Current Perspectives in Dysphasia. Edited by Stanton Newman and Ruth Epstein. (Pp 237; £12.95.) Edinburgh: Churchill Livingstone, 1985.

This series of chapters by different authors is loosely based on papers presented at a conference on dysphasia held at the Middlesex Hospital Medical School, London, in January 1983. Each chapter presents a comprehensive review of selected topics in dysphasia research. The target readership is directed towards speech therapists, psychologists, linguists and neurologists who already have an interest in and some knowledge of dysphasia. I would add that most clinicians would find the significance of many of the chapters difficult to grasp unless they are already familiar with current research in the field and are aware of the limitations in the conventional classificatory "syndromes" of dysphasia.

The underlying theme inherent in the chapters relates to the need to assimilate observations and research within a coherent theoretical framework or a model of language processes, which in turn promotes testable hypotheses and directs more meaningful and more precise observations. However, many clinicians underestimate the need for a cohesive theoretical framework and unless the book is read by the "already converted", the practical relevance of these more recent developments in aphasia may be missed. Had an introductory chapter been written integrating the various contributions into an overview of current trends in assessment and research, there may have been a natural sequence in the organisation of the chapters in the book. As it stands, there is no rhyme or reason for starting at the beginning and the overlap between a number of chapters may be lost.

Allan Allport's "Distributed memory, modular subsystems and dysphasia" (p.32) might be a logical starting point. It outlines the need for different kinds of explanations at different levels of description: thus one model may be more appropriate to explain the aphasic's performance at a physiological level and another type of model may be better at integrating observations about cognitive processes without reference to anatomy. Allport sets out the strengths and weaknesses of the application of the currently popular "modular subsystem" approach and questions the underlying assumption inherent in the use of these models. In contrast Morton's chapter (9) on "Naming" and Butterworth's (3) on "Jargon Aphasia" illustrate the use of a "modular" approach to order observations and

identify distinct or separable operations necessary to explain the behaviour of the anomic and jargon aphasic respectively. As the author acknowledges, the former chapter is rather sketchy and deals with highly specific, selected observations in the area of picture or object naming. The latter chapter on jargon aphasia is more comprehensive and interspersed with numerous examples of jargon speech. Butterworth builds up a series of questions and hypotheses about what is right and what is wrong with such patients' speech, thereby preparing the reader for the complex model of speech production presented. Buckingham's chapter (5) on "Perseveration in aphasia" is also well illustrated with examples of patients' speech. Despite a degree of overlap with Butterworth's chapter, the focus and format of the contributions is sufficiently different to complement each other.

The emphasis on detailed individual case studies rather than more global group studies is stressed by a number of authors and amply illustrated in Howard's review (1) of studies of agrammatism. He convincingly argues for a variety of specific, dissociable deficits in "agrammatism". In view of the different types of agrammatic patient, group studies which assume a "syndrome" and postulate some abstract "central syntactic processor" seem premature. Other reviews include chapters by Green and Newman on "Bilingualism and dysphasia" and by Wallesch and Wyke on "Language and the subcortical nuclei". The latter chapter is qualitatively different from most contributions as the focus is more on anatomical than neuro-psychological processes.

Two chapters by Lincoln, "Recovery from dysphasia" (4) and Lesser, "Aphasia therapy in the early 1980's" (8) look more specifically at the role of speech therapy in the rehabilitation of the aphasic patient. The former succinctly reviews group studies which have attempted to evaluate objectively the efficacy of speech therapy. The lack of systematic investigations in this area leads Lincoln to the conclusion that the effects of speech therapy have not been separated from the effects of spontaneous recovery. She presents a real challenge to speech therapists to record their observations in such a way that they can be empirically tested. Lesser's chapter gives a useful update of the recent trends and developments in aphasia therapy over the past few years. Not only does the chapter provide a source of references for the new speech programmes presently available but it also attempts to relate the various approaches to speech rehabilitation with the different the-

ories of recovery of brain function.

Over the past few years there has been a distinct change in the study and treatment of aphasic patients. *Current perspectives in Dysphasia* provides an introductory glimpse into these recent developments which should prove useful to most clinicians working in the field.

DOREEN M BAXTER

The Brain Machine. The Development of Neurophysiological Thought. By Marc Jeannerod. (Pp 168; £14.50.) London: Harvard University Press, 1985.

Quite simply, this is one of the best books I have ever read. I am grateful to the translator for bringing to our attention the writings of this author, who in a succinct monograph of less than 150 pages summarises the whole of the history of neuropsychiatry from its early origins to the present day. Although the underlying thread which weaves its way through the book has to do with the neural organisation of movement, on each page new names appear, their contribution to the subject at hand briefly described, and their place in the history of the subject highlighted. This is not mere name dropping, and the author emphasises through his explanations his thorough grasp of the history of the subject.

Thus, we move from early ancient theories of the soul as the arbiter of action through the hydraulic models of the 17th century to the early vitalist theories. The soul, removed from the pineal, became the vital force permeating life; firmly against any concept of localisation that later appeared. Simple reflex theories, initially developed on spinal cord physiology, became extended to higher cortical function, and in particular the dependence of activity on sensory input became predominant, leading to the psychology of associationism, and the naive philosophy of behaviourism.

The growth of concepts with regards to voluntary and involuntary movement, and their localisation in the brain, provide a fascinating insight into the muddles of this particular area, from which evolved the ideas of a hierarchy of motor functions, the discovery of the motor cortex, and the search for the source of the *primum movens*, and finally to a physiology of the will. Constructivism is the author's solution to some of these dilemmas, located between the extremes of the empiricism and nativism which allows the progressive development of innate forms interacting with environmental influences.

In reaching his conclusions nearly every author who has graced the field of neurobiology is quoted, and a dazzling array of ideas are presented.

I would agree with the comments on the back cover by Albert Galaburda of Harvard, "This is a marvellous book,..."

M TRIMBLE

GABA and Mood Disorders: Experimental and Clinical Research (LERS Monograph Series Vol 4). Edited by G Bartholini, KG Lloyd, PL Morselli. (Pp 240; \$32.50.) New York: Raven Press, 1985.

For 25 years manipulation of monoaminergic synaptic function has provided the dominant pharmacological approach to the treatment of affective disorders. Inhibition of the uptake and further metabolism of noradrenaline or serotonin initially seemed to be important mechanisms of action of antidepressant drugs. However the time-course of these effects clearly does not correspond to the time course of therapeutic action of the drugs. More recent discoveries concerning receptor changes in rat brain following subacute administration of antidepressants have appeared likely to resolve this problem. Thus after 6–12 days "treatment" there is down-regulation of β -adrenoceptors, with desensitisation of the β -adrenoceptor-coupled adenylate cyclase, down-regulation of 5HT₂ receptors and biphasic changes in α_2 -adrenoceptors. However, many anomalous or contradictory findings have emerged making a comprehensive explanation of the mechanism of action of antidepressant drugs in terms of long-term changes in monoaminergic receptors untenable (for example, maprotiline does not down-regulate β -adrenoceptors and ECT produces an up-regulation in 5HT₂ receptors and function).

These considerations and some novel basic findings have lead to a renewed interest in the possible involvement of GABA in the aetiology and pharmacological management of affective disorders. Perhaps the most intriguing novel observation reported in this volume is the up-regulation of GABA_B (baclofen-sensitive) receptors in hippocampus and cortex following subacute administration of electroshock, or of antidepressant drugs of all major pharmacological types (for example desipramine, amitriptyline, viloxazine, nomifensine and citalopram). This effect is not seen after other psychotropic agents, but it is observed following subacute administration of pro-

gabide or of fengabine, agents thought to act directly or indirectly as GABAmimetics. Evidence from preliminary trials indicating that these compounds are effective antidepressants is presented in the second half of the book. Interestingly the subacute administration of progabide to rats lead to similar changes in 5HT₂ receptors as does repeated electroshock. Fengabine does not produce this effect. The proconvulsant action of antidepressant drugs is a well known clinical problem (both in patients receiving therapeutic doses, and in those taking overdoses). One contribution in this volume attempts to relate this phenomenon to an impairment of GABAergic inhibition. This remains to be established. However, the use of GABAmimetics, such as progabide, as antidepressants should offer a very real advantage in terms of producing an anti-convulsant "side effect".

The remarkable studies of Fred Petty on "learned helplessness" in rats provide evidence for a GABAergic mechanism (in the hippocampus and perhaps also the neocortex and lateral geniculate) in the initiation and prevention of this model of depression. They indicate that desipramine acts through a GABAergic mechanism when preventing learned helplessness.

The GABA related approach to the aetiology and therapy of depression can probably be integrated with the existing knowledge of (and lack of comprehension of) monoaminergic mechanisms. GABAmimetics accelerate the turnover of noradrenaline, and enhance the firing of noradrenergic neurons (probably by specific circuitry acting on the locus coeruleus). GABA agonists and GABA-transaminase inhibitors depress cerebral serotonergic transmission (apparently by a direct action in the nuclei of the dorsal raphe). GABA_B receptors modulate synaptic release of monoamines.

The clinical results reported for progabide and fengabine are somewhat preliminary. Three double blind studies of progabide in comparison with imipramine ($n = 11 + 11$), imipramine ($n = 38 + 37$) or nortriptyline ($n = 9 + 9$) show indistinguishable therapeutic outcomes. The true clinical effectiveness of fengabine can only be guessed at from the seven open studies (total $n = 76$) utilising 3 or 4 weeks of treatment and a variety of dosage schedules. Effects of progabide or fengabine in manic disorders are not reported. The well known studies of Emrich and of Post and colleagues on the antimanic effects of valproate, oxcarbazepine and carbamazepine are summarised. High doses of valproate or car-

bamazepine given acutely to rats reduce GABA turnover, but the exact relationship of changes in GABAergic function to therapeutic effect in mania is unknown.

This volume is beautifully produced. It has been edited to provide a highly coherent and readable text. Indeed the contributions tell a rather too consistent story. Contrary opinions are surprisingly absent. The repeated claims that fengabine is a GABAmimetic are taken on trust, but no evidence for an agonist action of GABA_A or GABA_B receptors is presented.

Synthelabo has rendered a valuable service by organising the meeting reported in this the 4th volume in their special monograph series with Raven Press. Scientists and clinicians are thus enabled to gain a rapid appreciation of current GABA-related approaches to understanding and treating depressive disorders. Their experience with monoamine theories will have taught them to temper their enthusiasm with appropriate scepticism.

BS MELDRUM

Upper Motor Neuron Functions and Dysfunctions. Recent Achievements in Restorative Neurology Series Volume 1. Edited by Sir John Eccles and Milan R Dimitrijevic. (Pp 346; £87.20.) Basel: S Karger AG, 1985.

This book is based on the proceedings of a workshop held in Houston, Texas in October 1982, "to review achievements in restorative procedures that could modify the impaired functions in chronic neurological diseases". It contains an uneven mixture of basic science and clinical topics that is not restricted to upper motor neuron functions. Some authors present the results of their own work in detail while others have offered reviews, some brief and others wide-ranging and authoritative. Many of the clinical papers are disappointingly superficial, and the early part of the book records a number of procedures used for physiological testing and improving function in various brain and spinal cord disorders, in which claims of clinical usefulness are made but minimal evidence presented. This gives the reader a useful review of the range of techniques that have been tried but little feeling for their clinical value.

Some chapters stand out as particularly good, such as Jacquelin Perry's on the analysis that should be undertaken by orthopaedic surgeons before operating on spastic