Book reviews

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 antivitamin 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 anti-metabolite pyritothiamine 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

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

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

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.

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.

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...
cerebral ischaemia which is all too common. There is a single paper on vascular anatomy and two on haemodynamics in small vessels, but pathological changes are scarcely mentioned. The book, which is excellently produced and illustrated, is a valuable source of reference on neurosurgical techniques, but a better balance of subject matter is to be hoped for in the future.


In the past fifteen years there have been considerable advances in our knowledge of sleep and dreaming, arising largely from the use of all-night EEG recordings. Normal sleep displays cyclical variations, with four or five periods of emergence from the deep stage (delta waves) to a stage characterized by desynchronized EEG activity, jerky rapid eye movements (REM), irregularity of pulse, respiration, and blood pressure, penile erection in the male, generalized muscular hypotonia, and the frequent reporting of dreams if the subject is awakened in this stage. This 'D-state' may be considered as a state qualitatively different both from non-dreaming sleep ('S-state') and from waking life. It has been found in a variety of mammals, as well as in the newborn. The D-state is impaired following pontine lesions, while the S-state is impaired after medullary lesions. There appears to be a biological need for the D-state, since subjects awakened repeatedly at the onset of this stage will subsequently spend a longer time in it when allowed to sleep undisturbed, as if to compensate for the period of deprivation; this phenomenon also occurs in decerebrate cats, so there is no proof that man needs to dream, merely that he needs a certain proportion of sleep to be in the D-state. There is as yet no agreement on the psychological changes consequent on deprivation of D-state in man. Pharmacological investigations suggest that various central transmitters may be involved in regulating the D-state. Abnormalities of the D-state have been suspected in many disorders; the evidence is strong only in narcolepsy, where the sleep attacks and the cataleptic attacks are both associated with D-state sleep, and where D-state sleep appears very early in nocturnal sleep.

Statements made in the test are supported by frequent references to a large bibliography (656 references), and it is therefore easy to pursue elsewhere any theme discussed by the author. The writing is crisp and attractive, and the volume will be of great value to those interested in this field.

R. T. C. PRATT

ACUTE BARBITurate POISONING By S. J. Loennekeen. (Translated by Barbara and Heltrud Hammer). (Pp. ix + 78; 27 figures. 17s 6d.) John Wright: Bristol. 1967.

The author is the head of the Department of Anaesthesia of the Neurosurgical Clinic of Cologne University, and in this English edition of the book, which was published in Germany in 1965, he reviews the experience of the Poison Centre in Cologne since 1951. A patient is admitted to the Centre on the average, every ten hours. Before 1954 the mortality rate on purely analeptic treatment was 9%.

Since then it has been about 2%. The book summarizes in a clear fashion the general and special effects of barbiturate intoxication and the skilled procedures of resuscitation which, as elsewhere, have transformed prognosis in this sector of the medical scene.

J. D. SPILLANE

BOOKS RECEIVED

(Books listed here may be reviewed in a later issue)


THE PSYCHOANALYTIC APPROACH Edited by J. D. Sutherland. (Pp. iv + 77; 2 figures. 10s.) Ballière, Tindall and Cassell: London. 1968.


NOTICES

SEVENTH INTERNATIONAL CONGRESS OF ELECTROENCEPHALOGRAPHY

The Seventh International Congress of Electroencephalography and Clinical Neurophysiology will be held in the El Cortez Hotel, in San Diego, on 13-19 September, 1969. Application forms and more detailed information about the Congress can be obtained from Dr. Richard D. Walter, Secretary, International Congress, The Neuropsychiatric Institute at U.C.L.A., 760 Westwood Plaza, Los Angeles, California 90024, U.S.A.

INTERNATIONAL SOCIETY FOR NEUROCHEMISTRY

The Second International Meeting of the International Society for Neurochemistry will be held in Milan, Italy, from 1-5 September 1969. Further information may be obtained from Dr. J. Folchi-Pi, McLean Hospital, Belmont, Massachusetts 02178, U.S.A., or from Dr. Rodolfo Paoletti, Institute of Pharmacology, University of Milan, Via Vanvitelli 32, 20129 Milan, Italy.