

REVIEWS OF BOOKS : BOEKRESENSIES

PORPHYRINS AND PORPHYRIA

Porphyryns. By A. Vannotti. (P. 258, with illustrations. 50s.)
London: Hilger & Watts Ltd. 1954.

Contents: 1. Physico-Chemical Characteristics of Porphyrins. 2. Methods of Extraction and Qualitative and Quantitative Determination of Porphyrins. 3. Porphyrins in Nature. 4. Physiological Metabolism of Porphyrins in Man.

5. Changes in Porphyrin Metabolism in Human Pathology. 6. Biological Action in Porphyrins. 7. Porphyria. 8. Treatment of Porphyrin Disease. Bibliographies. Index.

In view of the considerable frequency with which porphyria is encountered in the Union of South Africa, any major publication on this subject is most welcome.

Professor Vannotti's name is well-known in this field, his original monograph 'Porphyrine and porphyrinrankheiten' having appeared in 1937. This present edition, which was translated and revised by Professor Runnington, was completed in 1952 and presents much new material. Unfortunately, publication was delayed and as a result certain major advances have not been included. Nevertheless, this volume is a most acceptable addition to the literature on porphyrin metabolism and porphyria.

The first chapter deals with the physico-chemical aspects of porphyrins and includes a section on the fluorescence spectra. This is followed by a cursory review of the methods of extraction and qualitative and quantitative determination of porphyrin. Following a brief but good account of the porphyrins in nature, considerable space is devoted to the physiological and pathological aspects of porphyrin metabolism in man. In particular the author draws on his clinical experience in describing the various conditions in which porphyrin excretion is abnormal, e.g. gastrointestinal disorders, anaemia, etc.

To the clinician the section on porphyria is the most interesting. Professor Vannotti's experience extends to 56 cases. The various classifications that have been used are listed. A good account of the symptoms and signs of the various types of porphyria follows, but the familial nature of the disease is insufficiently emphasized and some observers in this country have very little doubt that the cutanea tarda form and the acute abdominal and nervous types are merely different expressions of the same basic disorder. The reviewer cannot agree that the 'presence of porphobilinogen in idiopathic porphyria could be conducive to the appearance of severe cutaneous lesions' (page 192). The term 'mixed porphyria' is better abandoned if it is used to indicate a mixture of congenital porphyria and acute idiopathic porphyria.

Insufficient emphasis is placed on the very great diagnostic importance of the recognition of porphobilinogen in acute porphyria. The chapter on treatment is poor and uncritical. The variability in the course of porphyria is notorious and hence it is surprising that Professor Vannotti has placed so much faith in vitamin therapy.

To all who are interested in porphyrin metabolism and porphyria this book is particularly valuable in its extensive survey of the continental literature.

L.E.

RENAL FUNCTION

Reflections on Renal Function. By James R. Robinson, M.D., Ph.D. (Cantab.). (Pp. 163. 17s. 6d.) Oxford: Blackwell Scientific Publications. 1954.

Contents: 1. Introduction. 2. Glomerular Filtration and Tubular Reabsorption. 3. Tubular Secretion. 4. The Excretion of Water and Sodium. 5. Renal Control of Acid Base Balance. 6. The Regulation of Renal Function. 7. The Regulation of the Volume of the Body Fluids. 8. Epilogue. References.

As Dr. Robinson says in the preface: 'Renal function is controversial, and perhaps ought to be more so'.

In the compass of this little book, which is not intended to be a comprehensive review of the very considerable literature of renal physiology, he gives a clear and succinct account of much of the working of the kidneys, but at the same time, in his reflections on certain controversial and unsolved problems of renal function (especially those at the cellular level), he emphasizes his special interests, and in addition reveals the incompleteness of our present knowledge. He is meticulous, moreover, in his presentation of varying viewpoints on certain phenomena, e.g. 'the Oxford shunt'.

The first chapter comprises a brief but good exposition of the clearance concept in relationship to glomerular filtration rate and a short account of tubular reabsorption. The section on tubular secretion takes us into the realms of cellular physiology, but in the succeeding account on the excretion of sodium and water much that is 'unconventional' is discussed, including the 'counter-current hypothesis' to account for the production of a hypertonic urine. The same holds for the chapter on the regulation of the volume of body fluids, while the regulation of the acid/base balance is relatively straightforward.

This stimulating book is strongly recommended to advanced students of physiology and anyone who is about to enter the realms of renal research.

L.E.

HANDBOOK ON SYNTHETIC DRUGS

Synthetic Drugs. A Handbook for Chemists, Physicians and Pharmacists. By H. Ronald Fleck, M.Sc., F.R.I.C., F.R.M.S. Pp. 380 + viii. 70s. 0d. London: Cleaver-Hume Press Ltd. 1955.

Contents: 1. Amoebicides. 2. Anaesthetics. 3. Analgesics and Antipyretics. 4. Antibiotics. 5. Anti-Convulsants. 6. The Anti-Histaminic Drugs. 7. Anti-Malarials. 8. Anti-Tuberculous Drugs. 9. Autonomic Drugs. 10. Cardiac Drugs. 11. The Hormones. 12. Hypnotics and Sedatives. 13. Muscular Relaxants and Hypotensive Drugs. 14. The Sulphonamide Drugs. 15. Vitamins. 16. Supplement. General Index. Clinical Index.

The author has set out to provide a book which will be of value to physicians, pharmacists and chemists, from the point of view of collation of the synthetic, analytical and clinical aspects of synthetic drugs. Structural formulae are provided abundantly; this may be of value to the organic chemist, but it is doubtful whether doctors and pharmacists in general will derive much pleasure from the sight of long chemical names and the illustration by chemical formulae of the structure of drugs and their changes during reactions. The 3½ pages on thyroxine deal with the synthesis and clinical production of this hormone; the statement that only one pure hormone has been isolated from the thyroid gland is incorrect.

Official drugs should serve the needs of practically all prescribers. However, since attempts are being made all the time to force new drugs on doctors, chemical names must be understood so that their relationship to previously used drugs can be detected; in this way worthless or potentially harmful drugs can be avoided. For those—all too many—who are keen on 'experimenting' with the latest pharmaceutical compounds a book such as this should be at hand so that the clinical trial can at least be on a proper chemical basis. Since the range of available drugs is very great only representative types are presented in this book. On a number of drugs, therefore, information is not available. The classification is unsatisfactory, as for instance in the chapter on Cardiac Drugs where the following compounds are arranged and considered: Group I. Cardiovascular—Khellin, Pronestyl, Leptayol, Nikethamide, Amyl Nitrite. Group II. Anticoagulants: Dicoumarol, Tromexan. Group III. Diuretics: Mercurophylline, Mersalyl, and Thiomerin. From the point of view of the physician there are a number of features that detract from the value of the book.

N.S.

OCCUPATIONAL HEALTH

Bulletin of the World Health Organization. Pp. 742, with illustrations. 10s. Geneva: The World Health Organization. 1955.

Contents: Introduction. Pre-employment and periodical health examinations, job analysis and placement of workers—Sven Forssman. L'absentéisme—Sven Forssman. Sickness absenteeism—G. J. Fortuin. Mental health and group tensions—J. Koekebakker. La santé mentale dans l'industrie—Thomas M. Ling. Outlines of a concept of industrial psychiatry—Erland Mindus. The health problems of old workers—Lord Amulree. Physical working capacity of old workers and physiological background for work tests and work evaluations—E. Hohwü Christensen. The employment of elderly persons—T. A. Lloyd Davies. Le travailleur âgé: Problème médico-social—René Sand. Réadaptation des travailleurs physiquement diminués—Pierre Houssa. Industry's contribution in the field of rehabilitation—A. R. Thompson. Le facteur humain des accidents du travail dans l'industrie—Agostino Gemelli. Facteurs humains en sécurité des travailleurs—J. Godard. Industrial health services in large plants—G. E. C. Burger. Organization of health care in small plants in the USA—Seward E. Miller. A national industrial health service on a voluntary basis—Haakon Natvig. Occupational health problems: summary of discussions at the Leyden and Milan seminars. Problèmes de médecine du travail: résumé des discussions aux séminaires de Leyde et de Milan.

This collection of papers, presented by authors from various countries at WHO seminars on occupational health held at Leyden (Holland) and Milan (Italy), is most instructive and indicates the extent to which occupational health services are developing in the United States of America and certain European countries. To us in South Africa, where a very marked increase in secondary industry has occurred, certain papers, such as that by Dr. S. E. Miller on 'The Organization of Health Care in Small Plants in the U.S.A.', are of particular moment and might possibly serve as a basis on which our own service might be built.

It is of some interest to note that the consensus of opinion was against the view that periodical medical examination should play a great part in occupational health schemes, and was satisfied that the mental-health aspects, which have up to now received scant recognition in such schemes, will in future fully repay further investigation and application.

As it is impossible with justice to review satisfactorily all these interesting papers, it cannot be too strongly recommended that their careful study by industrial medical officers and other interested parties will be fully rewarded.

E.D.C.

CARDIOVASCULAR DISORDERS ON PHYSIOLOGICAL PRINCIPLES

Cardiac Diagnosis. A Physiological Approach. By Robert F. Rushmer, M.D. Pp. 447 + viii, with illustrations. South African price £4 17s. 9d. Philadelphia & London: W. B. Saunders Company. 1955.

Contents: Part I. Function of the Normal Cardiovascular System. 1. Functional Anatomy of Cardiac Contraction. 2. Functional Characteristics of the Systemic Circulation. 3. Circulatory Response to Arising. 4. Functional Characteristics of the Pulmonary Circulation. *Part II. Regulation of the Cardiovascular System.* 5. Principles of Peripheral Vascular Control. 6. Regulation of Cardiac Output. 7. The Factors which Determine Stroke Volume. *Part III. Congestive Heart Failure.* 8. The Cardiac Reserve. 9. The Etiology of Congestive Failure. *Part IV. Methods of Cardiac Diagnosis.* 10. The Measurement of Pressure. 11. The Size and Configuration of the Heart. 12. The Estimation of Cardiac Output. 13. Heart Sounds and Murmurs. 14. Electrocardiographic Interpretation: Abnormalities of Rate, Conduction and Rhythm. 15. Electrocardiographic Interpretation: Changes in Configuration of the Complexes. *Part V. Diagnosis of Cardiac Disease.* 16. Myocardial Ischemia. 17. Myocarditis. 18. Valvular Disease. 19. Congenital Heart Disease. 20. Possible Heart Disease.

This book differs from the usual text-book in attempting to explain the symptoms and signs of cardiovascular disorders strictly on physiological principles. It is divided into 5 main sections.

The first is concerned with the function and normal anatomy of the cardiovascular system. The way each of the two ventricular chambers is constructed and adapted to its own functional requirements as a pump is excellently outlined. The peripheral vascular system in both circulations and the reflexes associated with maintenance of pressure and flow are described at rest, with change of posture and on exercise.

The second is the most valuable in the book. Here the peripheral blood flow and cardiac output are discussed. Cardiac output depends not only on stroke volume and heart rate but also on ventricular distensibility and contractility. The significance of ventricular relaxation and the physical factors involved are dealt with at length, as well as the part played by the residual volume in increasing output.

The third section deals with the physiology of congestive failure, avoiding controversial issues. The symptoms produced by this condition are attributed to the disordered physiology which results.

In part 4, the technical and clinical methods used in diagnosis are discussed. In a volume of this nature only an outline can be given of radiology and electrocardiography and the degree of accuracy that can be expected from these forms of investigation is examined. Cardiac catheterization and ballistocardiography are briefly mentioned. The physics behind some of the special instruments required, such as electromanometers, are summarized. The technical methods are well described, but not so the clinical methods used in examination, such as auscultation. It is a pity, in a work of this kind, to find that the importance of normal and abnormal ventricular asynchrony is completely omitted and hence the heart sounds are quite inadequately described.

In the last chapter a brief outline is given of cardiac ischaemia, myocarditis, valvular disease of the heart and congenital heart disease. The physiological principles previously outlined are applied.

This book can be recommended strongly, to students and practitioners alike, for the physiological content. The clinical side, however, does not quite live up to the promise made by the early chapters on normal function. Throughout the diagrams are excellent and the references, though mainly American, are up to date.

V.S.

DRUG THERAPY

1955-56 *Year Book of Drug Therapy.* Edited by Harry Beckman, M.D. Pp. 560. \$6.00 post paid. Chicago: The Year Book Publishers Inc. 1956.

Contents: Introduction. Allergy. Antibiotics and Sulfonamides. Cardiovascular Diseases. Dermatology. Endocrinology. Gastroenterology. Hematology.

Internal Medicine. Neuropsychiatry. Obstetrics and Gynaecology. Ophthalmology. Otorhinolaryngology. Pediatrics. Surgery. Venereology.

In this volume there are abstracts of articles from journals received between August 1954 and August 1955. Once again one must refer to the fine quality of this series of publications, the numerous tables and illustrations, and the useful index of authors as well as the index of subjects, which helps one to trace a forgotten article. The abstracts cover a wide variety of articles, many of which have appeared in journals not readily accessible to most readers. The editorial notes on many of the articles are interesting and critical. Some of them might be taken up by the interested reader as the starting point for a piece of research. Answers to a number of problems are provided in many of the abstracts: the choice of anti-infective or steroidal agent for certain conditions, the side-effects that have been produced by newer drugs, the type of patient in whom side-effects may occur, the methods by which untoward effects may be avoided or treated. About anticonvulsant drugs that may affect the blood-forming organs the quotation is given that 'any patient failing to report for blood examinations should be compelled to give up medication'. The section dealing with anticoagulants is prefaced by answers to a list of questions on their use in myocardial infarction. Among interesting sections indicative of recent advances in special fields is that dealing with tranquillizing drugs. All who prescribe or dispense drugs will find much interesting material in this book.

N.S.

SURGERY OF THE AMBULATORY PATIENT

Surgery of the Ambulatory Patient. Third Edition. By L. Kraefer Ferguson, M.D., F.A.C.S. with a Section on Fractures by Louis Kaplan, M.D., F.A.C.S.

This book, which was reviewed in the *Journal* of 16 June 1956 (30, 578) is published in London and the Commonwealth market by Pitman Medical Publishing Co. Ltd., London under agreement with J. B. Lippincott Company, Philadelphia and Montreal.

SQUINT

Rehabilitation of A Child's Eyes: Second Edition, By Richard G. Scobee, B.A., M.D., F.A.C.S., Revised by Herbert M. Katzin, M.D., F.A.C.S. Pp. 133. Illustrated. \$2.85. St. Louis, U.S.A.: C.V. Mosby Company. 1955.

Contents: Part I. Orientation. Chapter 1. The Effect of Crossed Eyes on the Personality. Chapter 2. General Information. Chapter 3. The Teamwork of the Two Eyes. Chapter 4. How the Eyes Focus. Chapter 5. Why Eyes Cross. Chapter 6. The Bad Effects of Crossed Eyes. Part II. Rehabilitation of Squint. Chapter 7. Glasses in the Treatment of Crossed Eyes. Chapter 8. Treatment of Amblyopia Ex-anopsia the 'Lazy Eye'. Chapter 9. Eye Exercises. Chapter 10. Operations in the Treatment of Crossed Eyes. Chapter 11. The Treatment of Crossed Eyes After an Operation. Glossary.

When looking at the title of this little book 'Rehabilitation of a Child's Eyes' one is not quite sure what to expect. Actually it deals with the squinting child. The second edition is edited by Dr. Herbert Katzin of New York. Apparently it was well received and popular in America, where the first edition was reprinted in 1950 and 1952.

The author states in his foreword that the book was primarily written for parents of children with 'crossed' eyes. Parents are naturally upset and worried over the condition and many questions arise in their minds. Practically all the questions they could possibly ask are answered in the various sections.

The chapter on the 'effect of crossed eyes on personality' is true to life, and one agrees with all that is said. The author puts in a plea for early operation in all cases, before the age of 6 years. He goes on to explain why eyes cross, when treatment should begin, what is involved in treatment, how the ophthalmologist proceeds, the role of the orthoptist, the role of the parent, and when surgery is necessary.

In the chapter on 'Teamwork of the Eyes' coordination of the eyes, convergence and divergence, fusion, depth perception are discussed.

The author succeeds in covering the whole subject of squint in an easy and understandable way. The book is well and simply written, and an intelligent lay person will have little difficulty in

following what is being explained in the various chapters. Use is made of simple but excellent diagrams to illustrate the various conditions and terms under discussion.

Although it is not written for the advanced student, one feels that medical students will grasp the subject of squint much better by first reading this little book before studying the subject in the

more advanced text-books on ophthalmology, for it always proves to be a difficult one.

The only statement with which one does not agree is that all astigmatism is lenticular in origin.

A useful glossary is to be found at the end of the book.

J.K.deK.