

Books of the Week

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ALONE IN THE UNIVERSE?—John W. Macevey—Macmillan, 274 p., diagrams, \$5.95. The author, a research chemist and Fellow of the Royal Astronomical Society, speculates about the presence of intelligent forms of life in space.

AND THEN CAME MAN—Hartmut Bastian, transl. from German by Desmond I. Vesey, foreword by D. H. Dalby, Ed.—Viking, 354 p., illus., 32 plates, \$6.95. Highly readable account of the history of the earth, from fireball through the gradual appearance and elaborations of life to the early stages of Homo sapiens.

BIOGRAPHY OF PHYSICS—George Gamow—Harper, 338 p., illus. by author, paper, \$1.95. Reprint (1961), combines historical, biographical, factual and theoretical aspects of physics in highly readable narrative form.

CACTI AND SUCCULENTS: A Practical Handbook—Walther Haage, transl. from German and rev. by E. E. Kemp—Dutton, 264 p., 48 color plates, 680 illus., maps, \$10. A comprehensive handbook on the cultivation of cacti and detailed descriptions of a large selection of cultivated cacti and succulents.

CONFERENCE ON SPACE, SCIENCE AND URBAN LIFE, 1963—C. Easton Rothwell, Chmn.—NASA (GPO), 254 p., illus., paper, \$1.75. Papers and panel discussions explore techniques for translating space research findings into practical programs to help solve problems of metropolitan areas.

THE CONGRESSMAN: His Work as He Sees It—Charles L. Clapp—Brookings, 452 p., \$6. A study of the exacting responsibilities of members of the House and the ways in which representatives meet them, based on individual interviews and group discussion.

COOPERATION IN CHANGE—Ward Hunt Goodenough—Russell Sage Foundation, 543 p., \$6.50. An anthropological approach to community development, examines the nature of the problems to which development agents must find workable solutions.

DOMESTIC COMPACT AUTO REPAIR MANUAL—Edwin P. Anderson—Audel (Sams), 816 p., illus., \$5.95. Covers the maintenance and repair of more than a dozen of the most popular compact cars made in the United States.

ELECTRONIC ENGINEERS AND TECHNICIANS REFERENCE HANDBOOK—Electronic Teaching Laboratories—Sams, 224 p., diagrams, \$4.95. Compiled primarily for electronic technicians, engineering students and others who have need for concise reference on electronic principles.

EXPERIMENTAL PHARMACOGENETICS: Physiopathology of Heredity and Pharmacologic Responses—Hans Meier—Academic Press, 213 p., photographs, \$7.50. Reviews studies of disorders in genetically controlled animals, with heritable factors recognized by the use of drugs and hereditary defects altering drug responses.

A FIRST ELECTRICAL BOOK FOR BOYS—Alfred Morgan—Scribner, 3rd ed., 280 p., illus. by author, \$4.95. About magnetism, batteries, telegraph, bells, electric light, radio, radar and electronics, for intermediate level students.

FRONTIERS OF PSYCHOLOGY—John Mann—Macmillan, 306 p., \$5.95. Discusses psychological aspects of space travel, computers, teaching machines, communication theory, ESP, and changing human behavior.

FUNDAMENTALS OF SCIENTIFIC MATHEMATICS—George E. Owen—Harper, 274 p., illus., paper, \$1.75. Reprint (1961), provides a stimulating introduction to matrices, vector algebra, analytical geometry and calculus for advanced high school seniors.

THE GENERA OF FISHES AND A CLASSIFICATION OF FISHES—David Starr Jordan, new fore-

word by George S. Myers—Stanford Univ. Press, 800 p., \$17.50. Reissue of classic work in zoological taxonomy, including the comprehensive index by Hugh M. Smith and Leonard P. Schultz, compiled for the U.S. National Museum.

THE GLOBAL SEA—Harris B. Stewart, Jr.—Van Nostrand, 126 p., maps, paper, \$1.45. Original paperback in which top oceanographer presents in nontechnical terms the most recent results in the study of the sea.

GUIDE TO SCIENTIFIC AND TECHNICAL PERIODICALS: A Selected and Annotated List of Those Publishing in English—Ralph C. Martin and Wayne Jett—Swallow, A., 170 p., \$3.75; paper, \$1.85. Information includes editorial policies concerning contributors, payment and copyright practices.

HEALTH PROGRESS IN THE UNITED STATES, 1900-1960: A Report of Health Information Foundation—Monroe Lerner and Odin W. Anderson—Univ. of Chicago Press, 354 p., graphs, \$6.50. Volume gathers from many sources detailed statistical evidence of major trends in mortality and morbidity during the 20th century.

HEART DISEASE AND HIGH BLOOD PRESSURE—Kenneth C. Hutchin—Arc Bks., 78 p., diagrams by A. K. Hutchin, \$2.50; paper, 95¢. Authoritative and concise, explains the various real and imagined types of heart trouble to the layman.

HOW TO DRIVE BETTER AND AVOID ACCIDENTS—Paul W. Kearney—Crowell, 2nd rev. ed., 253 p., illus., \$4.95. Designed to help the average motorist understand better what happens when he drives, how to prevent skidding and blowouts, with new chapter on turnpike driving.

INSECT PHYSIOLOGY: Proceedings of the 23rd Annual Biology Colloquium—Victor J. Brookes, Ed.—Ore. State Univ. Press, 110 p., illus., \$4. Papers on the role of endocrines in the regulation of developmental and behavioral characteristics of insects.

ISLAND ZOO: The Animals a Famous Collector Couldn't Part With—Gerald Durrell—Macrae Smith Co., 64 p., photographs by W. Suschitzky, \$3.50. About a private zoo on Jersey in the Channel Islands, which holds a collection of birds, animals and reptiles that civilization elsewhere threatens with extinction.

LIFE AND THE PHYSICAL SCIENCES: Introduction to Biophysics—Harold J. Morowitz—Holt, 128 p., illus., \$2.50. A short authoritative view of modern biophysics and molecular biology.

MODERN DICTIONARY OF ELECTRONICS—Rudolf F. Graf—Sams, 2nd ed., 435 p., diagrams, \$6.95. Covers the broad field of electronics, with 2,400 new terms added, defines terms in popular style and includes lists of electronic symbols, Greek alphabet and semiconductor abbreviations.

OPEN DOOR TO LEARNING: The Land-Grant System Enters Its Second Century—Herman R. Allen—Univ. of Ill. Press, 193 p., \$5. Presents a critical evaluation of present performances in various educational areas and offers specific recommendations for changes and improvements.

PERSPECTIVE IN MEDIEVAL HISTORY—S. Harrison Thomson and others, Katherine Fischer Drew and Floyd Seyward Lear, Eds.—Univ. of Chicago Press for Rice University, 93 p., 8 plates, \$4. Among others contains paper on the medieval roots of modern technology and science.

PROGRAMED GENETICS, Vol. 1: The Basic Concepts—Chester A. Lawson and Mary Alice Burmester—Heath, 330 p., diagrams, paper, \$4.40. A field-tested self-instructional program requiring an average of 15 hours to complete.

PUBLIC OPINIONS AND ATTITUDES ABOUT MENTAL HEALTH: A Summary of Surveys, Implications for Communications—Harold P. Halpert—PHS (GPO), 22 p., paper, 15¢. Summarizes the findings and some of their implications.

RADIO AND TELEVISION: How They Work—Mike Bienstock—Rider, 94 p., photographs, diagrams, \$2.95. Explains technical radio and television concepts in terms and pictures boys can understand.

THE SCIENCE OF GENETICS—Charlotte Auerbach—Harper, 273 p., illus. by Inge G. Auerbach Linker, paper, \$1.85. Reprint (1961) of geneticist's entertaining account of the most recent discoveries in genetics.

SLIPPED DISCS—Kenneth C. Hutchin—Arc Bks., 94 p., illus., \$2.50; paper, 95¢. Physician

describes for the layman the causes of back troubles, precautions, symptoms and cure.

THE SOLAR SYSTEM—Angelo Rocca—Duell, 61 p., illus. by Fedini, \$2.95. A dramatically illustrated book for boys and girls.

SOME SCIENTIFIC PERSPECTIVES FOR CONSIDERATIONS OF SMOKING AND HEALTH QUESTIONS—Ad Hoc Committee of the Canadian Tobacco Industry—Imperial Tobacco Sales Co. of Canada, 60 p., paper, free upon request direct to publisher, P. O. Box 6500, Montreal, P. Q. Presentation of the tobacco industry's point of view.

THE SOYBEAN: Genetics, Breeding, Physiology, Nutrition, Management—A. G. Norman, Ed.—Academic Press, 239 p., paper, \$6. Contains updated and expanded versions of authoritative articles originally published in *Advances in Agronomy*.

THE SOYBEAN COOKBOOK—Mildred Lager and Dorothea Van Gundy Jones, foreword by Ruth Stout—Devin-Adair, 240 p., \$3.95. Revised version of "How to Use the Soybean," first printed in 1955.

STOMACH ULCERS—Sir Cecil Wakeley—Arc Bks., 78 p., illus., \$2.50; paper, 95¢. Authoritatively explains for the layman the causes of gastric ulcers and modern methods of treatment.

STUDY ABROAD, 1964-1966: International Directory of Fellowships, Scholarships, and Awards compiled by Unesco—Unesco (Unesco Publications Center, N. Y.), 15th ed., 648 p., paper, \$4. Contains information on more than 130,000 individual opportunities for subsidized international study and travel in 116 foreign States and territories.

TELEVISION REPAIR MANUAL—William E. Burke and Donald E. Herrington—Audel (Sams), 2nd ed., 503 p., illus., \$5. Reference handbook, completely revised and updated.

TEXTBOOK OF DYNAMICS—F. Chorlton—Van Nostrand, 263 p., \$8.50. A modern treatment of theoretical dynamics based on vectorial methods and the analytical developments of Lagrange.

TOMORROW'S WORLD OF SCIENCE: The Challenge of Today's Experiments—Gardner Soule—Coward-McCann, 120 p., photographs, \$2.95. Describes new careers in science and technology, for young people.

WEATHER SCIENCE STUDY KIT—U. S. Weather Bureau—GPO, 10 pamphlets and charts, illus., \$1. Collection of up-to-date material on weather forecasting and analysis, instruments, hurricanes, lightning, weather balloons and satellites.

WHEN CAVE MEN PAINTED—Norman Bates—Scribner, 48 p., illus. by author, \$2.95. A work of fiction for young readers about a particular prehistoric painting in the cave of Lascaux in the south of France.

• Science News Letter, 85:60 Jan. 25, 1964

PHYSICS

Earth Light Gives Clue To Star's Destruction

► A CLUE to the gigantic catastrophe that signals destruction of a "sun" somewhere in the universe has been found in light made in a laboratory here on earth.

Two University of Arizona scientists developed a method for duplicating some of the kinds of light given off when a star explodes. They found a way to make the atoms of a gas have a higher energy level and fewer electrons than has previously been possible under the controlled conditions of a laboratory.

They accomplished this by "shooting" ionized gas through a thin membrane of carbon or beryllium foil inside an accelerator for atomic particles. As the ionized atoms of gas pass through the foil, additional electrons are stripped from them.

The light of certain wavelengths emitted when these atoms return to a lower energy level is identical to that observed in light given off by the exploding stars called novae. Atoms in a nova are also stripped of electrons.

Dr. Aden B. Meinel, director of the University of Arizona's Steward Observatory, and Dr. Stanley Bashkin of the University of Arizona reported their discovery of these wavelengths in the *Astrophysical Journal*. The gases used included hydrogen, helium, nitrogen, oxygen, argon, krypton and xenon.

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ASTRONOMY

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Enjoy **SKY AND TELESCOPE** magazine monthly. Profusely illustrated. Observing and telescope making departments, monthly star and planet charts. Subscription in U.S.: \$6.00, 1 year; \$11.00, 2 years. Sample copy 60¢.

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