Book reviews

THIAMINE DEFICIENCY. Ciba Foundation Study Group No. 28. Edited by G. E. W. Wolstenholme and Maeve O'Connor. (Pp. x + 163; 46 figures. 24s.) J. & A. Churchill: London. 1967.

The primary object of this study group was to decide whether there could be more than one biochemical lesion in thiamine (vitamin B₁) deficiency. Over thirty years ago Sir Rudolph Peters, in honour of whom this conference was organized, showed that the biochemical lesion in the acute opisthotonos of the pigeon deprived of thiamine was in the pyruvate oxidase system. It was subsequently found that in acute beriberi, but not in the subacute or chronic forms, the level of pyruvate in the blood was markedly elevated. But pyruvate tolerance tests on patients with and without peripheral neuropathy have given variable results and it is now clear that this test is of limited value in the detection of thiamine deficiency.

In a series of papers exploring the possible roles of thiamine in nervous activity there were discussions on the mode of action of some thiamine analogues with anti-vitamin activity, transketolase activity in the nervous system, and the role of thiamine in nerve conduction. The topographical distribution of the lesions produced by thiamine deprivation differs from species to species: nerve cells and myelinated fibres are both involved. Thiamine deficiency causes a critical reduction in transketolase activity. Electrical stimulation of the isolated spinal cord leads to the release of thiamine. The antimetabolite pyriothiamine has a similar effect. But it is still uncertain whether thiamine itself is concerned in ion transport and the conduction of the nerve impulse.

The first-rate discussions illustrate that not only is it difficult to correlate the clinical and biochemical effects of thiamine deprivation but that, at a cellular level, it is equally evident that physiologist and biochemist have difficulties in seeing the significance of each others' findings.

J. D. SPILLANE

DRUGS AFFECTING THE PERIPHERAL NERVOUS SYSTEM By A. Burger. (Pp. xxiii + 620; 49 figures. 220s.) Edward Arnold: London. 1967.

This book deals with drugs acting at the post-ganglionic parasympathetic and sympathetic nerve endings, at autonomic ganglia and at neuromuscular junctions. Although the need for clinically useful drugs is clearly recognized, the evidence described is mainly pharmacological data from animals. The aim is to relate the chemical structure of active substances to their biological effects, and for this some knowledge of chemistry in the reader is desirable. A clinician's criticism might be that a book with this title should contain a section on the drugs which produce peripheral neuropathy.

J. SPALDING

MOLECULAR PSYCHOBIOLOGY A Chemical Approach to Learning and Other Behaviour. By J. Gaito. (Pp. xix + 259; illustrated. \$9.50.) Charles C. Thomas, Springfield, Illinois. 1966.

The work in recent years on nucleic acids may well represent some of the greatest biological discoveries of the present century. In this connexion the transfer of genetic information in relation to DNA and RNA is especially exciting. Attempts in recent years to involve similar mechanisms in the memory and learning processes of the brain have not been very successful. This volume reviews existing knowledge in this field and the conclusions seem to be very vague. There is, however, a list of nearly 400 references which will be useful to students of the subject.

W. RITCHIE RUSSELL

KLEINES LEHRBUCH DER REFLEXE By F. W. Bronisch. (Pp. vii + 86; 54 figures. DM 19.) Ferdinand Enke Verlag: Stuttgart. 1967.

This is a wonderful little book and the line drawings of how to elicit reflexes are quite brilliant. It can be strongly recommended to all aspiring neurologists.

ZUKUNFT DER NEUROLOGIE (Future of Neurology) Edited by H. G. Bammer. (Pp. xii + 262; illustrated. DM 48.) Georg Thieme Verlag: Stuttgart. 1968.

This volume has been prepared as a tribute by over forty neurologists from all parts of the world to Herr Professor Dr. Georges Schaltenbrand on the occasion of his 70th birthday. Most of the articles are in English and some are of great interest.

MICRO-VASCULAR SURGERY Edited by R. M. Peardon Donaghy and M. Gazi Yasargil. (Pp. xii + 172; 217 illustrations. DM 48) Georg Thieme: Stuttgart. 1967.

This is a report of the first conference on microvascular surgery held in October 1966, in Burlington, Vermont.

The contributions come mostly from the United States, Sweden and Switzerland. Twenty-three papers are reproduced, each with a bibliography, but there is no recorded discussion. Consideration of techniques at present seems to occupy the attention of workers in this field and the majority of the book is given over to methods of exposure, preparation and anastomosis of small vessels down to 1 mm diameter. Technical expertise also dominates the approach to clinical problems and some of the accounts of arterial surgery in occlusive disease of the brain, as, for example, the embolectomy performed for basilar artery occlusion via a trans-clival approach in a case of akinetic mutism of eleven days' duration, reveal a fundamental misunderstanding of the pathogenesis of