and how? The forensic approach has provided numerous promising reports. These initially implicated the catecholamines (with noradrenaline the prime suspect). Subsequently GABA and the associated benzodiazepine receptor appeared to be involved. Various peptides have come under close scrutiny including the enkephalins and AVP. Now rumours concern the excitatory amino acids, both in terms of presynaptic release and post-synaptic receptors. However, reports from the scene of crime officer have caused confusion. The crucial change did not occur at the obvious site (that is, the site of the intervention producing electrical or chemical kindling, for example the amygdala) but at some distant synapse or synapses (for example in the hippocampus, cortex or substantia nigra). As with most detective mysteries the reader becomes intrigued or frustrated according to the logic or lack of clarity of the narrative. It must be confessed that some of the witnesses are making vague and evasive statements. The discussion sections keep the reader alert (who are Chuck and Pete and Mac? Will the imprecisely described experiments that they plan to do contribute to the solution to the mystery?) Let us hope that the next volume is the final one, and that all the threads are brought ingeniously together.

For those who wonder what purpose this fictional genre serves there is a very well argued chapter by Engel and Cahan on the relevance of kindling to human partial epilepsy.

BS MELDRUM

Tumors of the Skull Base. Extra- and intracranial surgery of skull base tumors. Edited by H Scheunemann, K Schurmann, J Halms. (Pp 256; DM148.00.) Berlin: Walter de Gruyter & Co, 1986.

This volume marks the deliberations at the Second International Meeting of the Skull Base Study Group. Neurosurgeons, otorhinolaryngologists, maxillofacial, plastic and reconstructive surgeons, as well as ophthalmologists and neuroradiologists, have contributed to the symposium and to this volume. Professor Schurmann in his preface has pointed out that no one specialist deals with lesions of the skull base, and it is only by a multidisciplinary approach that advances in understanding and treatment will be made. With improved imaging techniques (CT Scan and magnetic resonance imaging) and new micro-surgical techniques

as well as laser and CUSA equipment, many conditions previously believed to be inoperable have been treated successfully by a multi-disciplinary surgical team. In concept a skull base study group is most attractive; their first meeting was in 1973. This report is of the meeting in Mainz 1984.

The book is divided into sections: (1) Anatomy and neuroradiology of the skull base, (2) Anterior skull base tumours, (3) Middle and posterior skull base tumours.

One has the impression that the actual symposium must have been a most profitable occasion for all those involved. Sadly, the book will provide little new information for those who would wish to benefit from the combined deliberations at the symposium. Many of the "chapters" are less than 1,000 words, and do not really tell the reader how to perform the operation (doubtless this was explained in great detail during the symposium). There are a few chapters, however, which stand out above the mists of mediocrity. The anatomical chapter "Topographical anatomy of the skull base and adjacent tissues" is in the usual exquisite detail which we have come to expect from Lang's writings. The contribution by Sekhar and Samii on "Petriocliaval and medial tentorial meningiomas" is useful. Individual case reports, unless they provide a major technical lesson, do not contribute to this volume. Three hundred words describing a fairly straightforward case of bi-frontal meningioma or five hundred words describing surgical reconstruction of the eustachian tube or blindness caused by Schwannoma of the olfactory nerve do not contribute materially to the book. The preface implies a wide international contribution to the Society; in fact 33 of the 56 contributors are German, with strong supporting roles by Dutch and French.

In summary, I am sure that the International Study Group is the way forward in understanding and treatment of the diseases of the skull base. Unfortunately, I do not believe that this volume lives up to the promise in the preface.

H ALAN CROCKARD

Progress in Neuropathology Vol 6. Edited by Harry M Zimmerman. (Pp 304; \$98.50.) New York: Raven Press, 1986.

Given that the stated aim of this sixth and latest volume in the progress in neuropathology series is the presentation of new

concepts and information in neuropathology, there should be ample excitations for even the most jaded of pathologists. Unfortunately the result is far duller than one might have expected. It is not the assembled authorship, who have ample claims to distinction. Rather it is the choice of subjects which disappoints.

Once again we are presented with the neuropathology of Parkinson-dementia complex of Guam, now rapidly dwindling incidence, the immunology of EAE, the immunocytochemistry of neurofibrillary tangles, and glioma tissue culture. Many of the detailed and meticulously referenced accounts would sit more comfortably in standard textbooks than in a volume of recent advances. Lost opportunities abound: advances in the morphometry and neurochemistry of Alzheimer's disease, neurotransmitter research, the fast expanding peroxisomal diseases, and the increasing influence of neuro-imaging techniques and gene probes which will profoundly alter the practice of neuropathology, to name but a few.

There are of course some bright spots: exciting and thought provoking essays on glucocorticoids and their role in the pathogenesis of hippocampal lesions, the influence of cytoplasmic microtubules in cell proliferation, and an essay on tumour invasion and metastasis. There is also a timely critique of the so-called neuron-specific enolase now found widely in extra-CNS tissues, a warning to us all in this age of immunocytochemistry.

The muscle chapters are particularly disappointing. Congenital myopathies take the form of a catalogue, including some excessive rarities, yet ignoring entirely the important and burgeoning subject of mitochondrial cytopathy. Previously unpublished, and (as it turns out) non-specific, muscle changes in fatal catatonias provide the coda to this book.

All in all, I doubt whether the individual purchaser will be attracted by the relatively high price and poor prose style. Literature seekers may request it from libraries, but I doubt whether they will be encouraged to stray far from their original objective.

B N HARDING

Emotions — Neuronal and Chemical Control. Edited by Y. Oomura. (Pp 446; £105.10.) Basel: S Karger AG, 1986.

Occasionally, genuine surprise accompanies

the opening and reading of a new book. Such is the case with *Emotions*. While I am certain that the precise content of any text on emotion will vary with and reflect the editor's view of the subject, I am equally certain that chapters on "Integrative rostralodiencephalic neurons and integrative peptides in hydromineral regulation" and "Electrophysiological bases for rhythmic activity in the suprachiasmatic nucleus of the rat: an *in vitro* study", among many others, would not generally come high on the list for inclusion of most editors.

Having come to terms with the frankly misleading title of the book (for example there is no discussion of fear or anxiety, little of aggression, and sexual behaviour is discussed only in terms of the control of the lordosis reflex in female rats), what of its contents? The first two sections of the book deal with the regulation of ingestion and something called "sensation—energy balance"—essentially discussions of taste, smell and temperature regulation, mostly in an ingestive context. Several of the chapters in section one deal with reappraisals of the role of hypothalamic mechanisms in the control of feeding behaviour. The papers by Novin, Oomura, Nijijima, Inoue and their collaborators are all well written and authoritative accounts. Lenard, Oomura *et al* have written a particularly interesting and challenging article on the activity of the lateral hypothalamus during feeding and the effects upon units there of catecholamines and opiates during various phases of an operant task (responding, cueing ingestion etc).

Section two opens with an excellent chapter by Scott and Mark on hedonics and taste. In particular, they describe the neural systems involved in discriminating the toxicity versus the nutritional value of foods and their modification in the short term by individual experience and hunger/satiety mechanisms. Also good is the chapter by Ritter *et al* on hindbrain mechanisms controlling food intake, including some interesting observations on the area postrema and the control of orosensory responsiveness. There is a typically challenging and concise contribution by Shimazu *et al* on the neural control of brown adipose tissue thermogenesis and a good chapter by Yamashita *et al* on the status of the paraventricular nucleus as a centre for the integration of autonomic and endocrine responses (presumably central to some issues in the study of emotion).

Taken together, the chapters in the first two sections of the book provide a valuable review of the various avenues of contemporary research on the neurobiology of

ingestion and intermediate metabolism. The majority of articles are well written and authoritative, but there is little cross reference between them.

The third section of the book deals with "neuroendocrine affected behaviour" and is very quirky in the topics it covers. Three chapters discuss elements of the neural basis of the lordosis reflex in female rats and the effects of manipulations of opioid peptides upon it. It is a matter of debate as to whether the display of this spinal reflex provides any insight at all into the neural mechanisms of sexual motivation, a subject central to the title of the book. Through chapters on amygdaloid seizures and aggression and behavioural capabilities during sleep we come at last to a consideration of the Kluver-Bucy syndrome, at least the psychic blindness associated with it. This interesting contribution by Iwai *et al* concerns the nature and importance of inferotemporal visual information relayed to the amygdala. The surprise is that in a book on emotion, this is essentially the only chapter dealing with the amygdala in an experimental way.

The final section of the book purportedly deals with psychological correlates of emotion. It opens with a typically well written and concise paper by Rolls on a theory of emotion and its neural basis. He deals with some authority on the subject of the prefrontal cortex, amygdala and the hypothalamus, providing an interesting analysis of the Kluver-Bucy syndrome and of manipulations of the prefrontal cortex. It is a pity that other authors did not refer to this theoretical chapter when discussing their experimental work. The chapters by Ono *et al* on decision-related responses in the prefrontal cortex of monkeys and by Luiten *et al* on the pathways involved in the regulation of hormone release during feeding and agonistic behaviour are both excellent. Tanaka *et al* provide interesting data on the effects of benzodiazepines in antagonising some of the neurochemical effects of stress (although it is a disappointment that the "stress" in question is immobilisation) and Bandler *et al* summarise their work on the periaqueductal grey in the behavioural and cardiovascular components of the defence reaction.

Dr Oomura states in his preface that the papers in the book are "presented with a minimum of referee interference to encourage expression of the most advanced insight of these experts". Well, the individual contributions are frequently well-written, authoritative and interesting but in no way do they constitute an integrated treatise on emotion. Instead, the absence of "referee

interference" and a firm editorial hand has resulted in a publication which presents a pot pourri of vaguely interrelated papers, at least in the context of neurobiology of emotion. The scientist interested in the neural mechanisms of ingestion will find much to explore in the first two sections of the book, and these are undoubtedly the most integrated papers. But the scientist searching for new insights into the complex neurobiological issues underlying emotion will be disappointed. At £105, few individual research workers will be able to afford *Emotions* and, I suspect, only the more specialised libraries will have budgets flexible enough to accommodate a book of such specialised diversity.

BARRY J EVERITT

Clinical and Experimental Neuropsychophysiology. Edited by Demetrios Papakostopoulos, Stuart Butler and Irene Martin. (Pp 728; £45.00.) Beckenham: Croom Helm Ltd, 1985.

The editors of this book have recognised that the standard biological disciplines are too compartmentalised to provide scientific basis for the understanding of the neural mechanisms underlying, for example, perception or the fields of mental illness. The medical student is unlikely to have sufficient grounding in Pavlovian conditioning theory to be able to understand Irene Martin *et al*'s theory of stress-related diseases. No pharmacologist coming to work in the field of neurophysiology could be expected to know the mathematical basis underlying the collection and analysis of EEG evoked potential waveforms. It is with this in mind that the editors have instructed their authors to introduce each chapter from basic principles so that any student with a grounding in one of the biological sciences can, without too much difficulty, achieve an understanding of the field which is being discussed. This policy has produced a book of unusual value, as it is quite possible for even the most unsophisticated reader to turn to a chapter in an unfamiliar field and find the theoretical underpinning necessary for an understanding of that area.

The book contains five major sections. The first deals with evoked responses, and gives a comprehensive series of chapters covering visual evoked responses, and language processing, together with some work on auditory evoked potentials related to extraversion and intraversion. There is also