BOOK REVIEWS

THE GENETIC MARKERS OF HUMAN IMMUNOGLOBULINS. By R. Grubb. New York, Springer-Verlag Inc., 1971. xii, 152 pp. $11.60.

The Gm and In V allotypes of serum are inherited in Mendelian fashion and their existence imposes important constraints on current theories of immunoglobulin synthesis. The incidences of particular factors vary markedly with different population groups, a fact of anthropological interest. In medico-legal investigations allotypes can aid in cases of disputed parentage (both paternal and maternal) and in identifying individuals' bloods. Antibodies to the factors may be found in rheumatoid arthritis and after repeated transfusions and may sometimes be responsible for transfusion reactions.

The author of this admirable monograph is a recognized authority, having discovered the first Gm factor in 1956. In eight compact, well-documented chapters he has summarized in a clear and readable style our current knowledge of the genetics of these factors, their evolution and ontogeny, their relation to immunoglobulin structures, the characteristics of anti-allotype antibodies, and the implications of these systems for a variety of problems. In a number of cases conflicting data or claims are subjected to critical scrutiny.

In addition to the general discussions the available data on 23 Gm factors and 3 In V factors are summarized in systematic fashion in a series of appendices, tables and distribution maps. The work concludes with an index and some 26 pages of references, cited by full title. The only typographic errors noted were a few misprints of simple English words.

This work is highly recommended as a refreshingly concise, authoritative presentation of a field of considerable current interest to clinicians, geneticists, biochemists, immunologists and anthropologists.

HENRY P. TREFFERS

BIOLOGY AND WATER POLLUTION CONTROL. By Charles E. Warren. Philadelphia, W. B. Saunders Co., 1971. xvi, 434 pp. $11.00.

Biology and Water Pollution Control differs from most of the current new releases dealing with environmental pollution. It seems to be two books merged into one: a text dealing with biological systems and the population of organisms, and a treatise of water pollution with particular emphasis on the biological aspects. While this combination is useful to some students of human ecology and environmental pollution, it also limits the use of the book by others. Engineers and scientists with limited knowledge of biology may find difficulty in reading and understanding the wealth of material that is presented.

Mr. Warren has authored a very comprehensive book. He has examined all aspects of aquatic biology with much introspection and care. With great skill, he has mixed some of the practical aspects of water pollution control such as water quality standards with the highly technical and specialized information such as the morphological and physiological adaptations of aquatic organisms to various environmental changes.

This book is not recommended for the casual students of environmental biology. I don't believe that the author intended it to be used by these per-
sons, except in a limited role of reference for a specific topic. It is an excellent book for the biologist, particularly the aquatic biologist, and is highly recommended for their general use. In addition it is a fine reference for those concerned with developing, establishing, and planning programs of water pollution control.

It is unfortunate that the word "control" has been used in the title of the book. A more accurate title would have been simply *Biology and Water Pollution*. There is insufficient coverage of the control aspects of water pollution to merit use of the word.

Mr. Warren is to be congratulated for this fine book which should help to provide a more comprehensive understanding of the biological aspect of water pollution. Students of aquatic biology are indebted to him for combining so much interrelated and interdependent material into a single text and for doing so with clarity and sensitivity.

ERIC W. MOOD

**Thrombosis and Bleeding Disorders. Theory and Methods.** Edited by Nils U. Bang, Fritz K. Beller, Erwin Deutsch and Eberhard F. Mammen. New York, Academic Press, Inc., Publishers, 1971. xvi, 554 pp. $26.00.

The study of thrombosis and hemostasis is rapidly becoming more complex as new techniques and disciplines are brought to bear on these problems. A detailed and contemporary book which elaborates the theory and methodology of current investigations would, therefore, be of significant interest to workers in these areas. *Thrombosis and Bleeding Disorders* attempts to serve this purpose and, within limits, is successful.

The book suffers from the usual faults of multi-authored compendia; it is relatively old by the time of publication and it is sufficiently detailed to allow only those with significant experience in the field to follow the methods. If this volume is viewed primarily as an annotated bibliography, it is of considerable value to laboratories working on thrombosis and hemostasis. It would not however serve as a general introduction to the field.

The bulk of the references are to publications prior to 1968 which of course, eliminates some recent work. Since progress in thrombosis and hemostasis is rather slow, most of the methods reported are currently in use. Instructions for the preparation and purification of all the clotting factors are insufficiently detailed for a novice to follow them. On the other hand, some of the methods are clearly intended for the beginner, e.g., how to draw blood for coagulation assays.

There are, however, some particularly fine chapters. Mammen's lengthy discussion of the biochemistry and physiology of coagulation is clear and well documented. He is particularly adept in summarizing the interdigitations of the classical theories and those of Seegar's group. Classical thought holds that coagulation is mainly a series of reactions in which zymogens are sequentially converted to enzymes. Seegar's group believes that the prothrombin molecule gives rise during coagulation to several zymogens which then participate in further reactions. The chapter on hemostasis by Hohowitz and Spielvogel is also excellent.

YALE NEMERSON