Book reviews


This scholarly work has been produced by four Japanese neuroscientists, two neurosurgeons and two neuropathologists. It is a very detailed study of the laboratory and clinical aspects of metastatic tumours in the central nervous system, based mainly on large personal series. The authors carefully analyse the massive amount of data involved, as well as review thoroughly the world literature of this relatively neglected field.

The first third of the book is based on the neuropathology of nearly 4000 necropsies in cases of primary extracranial malignancies performed at the Montefiore Hospital in New York over a 25 year period. The site, frequency and histology of central nervous system metastases in 3,359 cases of carcinoma or sarcoma, and in 599 cases of lymphoma, leukaemia, or myeloma, are documented. This data confirms and amplifies what is known about the neuropathology of cerebral metastasis and extends knowledge about dural and pituitary metastases.

The second section of the book concerns clinical management. The data is drawn from two sources. One is a series of 616 cases treated in Tokyo by the two neurosurgical authors over a 20 year period, and the other is the All Japan Brain Tumour Registry. Clinical diagnosis is examined in relation to factors which include nature of primary malignancy, age and sex of the patient, site and number of metastases, and presenting neurological symptoms and signs. Investigation of chiefly neuroradiological and particularly by computed tomography, is discussed in detail. Important descriptions of the use of cytology and of tumour markers in differential diagnosis are included. Methods and results of treatment by surgery, by radiotherapy, by chemotherapy and by endocrine manipulation, and by immunotherapy are described in detail and discussed critically. At the end of the book there are short sections on spinal metastatic tumours and on animal models of human metastatic tumours.

The book is extensively illustrated with tables and excellent photographs and micrographs, many in colour, depicting both the pathological and clinical features. It is well produced and bound. The book is an important original contribution in the brain tumour field. It can be recommended to all those with an interest in neuro-oncology and should be available in departments of neurology and of radiotherapy and oncology.

DGT THOMAS


The Work of Jeffrey Gray is well known to experimental psychologists but is unfamiliar to many clinicians. For more than 15 years he has been striving to reach the elements that are central to the experience of anxiety. In doing so he has shown himself to be a true polymath, acquiring a level of expertise in behavioural psychology, psychopharmacology and neurophysiology is quite exceptional. The fruits of his labours are set out clearly in this impressive and well written book. He takes a theory of anxiety as his starting point and examines its experimental value in 16 closely argued chapters. The theory is likely to be called the Gray theory in time but at present it has to remain hidden behind the polysyllables of the septohippocampal cybernetic theory of anxiety. This states that anxiety arises through excessive activity in the behavioural inhibition system, and also explains how an increase in activity is generated. The behavioural inhibition system responds to signals of punishment, novelty and innate fear by increased attention and arousal and inhibition of behaviour. The main neural substrate of the behavioural inhibition system is the septohippocampal system and its input, particularly the ascending noradrenergic bundles, and the limbic structures associated with Papez circuit. The cybernetic component of the theory states that the function of the septohippocampal system is both to predict the sensory inputs to behavioural inhibition system and check whether the predicted event has occurred. Anxiety is generated if the predictions are correct ones of aversive stimuli, or wrong predictions. Although the theory as a whole is inherently unstable it goes far further than other explanations of anxiety and is of great heuristic value. Many tests of and hypotheses stemming from the theory, mainly involving the effects of drugs on behaviour, are described in the book. Together they help to trace a common thread to a part of the brain that amply justifies Sherrington’s description of an “enchanted loom with its million flashing shuttles”. In the later chapters the theory is applied to clinical anxiety, phobic and obsessive disorders, not perhaps with the same degree of conviction, but in fine style.

This is a bold and imaginative attempt to bring anxiety down from its epiphenomenal pedestal to the scrutiny of the laboratory. The book deserves every success and even if in some respects Gray’s theory turns out to be wrong, it has the essential ingredient of all good hypotheses, it will encourage the others.

PETER TYRRELL


The interpretation of pathology is as a rule fraught with pitfalls none more so than that of perinatal brain damage. Its role in neurological handicap has often been over estimated and perhaps more rarely under estimated. Difficulties of interpretation are partly due to the different reaction to insults of the foetal and neonatal brain from that of the adult. Indeed the changes may appear insignificant to the pathologist who is not experienced in the neonatal field. Then there is the problem whether the neonatal distress is the cause or results of the brain damage, particularly if the clinical and laboratory findings are equivocal.

Dr Rorke’s monograph is the outcome of a careful study of her considerable material. While assessing the pathology she is always mindful of clinical facts; her approach makes her volume valuable both to the clinician as well as the pathologist. The descriptions of the various pathological findings are clear and detailed enough to offer a good guide in neonatal neuropathology; some chapters are particularly outstanding in clarity, evidently those of special interest to the author, for example, matrix zone haemorrhages and white matter gliosis. The illustrations are a great asset of the book not only for their number (135 in the 130 page volume) but even more for their informative nature and high quality. This is a unique achievement considering her material; histology and photography of infants’ brains are rarely rewarding. The references are mainly to authoritative studies in the field and these are fully discussed in the text. Although the title of the book is The Pathology of Perinatal Brain Injury, Dr Rorke largely limits her subject matter to asphyxia and ischaemic damage and only peripherally considers some of the other aetiologic factors of brain damage, mainly with regard to differential diagnosis.
The style of the book is simple and easy to follow. There are very few flaws and mistakes. One, however, keeps recurring throughout the text: abrupto placenta (sic).

This volume is a welcome addition to our rather small number of neonatal pathology texts.

M ERDOHazi


Neurologists must have been following the explosion of information about peptides in gut and brain with some amazement. Clinical practice has not led us to suppose that there would be such a dramatic interrelation between these two organs. However, since about 1974, it has been revealed that many of the peptides present in the gastro-intestinal tract are also present in restricted areas of the brain. To have to consider that hormones such as cholecystokinin, vaso-active intestinal polypeptide, and bombesin must be involved in the workings of the nervous system may appear a difficult concept to grasp. Likewise, the discovery that certain neurotransmitters, such as substance P, the enkephalins, and neurotensin are widely distributed in the gut as well as the brain also has seemed surprising. The very number of these gut-brain peptides is amazing; at a recent count, twenty-one such substances have been identified, and there may be many more. Many of these regulatory peptides can be found in the gut and the nervous system of lower animal forms, even in such coelenterates as Hydra. It seems likely that peptides came into use as neuronal chemical messengers very early in evolution. Another remarkable aspect of regulatory peptides is the discovery that they co-exist in both central and peripheral neurons with classical transmitters such as acetylcholine, noradrenaline, dopamine and serotonin. Why two chemical messengers should work better than one remains a mystery. Indeed, the function of most of these peptides in the brain is unknown. This issue of the British Medical Bulletin presents a fascinating review of the whole topic of gut-brain peptides. Development of a series of reliable and well-defined radioimmunoassays for a variety of peptides, and their exploitation for immunocytochemical localisation of such peptides in brain and gut, stemmed from the structural characterisation and synthesis of many of these molecules. The availability of such powerful tools has led to a remarkable explosion of experimental work in the field. For anyone interested in the area, this volume will provide an excellent introduction to the literature. To those already involved, it represents an authoritative review of progress.

CD MARSDEN


A central theme underlies this collection of essays—the benefit to be derived from integrating the fields of academic cognitive psychology and clinical neuropsychology. In the Introduction, Dr Ellis calls for a two-way flow of information between specialists in normal and in pathological conditions. He suggests, the findings of cognitive psychology can illuminate neuropsychological analyses and the analysis of neuropsychological syndromes can assist in the postulation of theories of normal functioning. The book contains ten contributions covering various fields of inquiry: the theoretical issues involved in the construction of models of mind in health and disease; the analysis of language production, reading and spelling; studies of object and face recognition, memory, spatial orientation and motor action. There is also a final chapter on neuropsychological aspects of the arts. Most of the contributions are based on a detailed analysis of rare clinical case studies.

The book does provide a new perspective for both the academic psychologist and the neuropsychologist, but it has limited relevance for the practice of clinical neuropsychology. Furthermore, a questionable validity can be attached to theoretical models of normal cognitive functioning which are derived from analyses of single case studies.

MARI A A WYKE


Rehabilitation in medicine has traditionally come a poor third after diagnosis and treatment, and because of its low status in the eyes of doctors there has in the past been a lack of scientific method and objective evaluation applied to its problems, methods and results. This has applied perhaps more in neurology than in other specialties where rehabilitation is a major problem (such as rheumatology and spinal injury) and is not to the credit of neurologists.

Here is a readable and up-to-date account, largely from Southampton and Bristol, of basic recent advances and prospects in neurological rehabilitation. In the first section, the pathology and pathophysiology of disease, plasticity and recovery in the peripheral and central nervous system are reviewed, and there is a most stimulating chapter on the role and potential of clinical neuropsychology in rehabilitation. Problems of rehabilitation in various neurological conditions occupies the central three-fifths of the book. All these contributions are well thought out and useful and some (such as those on peripheral nerve, neuropathic bladder and chronic pain) are excellent.

The last section, on future possibilities in neurological rehabilitation, contains, fascinatingly juxtaposed, a brilliant engineer's account of the Southampton powered hand, a complete system still in development, against a sad "post mortem" on tactile sensory substitution, another complex system, which blind patients could learn and was useful, but which was never quite worth their while, at least as an aid to mobility. Overall, this should be read with pleasure by all doctors, and others whose work involves them in neurological rehabilitation.

DN RUSHTON


This publication of the Nordic Gerontopsychiatric Symposium held in Denmark in April 1981 is a timely reminder that, for patients and their families, the prevailing threat to the comfort of old age is the tragedy of dementia. Although many clinicians can recount anecdotal experiences of rare, reversible causes of the condition, the disconcerting truth is that (for the majority of the 700 000 affected in the United Kingdom) the disorder has no recognisable epidemiological patterns—beyond its association with increasing age. Moreover, in the United Kingdom, less than 2% of the retired population are in-patients but they occupy 60% of hospital beds—yet, with the inevitable increase of our aged population during the next decade, the growing demands of confused, dysmnesic patients could easily swamp the acute hospital services. Indeed, only one new confused patient requiring hospital care every half-hour would be enough to do just this.

Laboratory medicine may provide the