear something of the progress made in subjects to which he was an early, painstaking contributor, than to be embarrassed by plaudits of his pioneering efforts.' And elsewhere in this volume Cushing reflects, 'some of us on scanning our former compositions are conscious that much of them would have been better written in something less indelible than ink.' The best advice to the next generation of neurosurgeons would be to read the present book in parallel with Fulton's biography of Cushing, in order to appreciate the background to the various papers and the work they report. It is certainly valuable to have them collected here between covers, because most of them are from general journals in the first 30 years of the century which may not be immediately available except in the largest medical libraries.

In this small monograph Dr. Byrom has given a fascinating account of the formulation of a hypothesis accounting...
for the effect of extreme hypertension on blood vessels and tissue, and of the painstaking testing and eventual verification of the hypothesis by a series of experiments on rats with renal hypertension. The basic theme is that fibrinoid necrosis in arterioles is a direct effect of high blood pressure on vascular walls. When blood pressure is raised arterial constriction occurs to maintain the relationship of pressure to resistance at a constant level, thus ensuring a constant flow. Since resistance to viscous flow varies inversely with the fourth power of the radius, a small degree of vasoconstriction in the arterioles is sufficient to offset the large increase in pressure. However, the tension generated in the vessel wall as a result of vasoconstriction varies directly with the first power of the radius, so that the physical stress in the walls of hypertensive vessels may be considerably increased. At extreme levels of hypertension there is marked vasoconstriction but in some areas the metabolic reserves of peripheral vascular tone are exhausted, so that after chronic increase in tension weaker regions may give way. Oedema and leakage may occur at areas of dilatation.

Simply and logically, and with great modesty, the author describes the results of years of patient experiment and meticulous technique, marshalling the evidence for and against his hypothesis. In so doing he has produced a remarkable work of medical scholarship which all clinicians and research workers will admire and which few will equal.


The characteristic trend of modern neurology is an attempt at incorporation of the recent rapid advances in knowledge of the physiology and chemistry of the nervous system into clinical practice. Undoubtedly the advances in electrophysiology, histochemistry, and clinical chemistry have been great. Even a 'young Turk' must feel that the major advances have been at the periphery of the nervous system, so it is surprising that this book comprehends a volume of clinical, psychological, and even experimental data bearing on some of the higher functions of the nervous system which could not have been written 20 years ago. The editors of this ambitious handbook were caught unawares and have had to divide the projected volume of neuropsychology into two, leaving aphasia and kindred subjects to volume 4.

Volume 3 contains 21 chapters by well-known authorities starting with an introduction by Critchley (perhaps more appropriate for the later volume) and ending with a long chapter by Luria and colleagues on restoration of higher cortical function after local brain damage. Between these outstanding chapters are others of localization of mental functions, consciousness and attention, coma and sleep, orientation in space and time, memory, intelligence, and emotion. They range from brief reviews supported by a bibliography to definitive monographs. The quality is not necessarily related to the length. Some are frankly poor and of little value to the practising neurologist; others are outstanding reviews. If the clinical scientist sometimes longs for evidence in place of assertion and controlled trials to distinguish therapeutic benefit from natural recovery, there is no doubt that careful study of this book will make many young men ask themselves if British neurology is being too neglectful of the higher functions of the nervous system.

J. A. SIMPSON


This book forms part of Volume 8 of a nine-volume Handbook of Paediatrics and is not intended to stand on its own, containing as it does cross-references to other volumes. Nevertheless, the book provides an impressive account of the neurology and psychiatry of childhood. In the larger section on neurology, there is an introductory section on the basic principles of history-taking, clinical examination, the diagnostic methods in paediatric neurology as illustrated by the assessment of the brain-damaged child. This is followed by an account of the normal development of the skull and brain, after which there are sections dealing in detail with diseases of the nervous system in childhood. These are grouped under the general headings of developmental anomalies of the skull, prenatal and neonatal anomalies and diseases, degenerative, inflammatory, and vascular diseases, damage to the nervous system by physical agents, disorders of the autonomic nervous system, and a chapter on fits in childhood. The second section on psychology and psychiatry starts with a description of normal psychological testing. Disturbances of psychological development and maturation, behaviour disorders, childhood psychosexuality, and speech disturbance are described, followed by a chapter on psychiatric examination and psychotherapy. The book concludes with a thoughtful chapter on the psychological situation of the child in hospital. There are more than 30 contributors to this book, and by and large, the difficulties inherent in such multiple authorship have been satisfactorily overcome. The inevitable delay between the completion of the individual contributions and the final publication of the volume does not appear to have excluded references to up-to-date sources in the literature, some of the papers quoted in the extensive bibliography being as recent as 1969. The book has been produced to the high standards one expects from Springer-Verlag and provides a definitive work of reference on paediatric neurology and psychiatry.

J. B. STANTON


The chief regret one has on reading this report of a symposium on neurogenic disturbances of the bladder is its shortness. Guttmann reports on the treatment of a new case of paraplegia before reflex emptying of the bladder occurs, as it is practised at Stoke
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J. A. Simpson

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