scalp and skull tumours—only an operation for sebaceous cyst is given. The only operation of interest to the neurosurgeon which is included is that for cervical rib. This is inadequately described and the illustrations not very helpful.

For each operation there is a short section on indications and some clinical data. These are often not fully covered and in any case would be more appropriately placed in a work on clinical surgery. The operative descriptions are, in general, good and the illustrations adequate, though variable in quality and useful content. Many minor but essential details of technique, such as the closure of the platysma in neck incisions, are not stressed and the frequent advice for the use of catgut sounds strange in this day and age. The neurosurgeon will find nothing to help or interest him in this volume.

BRODIE HUGHES

NEURO-TRAUMATOLOGIE MIT EINSCHLUSS DER GRENZGEBIETE Vol. 1: Die frischen Schädel-Hirn-Verletzungen By F. K. Kessel, L. Guttman and G. Maurer. (Pp. xi + 428; illustrated. DM 180.00.) Urban and Schwarzenberg: Munich, Berlin, and Vienna. 1969.

This volume is the first of a trilogy. The next two will deal with injuries of the spinal cord and of peripheral nerves.

The book sets a high standard and it augurs well for its successors. There are introductory chapters on anatomy, physiology, and pathology. Other chapters deal with the origin and effects of intracranial pressure, with echoencephalography, x-ray diagnosis, and anaesthesia if operation should be required. There are very useful and concise pages devoted to the care of the unconscious patient as well as the general diagnostic procedures to be undertaken.

Professor Kessel is to be congratulated not only for having chosen his contributors with extreme care, but also for his own presentation of operative and conservative therapy. Since the vast majority of injured patients turn out to have no need for major operative procedures or prolonged hospitalization, one misses in this volume the need to explain to patient and relatives that there is no need to fear any future complications: a most important part in the early treatment of skull and head-injuries.

There are, of course, several points on which the reviewer would take issue with the contributors whose chapters to some degree necessarily overlap. Not enough is said about the rarity of subdural haematoma occurring in adults without major brain damage, and the wisdom of ever excising a temporal lobe in the presence of a tentorial herniation is much to be doubted. The reviewer has never found it necessary or of any benefit to sever the middle meningeal artery at the foramen spinosum in epidural haemorrhage; such a procedure could only lead to further brain damage. In his experience of gunshot wounds during the last war the reviewer has not found it necessary to excise dura nor to close the dural defect. He was, however, much honoured to find on p. 367 a diagram which he had contributed to the *British Journal of Surgery*, Suppl. I (1947). His pleasure would have been enhanced had there been an acknowledgement

of the source of this diagram in which, in fact, the dura had been left open. Excision of the dura may lead to the spreading of infection in the meningeal spaces which usually adhere soon after the trauma.

In spite of these criticisms, to which others could be added, the volume is to be welcomed. But it is difficult to know to what public it addresses itself. It is too specialized and too detailed for the general surgeon, while the practising neurological surgeon will find much of it too elementary and will be critical of some of the rest. There are 265 illustrations of varying quality.

There is an excellent bibliography and, in general, the volume recommends itself as a reference book, for it leaves little concerning the care of acute skull and brain-injured patients undiscussed.

J. SCHORSTEIN

BIOCYBERNETICS OF THE CENTRAL NERVOUS SYSTEM.

Edited by Lorne D. Proctor. (Proceedings of an International Symposium). (Pp. xviii + 462; illustrated, no price stated). Little, Brown: Mass. 1969.

This book is the published proceedings of a symposium held in Washington, D.C. and its contents are an indication of the progress made in the study of feedback mechanisms in the nervous system. This has required the collaboration of many disciplines, particularly those involved in the mathematical and biological sciences and computer technology, and contributions from these different fields have been brought together. Of the 18 contributions a number are concerned with information processing in the nervous system and the analysis of coding arrangements. In the opening section by Ross Adey these are considered as changes at cellular and molecular level; later in the book J. Ryland Mundie develops a system of communication logic to describe nervous activity. W. L. Kilmer and his associates consider the reticular formation in terms of a mathematical model which can be studied and tested by computer simulation. Other sections include an analysis of feedback mechanisms in the vestibular system by Laurence R. Young and there are papers on the mechanisms underlying speech and linguistics and the control of reflex activity. Much of the material in the book is dealt with in rigorously mathematical terms and may prove difficult for the non-specialist reader.

Sections which are of perhaps more immediate interest to the clinical neurologist include H. Hyden's review on the application of microtechniques to the analysis of nucleic acid in neurones and glia and L. J. Fogel's discussion regarding the development of a self-regulating prosthesis. N. D. Zavalova gives an interesting analysis of psychological responses to accident situations and H. L. Oestreicher discusses the problems involved in speech recognition by machine. The final paper by Ertl describes his concept of neural efficiency, which he has studied by measuring the latency of evoked cortical potentials.

The discussion following the papers has been reported fully, carefully edited, and is generally helpful. Each section has an extensive bibliography and there is a comprehensive index. The book provides a valuable account of current work in a rapidly growing field and can