subject close to the work of the authors, particularly of Brodal. There are many references, and the index is also helpful. As the introduction indicates the emphasis falls on the topographical localisation within the olivocerebellar projection. Animals figure prominently: this is an experimental field. More contemporary techniques, for example autoradiography, fluorescence and horseradish peroxidase are referred to when appropriate along with older microscopic approaches, including that of Golgi. There is no electron microscopy. Some of the figures are the time-honoured line drawings with dots, triangles, squares and dashes. Towards the end there is a section on "some functional correlations". The correlations do not include the human ones. This is not a book for everyone, but those, clinicians and others, interested in the field will find it very informative.

I JANOTA

Chronic Pain: Psychosocial Factors in Rehabilitation. Edited by R Roy and E Tunks. (Pp 226; £22.25.) London: Williams and Wilkins, 1982.

In the Midlands it is well-known that the scrap merchants are often millionaires. The concept of taking other people's waste material and using it for profit can be extended to medicine, where many have made a successful living assessing and treating the cast-offs of other physicians. Those who deal with chronic pain form part of a group that has attempted in recent years to provide a therapeutic medium for some of those large number of unsatisfied patients who wander from one doctor to another seeking further opinions and receiving further intervention usually to little success. The flourishing activity in this field, including books, journals, and international conferences, testifies the rich pickings that may be found.

One of the most interesting facets of chronic pain has been the growing recognition that, like a number of other chronic conditions, the most effective management is often multidisciplinary, and the presenting problems are best viewed not in the framework of traditional medicine, but more in relation to the context within which the symptom arises. The authors of this book, a social worker and a physician, have brought together a number of writers to discuss the psychosocial factors that have bearing upon rehabilitation of chronic pain patients. While most of the contributors are from Canada, chapters are also contributed from the USA and Europe. The volume makes interesting reading, and attempts to grapple with the complex problem of the management of chronic pain. Those who seek information on

where to stick needles, or how to apply vibrators, or even on the latest information on the workings of the gate theory will be disappointed. Merskey outlines the problems of being dualistic with regard to pain, emphasising his, now accepted, definition that pain is "an unpleasant sensory and emotional experience which is associated with tissue damage or described in terms of tissue damage". Starting with a unitary concept, Violon takes us through the process involved in becoming a chronic pain patient, emphasising the family, social, and psychiatric variables that form part of the progress towards chronic disability. The relationship of chronic pain both to the social concept of the "sick role" and the relationship of chronic pain to occupational status are discussed prior to the series of chapters which outline different forms of therapies. These include behaviour and cognitive therapies, family therapy, conjoint marital therapy, group therapy, and some psychiatric managements including use of antidepressants and other psychotropic drugs.

The essential philosophy of the book is summed up in the final chapter "Future Directions". The editors state their acknowledgement of the growing awareness that "even when the chronic pain is associated with organic damage, psychosocial variables play an important part in maintaining and/or aggravating the problem". Those who have felt that the management of chronic pain is solely a medical problem would do well to note the growing interest by non-physicians in the therapeutic process, and in particular, as is emphasised on many pages in this book, their optimistic approach directed towards patients' needs, which stands in contrast to the pessimistic shake of the head and the demoralising comment that "nothing can be done for you".

MICHAEL TRIMBLE

Doppler Ultrasound in the Diagnosis of Cerebrovascular Disease. Edited by Robert S Reneman and Arnold PG Hoeks. Chichester Research Studies Press, John Wiley & Sons, 1982. (Pp 294; £19.50.)

There exists a gap which could be properly described as a chasm between the science of haemorheology and its clinical application. The reason for this is the complexity of the physical principles which govern the flow of non-Newtonian fluids through tubes. The gap is regrettable because currently there is much evidence that a great deal can be done at the clinical level to understand and influence the flow of blood through arteries hopefully with benefit to patients.

The present volume will do much to bridge the gap because the exposition of the physics is unusually clear and can be followed even by the non-mathematical who skip the formulae but wish to understand the concepts and principles. This in turn provides a basis for understanding the use of Doppler ultrasound to determine flow velocity and to detect impediments to it. Doppler has been around for some time but its use was largely restricted to a few centres who pursued it with devotion. This again is because its successful use demands understanding of the physical principles underlying the signals obtained. This book will promote that understanding.

At the present time Doppler in experienced hands can be relied upon to detect an occlusion of an accessible artery and a stenosis of 50% or more. Objection may be raised that it is often lesser degrees of stenosis which are important as a source of emboli. This is true but it is important to concentrate on what the Doppler will show whilst remaining aware of what it will not show. Moreover the maximum potential of Doppler has not yet been reached and the development of imaging techniques promises more.

This work surveys the scene well. It is clearly well documented and referenced and can be strongly recommended.

JOHN MARSHALL

Textbook of Clinical Neuropharmacology. By Harold L Klawans and William J Weiner in conjunction with Paul A Nausieda and Christopher G Goetz. (Pp 381; \$44.20.) New York: Raven Press, 1981.

Neurological Clinical Pharmacology. By M Eadi and J T Tyrer. (Pp 401; £24.95.) Lancaster: MTP Press Ltd, 1980.

A decade ago there were virtually no textbooks of clinical neuropharmacology; now they come in droves. This is a healthy reflection of the transition of classical descriptive and diagnostic neurology into a therapeutic speciality with effective treatments for many of its major illnesses. Whether there are enough neurologists in the United Kingdom to deliver these treatments is another matter – certainly there are enough good new books to tell them how to do it.

Eadie and Tyrer have produced a scholarly monograph on "Neurological Clinical Pharmacology". The distinctive feature of their approach is a welcome emphasis on the principles of the pharmacodynamics and pharmacokinetics of each of the therapeutic agents described. There is an excellent introductory chapter on general principles of neuropharmacology. The major portion of the text then is laid

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out under headings grouping together individual neurological diseases. For example, chapter 3 describes disorders of voluntary movement, and includes myaesthesia, myotonia, spasticity, Bell's palsy and periodic paralysis, while chapter 4 deals with involuntary movements including Parkinsonism, and dyskinesias such as chorea, dystonia, myoclonus, tremor and so on. Each clinical entity is dealt with in a standard fashion. The disordered mechanisms responsible for the condition are discussed, the drugs used to treat the syndrome are described (with full details of their chemistry, biochemical pharmacology, pharmacodynamics, pharmacokinetics, interactions and toxicity), and then the way in which such drugs are used to manage the condition in question is reviewed. Physical and surgical therapies are mentioned briefly where appropriate. Each drug is only described in detail in one section; for example, diazepam is reviewed in the section on epilepsy, but is mentioned in the treatment of spasticity, headache, tremor and so on. The text covers virtually every condition the neurologist will be called upon to treat, including leprosy, cerebral malaria, and the painful crises of Fabry's disease. In a next edition it would be helpful, for rapid reference, to have the conditions and drugs discussed in each chapter listed in the table of contents. There is an excellent list of original references and a reasonable index.

I have kept this book next to me for some time to test its value. The sections on drug details are quite excellent, and I have only rarely had to return to Martindale or Goodman and Gilman in recent months. The descriptions of management of individual diseases are sound and instructive. The style here is to provide the available evidence and allow the reader to judge for himself the best course of action. Although most forms of therapy are mentioned, the details of some of the less used treatments are sometimes not given. For example, few practitioners are completely familiar with the details of treatment of Wilson's disease, but they will not find guidance on how to judge the dose of penicillamine, or what to do if the patient gets a rash! Indeed, this would be my only (mild) criticism of the book. The data on drugs will provide practically everything the practitioner requires, but the details of management could, with advantage, be expanded. In conclusion, an excellent reference manual which I would recommend to all neurologists to keep by their desk, in their wards and, with benefit late at night, at home. Klawans and Weiner's *Textbook of Clinical Neuropharmacology* is laid out on different principles. The accent is more heavily on mechanisms of disease than on drugs, with less emphasis on basic pharmacokinetics and pharmacodynamics. As befits these authors

extensive experience in the field of movement disorders, there are many chapters devoted to akinetic-rigid syndromes and dyskinesias (the latter include chapters on hemiballism, dystonia, Gilles de la Tourette syndrome, essential tremor, primary writing tremor, stiff person (sic) syndrome, myoclonus, and paroxysmal kinesogenic choreoathetosis). Also reflecting the authors' interests and expertise, there are chapters on schizophrenia, anxiety states, depression and minimal brain dysfunction. The approach in each chapter is to review the basic pharmacological and biochemical pathophysiology of the disorder in question, often in a historical framework which sets events in sequence and context, and then to turn to practical management. The latter often is helpful, with many of the difficult problems faced by clinicians given a fair airing. However, the balance of the book is somewhat skewed towards movement disorders. Parkinson's disease receives 33 pages, which is correct, but stroke is dealt with in nine, and multiple sclerosis in two. Infectious diseases, deficiency diseases, and systemic diseases are not included at all. This reflects the basic aims of the book. This is not a textbook of neurological therapeutics, but a textbook of clinical neuropharmacology. The authors have been pioneers in this young and rapidly expanding field, and their book reflects their views of the science of neuropharmacology as seen today. No doubt the picture will continue to change as rapidly in the future as it has in the past, and as new knowledge accrues in different fields, so the balance of a book like this will change. Anyone with an interest in movement disorders will have to purchase this volume, and any neurologist or neuroscientist with an interest in neuropharmacology will need to consult it.

CD MARSDEN

Neural Aging and Its Implications in Human Neurological Pathology. Edited by RD Terry, CL Bolis and G Toffano. (Pp 270; \$38.08.) New York: Raven Press, 1982.

The publication of symposia on aging continues to provide volumes in the series published by Raven Press. Volume 18 reports data concerned principally with pathology presented at a meeting convened by the World Health Organisation and held in Geneva in December 1980. The book therefore contains contributions from unusual sources, including China, Senegal, Mexico, USSR, and Brazil. Some of the 15 chapters report work already familiar from other publications but the book contains much useful material. In a thoughtful opening chapter Gajdusek considers the

possibility that slow virus infections may be related to aging, or more specifically to Alzheimer's dementia. There are several contributions on lipofuscin in aging, but these are somewhat disappointing since they make little reference to recent quantitative work on the distribution of this pigment in the brain. Terry reviews recent work on the pathology of senile dementia and, in succeeding chapters, there are reviews of zinc and aluminium metabolism, together with comments on other experimental models for the study of aging in neurons. There are several accounts from different countries of problems in the clinical diagnosis of dementia and other chapters review selected aspects of the literature on receptor function and pharmacological attempts to manipulate symptoms in this disease. The book concludes with contributions on the epidemiology and significance of aging of the brain from developing countries. Finally, Roth reviews the relation between the clinical features and the pathology of senile dementia.

The book thus contains much that is interesting, although relatively little that is new; it will be a useful volume to those working in the field of human aging and dementia.

MICHAEL SWASH

Viral Infections of the Nervous System Richard T Johnson. (Pp 446; \$74.80.) New York: Raven Press, 1982.

This is an excellent book. It is the work of one of the world's leading authorities on viral diseases of the nervous system and is without doubt the best reference volume on this difficult subject. It is a reflection of the author's scholarly and enthusiastic attitude to both clinical and basic science aspects of virology.

The book is in four parts. The first includes an interesting history of virology, and all the chapters are headed by an apt, and often amusing, historical quotation. This is followed by comprehensive accounts of virus and virus-cell interaction; pathogenesis of central nervous system infection including entry of viruses and virus pathways to the central nervous system; and a superb review of immune responses. The latter is so well dealt with, that a complex subject is made, well . . . not simple, but definitely readable. This section could almost be published as a separate introduction to immunology.

The second part of the book deals with acute neurological disease, in particular the viruses which most frequently cause aseptic