

defined as "the number of infective particles present in the environment of the uninfected host." On the intensity of this factor depends the frequency of infection and the severity of the resulting disease occurrence.

Following the usual introductory chapter in which the editors outline the theme of the volume, S. D. Garrett presents a well worked out chapter on the mechanism of the inoculum potential and the importance of the living host plant as an inoculating agent. The dispersal of inoculum, including fungi, bacteria, and viruses, is considered at length in chapters written by recognized specialists; the following topics are discussed: autonomous dispersal; dispersal of inoculum by insects and other animals; and dispersal by air and water, including the "take-off" and the "flight and landing" of infective material.

J. E. van der Plank contributes a chapter on the analysis of epidemics, and Paul E. Waggoner discusses that intriguing topic, the forecasting of plant epidemics, a subject much in the limelight of current phytopathological activity. Quarantines are considered by Ernst Gram with a thought-provoking evaluation of the plant quarantine system.

Finally, there is a series of chapters on certain general methods of controlling or preventing plant diseases from the points of view of cultural practices in disease control, soil treatment, performance of fungicides, and biological interference with epidemics. Stakman and Christensen conclude the volume with a detailed account of the past, present, and future of the problem of breeding disease-resistant varieties.

The editors and their collaborators have succeeded admirably in bringing together available information in the field of plant pathology, with special reference to modern trends.

JOHN A. STEVENSON

4113 Emery Place, NW,
Washington, D.C.

Information and Decision Processes.

Robert E. Machol, Ed. McGraw-Hill, New York, 1960. ix + 185 pp. Illus. \$5.95.

This is a collection of papers presented at a symposium held at Purdue University in 1959. The papers range from informal and easily readable accounts of recent research to highly technical accounts. In the former cate-

gory are papers by Brown and Doob on the role of computation in decision problems and the consistency of stochastic models. In the latter category is a résumé of recent work on Markov chains by Rosenblatt and on the lower bounds for the expected sample size of a sequential test by Hoeffding. There are also papers on information theory, subjective probability, and testing methods.

On the whole this is an interesting collection, but the small print renders the book almost unreadable.

GEORGE WEISS

Institute for Fluid Dynamics and
Applied Mathematics, University of
Maryland

New Books

Biological and Medical Sciences

Beecher, Henry K., Ed. *Disease and the Advancement of Basic Science*. Harvard Univ. Press, Cambridge, Mass., 1960. 427 pp. \$12.50. The purpose of this volume, which developed out of the Lowell lectures of 1958, is to show that some kinds of fundamental advances in science can be made only from study of disease. Among the 21 contributors who discuss this proposition from the vantage points of their own knowledge and work are Paul Weiss, C. F. Cori, Ralph W. Gerard, and René J. Dubos.

Breckenridge, Marian E., and E. Lee Vincent. *Child Development*. Saunders, Philadelphia, Pa., ed. 4, 1960. 661 pp.

Compendium of Plant Diseases. Rohm and Haas, Philadelphia, Pa., 1960. 264 pp. A collection of colored illustrations showing diseased plants.

Heftmann, Erich, and Erich Mosettig. *Biochemistry of Steroids*. Reinhold, New York; Chapman and Hall, London, 1960. 242 pp. Text, \$5.75; trade, \$6.90.

Heller, John H., Ed. *Reticuloendothelial Structure and Function*. Ronald, New York, 1960. 483 pp. \$12. Contains the papers presented at the 3rd International Symposium of the International Society for Research on the Reticuloendothelial System held in Rapallo, Italy, in August 1958.

Kalmus, H., and S. J. Hubbard. *The Chemical Senses in Health and Disease*. Thomas, Springfield, Ill., 1960. 102 pp. \$3.75.

Lewis, Lena A. *Electrophoresis in Physiology*. With a chapter on "Immunoelectrophoresis" by M. D. Poulik. Thomas, Springfield, Ill., ed. 2, 1960. 120 pp. \$5.50.

Mallette, M. Frank, Paul M. Althouse, and Carl O. Clagett. *Biochemistry of Plants and Animals*. Wiley, New York, 1960. 565 pp. \$8.50.

Schade, Rudolf Otto Karl. *Gastric Cytology*. Arnold, London; Williams and Wilkins, Baltimore, Md., 1960. 89 pp. \$8.

Schudel, Lydia. *Manual of Blood Morphology*. Lippincott, Philadelphia, Pa., ed. 9, 1960. 53 pp. \$4.50.

Simon, Harold J. *Attenuated Infection*.

The germ theory in contemporary perspective. Lippincott, Philadelphia, Pa., 1960. 365 pp. \$10.

Skutch, Alexander F. *Life Histories of Central American Birds*. vol. 2, *Families Vireonidae, Sylviidae, Turdidae, Troglodytidae, Paridae, Corvidae, Hirundinidae, and Tyrannidae*. Cooper Ornithological Society, Berkeley, Calif., 1960.

Symposium der Deutschen Arbeitsgemeinschaft für Neuropsychopharmakologie. vol. 2, No. 2, of *Medicina Experimentalis*. Karger, Basel, Switzerland, 1960 (order from A. J. Phiebig, P.O. Box 352, White Plains, N.Y.). 238 pp. \$9.50.

Unbreit, Wayne W. *Advances in Applied Microbiology*. vol. 2. Academic Press, New York, 1960. 396 pp. \$12.

Watson, J. M. *Medical Helminthology*. Bailliere, Tindall and Cox, London; Williams and Wilkins, Baltimore, Md., 1960. 498 pp. \$15.50.

Whitfield, I. C. *An Introduction to Electronics for Physiological Workers*. Macmillan, London; St. Martin's Press, New York, ed. 2, 1960. 274 pp.

Wiedling, Sten. *Xylocaine*. The pharmacological basis of its clinical use. Almquist and Wiksell, Stockholm, Sweden, 1960. 146 pp. Kr. 20.

Willmer, E. N. *Cytology and Evolution*. Academic Press, New York, 1960. 440 pp. \$10.

Woolmer, Ronald F., Ed. *A Symposium on pH and Blood Gas Measurement*. Methods and interpretation. Little, Brown, Boston, 1959. Contains the report (10 papers) of the symposium held 2-3 December 1958; 25 participants attended the conference.

Zeisler, Ernest Bloomfield. *Electrocardiography: Principles and Practice*. Login Brothers, Chicago, Ill., 1960. 374 pp.

Zinsser: *Microbiology*. David T. Smith et al. Appleton-Century-Crofts, New York, ed. 12, 1960. 1040 pp.

Reprints

Bartlett, M. S. *An Introduction to Stochastic Processes*. With special reference to methods and applications. Cambridge Univ. Press, New York, 1960. 321 pp. \$2.95.

Coxeter, H. S. M. *The Real Projective Plane*. Cambridge Univ. Press, New York, ed. 2, 1960. 226 pp. \$3.75.

Graham, L. A. *Ingenious Mathematical Problems and Methods*. Dover, New York, 1960. 244 pp. Paper, \$1.45.

Landau, Edmund. *Grundlagen der Analysis* (Das Rechnen mit Ganzen, Rationalen, Irrationalen, Komplexen Zahlen). Chelsea, New York, ed. 3, 1960. \$1.95. In this edition the prefaces have been translated by F. Steinhardt and a German-English vocabulary has been appended.

Rawcliffe, D. H. *Illusions and Delusions of the Supernatural and the Occult*. Dover, New York, 1959. 551 pp. \$2. Originally published as *The Psychology of the Occult*.

Thiel, Rudolf. *And There Was Light*. The discovery of the universe. Translated from the German by Richard and Clara Winston. New American Library, New York, 1960. 384 pp. \$0.75.