tempts to distinguish significant types of human physique.

"Why Men Behave like Apes and Vice Versa" has given the reviewer many hearty laughs. It has also caused him some groans. But even when disagreeing with the author as to fact or interpretation, inference or expectation, I find myself generally in sympathy with his point of view and manifest purpose. The style and method of presentation are unusual. Humor, irony, wit tend to compensate for iconoclasm and seemingly uncalled-for depreciativeness. Thus of biology, "On the whole, however, the apathy of biologists toward the study of the human organism is profound and general" (p. 195), or "of psychology—a science which seemingly measures its advance terminologically —by substituting, for example, the word 'drive' for the word 'instinct'" (p. 7).

This review may not be primarily a summary of the Hooton lectures, for they in themselves constitute a survey of certain areas of biology. It should then serve instead to steer the reader either to or away from the volume. If consulted as to whether it may be considered indispensable reading, I should unhesitatingly recommend it. The content of the lectures is stirring, thought-provoking, and most readers will finish the volume with feelings of appreciation and gratitude.

ROBERT M. YERKES

YALE UNIVERSITY

BIOLOGY

Biology. By HOWARD M. PARSHLEY. ix + 232 pp. 80 figs. New York: John Wiley and Sons. 1940. $1.75.

MAN'S life is, or should be, a well-rounded existence, lived not in categories, but composed of many activities, completely interwrought, each affecting the others. So often, though, in his thoughts, as reflected in the books that he writes, his penchant for orderliness takes precedence over the broader aspects of reality, and treatises on specialized subjects result, which, admirable though they may be in other ways, suggest a two-dimensional rather than a three-dimensional world. So ingrained is this tendency that even in text-books of biology plants and animals are often considered separately, though this is not the modern trend. The present volume is an expression of this more recent philosophy, which after all comes closer to the fundamental truth.

Prepared as one text of a series, for the biological portion of a science survey course for colleges, Professor Parshley's "Biology" will take its place as a valuable addition to the literature of this field. It is an honest and successful attempt to present the subject-matter of both plant and animal sciences, sometimes side by side, but more often in its real interrelationship. At times this seems rather simple and totally natural, as in the chapters on "Protoplasm and the Cell," on "Nutrition," on "Heredity," on "Ecology" and on "Variation and Evolution." In other cases this innate similarity of zoology and botany is much less obvious, as in the chapters on "Cells and Tissues" and on the "Classification of Animals and Plants." Occasionally this treatment of animals and plants together serves to emphasize their dissimilarities. In both kingdoms the nature of reproduction is basically the same. But the flower of the seed plants is very different from the reproductive organs of a mammal, as a study of the figures presented on adjoining pages brings out forcefully.

Any modern scientific text-book must take cognizance of some, at least, of the more recent developments of research. Though the field of biology is broad, there are in this volume some six pages on vitamins and deficiency diseases, salivary gland chromosomes are illustrated, there is a paragraph on plant hormones, and the effect of x-rays, heat and radium emanations on mutation are considered—to mention just a few indications that this aspect is not neglected.

Since it is one of a series of volumes for a survey course, the book must of necessity be brief. However, its ten chapters are well written, the style is simple and direct, the illustrations are perfectly clear, neatly reproduced and well labeled; some are original, many have been judiciously chosen from various sources. A one-page appendix outlines the "Highlights of Biological History" from Hippocrates in 400 B.C. to De Vries in 1900 and the "Development of Genetics and of Vitamin and Hormone Physiology" from 1900 to date. There are carefully selected chapter bibliographies and a glossary.

With a facile pen the author has drawn the salient lines of that intricately interwoven web which constitutes the realm of life, both of animals and of plants, and in doing so he has made a fine contribution.

EDWIN B. MATZKE

COLUMBIA UNIVERSITY

REPORTS

THE NATIONAL DEFENSE RESEARCH COMMITTEE

DR. VANNEVAR BUSH, chairman of the National Defense Research Committee, has made public the list of scientific men and engineers who have accepted definite appointments to work with the committee since the release of an earlier list last October. The committee organization continues to be built deliberately to

deal most effectively with particular problems as they arise. Additional appointments are now being negotiated and will be made as rapidly as effective use can be made of additional workers in the solution of specific problems.

The list, which contains the names of 118 investigators, is as follows:

Dr. Alexander J. Allen, University of Pittsburgh
Dr. William P. Allis, Massachusetts Institute of Technology
Dr. Luis W. Alvarez, Massachusetts Institute of Technology
Dr. W. R. G. Baker, General Electric Company
Professor Wilmer L. Barrow, Massachusetts Institute of Technology
Professor F. E. Bartell, University of Michigan
Professor Paul D. Bartlett, Harvard University
Professor J. A. Bearden, the Johns Hopkins University
Charles Butt, Massachusetts Institute of Technology
Dr. Harold H. Buttner, International Telephone Development Company
Professor Roy W. Carlson, Massachusetts Institute of Technology
Dr. Thorne M. Carpenter, Carnegie Institution of Washington
Professor George L. Clark, University of Illinois
Professor William M. Clark, the Johns Hopkins University
Dr. Allan P. Colburn, University of Delaware
John P. Coleman, Massachusetts Institute of Technology
Dr. Joseph A. Becker, Bell Telephone Laboratory
Dr. Alan C. Bemis, Massachusetts Institute of Technology
Professor Arthur F. Benton, University of Virginia
Professor Richard A. Beth, Princeton University
Dr. Elmer K. Bolton, E. I. du Pont de Nemours Company
Eliot B. Bradford, National Research Council
Dr. Charles E. Braun, University of Vermont
Professor Percy W. Bridgman, Harvard University
Dr. Robert B. Brode, Carnegie Institution of Washington
Professor Anton B. Burg, University of Southern California
Professor Lee A. DuBridge, University of Rochester
Professor Jesse W. M. DuMond, National Research Council
Dr. Theodore Dunham, Jr., Carnegie Institution of Washington
Dr. V. du Vigneaud, Cornell University Medical College
Melville Eastham, General Radio Company
Dr. E. A. Eckhardt, Gulf Research and Development Company
Professor H. E. Edgerton, Massachusetts Institute of Technology
Jackson H. Cook, Massachusetts Institute of Technology
G. H. B. Davis, Standard Oil Development Company
Dr. Lewis A. Delsasso, Princeton University
Dr. J. P. Den Hartog, Harvard University
Harry Diamond, National Bureau of Standards
Professor R. G. Dickinson, California Institute of Technology
Professor T. B. Drew, Columbia University
Dr. C. K. Drinker, Harvard University
Dr. H. L. Dryden, National Bureau of Standards
Dr. Frank T. Gucker, Northwestern University
Dr. E. A. Guillemin, Massachusetts Institute of Technology
Professor William M. Hall, Massachusetts Institute of Technology
Dr. Louis P. Hammett, Columbia University
Professor Arthur C. Hardy, Massachusetts Institute of Technology
Professor William D. Harkins, University of Chicago
Dr. C. P. Haskins, Haskins Laboratories
Professor Charles R. Hauser, Duke University
Dr. Alexander Ellett, National Bureau of Standards
Professor Paul H. Emmett, the Johns Hopkins University
Professor R. D. Fay, Massachusetts Institute of Technology
Professor M. R. Fenske, Pennsylvania State College
Professor Walter M. Fife, Massachusetts Institute of Technology
Dr. Herbert S. Gasser, Rockefeller Institute
Dr. E. M. K. Geiling, University of Chicago
Dr. Ivan A. Getting, Massachusetts Institute of Technology
Professor Edwin R. Gilliland, Massachusetts Institute of Technology
A. M. Grass, Massachusetts Institute of Technology
Charles H. Greenall, Bell Telephone Laboratories
Dr. Sebastian Karrer, Consolidated Gas and Electric Co.
Dr. R. W. King, American Telephone & Telegraph Co.
Dr. Thomas Lauritsen, National Academy of Sciences
Richard B. Lawrence, Massachusetts Institute of Technology
Dr. James L. Lawson, Massachusetts Institute of Technology
Professor J. M. Lessells, Massachusetts Institute of Technology
Professor Harold Hazen, Massachusetts Institute of Technology
Joseph E. Henderson, University of Washington
W. S. Hinman, Jr., National Bureau of Standards
Garret A. Hobart III, Massachusetts Institute of Technology
W. H. T. Holden, Bell Telephone Laboratories
Dr. J. C. Holtz, Bureau of Mines
Dr. Henry G. Houghton, Jr., Massachusetts Institute of Technology
Frederick L. Hovde, University of Rochester
Dr. Herbert E. Ives, Bell Telephone Laboratories
Professor Noel C. Jamison, Northwestern University
Dr. Morton H. Kanner, Massachusetts Institute of Technology
Professor L. C. Marshall, University of California
Laurence K. Marshall, Raytheon Production Corporation

Professor R. F. Mehl, Carnegie Institute of Technology
Philip H. Miller, Massachusetts Institute of Technology
Dr. Clark B. Millikan, California Institute of Technology
Dr. Dana P. Mitchell, Columbia University
Professor G. N. Lewis, University of California
Donald G. Little, Westinghouse Electric & Manufacturing Company
Dr. Charles V. Litton, Litton Engineering Laboratory
Professor Francis W. Loomis, University of Illinois
Dr. Donald H. Loughridge, Carnegie Institution of Washington
Dr. Ernest M. Lyman, Massachusetts Institute of Technology
Dr. D. P. MacDougall, Bureau of Mines
Dr. Edwin M. McMillan, Massachusetts Institute of Technology
Professor Charles E. MacQuigg, the Ohio State University
Frank J. Malina, California Institute of Technology
Dr. Eli K. Marshall, Jr., the Johns Hopkins University
Dr. I. I. Rabi, Massachusetts Institute of Technology
Dr. William H. Radford, Massachusetts Institute of Technology
Dr. Norman F. Ramsey, Jr., Massachusetts Institute of Technology
Eugene J. Reardon, American Steel and Wire Company
Dr. Alfred N. Richards, University of Pennsylvania
Shepard Roberts, Massachusetts Institute of Technology
Dr. Alan R. Moritz, Harvard Medical School
Professor J. C. Morris, Princeton University
Professor H. Victor Neher, California Institute of Technology
Professor Jesse E. Ormondroyd, University of Michigan
Professor Robert N. Pease, Princeton University
A. P. G. Peterson, Massachusetts Institute of Technology
Professor Willis C. Pierce, University of Chicago
Henry H. Porter, Carnegie Institution of Washington
R. K. Potter, Bell Telephone Laboratories
C. A. Priest, General Electric Company
Redfield Proctor, Proctor, Vermont
Dr. Jabez C. Street, Harvard University
Dr. Lauriston S. Taylor, Bureau of Standards
Arthur E. Thiessen, General Radio Company
Dr. John G. Trump, Massachusetts Institute of Technology
William G. Tuller, Massachusetts Institute of Technology
Dr. Stanley N. Van Voorhis, Massachusetts Institute of Technology
Dr. Walter van B. Roberts, Radio Corporation of America
Dr. Victor L. Ronci, Bell Telephone Laboratories
W. J. Rooney, Carnegie Institution of Washington
Dr. Otto H. A. Schmitt, University of Minnesota
Dr. J. K. Senior, University of Chicago
Dr. Charles H. Shaw, the Johns Hopkins University
Dr. S. J. Simmons, Massachusetts Institute of Technology
Dr. John C. Slater, Massachusetts Institute of Technology
Professor C. R. Soderburg, Massachusetts Institute of Technology
Dr. George R. Stibitz, Bell Telephone Laboratories
Professor Bradley Stoughton, Lehigh University
Dr. Julius A. Stratton, Massachusetts Institute of Technology
Dr. Theodor von Kármán, California Institute of Technology
Dr. John von Neumann, Princeton University
Professor Earnest C. Watson, California Institute of Technology
Professor Milton G. White, Massachusetts Institute of Technology
Professor Norbert Wiener, Massachusetts Institute of Technology
D. B. Williams, Carbide and Carbon Chemicals Co.
Professor Robert S. Williams, Massachusetts Institute of Technology
Dr. Robert R. Wilson, Massachusetts Institute of Technology
Professor Louis F. Woodruff, Massachusetts Institute of Technology
Mr. Carlton A. Woodward, Jr., General Radio Company
Professor Thomas F. Young, University of Chicago
J. C. Zimmer, Standard Oil Development Co.

The statement of October 31, 1940, which the present list supplements, contains the names of 151 scientific men and engineers who had accepted appointment with the committee prior to that date. In addition to the persons named in the two lists, there are many investigators working on projects initiated by the National Defense Research Committee, but whose names are not listed because they are not working with the committee directly.

The task assigned to the National Defense Research Committee by the Council of National Defense is that of correlating and supporting scientific research on mechanisms and devices of warfare. It does not extend to such materials as food, medicine and health. For that reason the men selected to aid the committee will continue to be drawn largely from the fields of chemistry, physics and engineering.

SPECIAL ARTICLES

SAPROPHYTES ANTAGONISTIC TO PHYTOPATHOGENIC AND OTHER MICROORGANISMS

RECENTLY, bacteriologists have given considerable attention to the phenomenon of bacterial antagonism, especially in relation to pathogenic microorganisms. Dubos[1, 2] and Sickles and Shaw[3] isolated soil micro-

[1] Rene J. Dubos, *Jour. Exp. Med.*, 70: 1–17, 1939.