tadpoles lost their colour after removal of the pituitary. Chemistry was brought to the anterior pituitary in the 1930's but it was not until 1954 that Lerner showed that the intermediate lobe was involved in pigmentation of humans followed by the extraction and later the synthesis of two melanocyte stimulating hormones, α and β MSH from porcine pituitary glands. Subsequently a peptide precursor of ACTH and lipotropic peptide hormone, LPH, which contains the sequences of endorphins and methionine enkephalin were isolated. The latest triumph has been the preparation of sufficient messenger RNA encoding for ACTH- β LPH to prepare complementary DNA for cloning. All these developments are described accurately in this book with a wealth of detail although the biological role of intermediate lobe peptides remains in doubt. There are major differences between pre-natal and post-natal endocrinology and the pars intermedia is not present in the adult human pituitary. This book will be of considerable interest to biologists and endocrinologists as well as neurologists concerned with the spectacular increase in knowledge gained in the last five years of the structure, location and function of pituitary peptides.

JD PARKES

Cerebral Hemodynamics in Man and Monkey. By Byron M Bloor. (Pp 130; \$19.75.) Illinois: Charles C Thomas. 1981.

The clinical consequences of disruption of the blood supply to the brain remain severe. One approaches a volume which deals with cerebral haemodynamics with particular relevance to subarachnoid haemorrhage and raised intracranial pressure, with the hope of gaining some fresh insight into the mechanisms which are responsible for the clinical problems. The present volume is not an attempt at scholarly review of the subject but rather presents the analysis of considerable data on cerebral haemodynamics in man and monkey derived by the author himself, over more than two decades. The major limitations of the monograph may be traced directly to this. Much of the material which is described in the book is previously unpublished and consequently has not been subjected to peer review. The text provides a highly personal view of what are the major determinants of

the level of blood flow in the brain. The perspective which is presented is somewhat dated (the bibliography contains, for example, only six literature citations from the past five years) and many of the advances which have been made over the last decade find no place in this monograph.

The volume is organised on conventional lines. The first two chapters are devoted to a general introduction to principals of the measurement technique (indicator dilution) and to a simple review of the relationship of intracranial pressure to volume and flow. A brief description of the preparation of the experimental animal and practical details of the methodology follow but these seem insufficient not only because of the unpublished nature of the data but also in view of the incorrect reference cited as providing further details. A systematic presentation of the data investigations in primates (dealing with intracranial pressure—blood flow relationships with induced changes in perfusion and arterial blood gas tensions) forms the heart of the book and contains little which would arouse major controversy among investigators in this field. The brief 3½ page chapter devoted to the effects of cervical sympathetic stimulation in which the author's observations provide little illumination, is particularly inadequate because of its failure to direct the reader to work of various investigators over the last 5 years who have provided a clearer appreciation of the role played by the sympathetic nerve fibres which innervate cerebral vessels. The remainder of the book deals with haemodynamic considerations in cerebrovascular disease in humans with particular emphasis on carotid obstruction and subarachnoid haemorrhage. While the presentation of the material from patients possesses considerable merit, as a consequence of its systematic nature and from the consistency which results from being drawn from the work of a single laboratory, discussion of the relevance of the findings in greater depths would have been beneficial in many areas, particularly the limited pharmacological review of the agents putatively responsible for the vasospasm. The principal value of this book lies, for those approaching this field of research for the first time, precisely in what it purports to be. It is the review of the author's personal experience in basic and applied cerebrovascular research and as such, emphasises the need

for rigorous systematic investigation of the subject and of the difficulties to be faced in making even small advances in our understanding of cerebrovascular disorders.

JAMES MCCULLOCH

Antiepileptic Drugs. Edited by GH Glaser, JK Penry, DM Woodbury. (Pp 728 + xx; \$93.84.) New York: Raven Press. 1980.

This volume flies under the colours of the Raven Press Advances in Neurology series but in its monumental format and equally monumental process of gestation it belongs to a distinguished line of volumes on epilepsy sponsored by the National Institute of Neurological and Communicative Disorders and Stroke. Unfortunately, in important respects it falls short of its predecessors.

The volume begins well, reviewing aspects of neurobiology relevant to epilepsy, including the cytology of the cortex and hippocampus (Peters and Scheibel), and ionic movements and synaptic physiology (Lux and Krnjević). Relatively short chapters discuss the glial and neuronal physiology of epilepsy (Sonnjen, Crill and McNamara). Three imaginative chapters on structure activity relationships, are followed by what is ironically the best chapter in the book, surveying the mechanisms of action of convulsant drugs (Woodbury).

The 400 pages devoted to anti-convulsant drugs are disappointing. Twelve chapters concern phenytoin, eight the barbiturates, and one each, carbamazepine, the oxazolinediones, the succinimides, the benzodiazepines, the carbonic anhydrase inhibitors, the ketogenic diet and sodium valproate. This lack of balance is compounded by a less than optimal selection of contributors. Some of the chapters on phenytoin and barbiturates present a few fragmentary observations adrift in a sea of speculations.

To a certain extent the unsatisfactory nature of the chapters on the mechanism of action of anticonvulsants reflects the present state of our knowledge. However, this does not excuse the failure of the chapters on barbiturates and benzodiazepines to discuss the evidence that these compounds enhance GABA-ergic inhibition. This failure is not adequately compensated by the final 'speculative' synthesis by Eugene 'Roberts.

The volume is beautifully produced. Connoisseurs of the misprint will be delighted on page 127 to find a major class of synaptic junction described as "ano-axonal". Research workers in epilepsy still utilise profitably the volumes on Basic Mechanisms (1969) and Experimental Models (1972). It is very much to be hoped that this volume will be superseded in the near future.

BS MELDRUM

Sleep 1980. Edited by WP Koella. (Pp 461; \$148.50.) Basel: S Karger, 1981.

This is not a literate book but a published congress proceedings with well over 100 different articles. The choice of topics is very wide and includes reports on internal coincidence models for sleep deprivation and depression, circadian rhythms in rats and phase-shift models of spontaneous internal desynchronisation in humans, preliminary analyses of the function of psychological dreaming, pre- and post-synaptic effects of yohimbine on rat paradoxical sleep, and automatic sleep classifiers (for cats). These we are told combine extreme hardware modularity and modifiable truth tables. The text is often trivial; typical examples include statements such as that the EEG is a poor index of body restitution; that in a previous publication the age of patient No 11 was given erroneously as 30 instead of 31 years; that the most frequent clinical manifestations of sleep drunkenness are neocerebellar (89.4%) and paleocerebellar (84.2%)—in eight patients. The description of thirty-four young adult females who spent three nights in the sleep laboratory does not compensate for all of this. The critical reader will often find it hard or impossible to evaluate conclusions such as appear on page 375—"this paper has endeavoured to show in Chomskyan terms how the model Freud presents in the Traumdeutung for the generation of syntactically grammatical and varied utterances in dreams is consistent with his overall dream model, thanks to his radically downgrading—despite apparently contrary linguistic performance evidence—the functioning of secondary process linguistic competence in primary process dreaming". A great deal of interest is going on in sleep research. However the format of this work makes it impossible to evaluate what is good and discard the rubbish. In the introduction the editor rebukes congress

participants who did not submit a manuscript. Surely they should be congratulated.

JD PARKES

Neurological Anatomy in Relation to Clinical Medicine (3rd Ed.) By A Brodal. (Pp 1053; £25.00). Oxford University Press, 1981.

It is a pleasure to welcome the third edition of this great work. The first edition was a constant companion throughout my neurological training. It was a comparatively slim volume, which was a delight to handle and read. Twenty years later came a second edition and now ten years after that, a third. The text of the latter is as fascinating as ever, but it is now three times as long and becoming difficult to balance on the knees when lying flat! This considerable increase in size reflects the pace of neuro-anatomical research in the last decade. New techniques have flourished. Fluorescent methods of identifying brain monoamine systems were rapidly followed by widespread use of horseradish peroxidase methods for retrograde labelling cells of origin of fibre pathways, and labelled amino acid techniques for anterograde identification of the destination of fibre pathways. Now we have the incredible powerful techniques of anatomically identifying the whole of a single neurone studied electrophysiologically and then filled with horseradish peroxidase, and double labelling methods whereby injection of two different dyes into different areas can identify the collateral projections of a single nerve cell. Armed with these powerful methods, neuro-anatomy has flourished and the size of this third edition reflects such advance. It is extensively referenced up to and including publications in 1979. Professor Brodal acknowledges that it is now virtually impossible for a single author to cover the entire field, so has recruited his son, Per Brodal, to revise the section on the peripheral motor neuron, Eric Rinvik who has revised the section on the optic system, and Kirsten Kjelsberg Osen who has revised the section on the auditory system. Per Brodal and Rinvik have revised the section on the somatic afferent pathways, and Alf Brodal and Rinvik have tackled the section on pathways mediating supraspinal influences on the spinal cord, including the basal ganglia. Inevitably my attention turned to the latter, where I was delighted to read "it is the author's firm conviction that neither theoretically nor

practically is a useful purpose served by retaining the term extrapyramidal". The new anatomy of the basal ganglia, worked out in detail in recent years, is presented lucidly and rationally. Throughout, the text is illustrated by clear line diagrams and occasional histological plates. One of the delights of this work has always been the accurate description of the clinical consequences of anatomical damage in different parts of the brain, and the careful clinico-pathological correlation of neurological disease. In this third edition, such correlation now extends to inclusion of biochemical and pharmacological data where appropriate. The book is a true compendium of neuro-science related to clinical neurology, and promises to give as much or even greater pleasure than the earlier editions. My only problem will be to find the time to read through the whole book.

CD MARSDEN

Stroke, The Facts. By F Clifford Rose and Rudy Capildeo. (Pp 143; £4.95.) Oxford: Oxford University Press, 1981.

The fact that stroke is the third largest cause of death in developed countries and a major cause of disablement in survivors justifies this book which aims to explain to sufferers, their relatives and other interested people, what is involved in a stroke. A simple account of the pathogenesis is given followed by a description of what happens in the first days, weeks and months. This description is embellished by frequent short case histories describing precisely what befell individuals including such mundane, but stress producing events, as the failure of an ambulance to arrive. The roles of many people who care for stroke patients is explained and indications about types of treatment given. The book is graced by a foreword by Sir Peter Medawar who himself suffered a stroke. It can be recommended to patients and their relatives.

JOHN MARSHALL

Sensory Neurography. By Hans-Peter Ludin and Wolfgang Tackmann. (Pp 124; DM 48.) Stuttgart: Georg Thieme Verlag, 1981.

This monograph on sensory neurography is intended to supplement the standard textbooks, of electromyography, and certainly there is a great deal of infor-