ness to remarkable advances in neuroanatomical technique. It is the product of a multi-disciplinary meeting of neuroscientists at the National Institutes of Health in June, 1981 and its 28 chapters cover concise areas of neurocytological research. Common to all is the critical application of cytochemical techniques to solve problems in neuroscience research, be they anatomical, physiological or pharmacological. This is not a textbook of cytochemistry, and one will not find, for example, technical aspects of catecholamine or peptide localisation covered comprehensively. The aim is to show how neuroscientists are exploiting these new techniques to solve a great variety of problems, and at the same time to provide a critical account of their use.

The well established techniques based on anterograde and retrograde transport of tracer substances are touched upon in a fine opening chapter in which Hendrickson shows how she and her colleagues have combined autoradiographic tracer studies with conventional histochemistry, immunocytochemistry, and 14C-deoxyglucose autoradiography to analyse the nature of occular dominance columns of the monkey striate cortex. A relatively new approach which features in several chapters, and is reviewed in detail by Cuénod and colleagues, is transmitter specific retrograde labelling. Various tritiated neurotransmitters (including amino acids, biogenic amines, and choline) can be localised within neurons, pathways, or (with electron microscope autoradiography) synapses, following intracerebral injection, although the biological significance of this intriguing phenomenon remains uncertain. Theoretical aspects of immunocytochemical technique are well covered, with consideration of antigen-defined immunocytochemistry, the use of monoclonal antibodies, and a helpful chapter on the validity of these techniques, and the significance of false negatives and false positives. There are two chapters on the localisation of GABA-ergic neurons (both giving detailed protocols) and there are technical details in the chapters on the localisation of serotonergic systems and description of intracellular labelling (with horseradish peroxidase) of physiologically identified neurons in the central nervous system. As one would expect, neuropeptides figure prominently, introduced by Chan-Palay in a fascinating account of the co-existence of neuroactive substances within individual neurons in the mammalian CNS, and including chapters on the cytochemistry of enteric nerves, the dorsal horn of the spinal cord, the avian retina and tectum, neuroendocrine and autonomic neuropeptides, and consideration of peptide heterogeneity and neurotypy.

The editors and publishers must be congratulated on presenting an elegantly finished, finely illustrated, and relatively up-to-date volume packed with ideas and technical information. It will be frequently consulted in the library and the laboratory. Its eclecticism, and the nature of modern neuroscience, ensure that it will be read by neuroscientists of many disciplines, and its price will be within the budget of most departments. This is not a book which aims to bridge the gap between basic neuroscience and clinical neurology, but for neuropathologists, neuropathologists and clinicians who wish to keep abreast of a rapidly changing field, a departmental copy will be well worthwhile.

NIGEL LEIGH


This book is written by various members of the multidisciplinary team of a special rehabilitation centre for spinal injuries. It is intended to be (and probably is) a comprehensive source of reference dealing with the subject. There are four sections. The first presents a survey of the normal radiological anatomy of the spine and cord in a novel and attractive way. The second part deals with the acute phase of spinal cord injuries. Fractures and dislocations and their complications are described and illustrated, and the neuroradiological chapter includes many computed tomographic and angiographic images. The third part deals with rehabilitation, being concerned mainly with the disturbances of the urinary tract and bones and joints which complicate spinal trauma. Part four comprises unrelated topics—children's spinal injuries, the value of radionuclides in diagnosis, the detection of associated injuries.

Prospective purchasers would do well to check carefully what sort of book they are buying. Only one-third of the contents actually deal with the radiological signs of spinal trauma. Most of the remaining space is taken up with describing possible complications of a chronically immobilised patient. These complications are common to cases of chest and abdominal trauma and certain non-traumatic situations as well as spinal injuries. Your reviewer questions the relevance in this book of chapters describing peripheral venography, the ultrasonic findings in gallstones and the surgical aspects of reducing and stabilising spinal fractures. Perhaps the authors are unsure of the audience they are seeking; despite their effort to cover all aspects from diagnosis in the early hours to the final reaches of rehabilitation, one wonders if they have produced a text that is sufficiently relevant or complete to make the book compelling reading for surgeons, neurologists and other non-radiologists.

The radiologist has much to learn, particularly from the chapters dealing with radiological anatomy and acute spinal trauma. The chapters on cord anatomy (by a neurologist) and that on the vertebral column (by a neuroradiologist) are excellent and complete, correctly stressing the primary importance of imaging the integrity of the canal and its contents in every case of spinal injury. Chapters 4 and 5, dealing with fractures and dislocations and neuroradiological assessment, are probably the best in the book, being profusely illustrated with examples of injuries to the cord and vertebrae shown by angiography and computed tomography which have not yet reached our textbooks. Apart from this there have been other merits: a more up-to-date albeit all-American review of the literature appended to each chapter, commendably high quality line drawings and radiographs, and a general readability of the text. A book to be recommended for the departmental library.

EDMUND H BURROWS


This book presents a comprehensive physiological atlas of the thalamic and mesencephalic regions in man. It is based upon neurostimulation data obtained during 198 stereotactic thalamic procedures, carried out for varying conditions, over a ten year period.

A careful analysis of over 9000 stimulation sites along 835 trajectories has been made and the results plotted on the brain maps of the Schaltenbrand and Bailey Stereotaxic Atlas. Such techniques demonstrate the precise location of over thirty different physiological responses. They also illustrate the degree of precision such methods provide for determining modality topography and somatotopical organisation of human thalamic nuclei.
The book is divided into two sections; in the first part, stereotactic surgical techniques and methods of physiological localisation are discussed and techniques of computer assisted graphic displays for storing physiological data are given. In the second, and larger portion of this book, a detailed account of the results of the physiological mapping, following electrical stimulation is given. Detailed chapters on the major sensory and motor pathways are discussed in relation to specific stimulatory response patterns. An excellent section is provided to show the histological correlation of six necropsy cases in which thalamic lesions have been made. The use of figurene charts correlates the physiological effects after neurostimulation and destructive lesions within the human thalamus.

This book provides a concise and up-to-date account of the correlation between the anatomy and physiology of the human thalamus and mesencephalon. It is highly recommended to all stereotactic surgeons concerned with producing chronic stimulation or destructive lesions in these complex regions of the brain. It will also provide great interest to neurologists, neurophysiologists and neuroanatomists wishing to review the current physiology and anatomy of the human mesencephalon and diencephalon.

F AFSHAR


This second volume in the series is a collection of well compiled reviews covering a wide field. Neuropathology is interpreted liberally to include normal neurocytology, neurophysiology and some clinical data. Each chapter covers not only the basic neuro-anatomical, cytological, pathological and physiological aspects of the subject but also discusses their relevance to clinical neurology and neurosurgery. Most readers with an interest in the neurological sciences should find chapters in their main field of interest and will probably be strongly tempted to read the other contributions. The first two chapters are concerned with immunocytochemistry and the structure and pathology of the neuronal cytoskeleton. Other chapters cover myelination and the pathological and functional aspects of demyelination and remyelination in the central nervous system. Specific areas of controversy and current interest reviewed in this volume include the functional properties of microglia, ageing in the nervous system, and the spectrum of Creutzfeldt-Jakob disease and virus induced subacute spongiform-encephalopathies. More clinically or physiologically orientated contributions include those on non-missile head injuries, ischaemic injury of the brain and the neuropathology of faecal incontinence. Aspects of toxic neuropathies are discussed in a later chapter and there is a lucid review of the controversy surrounding the actiology of aqueduct stenosis.

The book is well balanced, well written and illustrated; it whets the appetite for the next volume in the series.

RO WELLER


The book is divided into 10 chapters of which the first describes in considerable detail the history and general principles of CT and the second describes the normal CT appearances in the axial plane. The remaining eight chapters are devoted to pathological processes actiologically. Each chapter covers its subject in a simple but concise manner and there are plenty of figures which if not of particularly high quality do however demonstrate a large number of useful facts allowing the text to be kept to the necessary minimum and making the whole book very readable and easily understood. The authors intended this book to be used by anyone in the early stages of training who may encounter CT of the brain and who need simple guidelines for every day conditions and in this they have succeeded admirably. The book is certainly recommended as basic reading.

DPE KINGSLEY


The benzamides are a novel and potentially valuable class of psychotropic drugs although they have yet to impinge significantly on clinical practice. The best known member of the series, metoclopramide, is known to be an effective antiemetic but is not used in psychiatry. Pro-cainamide is the parent compound of the series and although it too is used primarily for its peripheral effects as an antiarhythmie drug, both drugs have important effects on the central nervous system. Further development of the drug has been concentrated on their effects on the central nervous system, and the newest members of the series, sulpiride and tiapride, are effective antipsychotic drugs.

The clinical application of these compounds is promising but their use as pharmacological investigative tools is even more exciting. It has been unequivocally established within the last six years that antipsychotic drugs act by dopamine blockade of post-synaptic receptors. It has long been suspected that there is more than one dopamine receptor and the recent discovery by Kebabian and Calne of two classes of dopamine receptor is rendered even more interesting as benzamides appear to be unique among antipsychotic drugs in blocking only one of these receptors. This explains some of the paradoxical and unpredicted pharmacological effects of metoclopramide and sulpiride. The benzamides have deserved a volume to themselves for some time and this book amply fulfils the need. Like all expanding subjects, there are many more questions asked than answers given but the speed of advance is such that we may soon have a more specific antipsychotic drug developed from pharmacology rather than clinical serendipity. Levodopa cannot enjoy this unique position indefinitely.