it needed only the definition of the ultrastructure of the junctional region by the electron microscope to explore the electrophysiologist's findings at the molecular level and to disclose the mechanisms of neuromuscular disease.

This short monograph gives a full account of the previous studies on the histology and experimental pathology of the neuromuscular junction and a sufficient, though limited, discussion of the electrophysiological data to suggest that the time has now come to make the synthesis. Unfortunately, it must be concluded that the book is a little premature. From the author's own excellent work it is evident that electron micrography is subject to serious artefacts, even in the hands of experts, and it is still too early to accept any findings as definitive. The author has made important contributions to the study of tetanus, botulism, and myasthenia gravis by electron microscopy of the motor endplate but his conclusions are tentative. One feels that this work is so near its goal as to wish that publication had been postponed for a little while. Nevertheless, all workers in the field of neuromuscular disease will welcome the detailed account of earlier work, including significant papers published as lately as 1963. There is a useful appendix on staining methods, and on methods of electron microscopic study of endplates.

The book is beautifully illustrated and the publishers are to be congratulated on producing this elegant volume with the minimum of delay.

J. A. SIMPSON

DIE PERIPHERE INNERVATION, 12th ed. By E. Villiger (Foreword by E. Ludwig). (Pp. 220; 87 illustrations. S.F.24.-.) Basel/Stuttgart: Schwabe & Co. 1964.

Professor Ludwig's latest edition of Villiger's *Die Periphere Innervation* deserves a warm welcome from neurologists. There are few English textbooks which contain both clinical illustrations of neurological patients and such detailed treatment of the anatomy of peripheral nerves. There is also a brief account of the histology of peripheral nerve, including results of recent research in electron-microscopy. It is clear that a great deal of trouble has been taken to keep this famous and respected textbook up to date.

R. W. GILLIATT

MECHANISMS OF DEMYELINATION Edited by Augustus S. Rose and Carl M. Pearson. (Pp. xvi + 253; illustrated; 104/6d.) New York, Toronto, London; McGraw-Hill. 1963.

This book is a record of papers presented at a conference on mechanisms of demyelination which was held at UCLA in 1962, under the sponsorship of the UCLA Brain Research Institute and the National Multiple Sclerosis Society. The principal speakers at this conference were well chosen to cover the subject from a wide range of approaches, and the volume opens with a well illustrated chapter by F. S. Sjöstrand on the structure and function of the myelin sheath. The chemistry of myelin and the various biochemical approaches to different forms of demyelination are briefly described by J. N. Cumings. It is clear, however, that it was immunology and its applications to at any rate certain types of demyelinating

disease that occupied the centre of the stage at this conference. Two chapters, by Carl M. Pearson and Robert A. Good, are devoted to fundamental considerations of immunology and immunological mechanisms. As is to be expected, recent work on experimental allergic encephalomyelitis is dealt with fully, and a whole chapter by Abner Wolf compares and contrasts spontaneous human and experimental simian demyelinating diseases.

As a survey of the status in 1962 of immunological work in this field this book is to be recommended, as it contains much information and critical thought. It is a pity perhaps that other approaches did not receive equal attention, but, as the authors admit, the book does not make any claims to completeness. It is well produced and the illustrations on the whole are good. It is, in short, a volume that should certainly be of value to all who are working in this field.

R. H. S. THOMPSON

CORRELATIVE NEUROANATOMY AND FUNCTIONAL NEUROLOGY, 12th ed. By J. G. Chusid and J. J. McDonald. (Pp. 396; illustrated. 45s.) Oxford: Blackwell Scientific Publications. 1964.

This volume, now in its 12th edition, is useful to those beginning the study of neurology and has proved to be popular with students and medical practitioners.

PRINCIPLES OF CEREBRAL LOCALIZATION AND ORGANIZATION Edited by Georges Schaltenbrand and Clinton N. Woolsey. (Pp. 164; illustrated. \$7.50.) Madison, Wisconsin: The University of Wisconsin Press. 1964.

This volume reports a conference held four years ago. It was organized by Drs. Schaltenbrand and Bay who felt that a meeting of experienced clinicians should consider and discuss the newer physiological knowledge of brain mechanisms. The discussion which followed each paper is fully reported and makes an interesting and stimulating feature of this presentation.

MORPHOLOGICAL AND BIOCHEMICAL CORRELATES OF NEURAL ACTIVITY Edited by Maynard M. Cohen and Ray S. Snider. (Pp. xii + 244; illustrated. 64s.) London: Harper & Row Ltd. 1964.

The development of electron microscopy leads to the consideration of entirely new problems regarding the correlation of structure, function, and biochemistry. This volume collects the work of nearly 30 students of this new science.

TOPICS IN BASIC NEUROLOGY Edited by W. Bargmann and J. P. Schädé. (Pp. 249; illustrated. 75s.) Amsterdam and London: Elsevier Publishing Company. 1964.

This volume contains 19 lectures given at a symposium held at the University of Kiel. The predominant theme is that of the ultrastructure of the nervous system, Ranvier's nodes in central fibres and inter-neuronal contact sites receiving special attention and are well illustrated. However, other subjects, such as the mechanism of extensor rigidity in asphyxia of the spinal cord, the central representation of sleep, and recent advances in paleoneurology, are also included.