BOOK REVIEWS

Congenital Anomalies of the Heart and Great Vessels. Maurice A. Schaufler, M.D. New York, Oxford University Press, 1952. 368 pages, 19 figures, 12 tables. $8.00.

A critical evaluation of this type of book is difficult in that its values and limitations differ depending on the purpose it is intended to serve. The book is addressed by the author to the "practicing physician." If this physician is interested in a reading knowledge of congenital heart disease, the book is an excellent source, both for actual information and for other references. If, however, he desires a detailed working knowledge, the book must be considered to have certain important limitations.

The organization of the material is good, starting with embryology and continuing with discussions of the noncyanotic and cyanotic defects according to the usual classification of congenital cardiovascular defects. A wealth of information is included in this concisely written book. But how practically useful it might be may be questioned. For example, x-ray and electrocardiographic word-descriptions are given, yet not one illustrative case is shown throughout the entire book.

The literature on congenital heart disease is widely quoted, yet one might somehow wish that the author had cited some of his own personal experiences since these always add a more critical perspective. Furthermore, in citing the literature there is always the danger of either misinterpretation or misquotation. A number of such errors are to be found. For example, in the discussion on tetralogy of Fallot it is stated that identical pressures in the aorta and right ventricle mean the existence of pulmonary stenosis; this is an important misstatement. Other references, as for example to the results and importance of the standard exercise test, are likely to lack clarity for the uninitiated without study of the original papers. Another possible criticism is that the "practicing physician" is not given a critically clear idea of when the various studies such as cardiac catheterization or angiocardiography should be done or of their precise value in particular situations. Such correlative information would be of inestimable value particularly to the physician who is trying to learn this field amid the highly technical problems of this subspecialty. Again one might wish that the diagnostic as well as the surgical considerations had been discussed from the author's own personal experience instead of being drawn quite so heavily from a review of the literature regardless of how well the latter had been done.

The book is nicely printed and includes in a relatively short space a great deal of information and a good selection of references. It is hardly an authoritative source for specialists in the field, but will help orient the beginner who is sufficiently interested to read seriously.

ROBERT F. ZIEGLER

Transactions of the Fifth Conference on Blood Clotting and Allied Problems. January 21 and 22, 1952, New York, N. Y. Edited by Joseph P. Flynn. New York, Josiah Macy, Jr. Foundation, 1952. 368 pages, 148 illustrations, 25 tables. $4.95.

Like the other conferences, the fifth is well edited so that it reads easily with a minimum of error. Also, like the other conferences, much valuable information is found in the discussions following the formal presentations.

The first 90 pages are devoted to the coumarin anticoagulants, including two formal presentations and much discussion. This includes information which should be of value either to the practicing physician or to the research worker. An excellent discussion of the resistance of patients to coumarin anticoagulants is presented along with the effect of vitamin K derivatives and the variability in laboratory methods. The next 80 pages are concerned with the problem of new clotting factors involved in the conversion of prothrombin to thrombin. Of interest mainly to research workers, the formal presentation was given by Dr. Paul Owen who is a prominent worker in the field. The discussion of his paper portrays some of the confusion which exists in the field. The next 100 pages include discussions of the hemorrhagic syndrome produced by irradiation. In these times of the atom bomb this is a very appropriate subject. There are some interesting discussions of the relation of the blood clotting mechanisms to hemorrhage. It is emphasized, and rightly so, that bleeding occurs only when there is a break in the vascular system and that this may not necessarily be related to blood clotting, per se. Emphasis is also directed to the fact that very little is known about the factors which maintain vascular integrity. The next 50 pages include a discussion of the fibrinolytic mechanisms in blood. It is apparent from this discussion that much information is lacking regarding the activators of fibrinolysis and the function of this enzyme in the body.

Following the formal presentations is an appendix of six pages, with bibliography, which outlines the identity and nonidentity of neoprotrombin plasma factors involved in the conversion of prothrombin to thrombin. Included here are the various nomenclatures for the factors proposed, with an attempt to correlate them. This is very appropriate but it is very likely that further changes in the ideas expressed will be necessary. Finally, there is a very
good index which covers all five conferences. This is quite useful since much valuable material is found in the discussions which otherwise would be difficult to locate.

Arnold G. Ware

The Ballistocardiogram: A Dynamic Record of the Heart Beat. John R. Braunstein, M.D., Ph.D., Publication No. 143, American Lecture Series. A Monograph in American Lectures in Circulation, edited by Irvine H. Page, M.D., and by A. C. Corey, M.D., Springfield, Ill. Charles C Thomas, 1955. 84 pages, 41 illustrations. $3.00.

This monograph is based on two lectures delivered at the University of Cincinnati in 1951. Within 10 chapters are contained the valid and interesting opinions of the author, who has an excellent comprehension of the place of the ballistocardiograph in medicine today.

The history of ballistocardiography from its inception to its present growth is well compiled. The three types of instruments in use today are considered: the high frequency Starr table and the author's modification, the low-frequency, critically-damped table of Niikerson, and the Dook type of direct recording apparatus. Too brief a statement is made concerning the correlation between ballistocardiograms obtained through the direct and indirect methods of recording. The components of the ballistocardiographic complexes are discussed. Emphasis is placed on the importance of respiratory variations in the ballistocardiogram, "since malfunction of the left ventricle is unmasked in the expiratory phase." The abnormal ballistocardiographic patterns are briefly considered and their clinical significance appraised. More illustrative ballistocardiograms would have added to the reader's interest in this chapter. The section on quantitative ballistocardiography points out that computing cardiac output by ballistocardiography is beset with difficulties. The estimation of initial cardiac force, however, is accurate and valuable; and calculating the cardiac index is proving a valuable method of estimating the physiologic response of the circulatory system. The author has pioneered in the study of body movement in the lateral (x-y) plane as well as in the longitudinal (x-z) plane. For this purpose, an ingenious instrument was constructed, the vectorballistocardiograph. The author presents, through classic diagrams, the various planes of ballistocardiographic movement. Seven figures recorded on the screen of the oscilloscope serve to illustrate his new field of investigation, vectorballistocardiography. The appendix will be appreciated by the reader entering the field of ballistocardiography. Here is detailed a review of the fundamental physics of vibrating systems, an understanding of which is required in evaluating the ability of an instrument accurately to reproduce the forces acting upon it.

This book will prove a valuable aid for the clearer understanding of ballistocardiography.

Harry Mandelbaum

Pathology of the Heart. Edited by S. E. Gould, D.Sc. Springfield, Ill. Charles C. Thomas, 1958. 1023 pages, 609 figures, 6 plates in full color, 37 tables. $25.00.

This monumental book is the first of its kind in the English language and probably the only one in any language with so broad and complete an approach to the study and presentation of cardiac pathology. The editor states that a deliberate attempt was made to emphasize throughout the clinical aspects of cardiac pathology. This will be approved by those who believe that pathology and clinical medicine are the same thing viewed from different angles.

The book encompasses, in separate divisions, embryology, anatomy and cardiac physiology, normal as well as abnormal. There is more than passing mention of clinical pharmacology. For the cardiologist and internist it probably was an act of wisdom to include such subjects within a single cover entitled "Pathology of the Heart." The trained pathologist anticipating a specialized text of high, possibly encyclopedic, level may be disappointed. Relatively small attention is given to such a fundamental phase as hypertrophy of the heart, unaccompanied here by any photogrophy. Scant notice is taken of the pathology of chronic endocarditis which is scarcely mentioned and devoid of photographic support. Cardiovascular syphilis receives an important consideration. No one devotes a page or two to syphilitic aortitis and aneurysm in a text of this kind calls for an explanation which probably lies in the apparent determination of the editor to limit the discussion on pathology to the absolute confines of the heart structure. This may explain the absence of any reference to dissecting aneurysm of the aorta, which occasionally reaches the immediate neighborhood of the coronary arteries, and deforms the alignment of the aortic valve leaflets. It appears that an arbitrary demarcation in such matters is difficult and in this reviewer's opinion, impractical. The close intertwining of function and of pathology is also the basis of our conception of cardiomyopathy disease, which like cardioaortic disease is here largely ignored. One could suggest fuller consideration of other subjects. It is curious that there is not a single photograph of the circumvallate or the atrioventricular zone, normal or in cardiac disease, aside from the rare mesothelium. Generally the photography is splendid and ample, but it is missing in places where it would be helpful. The general pathologist troubled by a tentative diagnosis welcomee confirmatory photography. One should see it in the discussion on cardiac amyloidosis, cardiac sarcoid and beriberi heart, to mention some omissions.

The text consists of 14 main divisions, all written
by contributors of high reputation. The first is an interesting history of the pathology of the heart by Krumhauer, who is pre-eminent in that field. The division on embryology by Patten contains a most instructive chapter, "The Conversion of the Primitive Tubular Heart to its Definitive Chambers Condition." Then follows a complete division on cardiac anatomy, then the division on normal cardiac physiology by Green, with its extensive bibliography. "Abnormal Cardiac Function" by the same author is in closer relationship to pathology and is in itself an excellent clinical treatise. By the same token it makes redundant much of the later division on "Clinicopathologic Correlation." The division on congenital heart disease has been written by Edwards and is remarkable in its detail and clarity. The divisions on coronary artery disease and myocardial infarction, and on endocarditis and myxocarditis are contributed by Gould and by Saphir. The modifying effect of the antibiotics on valvular pathology is well portrayed. The chapters on trauma (Morton) and on neoplasms (Saphir) are warmly recommended.

The avowed purpose of the editor is to bring cardiac pathology to the clinic. This book emphasizes the fact that pathology remains the keystone, even today, of internal medicine. It is easy in this vast undertaking to cite omission; time and space will undoubtedly correct this. Much of the result is already splendid and this text can well become one of the great landmarks in medical literature.

Benjamin Gould

The Heart Beat: Graphic Methods in the Study of the Cardiac Patient. Aldo A. Lusenda, M.D. New York, Paul B. Hoeber, 1953. 327 pages, 273 figures, 29 tables. $12.00.

In the preface of this book the author points out that no comprehensive review of graphic methods of recording cardiac action had appeared since The Mechanism and Graphic Registration of the Heart Beat by Sir Thomas Lewis in 1924. The field of study of cardiovascular phenomena has become so broad that a complete review of all technics would require monumental effort. The author necessarily has restricted the scope of his discussion in the present volume, but as a result the value of the work to specialists in various branches of investigation is reduced. Dr. Lusenda is well qualified to compile this review, for he has made personal contributions to the literature pertaining to most of the modern methods of cardiovascular study.

The first division of the volume is devoted to a discussion of technics and interpretation of the records obtained. This is a valuable feature of the book. Phonocardiography, cardiography, ballistocardiography, study of arterial and venous pulses and pressures, plethysmography, mannotenographie, electrokymography, radionocardiography, and electrocardiography are discussed, in addition to other methods less frequently employed. The wisdom of attempting to cover the field of electrocardiography in about 50 pages of text might be questioned. Perhaps it would have been profitable to omit this subject and expand the discussions of other technics about which there is less information generally available. The section on phonocardiography is particularly interesting and informative. The terminology in use for description of various components in arterial, venous, cardiographic, hepatic, esophageal and other types of pulse waves is complex, and this presentation indicates the need for simplification. Unfortunately the illustrations are not well labeled in all instances, so it is difficult readily to pick out the characteristic waves mentioned in the text. The second main section is short and reviews physiological variants of graphic records. An interesting summary of tracings in various mammals is included. In the third section information which can be obtained by graphic means in common anatomical and etiologic types of cardiovascular disease is presented in a clear and concise fashion. This method of presentation is unique and valuable.

There are minor errors which should be corrected in future editions. The exercise tolerance test described is not that generally employed, the indicated amount of exercise being inadequate. Doubt about the reliability of ballistocardiographic determination of stroke volume should be expressed, and more complete discussion of the ballistocardiographic changes in coronary disease would be desirable. Variation in intensity of the mitral first sound is not mentioned in the discussion of the complete heart block. References in the text to figures are incorrect in several instances, and there are some bibliographic errors. Mention of Lewis' classic monograph invites comparison of the quality of printing in the two books. Unfortunately the present volume is not up to the standard of the older publication, though it is adequate.

This book will be useful to those interested in clinical investigation of cardiovascular problems because it presents systematically material which is not readily available elsewhere.

W. L. Pincus

Transactions of the American College of Cardiology. Volume II, 1952. Edited by Bruno Kisch, M.D. New York, N. Y., Published by the American College of Cardiology, 1953. 252 pages, 37 figures, 4 tables. $5.00.

This volume of the Transactions of the American College of Cardiology includes the papers read at the meetings of June of 1952 held in New York City and of November 1952 held at the Yale University School of Medicine. The New York meeting consisted generally of a symposium on heart failure whereas the Yale meeting concentrated on graphic registration in cardiovascular diagnosis and research. There are also included papers read at the meeting.
of the New York Society for Circulatory Diseases held in June 1952 as well as a roster of the members of the American College of Cardiology. A short but excellent eulogy on the late Frank N. Wilson written by Charles E. Kosman, one of his outstanding pupils, is also presented.

A symposium on pericarditis was narrated by the failure of one of the participants to submit his manuscript. The discussion of pericarditis by Ellin; Bally, Bolton and Donaldson; Janton; Thompson and Gorelick; and Dack offered a fair summary of the importance, the surgical methods of treatment and the surgical production of pericarditis for therapy.

Rehabilitation of the cardiac was excellently discussed in papers by Janton and Benton. A review of digitalis and quinidine usage by E. R. Movitt emphasized their respective places in therapy of the patient with various types of heart disease. The dangers of hypoglycemia, precipitated by insulin, in producing many types of vascular accidents was well documented by H. D. Zucker. Surgical methods, indications, and contraindications for mitral commissurotomy were discussed by Glover, O'Neill and Janton. Weeks presented his results in 25 consecutive cases of hypertension who had had thoracolumbar sympathectomy. Four patients had normal pressure, 1 had died, 3 had higher blood pressure than before surgery and 14 showed blood pressure improvement from slight to marked. McClellan discussed his own experiences regarding the advantages of spa or balneotherapy in heart disease as well as the contraindications to its use.

Powy and Chesky, and Russek, Urbach and Doomer used the Master two-step exercise test to evaluate Hydrgine and heparin respectively, and found them both to be lacking in effectiveness when so tested. Gorlin presented evidence that pulmonary edema in patients with a narrowed mitral valve may be cleared by reducing the flow rate by slowing the ventricular rate or reducing blood flow. Bruno Kisch suggested the use of antipyrin to reduce fever and slow the ventricular rate in patients with myocardial infarction. Murray Wiener presented a short but excellent review of the coumarin anticoagulants and Richter, Switler and Del Nuzzi showed that in 14 cases, the sedimentation rate was uninfluenced by the prothrombin time in patients treated with Dicumarol.

Bruno Kisch reviewed the history of graphic registration in cardiology. This was followed by a critique of the Einthoven formulae by Joseph Nahum. Mann and Graettinger discussed the problem of vectorcardiography too briefly for real value. Short discussions of ballistocardiography and electryokymography did not do either subject justice. A method for calculating cardiac stroke index from pressure pulse contour was presented. It has however no clinical value.

Several other abstracts and short papers appear. In all, there is very little that is new presented in this volume. At most one can say that several of the summaries may be of value for reference, but that on the whole the material presented is a review of well-known facts.

Arthur Bernstein

BOOKS RECEIVED

Circulation is very glad to acknowledge the receipt of the following books. Insofar as space permits, as many appropriate books as possible will be reviewed.

**Hypersplenism and Surgery of the Spleen.** William Dameshek, M. D., and C. Stuart Welch, M. D., Pratt Diagnostic Hospital, New England Center Hospital and Tufts College Medical School, Boston, Mass. Based on Exhibits presented at the Annual Meetings of 1950 and 1951 of the American Medical Association. Recipient in 1951 of the American Medical Association Silver Award. New York, Grune & Stratton, 1953. 84 pages, 96 figures. $10.00.

**Headaches. Their Nature and Treatment.** Stewart Wolf, M. D., Professor and Head of Department of Medicine, University of Oklahoma School of Medicine, and Harold G. Wolf, M. D., Professor of Medicine (Neurology), Cornell University Medical College. Boston, Little, Brown, 1953. 177 pages, 6 figures. $2.50.

**Chronic Pulmonary Emphysema. Physiopathology and Treatment.** Modern Medical Monographs No. 8, Maurice S. Segal, M. D., Clinical Professor of Medicine, Tufts College Medical School; Director, Department of Inhalational Therapy, Boston City Hospital; and M. J. Dufrene, M. D., Resident, Department of Inhalational Therapy, Boston City Hospital; Research Fellow in Medicine, Tufts College Medical School. New York, Grune & Stratton, 1953. 162 pages, 32 figures, 9 tables. $5.50.