Book reviews

ment of the neurological complications of cancer will have to await the improved treatment of cancer itself.

In the two chapters devoted to malignant brain tumour management a comprehensive review of the possibilities and limitations of radiation and chemotherapy helps to compensate for what some might regard as an exaggerated view of the place of surgery. To confirm a CT scan interpretation by biopsy is usually wise, but to suggest that needle biopsy alone, or a decision to forego surgery, subverts the patient's interest in all but the most extreme cases is certainly controversial. Survival alone is not a measure of the value of treatment.

The disastrous natural history of subarachnoid haemorrhage due to ruptured aneurysm, which it seems is largely uninfluenced by the best medical and surgical care, is the starting point of an equally stimulating contribution by Tew. Advocating a policy for prevention as the best hope for the future, this author believes that by identifying the aneurysm-prone patient with selective screening tests it will be possible to reduce the present mortality to negligible proportions. On the subject of difficult and inaccessible arteriovenous malformations, Mullan reveals some interesting detail of personal technique.

The role of antiplatelet and anticoagulant therapy in stroke prevention is explored convincingly and at length by Barnett. The problem posed by the asymptomatic carotid bruit is equally well dissected by Crowell *et al.* Lack of reliable information on natural history and paucity of major randomised studies however mean that the role of the various medical and surgical therapies remains unclear.

There are four chapters dealing with the cervical spine and the neurological complications of degenerative disease. Three are totally surgically oriented. Discussion ranges over many topics such as the relative merits of laminectomy and anterior disc excision, whether fusion is required after the latter operation, and whether prophylactic surgery is justified for cervical canal stenosis. The complications of surgery are given a well-deserved airing. The fundamental controversy—whether such operations have any long term value—is however avoided. It would have provided some balance had there been an account of the outcome for those patients who are not submitted to surgery. There is a brief contribution on the place of manipulative therapy for cervical disc disease.

The book is well written and well produced, the illustrations are of good quality,

and the references to each topic more than adequate. It can be recommended for selective perusal.

JJ MACCABE

Psychiatry Update: The American Psychiatric Association Annual Review, Volume II. Edited by Lester Grinspoon. (Pp 614; \$45.00.) Washington: American Psychiatric Press Inc, 1983.

These companion volumes to the annual meetings of the American Psychiatric Association are intended to "address the need of mental health professionals for comprehensive and current knowledge" in the field of psychiatry. Volume 2 is seen as related to the first, and presumably as the series grows with each meeting, overlap will be minimised and cross referencing to earlier volumes encouraged. Here, five major topics are covered, namely New Issues in Psychoanalysis, Geriatric and Family Psychiatry, Depressive Disorders and Bipolar Illness. Each one has several chapters on various aspects of the subject preceded by an introduction written by the "preceptor". Generally the chapters are concise, information packed, and well written, and provide an excellent update of some aspects of American psychiatry for the interested. The emphasis is, however, very much American. The frequent references to the DSM 3 indicate the almost excessive concern with the diagnostic system which at present pervades American psychiatrists, and much of the quoted work is from the USA. However, it is pleasing to note that non-tricyclic antidepressants are at least getting a foothold in their text books and probably soon in clinical practice, that serum antidepressant level monitoring is *not* routinely recommended (at \$50 a time—pharmacologists please note), and that research into some fundamental aspects of psychoanalysis is alive and well in some centres.

There is little in this volume to interest neurologists, although in spite of its bias, I would recommend it to psychiatrists who wish to avail themselves of good, up to date reviews on quite varied topics which will broaden their perspective on psychiatry, in the sense of getting a clear flavour of what our American colleagues are currently engaged in. There has been a remarkable change in orientation in recent years in that country, reflected not only in the content of the American Psychiatric Association annual meetings, but also in their scientific approach to the discipline reflected in this

volume. If the standard is maintained, this series will be a useful addition to the psychiatrists' library.

M TRIMBLE

Astrocytes: Normal, Reactive and Neoplastic. By Philip E Duffy. (Pp 236; \$46.00.) New York: Raven Press, 1983.

Only in relatively recent years has the astrocyte received the attention it merits. The concept of this cell type purely as a structural, supportive element in the nervous system is outdated. The principal aim of Philip Duffy's text is to elucidate the complex spectrum of functions of both normal and neoplastic astrocytes and to review the current state of knowledge on their biological characteristics. The author has chosen to deal not only with the normal astrocyte but, because their neoplastic counterparts give rise to the highest proportion of primary intrinsic brain tumours in Man, he has included an account of the pathology of and the diagnostic and therapeutic procedures applied to astrocytomas.

For convenience, the book has been divided into two parts, the first of which describes the genesis, morphology and metabolism of normal and reactive astrocytes and outlines their relationship with other cells; in particular neurons. The role of the astrocyte in the uptake and metabolism of GABA and other amino acids with putative neurotransmitter functions is elucidated and a section is included on astrocyte membrane receptors. Although, ostensibly, this part of the volume describes normal and reactive astrocytes much of our current knowledge has been gained from the study of tumour-derived or *in vitro* transformed astrocytic cell lines and therefore reference is made to this work.

A detailed chapter on astrocyte proteins, which is dedicated largely to glial fibrillary acidic protein, includes much of the author's own research on the expression of this astrocyte-specific marker in relation to the motility and physiological state of cultured cells. In the concluding chapter to the first part of the book, astrocytosis, in response to various pathological conditions of the central nervous system, is described and specialised astrocytic reactions are discussed.

The second part of the book deals with neoplastic astrocytes. Oncogenesis, chemical—and viral—induction of experimental tumours, malignant transformation

of cells *in vitro* and the biochemistry of neoplastic astrocytes are all considered before a description of the clinical manifestations and pathology of astrocytic tumours is given. In the last two chapters of the book, various immuno-, chemo- and radio-therapeutic regimens which have been used in the management of glioma patients are outlined and certain innovative techniques are discussed.

The author set himself a difficult task in writing a comprehensive text on the astrocyte and in many respects has coped admirably. However, inevitably, any communication in such a rapidly developing field as glial cell neurobiology may quickly require revision; indeed, I believe this is already apparent. The inclusion of current immunological data on the possible multipotentiality of glial cells *in vitro* and a more comprehensive treatment of the relationship between different intermediate filament proteins in the developing astrocyte would have been valuable. The chapters covering the *in vitro* aspects of neoplastic astrocytes might also have included an account of proposed assay systems for malignant transformation, such as increased plasminogen activator and reduced cell surface, fibronectin, and perhaps, more quoted information on the predictive value of cell culture for therapeutic regimens. One also feels that, in retrospect, the author might have chosen to omit—without detriment to the text—the sections on the clinical aspects of astrocytomas which have received comprehensive coverage in specialised volumes.

Nevertheless, this book represents a cohesive, well-written account of both the structural and functional aspects of normal and neoplastic astrocytes. Although some of the electron micrographs are of rather poor quality, the book is lavishly illustrated. The text also carries an extensive bibliography and offers the reader the opportunity to study the literature on this fascinating cell in greater detail. I have no doubt that this concise and readable book will appeal to neuroscientists, pathologists and clinicians alike and will prove to be a valuable aid to students of neurobiology.

GEOFFREY J PILKINGTON

The Physiological Mechanisms of Motivation. Edited by D W Pfaff. (Pp 482; DM78 \$34.70.) Berlin, Springer-Verlag 1982.

The present volume is a product of a course held at the Rockefeller University on the

topic of motivation. To any physiological psychologists this is sufficient recommendation. The scientists at the Rockefeller over the past two decades have made fundamental contributions in both theoretical and experimental fields germane to understanding motivational mechanisms. The volume does justice to their work and to the subject in general by the superb quality of the contributions from scientific colleagues elsewhere.

Many volumes directed to this topic have appeared in recent years but this is the best I have seen. The market for this book lies principally with graduate psychologists and research workers in the area. I doubt that this volume would be read from cover to cover by scientists or clinicians outside this area of research. However, since motivation is defined as *that which causes us to act in a particular way* an understanding of its mechanisms must be of interest to psychologists and psychiatrists of many persuasions. The range of topics covered, the quality of writing and the substantial size of the contributions means that individual chapters would serve as an excellent introduction to many of the topics covered. The volume may therefore be of interest to a very wide range of scientists. Stress, pain, thirst, obesity, taste, hypothalamic functions are all represented. What is unusual is to find theoretical issues dealt with in such a critical and scholarly way in chapters juxtaposed with the physiological data.

I would recommend this volume for advanced undergraduate and graduate teaching but also it is to be hoped that biologists and clinicians will gain appreciation of the blend of theory and experimental fact which makes physiological psychology such a fascinating subject.

S IVERSON

Epilepsy (Association for Research in Nervous and Mental Disease Research Publications, Vol 61). Edited by Arthur A Ward, Jr, J Kiffin Penry, Dominick P Purpura. (Pp 416; \$61.38.) New York: Raven Press, 1983.

For more than 60 years, the annual meetings of the Association for Research in Nervous and Mental Disease have provided a forum for timely assessment of progress in a chosen field. Epilepsy has been the theme on three occasions—in 1922, in 1946 and in December 1981. This volume presents the proceedings of the latter meeting in a well-edited and high-quality format.

The contributors have been chosen wisely to cover three main areas of epilepsy research. Of the six chapters devoted to basic scientific aspects of epilepsy two are of particular interest to clinicians. In one Robert Collins and colleagues describe regional metabolic and pathological consequences of focal seizures in experimental animals. In the other Charles Ribak describes light and electron microscopic studies of foci induced by alumina gel in the monkey cortex that show a selective loss of GABAergic inhibitory terminals.

Various aspects of the pharmacotherapy of epilepsy are discussed in six chapters. The principles of pharmacokinetic studies and their application to the clinical use of anticonvulsant drugs are admirably presented by Van der Kleijn and colleagues. A long review of the mechanism of action of antiepileptic drugs inevitably leaves most questions unanswered. In a discussion of drug efficacy Roger Porter emphasises the importance of seizure diagnosis to choice of therapy, but concludes that novel agents are still required. Two brief contributions consider side effects and teratogenicity of anticonvulsant drugs.

The final section of the volume discusses diverse clinical topics. These include chapters concerned with the preoperative evaluation of patients with complex partial seizures, using respectively surface and depth electrographic techniques and emission computed tomography. The two chapters concerned with behavioural factors provide a marked contrast in approach. Carl Dodrill illustrates the merits of psychometric analysis, Norman Geschwind those of speculative insight.

This book, in surveying the field of epilepsy research, reveals rather starkly what has yet to be achieved. There has been a remarkable development in the techniques of neuroscience research. These have not yet been properly exploited in the field of epilepsy. In the next few years they should have a major impact on clinical research and practice. Another gap of 35 years before it is necessary to review progress is inconceivable.

BRIAN MELDRUM