Book reviews

occasional comments on the clinical usefulness.

The figures are clear and fully explained by their legends so as to be independent of the text. They are mostly culled from original publications but some were specially produced. The layout is excellent; each chapter has a summary and up to four levels of numbered headings and subheadings. Each section lists the contents in detail. The index is valuable and gives reminder of other headings under which the reader may find something useful. The book is therefore ideally suited for quick reference.

EM SEDGWICK

Central Cardiovascular Control: Basic and Clinical Aspects. Current Topics in Neuroendocrinology. Vol 3. Edited by D Canten and D Pfaff. (Pp 192; \$35.00.) Heidelberg: Springer-Verlag, 1983.

The central regulation of blood pressure and cardiac function have attracted intensive research both in animals and man over the past decade and these advances are ably reviewed in this small volume of articles. Though authorities such as Guyton conventionally attribute only the short term control of circulation to the autonomic nervous system, principally by means of baroreceptors, this book pays as much attention to the long term adjustment to the demands of the body by means of centrally mediated changes of sympathetic tone and changes in the renal circulation which are equally important in regulating blood pressure.

The earlier chapters review the neurophysiology, neurochemistry and immunohistochemistry of the central baroreflex pathways. The descending pathways and transmitters involved determined from animal experiments are as yet uncertain. In man, with all the problems caused by the erect posture, the regulating mechanisms can be expected to differ substantially. The infusion of pressor drugs like phenylphrine has shown the relationship between the change in blood pressure and reflex inhibition of the heart. However, changes in systemic resistance were not revealed in man until the elegant use of neck pressure to "unload" the carotid (but not aortic) baroreceptors, coupled with lower body negative pressure which can be used to stimulate the cardiopulmonary receptors. Newer techniques also include microneuronography to record directly the activity in muscle sympathetic nerves, as well as plasma catecholamine studies measuring the overspill of

noradrenaline from sympathetic endings. These methods have shown the relative separation of the control of different parts of the splanchnic and muscular contributions to the peripheral resistance. The conclusion for man is that though the carotid baroreceptor input may be the major influence on heart rate, unloading the cardiopulmonary receptors initiates splanchnic and forearm vasoconstriction, the latter being reduced by simultaneous activation of the carotid baroreceptors (by neck suction).

In this volume there is much evidence from animal studies but its main usefulness to the cardiologist or neurologist interested in the circulation lies in its authoritative review of much complex physiology. Experiments in man have brought closer, but not yet solved the enigma of the central triggering factors in hypertension. Changes in membrane permeability, changes in central transmitter systems, or the influence of an antinatriuretic hormone are the currently favoured possibilities but further experiments, at the present rate of progress, can be expected to yield more definitive conclusions about the cause of hypertension over the next decade.

R BANNISTER

Spinal Cord Monitoring. Edited by J Schramm and SJ Jones. (Pp 335; DM168.00.) Berlin: Springer-Verlag, 1985.

The increasing sophistication of spinal and vertebral column surgery has created a demand for intra-operative monitoring of spinal cord function. Spinal monitoring may signal impending damage to the spinal cord, thereby providing the surgeon with some warning of that most feared, but fortunately rare complication of this surgery, paraplegia. Not surprisingly, much of the initial work in this field was developed by the surgeons themselves. More recently neurophysiological techniques have been applied to the challenge of providing a dynamic assessment of spinal cord function.

This volume, containing contributions from the second international symposium on spinal monitoring held in Erlangen in October 1984, reflects the interest generated in this area. It comprises 39 papers on topics organised into sections on physiology, pharmacology, traumatic cord lesions, monitoring cortical evoked potentials, monitoring spinal evoked potentials and atraumatic cord lesions. Within these sections are to be found discussions on topics ranging from the use of epidural spinal

evoked potentials to observations on sensory evoked potential changes in experimental injury and disease of the spinal cord. The latter includes scoliosis, trauma, cervical spondylosis with myelopathy, and vascular lesions of the spinal cord. Spinal monitoring in aortic surgery is also discussed. Novel techniques are mentioned, including descending lumbosacral cord potentials elicited by upper limb stimulation (thought to reflect descending propriospinal activity), and a method for lateral column assessment using a peripheral autonomic surface potential. Only one chapter is devoted to the technique of electrical stimulation of the motor cortex and monitoring of the descending motor potential. This method will almost certainly provide the foundations for future developments in monitoring techniques, to complement the existing sensory evoked potentials.

Most of the contributions are brief and inevitably in a volume of this sort with over 100 authors listed, there is considerable repetition. These reservations aside, the volume provides a wide range of personal and practical experience (rather than a comprehensive review) and will be of interest to those involved in this expanding field.

B THOMPSON

A Neurobiologic View of Speech Production and the Dysarthrias. By Ronald Netsell. (Pp 180; £19.00.) London: Taylor & Francis Ltd, 1986.

This account relates largely to the physiological mechanisms of the motor control of speech production in health and disease. There is special attention paid to the acquisition of this fine motor skill and some attention, particularly in chapter 6, which is written with a clinician, JC Rosenbeck, to the pathophysiology and treatment of the dysarthrias. Each chapter is re-printed from various multi-author review editions published during the last five years as "state of the art" reviews. There is thus a tendency firstly for much of the material, especially that relating to general concepts of motor control, to be repeated in each chapter, and secondly for the text to hover in generalisations about, for example, levels in the nervous system, corollary discharges and neuro-transmitters, rather than develop a clear cut progression of ideas as one advances through the book.

Chapter 4, "Speech motor control: theoretical issues with a clinical impact", may be read as more or less representative of

much of the first five chapters, whilst the material relating more specifically to speech control and its pathology is of more interest. Chapter 6, on treatment of the dysarthrias, is worthy of the attention of a wide variety of readers. It emphasises that specific rehabilitation and treatment of this particular motor skill, which may be severely disabling, is beginning to be under-pinned by a physiologically rational approach and may sometimes be rewarding.

This volume will be of interest to some specialist libraries, but it is to be hoped that Dr Netsell will, in a few years time, produce a book describing his subject in more particular detail than he has been able to here.

RJ GREENWOOD

Differential Approaches in Microsurgery of the Brain. By Wolfgang Seeger (Pp 414; \$98.00.) Vienna: Springer-Verlag, 1985.

This book is designed as an illustrated manual of microvascular neurosurgery, in which alternative surgical approaches to a number of central and basal intracranial lesions are discussed, together with the factors outlining the choice of approach. Professor Seeger largely achieves his aim, but perhaps could have done so rather more concisely.

The book takes the form of a series of carefully labelled figures, some 200 in all and most of them comprising multiple line drawings, apparently the work of the author exclusively. The routes of approach to lesions, principally arteriovenous malformations or benign neoplasms are shown, usually as line diagrams of coronal or sagittal sections. These are accompanied by drawings of the appearances through the microscope at surgery ("microsurgical topography"): in many cases these illustrate several stages of a procedure. The figures are comprehensively labelled, and some are accompanied by a very limited commentary on the facing pages. There is an introductory section which discusses and illustrates the anatomical basis on which the main material of the book is classified; anterior, middle and posterior segments of the dorsal cisterns and fissures, middle and posterior segments of the lateral cisterns (the cerebellopontine cisterns fall into this latter category), and anterior, middle and posterior segments of the basal cisterns.

The quality of the drawings of microsurgical topography is quite outstanding and must surely place the author high among the ranks of surgical artists. How-

ever, CT scans and angiograms have also been transcribed as line drawings or simple sketches. This is much less successful; the displacements illustrated will be familiar to many readers, the quality of the drawings is variable, and they contribute relatively little.

The arguments for and against particular routes of approach are tabulated in note form among the figure labels, sometimes with unfamiliar abbreviations, and this does not always make for clarity. Since the "differential approach" forms the basis of the book, this element could usefully have been expanded in the form of a short paragraph on the facing page, where ample space is available. The orientation of most, but by no means all diagrams is adequate.

The quality of translation into English is not always adequate, for example "basal" for basilar artery, "thick calibrated vessels", "sugillations" in the wall of the third ventricle.

The aim of the book is to consider alternative approaches to problematical lesions, and it is not designed for the novice micro-neurosurgeon. By implication it would be used for reference when surgery for less familiar lesions is planned. However, the indexing and chapter headings provide insufficient information to provide easy access. For example, a glomus jugulare tumour and an acoustic neuroma are illustrated, but receive no mention in the index or chapter headings. Again, the relative merits of the sitting and lateral decubitus positions for CP angle surgery are not considered.

Although this book is clearly based on very considerable surgical experience and perception, its style will not appeal to all readers and anyone considering purchasing it would be well advised to assess it for themselves with some care.

AJ STRONG

Surface Dyslexia: Neuropsychological and Cognitive Studies of Phonological Reading. Edited by KE Patterson, JC Marshall, M Colheart. (Pp 544; £29.95.) London: Lawrence Erlbaum Associates, 1986.

Surface Dyslexia serves as the sister volume to *Deep Dyslexia* (1980) edited by the same authors. Both books are concerned with how a printed word is translated into its sound counterpart, distinguishing at least two separate processes whereby reading is accomplished. The earlier volume is concerned with deficits in reading based on processes which "look up" a particular

word-sound rendering from a store of known words, the entry being specific to that word. Such processes appear necessary to explain how uniquely spelled words (eg yacht, cache) are read. In contrast *Surface Dyslexia* concentrates on processes that utilise sub-word size components; these letter(s) to sound correspondences overlap with many words and appear necessary for reading nonsense syllables such as "blimp" and "slunk".

The book comprises a collection of original contributions from many of the leading research workers in the field. As such, it provides the latest state of the art, complete with extensive references after each chapter. The emphasis is most definitely cognitive rather than neurological, the authors sharing a common information-processing approach to the study of abnormal and normal reading processes. The focus of such approach lies in fine-grained quantitative analysis of individual case studies whereby a particular stage in the reading process is pinpointed by experimental manipulation of the relevant variables. Gone are the days when a patient might be reported in descriptive terms for "interest's sake"; model building and complex theories are most definitely the stuff that the modern cognitive neuropsychologist's dreams are made of.

The book is well organised into six sections, each of which is provided with a brief introduction. A general overview is given at the beginning, along with a minimal process model of reading (illustrated on the book jacket cover) to which all, or most, contributors roughly adhere. I particularly enjoyed the historical review introducing the first section and welcomed the inclusion of a phonetic alphabet in American, British English and French presented at the beginning of the book.

Three case studies (Part I) by D Bub *et al*, F Newcombe and JC Marshall, and E Saffron illustrate the diversity of patterns that may emerge in surface dyslexic patients. In contrast the four case studies in Part II (by J Kay and KE Patterson, H Kremin, DI Margolin *et al*, and MC Goldblum) provide a warning to those who may fall into the trap of equating symptoms with deficits. These latter patients' reading problems appear to reflect more general difficulties with naming, as attested by their accurate comprehension of many of the words they mispronounce. At this point in the book it may be worthwhile consulting T Shallice and R McCarthy's (p363) classification of patients who read from sound in order to aid the reader conceptualise the different subtypes of patients.

Surface dyslexia in an orthographically