

fever. After all, tissues can respond in only limited ways to damaging influences, particularly when viewed by the relatively crude methods of microscopic anatomy.

Probably only the mellowing effects of time will relegate the concept of stress, as outlined in this book, and the therapeutic and physiologic significance of cortisone and ACTH, upon which in large measure it is predicated, to their proper importance. The critical reader will find much to alienate his admiration; the uncritical and inexperienced reader will be carried away by the extravagance of the author's concepts. Both will agree that Dr. Selye has assembled an astonishing array of apparently unrelated facts. Whether the result is an epoch-making new concept, a hodgepodge of irrelevance, or an interesting survey will undoubtedly be argued for some time. In any case, he has presented his argument with his usual fervor and the liberal use of such neologisms as "Cushingoid," "corticoid," "trophophylaxis," etc., which characterize his prolific writings.

ARTHUR GROLLMAN

*Department of Physiology and Pharmacology
Southwestern Medical School of the
University of Texas*

Elements of Bacterial Cytology. 2nd ed. Georges Knaysi. Ithaca, N. Y.: Comstock, 1951. 375 pp. \$5.00.

During the past decade interest in bacterial cytology has increased rapidly. Development of the electron and phase microscopes and refined microchemical techniques has led to the contribution of additional knowledge to the already vast volume of literature that followed Cohn's classic work on bacterial morphology.

In 1944 Knaysi presented a concise organization of the information and judgment derived from more than 15 years of study and research on the nature of the bacterial cell. Many valuable but widely scattered descriptions of the structures and behavior of microorganisms were selected to illustrate each aspect of cytology. This second edition has been expanded to include the most recent research on the structure, chemical composition, and motility of the cell. New charts and photographs admirably illustrate the structures referred to in the text. Many unsolved and controversial problems have been presented and discussed by the author, whose contributions in this field eminently qualify him for the task.

Important additions have been made in many sections of the book. The discussion of the variation in the form and size of the bacterial cell during the processes of growth and reproduction presents evidence of cytological differences among microorganisms. There is an entirely new chapter on the chemical composition and structural organization of the cell. The subject of the bacterial nucleus has been more thoroughly presented in the light of recent research. A consideration of the changes in the osmotic pressure of the cells and medium during growth supplements the section on the physicochemical properties of bacterial membranes.

The revised chapter on the motion of bacteria discusses both sides of, perhaps, the most controversial question in cytology today. Outstanding electron micrographs show the details of spore germination and greatly increase the value of the chapter on the spores of bacteria. There has been little or no revision of the sections dealing with the cytology of the actinomycetes, spirochetes, and myxobacteria. The author obviously has not attempted to include all the recent literature; however, the student will find the references to earlier work most useful.

The bacterial cytologist encounters many imposing problems in his efforts to observe and explain the nature of living cells. Many of the techniques that have been employed result in important changes that may kill the cells or, at least, alter their activities. Slight modifications in procedures may cause marked differences in the appearance and behavior of the cells, with the resultant lack of agreement among investigators. The straightforward and well-illustrated presentation of the various observations, followed by their considered interpretations, by one of the leaders in bacterial cytology should prove of real value in orienting the reader in a field confused by many conflicting opinions.

Elements of Bacterial Cytology most adequately accomplishes the aim of the author to present a clear concept of the structure of the bacterial cell "according to what is judged to be the best present knowledge."

RUTH LOFGREN

*Department of Bacteriology
University of Michigan*

Scientific Book Register

A Study of Classic Maya Sculpture. Tatiana Proskouria-koff. Washington, D. C.: Carnegie Institution of Washington, 1950. 209 pp.; 111 figures. \$5.75 paper; \$6.25 cloth.

Genetic Neurology: Problems of the Development, Growth, and Regeneration of the Nervous System and of its Functions. Conference sponsored by the International Union of Biological Sciences. Paul Weiss, Ed. Chicago: Univ. Chicago Press, 1950. 239 pp. \$5.00.

The Mountain of Giants: A Racial and Cultural Study of the North Albanian Mountain Ghegs. Carleton S. Coon. Cambridge, Mass.: Peabody Museum of American Archaeology and Ethnology, Harvard University, 1950. 105 pp., 16 figures. \$4.75.

Native Orchids of North America: North of Mexico. Donovan Stewart Correll. Waltham, Mass.: Chronica Botanica; New York: Stechert-Hafner, 1950. 399 pp. \$7.50.

An Introduction to Universal Serologic Reaction in Health and Disease. Reuben L. Kahn. New York: Commonwealth Fund, 1951. 159 pp. \$3.50.

Selected Topics in X-Ray Crystallography from the Delft X-Ray Institutes. J. Bouman, Ed. Amsterdam: North-Holland; New York: Interscience, 1951. 375 pp. \$11.00.

- Pituitary-Adrenal Function.* A symposium organized by the Section on Medical Sciences of the A.A.A.S. and presented at the New York meeting on December 28-29, 1949. Gordon K. Moe, Ed. Washington, D. C.: American Association for the Advancement of Science, 1950. 211 pp. \$4.00; prepaid orders from members, \$3.50.
- Methods of Operations Research.* Rev. ed. Philip M. Morse and George E. Kimball. Cambridge, Mass.: Technology Press, M.I.T.; New York: Wiley, 1951. 158 pp. \$4.00.
- Nutrition and Chemical Growth in Childhood: Calculated Data.* Vol. III. Icie G. Macy. Springfield, Ill.: Thomas, 1951. Pp. 1463-2174. \$8.00.
- The Growth of Physical Science.* 2nd ed. Sir James Jeans. New York: Cambridge Univ. Press, 1951. 364 pp. \$3.75.
- The Behavior of Engineering Metals.* H. W. Gillett. New York: Wiley; London: Chapman & Hall, 1951. 395 pp. \$6.50.
- Physical Methods in Chemical Analysis.* Vol. II. Walter G. Berl, Ed. New York: Academic Press, 1951. 640 pp. \$13.50.
- Principles of Phase Equilibria.* F. E. W. Wetmore and D. J. LeRoy. New York: McGraw-Hill, 1951. 200 pp. \$3.50.
- The Biochemistry of the Nucleic Acids.* J. N. Davidson. London: Methuen; New York: Wiley, 1950. 163 pp. \$1.75.
- Distillation Equilibrium Data.* Ju Chin Chu. New York: Reinhold, 1950. 304 pp. \$6.00.
- Physics: Its Laws, Ideas, and Methods.* Alexander Kolin. New York: McGraw-Hill, 1950. 890 pp. \$6.50.
- The External Secretion of the Pancreas.* J. Earl Thomas. Springfield, Ill.: Thomas, 1950. 149 pp. \$3.50.
- Biochemistry of Glucuronic Acid.* Neal E. Artz and Elizabeth M. Osman. New York: Academic Press, 1950. 103 pp. \$2.50.
- La Combustion du Carbone, XX. Colloques Internationaux du C.N.R.S., Nancy, 27-30 Septembre 1949.* Paris, France: Centre National de la Recherche Scientifique, 1950. 128 pp. 1,800 fr.
- The Heavens Above: A Rationale of Astronomy.* J. B. Sidgwick; American ed. prepared by Warren K. Green. New York: Oxford Univ. Press, 1950. 333 pp. \$4.00.
- Atlas and Laboratory Manual for the Dissection of the Shark.* William Henry Atwood. Minneapolis, Minn.: Burgess, 1951. 40 pp. and 19 plates. \$2.00.
- Statement on Race.* Discussion of the "UNESCO Statement by Experts on Race Problems." Ashley Montagu. New York: Schuman, 1951. 172 pp. \$2.00.

Book Review Index

- Advanced Organic Chemistry.* Reynold C. Fuson, p. 448.
- Advances in Radiochemistry.* Engelbert Broda, p. 449.
- Atom at Work, The.* Jacob Sacks, p. 427.
- Bacterial Polysaccharides.* Martin Burger, p. 452.
- Biochemistry of B Vitamins, The.* Roger J. Williams, et al., p. 452.
- Care and Breeding of Laboratory Animals, The.* Edmond J. Farris, Ed., p. 460.
- Carotenoids.* Paul Karrer and Ernst Jucker, p. 451.
- Chemical Embryology.* Jean Brachet, p. 458.
- Chemistry and Biology of Proteins.* Felix Haurowitz, p. 449.
- Comparative Animal Physiology.* C. Ladd Prosser, Ed., p. 456.
- Cooperation Among Animals.* W. C. Allee, p. 427.
- De Re Metallica.* Georgius Agricola, p. 439.
- Economic Aspects of Atomic Power.* Sam H. Schurr and Jacob Marschak, p. 441.
- Elements of Bacterial Cytology.* Georges Knaysi, p. 463.
- Enzymes, The.* James B. Sumner and Karl Myrbäck, Eds., p. 453.
- Evolution Emerging.* William K. Gregory, p. 434.
- Flight of Thunderbolts, The.* B. F. J. Schonland, p. 427.
- Fluorine Chemistry.* J. H. Simons, Ed., p. 450.
- Fresh-Water Algae of the United States, The.* Gilbert M. Smith, p. 457.
- Friction and Lubrication of Solids, The.* F. P. Bowden and D. Tabor, p. 443.
- Genes, Plants and People.* C. D. Darlington and K. Mather, p. 456.
- Growth of Scientific Ideas, The.* W. P. D. Wightman, p. 427.
- Handbook of Freshwater Fishery Biology.* Kenneth D. Carlander, p. 458.
- Impact of Science on Society, The.* Bertrand Russell, p. 427.
- Introductory Nuclear Physics.* David Halliday, p. 443.
- James River Basin, The.* p. 442.
- Life of Vertebrates, The.* J. Z. Young, p. 454.
- Main Stream of Mathematics, The.* Edna E. Kramer, p. 445.
- Manual of Artificial Radioisotope Therapy.* A. Paul F. Hahn, Ed., p. 461.
- Mathematics.* Eric Temple Bell, p. 445.
- Methods in Climatology.* Victor Conrad and L. W. Pollak, p. 446.
- Nature of the Universe, The.* Fred Hoyle, p. 427.
- Negative Ions.* H. S. W. Massey, p. 445.
- New You and Heredity, The.* Amram Scheinfeld, p. 440.
- Of Societies and Men.* Caryl P. Haskins, p. 439.
- Organic Syntheses.* Arthur C. Cope, Ed., p. 451.
- Organophosphorus Compounds.* Gennady M. Kosolapoff, p. 453.
- Physiology and Pathology of Exposure to Stress, The.* Hans Selye, p. 462.
- Researches on Fungi.* A. H. Reginald Buller, p. 455.
- Rise of Scientific Philosophy, The.* Hans Reichenbach, p. 427.
- Science and Common Sense.* James B. Conant, p. 427.
- Science of Petroleum, The: Crude Oils, Chemical and Physical Properties.* Benjamin T. Brooks and A. E. Dunstan, Eds., p. 454.
- Solubility of Nonelectrolytes, The.* Joel H. Hildebrand and Robert L. Scott, p. 450.
- Structure et Activité Pharmacodynamique des Médicaments du Système Nerveux Végétatif.* D. Bovet and F. Bovet-Nitti, p. 462.
- Superfluids.* Fritz London, p. 447.
- Textbook of Modern Pollen Analysis.* Knut Faegri and John Iversen, p. 459.
- Theory of Valuations, The.* O. F. G. Schilling, p. 448.
- Toxaemias of Pregnancy.* John Hammond, F. J. Browne, and G. E. W. Wolstenholme, Eds., p. 461.
- Transmission of Nerve Impulses at Neuroeffector Junctions and Peripheral Synapses, The.* Arturo Rosenblueth, p. 460.
- Weltsystem, Weltäther und die Relativitätstheorie.* Karl Jellinek, p. 444.