Book reviews

Metastatic Tumors of the Central Nervous System. By Kintomo Takakura, Keiji Sano, Shuntaro Hojo, Asao Hirano. (Pp 346; \$53.00.) New York: Igaku-Shoin, 1982.

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, 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 Neuropsychology of Anxiety. By Jeffrey A. Gray. (Pp 548; £27.50.) Oxford: Oxford University Press, 1982.

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 that 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 adverse stimuli, or wrong predictions. Although the theory as a whole is inherently untestable 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 obsessional 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 TYRELL

Pathology of Perinatal Brain Injury. By Lucy Balian Rorke. (Pp 155; \$18.60.) New York: Raven Press, 1982.

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 overestimated and perhaps more rarely underestimated. Difficulties of interpretation are partly due to the different reaction to insult 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 neonatal distress is the cause or result of 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; this approach makes her volume valuable for 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 they 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 asphyxial ischaemic damage and only peripherally considers some of the other aetiological factors of brain damage, mainly with regard to differential diagnosis.