BOOK REVIEWS

ROBERT SCHWARTZ, M.D., Editor

DIAGNOSIS AND TREATMENT OF BLOOD DISEASES. By M. C. G. Israels, M.D. Springfield, Ill. Charles C Thomas, $7.25.

Dr. Israels, who is eminently qualified to review diagnostic and therapeutic hematology, states in his introduction that his book is designed "for the practicing physicians and postgraduate students who wish to be able to diagnose and treat their patients suffering from blood diseases by utilizing present-day diagnostic techniques and therapeutic methods." This reviewer is not confident that the book achieves these goals. The question must be asked whether any such book, no matter how well written, can achieve these goals in the present era of postgraduate educational training.

To amplify his analysis of Dr. Israels' effort, this reviewer was aided by Dr. Gordon Winchell, an internist whose "hobby" is hematology and who practices in a rapidly growing community near Boston. Both Dr. Winchell and I are in agreement that the book is clearly written and readable, in the tradition of good prose consistently presented by our British and Irish colleagues. But both of us also recognize that the book does not particularly assist us in the care of patients. The internist, faced with a patient with an hematologic problem, requires much more comprehensive information than is available in this book. The section on hemolytic anemia provides an example of a restrictive approach which concentrates on simple blood examinations quite familiar to well-trained internists, but [this] fails to describe the indications for and applications of more complex examinations, such as the various forms of zone electrophoresis and the selection of patients for splenectomy by the Chromium51 method. In fact, the section on thalassemia tends to be a bit chauvinistic. Thalassemia trait is described only as "British target cell anemia" and target cells themselves are said to be named after the Highland Shield. The complex treatment problems of the myeloproliferative disorders, so familiar to Dr. Israels, are sketchily outlined. Nowhere are the problems of thrombocytosis, iron deficiency, gout or, most important, the prevention of vascular complications mentioned in his section on polycythemia. Many hematologists and most, if not all, cardiologists would hope that the patients with polycythemia vera could be controlled with hematocrit levels considerably less than 55. The problems of treatment, of myelosclerosis are also too sketchily described to be of value to the internist. Androgen therapy is summarily dismissed as a useful adjunct in treatment, thus straining the dispassionate objectivity of this particular reviewer and his immediate colleagues. Urethane is described as "the most useful drug" in myeloma. Surely this statement is worthy of amplification.

The purpose of the above comments is not to cavil at Dr. Israels, but to point out the near futility of attempting to insert years of experience and judgment combined with rapid fluxes of fact into a compressed review of a burgeoning field. There are some extremely common hematologic disorders that are worthy of review in short textbook form. The recent spate of books on iron metabolism testifies to the need in this area. But most hematologic disorders are, fortunately for the patients, quite rare. The internist who sees a broad range of patients may find it difficult to gather enough experience in the entire field of hematology to provide the best in modern treatment. He needs advice, and he cannot get it from a brief review that may be outdated before its ink is dry. His best sources are either personal communications with hematologists or comprehensive current reviews of single subjects in journals.

This reviewer and Dr. Winchell in no way intend to denigrate Dr. Israels' skill or judgment. Our view of the value of this book is colored by our relevant experience in the care of patients in community hospitals, the use of medical center facilities for
uncommon conditions and personal communication regarding puzzling cases.—David G. Nathan, M.D.

THE THYMUS IN IMMUNOBIOLOGY. Edited by Robert A. Good, Ph.D., M.D., American Legion Memorial Heart Research Professor of Pediatrics and Microbiology, University of Minnesota Medical School, Variety Club Heart Hospital, Minneapolis, Minn., and Ann E. Gabrielsen, M.A., Research Fellow, Department of Pediatrics, University of Minnesota School of Medicine, Minneapolis, Minn. New York, Harper and Row, 762 pages, $24.50.

Ten years ago a proposal for a conference on the thymus might have elicited a great deal of scepticism. Today, however, the thymus is the central issue of many problems, much of them of immediate concern to hematologists. To those of us with only a recent interest in that organ, this handsome volume will provide an excellent beginning. In it are recorded the proceedings of the first conference on the thymus, held at the University of Minnesota in 1962. The spirit of this meeting was captured by Siegler's quotation from Aristotle, "... everyone says something true about the nature of things, and while individually, we contribute little or nothing to the truth, by the union of all, a considerable amount is amassed." Certainly a "considerable amount is amassed" in this book. Its major sections are entitled: "Anatomy and Chemistry of the Thymus," "The Thymus and Bursa of Fabricius: Lymphocytopoiesis," "The Thymus and Bursa of Fabricius: The Immune Response," and "The Thymus in Experimental and Clinical Disease," indicating the wide scope of material covered. There is something in this book for anyone interested in the thymus. Of particular interest to me were Auerbach's beautiful studies of the morphogenesis of mouse thymus, in which embryonic thymic anlage is transplanted to the anterior chamber of the eye. Development of the thymus in this milieu depends upon cooperative efforts of both mesenchymal and epithelial elements. The mesenchyme provides stromal elements and the epithelium gives rise to lymphoid cells. Note that lymphocytes originated from epithelial precursors, a relatively new idea for hematologists. Ackerman's morphologic and histochemical studies supported this important evidence. The section on lymphocytopoiesis contains many important reviews. Fichtelius and Bryant presented evidence that the DNA of lymphocytes is reutilized by proliferating cells of various tissues, such as liver and skin. Craddock's group also found transfer of tritium-labeled thymidine from blood cells (probably circulating thymic cells) to regenerating liver tissue. There thus appears to exist a mechanism for the reutilization of DNA shed by effete cells. Whether the DNA is reincorporated as such or as breakdown products (in a manner analogous to the recycling of amino acids from retired proteins) is not clear. A number of participants stressed the physiologic heterogeneity of the morphologically homogeneous lymphocytes. It was suggested that the long-lived population of lymphocytes originates in the thymus. Gowan's studies on the circulation of the lymphocytes is presented here, and those not familiar with this elegant work should read his review. An important and new study by Vazquez showing that, in chronically immunized rabbits, a small number of "mature" lymphocytes contain antibody is of considerable interest. Vazquez also pointed out that if the lymphocyte gives rise to plasma cells, it must go through a mitotic division before doing so. Brecher concisely and logically discussed the difficulties in reconciling this finding with the long survival time of the small lymphocytes. The inconsistency between Gowan's demonstration of the transformation of thoracic duct lymphocytes into large pyroninophilic cells and Nossal's failure to show incorporation of H3-thymidine by small lymphocytes during a primary immune response still remains unresolved. The last word on the precursors of the large pyroninophilic cells that appear in response to antigens is yet to come. That thymectomy of mammals or bursectomy of chickens results in impaired immune responses is now widely known; the details of this phenomenon are reviewed by authoritative investigators. One has to admire Bruce Glick for his confession that the biologic function of the bursa of Fabricius was discovered accidently by a graduate student who was attempting a class-room exercise in antibody formation, and "just happened" to use a group of
Without Glick’s prepared mind, however, this “accident” might have been shoved under the rug and forgotten. The question of runting in thymectomized animals was thoroughly discussed, but the key experiment had unfortunately not yet been done. Since it is now known that germ-free animals fail to runt when thymectomized, it seems fairly certain that this curious disorder is the result of infection. Defendi aptly cautioned: “The fact that every dwarfed, diarrheic, lymphopenic animal can legitimately aspire to the title of runt, since the term is purely a descriptive one, should not delude us into believing that the cause and the mechanism underlying these conditions are the same.” The final set of papers deal with the thymus in disease. Fisher’s review, “Pathology of the Thymus and Its Relation to Human Disease” is outstanding and should be read by all hematologists. All who read this book will surely be enlightened. Considerable credit for this achievement is due to its editors, Robert A. Good and Ann E. Gabrielsen, who, as might be expected, have done an outstanding service in organizing the Conference and shepherding its publications. — Robert Schwartz, M.D.


At least one of the effects of the Ninth Congress of the European Society of Hematology, which met in Lisbon in 1963, is this imposing set of its proceedings. Containing almost 1,800 p.g.s, it offers the reader a bird’s eye view of the status of world-wide hematology as of 1963. Practically every subject of interest to hematologists is covered, including ultrastructure and cytochemistry, various types of anemias, hemoglobinopathies, erythroenzymopathies (a wonderful word coined by an anonymous semanticist), polycythemia, hemoglobin metabolism, leukemia, immunohematology and coagulation disorders. After sampling the contents of these volumes, one cannot avoid the impression that hematology is in a phase of vigorous growth and dynamic expansion. Surely it has outstripped the capacity of all but a few to embrace its details. In some areas it is difficult to assemble the known facts into a coherent system, whereas in other cases hypotheses and theories seem light years ahead of the data. Wintrobe and Cartwright, in their essay on siderochromeascheschic anemia, commented on this problem in a most interesting and provocative manner. "In the field of hematology a familiar pattern tends to repeat itself. As some obscure area is clarified another takes its place. As investigators grope for a clue, someone conceives an hypothesis or coins a phrase, provides a name. The field takes fire, attention is attracted, its name is repeated over and over again, and many assume that an answer has been found. Sometimes the attention and excitement lead to research which is fruitful, some aspect of hematology is clarified and progress is made; as often as not, however, no new knowledge is gained and confusion is only compounded. Too many assume that a name is an answer, that an hypothesis is a truth. We must be on guard constantly to avoid falling into such a trap." These are cogent and perhaps necessary arguments, but one might ask, "Who is to blame if it is assumed that a name is an answer, that an hypothesis is a truth?" Perhaps one might better take to task the constant repetition of untested or untestable hypotheses. The formulation of classifications and hypotheses is too fundamental a part of the hard road of science to be discarded. A "name" has purpose as long as it has utility, and this was recognized by Dacie in his lecture, "The Hereditary Nonspherocytic Haemolytic Anaemias." He says, “. . . I should like to state clearly my viewpoint about the classification of the non-spherocytic hemolytic anaemias. The terms ‘Type I’ and ‘Type II,’ introduced by Selwyn and myself in 1954, have clearly outlived their usefulness and I am keen to discard them.” Anemias of the Type II variety are now known to be due to a deficiency of pyruvate kinase, whereas those of Type I are due to G-6-PD deficiency or, rarely, are examples of hereditary Heinz body anemia. Hopefully, succeeding volumes of the Society will deal with still more revisions of nomenclature and hypotheses, as the facts are known. — Robert Schwartz, M.D.
BOOK REVIEWS


It would perhaps be informative to obtain a sociologic study concerning the organization of international symposia. What prompts their initiation? How is the agenda determined? What are the criteria by which participants are selected? What attempts are made to achieve an integrated orientation and establishment of the audience to which the presentations are directed? The most important question concerns their impact upon subsequent developments in their area of coverage, and the answer to this is almost completely unknown. One nearly certain consequence of these international meetings is publication of proceedings; the present volume represents the third of a series spanning seven years.

Invitations to participate in an international symposium are necessarily a function of the inviting agency; the scientists invited may or may not be at a suitable stage in their studies to have an appropriate presentation. Those who are unprepared may respond in one of several ways: some will assemble a summary of previous studies with minor revisions of style and organization, and perhaps inclusion of a few new details; others will take the opportunity to construct an essay airing their pet hypotheses; and a few will present material that they would not otherwise have published. It is relatively rare that one first encounters important new information at a meeting on a specific subject in which all the speakers are invited, and there is no opportunity to volunteer abstracts of new work. The third meeting on hemophilia and related disorders reflects these considerations, yielding a “proceedings” which ranges from detailed descriptions of technical methods to philosophic discourses on research and patient care. Comparing the three volumes over the years, it would appear that progress in the field can be identified, but no dramatic leap forward is in evidence.

It is of interest that about one quarter of the material concerns problems of measurement. Assay methods for Factors VIII and IX are numerous as enticing menu items in a good Chinese restaurant; unfortunately a corresponding degree of excellence is not to be obtained. Although thromboplastin generation and partial thromboplastin time technics can yield fair approximations of plasma levels, these methods are liable to serious errors in testing concentrates. Purification procedures may cause activation of other clotting factors, and thus produce spuriously high observed Factor VIII or IX values and disappointing in vivo yields. Each laboratory stubbornly sticks to its own favorite method, and the beginner reading the various sales talks will have problems similar to those of the television viewer.

A few of the presentations deal with Factor VIII or IX concentrates, and although several are reported with good yield and specific activity, it is disappointing that there is failure to find readily available preparations suitable for clinical use. It seems to be years now that such preparations have been just around the corner.

The conference made no attempt to define the role of the various clotting factors in the complete coagulation process, but some of the newer concepts in sequential activation are briefly considered. In this area, papers by Rapaport and his associates and by Hougie are of special interest. Also to be found is Mammen’s controversial view that hemophilia results from a circulating anticoagulant, and some of his “evidence” supporting this hypothesis.

The section on von Willebrand’s disease was held a year too early. It contains an interesting essay on genetics by Graham et al., but it omits the recent observation of Salzman and others that the disease can be accurately diagnosed by determining disappearance of platelets into glass bead columns.

Most of the papers on management reflect the failure to obtain a therapeutic breakthrough; it is evident that improvement in the care of hemophiliacs involves the more intelligent use of plasma combined with clinical common sense. Plasma fractions and
concentrates are still available only on a limited and experimental basis, and the value of hypnosis as an adjunct to surgery awaits verification.

Taken as a whole, the conference is directed mainly to hemophilologists; the general reader will find too much detail and disagreement. To the specialist the book is "must" reading, not so much because of new material, since most of the main points are to be found in other publications, but rather, because the contribution is an account of how his contemporaries are doing things these days and the direction in which they are headed.

Has the conference furthered the cause of hemophilia research? We shall leave that question to the sociologists.—Theodore H. Spaet, M.D.

BOOKS RECEIVED—DECEMBER, 1964

The receipt of the following books is acknowledged. Books that appear to be of particular interest in the field of hematology will be reviewed as space permits. Additional information in regard to all listed books will be gladly furnished on request.


**SCINTILLATION SCANNING IN CLINICAL MEDICINE.** By James L. Quinn, III, M.D., Assistant Professor of Radiology, Northwestern University School of Medicine, Chicago Wesley Memorial Hospital, Philadelphia, W. B. Saunders Co., 265 pages.

**ERGEBNISSE DER BLUTTRANSFUSIONSFORSCHUNG VIII. HERAUSGEGEBEN IM Auftrag DER DEUTSCHEN GESELLSCHAFT FÜR BLUTTRANSFUSION.** By Prof. Dr. H. Willenegger, Liestal, Dr. G. W. Orth, Gieben, and Prof. Dr. W. Spielman, Frankfurt. Basel, S. Karger, 316 pages.

**REPORT OF THE UNITED NATIONS SCIENTIFIC COMMITTEE ON THE EFFECTS OF ATOMIC RADIATION TO THE NINETEENTH SESSION OF THE GENERAL ASSEMBLY.** 106 pages.


**SERUM PROTEINS AND THE DYSPROTEINEMIAS.** By F. W. Sunderman, M.D., Ph.D., Sc.D. Director, Division of Metabolic Research and Clinical Professor of Medicine, Jefferson Medical College, Philadelphia, Pennsylvania, Director of Education, Association of Clinical Scientists; and F. W. Sunderman, Jr., M.D., Director of Clinical Laboratories and Associate Professor of Pathology, University of Florida College of Medicine, Gainesville, Florida. Philadelphia, J. B. Lippincott Company, 394 pages, $21.50.

**EXPERIENCE IN RENAL TRANSPLANTATION.** By Thomas E. Starzl, Ph.D., M.D., Professor of Surgery, University of Colorado School of Medicine; Chief, Surgical Service, Veterans Administration Hospital, Denver, Colorado. Philadelphia, W. B. Saunders Company, 383 pages, $17.00.
BOOK REVIEWS