• Books of the Week •

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Textbooks

Textbooks will be listed separately the last issue of each month.

BASIC AUTOMATIC CONTROL THEORY—Gordon J. Murphy—Van Nostrand, 2nd ed., 832 p., diagrams, $14.75. This introductory text presents many of the more modern concepts of the analysis and design of automatic control systems in conjunction with the older concepts, to provide the student with a broad foundation for more advanced work.

THE CELL: Chemistry and Function—Roger H. Trumbore—Mosby, 412 p., 16 plates of electron micrographs, diagrams, $12. This text combines biochemistry with cell physiology, it deals with the biochemistry of the cell constituents, the physio-chemical environment, bioenergetics, intermediary metabolism, the functional cell, cell processes and control mechanisms.

CELL BIOLOGY: A Current Summary—John Paul—Stanford Univ. Press. 197 p., 18 plates of electron micrographs, diagrams, paper, $1.95. A tightly organized and integrated outline of the essentials of cell biology, with extensive bibliography correlated with text.

THE CHEMISTRY OF THE METALLIC ELEMENTS—David Steele—Pergamon Press, 138 p., diagrams, tables, paper, $3.45. A concise text addressing the advanced high school and beginning college student, emphases comparison of groups of elements.

DIFFERENTIAL GEOMETRY—William C. Graustein—Dover, 230 p., paper, $2. Unabridged reprint of first (1935) edition, contains 190 exercises.

ESSENTIALS OF BIOLOGICAL CHEMISTRY—James L. Fairley and Gordon L. Kilgour—Reinhold, 2nd ed., 314 p., diagrams, $9. Major changes are the addition of material on protein and nucleic acid structure, chapter on molecular genetics and protein synthesis, and quantitative treatment of Michaelis-Menten kinetics.

AN EXPERIMENTAL APPROACH TO BIOLOGY—Peter Abramoff and Robert G. Thomson—Freeman, 253 p., illus., paper, $3.75. Contains 35 exercises designed to acquaint the student with fundamental principles and concepts of living systems through an experimental analysis of these systems. Also discussed are modern techniques of biological research.

FIRST CONCEPTS OF TOPOLOGY: The Geometry of Mappings of Segments, Curves, Circles and Disks—W. G. Chinn and N.E. Steenrod—Random House, 160 p., diagrams, paper, $1.95. Written by professional mathematicians for high school students, the monograph demonstrates the adaptability of topology in proving so-called existence theorems.

FORESTRY—Derek Waters—Pergamon Press, 152 p., illus. by author, vinyl, $3.95. Looks at the parts of a tree in detail, discusses nurseries and reforestation, ecology and tree enemies, each chapter suggesting experiments.

THE FROG: A Practical Guide—T. A. G. Wells—Heinemann (Dover), 44 p., illus., $1.35. Laboratory manual using frog to demonstrate the structural modifications made necessary by the transition from an aquatic to a terrestrial habitat.

GAS PHASE REACTION RATE THEORY—Harold S. Johnston—Ronald Press, 362 p., diagrams, $10. Directed at seniors and first-year graduate students, the text attempts to teach in detail certain basic methods in molecular mechanics and chemical kinetics.

INTRODUCTION TO MOLECULAR SPECTROSCOPY—Anthony J. Sonnessa—Reinhold, 116 p., diagrams, paper, $1.95. Addressing beginning students in organic chemistry, the book presents the important aspects of spectroscopy on an elementary level.

INTRODUCTION TO REAL ANALYSIS—Casper Goffman—Harper, 160 p., $7.50. Aimed at advanced undergraduates, this text introduces the processes of analysis and uses them to obtain simple, but interesting and important, mathematical facts. Challenging exercises are included.

INTRODUCTION TO THE CHEMICAL PROCESS INDUSTRIES—Richard M. Stephenson—Reinhold, 474 p., diagrams, $14.75. This undergraduate text discusses the most important chemical process industries with emphasis on the basic chemical and thermodynamic principles of the individual processes and the interrelationship of one process with another.

INVERTEBRATE TYPES: A Practical Guide—T. A. G. Wells—Heinemann (Dover), 173 p., illus., $3.50. Laboratory manual with instructions for dissecting protozoa, tape worm, liver fluke, earthworm, crayfish and cockroach.

LIFE INTO SPACE: An Introduction to Space Biology—Charles C. Wunder—Davis, F. A., 324 p., illus., $9.50. Text designed to offer the graduate and medical student material in greater depth on topics involving the application of their specialized knowledge to the problems of carrying life into space.

THE LIFE OF YEASTS: Their Nature, Activity, Ecology and Relation to Mankind—H. J. Phaff, M. W. Miller and E. M. Mrak—Harvard Univ. Press, 186 p., illus., $5.50. Offers biologists and biochemists a nonspecialist treatment of topics covering the vital activities of yeasts, deemphasizing general biochemical aspects, while placing greater emphasis on certain biological properties.

THE MAGNETIC PROPERTIES OF MATTER—D. E. G. Williams—Am. Elsevier Pub. Co., 232 p., diagrams, $11.75. Intended for advanced undergraduate students of physics and for postgraduate workers in the field of magnetism.

MECHANISMS OF ANIMAL BEHAVIOR—Peter Marler and William J. Hamilton III—Wiley, 771 p., illus., $14.95. Treatise on the interplay of exogenous and endogenous factors in the control and development of animal behavior, on the processes that determine when behavior will occur and what form it will take. Written at the senior undergraduate and graduate student level.

MECHANISMS OF ELECTRON TRANSFER—Warren L. Reynolds and Rufus W. Lumry—Ronald Press, 175 p., $9. Presents an introduction to what are now thought to be the principal mechanisms of electron-transfer reactions. Suitable for advanced undergraduate and graduate students in physical and inorganic chemistry.

MODERN LOGIC: An Introduction—Norman L. Thomas—Barnes & Noble, 236 p., diagrams, paper, $1.50. A college outline keyed to standard textbooks, with exercises and answers.

NATURAL AND MANMADE TEXTILE FIBERS: Raw Material to Finished Fabric—George E. Linton—Duell, Sloan, 420 p., illus., $7.95. Concisely written text and up-to-date handbook, deals with the history, classification and grades, manufacturing processes, finishing, testing and use of materials in textiles.

NERVE, MUSCLE AND SYNAPSE—Bernard Katz—McGraw, 193 p., diagrams, paper, $2.25. Written by a leading authority, the text provides an introduction to the structural and physicochemical properties of nerves, muscles and synapses, as well as to their functional relationships. With the help of numerical examples, the ideas and problems are pursued to the quantitative level.

NUMERICAL ANALYSIS FOR COMPUTERS—John A. N. Lee—Reinhold, 284 p., diagrams, $10. Addressing students at advanced undergraduate and beginning graduate level, this work is an introduction to numerical analysis with emphasis on its application to digital computers.

NUTRITION AND PHYSICAL FITNESS—L. Jean Bogert, George M. Briggs and Doris Howes Calloway—Saunders, 8th ed., 614 p., illus. $7.50. Thoroughly updated text incorporating results of research, elaborating in greater detail such topics as energy nutrients, fatty acids, nucleoproteins, macro-and micro minerals, and the world food situation.

ORGANIC COMPOUNDS WITH NITROGEN-NITROGEN BONDS—C. G. Overberger, J-P. Anselme and J. G. Lombardino—Ronald Press, 115 p., $7. This monograph covers topics on the chemistry of azo and diazo compounds, on hydrazine and derivatives, hydrazides, N-nitrosamines and azides.

OUTLINE OF HISTORICAL GEOLOGY—A. K. Wells and J. F. Kirkaldy—Allen & Unwin (Barnes & Noble), 5th ed., 503 p., 133 illus., $7.75. Substantially revised text and reference work with new chapters on geochronology and on undersea geology. Special attention to recent revisions in nomenclature has been given.

PLANT PHYSIOLOGY—Robert M. Devlin—Reinhold, 564 p., illus., $11. The material presented is applicable to a one or two semester course, sections cover plant cell, water relations, carbohydrate metabolism, photosynthesis, mineral nutrition, plant growth hormones, growth and development.

PLASMAS: Laboratory and Cosmic—Forrest I. Boley—Van Nostrand, 154 p., illus., paper, $1.75. Provides a survey of some aspects of present-day plasma physics in a form understandable to students who have completed a first course in the calculus.

PROGRAMMED PHYSICS, Part III: Optics and Waves—Alexander Joseph and Daniel J. Leahy—Wiley, 212 p., 25 folded panels, paper, $3.95. The third of four parts which together constitute the text for a one-year programmed course in physics, written primarily for courses in the senior year of high school and first year of college.

THE RABBIT: A Practical Guide—T. A. G. Wells—Heineman (Dover), 74 p., illus., $1.35. Laboratory manual, including the more complex dissections in considerable detail.

RADIO ASTRONOMY—John D. Kraus—McGraw, 481 p., illus., $13.75. A teaching text and reference work that brings together a balanced

selection and treatment of a wide range of topics, from astrophysical phenomena to receiver and antenna design.

THE RAT: A Practical Guide—T. A. G. Wells—Heineman (Dover), 77 p., illus., $1.35. Laboratory guide, presents the practical work necessary to illustrate mammalian anatomy by dissecting the rat.

RELATIVITY FOR ENGINEERS AND SCIENCE TEACHERS—Laurence H. A. Carr—MacDonald (Ginn), 52 p., diagrams, $1.95. Simple text-book explanation of the meaning of the Special Theory of Relativity suitable for the average engineer.

SOUND CONTROL AND THERMAL INSULATION OF BUILDINGS—Paul Dunham Close—Reinhold, 502 p., illus., $17. Intended to cover the fundamentals of two major subjects plus essential design data and product information, including application details. A general reference for architects and contractors, as well as textbook.

A SOURCEBOOK FOR THE BIOLOGICAL SCIENCES—Evelyn Morholt, Paul F. Brandwein and Alexander Joseph—Harcourt, 2nd ed., 795 p., illus., $9.75. Substantially revised, incorporates materials of the BSCS, developing concepts in photosynthesis, respiration, heredity in microorganisms, gross anatomy and biochemistry of cells. Contains 340 new photographs and drawings of many organisms rarely shown in high school biology textbooks.

SPACETIME PHYSICS—Edwin F. Taylor and John Archibald Wheeler—Freeman, W. H., 208 p., illus., $4.75. Lucid presentation of the geometry of spacetime, momentum and energy, and the physics of curved spacetime, the text is based on an honors undergraduate physics course.

THE SUN AND STARS—John C. Brandt—McGraw, 161 p., plates, illus., $4.95; paper, $2.50. Written primarily for the undergraduate student majoring in the physical sciences, the treatment emphasizes the physical principles of the properties, structure and evolution of stars.

TROPICAL AFRICA TODAY—George H. T. Kimble and Ronald Steel—Webster Div., McGraw, 138 p., photographs, maps, paper, $3.95. Adapted from the original Twentieth Century Fund study, this greatly condensed and updated version is making authoritative material available to students.

WATER AND WASTEWATER ENGINEERING, Vol. 1: Water Supply and Wastewater Removal—Gordon Maskew Fair, John Charles Geyer and Daniel Alexander Okun—Wiley, multi-paged, diagrams, charts, $13.50. For students and practitioners of civil and sanitary engineering, this treatise stresses the science of water and wastewater engineering, dealing with water systems, rainfall and runoff, ground water flow, surface-water collection and optimization techniques.

WEATHER STUDIES—L. P. Smith—Pergamon Press, 131 p., illus., $4.50; flexi cover $2.45. Describes essentially a number of experiments students may perform studying the practical aspects of weather as a branch of elementary physics.

ZOOLOGY

Of Gerenuks and Dibatags

JABBERWOCKS, jubjub birds and bandersnatches come from Wonderland. Gerenuks, cokes and dibatags come from Africa and soon will be living throughout the United States after a three-month stopover on the New Jersey shore.

Exotic zoo animals boarded a ship in Kenya a few months ago and headed across the ocean, stopping at various ports along the way. When they reached New York they were forbidden to come ashore because, the U.S. Department of Agriculture ruled, they had pulled into ports where they might have picked up infectious hoof-and-mouth disease.

And so, nyalas, beisa oryx, cape buffalo, Kongoni, Thompson gazelles, Grant's gazelles, giraffes and a wildebeeste, along with gerenuks, cokes and a $10,000 dibatag were quarantined at Fort Slocum on a small island in Long Island Sound.

For 60 days these rare visitors have been under observation by scientists from the U.S. Department of Agriculture, which will foot most of the $60,000 to $80,000 hotel bill. Their stay at Fort Slocum was unevenful except for the birth of two baby beisa oryx one of which died shortly after birth.

After a 30-day pre-entry quarantine period at USDA's station at Clifton, N.J., the animals will be transferred to their respective zoos if given a clean bill of health.

Suffering from emotional trauma, many of the animals were overexcited, did not eat properly and generally had a difficult time adjusting. Most seemed to be all right, but three of the original 59 died. Including the baby oryx, there are 57 animals at present.

Most of the new "Americans" are hoofed animals of the gazelle or antelope family. The dibatag, probably the first of its kind to come to the United States, inhabits only a small region in eastern Ethiopia. A deep cinnamon color, it has long everything—neck, legs, tail and forward-hooked horns.

Cokes, looking like hairless gnus (which look like lanky water buffalo), are very friendly folk, found prancing over open plains with zebras, antelope and hartebeest cousins.

Dr. Theodore Reed of the National Zoological Park, Washington, D.C., told SCIENCE SERVICE that the two gerenuks in the group (a male and female), are destined for the Nation's Capital. They are delicate, browsing members of the antelope family and will grow to be five or six feet tall. Bananas are a staple of their diet in captivity, often complemented with fresh leaves.

Gerenuks apparently never need to drink water.

American Museum of Natural History

Gerenuk