references to current work and also contains pointers to past milestones in the development of ideas on the motor cortex. It would provide a research student with an extensive base for studying the literature and for developing experimental hypotheses.

In his closing remarks the chairman warns of too simplistic assumptions of cortical organisation and function and emphasises the need for further detailed studies using developing new technology. One looks forward to the next motor cortex symposium with interest!

JSG MILLER

Introduction to Clinical Neuroscience 2nd ed. By Sir John Walton. (Pp 282; £12.95.) London: Bailliere Tindall, 1987.

In this second edition Sir John Walton has taken the opportunity to update much of the material which was first published some six years ago. As an introduction to clinical neuroscience it provides a comprehensive survey of the basic concepts and essential facts. There is no presumption of any previous knowledge of neurobiology, and the text moves rapidly to expositions on the pathophysiology of various neurological conditions which serve to illustrate a particular basic concept.

The text is well illustrated, but references to the literature are rather sparse and appear in a somewhat haphazard manner. The book ends with a useful discussion of various investigative techniques, and although it appears strange to read about the indications and precautions for air encephalography, the book is obviously intended for a wider audience than medical students in affluent western countries. For those who do not have ready access to CT and MRI scanners a fine selection of scans is provided.

In these days when the teaching of the basic medical sciences is supposed to be increasingly integrated with clinical medicine, such a book serves as a model exemplar of the genre. However, in schools where this approach has not been introduced, the preclinical teachers and clinicians in neuroscience might consider that the "basic science" and "clinical practice" respectively has not been sufficiently well covered for their liking. They will suggest to medical students more comprehensive texts in their fields, and the role for such an "Introduction" is difficult to envisage with the many competing pressures on students' reading times. All this illustrates the urgent

need for integrated preclinical and clinical teaching, where such a book is ideal.

CHRISTOPHER KENNARD

Magnetic Resonance Imaging: Basic Principles 2nd ed. By Stuart W Young. (Pp 298; \$49.00.) New York: Raven Press, 1987.

The speed with which magnetic resonance imaging is advancing is astonishing even by the standards of modern medicine. It is therefore quite hard enough for those involved with it to keep pace with the technology; it is almost impossible for those with limited exposure to be able to keep abreast. The books covering the basic principles stop at the conventional imaging, making only brief reference to "future" possibilities such as MR angiography, fast sequences and volume imaging etc. That these are rapidly reaching the stage of clinical evaluation must necessitate an understanding of the principles underlying these techniques. A book which covers both the basics as well as explaining the principles of these more advanced imaging techniques is therefore to be welcomed. Dr Young writes in a very readable manner and without going into detailed physics covers the subject very comprehensively.

The first four chapters are concerned with the basic principles and discuss in some detail the main imaging techniques of filtered back projection and two and three dimensional fourier transformation.

Chapter 6, which accounts for over one third of the book, is concerned with non neurological as well as the neurological applications and includes a useful section on some of the commoner artefacts encountered. The relatively short text is extensively illustrated with examples demonstrating less straightforward pathology which is adequately explained in the captions. Interestingly, however, the numbering of some of the captions is missing, presumably an oversight due to the desire to have such an up to date book in print as quickly as possible.

A chapter on the role of imaging and in particular MRI in the changing economic climate follows. This is more applicable to American readers but will also be of interest on this side of the Atlantic. Further chapters deal briefly with the planning of a new scanner and the possible role of spectroscopy and the book concludes with a useful glossary of terminology and a rather limited review of normal anatomy, many of

the scans being rather too small to be useful.

This book, however, has a rather different slant from the usual book on basic principles and so will be a useful addition to the textbooks currently available. It is highly recommended.

DPE KINGSLEY

Clinical Neuroimmunology. Edited by J Aarli, WMH Behan, PO Behan. (Pp 531; £60.00.) Oxford: Blackwell Scientific, 1987.

Those who use immunological techniques of theory to understand order and disorder in the nervous system may be sceptical about the need for 531 more pages on neuroimmunology. Clinical investigators are now in a position to benefit from the application of increasingly clever and versatile laboratory techniques, to the extent that strictly immunological biochemical or physiological approaches to understanding disease are giving way to multidisciplinary disease oriented research. Several monographs on neuroimmunology already exist covering the familiar topics of animal models, multiple sclerosis, myasthenia gravis, diagnostic tests and treatment; in these previous accounts and the present book, there is plenty of information, no shortage of hypothesis, but rather less established fact. However, in addition to the neuroimmunological canon (containing European, American, Japanese and Australian contributions) is the literature; inevitably, it will be out of date more

less before the ink has dried. The tone is set by the imaginative and at times provocative, overview. The remaining four chapters on general neuroimmunology rehearse the now familiar gamma interferon induced class 2 antigen expression theory of autoimmunity, followed by a purely descriptive account of HLA and disease, a catalogue of monoclonal antibodies that can be used to explore structure and function in the nervous system, and finally a comprehensive account of the function and distribution of complement receptors. Subsequent accounts of immune response to infection could usefully have appeared here.

The section on animal models deals in three chapters with autoimmune and viral models of demyelination; in both, clear distinctions are made between events which damage the blood brain barrier, those which cause inflammation and those which underlie mechanisms of myelin injury. The position reached in the study of some immunological disorders of the nervous system

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epitomised by the contribution on experimental autoimmune myasthenia gravis in which attention can now shift to documenting in detail possibilities for the pathogenesis at each stage in the sequence of events that leads to tissue damage. Immunological models of motor neuron disease have become legitimate material for inclusion in a book of this kind—although the evidence from studying the disease itself, presented later in the book, is a bit thin—but orthodox neuroimmunologists may have to hold on to their seats when considering the immunology of dyslexia.

The third section deals with the big three neuroimmunological diseases of the nervous system. The chapters on demyelinating disease are not so much disappointing, as predictable. The veteran troupe of distinguished commentators pulls no new tricks out of the bag in rounding up the usual suspects. The importance of the blood brain barrier in permitting inflammatory and demyelinating events to occur in the central nervous system is again emphasised but the role of trauma in this sequence is less plausibly argued. Most citations in the chapter on acute disseminated encephalomyelitis are from the literature of 20 or more years ago, reflecting the increasing rarity of this prototypic immunologically mediated demyelinating disease; the new material is mostly concerned with general ideas on mechanisms of demyelination. The comprehensive accounts of the neuropathy associated with IgM paraproteinaemia, and humoral mechanisms of tissue damage in Guillain Barré polyneuritis each illustrate that, as in the Lambert Eaton syndrome, immunotherapy has itself provided important clues to pathogenesis through the process of reverse immunology. It is clear that not everything has yet been learned about myasthenia gravis: the aetiology remains obscure and the synthesis offered here could equally have concluded an account of multiple sclerosis. The chapter devoted to immunological disorders involving the thymus, necessarily focuses on myasthenia gravis, but not to the exclusion of other conditions which will interest neuroimmunologists. Some contributors lean heavily on their own research, as for example in the account of polymyositis, whereas others have written more general reviews. The danger of the former approach is that the same theme tends to be repeated; suppressor phenotype and function in samples recovered both from the circulation and affected tissue feature prominently in the discussion of multiple sclerosis, myasthenia gravis, polymyositis and myotonic dystrophy. Finally, in this section, there is a

lucid account of the success and failure in the eye's attempts to maintain its immunological privilege.

The next part lists a heterogeneous collection of conditions which the editors presumably thought fit to separate from the more established neuroimmunological diseases. There is a thorough account of borreliosis, and new thoughts on cerebral lupus—again emphasising the dissociation between clinical and serological evidence for disease activity and stressing the role of antiphospholipid antibodies in causing tissue damage. The chapter on glioma fails to mention monoclonal antibody therapy, and the account of paraneoplastic disorders, whilst listing all the conditions recognised to have an immunological basis, is poorly referenced and omits most of the original publications. The interaction between genes, epilepsy, phenytoin and IgA deficiency is discussed by one of the editors who concludes this section with a brief account of neurological complications of immunodeficiency, a topic which would of course now justify an entire monograph of its own. The inevitable rate at which a book of this kind gets out of date is also demonstrated by the relative lack of molecular biology—a deficiency remedied in the chapter on narcolepsy, surely one of the most unlikely disorders to have taken pole position in the HLA and disease stakes. Seemingly, the notion of lymphocytes lulling the reticular formation to sleep has given way to a less immunological concept of MHC molecules acting as receptor for transmitters involved in wakefulness.

The catalogue of laboratory tests available for investigating neuroimmunological disease, which follows, is useful but anyone actually wanting to apply one or other technique will need a more detailed recipe book; the value of investigating the cerebrospinal fluid as a peepshow on what is going on in the brain itself is authoritatively described but, although it is undoubtedly one of the major achievements of modern neuroscience, imaging of the nervous system fits a little uncomfortably into this book. Treatment is dealt with as and when it arises in discussion of the individual diseases, but the book ends with accounts of the complementary roles of immune suppression and stimulation, emphasising the *in vitro* actions of each drug, a little immunophilosophy, and futuristic strategies for treatment.

It is inevitable that a multi-authored book which sets out to be encyclopaedic in its coverage of the subject, will be something of a curate's egg but, for the moment, this is the definitive text on neuroimmunology.

DAS COMPSTON

Temporal Lobe Epilepsy 1948 to 1986; a Biographical Study. By Christopher Ounsted, Janet Lindsay and Peronelle Richards. (Pp 129; £12.00.) Oxford: Blackwell Scientific, 1988.

The essence of this book is a description of the lives of children with temporal lobe epilepsy. It may be divided into three parts: a prospective study of 100 children with epilepsy; an assessment of surgical treatment; and a discussion in the pathogenesis of partial epilepsy.

The book is remarkable in that it provides excellent follow up data over nearly 40 years with no subjects lost. The development of each case is viewed not in terms of the seizure disorder but in terms of the patient as an individual. For example schooling, psychosexual, domestic and employment progress were monitored. The results of the studies are clearly presented and well illustrated by case reports.

In spite of these very good points the prospective study of children with epilepsy is of limited applicability. The authors repeatedly state that the patients were "unselected", although I think that the entry requirements would introduce a bias towards more severe cases. Indeed, 67% had a clearly identifiable aetiology and only 32% became seizure free and independent.

The chapters on neurosurgical treatment are well written and provide a useful assessment of hemispherectomy in 18 patients and temporal lobectomy in 65 patients. Again it is important to view outcome in relation to patient selection. For example, 30 of the temporal lobectomy patients had mesial sclerosis, which, as Jean Aicardi states in the foreword, is unlikely to occur in contemporary series. The chapter on pathogenesis is a reprint from an earlier "Clinic in Developmental Medicine". It remains interesting and is appropriate to the scope of the book.

In conclusion, this book is easily read and provides an interesting perspective on the effect of temporal lobe epilepsy on the lives of a group of children. However, much of the prognostic information may be of limited applicability.

D FISH

Electroencephalography. Edited by Ernst Niedermeyer, Fernando Lopes da Silva. (Pp 940; £81.00.) Baltimore: Urban & Schwarzenberg. UK: Williams & Wilkins Ltd, 1987.

This edition is larger than the first and covers a wider range of newer techniques. The gen-