unanswered, but it seems likely that they are vulnerable to the same stresses as other children, only more so. Inevitably, numerous subsidiary questions are thrown up which suggest further lines of profitable inquiry.

No departmental library of neurology, paediatrics, or child psychiatry should be without this volume, and many individuals will wish to have a personal copy, for it is well produced at reasonable cost.

F. H. STONE


When Sir Ludwig Guttman took over Stoke Mandeville as a hospital for spinal injuries, many other surgeons showed little interest or were daunted by the task. The saga of Stoke Mandeville now ranks among the brightest medical achievements of the second world war. Sir Ludwig took up his position with immense and infectious enthusiasm, total devotion, and much and ever-increasing knowledge of the specialty, and today his name, linked with that of Stoke Mandeville, points to achievements not often paralleled in the history of medical practice.

He made the lame walk using every muscle bundle that had survived the injury, he avoided and often reversed the dread complications of spinal transection, and he trained practitioners from all over the world, instilling into them some of his own optimism, grounded on sound theoretical knowledge so that in many parts of the world there is today hope for those with severe spinal injuries where none had existed before.

It is good to have now Sir Ludwig's experience and advice presented in one lucid chapter of this second and final volume of an entirely praiseworthy undertaking.

One, however, who worked at casualty clearing station level in the last war might take issue with Sir Ludwig over the feasibility of his counsels of perfection in such circumstances, and surgeons in the developing countries might find it equally difficult to have sufficient staff at their disposal to change catheters under sterile conditions and to avoid pressure sores. I think there is still a place for the indwelling catheter released four-hourly, and even for high femoral amputations, as distasteful as this latter measure undoubtedly is. But it can save lives.

Professor Maurer, in his section on peripheral nerve injuries, quite obviously draws on a long and extensive experience. The section is of great value for the beginner but also for the expert in this field.

There are detailed descriptions of all procedures used in the treatment of nerve injuries.

The sections on anatomy and pathophysiology are well executed and the text is liberally supplemented by illustrations. The references to the literature are exhaustive.

J. SCHORSTEIN


When the first edition of this book appeared in 1956 the electrodiagnostic procedures for measuring muscle excitability by electrical stimulation were firmly established and their value had been confirmed by wartime experience in the assessment of peripheral nerve injuries. On the other hand, the first published accounts of the clinical application of electromyography were relatively recent and the development of nerve conduction velocity measurement as a method of clinical investigation was in its early stages. The next five years saw many important advances, both in connection with electromyography and nerve conduction measurement, and a greatly expanded edition of the book appeared in 1961. In the past decade electrodiagnostic methods have become more widely applied in clinical practice and there has been much interest in new techniques of quantitative analysis.

In the present third edition the later sections on electromyography and nerve conduction measurement have been rewritten and the distinguished panel of authors has been joined by several new names who have all made important contributions to the advances of the past decade. Of particular interest in the present edition are the reviews of recent quantitative techniques, the definitive accounts of neuromuscular transmission defects and nerve conduction velocity measurement, and the appendices on recording technique and terminology. The earlier sections on electrodiagnosis are virtually unchanged and here the beginner may have difficulty in distinguishing what is of clinical value from what is now of historical interest. Later editions might profitably include a somewhat fuller account of the electrophysiological study of reflexes.

It is a pleasure to welcome this reappearance of an important established text. It is essential reading for anyone working in the field.

J. A. R. LENMAN


This short monograph in German is a further contribution to the study of spinal fluid proteins using polyacrylamide gel electrophoresis. The work's main feature and value is a detailed comparison of CSF...
and serum pherograms in a number of inflammatory, neoplastic, and demyelinating disorders with brief accompanying case details. Changes in the CSF protein pattern found in meningitis of varying aetiology and radiculitis are attributed largely to selective alteration of blood-brain barrier permeability. Certain changes in post-albumin and transferrin bands are of interest and deserve further study. However, in general, the data do not provide any fresh information of diagnostic importance. The problem of CSF immunoglobulins in multiple sclerosis receives only scant mention. Brain proteins and CSF enzymes do not appear to have been considered in relation to the abnormal pherograms. The standard of production and illustration is high and there is a useful bibliography with full titles. The introductory sections on electrophoretic technique and the blood-brain barrier are lucid and would be of value to students.

J. F. HALLPIKE


This volume contains the 14 papers given at the conference and the ensuing discussions. It is of the high quality one would expect from these editors and the distinguished participants. The reviews of most of the current techniques used in studying the brain as a neuronal system are authoritative, and it is of particular value to have them together in one volume. Four papers are especially concerned with the study of degenerating axons. Different methods of staining are reviewed and light and electronmicroscopic findings correlated. There is an excellent review of fluorescence microscopy. Other papers are concerned with the analysis of electronmicrographs of the cortex, anteroradiographic methods, and retrograde neuronal changes. As most of the papers are concerned with modern techniques it is of especial interest to note the inclusion of four excellent papers on the Golgi method, one combining light and electronmicroscopy. This 100 year old method is enjoying a resurgence of popularity and, although it is probably not extensively used, the observations made by those specializing in it are constantly quoted and applied to the interpretation of the intimate organization of the nervous system.

Most neuroanatomical work is experimental and many of the methods are restricted to animal tissue. Two of the papers, however, are applicable to, and include observations on, human tissue. One is a review of a variety of methods of counting neurones, the other an invaluable and comprehensive review of anterograde and retrograde transneuronal degeneration in the central and peripheral nervous system.

The volume is beautifully produced, and can be recommended to all interested in neuroanatomy and allied subjects.

MARION C. SMITH


This book is the record of the proceedings of the 3rd Alfred Benzon Symposium held in May 1970. The contributions cover a wide range, necessary because of the complex relationships of the four compartments of the brain—namely, the blood, cerebrospinal fluid, and extra- and intracellular fluids. The study of the cerebrospinal fluid occupies the dominant position, and with reason, since it is now generally accepted that it reflects, and influences, the composition of the extracellular fluid of the central nervous parenchyma, and thus permits the experimenter to assess, with some assurance, the probable character of the ionic environment of the central neurones and glia, at any rate in the steady state. Thus the study of the homeostatic mechanisms involved in maintaining the composition of the cerebrospinal fluid reasonably constant, in the face of large fluctuations in the blood, is of primary importance; and the volume, after an introductory article on the relations between blood, brain, and cerebrospinal fluid, continues with studies on the volume of the extracellular space, the rate of secretion of cerebrospinal fluid, the kinetics of the blood-brain barrier, brain and cerebrospinal fluid D.C. potentials, and neurone-glia relationships. More directly concerned with homeostasis are papers on the mechanism by which the cerebrospinal fluid K+ is held at a very constant level when the blood-K+ is varied, while the changes due to acidosis and alkalosis emphasize the intimate relation between K+ and H+ in the brain as in other tissues. So important did the acid-base relationships appear to the organizers of the symposium, that most of the remaining studies are devoted to some aspect of these—intracellular pH, H+, and HCO3− relations in cerebrospinal fluid, effects of acetazolamide, whole-body buffering capacity, effects of acid-base alterations on HCO3−, Cl−, and lactate in brain, and control of glycolytic and oxidative metabolism. The volume concludes with three articles, thrown in for good measure, on epileptic seizures and comatose states, on the quantification of buffering in vivo, and on a hypo-