

Books of the Week

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APPLIED GEOCHRONOLOGY—E. I. Hamilton, with a Chapter on Comparative Geochemistry by L. H. Ahrens—Academic Press, 267 p., illus., \$10. Investigates conventional geological problems, emphasizing the chemical and physical methods used, the significance of the results and their interpretation.

BASIC ELECTRICAL ENGINEERING—A. Kastatin and M. Perekalin, transl. from Russian, George Yankovsky, Ed.—Gordon & Breach, 386 p., illus., \$9.50. Electrical engineering concepts presented in text form.

A BOOK OF THE MILKY WAY GALAXY FOR YOU—Franklyn M. Branley—Crowell, unpag., illus. by Leonard Kessler, \$3.75. Explains to the young reader the place of our planet in the scheme of the universe.

CAN WE SAVE OUR CITIES? The Story of Urban Renewal—Maxwell S. Stewart—Public Affairs Pamphlets, 28 p., photographs, paper, 25¢ direct to publisher, 381 Park Ave. South, New York 10016. Analyzes the history of urban renewal, its accomplishments and the criticisms leveled against some programs.

COMING OF AGE IN AMERICA: Growth and Adolescence—Edgar Z. Friedenberg—Random House, 300 p., \$5.95. A study of the values and choices of American adolescents in their typical American secondary school setting, based on psychological tests and direct interviews of random samples.

COMPUTERS: Their History, Present Applications and Future—Shirley Thomas—Holt, 174 p., illus., \$2.50. A well organized presentation of the many aspects of the "computer revolution," the manufacturer, and career outlook.

CONCEPTS OF NURSING HOME ADMINISTRATION: A Manual for Executives of Prolonged-Illness Institutions—Harold Baumgarten, Jr.—Macmillan, 370 p., \$9. Presents views on social diagnosis, social pathology and social therapy as each affects the present-day nursing home.

COPERNICUS: Titan of Modern Astronomy—David C. Knight—Watts, F., 232 p., illus., \$2.95. Juvenile biography of the Polish-born renaissance scholar famous for his work on the Revolutions of the Heavenly Spheres.

DENEKI: An Alaskan Moose—William D. Berry—Macmillan, 48 p., illus. by author, \$2.95. Handsomely illustrated nature book for young readers, portraying wildlife in its environment.

EDUCATIONAL SERVICES INCORPORATED: A Review of Current Programs 1965—Gilbert Oak-

ley, Jr., Dir.—ESI, 80 p., paper, single copies free upon request direct to ESI, 108 Water St., Watertown, Mass. 02172. Report on school curriculum projects progress.

EDUCATORS GUIDE TO FREE TAPES, SCRIPTS AND TRANSCRIPTIONS—Walter A. Wittich and Gertie Hanson Halsted, Eds.—Educators Progress Service, 12th ed., 209 p., paper, \$5.75. Provides information on sources, availability and content of 518 free educational materials.

ELECTRONIC ANALOG COMPUTER PRIMER—James E. Stice and Bernet S. Swanson—Blaisdell, 160 p., diagrams, paper, \$2.75. Presents the fundamentals of analog computation to the novice in the electronics field.

ELECTRONIC COMPONENTS HOBBY MANUAL—R. G. Kempton, Ed.—General Electric, 2nd ed., 199 p., illus., paper, \$1.50. For amateurs and engineer-hobbyists, describes 35 projects ranging from dimming light gadget to thermistor thermometer with remote control and alarm.

ELEMENTARY TEACHERS GUIDE TO FREE CURRICULUM MATERIALS, 1965—Patricia H. Suttles, Ed.—Educators Progress Service, 32nd ed., 305 p., paper, \$7.50. Selective, annotated list of more than 1,200 items arranged by subject areas.

ELEMENTS OF HYPERSONIC AERODYNAMICS—R. N. Cox and L. F. Crabtree—Academic Press, 243 p., illus., \$6.50. A post-graduate course, deals with inviscid perfect gas flows, real gas effects, the hypersonic boundary layer and low density flows.

ENERGETICS IN METALLURGICAL PHENOMENA, Vol. I—William M. Mueller, Ed.—Gordon & Breach, 425 p., illus., \$19.50; paper, \$9.50. Proceedings of 1962 seminar, dealing with intermetallic diffusion, solid solutions, transformations, energetics in dislocation mechanics, and oxidation of metals.

ERGODIC THEORY IN STATISTICAL MECHANICS—I. E. Farquhar—Interscience, 235 p., \$12. Monograph on physical aspects of the ergodic theorem, in the context of both classical statistical mechanics and quantum-statistical mechanics.

EYES IN SPACE: Spacecraft Views of the Universe—Robert E. Mueller—Day, 159 p., illus. by author, \$3.75. Describes man's attempts to extend his vision into space through telescopes, radio telescopes, satellites and potential spacecraft.

FIESTA TIME IN LATIN AMERICA—Jean Milne—Ward Ritchie Press, 236 p., illus., \$4.95. Describes the festivals that occur in the Latin American countries every day of the year, and includes chronological charts of events for each country.

THE FIRST BOOK OF AMERICAN EXPANSION—Wyatt Blassingame—Watts, F., 66 p., illus. by Fred Sweny, \$2.65. The story of the settlement of the North American continent.

FUNDAMENTALS OF COMPUTER TECHNOLOGY—Ye. A. Drozdov, V. I. Prokhorov and A. P. Pyatibratov, transl. from Russian—NASA (Clearinghouse), 450 p., diagrams, paper, \$5. Describes in detail the hardware and operating principles of general and special-purpose digital computers, with emphasis on the large USSR computers.

THE GENE CONCEPTS—Natalie Barish—Reinhold, 116 p., illus., paper, \$1.95. Discusses selected experiments in some detail to illustrate the changing

methods and ideas of geneticists and the dependence of these ideas on previous experiments and interpretations.

GRAPHICAL TECHNIQUES FOR ENGINEERING COMPUTATIONS—Walter Herbert Burrows—Chemical Pub. Co., 435 p., scales, graphs, diagrams, \$15. Concerned with the simplification of methods for graphical computation and the application of the slide rule and nomograph as labor reducing devices.

THE GREENHOUSE—C. C. Lewis—Pergamon Press, 222 p., illus., paper, \$3.50. A book for teachers describing a school greenhouse, equipment, climate, food and other necessities of plants in the form of assignments for experimenting.

THE HANDICAPPED CHILDREN OF ALABAMA COUNTY, NORTH CAROLINA: A Medical and Sociological Study—William P. Richardson and A. C. Higgins with Richard G. Ames—Nemours Foundation, 157 p., single copies free upon request direct to Dept. of Preventive Medicine, Univ. of N. C., Box 1020, Chapel Hill, N. C. Data and articles help in understanding the interrelated problems of the handicapped child, his family and his community.

THE HATTERS—Leonard Everett Fisher—Watts, F., 48 p., illus. by author, \$2.65. Handsomely describes the Colonial craftsman's process, from beaver skin to the finished Puritan's high hat.

HOME MEDICATION AND THE PUBLIC WELFARE—Chester S. Keefer, Ed.—N. Y. Acad. of Sciences, Annals, Vol. 120, Art. 2, 217 p., paper, \$6. Conference papers discussing the history of home remedies, their legislative regulation, self-medication in Europe and Japan, use and misuse, and other aspects of home medication.

HOW SCIENTISTS FIND OUT: A Book about Experimental Medicine and Scientific Method—William D. Lottspeich—Little, Brown, 151 p., illus. by John C. Menihan, \$3.95. Tells boys and girls through real cases how discoveries are made by research workers.

HUMPHREY DAVY AND CHEMICAL DISCOVERY—Elba O. Carrier—Watts, F., 161 p., illus., \$2.95. Juvenile biography of an early 19th century chemist.

AN INQUIRY INTO ENOUGHNESS: Of Bombs and Men and Staying Alive—Daniel Lang—McGraw, 216 p., photographs, \$5.50. Concerned with the problems and efforts to halt the arms race, based on interviews with U.S. top decision-making personalities, Geneva test ban negotiations and discussions with scientists at Pugwash Conference.

JUNIOR SCIENCE BOOK OF VOLCANOES—Patricia Lauber—Garrard Pub. Co., 64 p., photographs, illus. by M. Kalmenoff, \$1.98. Interesting reading for early grades.

JUNIOR SCIENCE BOOK OF WATER EXPERIMENTS—Rocco V. Feravolo—Garrard, 64 p., illus., \$1.98. Easily performed experiments for boys and girls, designed to explain essential facts about water.

THE MANAGEMENT OF RADIOACTIVE WASTES PRODUCED BY RADIOISOTOPE USERS: A Code of Practice Based on the Report of a Panel of Experts—IAEA (International Publications, N.Y.), 58 p., paper, \$1.50. Intended to serve as a guide to radioisotope users and to encourage greater acceptance of radioisotopes as a standard tool for modern science and industry.

THE MEDICAL ANNUAL: 1964: A Year Book of Treatment and Practitioners' Index—Sir Ronald Bodley Scott and R. Milnes Walker, Eds.—Wright & Sons (Williams & Wilkins), 552 p., 80 plates, \$8.50. British review of the year's work, including special article on auto-immunity as a cause of disease.

METEORS, COMETS AND METEORITES—Gerald S. Hawkins—McGraw, 134 p., illus., paper, \$2.50. Written by a specialist in the field, gives a readable account of our present knowledge of the physics and astronomy of the interplanetary objects that have direct contact with the earth.

MICROELECTRONIC CIRCUITS AND APPLICATIONS—John M. Carroll—McGraw, 360 p., illus., \$9.75. Designed especially for the working engineer, this book deals with both linear and nonlinear integrated circuits, thin-film circuits, composite components, optoelectronic and cryogenic circuits.

THE MOLECULAR BIOLOGY OF DEVELOPMENT—James Bonner—Oxford Univ. Press, 155 p., diagrams, \$3.50. Addressed to the biologist, the book presents new insights gained by molecular biology, explaining why different cells in the same body are different from one another, and how such differences arise.

MOLECULAR BIOLOGY OF THE GENE—J. D. Watson—Benjamin, 494 p., illus., \$10; paper, \$5.95. Nobel Prize winner's text, relates the recent exciting discoveries of molecular genetics to the basic problem of biology—the nature of cells and how they divide. Book begins with section giving the Mendelian view of the world, and closes with the geneticist's view of cancer.

MOLECULES AND LIFE—Robert F. Steiner and Harold Edelhoch—Van Nostrand, 207 p., illus., paper, \$1.95. Elementary treatment of biological systems at the molecular level through use of established principles of physics and chemistry.

THE ORIGINS OF MATERIALISM—George Novack—Merit Publishers, 300 p., \$6.95. A study

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of materialism's first phase, its origin among the Ionian Greeks and evolution in the world of antiquity.

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PEACEFUL APPLICATIONS OF NUCLEAR EXPLOSIVES—PLOWSHARE: Hearing before Joint Committee on Atomic Energy, U.S. Congress—John O. Pastore and Chet Holifield, Chmn.—GPO, 620 p., illus., paper, \$2. Statements concerning nuclear cratering, harbor and canal digging, with discussion of specific programs and events.

PEOPLE OF THE WORLD, Vol. 3—David Petrie and others—Walck, 133 p., illus., \$3. Tells boys and girls about people of the African desert, on plantations in Malaya and Guatemala, and about the Keralans of Southern India.

PHILOSOPHIES OF RELIGION—William S. Sahakian—Schenkman Pub. Co., 476 p., \$6.95. A book of readings from the works of such men as T. H. Huxley, Bertrand Russell, William James, C. G. Jung and Paul Tillich.

PHYSICAL METHODS FOR DETERMINING MOLECULAR GEOMETRY—Wallace S. Brey, Jr.—Reinhold, 117 p., illus., paper, \$1.95. Investigates problems involved in establishing the relative positions of atoms in molecules, and shows how the results on structure are obtained by experiment.

THE PHYSIOLOGY OF THE INSECT CENTRAL NERVOUS SYSTEM: Papers from the 12th International Congress of Entomology held in London, 1964—J. E. Treherne and J. W. L. Beament, Eds.—Academic Press, 277 p., illus., \$10. Summaries and reports of interest to the general biologist and the specialist, dealing with the most recent discoveries in insect neurophysiology.

POLITICS, LAW AND RITUAL IN TRIBAL SOCIETY—Max Gluckman—Aldine Pub. Co., 339 p., photographs, maps, \$7.50. A systematic introduction and step-by-step survey of the cumulative development of anthropological analysis of tribal institutions, from the 19th century to the present.

PROPAGATION OF SHORT RADIO WAVES—Donald E. Kerr—Dover, 728 p., charts, graphs, paper, \$3. Reprint (1951), originally Vol. 13 in M.I.T. Radiation Laboratory Series.

PUZZLES AND PARADOXES—T. H. O'Beirne—Oxford Univ. Press, 238 p., diagrams, \$5.75. Collection of attractive and comprehensible mathematical problems for mental recreation.

QUALITY OF THE ENVIRONMENT: An Economic Approach to Some Problems in Using Land, Water and Air—Orris C. Herfindahl and Allen V. Kneese—Johns Hopkins Press, 96 p., paper, \$2. Shows the non-economist why economic reasoning is indispensable in the analysis of natural resource problems, and seeks to give the economist some understanding of the non-economic substance of these problems.

RADAR SYSTEM ENGINEERING—Louis N. Ridenour, Ed.—Dover, 748 p., diagrams, paper, \$3. Reprint (1947), originally published as Vol. 1 in the M.I.T. Radiation Laboratory Series.

REGIONS, RESOURCES AND ECONOMIC GROWTH—Harvey S. Perloff and others—Univ. of Neb. Press, 716 p., illus., paper, \$1.95. Deals with concepts of economic growth and decline in relation to natural resource activities.

SCIENCE IN THE AGE OF SPACE—Dan Q. Posin—Quadrangle Bks., 271 p., photographs, diagrams, \$4.95. Discussions and experiments show how physics and other sciences have joined forces and inaugurated the new era of space exploration.

SCORE: The Strategy of Taking Tests—Darrell Huff—Ballantine Bks., 123 p., illus., paper, 60¢. An aid to build up self-confidence through clear thinking.

SECRETS OF THE HEART AND BLOOD—Anne Terry White and Gerald S. Lietz—Garrard, 80 p., illus., \$2.07. Explains to boys and girls the physiology of the circulatory system.

SELECTED EXERCISES FROM MICROBES IN ACTION: A Laboratory Manual of Microbiology—Harry W. Seeley, Jr. and Paul J. Vandemark—Freeman, 225 p., illus., \$3.50; paper, \$1.75. Exercises designed to serve as groundwork for more extensive experience in microscopic, cultural and physiological methods.

SOIL CONSERVATION IN PERSPECTIVE—R. Burnell Held and Marion Olawson—Johns Hopkins Press, 344 p., maps, \$7.50. Examines theoretical aspects of the man-resources relationship, evaluates the work that has been done and outlines systematically those areas requiring further investigation.

THE SOVIET UNION: A view from Within—Franklin Folsom—Nelson, 224 p., photographs, \$3.25. A very friendly look at the people of Russia today.

TECHNICAL AND ECONOMIC STATUS OF MAGNESIUM-LITHIUM ALLOYS: A Report to Industrial and Defense Management—Paul D. Frost—NASA (GPO), 46 p., photographs, paper, 25¢. On the general characteristics of the alloys, their

current applications and economic considerations for their future use.

THEORY OF FUNCTIONS OF A COMPLEX VARIABLE, Vols. I and II—A. R. Forsyth—Dover, 3rd ed., 855 p., paper, \$2.50 each, two-vol. set \$5. Reprint (1918).

WAVEFORMS—Britton Chance and others, Eds., Office of Scientific Research and Development, National Defense Research Committee—Dover, 785 p., illus., paper, \$3.25. Reprint (1949).

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. I, No. 1—Office of the Federal Register—GPO, 25 p., paper, subscription, \$6 per year. Published every Monday, contains statements, messages and other Presidential materials received up to 5:00 p.m. the preceding Friday.

THE WILDLIFE OF AFRICA—Jocelyn Arundel—Hastings, 120 p., illus. by W. Dennis, \$3.95. Tells young people about the problems of the vanishing species and the resulting establishment of animal conservation programs in Africa.

WINDOWS ON THE WORLD—Anne Terry White and Gerald S. Lietz—Garrard Pub. Co., 80 p., illus. by Ted Schroeder, \$2.07. Tells children about the five senses.

THE WORLD OF THE FOREST—Henry Clepper and Arthur B. Meyer—Heath, 122 p., photographs, paper, \$1.32. Text and reference on the scientific management of forests, written by a professional forester especially for students and general readers.

• Science News Letter, 88:188 September 18, 1965

Nature Note

Venus Flower Basket

► THE VENUS Flower Basket, *Euplectella*, is a glass sponge, made up of silicious spicules, with a curved tubular skeleton of glistening white, delicate lattice-work.

The beautiful glass sponges live at depths of 1,500 to 15,000 feet off islands in the Pacific Ocean around the Philippines and Japan. They sometimes house a pair of shrimp that enter the living network when very small and remain safe but imprisoned in its meshes as the whole system grows.

Glass sponges belong with the "lower" creatures in the animal kingdom. Living in the deep sea, they are radially symmetrical, which means they have similar parts regularly arranged around a central axis. They grow into strange and beautiful solitary shapes resembling vases, cups, funnels or cylinders.

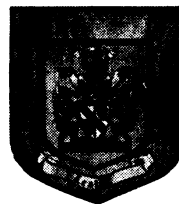
Sponges belong to the great phylum called Porifera which means "pore bearers." Pores or openings in the body wall permit water to swirl through the sponge body into a central cavity and out through an opening at the top. Food and oxygen are supplied to the animal by this constant flow of water.

Sponges are classified according to the composition of their skeletons. Some are chalky or limy, while others are softer and grow in the shape of horns. Bath sponges are in this horn sponge group.

When young, sponges are not attached to anything but swim freely about the water. Then they attach themselves to rocks, shells or other solid objects and become sedentary. Because of this plant-like appearance and sedentary behavior, scientists grouped them in the plant kingdom for a long time, until about 1857.

Man has used the dried and cleaned skeletons of sponges for centuries for bathing, and scrubbing floors and furniture. The Greeks used them also as padding in their shields and armor, and the Romans used them as mops and paint brushes.

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