Book reviews

Physiology and Biophysics: Volume IV Excitable Tissues and Reflex Control of Muscle. Edited by Theodore Ruch and Harry D Patton. (Pp 382; £32.75.) London, WB Saunders Company, 1982.

Ruch and Patton's textbook has always been the most detailed and the most expensive physiological textbook that medical and science undergraduates are likely to encounter. I can't believe that many have ever bought the whole set of four volumes, but they are doubtless used for reference by most seriously interested students. This is the last volume of the latest edition of Ruch and Patton's textbook, and contains chapters covering the basic physiology of excitable tissues; chapters which, in fact, that generally are found at the beginning of a textbook rather than at the end. However, on the whole, they were worth waiting for.

Five chapters are devoted to the cell membrane potential, transmission of the nervous impulses and receptor mechanisms. The other five describe neuromuscular transmission, muscle mechanics, synaptic function and the automatic nervous system. In all, the volume is well written and covers its ground far more thoroughly than any other general textbook. The main question, of course, is how well does it compare with other similar books on the market? This is not the book to consult for clear presentation of fundamental concepts; there are far too many facts concentrated in the text for that. Nevertheless, it is an excellent source book to supplement more cursory treatments, and contains a useful list of references to original articles at the end of each chapter, which could be used for further study. It is now a multi-authored book, and I was impressed particularly by an excellent chapter by AM Gordon on muscle, which covers the biochemistry, electrophysiology and mechanical properties of both skeletal and cardiac muscle, and also by Walter Woodbury's chapter on the genesis of the membrane resting potential.

Most of the material in this volume has been substantially updated, although some interesting physiological curiosities remain which presumably are left over from previous editions. They include a chapter devoted to description of gross electrical recording from nerve trunks, liberally illustrated with the original work of Gasser and his colleagues, and an equally detailed section covering Lloyd's experiments on spinal reflex transmission. I personally found these sections extremely interesting, but to

the student, they will probably seem rather remote and dated in both the experimental apparatus and the approach used.

Despite this, the principles are sound and the book itself is to be recommended. I was very glad to receive it—certainly I could never afford to buy it myself!

JOHN ROTHWELL

Clinical Neurosurgery. Congress of Neurological Surgeons Proceedings. Volume 29. Editor in Chief: Martin H Weiss (Pp 786; £35.75.) London: Williams and Wilkins, 1982.

This annual volume reports the 31st meeting of the Congress of Neurological Surgeons, held in October 1981. In the past these collected papers have included many which are frequently quoted as points of reference from which further work has evolved. This book is also full of valuable information. It is not a textbook because it does not aim to be didactic or fully comprehensive, but there could be no better mirror of current thought on the topics which are included.

The Congress was chiefly concerned with the subjects of head injury and cerebrovascular disorders. An adequate analysis of all the papers is impossible, but mention should be made of two superb papers by Professor Douglas Miller on the physiology of trauma, and on disorders of cerebral blood flow and intracranial pressure after head injury, both of which should be carefully studied. Other papers on cranio-cerebral trauma deal with cerebral metabolism, oedema, and clinical management. They are all informative.

Cerebral ischaemia, stroke and their diagnosis and treatment are considered by several authors, and these papers are far from being mere review articles. They represent current thinking, and show the changes in clinical management which have taken place in the last decade.

An Honoured Guest who contributes several of the initial papers is always invited. Dr Galbraith opened the meeting with a description of his experience with superficial temporal to middle cerebral artery by-pass, subdural haematomas in the scanning era, and a technique for monitoring brain oxygen availability particularly in relation to cerebral vascular surgery.

There is always an expectation of interest and new information on opening another volume of *Clinical Neurosurgery*.

The current one, as usual, whets the appetite in anticipation of the next.

PETER H SCHURR

Vascular Malformations and Fistulas of the Brain (Seminars in Neurological Surgery series). Edited by Robert R Smith, Armin F Haerer, William F Russell. (Pp 268; \$39.68. New York, Raven Press, 1982.

Seminars in Neurological Surgery is a series of multi-author publications which have included paediatric neurological surgery, neural trauma, cervical spondylosis and surgery of the posterior fossa.

To date, the books are the published proceedings of seminars organised to review the current state of the art in any of the particular fields. This volume covers the current approaches to vascular malformations of the brain. Eighty per cent of the authors are American, illustrating the sponsorship of the seminar and also providing a North American view of the topic. Almost half of the authors are from Mississippi or Augusta, Georgia, which provides a regional bias in the results. Subjects covered include the natural history, the radiology, direct surgery and embolisation technique of arterio-venous malformations. Carotico-cavernous fistulas are also considered and detachable balloon techniques for their treatment covered in detail. A review of the literature of aneurysm of the great vein of Galen is also given. The natural history of arterio-venous malformations is a highlight of the book. The radiology of the condition is well defined. The section on surgery of large arterio-venous malformations is well illustrated but unfortunately is based on eight patients and therefore precluding generalised conclusions. The section on carotico-cavernous and vertebral fistulas is well illustrated by recognised expert in the field. Many of the contributions are well researched and illustrated to a high standard; unfortunately some are lamentably weak, perhaps written in an airport lounge by authors capable of very much more.

Like other volumes in this series, the book should be viewed as the report of a seminar in the topic rather than a definitive text on the subject under study. It would be a useful asset to a departmental library but will lack durability of a more detailed text book.

H ALAN CROCKARD