Book reviews

Mania—An Evolving Concept. Edited by Robert H Belmaker, HM van Praag. (Pp 393; £18.95.) Lancaster: MTP Press Ltd. 1981.

The aim of this book, according to the forthright statement with which it opens, is "to be a 23-chapter comprehensive textbook on manic illness". How well does it achieve these avowed objectives? There is no problem with the first: 23 chapters are indeed listed in the table of contents, and duly appear in sequence within the book itself. There is, however, much less certainty about it being comprehensive. For example, it provides only the most sketchy advice concerning treatment, scant mention is made of recent observations on the changes in neuroendocrine activity which occur during the course of a manic illness, and there is little on the range of rating scales available for assessing the severity of a manic illness in a given patient before and after treatment.

Despite these shortcomings this book has a number of very good sections. The two reviews on the genetics of mania by Fischer, and by Gershon and Rieder are excellent; the chapter on biochemical theories by Post are thoughtful and thought-provoking, as is that on the possible role of cholinergic mechanisms in the pathogenesis of mania by Janowsky and Davis. The extremely long chapter by Robbins and Sahakian on animal models is exhaustive, everything that needed to be said on this topic is said. I also enjoyed Carpenter and Stephen's chapter on diagnosis, finding their warning against overdiagnosing mania at the expense of schizophrenia a timely one; the pendulum of diagnostic fashion has possibly swung too far in that direction. In addition to these more weighty topics there is an evocative anthology of self-descriptions by patients of what it is like to be manic; a chapter on the relationship of creativity to cyclothymia, and a final chapter devoted to describing the strange career of a seventeenth-century manic-depressive rabbinical scholar.

In summary, I consider this book to be excellent in parts, but wanting in others; it can be recommended as a most useful source book in the fields of genetics, biochemistry and animal models of mania.

TREVOR SILVERSTONE

Essentials of Neurosurgery. Robert R Smith. (Pp 321; £17.95.) London: Harper and Row. 1980.

As the Preface informs us, this book is written primarily for medical students in response to their repeated requests for a textbook of recent vintage, dealing with the fundamentals of the surgery of the nervous system. Not so long ago such a venture for undergraduates would have been frowned upon, neurosurgery being considered an inappropriate study for impressionable students. Even neurology, if it were taught at all, seldom had a specialist instructor to explain its mysteries. Now that the general physician and the general surgeon have all but departed from the teaching scene, their place taken by individual organ specialists, there seems no longer any reason why the interests of the nervous system should not be promoted by its own practitioners. The author of this work is Professor of Neurosurgery at the University of Mississippi.

The volume provides a balanced and comprehensive review of the present-day work and concerns of the neurosurgical specialist, albeit with some transatlantic bias. Introductory contributions deal with the importance of history taking and the basic techniques of neurological examination, and outline the various specialist examinations. The care of the critically ill neurosurgical patient is considered in detail. Thereafter each chapter covers the usual subjects—trauma, infection, cerebral haemorrhage and ischaemic disorder, cerebral tumour, cord compression, disc degeneration and intractable pain. The problems of the paediatric patient and the technique of examination of the newly born receive special attention. Each chapter begins with a review of relevant anatomy and physiology, and proceeds from symptoms and signs to diagnosis and possibilities of treatment. Differential diagnosis is given extended treatment, equal emphasis being given to medical and surgical alternatives. The possibilities and limitations of surgical measures are explained and considerable effort made to present a balanced view. Details of surgical procedures are largely passed over, or, to use the author's term, de-emphasized. The only chapter to contain some surgical detail is that on head injury, and the facts are those that should not be unfamiliar to anyone having care of the head injured. The Glasgow coma scale is explained and recommended for assessing level of consciousness. The head injury instruction

sheet which is given to the patient or his attendants on his discharge from hospital or when hospital admission is not considered essential, has much to recommend it.

Not all the chapters are written with equal conviction, but for a single author work the content is comprehensive. The style is clear and the text easy to follow; the choice of illustrations and particularly the line diagrams, is very good. The references at the end of each chapter are up to date.

A study of the major disorders of the nervous system, some of which such as stroke illness or dementia are of increasing importance in our aging society will equip the embryo doctor for work in many different fields. The neurological patient, properly surveyed, offers an unrivalled experience in the skills of history taking and of clinical assessment. For students before or after qualification, this book provides an excellent foundation for further study of the nervous system, and particularly of those disorders which may have some surgical solution.

JJ MACCABE

Long-term Effects of Neuroleptics. Edited by F Cattabeni, G Racagni, PF Spano, E Costa. (Pp 660; \$78.88.) New York: Raven Press. 1980.

This large and expensive book is described as "Advances in Biochemical Psychopharmacology, Volume 24", but it is actually the proceedings of yet another symposium, held in Monte Carlo in 1979. It contains no less than 81 papers, dealing with the effects of long term neuroleptic administration on dopaminergic neurons, dopamine receptors, neurotransmitter interaction, behaviour and neuroendocrine function. There is also a section on clinical studies. Some of the findings, already available in scientific journals, are important or at least interesting. Others are trivial in the extreme and could be used as ammunition by anyone opposed to animal experiments. The book is beautifully produced but the very variable quality of its contents makes it hard to recommend it.

JL GIBBONS

Disorders of the Cerebellum. By Sid Gilman, James R Bloedel and Richard Lechtenberg. (Pp 393; \$50.00, £25.00. Philadelphia: FA Davis Co. 1981.

The Contemporary Neurology Series al-

ready has contained a number of classics, and this text on the cerebellum is likely to be another. Although entitled "Disorders of the Cerebellum", it is much more than a clinical monograph. The first half of the book (188 pages) is devoted to the anatomy and physiology of the cerebellum; a massive amount of information, mainly gained from studies in animals, is presented and critically reviewed. The second half of the book presents a detailed account of the clinical features and pathology of cerebellar disease in man. At first sight this might pose difficulties, for it is not uncommon to find in volumes of this nature that while the clinical section is excellent, the physiological and anatomical part is inadequate, or vice-versa. This is definitely not the case here. Two of the authors are practising neurologists and a third a practising neurosurgeon, which assures the quality of the clinical parts. In addition, the first two authors have made substantial contributions to animal experimental work on the physiology of the cerebellum so are more than qualified to present a critical account of the basic science. By way of comment rather than criticism, it is probable that the clinical section will be too detailed for most scientists, while the scientific section will contain too much information for the average clinician. This means that the book is likely to be used as a reference volume by both groups, and neither will be disappointed. The first chapter gives an over-view of cerebellar organisation, pointing out that classical neuro-anatomical sub-division has been replaced conceptually by a simpler longitudinal organisation into medial, intermediate and lateral zones. Anatomy and physiology subsequently are intermingled in chapters on inputs into the cerebellum, both mossy fibre and climbing fibre, properties of cerebellar cortex and responses of cerebellar neurons, and ascending and descending outputs from the cerebellum. The outstanding work of Eccles and his colleagues established the synaptic effects of the neuronal elements in the cerebellar cortex, and led to many different theories of cerebellar involvement in timing, selection, and even memory for muscle activation in movement. Unfortunately, none of these theories has emerged as yet unscathed from experimental or theoretical criticism; "despite the extensive investigations of cerebellar anatomy and physiology, it is still not possible to define precisely how the cerebellum performs its function".

The first six chapters on the cellular physiology of the cerebellum are followed by linked chapters describing the effects of classical ablation of cerebellar structures in animals, and relating the results to findings after similar lesions in man. The latter inevitably and correctly are taken from Gordon Holmes, and the present authors strongly support Holmes' contention that hypotonia is one of the fundamental disturbances in posture and movement resulting from cerebellar disease. Chapter 9 attempts the synthesis of all the information given previously. It considers the function of each of the three longitudinal zones of the cerebellum in regulation of movement. The strongest evidence is available for the midline zone which, thanks to the elegant studies of Ito, is now known to be concerned with the control of eye movements by regulating the vestibulo-ocular reflex. This control system is believed to prevent slippage of the visual image on the retina during movements of both the eyes and the head, so as to preserve visual fixation. The function of the intermediate zone is considered best illustrated by the behaviour of its output interposed nuclei, which discharge during both phasic movements and maintained positions of an extremity. The intermediate zone inter-connects muscle receptor input from the spinal cord to the cerebral cortex, and is thought to serve as a component of a position control system regulating movements of the extremities. The output of the lateral zone of the cerebellum is evident in the behaviour of dentate nucleus neurons, which differs from that of the interposed nuclei. While the latter respond to changes in position during movement, the former often fire in advance of movement. Thus neurons in the interposed nuclei respond chiefly to peripheral inputs activated during the movement, while neurons in the dentate nucleus respond to characteristics of the initial movement which the monkey intended to perform. Comparison of the firing properties of dentate nucleus neurons and those of motor cortex suggest that both discharge in relation to a planned sequence of movement, implicating the dentothalamo-cortical pathway in the initiation of movement. The provisional concept for the generation of a movement involves an output of an association cortex to activate a sequence of neuronal activity including the dentate nucleus, the primary motor cortex, and descending cortico-spinal pathways.

When we turn to the clinical section,

the pace shifts somewhat. The introductory chapter on Symptoms and Signs of Cerebellar Disease is conventional, but does provide quantitative evidence on the frequency of symptoms in a series of 162 patients with focal cerebellar lesions studied by the authors. The thorny problem of nystagmus in cerebellar disease is dealt with very well in a section that includes also descriptions of other varieties of ocular abnormality. The disastrously confusing present terminology for tremor is acknowledged, and the word "intention tremor" is discarded for it "is an ambiguous term because it can be used in reference to tremors on contemplating, initiating, performing, or completing a movement". Kinetic tremor is the term preferred to describe classical cerebellar tremor occurring with limb movement. With this I would agree, but I take issue at the word static tremor to describe what most clinicians would call postural tremor of the outstretched arm. The introduction of the term static tremor itself may lead to confusion of postural tremor with rest tremor, for the patient tries to keep the limb still in both situations. The confusion over terminology to describe different forms of tremor might be resolved by restricting description to rest tremor and action tremor, the latter being either postural or kinetic. Agreement along these lines might aid countless students and trainees. The subject of cerebellar dysarthria is awarded a most interesting chapter of its own. Holmes had concluded that the vermis was important in the regulation of speech, but this view is challenged from a more recent series of focal cerebellar lesions, in which two thirds of patients had predominantly or exclusively left cerebellar hemisphere damage. The subsequent chapters on different types of cerebellar disease are comprehensive and instructive, although one can pick out occasional items with which one would disagree. For instance, the section on viral infections of the cerebellum mentions mumps, glandular fever and rabies but does not discuss the much commoner syndrome of acute cerebellar ataxia of childhood occurring in relation to a variety of specific and non-specific viral infections. Some of the CT scans are difficult to interpret, particularly those illustrating the Dandy-Walker Malformation. However, these are but minor points in otherwise excellent chapters on infective, vascular, neoplastic and developmental cerebellar disease. Inevitably, I turned to the chapter on

degenerative diseases to see how these authors had approached the vexing problem of classification of the spino-cerebellar degenerations. The stance that they have taken is unusual, for they have used inheritance of the primary method of classification. Recessively inherited ataxias are then divided according to whether the tendon reflexes are reduced or exaggerated, and each sub-group is further subdivided according to the age of onset. The autosomal dominantly inherited group includes most of the types of olivo-ponto-cerebellar degeneration, as well as familial spastic ataxia, Holmes' olivo-cerebellar degeneration and a number of other entities. Finally, a third group of miscellaneous ataxias of metabolic, or unknown origin also is included. The difficulty with this approach is that many cases of spino-cerebellar degeneration are sporadic, so cannot be attributed with confidence to any of these categories. It is appreciated, however, that there can be no universally acceptable method of approaching this group of diseases until their metabolic background is more extensively understood.

The final chapter is a valuable and instructive review of the place of cerebellar stimulation in the management of epilepsy, cerebral palsy and movement disorders. Coming as it does from a group actively engaged in assessment of this novel therapeutic procedure, it is a relief to find a cautious and sensible assessment. There can be no doubt, as is pointed out by the authors, that a large number of patients have been subjected to cerebellar stimulation without adequate assessment of the real value of the method. The few double-blind studies comparing performance with and without stimulation have not shown evidence of therapeutic benefit. However, improvement appears to occur gradually during weeks or even months of long term stimulation, so that short double-blind trials may not have detected real changes. The parameters of stimulation may be crucial, for experimental studies in animals have shown that surface stimulation of the cerebellum may increase, decrease, or cause a complex sequence of changes in the excitability of Purkinje cells depending upon the frequency and intensity of stimulation. Clearly more work needs to be done before the optimum use and value of this technique can be assessed.

In conclusion, this book on the cerebellum is a worthy successor to Dow and Moruzzi's earlier monograph. Essentially

it is a work of reference, which might be slightly improved by providing summaries liberally at the end of each chapter or section. I suspect that every library will have to purchase two copies, one of which will have to be kept hidden, and any individual interested in the cerebellum will be well advised to purchase their own volume.

CD MARSDEN

Spasticity: disordered motor control. Edited by RG Feldman, RR Young and WP Koella. (Pp 500; £46.50.) Symposia Specialists Inc. Medical Books. 1980.

To judge from this account of the proceedings, a remarkable international symposium on spasticity supported by Ciba-Geigy Limited was held in Arizona in March 1979. Many of the acknowledged experts in this field were present and presented thoughtful and detailed papers followed by unusually informative discussions in which their differing views were explored and argued. As with all symposia, some relatively lightweight contributions do appear and the order of the papers is not particularly logical, but there is no better collection of current views about the mechanisms of clinical spasticity than this. Denny-Brown opens with a lucid account of his concept of spasticity and the complex and variable disability resulting from the loss of one or more of many factors concerned in the initiation of movement, often associated with, but physiologically distinct from, flexor spasms. This can be read in conjunction with the later chapter by Tasker and his colleagues on animal models of spasticity. A more generalised brief discussion about the definition of spasticity (Landau) is followed later by an excellent review, based on the prolific output of his own group, by Lance and a final laying to rest by David Burke of the belief that spasticity is caused by increased fusimotor drive. Feldman and his colleagues evaluate the various clinical assessment schemes that have been used to measure disability in multiple sclerosis. Experience has shown that idiosyncratic assessment schemes limit the value of clinical trials and this article will be very useful for those wishing to select a method of suitable assessment for one particular study. Pedersen presents an evaluation of bowel and bladder function with some preliminary observations of interest. Electrical measurement of reflex responses, as part of the assessment of spasticity is recom-

mended by Dimitrijevic and Lenman, Sax and Johnston and Delwaide. Their views differ, and although well known to those closely involved in this field, they are here set out in a way that invites comparison and leads to spirited attacks upon the methods used, and equally spirited defences of them. More direct information about alpha motor neurone control can be derived by studies of motor unit firing patterns and the capacity for voluntary control of muscle activation, described by Andreasson and Petajan. Knutsson summarises his excellent studies of the restraint actually imposed by antagonistic spastic muscles during voluntary movement. Clearly, the therapeutic gains to be expected from suppressing spastic muscle tone cannot be more than modest and this is confirmed by subsequent chapters describing the efficacy of the drug baclofen in clinical practice, showing that functional gains are best in patients with flexor spasms and that it is clinically more popular among patients whose spasticity is caused by lesions of the spinal cord. The pharmacology and kinetics of baclofen are then reviewed in detail towards the end of the book.

This book does not pretend to cover the range of treatments used for spasticity, except in so far as the sponsors' interest in baclofen is concerned. One notable omission from the range of expertise consulted here is that of physiotherapists, whose contribution is recognised in discussions by the big names but who are toasted as absent friends. Since many clinicians are only now starting to appreciate what physiotherapists have been telling them for the past 15 or 20 years, it is time that their observations were brought more directly into discussions of this kind. Therapists interested in the mechanisms of spasticity will find it a useful and challenging source of information. All in all, it is an excellent book which deserves a large readership; unfortunately its high price will mean that most will have to read it in their hospital library, but anyone with a serious interest in clinical spasticity should have ready access to this book.

DL MCLELLAN

Neuro-oncology. Clinical and Experimental Aspects. Edited by BW Ongerboer de Visser, DA Bosch and WMH van Woerkom-Eykenboom. (Pp 261; Dfl 75.00.) The Hague: Martinus Nijhoff. 1980.