THE NEUROPATHOLOGY OF THE ALIMENTARY TRACT

By Barbara Smith. (Pp. 118; illustrated; £4.) Arnold: London. 1972.

This monograph is a logical account of those disorders of the alimentary tract which are due to abnormality of its intrinsic innervation. Each section of the canal is taken in turn and the anatomy and physiology of its innervation discussed, followed by an account of pathological changes in the myenteric plexus. Case material is illustrated and there is an excellent bibliography. Achalasia of the cardia, hypertrophic pyloric stenosis, 'pseudo-obstruction' of the small intestine, and Hirschsprung's disease are discussed in detail, and a chapter is also devoted to the trypanosomal infection which specifically damages the myenteric plexus, Chagas's disease. Drug-induced human disease and the experimental effects of tranquillizers, cathartic, antineoplastic, and other neurotoxic drugs which affect parts of the nervous system unprotected by the blood-brain barrier are presented; this chapter is of particular importance to physicians in general. There is no mention of myenteric plexus pathology in storage diseases or of the role of appendicular or rectal biopsy in diagnosis.

Dr. Smith's particular contribution has been to utilize extensively a simple method of examination of the myenteric plexus far superior to routine paraffin-embedded transverse sections of the intestinal wall. The gut is distended with formalin, and flat, horizontal sections of the wall are cut on the freezing microtome to expose large areas of the plexus and ganglia. A silver impregnation then reveals the two main types of ganglion cell, argyrophil and argyrophobe, which paraffin sections and histochemical methods fail to do. The differentiation of the two cell types is of practical importance, as absence of the coordinating argyrophil neurones alone is apparently sufficient to produce obstruction.

It is obvious that the threshold of research into disorders of gastrointestinal motility has only just been crossed, and that questions regarding transynaptic degeneration and involvement of the myenteric plexus in disorders of the central nervous system have hardly been posed. It is to be hoped that Dr. Smith's pioneering work will stimulate the interest of neurologists in neurological gastroenterology, and encourage neuropathologists to increase their field and repertoire of investigation.

D. G. F. HARRIMAN

LIMBIC SYSTEM MECHANISMS AND AUTONOMIC FUNCTION

Edited by Charles H. Hockman. (Pp 294; illustrated; \$28.50.) Thomas: Springfield, Ill. 1972.

This book comprises the proceedings of a symposium held in Toronto to discuss various aspects of the control of the autonomic nervous system. Dis-

cussion includes not only the anatomical connections of the limbic system but also the descending pathways from the hypothalamus and the afferent pathways which influence autonomic functions. It is emphasized that the autonomic nervous system is not an independent system, for very many of its actions are in response to external stimuli, physical or emotional, and that many responses are only part of a wider response extending beyond the autonomic nervous system. Evidence is put forward to indicate that in animals baroreceptor stimulation causes sleep. If this were true of man it might be expected that patients with paroxysmal hypertension from pheochromocytoma would fall asleep during the paroxysm, but this is not the case. Sleep, however, itself affects baroreceptor reflexes, making them more sensitive and therefore lowering the blood pressure. The relationship between emotion and the autonomic nervous system is discussed, and evidence is brought forward that the cerebellum has some part to play in a variety of autonomic activities. The book gives a valuable account of recent work, but those concerned with man must exercise caution in transferring to man the results of investigations mainly obtained on animals.

J. M. K. SPALDING

ULTRASONICS IN CLINICAL DIAGNOSIS

By P. N. T. Wells. (Pp. 187; illustrated; £3.00.) Churchill Livingstone: Edinburgh. 1972.

The use of the midline echoencephalogram as a means of recognizing cerebral shift has won an established place in neurological diagnosis but the scatter of ultrasonic energy by the skull has limited its use as a means of delineating intracranial structures. In relation to other parts of the body it has been possible to develop two dimensional scanning systems which promise to be useful in the examination of the eye, the heart, and the abdominal organs, and which have been particularly promising in obstetrics and gynaecology.

In this book the first section, written by the editor, gives a clear account of the technical aspects of diagnosis by ultrasound. The second section consists of a series of reviews by specialists on the applications of ultrasonics to particular fields. The chapter on ultrasound encephalography by D. N. White gives a clear description of the uses and limitations of the method in disease of the nervous system. In a final section the biological effects and possible hazards are discussed. The book is concise, well illustrated, and adequately documented, and is recommended reading for anyone who wishes for a sound and comprehensive introduction to the subject.

J. A. R. LENMAN