on its application in focal dystonias, with the provision of useful diagrams to illustrate Dr Tsui's approach to injecting torticollis patients. Botox® units are used throughout, with some additional reference to the Dysport® preparation. Brin and Tsui state that "from discussions with European colleagues we suspect that one mouse unit of Botox® is approximately equivalent to 4–5 mouse units of Dysport®", but a recent report in this *Journal* suggests instead a 1 to 3 equivalence. This issue of differing potencies is clearly crucial to safety, efficacy and cost.

There is a fair amount of repetition between chapters, but this probably makes them individually easier to consult as references. There are also a few minor inconsistencies between what different authors say, and a phantom electrophoretic gel on page 356. You might also hope that for an outlay of $165 at least the photograph of a Kayser-Fleischer ring might be in colour, but you would be disappointed. Despite these quibbles, I can definitely recommend this book as an excellent reference text that deserves a place in all departmental libraries. However, its excessive price, although "only" the equivalent of less than one botulinum toxin torticollis treatment, will put it out of reach of most neurologists' personal libraries, which is great pity, and I continue to wonder why medical publishers charge so much for a book, especially when they pay nothing to the authors.

NIALL QUINN

Clinical Neurophysiology. Edited by COLIN D BINNIE, RAY COOPER, CLARE J FOWLER, FRANCOIS MAUGUIERE and PAMELA F PRIOR. (Pp 572; £85·00). Published by Butterworth Heinemann, Oxford 1995. ISBN 0-7506-1183-9.

This is a book dealing with EMG, nerve conduction, and evoked potentials. It has a companion volume that covers central neurophysiology. The initial technical section is followed by a description of electromyography and nerve conduction studies, much of which is presented in a problem orientated approach which emphasises important clinical topics. The evoked potential section is also organised in a very logical manner and contains a chapter on diagnostic strategies. The book is well illustrated and comprehensively referenced. This is a good reference text, therefore, which combines a clear presentation of basic principles with an emphasis on addressing appropriate clinical questions: a rare combination.

SIMON BONIFACE

Operative Neurosurgical Techniques. Indications, Methods and Results. Third Edition. (Pp 2196, £283·00). 1995. London: W B Saunders Company Ltd. Vol 1 ISBN 0-7216-5542-4. Vol 2 ISBN 0-7216-5543-2. Set ISBN 0-7216-5541-6.

This extensive piece of work edited by Schmidek and Sweet is the 3rd edition of a classic textbook concerning neurosurgical methods and techniques. The editors have gathered over 240 contributors to address 175 neurosurgical operative topics. The two volumes are subdivided into several sections according to specific concerns of anatomical location, pathology or systems. For example, there is a section for head injuries, lesions of the orbit, pituitary tumours, vascular disorders, functional neurosurgery and CNS transplantation.

Each chapter has been organised in a comparable way addressing the historical, anatomical and pathophysiological concerns before moving on to the general and specific surgical indications, methods and results. Overlap between topics has been kept to a minimum and each chapter is extensively referenced. The illustrations are in black and white, and the graphical illustrations are particularly well represented. The intra-operative images and illustrations generally achieve their objective although it seems that in some case older images have been included which are of poor resolution.

This edition differs significantly from the previous editions to take into account the dramatic changes that have occurred in neurosurgery over the past five years. Endovascular therapies, image guidance technology and magnetic resonance imaging technology have all been incorporated in an effective way. There has been a considerable change in the authorship to accommodate these changes with a greater contribution from outside North America.

My only criticism is that some of the surgical chapters have been written with a very strong personal bias and that the recognised alternatives have not been given a fair airing. Overemphasis on personal series and data makes some of the chapters unnecessarily lengthy. Previous editions of "Operative Neurosurgical Techniques" have been regarded as the gold standard textbook against which others are compared. The 3rd edition is no exception to this and in many ways has been improved on previous editions. These volumes are essential reading for trainees in neurosurgery and is extremely useful as a reference manual to more senior specialists. I recommend this work strongly.

PETER KIRKPATRICK

Cortex Cerebri. Performance, structural and functional organization of the cortex. By O D CREUTZFELDT. (Pp 658 £65·00). Published by Oxford University Press, Oxford 1995. ISBN 0–19–85234.

It is rare for an individual to master even one discipline. Creutzfeldt, however, managed to study three, namely neurology, physiology and philosophy. This left him in a unique position to elucidate brain-behaviour relationships.

Regarding the structural and functional organisation of the cortex, the approach taken here draws strongly on anatomical and physiological studies. A succinct historical introduction is followed by a chapter on the development of the cortex. There follow very good reviews of the structural organisation and neurophysiology of the cortex. Electroencephalography and evoked potentials are considered in detail.

The author clearly favours basic rather than applied neuroscience: anatomy and physiology are extensively covered. However, reservations are voiced regarding neuropsychology, particularly its ability to elucidate underlying physiological mechanisms, and this is reflected by the sparcity of neuropsychology in the text. In a similar vein, functional imaging is mentioned briefly. There is a very brief section on PET, while I could find no mention of SPECT or functional MRI.

The functional anatomy of sensory and motor areas, the association cortex and the limbic system is covered extensively. Cognition, in particular linguistics and hemispheric specialisation, is addressed. The text is concluded by a chapter which manages to unite Creutzfeldt's neurophysiological and philosophical views.

In addition to demonstrating Creutzfeldt's contribution to neuroscience, this text provides an excellent review of the contribution of anatomy and physiology to our understanding of cortical function, and is highly commended.

JOHN GREENE

Imitators of Epilepsy. Edited by ROBERT S FISHER. (Pp 372, $64·95). Published by Demos Publications, New York 1994. ISBN 0–939957–56–6.

I must admit to a sly hope that this volume was a historical or literary analysis of "great imitators of epilepsy", perhaps with reference to Dostoyevsky or the like! Students of literature will be sadly disappointed. Dr Fisher's aim in editing this volume was rather to elucidate the differential diagnosis of the borderlands of epileptic phenomenology. To do this what is really needed is an analysis of symptoms that are misinterpreted by physicians or perhaps an analysis of misdiagnosed cases of epilepsy. After all, all physicians can recognise a generalised tonic clonic seizure, or a complex partial seizure with prolonged automatisms and confusion. But what of the patient with dizzy spells and altered consciousness, episodes of brief psychoparesis or tingling in one hand? As episodic phenomena are common not only in most branches of neurology, but in psychiatry, vascular disease and endocrinology, to attempt even a reasonably comprehensive description of non-epileptic attacks is a daunting task.

This volume provides 13 chapters on disorders which produce episodic symptoms, such as syncope, migraine, cerebrovascular disease and episodic dyscontrol. There are useful sections. Dr Fisher's on the use and abuse of serum prolactin estimations is excellent. Many neurologists have suspected for some time that an elevated prolactin level very rarely helps in the diagnosis of epilepsy. Complex and simple partial seizures are frequently unaccompanied by a significant rise and the test therefore has poor sensitivity and specificity except where the clinical diagnosis is obvious. The chapters on electroencephalography and endocrine imitators of epilepsy are also good introductions to the subjects.

Nonetheless, overall I have come away with the opinion that there is too much missing here for a wholehearted recommendation. Real insights from experts in the

field are thin on the ground, and there is little useful practical advice. For example, we are told that simple visual hallucinations are not uncommon in partial epilepsy, but we are not told that they may be distinguished from the hallucinations of migraine as the latter are usually black and white and linear, whereas the former are usually coloured and rounded. The chapter on differentiating non-convulsive status from delirium is particularly unilluminating. Too often we are given a fairly standard review of a subject with little thought to how its phenomenology might overlap with that of seizure disorders. I cannot see the point in the chapter on movement disorders which includes sections on torticollis, facial dystonia and Tourette's syndrome yet dismisses juvenile myoclonic epilepsy in one sentence.

The author tends to reinforce the view, still current amongst some physicians, that the main aim of epilepsy diagnosis is to distinguish "epilepsy" from "non-epileptic attack". However, "epilepsy" is no longer an adequate diagnosis, as different epileptic syndromes have distinct appropriate treatment and prognosis. The important question in the neurology clinic is much more likely to be "what kind of epilepsy is this"? Patients are entitled to a precise diagnosis of their seizure disorder, and this can only be achieved by a thorough knowledge of the phenomenology of epilepsy syndromes and their syndromic classification. Only then can the diagnosis and classification of non-epileptic attacks be attempted.

RICHARD GRÜNEWALD

Advances in Behavioural Biology: Volume 43. Neurotransmitters in the human brain. Edited by D J TRACEY, G PAXINOS and J STONE. (Pp 224). Published by Plenum Press, New York and London, 1995. ISBN 0-306-44915-3.

This book is a commemoration of the work and influence of Istvan Tork and thus sets out to define the CNS in terms of neuropharmacological networks rather than anatomical entities. This approach has much to commend it, not least because of its heuristic value from a pharmaco-therapeutic point of view. However, although neurotransmitters may seem a logical defining point for such an approach, it may prove ultimately more successful to define networks by their effector receptor subtypes rather than the afferent neurotransmitter. This said, the book presents much interesting data that support the editors' approach although on occasions it can be used to highlight the limitations of this neuropharmacological approach. Chapters 1 and 2, for example, illustrate well the strengths of the chemo-architectonic model as homogenous areas or cells in the CNS can be redefined using neurotransmitter labels. Thus areas of the brainstem become more clearly delineated using a range of different neurotransmitter markers (for example, chapter 1) and similarly amacrine cells in the retina can be subdivided into pharmacological groups which may have functional consequences (for example, chapter 2).

However, there are a number of shortcomings that then become apparent as the book unfolds, some of which are a consequence of this type of book: one that summarises conference proceedings. Firstly there is a tendency to repetition and the cataloguing of neurotransmitter types and location with little attention to the functional significance of this distribution. Whilst this may reflect a lack of relevant work (for example, chapter 6 on excitatory amino acids and neurotoxicity in the human neocortex), it may also be a consequence of too limited a discussion (for example, chapter 3 on the developing visual cortex). A second difficulty that this book encounters is the unnecessary use of tiny figures with even smaller inserts. This is a great shame as the book relies heavily on detailed immunohistochemical studies which are difficult to appreciate at this scale of illustration. Finally the book is rather eclectic in the topics it discusses, so that some chapters seem misplaced in a book on human neuropharmacology (for example, chapter 11 on striatal pathology, grafts and GABA binding), whilst other chapters present small limited studies of only limited significance (for example, the neurotransmitter changes in Alzheimer's and Parkinson's disease discussed in chapters 12 and 13). This therefore leaves the reader with a sense of disorientation and only limited insight.

Overall this book sets out an interesting approach and presents some useful insights into the distribution of neurotransmitters in the normal and diseased human brain. However, it ultimately fails to capture the reader's imagination, and reads more as a list of pharmacological pathways than a view on the pharmacological organisation of the human brain.

ROGER BARKER

Occupational and Environmental Neurology. By NEIL L ROSENBERG. (Pp 374 £55.00). Published by Butterworth Heinemann, Oxford 1995. ISBN 0-7506-9515-3.

We are increasingly aware of neurological disorders caused or exacerbated by various chemicals and traumata encountered during work—an area known as "Occupational Neurology". Indeed, given the current epidemic of personal injury claims and the increasingly restrictive regulations governing the safety of the working environment, sooner or later most neurologists will be pressed by lawyers for a view as to whether their patient has an occupational disease. In Chapter 3 of this book the coordinating author, Rosenberg, outlines a format for rigorous and defensible analysis of causation when an occupational cause is suspected. The analytical method derives from the time-honoured Koch-Henle postulates about bacterial pathogenesis which were modified by Evans and Hill to the occupational setting. Although this approach seems to be the only valid analytical tool, it is cumbersome. In the field of occupational exposure it will always be difficult to strike a balance between either proffering too many diagnoses of a speculative and potentially inaccurate nature, or withholding such diagnoses because clear-cut proof of an occupational cause is so difficult to assemble.

It is valuable to have this area of neurology summarised in such a clear and comprehensive volume; Dr Rosenberg deserves particular credit. The subject matter ranges through organic solvents, toxic movement disorders and neuropathies, brain and spinal cord injury, low-back pain, and problems particular to performing artists. Each neurotoxic chemical is discussed in sufficient detail for one to judge what constitutes a significant exposure, without submersion by the abbreviations and dry jargon that so often characterise such information. The chapter on movement disorders contains an excellent up-to-date review of the association between Parkinson's disease and environmental chemical exposure which most neurologists will enjoy. Ethanol toxicity is presumably an occupational rather than recreational hazard for some. It is a pity that the uncertain question of how much alcohol is needed to cause peripheral neuropathy is not addressed. Many presume this question to be answered by edicts from the health police that men can drink up to 21 units per week with safety. But the limited evidence which is available suggests that neuropathy is unlikely until at least 45 units of alcohol are drunk weekly for some years.

The rapidly growing area of "cumulative trauma disorders" is reviewed. Many will know these as "repetitive strain injuries", "over-use syndromes", "occupational cervico-brachial disorders", and most frequently encounter them as carpal tunnel syndrome due to repetitive hand use. It is surprising that the section on brain and spine trauma excluded motor vehicle injuries given the rather higher rate of accidents which occurs in those who drive company cars. This trauma chapter should have discussed the post-traumatic syndrome, and reviewed the controversial evidence for underlying brain damage, given that this disorder so commonly interferes with work following head injury. Writer's cramp is not dealt with in depth; perhaps the personal computer is driving that disorder out of the American workplace. The discussion of work-related low-back pain is refreshingly realistic about the rarity of scientifically sound diagnoses despite the frequency of successful compensation claims. This chapter contains a valuable discussion of how to rehabilitate low-back pain patients and how to advise them on whether they might return to work, and if so to which type.

From time to time most of us will need access to this succinct, well-indexed and comprehensively referenced book on occupational neurology. Lawyers specialising in this area of personal injury litigation will find it especially useful. It is a pity the title also refers to "environmental" neurology since the book does not discuss topics such as heatstroke, altitude and decompression sicknesses, trench foot, or lightening strikes and electric shock.

MICHAEL DONAGHY

Electrodiagnostic Medicine. By DANIAL DUMITRU. (Pp 1233). Published by Hanley & Belfus, Philadelphia 1995. ISBN 1-56053-071-5.

This is an impressive volume of more than 1200 pages on the topic of peripheral clinical neurophysiology covering nerve conduction studies, electromyography and somatosensory evoked potentials. The introductory chapters on physiology, volume conduction and instrumentation are well