BOOK REVIEWS

The Vertebrate Visual System. By S. Polyak. £16 17s. 6d. Chicago: University of Chicago Press. (London: Cambridge University Press.) 1957.

This work is a remarkable monument to the author, who died in 1955 after the task was largely completed, but his friend Professor Klüver was obliged to devote two years' work on the manuscript before it was finally seen through the press.

The historical aspects were a special interest to the author, and this book contains more than a hundred portraits of those who have contributed to the study of optics and vision.

Like the forerunner of this work, *The Retina*, there is special emphasis on anatomical structures as they occur throughout the animal kingdom. His book on *The Main Afferent Fibre Systems of the Cerebral Cortex in Primates* (1932) is also incorporated in this volume.

Part 4 contains some fascinating chapters on the biology of the visual system in vertebrates, and on the importance of vision in the evolution of man himself.

The beautifully illustrated anatomical chapters in Part 2 occupy over 400 pages, and constitute a fine record of research.

Consideration of the pathological appears in Part 3, and is concerned mainly with a description of those conditions which illustrate or contribute to anatomical knowledge. Thus lesions of all parts of the visual system which can be studied by perimetry receive special attention. This part is disappointing in that it is out of date in its discussion of macular representation and does not consider some of the higher forms of visual disorder such as those which lead to inattention or disorientation in homonymous half fields.

Finally a bibliography of 10,000 references completes this massive life's work, and ensures that if only as an indispensable work of reference, the monument is well and truly built.

Metabolism of the Nervous System. Edited by Derek Richter. (Pp. xiv + 600; illustrated. 100s.) London: Pergamon Press. 1957.

This volume reports the proceedings of the Second International Neurochemical Symposium held in 1956. No clinical neurologist can fail to find some part of it of the greatest interest. Biochemistry is becoming increasingly obtrusive in neurology. The outpost skirmishes of the toxic neuropathies and the mechanism of thiamine deficiency in the nervous system are now leading on to more central problems such as the detailed chemical processes of demyelination in multiple sclerosis and, inevitably, of its corollary the formation and maintenance of normal myelin. The biochemical implications of such systemic diseases as primary sensory neuropathy, motor neurone disease and, more particularly, of hepato-

lenticular degeneration, are also becoming clearer. The further step to the fundamental cytochemistry of the neurone has long ago been taken by biochemists, and it is mainly with such basic scientific work that this book deals. It is good to know that inhibitory processes are continuing to occupy the interest and attention of biochemists as well as neurophysiologists. The chapter on non-cholinergic transmission gives an excellent review of the trend of work and interpretation in this field. The clear recognition of an inhibitory transmitter substance of any general neural application would hardly fail to have almost immediate clinical importance in the fields of neuropsychiatry and epilepsy, if nowhere else. One section included in this volume, though not strictly biochemical, was of particular interest to this reviewer—that on electron microscopy of nervous tissue. The picture revealed of the submicroscopic structural organization of both nerve fibres, nerve cells, and synapses is one of increasing complexity. These structural findings are beginning to catch up with the equally complex functional changes, electrical and otherwise, which are known to accompany the activity of neurones. Although this book is not in any way concerned with clinical problems, many points arise which have potential clinical application, if only by stimulating a fresh interpretation of some symptoms and signs in neurology.

Progress in Neurobiology: II. Series Editors: Saul R. Korey and John I. Nurnberger. **Ultra Structure and Cellular Chemistry of Neural Tissue.** Edited by Heinrich Waelsch, with 37 participants. (Pp. xv + 249; 40 figures. 57s. 6d.) London: Cassell; New York: Hoeber. 1957.

The contents of this symposium are admirably described by its title. Professor J. D. Robertson deals with the electron microscopy of neuronal membranes, with special reference to the myelin sheath. Professor Palay describes the fine structure of the neurohypophysis. Both articles are illustrated with excellent photographs. Professor Lowry describes some of his work on the determination of the activity of various enzymes in single nerve cells. Working on a somewhat larger scale, Professor Robins and his colleagues have assayed some of the important enzymes concerned in glucose breakdown in the various layers of the cerebellar cortex; these results are relevant to an assessment of the relative importance of the Embden-Myerhof pathway and of the more recently elaborated hexose-monophosphate shunt. Histochemistry is represented by Professor Koelle and Professor Gomori who deal chiefly with the localization of cholinesterases in neurones and sympathetic ganglia. Professor Bain discusses the uncoupling of oxidation phosphorylation in brain mitochondria by barbiturates; the point of attack has been more precisely localized since this contribution but the relevance of the effect to the

clinical actions of the barbiturates remains uncertain. Dr. R. S. Geiger's studies on the growth (and mitosis) *in vitro* of what are almost certainly neurons, taken from the cortex of adult monkey and man are of considerable interest. So also is the article by Professor Numberger and Dr. Gordon in which they have determined the proportion of neuronal to non-neuronal cells in various parts of the rat brain.

It will be seen that a wide range of topics is covered and this book contains much that is of interest. The amount of space (about 60 pages) devoted to the discussions which followed the presentation of the various papers seems disproportionately high.

The Human Brain: From Primitive to Modern. By A. M. Lassek. (Pp. viii + 242. 36s.) Oxford: Blackwell Scientific Publications. 1957.

Professor Lassek is well known for his anatomical and histological studies of the mammalian nervous system and especially for his work on the pyramidal tracts and their functions. In this book, however, he is more speculative and philosophical. In the first 10 chapters, which constitute less than a third of the book, he reviews in very general terms the evolution of the structure and basic physiological functions of the brain. The remaining chapters are concerned with the evolution of mind considered in a broadly anthropological framework. Such a large canvas inevitably leads to a rather impressionistic approach; and the result is unlikely to be of much value either to the scientific student of the brain and its functions or to the trained philosopher. Psychology students may, however, find it a useful introduction to the inter-relationship of mind and brain.

Pathologische Histologie des Peripheren Vegetativen Nervensystems. By Heinz Hermann. (Pp. 126; 50 figures. Price not stated.) Berlin: Berliner Medizinische Verlagsanstalt G.m.b.H. 1956.

This book is an account of the morphological appearance of the various components of the autonomic nervous system in many widely different pathological conditions ranging from inflammation to psychiatric disease. They are based on material impregnated with silver and prepared with the techniques advocated by Stöhr and his school. It contains 50 illustrations of which only nine are photomicrographs (of poor quality); the rest are elaborate drawings containing details which it is hard to believe could have been resolved with a light microscope.

The various components of the autonomic nervous system are dealt with separately. There is a short description of their "normal" appearance followed by a description of their appearance in a variety of tissues which are the seat of pathological changes.

Unfortunately, the author supplies few quantitative data in support of his arguments. In the first place, he admits that the technique he uses is difficult to handle and that up to 12% of ganglion cells appear to be undergoing degenerative changes in the absence of disease. In pathological conditions, up to 85% show degenerative changes. His criterion of what constitutes degeneration is not based on any experimental evidence

and he apparently takes no account of technical artefacts or post-mortem changes. It is possible, for instance, that some of the characteristic morphological alterations which he describes take place after death and are not due to the particular pathological process under investigation. Such a possibility must be excluded before it is permissible to conclude with the author that widespread degenerative changes seen in parts remote from the lesion are evidence that the autonomic nervous system is a syncytial protoplasmic reticulum.

This is not to say that Professor Hermann's book serves no useful purpose. There can be little doubt that he has demonstrated that the autonomic nervous system undergoes morphological change, but he has as yet not supplied sufficient data to connect these changes with any specific pathological process.

Précis de Biologie Humaine: Les bases organiques du comportement et de la pensée. By Paul Chauchard. (Pp. xii + 403; 59 figures. Fr. frs. 1,400.-) Paris: Presses Universitaires de France. 1957.

Dr. Chauchard is well known as a prolific writer on physiological and medical topics. Although much of his work has been avowedly semi-popular, the present book is intended as a more serious introduction to human biology. After giving some account of modern work on heredity and constitution, the author considers at some length the relationship between neural and endocrine mechanisms in the control of behaviour. He then passes on to a detailed exposition of cerebral function as seen principally from the psychological standpoint. There is a final short section on the "physiology of conduct" in which problems of appetite, instinct, and social organization find mention. The text is embellished by a number of informative, if somewhat messy, line drawings.

Although Dr. Chauchard is clearly well acquainted with contemporary neurological inquiry, his book cannot be said to break new ground. Even as a text for students, it is both less complete and less critical than Morgan and Stellar's "Physiological Psychology", which has long been available in French translation. None the less, this book will be welcomed as an able and scholarly contribution in the tradition of Ribot, Piéron, and Fessard.

Selected Writings of Walter E. Dandy. Compiled by Charles E. Troland and Frank J. Otenasek. (Pp. vii + 789; illustrated. 112s. 6d.) Oxford: Blackwell Scientific Publications; Springfield, Illinois: Charles C. Thomas. 1957.

This book of his selected writings is in some ways a commentary on Walter Dandy. Dandy was an excellent craftsman—probably more dextrous than his half-acknowledged master, Harvey Cushing. This led him to a more radical brain surgery than Cushing; and in his hands the radicalism almost always paid dividends. His contributions were, in general, improvements in technique rather than anything more fundamental. However, a certain impatience with the diagnostic results, and particularly the localizing value for cerebral lesions, of a formal clinical neurological examination led him to develop the procedure of air ventriculography and its derivative air encephalography, and here he certainly added a fundamental diagnostic procedure to neurology.

His studies of cerebrospinal fluid formation and absorption, though probably stimulated in part by the practical problems of hydrocephalus, were also a basic physiological contribution. Dandy was an excellent clinical observer and recorder—alert and shrewd. Before the modern interest in intervertebral disc surgery was under way, he had observed and recorded central disc protrusion and its possible causative role, both in bilateral sciatica and in spinal block. His paper on inflammatory tumours of the spinal epidural space also clarified much previous confusion and remains an excellent source of clinical information. When he started to theorize, however, his weaknesses became apparent. Thus his views on the aetiology of Menière's syndrome and, particularly on the cerebral seat of consciousness have a rather naïve and old-fashioned ring about them. The papers selected in this book illustrate all these points.

His quarrel with Cushing was notorious in its day. He claimed that it started when as Cushing's assistant in 1913 experimental results he was getting on glycosuria and the autonomic system were contradictory to what Cushing had postulated. Real bitterness came, however, when he published a preliminary note in 1921 about radical extirpation of acoustic neuromas and Cushing accused him of failing to acknowledge his own earlier work. It was a storm in a teacup—the clash of two personalities, both able and ambitious men. It is reflected indirectly in this volume. Before 1913 Cushing is always thanked in the “acknowledgements” of Dandy's papers; after this year his name appears no more.

The Neurologic and Psychiatric Aspects of the Disorders of Aging. Association for Research in Nervous and Mental Disease Research publication. (Pp. ix + 307; 79 illustrations, 17 tables. 68s.) London: Baillière, Tindall & Cox; Baltimore: Williams and Wilkins. 1956.

This volume is slim compared with many in this series. Its size represents a paucity of information on the subject reviewed. Some of what is reported is trivial, some anecdotal, and some only the obvious extension of well-known pathological processes to the conditions of the senium—as Critchley puts it, a study of the *senium ex morbo* rather than the *senium naturale*. There is little fundamental observation—either laboratory or clinical—discussed, and small evidence in this book at any rate that such fundamental work is being undertaken. However, Warren Andrew's review of structural alterations in the ageing nervous system does give a glimpse of interesting histological and cytochemical changes and the possibilities they suggest for further work. Pope, Lunsford, and McCay's essay on experimental prolongation of the life span also mentions some potentially interesting experimental work on parabiosis in animals though the work hardly seems advanced enough yet to justify reporting. Lorge casts some doubt on the widely held view that learning ability decreases with age. Perhaps one of the most disappointing lacunae is in the genetic study of the disorders of old age and its related healthy longevity.

Schizophrenia: Somatic Aspects. Edited by Derek Richter, Neuropsychiatric Research Centre, Cardiff.

(Pp. viii + 180; illustrated. 40s.) London: Pergamon Press. 1957.

These papers were presented at a meeting held in London in 1956. The contributors survey the present position of our knowledge of schizophrenia from the standpoint of habitus, heredity, electroencephalography, biochemistry, morbid anatomy, endocrinology, and pharmacology. The editor points out in his modest foreword that this collection of viewpoints is not intended to be comprehensive, and adds, rather needlessly, that the book is not a final account of the results of research. It is pleasantly written and produced, but contains little that is not accessible in other compilations of the same type.

Symposium International sur la Psychothérapie de la Schizophrénie, Lausanne, October 1956. Reports and discussions, edited by G. Benedetti and C. Müller. (Pp. 264; 4 figures. S.Fr. 35.-) Basel: Karger. 1957.

Although Freud consistently deprecated the treatment of psychotic illness by psychoanalysis, there has been an increasing readiness to experiment in this direction. The symposium reported here testifies to the spread of this trend to Switzerland, Germany, and France. It is tinged with existentialism, and the exposition is correspondingly difficult to follow. It suffers also from the indifference which the contributors show to the need for supplying evidence that the treatment was beneficial. Individual cases are reported, with elaborate—and sometimes contradictory—interpretations of the psychopathology but without any demonstration that the treatment was responsible for whatever improvement occurred: the emphasis is often far more on philosophical than on medical issues. The reader will quickly discover, by his response to Professor Benedetti's introductory review, whether this line of inquiry and discussion is congenial to his thinking.

Psychotherapy: A Modern Theory and Practice. By E. Lakin Phillips. (Pp. xviii + 334. 30s.) London: Staples Press. 1957.

It is refreshing to meet an exposition of psychotherapy which is not a variation on the psychoanalytic theme. Dr. Phillips bases his method on a theory of learning, and seeks to “interfere” with the patient's choice of probabilities in his daily life. He does not concern himself with unconscious influences and happenings: “We do not set up mind-structure so formidable that it has to be beaten down or broken into a defenceless position, or plumbed to its depth.” Dr. Phillips restates, in accordance with his theory, many of the processes involved in falling neurotically ill and in getting well, and he illustrates his “interaction” procedure with protocols of therapeutic interviews, which make it evident that the therapist has to work hard and do most of the talking. Direct and economical as his treatment seems to be, it is by its success in action that it must be judged: and here Dr. Phillips has as yet little to offer us beyond reports of recovery in individual cases, which leave us where we were. Because of its fresh approach and its sustained effort to make use of recent research in

psychology and communication theory, the book deserves attentive reading.

La Thérapeutique par la Chlorpromazine en Pratique Psychiatrique. Edited by L. Revol, with a Preface by Professor Henri Ey. (Pp. 154. Fr. frs. 800.-) Paris: Masson. 1957.

The French chemists to whom we owe chlorpromazine have seen this substance rapidly become one of the most-employed drugs in psychiatry, while its mode of action and the indications for its use are still obscure. French psychiatrists have been foremost in recording their enthusiasm, and Professor Revol and his colleagues at Lyons and Chambéry are able in this manual to cite a considerable literature, mainly French. The treatment of the theme is in three sections: the first briefly recounts the history and what is known of the pharmacology of the drug; the second recounts the psychiatric illnesses for which it has been found effective; and the third describes the manner of administration, the dose, duration of treatment, complications, and contraindications. As a practical statement of French clinical experience the manual is informative, but it contains no records of clinical trials properly carried out, and cannot be regarded as a serious contribution to the assessment of this remarkable substance.

Psychiatrie Pratique. By Roger Coulonjou, with a Preface by Professor Lhermitte. (Pp. 254. Fr. frs. 1,850.-) Paris: G. Doin. 1957.

Written for the general practitioner, the book contains nothing profound or new. It is amiably receptive towards ideas lately in fashion regarding such matters as psychosomatic medicine and the effects of separating a child from its mother; and it points out robustly that existing psychiatric textbooks are too long and obscure. Dr. Coulonjou is a former pupil of Professor Lhermitte, who writes a lively foreword, putting the psychopathologists and psychotherapists in their place, and exalting the factual or somatic approach to mental illness. On the whole the book fulfils its modest purpose, and incidentally shows that French psychiatry has been assimilating itself rather fast to that now current in America, without wholly sacrificing its distinctive excellence in clinical description and analysis.

La Psychanalyse d'aujourd'hui. Vols. I and II. (Published under the direction of S. Nacht, with Preface by E. Jones. (Pp. 867. Fr. frs. 2,800.-) Paris: Presses Universitaires de France. 1956.

The 23 psychoanalysts who have collaborated in producing this compendium have had a difficult task; psychoanalysis is not an orderly body of knowledge which can be parcelled out between a score of writers without risk of repetition and serious omission. Dr. Nacht has coped with these problems with some success, and he has taken advantage of the fact that French psychoanalysts have limited themselves mainly to clinical and technical aspects. The opening article by himself and Dr. Lebovici exemplifies this practical bias: it deals with the indications and contraindications for undertaking the psychoanalysis of adults. The other articles

in the first volume deal with psychopathology and treatment, especially in childhood and adolescence; and with sexual abnormalities and the relation between psychoanalysis and medicine.

The second volume begins with a disappointing chapter by Ajuriaguerra, Diatkine, and Badaracco on psychoanalysis and neurobiology. Ensuing chapters are concerned with analytical treatment of psychoses, critically expounded by Racamier; psychosomatic medicine; prevention; sexology; and surveys of the development of psychoanalysis and its literature.

The psychoanalysts in France have been fewer than in England and the United States, and dissensions among them have been more recent, though not more unsettling, than in other countries. This work of multiple authorship, sponsored by the official Institute of Psychoanalysis, indicates that they are entering on a phase of consolidation along orthodox lines.

Kraepelin und Freud. Beitrag zur neueren Geschichte der Psychiatrie. By Kurt Kolle. (Pp. 88. DM. 7.60.) Stuttgart: Georg Thieme. 1957.

It is a pious duty which Professor Kolle fulfils in writing of his great predecessor in the Chair of Psychiatry at Munich. It is less easy to see why he has chosen to write also of Freud, a man of entirely different outlook. Though contemporaries, these two men, Kraepelin and Freud, had irreconcilable views of how the study of mental disorder could be advanced. Professor Kolle's efforts to reconcile or combine them results in a woeful dilution which they would hardly themselves have sanctioned. He regards Kraepelin's achievement as having consisted largely in the development of a durable nosological system: he does not draw sufficient attention to Kraepelin's contributions to abnormal psychology, pharmacology, and cultural psychiatry. What he says of psychoanalysis is along conventional lines: he praises Freud's originality and courage in inquiry, he selects those parts of the Freudian theory and practice which he finds satisfactory, and passes lightly by those fundamental tenets of psychoanalysis which the non-analyst can hardly bring himself to accept. The book is a convenient index of the changing climate in German psychiatry.

L'Elettroencefalografia Clinica. By Carlo Perris. (Pp. 264. L. 2,500.) Pisa: Edizioni "Omnia Medica". 1957.

This monograph deals almost entirely with the electroencephalographic changes in focal cerebral lesions, particularly tumours. As the value of clinical electroencephalography is increasing in recognizing and locating focal lesions, whether or not they give rise to epilepsy, the book is timely. It gives a detailed description of the methods and techniques used for such localizing work, mentions all the common provocative techniques, and provides an excellent review of the literature, with full references up to the year 1954.

In the second and smaller part of the book the author reviews his own experiences with 80 cases of cerebral tumour. This serves to illustrate and emphasize the various points made in the first part.

Altogether, this is a useful short introduction to the

electroencephalography of focal lesions. The language difficulty need not deter the English reader of reasonable intelligence and with a knowledge of E.E.G. terminology, as most of the technical words are but thinly veiled in their Italian transliteration.

The Epileptic Seizure. A Clinical-Electrographic Analysis of Metrazol-induced Attacks. By Cosimo Ajmone-Marsan and Bruce L. Ralston. (Pp. xii + 251; 45 figures, 30 charts. 45s.) Oxford: Blackwell Scientific Publications; Springfield, Illinois: Charles C. Thomas. 1957.

This monograph records the effects of the injection of metrazol in epileptic subjects. The changes seen in the patient and his electro-encephalogram are used to localize the site of the discharging lesion and to study the behavioural accompaniments. The work is by a team in a research institute where patients are subjected to special and highly specific study, and the data have not necessarily direct application to the care of the epileptic patient at large. The method of "activation" the authors use is effective and safe, but the phenomena produced are exceedingly complex and their description and analysis seems to be somewhat tortuous.

DENIS WILLIAMS

Epileptic Seizures. Edited by John R. Green and Harry F. Steelman. (Pp. xii + 168, with frontispiece and 17 illustrations. 40s.) London: Baillière, Tindall & Cox; Baltimore: Williams & Wilkins. 1956.

This book is the result of a joint meeting of the Western Institute of Neurology, the Western Society of Electroencephalography, and the American Academy of General Practice. It is divided into three parts. The first is concerned with diagnosis, the second with treatment, and the third with educational and social problems. This last section reflects the general social environment of the United States and is only applicable in very general terms to this country. It is evident that the major problem there, as here, is to get the community in general to accept and allow for the epileptic. Some useful information is given about disposal problems and the way they are overcome both for special cases such as cerebral palsies with epilepsy and for the "normal" epileptic of average education.

Diagnosis is considered both clinically and electrically. A useful brief analysis of clinical fits and their site of origin is given by Wilder Penfield. Electroencephalographic localization is also reviewed. Medical and surgical treatment is discussed. Anticonvulsant drugs are being developed rapidly, and several that are now proving useful in 1957 are not mentioned in this book published in 1956. The late results of surgical treatment—cortical excision of epileptic foci—are reviewed by Penfield and suggest that 40-45% are free from attacks for a seven-year follow-up period. In general the book reflects the modern approach to epilepsy in which the "causes" of the condition are put on one side and the practical problem is regarded as one of finding where the epileptic discharge originates and then of stopping it by medical or surgical means. It is a useful short summary of this attitude and can be recommended to students and practitioners.

Épilepsie: Étude Clinique, Diagnostique, Physiopathogénique et Thérapeutique. By J.-A. Chavany; Foreword by Prof. Petit-Dutaillis. (Pp. 356; 24 figures. Fr. frs. 2,800.-) Paris: Masson. 1958.

This book approaches epilepsy mainly from the clinical standpoint. In the first part the epilepsies are classified clinically and the symptoms and signs analysed; an anatomical classification is, however, also introduced, as some attempt is made to indicate the likely site of the origin of the particular form of seizure being discussed. Part two considers special aspects of epilepsy, such as status, mental changes in epilepsy, suicide, and a variety of clinical subgroups—sleep epilepsy, myoclonic epilepsy, infantile epilepsy, and reflex epilepsy. A third part considers diagnosis with special emphasis on the E.E.G., and finally, a fourth, anatomy and physiology, together with treatment.

In general, most of the facts are there, but the book is badly arranged, so that information is repeated and there is no method of distinguishing what is important from what is trivial. Certain authors are mentioned by name in the text, but no attempt is made to provide proper references.

Mental Deficiency. By L. T. Hilliard and Brian H. Kirman. (Pp. xvi + 517; 90 figures. 60s.) London: J. & A. Churchill. 1957.

The concept of mental deficiency has been gradually changing in the past few decades from an assessment based mainly on "intellectual" tests to one based more on "social efficiency". This has been a most valuable and productive change of attitude, and it is reflected in this book. The idea that mental deficiency has as its aetiological background functional abnormalities in the biochemical and physiological spheres has also gained ground, though it was always recognized implicitly by workers in this field. Here, too, this new book reflects the new emphasis. It is, moreover, an essentially practical book, and deals adequately not only with the management of defectives in health and disease but with the legal and social aspects of the problem also. A useful chapter on advice to parents is included. The book can be thoroughly recommended to students and practitioners who want an up-to-date, practical and humane introduction to the subject. The British literature in this important field is small, and this is a most worth-while addition.

Hospital Treatment of Alcoholism. By Robert S. Wallerstein and Associates; Introduction by Karl A. Menninger. (Pp. x + 212. \$5.00.) New York: Basic Books. 1957.

This is a study of 178 chronic alcoholics, treated as in-patients in one of four different ways—by "antabuse" therapy, conditioned reflex therapy, hypnotherapy, and "milieu therapy". The latter was intended as a control group having the same hospital facilities as the other groups (activity programme, group and individual psychotherapy, etc.) without any of the "specific" therapies. It became clear, however, that this group evolved as a distinct treatment group. The authors studied not only the overall results of the different