

### Book reviews

the Princess Margaret clinic in London and has published many papers on his research. In 14 chapters he reviews the existing knowledge of migrainologists and the many dilemmas they share with their patients.

The chapters cover a proposed classification, a clinical appraisal and investigation, a summary of organic and functional causes of headache and epidemiology. Most of the book is concerned with migraine. Peatfield describes in turn: clinical features, precipitants, pathophysiology and treatment. There is an adequate section on cluster headache but only very brief accounts of post-traumatic and tension headaches.

As an up to date account of migraine this is an excellent, well referenced work, highly suitable for postgraduates, neurology trainees and indeed any physician who is called upon to handle this very common symptom. We are provided with valuable summaries of recent drug trials, though perhaps the author's temptation to classify and impute mechanisms on the results of such empirical trials is to be resisted. As a text on the much wider subject of headache (as implied by the title), it has shortcomings. Despite the controversy about the separation of tension or muscle-contraction headache from common migraine, the former remains the most frequent source of headache and therefore merits a much more detailed and explicit description than is accorded here. Similarly, the important topic of cranial arteritis is only afforded a page and a half; and a much longer and more thorough appraisal might have been apportioned to the section on trauma and its common medico-legal complications.

The text is well written, and the author has plainly spent much time and assiduous effort in compiling a lucid, well referenced text. It is nicely produced with clear line diagrams, tables and illustrations. I would warmly commend it as a short monograph on migraine, and look forward to future editions which I would hope will be either confined to this topic or considerably expanded to do justice to the many other sources of pain in the head.

JMS PEARCE

**Aspects of Epilepsy and Psychiatry.** Edited by Michael R Trimble and Tom G Bolwig. (Pp 256; £24.50.) Chichester: John Wiley & Sons Ltd, 1986.

This is a further book dealing with the inter-relationships between epilepsy and psychiatry. Once again it represents the pro-

ceedings of a symposium, this one held in Denmark. It consists of a number of chapters each of which is followed by a brief discussion on the subject matter. At the very least it proves that those interested in this area meet regularly to discuss the issues involved. Those who have read *The Psychopharmacology of Epilepsy* edited by Dr Trimble and published by the same house in 1985 will be struck that some of the chapters and authors cover similar subjects, though in slightly different ways. The advantage of this particular publication is that the coverage is rather broader and the review articles rather more comprehensive, useful and well written. There is a good chapter discussing the controversy over the existence of the "epileptic personality" and a number of chapters that deal with the associations between hyposexuality, hypergraphia and other personality traits and temporal lobe disorders. The relevance of antiepileptic drugs to psychiatric disorder, and the association between psychosis and epilepsy are again exhaustively explored.

The introductory chapter leaves itself open to some criticism by using a classification for seizures which has subsequently been updated by the 1981 International Classification. This chapter also gets into difficulty when discussing the psychiatric disturbances associated with non-convulsive status. It appears to use the term petit mal status to cover all absence status.

This is overall a helpful book in that it is reasonably coherent and comprehensive in its coverage. On the whole neurologists will find it more useful than the previous *Psychopharmacology of Epilepsy* and those uncertain as to which book to purchase would be well advised to consider this rather than the former.

DAVID CHADWICK

**Memory, Imprinting, and the Brain: An inquiry into mechanisms.** (*Oxford Psychology Series No 10*). By Gabriel Horn. (Pp 315; £25.00.) Oxford: Oxford University Press, 1985.

In the long history of the physiological psychology of learning and memory, the mechanisms underlying the processes of storage and retrieval of information have been the most difficult to investigate and thereby remain poorly understood. This reflects at least in part the legacy of Lashley's well-known failure to find the "engram", and a number of often poorly-controlled studies in the 1950s and 1960s which purportedly, but

not convincingly, demonstrated changes in protein synthesis as correlates of memory. However, recent advances in the brain sciences with the consequent rapid growth in technologies available to explore brain function, together with the detailed descriptions of memory impairments observed in individuals (such as H.M.) with specific brain lesions, has encouraged a vigorous growth in research aimed at elucidating this vital interface between the brain and cognition.

In this volume, the latest in the excellent *Oxford Psychology Series*, Gabriel Horn reviews some twenty years of personal research directed towards this goal. The reader is led from a brief account of early studies of habituation to a novel stimulus, a simple non-associative memory, to a detailed, but still ongoing, analysis of the mechanisms of imprinting in the domestic chick, a process whereby the young chick will form an attachment to its mother or an artificial substitute. This comparatively complex behaviour proves to be particularly interestingly heuristic in the study of memory mechanisms as it contains a number of behaviourally dissociable components: the imprinting object will act as an unconditioned stimulus for approach in the naive chick; it will act as a reinforcer in other learning tasks; and it will lead to processes that form a recognition memory of the object.

The rationale behind the experimental approach taken by Horn and his colleagues is compelling. Carefully considering the necessary control procedures, they initially describe changes in uptake of radio-labelled amino acid and RNA metabolism in the forebrain roof as a consequence of imprinting. Subsequent autoradiography localises the protein synthesis and turnover as well as increased energy metabolism following imprinting in one part of the forebrain roof, the intermediate and medial part of the hyperstriatum ventrale (IMHV). In a later chapter, ultrastructural changes in the IMHV as a consequence of imprinting are discussed. There follows a detailed discussion of a large number of studies where focal lesions are made in this and other regions of the chick brain and their effects on the acquisition and retention of both imprinting and non-imprinting tasks are assessed. Parallels are deftly drawn between the behavioural dissociations observed following such lesions in the chick and the memory deficits and amnesias seen following cortical and subcortical lesions in primates and humans. Further, the excellent detailed description of the anatomical connections of the IMHV is considered in relation to anatomical connections and structures implicated in mammalian memory.