BOOK REVIEWS

ROBERT SCHWARTZ, M.D., Editor


The author of this small monograph has published several papers on the metabolism of heme in erythrocytes from thalassemia patients. During the initial period of these studies (1957–58), the author made an extensive survey of the literature. This survey was expanded and brought up to date in the preparation of this book (the reference list appears to be reasonably complete, even for 1961).

This monograph approaches thalassemia from the facets of historical development, genetics and distribution, clinical features, hematology, heterogeneity, metabolism of hemoglobin, and theories of pathogenesis, as indicated by these chapter headings. The historical aspects are especially well treated, with an unusually adequate coverage of the Italian literature compared to that of most English language reviews of thalassemia. The area of heme metabolism is likewise covered with reasonable detail, reflecting the author’s particular interest.

Except for these areas, the book is essentially a review of the literature, but not an analysis of it. Thus, the author presents the concepts of alpha and beta thalassemia which Ingram and Stretton have introduced, but does not correlate them with the rest of his discussion. Under Hb C-thalassemia, for example, the cases with a high proportion of Hb C are included with those having a low proportion. The relationship of these two varieties to interacting and non-interacting thalassemia, or to alpha and beta thalassemia is not mentioned. The author espouses in this text his earlier published belief that the basic defect of “thalassemia” is a disordered heme metabolism. This concept emerges as a possible “single metabolic defect,” although how the singleness can be reconciled with the genetic heterogeneity of thalassemia is left to the reader to divine.

Considering the rapid advances that have been and are still being made in the genetics of hemoglobin metabolism, it is not surprising that no presentation, including that reviewed herein, adequately takes this aspect into account. This is especially unfortunate since the non-genetic approaches have contributed so little to the basic understanding of the disease, and hence, by default, genetics is the hope of the moment.

For those who desire a brief general survey of thalassemia, this monograph will save many hours of searching through the literature. Those wishing a more genuine understanding must still do their own searching.—Park S. Gerald


This book is a study of 54 cases of thrombosis of the spleno-portal system. A considerable portion of the book is devoted to excellent radiographic demonstrations of the spleno-portal system. Transpaphepatic and transplenic percutaneous routes are utilized. These are described, but not in great detail. Beginners may wish for additional assistance.

The wide variety of causes or diseases in which these various thromboses are found is presented, including pylephlebitis following various infections of the large bowel and the biliary tract secondary to cirrhosis of the liver, adenocarcinoma of the liver with cirrhosis, mesenteric vein infarction and cirrhosis of the liver, abdominal carcinoma, pancreatitis, both acute and chronic, and a few hematologic disorders, notably polycythemia vera, thrombocytopenia and chronic leukemia. Occasional cases were associated with peritoneal tuberculosis, Bilharziasis, syphilis, lower extremity and caval phlebitis, and in one instance following splenectomy. Although the number of cases in each of these
groups is small, this section is of particular interest because of the detailed case reports available. A noteworthy observation is that it is often impossible to detect pylethrombosis complicating cirrhosis of the liver, for the symptomatology of the underlying disease masks this complication, which can be established preoperatively only by x-ray. This is particularly important if one intends to perform some type of portacaval shunt.

The authors point out that the prognosis of these thromboses depends on the presence or absence of hemorrhage. They point out that the interval between hemorrhages associated with spleno-portal vein thrombosis is often very long, which is of great importance if one is to objectively judge results of surgical therapy. Although a final chapter on the results of surgical treatment is available, it is unfortunate that the series is far too small for valid conclusions. The operative procedures utilized in their 14 patients in whom 19 operations were performed consisted of splenectomy (7), ligature of varices (3), splenectomy plus ligature, and spleno-renal anastomosis (3) plus splenectomy. There were 3 deaths, 2 of which were postoperative. Fourteen had recurrent hemorrhages. The number of hemorrhages annually remained about the same and the free interval between hemorrhages in the postoperative period changed but little. To establish beneficial results, one must have a period free from hemorrhage of at least 4-5 years after surgery, disappearance of the radiologic picture of the esophageal varices, and, if possible, a return to normal of the portal pressure. The authors state that operations which fulfill these criteria are exceptional. In patients with thrombosis of the splenic vein localized to the hilium of the liver and in the intrahepatic portion, a therapeutic operative effect is possible. In other cases, it appears preferable to avoid surgical intervention. The authors emphasize that this experience and these conclusions pertain to the adult patient.—Alan D. Callow


The task of writing a comprehensive textbook on hematology would be an appalling prospect to most people and only a handful of hematologists have had the stamina and energy to accomplish the job. On this account alone, Dr. Miale is entitled to our congratulations for this new edition of his highly regarded text. However, on reading through this volume it becomes quite clear that it is not merely "another book" scraped together by dint of staying power alone. On the contrary, there is every indication that "Laboratory Medicine—Hematology" is a solid achievement. It is scholarly but not stuffy; extremely well written, yet not a popularization. Its scholarly tone is marked by more than 6,000 entries in the bibliography. I counted over 1,000 references in the chapter, "The Erythrocyte—Erythropoiesis and Hemoglobin Metabolism" and more than 1,200 entries on coagulation. A fair sample of its literary excellence may be had by reading the section on the acute radiation syndrome. There are 12 chapters and an 88-page Appendix on methods. The subject is developed along classical lines, beginning with hemopoiesis, continuing on with morphology, the erythrocyte and its diseases, the leukocytes and their disorders, and finally hemostasis and blood coagulation. The material is heavily weighted in favor of so-called basic considerations; clinical problems are discussed rather briefly and therapy is given only a few lines. It might thus appear that this book was written primarily for second year medical students, yet it contains numerous sections which can be read with profit by anyone dealing with hematology. For example, the outstanding section on the Rh system; or the chapter on hemostasis; or the subchapter on myeloproliferative disorders. Each of these are mature, thoughtful summaries of extremely difficult subjects. There is a wonderful section in which 37 "illustrative cases" are presented in the form of brief case reports accompanied by photomicrographs of the peripheral blood and bone marrow. These cases are well worth puzzling over; Miale’s discussion of them are succinct, instructive and to the point.

As in any book of this size, it is possible to detect omissions and errors: nothing on stress erythrocytosis, or thrombotic thrombocytopenic purpura, or tuberculosis and the blood, for example. The statement, "the incidence of leukemia in polycythemia vera ‘varies’ be-
between 20 & 80% . . .” might have been qualified. The description of erythrocytosis associated with tumors was too brief; the antiglobulin test is not positive in favism; some figures (245 for example) do not help too much; it would have been helpful to remind the reader about leukocyte alkaline phosphatase, which was discussed earlier, in the section on myeloproliferative disorders. But these are minor faults picked out of a large book of high quality.

The publishers have produced this volume in really deluxe fashion: glossy paper, fine binding and the rest. I wondered about the possibilities of a) binding the very excellent appendix separately in soft covers so that it could be used conveniently in the laboratory, and b) putting out a separate paper-bound edition (with perhaps fewer photographs and tables) at a price more within reach of medical students. Certainly this very excellent work deserves wide distribution.—Robert Schwartz


This book records the Proceedings of the Third Australasian Conference on Radiobiology, held at the University of Sydney on August 15–18, 1960 by the Australian Radiation Society.

The title may be somewhat misleading for those who believe that the term “radiobiology” should be restricted to the study of the mechanisms by which physical and chemical modifications induced by radiation on living substrates are turned into biological effects. No more than one-third of the articles comprising the volume deal with basic effects of radiation, and most of the more recent advances in fundamental radiobiology at the molecular level are not covered.

The papers are grouped according to subject, and after each group the discussion that followed is reported. The first group of three papers deals with the elementary effects of radiation at the subcellular level, enzyme inactivation, and chromosome breakage. The article of J. Read on “Chromosome damage produced by radiations” follows the scheme of the early target theory in a way that may appear oversimplified at the present time. Five articles are related to the subject of immunologic responses in mammals treated with lethal doses of radiation followed by hemopoietic homografts. There is a group of four papers on radiation carcinogenesis and radiation-induced aging; three on chemical protection by means of cysteamine and chlorpromazine; two on the estimation of Sr90 fallout; and two dealing with strictly genetic effects in Drosophila and in clover. A last group of three articles deals with the biological effects of radiomimetic agents as compared with those of x-rays. Several other papers are not included in any of these groups, although some of them could well be. An article by H. J. Curtis, “Delayed effects of radiation on seeds,” deals mainly with the effect of radiation-induced free radicals, and another on “Influence of ultra-violet irradiation on general transduction in Pseudomonas aeruginosa,” by B. W. Holloway and M. Monk, could have been included profitably in the first group.

As mentioned above, the interest of the Conference did not seem to be focused on the more recent approaches to the problems of fundamental radiobiology. Three articles by P. Alexander on “The nature of radiation damage at the subcellular level,” “Mechanisms of radiation protection by cysteamine,” and “Mechanisms of the cytotoxic action of radiomimetic agents,” cover most of what was dedicated by the Conference to the mechanisms of radiation damage at the molecular level. The interest seems to be directed rather toward practical aspects of radiation biology as related to clinical problems. Indeed, almost half of the papers deal with work carried on in mammals, and physiologic effects appear to be involved in most of the experiments reported.

One would be tempted to say that if there is anything wrong with this book, it is essentially its title: the reader might be left with the impression (partially wrong) that “radiobiology” is a science that did not make any substantial advances in the last few years.—G. Martin

This group of essays dedicated to Charles Huggins on the occasion of his sixtieth birthday makes excellent reading, ranging from a delightful discussion of "Situs Inversus Viscerum in the Rat" by Alexander Haddow to Talalay's brilliant summarization of placental 17 β-hydroxysteroid dehydrogenase. The papers provide a useful sampling and partial cross-section of work in experimental biology, particularly as related to hormones and to cancer.

The list of contributors is impressive and their contributions rewarding in providing easily readable samples of their work. An essay on disagreement among doctors by Peyton Rous makes good reading for all of us.—Shields Warren


This book is based on a series of lectures given in a seminar in hematology held in 1959 under the auspices of the University of California (Los Angeles), School of Medicine. Its ten chapters, which have been revised and updated, are by a well known and distinguished group of hematologists: Weinstein, Block, Beutler, Blahd, Figueroa, Bethard, Craddock and Swisher. The subjects covered deal with the morphologic, physiologic, biochemical and immunologic aspects of normal and diseased erythrocytes. Primarily oriented towards internists, house officers and medical students, these excellent reviews should also be of interest to busy hematologists.

Included are: "Physiologic Aspects of Erythropoiesis," in which the complexities of erythropoietin are clearly and concisely dealt with by Weinstein; "Erythrocyte Carbohydrate Metabolism" and its companion, "Biochemical Abnormalities Associated with Hemolytic States," done in a lucid and direct manner by Beutler; "Iron Metabolism and Iron Deficiency Anemia," by Bethard, which in my opinion is one of the best expositions on this subject to be found anywhere; anyone interested in the history of iron in medicine should read this chapter. In "Autoimmune Hemolytic Disease," Swisher reviews in a thoughtful and critical analysis his long and intimate experience with this syndrome. The remaining chapters will surely be of interest to a wide audience.

It is too bad that the hemoglobinopathies and thalassemia were not included in this book; other, rarer disorders, such as pyridoxine-responsive anemia, sidero-achrestic anemia, DiGuglielmo's syndrome, and hereditary ovalocytosis are mentioned only briefly or not at all. But of course, this volume was not intended as a comprehensive text on anemia.

It seems to me that $15.00 is an excessive price for this small volume, which contains 362 pages of text. The price could certainly not have been influenced by the illustrations, which are either of such poor quality or so crammed together that they are of little value. Block's otherwise interesting chapter is marred by miniaturization of his color plates. Unfortunately, the primary audience for this book—clinicians, house staff and medical students—may not be able to add it to their libraries because of its high price.—Robert Schwartz


This collection of papers by various Swedish authors effectively illustrates at least one major point: In Sweden, a country with a population somewhat lower than that of New York City, more is being accomplished in the practical care of the hemophiliac than in the entire United States. Virtually all of the patients have been identified and are being carefully followed, work is going apace to perfect human AHF concentrates, a pilot plant has been established to further mass production of the already highly concentrated preparation developed by Dr. Jorpes and his associates (included is a detailed account of the fractionation procedures), and considerable attention is being given to the social as well as the medical aspects of hemophilia care.

Of particular interest to the practicing hematologist is the full account given by Nilsson
and associates concerning their experience with AHF concentrate, fraction I-0. This preparation has 25-50 times the AHF content of plasma per gram of protein, seems to be suitable for clinical use, and has yielded few cases of hepatitis. It would appear to be at least as effective as plasma, and the authors have used it to cover surgery, both major and minor. Its use on a once-a-month basis for prophylaxis will probably elicit a few raised eyebrows, and the effects claimed are the least convincing aspect of this study.

Thus, a useful picture is given, particularly to those who wish to consider hemophilia as a community problem.—T. H. Spaet


This comprehensive volume contains the proceedings of an international symposium held in Toronto, Canada, February 2–4, 1961. Thrombogenesis and its various aspects was the central theme of the conference. A total of 45 papers, grouped under 8 subheadings, were presented. The main topics included were: basic mechanisms of coagulation; the effect of anticoagulants on blood clotting; thrombogenesis, control of, and criteria for adequate anticoagulant therapy; and fibrinolysis and its clinical applications. The proceedings were well summarized in the last chapter by Dr. J. F. Mustard, who served as chairman of the meeting.

Almost all the major research laboratories in the field of coagulation and thrombosis were represented. This increased the usefulness of the volume since it thus serves as a source book for current thinking of workers throughout the world. Theories of blood coagulation and methods of assay for various clotting factors were the first topics of discussion. Observations on the effect of anticoagulants on individual clotting factors were then presented. The subject of platelet adhesiveness and the relationship of platelet agglutination to thrombosis was discussed in detail. The results of anticoagulant administration for myocardial and cerebral infarction were presented by groups currently engaged in these studies. Insofar as the results have been published in a variety of international journals, it is convenient to have them summarized in one book. Since anticoagulant drugs have been in use for over a decade, it would seem reasonable to expect that by now it would be known whether they are of value. However, it was evident that there was a great deal of dispute on the subject. Many problems posed by what has been termed the "anticoagulant dilemma" were explored. Each laboratory believed their method of controlling anticoagulant therapy to be best and it seemed likely that most members of the conference departed with the idea of continuing to use their own procedures. It is, of course, discouraging to note that despite intensive work, there is no answer to the question of whether long-term anticoagulant therapy will reduce morbidity and mortality in thrombotic states. There seemed to be an advantage to anticoagulant therapy in patients with intermittent cerebral ischemia when the basilar or carotid arteries were involved. Administration of anticoagulant in the clinical situation of "impending" myocardial infarction remains problematical.

The use of fibrinolytic agents in the management of thrombotic disease received considerable discussion. It is becoming apparent that plasminogen in the clot itself must be activated in order for this therapy to be effective. There seemed to be some doubt as to the efficacy for this purpose of commercial preparations currently on the market.

The fact that definite answers were not provided was not the fault of the conference, rather it was that of the subjects being considered. The book will serve as an excellent reference volume for current thinking in this field. It has been processed by the photo-offset method. Although the print is clear, it becomes difficult to read for prolonged periods of time.—Aaron J. Marcus and Clarence Merskey


This book presents a comprehensive review of technics and utilization and the results of treatment with the so-called artificial kidney. The literature is carefully reviewed and
if the author perhaps overemphasizes the apparatus with which he worked under the direction of Doctor McNeil, this is understandable.

The book is well illustrated and the diagrams are clear and accurate. It makes easy reading and its treatment of the rationale for the use of the artificial kidney, particularly in acute renal failure, contains an excellent review of thought on this subject. It is unfortunate that, in order to introduce it, the problem of acute renal failure itself is oversimplified. In an effort to be comprehensive, the use of the artificial kidney in a number of questionable clinical situations such as Dilantin and ethylene glycol poisoning are introduced. However, this is more than counterbalanced by an excellent discussion of the pharmacology of barbiturate intoxication. This reviewer would quarrel with the reasons advanced by the author for the use of hemodialysis in barbiturate intoxication, but this book contains an excellent survey of the entire problem.

The appendix contains a list of the types of artificial kidneys, the ancillary equipment needed, and the manufacturers thereof. It is unfortunate that it should have been published at this precise time when the use of the artificial kidney is, in many instances, being supplanted by peritoneal irrigation which receives little mention in the monograph. Peritoneal irrigation and the use of hemodialysis in the treatment of chronic renal failure, in applying the so-called arterio-venous shunt of Scribner, represent the two most important advances in this field in recent years and it is to be regretted that more space is not allotted to discussion of these. It is also to be regretted that the author has chosen to insert in his title the phrase “Blood Chemistry Disorders,” a euphemism which implies as much that something has gone wrong in the hospital laboratory as it does in the composition of the patient's extracellular fluid.

It is, however, a reference book which should be on the shelf of all those interested in the background and current status of the “artificial kidney.”—John P. Merrill

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**BOOKS RECEIVED**


