

Figure 1 Preoperative study. The stimulus given was 8 mA for 100 μ s duration. Recording electrodes were placed over the seventh intercostal space in the anterior axillary line and the eighth rib, just laterally.

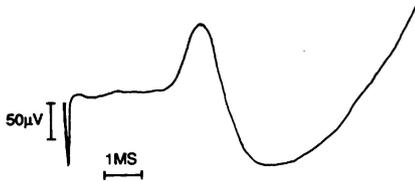


Figure 2 Postoperative study. The stimulus given was 10 mA at 100 μ s duration. Electrode positioning was the same as figure 1.

Clinical observation at the same time, however, showed no diaphragmatic contraction in association with the stimulus, but a very vigorous contraction of the pectoral muscles was observed. Fluoroscopic examination of the diaphragm confirmed that it was paralysed. We suggest that the absence of any visible diaphragmatic movement, coupled with our knowledge of a "normal" preoperative latency, that is, 3–7 ms, implies that the electrical signal picked up was not from the diaphragm but may represent pectoral stimulation. The nerve supply to the pectoral muscles arises from C6, 7 and 8 for pectoralis minor and C7, 8 and T1 for the sternal portion of pectoralis major. In stimulating the phrenic nerve in small children, the probe often has to be held quite low in the neck and stimulation of these lower nerve roots may well occur. As the nerve supply to the serratus anterior is from C5, 6 and 7, this may also contract, but the electrode position in this CMAP recording makes it unlikely, as does the very short latency.

We suggest that in all studies of phrenic latency, especially in children, care is taken to ensure that there is clinical evidence of diaphragmatic contraction so that misinterpretation does not occur. Electrode positioning should be no higher than the seventh intercostal space to minimise the risk of pectoral artefact.

RI ROSS-RUSSELL
B-A HELPS
Respiratory Laboratory,
Hospitals for Sick Children,
Great Ormond Street, London, UK

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BOOK REVIEWS

All titles reviewed here are available from the BMJ Bookshop, PO Box 295, London WC1H 9TE. Prices include postage in the United Kingdom and for members of the British Forces Overseas, but overseas customers should add £2 per item for postage and packing. Payment can be made by cheque in sterling drawn on a United Kingdom bank, or by credit card (Mastercard, Visa or American Express) stating card number, expiry date, and your full name.

Infections of the Central Nervous System. Edited by WM SCHELD, RJ WHITLEY AND DT DURACK (Pp 937; Price \$199.00). 1991. New York, Raven Press. ISBN 0 88167 766 3

However one looks at it, this is a weighty tome (3.4 Kg; 52 authors; 51 American and one Swiss; and editors associating, in their three persons, professorships of Medicine, Internal Medicine, Neurosurgery, Paediatrics, Microbiology and Immunology). The book is encyclopaedic in scope, beautifully produced and illustrated, extensively referenced, entertaining as well as learned and—no mean achievement these days—written in fluent, jargon-free English. If "language be the dress of thought" the authors emerge attractively clad. It is the sort of book neurologists should seek to own, not borrow. Lending books is, anyway, of all kindnesses the one that meets the least return.

No "larding" here "of lean facts with the fat of others' work". Various disorders are first reviewed in depth, with special emphasis on pathogenesis, clinical differential diagnosis and treatment. Tuberculosis and syphilis of the nervous system are reviewed with the breadth of vision and pathological insight of many an older textbook devoted exclusively to these themes but spiced with fascinating information derived from newer immunological or imaging techniques.

I know of no other source where one would find, in a single volume, up-to-date reviews (and I mention but a few) dealing with the physiology of CSF production and reabsorption, the infection of CSF shunts, viral vaccines that protect the nervous system, space-occupying lesions due to fungi, slow viral infection, the neurology of infective endocarditis, the whole field of what should now perhaps be called "neuro-helminthology", HIV infections, immuno-prophylaxis against *Neisseria meningitidis* and against *Bordetella pertussis*, pitfalls in the practical management of neonatal meningitis, and the "imaging of intracranial infection".

A good illustrated dictionary was once described as the sort of book where—when looking for one word—one was tempted, *en passant*, to check the meaning of many others. Going through the pages of this volume I succumbed often to this temptation. In the process I gained insight about how trypanosomes got into the CSF, about the upper motor neurone lesion in tetanus, and about salivation being defective in botulism. I saw, in reproduced hieroglyphics, the

first account of trismus (in the Edwin Smith Surgical Papyrus). I discovered that there was a disease called "Rocky Mountain Spotless Fever" and even learned how *Lagochilascaris minor*, a nematode of ocelots and opossums, destroyed the brain of a 14 year old boy in Brazil, in 1986!

I have but one criticism. It is that the net seems at times to be cast too wide. How else explain the presence of sections on the Guillain-Barré syndrome, or on the neurology of rheumatoid arthritis, Sjögren syndrome, polyarthritis and sarcoidosis? Even "botulism" and "tetanus" seem interlopers in this perspective. These sections are so good, however, that I suppose all will have to be forgiven. What cannot be forgiven though is the reference to *Taenia solium* (admittedly not in the main chapter devoted to cysticercosis) as a "porcine" tapeworm (p 720).

Older readers will sense the time warp when encountering, in this ultra-modern text, the use of units pertaining to an earlier era. It was a surprise to see CSF protein concentrations given as mg% in some chapters (and as g/dl in others). CSF glucose concentrations (given as mg/dl—or as mg%) gave a sense of "*pas vu depuis longtemps*", especially in a section describing how "lysates from the amoebocytes of the horseshoe crab (*Limulus polyphemus*)" currently assist in the identification, in the CSF, of endotoxins produced by *Neisseria meningitidis*, *Haemophilus influenzae* and other gram-negative bacteria.

C PALLIS

Surgery of the Sellar Region and Paranasal Sinuses. Edited by M SAMII. (Pp 583; Price DM 398.–). 1991. Heidelberg, Springer-Verlag. ISBN 3 540 53697 3.

The book contains papers from the Fourth International Congress of the Skull Base Study Group held in Hanover. The aim was to bring together experts from many disciplines to consider the pathology, diagnostic procedures, surgery and other therapies used in this area of the skull base. This book was written to give an overview of modern practices and procedures being carried out on a variety of pathologies in this most interesting and intricate area. There are excellent sections on the anatomy, a wealth of pathological entities are well described and there is a number of papers indicating the sophisticated modern radiological approaches. A variety of surgical disciplines provide information on a number of approaches to the various pathologies around the sellar and paranasal sinuses; and, it is inevitable that there is considerable overlap and repetition. It is unfortunate that in this book there are some excellent papers written as chapters while others are just the authors' talks without the detail this type of specialist publication requires. The papers are variable, some being excellent and others being of questionable value with no clear message.

The book to some extent achieves its editor's aims in supplying an up-to-date report on the state of the art. However, while the book carries much information it is difficult for a reader to get a clear picture of what is being done, how it affects patients' outcome and what are the likely future surgical developments in this region of the

skull base. It is inevitable that there are good and bad areas but this should not detract the discerning reader from obtaining much valuable information on the modern approach to surgery of the sellar region and paranasal sinuses.

G NEIL-DWYER

Cambridge Medical Reviews: Neurobiology and Psychiatry. Vol. 1. Edited by R KERWIN, D DAWBARN, J MCCULLOCH and C TAMMINGA. (Pp 188; Price: H/B £35.00; \$69.95). 1992. Cambridge University Press. ISBN 0 521 39542 9.

Cambridge Medical Reviews aim to provide current information on a range of topical subjects such as those addressed in *Neurobiology and Psychiatry Vol 1*.

Schizophrenia is the focus of chapters devoted to neurochemistry, the pathology of the temporal lobe, neuroimaging and the structure, function and connections of the frontal lobes. The molecular neuropathology and neurochemistry of Alzheimer's disease are reviewed and there are contrasting accounts of the clinical status and neurochemistry of the "sub cortical dementias", particularly Parkinson's disease. Epilepsy is the subject of a molecular and cell biological review. The contributors are youthful members of departments of psychiatry (seven), anatomy and physiology (three), MRC units of molecular biology (two) and industrially funded neuroscientific centres (two). They hail from London (seven), Cambridge (three), Manchester (two), USA (two) and Glasgow (one). The subjects are indeed topical and their contributions are lucid, economical and comprehensively referenced. Continuing in this audit-like mode a volume of this type has to bear comparison with similar contributions to the increasingly popular review journals in neurology and psychiatry which have the advantage of appearing hot off the press, of being considerably cheaper and of promising an annual update. The relatively high price of this slim volume and its relatively tardy arrival may therefore offset the high standard of its execution in a competitive market.

D NEARY

Textbook of Neuropathology. 2nd Edition. Edited by R L DAVIS and D M ROBERTSON. (Pp 1155; Price: £110.00). 1991. London, Williams & Wilkins Ltd. ISBN 0 683 02344 6.

This second edition falls into the category of a book for experts, being a comprehensive coverage of non-neoplastic disorders of the nervous system. It will inevitably attract attention from clinicians in all neuro-specialities because of its broad coverage. It is a multi-author book, well organised, easy to read and with a wealth of black and white illustrations. Even in the 6 years since its first publication advances in neuropathology have meant that changes are more than enough justification to buy the new edition. The first edition came to be regarded as "the American Greenfield", a comparison which will be made more frequently now that the new fifth edition of Greenfield's is due for release.

All readers will benefit from the six chapters covering general pathology of the nervous system. Congenital malformations, perinatal neuropathology, and inherited metabolic diseases are covered in chapters which are particularly clear and instructive. Chapters on oligodendrocytes, CNS myelin and demyelinating disease are brimming with appropriate basic science yet remain concise and clear. The chapters on circulatory disorders, toxic disorders, and systemic diseases and the nervous system are comprehensive and clear. A single chapter covers all forms of neurodegenerative disease. Surgeons will particularly benefit from the inclusion of a splendid chapter on cerebrospinal trauma. Peripheral nerve is dealt with in a chapter which covers anatomy, basic pathological responses and diseases. A notable feature is coverage of infections of the nervous system in several separate chapters.

There are two ways of assessing a book such as this. The first is how it performs as an educational text, and in this respect it must carry a high recommendation. The second is how useful it is in day-to-day practice as a source of wisdom and information to solve diagnostic problems. Overall the book performs well in this role, particularly in the choice of references and indexing. The only area of the book which does require strengthening in this respect is the chapter on degenerative disease which, while an admirable overview, is not sufficient to help with most diagnostic problems in neurodegenerative disease.

Overall, it is an excellent textbook. It faces new competition in the fifth edition of Greenfield's *Neuropathology*. I suspect that most neuropathology laboratories will wish to own both texts and individuals will be guided by the editorial style they most enjoy reading.

J LOWE

MRI Atlas of Central Nervous System Tumors. By L CECCONI, A POMPILI, F CAROLI and E SQUILLACI. (Pp 291; Illustrated; Price: DM 298,00). 1992. Wien, Springer-Verlag. ISBN 3 211 82304 2.

This MRI atlas is a collaborative study between two Radiologists a Neurosurgeon and a Physicist. It is an attempt to demonstrate the range of appearances on MRI of all the common and some of the less common craniospinal tumours. Most of the examples have been confirmed histologically. As usual with books of this type the first chapter is concerned with the fundamentals of magnetic resonance imaging. It does not pretend to go into this technology in any detail and as such it is adequate. The second chapter is concerned with normal anatomy. A series of MR images in the 3 orthogonal planes are demonstrated with the appropriate brain sections and a diagrammatic representation. Unfortunately there are a number of errors of fact and slice representation and indeed at least one of the images is upside down.

Chapter III discusses the classification of CNS tumours and there is a number of informative tables summarising the clinical and MRI changes of the more common tumours. Chapters IV to XI describe the different types of brain tumours and Chapter XII spinal tumours. There are examples of

150 cranial and 30 spinal tumours. The quality of the images is good and the annotation is in general satisfactory.

The main problem I see with this book is that there is little critical evaluation of the appearances of tumours. There is no attempt to describe or quantify the limitations of MRI as against other imaging procedures. The book is therefore of somewhat limited value but as a series of tumours it does have some interest. However it should be used in conjunction with a more definitive text and since it costs over £100 will have a limited attraction.

DPE KINGSLEY

1992 Year Book of Neurology and Neurosurgery. (A Mosby Year Book). Edited by R D CURRIER and R M CROWELL (Pp 421; Price: \$57.95 US, \$64.00 Others). 1992. Chicago, Mosby-Year Book Inc. ISBN 0 8151 2141 5.

Walter Bradley is to undertake the editorship of the neurological section of the *Year Book of Neurology and Neurosurgery* from 1993, replacing Dr RD Currier who has held the post for the past 10 years. He first co-edited the section with the late Russel DeJong but since 1990 has been himself responsible for an excellent decade of year books.

This volume contains a publisher's preface thanking Currier for his success as their editor and I feel that many Neurologists in the United Kingdom would wish to be associated with their good wishes.

His final effort enhances the series. Imaging techniques again allow much more illustrative graphics. Currier is still prepared to challenge or support an author's conclusion and in particular in this volume his comments on the Parkinson papers are worth reading. I especially would refer to the addendum to the paper on page 134.

Well up to the high standard of the series, this last volume should be scanned by all neurologists. The annual subscription from departmental libraries must continue.

JB FOSTER

SHORT NOTICE

Massachusetts General Hospital. Handbook of General Hospital Psychiatry. 3rd Edition. (A Mosby Year Book.) Edited by NED H CASSEM. (Pp 662; Price: £29.00.) 1991. London, Wolfe Publishing. ISBN 0-8151-1477-X

Dr Cassem's book is intended for physicians who deal with psychiatric crises which occur in anxiety, delirium, dementia and psychosis in a general hospital setting. The psychotropic drugs, personality disorders, surgical patients and a range of physical methods of treatment are reviewed. Accident proneness, the emergency room, suicide and depression are all considered in a most practical way which will be of interest to Neurologists, Psychiatrists and General Physicians.