in order to collect the pine needles, and each child received one cup of pine-needle tea daily.

BÉLA SCHICK

17 EAST 84TH STREET,
NEW YORK, N. Y.

VITAMIN C IN EVERGREEN-TREE NEEDLES[1]

THE identity of the tree that cured Jacques Cartier's men of scurvy when they wintered near Quebec in 1535–6 will always remain in doubt, as the Iroquois name "annedda" (ameda) denotes simply an evergreen tree. Many of Champlain's men died of scurvy when he wintered near the same place 73 years later, in 1608–9. Champlain had heard something of Cartier's miraculous "annedda," but he sought it in vain, probably because he did not know it was a tree—he speaks of it as "l'herbe appelée Aneda"—and because since Cartier's time the Iroquois population had moved away and the Algonquins who had replaced them could not tell him the meaning of the word.

Almost every editor of the Voyages of the early French explorers, beginning with Hakluyt in 1600, has proposed a different tree for annedda. The suggestions have been sassafras, *Sassafras varifolium;* white pine, *Pinus strobus;* balsam fir, *Abies balsamea;* spruce, *Picea sp.;* and hemlock, *Tsuga canadensis.* Sassafras is Hakluyt's wild guess; the northern limit of the tree is far south of Quebec. Of the others, spruce and hemlock are the more likely candidates. There is evidence that the inner bark of white spruce, *Picea canadensis,* which is known to be very rich in ascorbutic acid, was used in Indian medicine. It was an ingredient in a "spring tonic" compounded by white settlers in Ontario who had been told of its virtues by the Indians.[2] Hemlock, however, seems to have been in far greater use among the natives than any of the other conifers. It served them as food, drink and medicine. To give a few references: F. W. Waugh ("Iroquois Foods and Food Preparation," Ottawa, 1916), "Take the leaves, steep, sweeten with maple sugar, and eat with corn bread or at meals." John Stewart ("An Account of Prince Edward Island in the Gulph of St. Lawrence," London, 1806), ". . . and the tips yield a medicine which has been found very powerful in scorbutic complaints." L. H. Morgan ("Houses and Home Life of the American Aboriginies," Washington, 1881), "A favorite beverage was made from the tips of hemlock boughs boiled in water, and seasoned with maple sugar." And Thoreau relates that his Indian guide in the Maine woods gave him hemlock tea for breakfast. He adds the characteristic remark, "and we were not obliged to go as far as China for it."

CHARLES MACNAMARA

ARNPRIOR, ONT., CAN.

[1] SCIENCE, August 6, 1943.

[2] Personal letter from Professor R. B. Thompson, Department of Botany, University of Toronto.

SCIENTIFIC BOOKS

PSYCHOLOGY FOR THE FIGHTING MAN

Psychology for the Fighting Man. Prepared for the fighting man himself by a committee of the National Research Council with the collaboration of Science Service as a contribution to the war effort. Washington: *The Infantry Journal.* 1943.

IT is a truism that the popularization of science is not easy. Real scientific publications are never needlessly complex except when written by pedants or by scientists whose minds are not quite first-class. Of course the non-scientifically trained reader can not always follow good technical writing becase he is in respect to the science in question a layman and has not mastered its concepts. The duty of the true popularizer in science is to make the specific problems dealt with as clear as possible to the non-professional reader. It is an advantage also in popular writing to relate these problems in some way when possible to the ordinary experience of everyday life in which the non-technical reader is interested. The popularizer may then describe in simple and clear expository prose the solutions of the problems that have been raised. The intermediate description of special methods, particularly those that are mathematical, and the technical evaluation of the evidence of the science must in many cases be omitted or only most briefly presented.

The book before us is just such a true popularization. It is a most successful one. The common experience to which it is everywhere related is military life. How did this book come into being? The need for a presentation of real, modern, scientific psychology so that it could be understood by the average American enlisted man was early recognized. The way of achieving this end was discussed at a number of meetings of the Emergency Committee or "war cabinet" in psychology of the Division of Anthropology and Psychology of the National Research Council. Finally a committee was appointed to prepare the present book. The chairman of the committee and editor-in-chief of the volume was Professor E. G. Boring, of Harvard University.

Many psychologists contributed chapters or sections for the book. Much of this material as originally presented was not "popular" in the sense described in the

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 its 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 nonprofit 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