

**The Biochemistry of Myasthenia Gravis and Muscular Dystrophy** Edited by G. G. Lunt and R. M. Marchbanks. (Pp. 373; illustrated; price not stated.) Academic Press: London. 1978.

A symposium on myasthenia gravis and muscular dystrophy, organised by the Biochemical Society, was held at Bath University in March 1977. The aim was "to stimulate the interests of investigators in areas of neurobiology where scientific understanding has developed to such a level that it can readily be exploited in the interests of the patient." The book is divided into two parts, one concerning myasthenia gravis and the other muscular dystrophy. The section on myasthenia gravis is more comprehensive and authoritative since so much is known about the pathogenesis of this disorder. The first 14 chapters describe the basic molecular biology of myasthenia gravis with concise discussions of the components of cellular and humoral immunity in this disease and in the experimental model. There are six chapters on the biochemistry and two on the special histopathology of muscular dystrophy. The remaining eight chapters are devoted to possible animal models of muscular dystrophy.

The explosion of knowledge in immunology in general, and in that of myasthenia gravis in particular, has meant that the section on myasthenia gravis is already almost out-of-date. The section on muscular dystrophy, a disease of unknown aetiology, better fulfils the purpose of the book. This symposium will be of interest to neurologists, immunologists, and those clinicians dealing with muscle disorders. The potential reader will find here a worthwhile summary of existing knowledge by experts in the fields of myasthenia gravis and muscular dystrophy.

P. O. BEHAN

**Adverse Mechanical Tension on the Central Nervous System** By Alf Breig. (Pp. 264; illustrated; £38.00.) Almqvist and Wiksell: Stockholm. 1978.

This important monograph is a sequel to the author's previous text on *Biomechanics of the Central Nervous System*, published in 1960, and brings the whole subject up to date, introducing new hypotheses of the functional anatomy and physiology of the spinal cord, hind-brain, and nerves in relation to

the author's cadaveric and clinical studies. As the title proclaims, unfavourable mechanical tensions may occur in the nervous system and result in various clinicopathological disturbances. The approach is in some respects mechanistic and simplistic when it is related to the many complex and diverse neurological traumatic lesions and diseases described by the author including, for example, trigeminal neuralgia and demyelinating disorders. I would mention that it is known that the vertebral column can undergo severe physical stress with immediate or delayed deformation of neural and vascular elements without the development of any significant clinical disturbance, and there appears to be a built-in reserve in the degree of mechanical tension that can safely occur. Much depends also on the temporal acuteness of the deformity. A degree of "mechanical tension" may be physiologically necessary for the proper functioning of tissues, including nervous tissue.

The immaculate studies of Breig, which are so well set out in this beautifully produced book that contains an abundance of excellent drawings, radiographs, and photographs, clearly demonstrate many of the important aspects of the biomechanics of the hind-brain, spinal cord, and their nerves, and for this reason is essential reading for those working in the field of the neurosciences, both at basic and at clinical levels. The subject is not well appreciated or understood, and is poorly taught in many medical schools and in centres for the training of specialists in the remedial professions.

Living animal experiments to confirm the author's human cadaveric and clinical studies would be most valuable, to help to confirm his theories regarding the treatment which he has used in a small number of patients. In addition, I would like more information about the possibility of "axonal regeneration" in the spinal cord (page 243). If possible, some "matched controlled" human clinical or, more practically, animal studies concerning the benefits of the author's intriguing "functional neurosurgical" procedures would be of great value. In this respect it must be noted that Breig uses this latter term to denote that the primary aim of treatment is "to restore normal conductivity in the nervous system." (The term "functional neurosurgery" is used quite differently

in other spheres of neurosurgery). Some of the therapeutic applications of Professor Breig's researches in injury and disease of the nervous system are rather unorthodox and controversial. Basing his therapy on four "basic histodynamics": (1) a unilateral thrust from without; (2) a multilateral thrust from within; (3) pinching or clamping; and (4) concentration of tension in intact nerve fibres around an intramedullary (intraradicular) fissure (notch stress), he recommends these procedures: (a) cervicordosis (a special operation to restrict neck flexion) for any of these situations; (b) protective acro-cristectomy and bilateral laminectomy for "pinching or clamping" adverse mechanical tension conditions; and (c) for cervical spondylotic myelopathy, cervicordodosis, and also either acro-cristectomy or bilateral laminectomy. Another recommendation arising from the author's studies is that skull traction should not be used in the treatment of patients with serious cervical spinal injuries. Instead, he recommends a special form of laminectomy or acro-cristectomy, followed by cervicordodosis.

I would ask all authors and publishers of books to give a page reference in the text of a figure, photograph, chart, or table, if any of these items are not on the same page or the facing page of the reference—this would save time and make the book easier to read.

This is a critical review of what is a very important book which contains much original material not available elsewhere. It is most unlikely that anyone reading this book will fail to be informed, in a most stimulating way, of new concepts of the functioning of the nervous system.

PHILLIP HARRIS

**La Dominance Cérébrale. Une Anthologie** Edited by H. Hécaen. (Pp. 479; illustrated; frs. 140.) Mouton: Paris. 1978.

This is a collection of 30 papers on cerebral dominance ranging from Broca (1865) to Hécaen and Sauguet (1970). Of the 30, 24 were originally published in English, two in German, and the remaining four in French. They all appear here in French, where necessary in translations ably and competently provided by Serfaty, Goldblum, and Kremin. To single out 30 contributions from the voluminous literature on the

subject spread over more than a century is in itself a daunting task. Hécaen has chosen well, keeping a scrupulously fair balance between papers of differing points of view. Space does not permit a closer examination of the individual contributions. Suffice it to say that they are by leading figures in the subject such as Broca, Jackson, Babinski, Milner, Kimura, Gazzaniga, Sperry, and Hécaen.

The papers are arranged in three main sections dealing with (a) the discovery and development of the concept of cerebral dominance (10 papers), (b) functional hemispheric asymmetry (16 papers), and (c) cerebral organisation in lefthanders (four papers). Each paper is preceded by a linking and summarising commentary. Both in terms of number of papers and subject matter, section (b) is by far the most important—in fact one might ask whether the attempt to provide a comprehensive historical point of view at the same time as presenting some of the compelling issues in current research has meant that some of the more recent literature has had to be omitted purely on grounds of space.

In his concluding remarks, Hécaen indicates some of the directions that future research on cerebral dominance might now profitably take, given the existence of the necessary research techniques—for example, what precise role do subcortical structures play in lateralisation, is dominance exclusively a matter of genetic predetermination (an old question in itself), is dominance specific to *Homo sapiens*, and so on?

For the French reader, this book will provide an invaluable survey of the subject. The English reader will probably wonder—and with justification—why a comparable English anthology on cerebral dominance has not yet appeared.

M. K. C. MACMAHON

**Terminology of Communication Disorders: Speech, Language, Hearing** By L. Nicolosi, E. Harryman and J. Kresheck. (Pp. xv+273; illustrated; \$14.50.) Williams and Wilkins: Baltimore. 1978.

The aim of this work is to provide "a comprehensive dictionary/sourcebook containing definitions of the terminology used in [the fields of speech, language, and hearing] and in allied areas in one

manageable volume." Judged by this courageous criterion, the work is not a success. Spot checks reveal the absence of a whole host of terms used in communication disorders of which a handful are *arteriosclerosis*, *endoscopy*, *hemianopia*, *migraine*, *sphincter*, *thrombosis*, and *Veau operation*. In mitigation one could argue that the field of communication disorders is so vast, encompassing as it does large chunks of the medical, psychological, and linguistic sciences, that to provide comprehensive coverage of the terminology would entail compiling an extremely large and expensive volume. And so the authors have tended to concentrate, it seems, on articulatory, phonatory, and audiological disorders—though for what reason is not stated. Looked at purely from these points of view, the coverage can be described as both adequate and balanced. Within the area of language disorders, however, the coverage is far from adequate. Thus one finds *aneurysm* but not *angioma*, *arcuate fasciculus* but not *thalamus*. Even *basal ganglia*, *disconnection syndrome*, and *upper/lower motor neurone* fail to be listed.

The definitions are generally crisp and to the point, although one might register dissatisfaction with the vagueness of some of them, for example *light lateral*, *Doppler effect*, and *kernel*, and the downright inaccuracy of others, for example *implosive*. The drawings and photographs accompanying some of the entries are of good quality on the whole, but some are confusing, for example the labelling of the vocal and ventricular folds on pages 91 and 220, and the reversal of positions of the epiglottis and oesophagus on page 91. One diagram, that of the Cardinal Vowel chart, is horrendously wrong. Interspersed through the text are various tables listing, for example, the muscles used in speech and the classification of degrees of hearing impairment—all relevant and welcome in a book of this type.

The final section of the book (about a seventh of the total space) is devoted to an annotated tabulation of milestones in child development and the numerous diagnostic and screening tests available in the field of communication disorders. Such information is no doubt of value, but I wonder if the space could not have been better used for further entries in the dictionary.

Despite these reservations, the book is the best we have on the subject of

terminology, although it has few competitors. Anyone working or just straying into the multidisciplinary world of communication disorders would be advised to have access to it.

M. K. C. MACMAHON

**Neurotransmitter Systems and their Clinical Disorders** Edited by N. J. Legg. (Pp. 240; illustrated; £7.60.) Academic Press: London. 1978.

It used to be said (and often still is) that neurology is a diagnostic speciality, and an anatomical diagnosis was regarded as the acme of the tyro. Recent advances in neurochemistry and neurophysiology, however, have indicated that this is by no means sufficient to understand neurological disorders and, more significantly, allow hope that much more can be done for our patients. This book contains a comprehensive account of many of the growing points in this exciting field. Many chapters are well written, giving a reasonable but not dogmatic picture of what is happening without leaving the reader disorientated. I particularly liked those of Gray on structure of synapses and Bird on Huntington's chorea. Several aspects are not given the prominence they deserve—for example, cholinergic loss in Alzheimer's disease, and the whole field of the encephalins—and some chapters lack clinical relevance. But this is a good book to help in keeping abreast of the times.

ANGUS MCINNES

## Letters

### Increased plasma lead levels in patients with amyotrophic lateral sclerosis

SIR,—We have read the article by Conradi *et al.*, about increased plasma lead levels in patients with amyotrophic lateral sclerosis (Conradi *et al.*, 1978) with great interest. It seems to us that a possible explanation for the statistically increased plasma lead levels (the values are in themselves normal) might be increased lead mobilisation from the skeleton due to a serious disease causing immobilisation of the patients, severe wasting, and decreased food intake within a fairly short time.

It is not possible to judge the extent of immobilisation in the control group from the diagnoses only. Some of the



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