

first paragraph of this review. Therefore all the pages submitted were almost entirely rewritten by Professor Boring and Miss Marjorie van de Water of Science Service. Colonel E. L. Munson, Jr., a member of the committee, also read the complete manuscript, and Colonel Joseph I. Greene, editor of *The Infantry Journal*, made many suggestions concerning the military aspects of the book during the whole period of writing and rewriting. Amazingly enough, in spite of the complex relationship of scientists and committees associated with the book, Dr. Boring's untiring energy was able to drive the whole enterprise through in relatively few months so that already more than a hundred thousand copies of the volume have been put on sale in bookstores, drugstores and post exchanges throughout the country and in other countries where our troops are located.

The table of contents of the book is as follows:

- I: Psychology and Combat
- II: Sight as a Weapon
- III: Seeing in the Dark
- IV: Color and Camouflage
- V: Hearing as a Tool in Warfare
- VI: Smell—A Sentry
- VII: The Sense of Position and the Sense of Direction
- VIII: The Right Soldier in the Right Job
- IX: Training Makes the Soldier
- X: How the Army Teaches
- XI: Efficiency in the Army
- XII: Heat, Cold, Oxygen and Stimulants
- XIII: Morale
- XIV: Food and Sex as Military Problems
- XV: The Soldier's Personal Adjustment
- XVI: Leadership
- XVII: Mobs and Panic
- XVIII: Differences Among Races and Peoples
- XIX: Rumor
- XX: Psychological Warfare

The chapter headings just enumerated give some impression of the wide areas of psychology treated in the volume.

The new book must be read by the professional scientist with the memory ever before him of the basic purpose of its pages. The statement that light "becomes visible when it strikes the retina of your eye" is useful in the frame of reference of this book, but obviously this is not a statement which would be appropriate in a treatise on physiological optics. Similar sentences could be taken from many pages of the book.

The chapters which deal with topics in social psychology may be less convincing to the popular as well as to the scientific reader than are the chapters that deal with areas in which quantitative psychology is better established.

A reviewer should not disclose himself as a book

salesman, but in the case of the present volume and the present reviewer this rule is here and now violated. "Psychology for the Fighting Man" is a remarkable bargain. For twenty-five cents a modern, clearly written exposition of scientific psychology as it is applied to the task of warfare and incidentally to many tasks of the working world is now offered in a neat well-printed pocket edition. The reason that this book can be sold for such a small sum is that the authors, the editors and the publishers have all undertaken the preparation of this work as a war service. The small royalties on the book are transferred to the National Research Council for research. The Infantry Journal Company, publishers of the volume, is a non-profit organization.

Certainly every psychologist should read this volume from cover to cover. Scientists in other fields will also profit by reading its clear pages. Recently on an overnight train trip I lent my copy of this book to a distinguished engineer. In the morning he greeted me with the statement: "I am going to send copies of this book to my two sons who are in the service and tell them to read every page. It will be of great value to them." It is not too much to say that "Psychology for the Fighting Man" may actually save the life of some of its readers. It will almost certainly raise the morale of all who read it. The reason that it will have this direct result is that it will help every soldier who reads it to understand and use more effectively those most complicated "instrumentalities of warfare," his own human reactions.

Surely those whose self-sacrificing work has made this remarkable book possible deserve the full gratitude of all their American scientific colleagues.

LEONARD CARMICHAEL,

*Chairman, Division of Anthropology and
Psychology, National Research Council*

TUFTS COLLEGE

FUNDAMENTALS OF IMMUNOLOGY

Fundamentals of Immunology. By WILLIAM C. BOYD. xiv + 446 pp. 45 figs. Interscience Publishers, Inc. 1943. \$5.50.

THE author writes this book with the sound belief that it is well for students to spend the too limited time available for the special subject immunology in acquiring the basic principles, "on the assumption that application of them will then not be difficult." "This book is intended for the beginner" without assuming any previous knowledge of the subject on his part, but it is hoped that it will be useful, too, to the professed immunologist. However, in the reviewer's opinion, this is not the book for elementary students but rather for advanced students and research workers.

The book is written as far as possible from the point of view of the chemist, without requiring any very

extensive knowledge of chemistry. The historical recapitulation of the development of discoveries and theories has been avoided. Instead, the author plunges straight into what is known and thought to-day. Selected references are given in support of statements and from them the reader can trace the question further if he so desires. All this is well done and the scheme is attractive.

It is a worth-while and important book, coordinating a multiplicity of complex evidence with a direct simplicity and it will undoubtedly be useful to the immunologist engaged in research and teaching. But it would be delightful could it be believed that the average medical student could read this book with understanding, especially Chapter VI on "Antibody-Antigen Reactions."

This book can not supplant such books as Bordet's "Traité de l'Immunité" and Topley's "Outline of Immunity" but it is a very important supplement to them. The subject-matter undertaken is too large to be uniformly covered by a book of this size and by the experience of a single author, so it is to be expected that readers with particular interests will find disappointments. The fields in which the author has contributed so importantly are most exhaustively and satisfactorily treated. Other sides of the subject are not always balanced and some are not sufficiently comprehensive.

For example, though active immunity claims more attention than passive immunity throughout the book, the influence and importance of the antigenic character of antibody globulin in therapeutic applications of passive immunity is neglected. In fact, immunity processes and happenings in the living body are not developed. On the whole the possibilities, contributions and failings of so-called antigenic analysis of the bacteria are not convincingly presented and this leaves a feeling of lack of sympathy. Of the 21 pages of Chapter IV ("Cell Antigens") rather less than half are devoted to bacteria, whereas almost the entire 22 pages of Chapter V ("Blood Groups") deal with human blood groups only.

The strength of the book lies in the treatment of "Antibodies and Antibody Specificity" (Chapter II, 56 pages), "Antigens" (Chapter III, 26 pages), "Antibody-Antigen Reactions" (Chapter VI, 84 pages) and "Human Blood Groups" (Chapter V, 22 pages). These chapters should earn for the book a place in every bacteriological laboratory and every biological library. They can be consulted with advantage for the information they contain, but, much more importantly, for the clarity with which they pose problems yet to be solved to further advance this progressive and very important subject. This is no mean virtue.

An important feature of this book, the abandonment of a chronological account of discoveries, experiments, theories and failures, deserves to be emphasized because it allows of a clear statement of present knowledge. There is, of course, a fascinating interest to the well-informed specialist in the history of the development of his subject and it has the undoubted value of giving perspective. No one can properly appreciate the weight and significance of an item of information without knowing the difficulties, disappointments and the toil which accompanied its revelation and the prejudices which had to be overcome to effect its acceptance. Nevertheless, the dragging of a student through the warp and woof of a confused pattern of failures and misinterpretations hinders his acquisition and appreciation of the proved truth. Dr. Boyd has steered clear of this and in doing so has exposed problems it is now important to solve. A book is not as valuable for the information it imparts as it is for the thought and investigation it provokes.

E. G. D. MURRAY

INORGANIC QUALITATIVE ANALYSIS

Inorganic Qualitative Analysis. By HAROLD A. FALES and FREDERIC KENNY. Illustrated. ix + 237 pp. D. Appleton-Century Company, 1943. \$2.65.

THIS book is designed for a one-semester course in which selected exercises in qualitative analysis serve to illustrate an introductory discussion of physico-chemical principles, as applied to aqueous solutions. The first one hundred and fifty pages, together with some ten pages of supplementary exercises, are devoted to the theoretical discussions, which appear to be clear and thorough, and include many numerical problems. Another sixty pages present procedures for the detection of basic constituents; while analysis for acidic constituents is omitted, save that tests for four of the commonest acids are given on the last three pages. The procedures, according to standard methods, are arranged for semi-micro technique and should confront the student with few difficulties and require a minimum of laboratory time. All analyses assumedly begin with solutions prepared for the student, and complications, such as might arise from the presence of certain anions or of involatile organic matter, are thus avoided. There is also no mention of the preliminary operations which would be necessary in the case of a substance originally solid.

The book is well arranged and indexed, and is provided with lists of the necessary apparatus and reagents. It seems well suited to serve as text for a smoothly running course having the strictly limited objective described in the first sentence above.

D. P. SMITH

PRINCETON UNIVERSITY