

Book reviews

Viruses and Demyelinating Diseases. Edited by CA Mims, ML Cuzner & RE Kelly. (Pp 201; £22.50.) Florida: Academic Press, Inc. 1984.

The hypothesis that autoimmune disease is initiated by viruses in genetically susceptible individuals can easily be applied to diseases such as multiple sclerosis in which the aetiology remains unknown. Animal models now exist in which this precise sequence of events does occur, thereby vindicating the explosion of research into viral, immunological and genetic aspects of multiple sclerosis seen in recent years. *Viruses and Demyelinating Diseases* is the proceedings of a symposium organised by the International Federation of Multiple Sclerosis Societies during 1982.

In developing the argument that multiple sclerosis is a viral disease there are reviews on viral persistence (RT Johnson), neurotropic viruses which are not yet implicated in the pathogenesis of multiple sclerosis, such as herpes (TJ Hill; AA Nash) and on Visna, one of the earliest recognised slow virus infections of the central nervous system (N Nathanson *et al*; O Narayan *et al*). Demyelination and remyelination due to oligodendrocyte damage and the relationship of this cell to the astrocyte is described by WF Blakemore *et al*; ML Cuzner discusses glial responses to demyelination in multiple sclerosis. The case for a viral aetiology is built up by accounts of coronavirus replication and persistence in the central nervous system (BWJ Mahy), genetic susceptibility to this infection and its effect on oligodendrocytes (RL Knobler and MBA Oldstone), and the valuable animal model of murine coronavirus JHM strain infection in rats (H Wege *et al*). The identification of antigenic determinants on paramyxoviruses (WC Russell and KK Goswami) and reoviruses (DR Spriggs and BN Fields), specifically involved in determining their infectivity is described. The interesting suggestion is made by CA Pasternak and MJ Micklem that transient and rapidly reversible membrane effects, perhaps involving calcium flux, are induced by haemolytic paramyxoviruses which do not depend on cellular infection.

As for multiple sclerosis itself, A Salmi and his colleagues point out that a significant proportion of IgG synthesised in the central nervous system is a random selection of viral antibodies present in serum samples from the same individual and this heterogeneity distinguishes multiple sclerosis from most of

its putative experimental models, although the nonsense may contain antibody significant for the pathogenesis. BH Waksman summarises the evidence that multiple sclerosis is a virally induced autoimmune disease and in a brief comment, DAJ Tyrrell finds appealing the idea that the geographical epidemiology of multiple sclerosis could, in part, be determined by differences in age and immune status of children exposed to common virus infections.

This is an interim account on viruses and demyelinating disease; new evidence is already available and some material which relates to the topics discussed in the book is not included. Theiler murine encephalomyelitis or Semliki Forest virus models and viral demyelinating disease of the human central nervous system such as subacute sclerosing panencephalitis or progressive multifocal leukoencephalopathy are not described. But the book contains useful accounts of many principles underlying virus infection in the nervous system and interesting experimental observations. Both will make stimulating reading for clinicians and individuals researching into human demyelinating diseases.

ALASTAIR COMPSTON

Bacterial Meningitis. (*Contemporary Issues in Infectious Diseases Series.*) Edited by MA Sande, AL Smith and RK Root. (Pp 264; £42.50.) Edinburgh: Churchill Livingstone, 1985.

This is the third volume in a series of *Contemporary Issues in Infectious Diseases*. The book encompasses pathogenesis, pathophysiology, therapy, and the prevention of bacterial meningitis. In the first five chapters the (multi) authors present relevant new aspects of epidemiology of bacterial meningitis followed by studies and models of *Haemophilus influenzae* meningitis, pneumococcal meningitis, and cryptococcal meningitis. These are excellent chapters and are followed by a general chapter on clinical presentation and diagnosis of bacterial meningitis. Perhaps an unusual sequence, but one which reflects the continual problem of multi-author books: how to keep a group of prima donnas to the straight and narrow when each one wants to get his or her own aria across to a hypothetical audience. The authors include heads of departments of microbiology and infectious diseases, heads of departments of paediatrics and various professors of medicine. The peculiar sequence in the chapters is followed as bacterial meningitis after closed head injury is suc-

ceeded by prevention of bacterial meningitis by immunological means, prophylaxis of bacterial meningitis, the management of neo-natal meningitis, and then four chapters on therapy.

The four chapters on therapy are the best and undoubtedly the most useful chapters in the book. This book will be used for reference rather than read, and it is these chapters which will be most consulted. For example, in the chapter on therapy of meningitis in children there are useful tables with a summary of primary antibiotics and alternate selections for treatment of bacterial meningitis in children older than 2 months. Infections can easily be found in the index and the appropriate section quickly gives the answer to therapy. Each chapter is followed by a comprehensive list of references. The index is adequate but there is no author index. The book is well presented, reasonably priced, and strongly recommended for a reference book in all clinical departments.

LS ILLIS

Mental Health and the Environment. Edited by Hugh L Freeman. (Pp 490; £40.00.) Edinburgh: Churchill Livingstone, 1985.

Epidemiology concerns itself with answering the question: why do some individuals and not others develop particular illnesses? In relation to mental disorders, aetiological research on environmental (as opposed to genetic) causes has concentrated on stress models and the individual psychosocial aspects of the total environment. However, there are many other aspects to the environment: the architectural and geographic structure of our cities and towns, housing, environmental noise as well as such issues as crowding, aggression and urban rural differences. The editor and sixteen other contributors have gathered together a widely dispersed literature, in order to examine what influence these aspects of the environment may have on rates of mental disorders.

This book, we are told, had its foundations in a symposium at the University of Salford in 1974 and some of the contributors to that occasion including psychiatrists, psychologists, geographers, a sociologist, an architect, a general practitioner and others have spent the following ten years gathering further evidence from the literature and from their own individual research. The volume begins on an important cautionary note, in which the editor states that it is very unlikely that direct cause-and-effect relationships will be found between the environment and abnormal mental states,

because of the extreme complexity of the interviewing process. In a wide ranging review of the scientific back ground to this problem, Dr. Freeman exposes some of the difficulties which have bedeviled those who have intruded into this field since the early decades of this century. A chapter on environmental factors in aggressive behaviour may seem a little surprising to the more specialist reader. Its author, zoologist Dr. Paul Brain, is conscious of the impact on a more general readership of publications in the field of popular biology which debate upon this topic. Dr. Brain's review reflects the fact that this is not a simple subject and that terms like "aggression" and "the environment" are used in different ways by different writers and suggests that one should attempt to distinguish subdivisions within these concepts. There are two related chapters: one on urban delinquency, in which Bagley reports some new previously unpublished findings, which suggest that neighbourhood and family and not school differences are important, and a chapter on urban overgrowth which explores some of the explanations which have been suggested for high crime rates in large cities. The possibility that large urban areas induce a sense of anonymity not seen in small communities is discussed in detail, although strikingly little evidence on this as an explanation for high crime rates appears to be available.

The first two sections of this volume deal with general scientific issues and specific topics. The last section, something of a novelty, consists of a number of case studies. It includes a thorough analysis, by means of geographical methods, of psychiatric admission rates for depression and schizophrenia in the city of Plymouth, focusing on differences between electoral wards and at a more refined level, examining specific categories of residential environments. Much of this last section of the book contains new as well as recently published data.

Most of the contributors to this volume are interested in both effects and causes in relation to the environment and mental health. The overall impression is discouraging: I had hoped to find that research on the wider and larger structural and social environment would be less technically fraught than similar more familiar work at the micro-social level, studying the stressful life events, social supports and social networks of representative individuals. I was also disappointed to find that, in spite of the availability for a decade now of technically satisfactory measures of psychiatric morbidity, the literature covered in this volume is based on earlier, imprecise and often

difficult-to-interpret measures. However, most of the contributors are cautious and the unwary reader is far less likely to be led astray by this work, comparing well as it does with more popular, less technical and briefer sources. This book can be recommended as a useful source for scholars who may wish to embark on further research in a very difficult area. For the practitioner who wants answers to questions about the cause of mental illness and its more effective social management, this work only lends weight to the view that there is much to be done in order to improve the positive qualities of our living environment, and beyond that very little that can be said at the moment about the effective prevention or care of mental ill health.

TRAOLACH S BRUGHA

The Epilepsies. *BIMR Neurology Series-Vol 5.* Edited by Roger J Porter and Paolo L Morselli. (Pp 395; £36.00.) Sevenoaks: The Butterworth Group, 1985.

Epilepsy has for long been seen as a Cinderella sub-speciality of neurology. Over recent years there has, however, been an enormous increase in interest and research into this area. This is now being reflected in a more critical appraisal of our management of epilepsy, the introduction of new technologies to the investigation of patients, and most recently, after a decade of neglect, the development of new potential antiepileptic drugs. Along with this has come a veritable host of new books on epilepsy. This is the latest in a series of *Butterworth International Medical Reviews* covering neurological topics. As previous books in this series it is edited jointly by an American, Professor Roger Porter and a European, Dr Paulo Morselli. It is a multi-author book which is comprehensive in its coverage. Initial chapters deal with basic biochemical, neurotransmitter, and neurophysiological aspects of seizures. These are followed by chapters on the epidemiology and classification of the epilepsies. There are chapters on the values of a variety of investigations in epilepsy both those that have been with us for many years (the EEG), and newer techniques such as positron emission tomography. Therapeutic aspects are dealt with in a number of chapters relating to pharmacology and surgery as are psychosocial problems associated with epilepsy.

Readers will find this an excellent summary of the field that represents a state of the art view. Chapters inevitably vary a little in their coverage and European readers will once again be struck by what they might

regard as unusual preferences for particular forms of drug therapy, for example primidone and phenobarbitone for partial and tonic clonic seizures. However, overall it is difficult to be critical of this book which represents excellent value for money. It will be of interest and value to anyone charged with the care of patients with epilepsy.

DW CHADWICK

Brain Imaging and Brain Function. (Association for Research in Nervous and Mental Disease [ARNMD], Research Publications, Vol. 63.) Edited by Louis Sokoloff. (Pp 320; \$70.50.) New York: Raven Press, 1985.

This is volume 63 in that excellent series published on behalf of the Association for Research in Nervous and Mental Disease and, although too expensive for personal purchase, is a delight to read and study. The three introductory chapters by Kety, Lassen and Sokoloff trace the history of the development of the principles on which the measurement of regional cerebral blood flow and metabolism is based. Extensive mathematical modelling often makes the literature of positron emission tomography impenetrable to the clinician but this book lucidly explains the principles without the reader being unduly burdened with equations. The low-key, rigorous scholarship with which Sokoloff rebuffs critics of the deoxyglucose technique for the measurement of cerebral glucose utilisation makes absorbing reading. The elegance with which this technique can be used to explore the physiology of the visual, motor and sensory pathways and cognitive function in man is beautifully demonstrated and the care with which data should be interpreted in pathological states such as epilepsy, tumours, ischaemia and various forms of dementia is explored in the succeeding chapters. The chapter from the Hammersmith Group on the pathophysiology of human cerebral ischaemia, written by Frackowiak, is a gem and provides the theoretical justification for studies taking place in other centres using much cheaper, simpler bed-side techniques in patients being considered for carotid endarterectomy, extracranial/intracranial bypass and clipping of aneurysms. Positron emission tomography has often been criticised for being too expensive, too anecdotal and short on fresh insight. This volume demonstrates how positron emission tomography is, at long last, fulfilling its early promise.

Finally, there are three well-written chap-