

Books of the Week

For the editorial information of our readers, books received for review since last week's issue are listed. For convenient purchase of any U. S. book in print, send a remittance to cover retail price (postage will be paid) to Book Department, Science Service, 1719 N Street, N. W., Washington 6, D. C. Request free publications direct from publisher, not from Science Service.

ADAPTATION IN MICRO-ORGANISMS—R. Davies and E. F. Gale, Eds.—*Cambridge University Press*, 339 p., illus., \$6.00. The ways in which an organism can adapt to a changing environment include the medically important ability of a germ to become resistant to drugs. Papers presented at a symposium in London.

BIBLIOGRAPHIES FOR PROFESSIONAL PUBLICATIONS—Emmett Albert Betts—*Reading Clinic, Temple University*, 10 p., paper, 25 cents. Proposing a standard form for bibliographic entries.

BIOCHEMISTRY AND PHYSIOLOGY OF NUTRITION: Volume II—Geoffrey H. Bourne and George W. Kidder, Eds.—*Academic Press*, 641 p., illus., \$15.00. The 12 papers in this volume are contributed by specialists in this field. Volume I came out last year. (See SNL, Oct. 10, 1953, p. 236.)

CARE AND BREEDING OF BUDGIES—Cyril H. Rogers—*Dover*, 93 p., illus., paper 65 cents, cloth \$1.75. Introducing a new hobby, that of breeding and keeping shell parrakeets.

A CORRELATION OF SEWAGE CHLORINE DEMAND DATA—Lirvil G. Rich, Robert E. Opferkuch, Jr. and Charles E. Williams—*Virginia Polytechnic Institute*, Engineering Experiment Station Series No. 87, 12 p., paper, 25 cents.

DETERMINATION OF HAZE AND SMOKE CONCENTRATION BY FILTER PAPER SAMPLERS—W. C. L. Hemeon, George F. Haines Jr. and Harold M. Ide—*Mellon Institute*, 8 p., illus., paper, free upon request to publisher, 4400 Fifth Ave., Pittsburgh 13, Pa. Discussing a method for evaluating the concentration of fine particles, as in smoke, in the atmosphere.

CRYSTAL GROWTH AND DISLOCATIONS—Ajit Ram Verma—*Academic Press*, 182 p., illus., \$5.00. Modern techniques have destroyed the beautiful illusion of early crystallographers with regard to the symmetrical perfection of crystals.

EXPLORATIONS IN PSYCHOANALYSIS—Robert Lindner and Clement Staff, Eds.—*Julian Press*, 308 p., illus., \$7.50. Essays written in honor of Theodor Reik on his 65th birthday.

GREEK CIVILIZATION AND CHARACTER: The Self-Revelation of Ancient Greek Society—In-

roduction and Translation by Arnold J. Toynbee—*New American Library*, 158 p., paper, 35 cents. Reprint of a book originally published in the series, the Library of Greek Thought.

GROWTH OF PROTOZOA—S. H. Hutner and others—*New York Academy of Sciences*, Vol. 56, Art. 5, 280 p., illus., paper \$4.50. Dealing with two main advances in protozoa techniques and the results which they have made possible.

HUNTING WITH THE MICROSCOPE—Gaylord Johnson and Maurice Bleifeld—*Sentinel Books*, revised ed., 131 p., illus., paper, 60 cents. Introducing the young scientist and the hobbyist to the new world of "big game" to be found beneath a pocket lens or microscope.

THE IMPORTANCE OF INDUSTRIAL MEDICAL DEPARTMENTS AS A MANAGEMENT TOOL—Daniel C. Braun—*Mellon Institute*, 4 p., paper, free upon request to publisher, 4400 Fifth Ave., Pittsburgh 13, Pa. Evaluating the medical department in modern industry.

INTRODUCTION TO A STUDY OF MECHANICAL VIBRATION—G. W. Van Santen—*Philips' Technical Library*, 296 p., illus., \$7.50. Reviewing the elementary theory of vibration as well as some of the more important problems, from ultrasonics to earthquakes, encountered in practice.

MEASUREMENTS OF DOUBLE STARS—G. Van Biesbroeck—*University of Chicago Press*, Publications of the Yerkes Observatory, Vol. VIII, Part VI, 223 p., paper, \$10.00. Since his last list was published in 1938 the author has continued his measurement of double stars although he reached emeritus age in 1945.

NEEDED URBAN AND METROPOLITAN RESEARCH—Donald J. Bogue, Ed.—*Scripps Foundation for Research in Population Problems*, Miami University, and *Population Research and Training Center*, University of Chicago, 88 p., paper, \$1.25. An abstract of seminar discussion dealing with the information needed about modern cities.

THE PAPERS OF WILBUR AND ORVILLE WRIGHT: Vol. I: 1899-1905, Vol. II: 1906-1948—Marvin W. McFarland, Ed.—*McGraw-Hill*, 1278 p., illus., \$25.00. These papers, which include correspondence between Wilbur Wright and Octave Chanute, appear at a timely moment to celebrate the fiftieth anniversary of the first successful powered flight.

PROCEEDINGS OF THE THIRTY-SECOND ANNUAL MEETING—Fred Burggraf and Walter J. Miller, Eds.—*Highway Research Board*, Publication 271, 616 p., illus., \$8.50. Papers of interest to highway engineers presented at the annual meeting.

REASON AND NATURE: An Essay on the Meaning of Scientific Method—Morris R. Cohen—*Free Press*, 2nd ed., 470 p., \$6.00. Incorporating many revisions and corrections by the author.

THE RELATION OF LEAN BODY WEIGHT TO METABOLISM AND SOME CONSEQUENT SYSTEMATIZATIONS—Albert R. Behnke—*New York*

Academy of Sciences, Vol. 56, Art. 6, 47 p., paper, \$1.25. A method for estimating lean body weight from basal metabolism and vice versa.

SERGEI N. WINOGRADSKY, HIS LIFE AND WORK: The Story of a Great Bacteriologist—Selman A. Waksman—*Rutgers University Press*, 150 p., illus., \$4.00. Biography of a leading Russian scientist who pioneered in the field of soil bacteriology. The author is himself an outstanding leader in this field.

A THEORY FOR THE BENDING OF RECTANGULAR BEAMS INCLUDING THE EFFECTS OF SHEAR AND NORMAL PRESSURE—Dan Frederick—*Virginia Polytechnic Institute*, Engineering Experiment Station Series No. 86, 14 p., paper, 25 cents.

VOICES OF THE NIGHT—P. P. Kellogg and A. A. Allen—*Cornell University Records*, \$6.75. The calls of 34 frogs and toads of the United States and Canada on two sides of a single 33 1/3 RPM plastic record.

WESTWARD HO WITH THE ALBATROSS—Hans Pettersson—*Dutton*, 218 p., illus., \$4.00. The Albatross Expedition, led by the author, was a 15 months' circumnavigation of the globe to study the riches under the sea.

Science News Letter, January 2, 1954

MEDICINE

Red Blood Cells Help On Germ Scavenging

► RED BLOOD cells under some circumstances help the scavenger cells of the body dispose of disease germs by the process called phagocytosis.

Discovery of this new role for the blood's red cells was made by Dr. Robert A. Nelson Jr. of Johns Hopkins School of Hygiene and Public Health, Baltimore, and the Naval Medical Research Institute, Bethesda, Md. It is reported in *Science* (Dec. 18, 1953).

It is effective for the germs of syphilis, pneumonia, dysentery, typhoid fever, boils and tuberculosis and perhaps for others so far not tested.

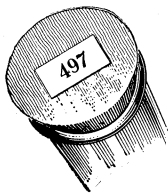
What happens is that the germs adhere to the surface of the red blood cells. This may make it easier for the scavenger cell to trap the germ. Or substances from the surface of the red blood cell may coat the germ, making it more susceptible to phagocytosis.

The special circumstances in which the germs adhere to the red blood cells are those in which antibodies to the germs are present and in which there is also present a substance in normal blood serum, probably the one known to bacteriologists as complement.

The fact that the red cells play this part in an immunologic reaction with a disease germ, antibody and complement should, Dr. Nelson believes, help scientists studying resistance to infection and may lead to development of diagnostic tests. For example, preparations of red blood cells and disease germs might be used to detect antibodies to the germs.

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