

ingenuity in searching for and finding « new » blood group antibodies.

It is hoped that the authors will continue working in the blood grouping field for many years to come and continue to add to our knowledge of the subject. It can safely be anticipated that future editions of the book will become even more valuable as a source of information regarding this rapidly advancing field.

LESTER J. UNGER

WIENER, A. S., and WEXLER, L. B.: *Heredity of the Blood Groups*. Grune & Stratton, New-York and London, 1958.

The past 20 years have witnessed a tremendous growth in the knowledge of blood groups, and in recent years numerous books have been published especially by British investigators summarizing these advances. Yet, this new book by Wiener and Wexler is most welcome since it is unique in many respects. First of all, the senior author is generally recognized as a leader of this field which he has made his life's work and is known especially for his book, *Blood Groups and Transfusion*, and his discovery of the Rh factor in collaboration with Dr. Karl Landsteiner. Irving B. Wexler has been associated with the senior author for 15 years in their work on treatment of erythroblastosis fetalis by exchange transfusion, and also in collaborative publications explaining the mosaic nature of red cell agglutinogens.

The monograph, *Heredity of the Blood Groups*, does justice to the original contributions and ideas of the authors. While tersely summarizing the facts known about the heredity of the blood groups it is unique in its stress on principles. In the field of serology the nature of the difference between an agglutinin and its serological attributes or blood factors is clearly expounded, and the numerous applications of this concept in blood

grouping research is explained throughout the book. Moreover, a clear explanation of the applicability of the theory of multiple allelic genes, not only for the A-B-O groups, but also for the Rh-Hr blood types, M-N-S types, and other blood group systems is clearly presented. The clarity of exposition makes the book pleasant as well as instructive reading. The important contributions of British investigators have not been neglected, and a large section is devoted to the discussion of the C-D-E notations used by these workers.

The authors cite the report of the Committee on Medicolegal Problems of the American Medical Association of which they were members and they point to the recommendation that « unless and until some other convention can be agreed upon, the original Rh-Hr notations be retained as the standard and sole nomenclature for the preparation of approved medicolegal reports on the Rh types ». To this the authors now add « In view of the facts which have been presented here, it would appear that this recommendation should now be extended to include the applications of the Rh-Hr blood types in clinical medicine and anthropology ». It is unfortunate that despite the great advances in knowledge that have occurred regarding the blood groups, that there should still be controversies similar to those of 30 years ago when there was a controversy regarding the nomenclature of the A-B-O groups and when studies on supposed association between blood groups and disease were fashionable. It is regrettable that the experience acquired with the controversy regarding A-B-O nomenclature has not served to forestall the prevailing misunderstanding regarding Rh-Hr serology and nomenclature. And, similarly, the fact that the early work on blood groups and disease was discredited has not dampened the ardor of investigators who report what they believe to be associations between A-B-O blood groups and such diseases as peptic ulcers, carcinoma of the lung, diabetes mellitus, fractured femur, etc.

The reviewer is pleased to see the publication

of this long awaited and needed book. If the book receives the attention it deserves, misunderstanding regarding principles of blood group serology will be corrected, leading to greater understanding, insight, and advances in this growing field.

LESTER J. UNGER

WIENER, A. S.: *Rh-Hr Syllabus*. I tipi di sangue e le loro applicazioni. V. Idelson de Gnocchi & F., Napoli, 1956.

This is an Italian edition of the Rh-Hr Syllabus originally published in English in 1954. The author was fortunate to obtain the help of Prof. Mario Tortora in preparing this Italian edition.

The original contributions of A. S. Wiener to the field of blood grouping date back 30 years, so that he is one of the senior investigators in the field of blood grouping, and, in fact, a recognized leader. The author has played one of the leading roles in very many of the more important recent advances in the subject. With Karl Landsteiner he discovered the Rh factor, and then he described the Rh blocking antibody and blocking test, which led in turn to the realization that Rh antibodies as well as others can exist in two major molecular forms. The development of new techniques for demonstrating antibodies, namely, the conglutination, anti-globulin and proteolytic enzyme technique, led to the discovery of additional blood group antibodies. This book is concerned almost entirely with the complexities of the Rh-Hr types and their applications.

The author believes that for a thorough understanding of the complexities of the Rh-Hr types, a clear understanding of the difference between a blood factor and an agglutigen is essential. This concept was first advanced by Landsteiner and later crystallized and brought into focus by Wiener in his recent publications. This concept is clearly explained

in the Syllabus with the aid of diagrams. Mastery of this concept is essential for the understanding of more recent developments which have occurred since the publication of the Syllabus, notably, the discovery of a series of factors associated with the factor Rho, namely **Rh^A** discovered by Wiener and Geiger, and **Rh^B** and **Rh^C** discovered by Unger and Wiener.

The information in the book is presented in the form of a series of definitions or explanations arranged by topic in logical order. There are chapters on fundamentals, explaining the nature of antibody specificity and chapters on Rh antibodies, serology and genetics of the Rh-Hr types, erythroblastosis fetalis, blood transfusion, autosenitization, anthropological and medicolegal applications. Especially to be recommended is the chapter on serology and genetics of the Rh-Hr types, which is based principally on original investigations of Wiener. Wiener's concept of the inheritance of Rh-Hr agglutinogens, each of which is characterized by multiple blood factors genetically transmitted as a block by multiple allelic genes, has found additional support in recent findings of Rosenfield and his collaborators (factors hr and rh₁, as well as those of Unger and Wiener (factors **Rh^A**, **Rh^B**, and **Rh^C**). Moreover, the principles are found to have general application to other blood group systems, notably, the M-N-S system, and in serological studies on blood groups of animals, notably, the B blood group system of cattle as worked out by Stormont and his collaborators.

The work of British investigators has not been neglected and an appendix has been devoted to the contributions of Fisher and Race, and the C-D-E notations proposed by them. This review of British work gives the reader Wiener's interpretation of the nature of their contributions.

It is evident that any worker in the field of blood grouping must be thoroughly familiar with the contents of this Syllabus. Unfortunately, the book contains no bibliography, but a good review of the literature on blood