
BOOK REVIEWS

HUMAN TRANSPLANTATION. *Felix T. Rapaport and Jean Dausset.*

Grune & Stratton, Inc.
381 Park Avenue South
New York, New York 10016

Pages: 709
Price: \$38.50
Publication Date: March, 1968

This handsome folio dealing with the currently "hot" subject of transplantation is a symposium of many authors, "each author"—as Medawar stated in the introduction—"an internationally well-known authority on the subject he has written." Historical, immunologic, genetic, local and ethical problems introduce the book, following which there is a large section (chiefly from Boston) devoted to kidney transplants, thus far the human transplant in which frequent real successes have been achieved. All facets of the renal transplant problem are thoroughly discussed. The concluding chapter by Gustave Danamin contains about as good photo and electron micrographs as one can see. Bone marrow transplantation by Georges Mathé of Paris is covered briefly; its possible future use in the usual forms of aplastic anemia is not mentioned.

Dausset, whose work in developing the leukocyte blood group antigens is by now well-known, heads the chapter dealing with the "Hu-I" system of histocompatibility. This has advanced the subject of compatibility testing considerably. In vitro and in vivo histocompatibility testing are further discussed by Hirschhorn and Paul Russel. R. Schwartz gives a comprehensive discussion of immunosuppressive drug therapy, concluding that three cardinal principles are important: (1) appropriately timed, *limited* chemotherapy, (2) administration of a large antigenic "load" at the time of drug treatment, and (3) close matching of the donor and recipient for histocompatibility. Thoracic duct cannulation, antilymphocyte globulins, biologic effects of hetero- and iso-antilymphocyte sera (Medawar) are all ably discussed, together with a variety of miscellaneous related topics, e.g., thymus, autoimmunity and transplantation, and finally the preservation and storage of living cells and organs—so important in Russian work in this field. As a sort of postscript, a very "weird" one indeed (to quote the editor's note)—successful experimental transplantation of the brain (not in the human) by Robert J. White is recorded. Barnard's heart transplants just missed out!

This book is an important and beautiful addition to the medical literature of our time and is a credit to the perseverance of the editors, Felix Rapaport of New York and Jean Dausset of Paris, as well as to the "loving care" which has gone into the editing and printing of the book by the publishers, Grune and Stratton. It is truly a landmark in the field.—*William Dameshek, M.D.*

PHASE CONTRAST AND INTERFERENCE MICROSCOPY FOR CELL BIOLOGISTS. *K. F. A. Ross.*

St. Martin's Press
175 Fifth Avenue
New York, New York 10011

Pages: 217
Price: \$14.00

Hematologists and other cytologists use the compound light microscope as the primary tool of their trade. Examination is usually made of fixed and stained cells; on occasions vital dyes or histochemical procedures may also be employed. Somewhat surprising is the relative neglect of phase contrast and interference microscopic technics by many modern cytologists. One notable advantage of these phase contrast systems is the fact that they can be applied to living, functioning cells, thus eliminating fixing and staining artifacts and permitting direct observation of structure-function correlations. Perhaps the avalanche

of advances in electron microscopy in the past decade has served to suppress interest in phase contrast. It should be remembered, however, that electron microscopy is subject to some of the same limitations as are stained smears in terms of dealing with dead, preserved and artificially stained material.

It is therefore encouraging to see that someone has written a book on phase and interference microscopy. The text is relatively short (just over 200 pages). It is well written and presents a thorough consideration of the principles upon which qualitative and quantitative phase and interference microscopy is based. Historical aspects are appropriately mentioned, and illustration and references are abundant and well selected. There is one chapter dealing with applications of immersion refractometry in hematology.

The author states in the introduction that the material has been selected and presented primarily for the general cytologist or hematologist, rather than for the specialist in the fields of applied and theoretical optics. In my opinion, this objective unfortunately has not been fully attained; many hematologists will find here more than they wish to know about how the thing works, and less than they should like on how and when to use it. For example, the chapter on blood cells devotes 30 pages to covering in great detail methods for suspending erythrocytes in media of varying refractive index and then examining them under phase contrast for determining their refractive properties in relation to cell age and the like. On the other hand, there is only a brief paragraph discussing phase contrast study of leukocytes, which is a topic of current high interest and one particularly exciting in relation to morphology and functions of cells or their organelles. The presentation is thus not as well balanced as it might have been in its consideration of technics or of subjects. Cytologists not familiar with phase equipment need to be informed on elementary but important topics—for example, how to align the instruments properly, how to select the most favorable suspending medium, and perhaps most important of all, how to prepare cells and spread them thinly in order to achieve a good definition of subcellular components.

Thus for the cytologist who has mastered on his own the hurdles posed by the elementary aspects of phase contrast technics, this is an excellent text and reference book which will be of great value for extending and improving the usefulness of his phase contrast microscope. Certainly the opportunities are great for extension and improvement in this neglected field.—*James G. Hirsch, M.D.*

PROTHROMBIN IN ENZYMOLOGY, THROMBOSIS AND HEMOPHILIA. *Walter H. Seegers.*

Charles C Thomas
301-327 E. Lawrence Avenue
Springfield, Illinois

Pages: 170
Price: \$9.75

For about two decades Walter H. Seegers and his disciples have been performing experiments designed to aid in the formulation of a comprehensive blood coagulation theory. What has emerged from this massive amount of work is an interpretation of blood coagulation chemistry which is largely at variance with that held by most investigators in this complex field. Briefly, Seegers considers the prothrombin molecule to be central in the clotting process. Prothrombin is converted to thrombin, and prothrombin provides the activators of its own conversion. Certain plasma proteins are accepted which are prothrombin derivatives but can accelerate thrombin formation. These include Ac globulin (factor V), platelet cofactor I (factor VIII, AHF), and Hageman factor (factor XII). Factors VII, IX, and X are felt to be prothrombin derivatives; factor XI is interpreted as a manifestation of the interaction of other established procoagulants.

As the years have passed, there has been little tendency of Seegers and his critics to resolve their differences. The present volume is a heavily documented summary covering the present status of the Seegers theories, and it reflects, at times, some of the heat that the debate has engendered. This is seen in "editorial" comment provided in notes on the chapters. There is a complaint about editorial delay given to a "fighting article" by the author; there is disappointment expressed about a colleague who failed to "see the accurate

interpretation of the factor VII story." Nevertheless, this book provides the best account of blood clotting as seen in one of the world's most influential coagulation research laboratories. It is not for the general reader, but rather for the student of clotting who wants an introduction to the viewpoint of the "other side." It is best read with the companion review by Kline (*Annual Review of Physiology*, Vol. 27, 1965, p. 285), which attempts to place the Seegers theories in proper perspective with the more widely held waterfall-cascade concepts of blood coagulation.—*Theodore H. Spaet, M.D.*

BILE PIGMENTS. *Torben K. With.*

Academic Press, Inc.
111 Fifth Avenue
New York, New York

Pages: 669
Price: \$35.00

Dr. With's book is without doubt the most exhaustive review of bile metabolism available, and will be an invaluable source of information for everyone interested in this field.

Dr. With has managed to discuss most of the important new literature, and has appended supplementary references from as recently as 1967. There are occasional minor errors in the text, most of which probably arose during translation. In reviewing the literature in each area, the author evaluates and synthesizes the material in the light of his own large experience. One may not always agree with his interpretations. However, as those familiar with Dr. With's older "paperback" already know, this discussion of virtually everything that is known about bile pigments will be a stimulus for reappraisal of old concepts and for new investigations in the field.—*Stephen Robinson, M.D.*

NEWS AND VIEWS

AMERICAN SOCIETY OF CYTOLOGY MEETING

The American Society of Cytology will hold its sixteenth annual scientific meeting at the Cleveland-Sheraton Hotel in Cleveland, Ohio on November 7, 8, and 9, 1968. For information contact Warren R. Lang, M.D., Secretary-Treasurer, 7112 Lincoln Drive, Philadelphia, Pennsylvania 19119.