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,