

Books of the Week

For the editorial information of our readers, books received for review are listed. For convenient purchase of any U. S. book in print, send a remittance to cover retail price (postage will be paid) to Book Department, Science Service, 1719 N Street, N.W., Washington 6, D. C.

AIR POLLUTION, Vols. I and II—Arthur C. Stern, Ed.—*Academic Press*, 656 p., 586 p., illus., \$20, \$18. Vol. I deals with air pollution and its dispersion, its effects, and the measuring and monitoring of air pollution. Vol. II covers air pollution sources, control methods and equipment, legislation and standards.

THE ANCIENT KINGDOMS OF THE NILE and the Doomed Monuments of Nubia—Walter A. Fairservis, Jr.—*Crowell*, 271 p., illus., \$6.95. Generously illustrated history of Nubia and its archaeological treasures, an eloquent plea for participation in the salvage program.

ANGLER'S GUIDE TO THE FRESH WATER SPORT FISHES OF NORTH AMERICA—Edward C. Migdalski—*Ronald*, 431 p., illus., \$8. Profusely illustrated with photographs and outline drawings for identification, book covers systematically 20 families of fresh water fishes.

ASYLUMS: Essays on the Social Situation of Mental Patients and Other Inmates—Erving Goffman—*Aldine Pub. Co.*, 386 p., \$6.75. Analysis of life reactions and relationships in "total institutions" where inmates are regimented, surrounded by other inmates and unable to leave the premises.

BALLISTIC MISSILE AND AEROSPACE TECHNOLOGY: Proceedings of the Sixth Symposium, Vol. I: Design and Reliability. Vol. II: Ballistic Missile and Space Electronics. Vol. III: Propulsion, Space Science and Space Exploration. Vol. IV: Re-entry—C. T. Morrow, L. D. Ely and M. R. Smith, Eds.—*Academic Press*, 404 p., 453 p., 445 p., 240 p., illus., \$8, \$9, \$9 and \$5.

THE BEETLES OF THE PACIFIC NORTHWEST, Part III: Pselaphidae and Diversicornia I—Melville H. Hatch—*Univ. of Wash. Press*, 503 p., illus., \$11.50. Presents descriptive keys to about 950 species of 36 families, including the lady beetles.

BIOLOGY FOR CHILDREN—Ethel Hanauer—*Sterling*, 96 p., illus. by author, \$2.95. Encourages the child to observe and investigate living things.

BIRD—Lois and Louis Darling, foreword by Roger Tory Peterson—*Houghton*, 261 p., illus., \$5. Simplified but accurate account of the evolution, behavior, anatomy and physiology of birds in the context of other life forms.

CALIFORNIA DESERT WILDFLOWERS—Philip A. Munz—*Univ. of Calif. Press*, 122 p., illus., \$4.75; paper, \$2.95. Color photographs and ink drawings with short descriptions of plants and their location.

CLASSICS OF CARDIOLOGY, Vols. I and II—Frederick A. Willius and Thomas E. Keys—*Dover*, 858 p., illus., paper, two vols. \$4. Reprint (1941), formerly titled: *Cardiac Classics*.

THE COLLECTED PAPERS OF LORD RUTHERFORD OF NELSON, Vol. I: New Zealand, Cambridge, Montreal—Published under the scientific direction of Sir James Chadwick—*Interscience*, 931 p., illus., \$19.50. First of four volumes, covers work published between 1894 and 1907.

DYNAMIC WORK SIMPLIFICATION—W. Clements Zinck—*Reinhold*, 237 p., \$7.95. Practical reference to techniques of work simplification, process analysis, man-machine and operation analysis.

ELECTRICAL CONTACTS, 1961: Engineering Seminar Proceedings—Ralph E. Airmington, Chmn.—*Pa. State Univ., College of Eng.*, 143 p., illus., paper, \$5.

THE ETHNOBOTANY OF PRE-COLUMBIAN PERU—Margaret A. Towle, foreword by Gordon R. Willey—*Aldine Pub. Co.*, 180 p., illus., \$6. Systematic reconstruction of the plant world in prehistoric cultures of the Central Andes.

FIND YOUR SCIENCE I. Q.—Robert L. Gantert—*Rider, J. F.*, 138 p., illus., \$3.45. Some 700 questions testing reader's familiarity with terminology and facts of modern science.

FIRE AND WATER: Scientific Heresy in the Forest Service—Ashley L. Schiff—*Harvard Univ. Press*, 225 p., \$5. Study and critical appraisal of administrative-research relations in the U.S. Forest Service.

THE FIRST BOOK OF PAKISTAN—Jean Bothwell—*Watts, F.*, 61 p., photographs, maps, \$1.95. Acquaints boys and girls with land, people and resources.

FOOD PLANT SANITATION—Milton E. Parker and John H. Litchfield—*Reinhold*, 401 p., illus., \$12. Reference volume on requirements and technical advances in food sanitation practices.

FOREST FIRE FIGHTERS and What They Do—C. William Harrison—*Watts, F.*, 142 p., illus., \$3.95. Tells young people about modern methods of fighting and preventing forest fires.

FUNDAMENTALS OF MID-TERTIARY STRATIGRAPHICAL CORRELATION—F. E. Eames and others—*Cambridge*, 163 p., illus., \$9.50. Concise study correlating knowledge on an era in which sediments of great economic importance for the petroleum and related industries were deposited.

GENERAL MICROBIOLOGY—William G. Walter and Richard H. McBee—*Van Nostrand*, 2nd ed., 405 p., illus., \$6.95. One-semester introductory course, thoroughly revised.

A GUIDE TO THE METRIC SYSTEM—V. V. L. Rao—*Asia Pub. House (Taplinger)*, 64 p., \$3.25. More than 70 comprehensive conversion tables to aid Indian scientists and engineers in the adoption of the metric system to which India has committed itself by the end of 1966.

HOW TO KNOW THE BIRDS: An Introduction to Bird Recognition—Roger Tory Peterson—*Houghton*, 2nd ed., 168 p., illus., \$3.50. Newly enlarged edition with 72 new full-color illustrations by the author and more than 400 line drawings.

INTRODUCTORY ATOMIC PHYSICS—M. Russell Wehr and James A. Richards, Jr.—*Addison-Wesley*, 420 p., illus., \$8.75. Suitable for any student with a background in college physics.

LIFE'S KEY—DNA: A Biological Adventure into the Unknown—Carleen Maley Hutchins, introd. by Alexander G. Nearn and Thomas M. Rivers—*Coward-McCann*, 64 p., illus., \$2.50. Presents in clear, succinct form the key facts known about DNA and the role it plays in heredity.

LINEAR SIGNAL-FLOW GRAPHS AND APPLICATIONS—Yutze Chow and Etienne Cassagnol—*Wiley*, 144 p., \$6.95. For electrical engineering students and research engineers.

MATERIALS FOR ARCHITECTURE: An Encyclopedic Guide—Caleb Hornbostel—*Reinhold*, 610 p., illus., \$20. From abrasives to zirconium, this encyclopedia brings together information on new materials for the research-minded modern architect.

MATHEMATICAL TABLES FOR RESEARCH WORKERS IN HUMAN GENETICS—Sheila Maynard-Smith, L. S. Penrose and C. A. B. Smith—*Little*,

74 p., \$7.50. General formulae and tables, and tables for use in linkage calculations.

METHODS AND MATERIALS FOR TEACHING THE BIOLOGICAL SCIENCES: A Text and Source Book for Teachers in Training and in Service—David F. Miller and Glenn W. Blaydes—*McGraw*, 2nd ed., 453 p., \$7.95. Modernized version, stresses conservation and ecology.

THE NATURALIST ON THE RIVER AMAZONS—Henry Walter Bates, foreword by Robert L. Usinger—*Univ. of Calif. Press*, 465 p., illus., paper, \$2.45. Reprint (1864), describing expedition on which Bates collected 14,712 species of animals, no less than 8,000 of which proved to be new to science.

NOW IT CAN BE TOLD: The Story of the Manhattan Project—Leslie R. Groves—*Harper*, 464 p., photographs, \$6.95. The general's frank story, after two decades, of the development of the first atomic bombs.

1001 QUESTIONS ANSWERED ABOUT SPACE—Clarke Newlon—*Dodd*, 355 p., illus., \$6. Thoroughly indexed, tells in compact question-and-answer form the facts about space exploration under 17 headings, from cosmic bodies to biographies.

ORGANIC CHEMISTRY TODAY—F. W. Gibbs—*Penguin Bks*, 294 p., illus., paper, \$1.45. Gives general reader an account of the place organic chemistry has come to occupy in the modern world.

PALAEONTOLOGY: Invertebrate—Henry Woods—*Cambridge*, 8th ed., 477 p., illus., paper, \$2.50. Reprint (1946).

THE PHYSICAL ANTHROPOLOGY OF SOUTHERN NIGERIA: A Biometric Study in Statistical Method—P. Amaury Talbot and H. Mulhall, preface by J. C. Trevor—*Cambridge*, 127 p., map, \$6.50.

PHYSICS IN THE SOVIET UNION: An Exposition of Theoretical Physics—A. S. Kompaneyets, transl. from Russian—*Philosophical Lib.*, 592 p., \$7.50. Rigorous exposition of theoretical physics addressed to the engineer-physicist.

PROPERTIES OF SOLIDS—George G. Koerber—*Prentice-Hall*, 286 p., illus., \$13. Provides a modern, unified approach to materials science, presenting properties as tensors of various ranks.

THE RADIO AMATEUR'S HANDBOOK 1962—*Am. Radio Relay League*, 39th ed., 634 p., illus., \$6; paper, \$3.50. Standard manual of amateur radio communication.

ROBERT GODDARD: Space Pioneer—Anne Perkins Dewey—*Little*, 154 p., photographs, diagrams, \$3.50. Authenticated story, tells young people about the work that went into making the first liquid-fuel rocket built and fired in this country almost 40 years ago.

SIR GEORGE CAYLEY: The Inventor of the Aeroplane—J. Laurence Pritchard—*Horizon Press*, 277 p., illus., \$6.50. Biographical work of the life and research of the British scientist whose paper on aerodynamics preceded by nearly a century the first historic flight of the Wright brothers.

SIR ISAAC NEWTON'S MATHEMATICAL PRINCIPLES of Natural Philosophy and His System of the World, Vol. I: The Motion of Bodies. Vol. II: The System of the World—Andrew Motte's translation, rev. by Florian Cajori—*Univ. of Calif. Press*, 680 p., paper, Vol. I, \$2.45; Vol. II, \$1.95. Reprint (1934).

SOCIAL LIFE OF EARLY MAN—Sherwood L. Washburn, Ed.—*Aldine Pub. Co.*, 299 p., illus., \$7.50. Scholarly summaries of what is known about the evolutionary process of social behavior among prehistoric men.

SO YOU WANT TO BE AN ENGINEER—Alan E. Nourse with James C. Webber—*Harper*, 177 p., \$3.50. Outlines for young people major fields of professional engineering.

STATISTICAL MECHANICS—Norman Davidson—*McGraw*, 540 p., \$14.50. Full year's graduate course.

THE STRUCTURE AND DISTRIBUTION OF CORAL REEFS—Charles Darwin, foreword by H. W. Menard—*Univ. of Calif. Press*, 214 p., illus., maps, paper, \$1.95. Reprint of Darwin's work (1851) on the origin of coral atolls through subsidence, a hypothesis proven experimentally only a decade ago.

STUDIES IN MODERN ANALYSIS, Vol. I—R. C. Buck, Ed.—*Mathematical Assn of Am. (Prentice-Hall)*, 182 p., \$4. Deals with theory of limits, spectral theorem, and functional analysis.

THEY SHALL TAKE UP SERPENTS: Psychology of the Southern Snake-Handling Cult—Weston La Barre—*Univ. of Minn. Press*, 208 p., photographs, \$3.75. Anthropologist's analysis of the snake-handling cult practised in the southeastern United States.

UNITED STATES ARMY AND AIR FORCE FIGHTERS 1916-1961—K. S. Brown and others, Bruce Robertson, Ed.—*Harleyford (Aero Pubs.)*, 256 p., illus., \$9.75. Historical review of U.S. fighter aircraft.

VOLCANOES AND EARTHQUAKES—Robert Irving—*Knopf*, 130 p., illus. by Ruth Adler, photographs, \$3. Up-to-date and informative, for young people.

THE VOYAGE OF THE BEAGLE—Charles Darwin, notes & introd. by Leonard Engel—*Double-day*, 524 p., illus., maps, paper, \$1.45. Reprint of revised 1860 edition, with new maps and photographs added.

THE WELLSPRINGS OF LIFE—Isaac Asimov—*New Am. Lib.*, 224 p., paper, 60¢. Reprint (1960).

WORLD WHO'S WHO IN COMMERCE AND INDUSTRY—*Marquis*, 12th ed., 1358 p., \$24. Biographical sketches of 23,400 business executives, key-indexed to more than 6,000 leading businesses.

• Science News Letter, 81:204 March 31, 1962

TECHNOLOGY

Continuous Gas Phase Laser Now Available

► **THE FIRST LOW COST** gas phase laser giving a continuous beam is now commercially available.

Lasers, also known as optical masers, are

devices for producing extremely intense beams of a very pure color. Their possible uses are being extensively studied at many laboratories here and abroad.

Some suggested applications include mapping the moon, serving as radar, to provide space and earth communications, acting as a surgeon's scalpel and, possibly, even as a death ray.

The laser comes on the market less than two years after it was first operated successfully in the laboratory. Perkin-Elmer Corporation, Norwalk, Conn., and Spectra-Physics, Inc., Mountainview, Calif., jointly developed the laser, which uses a mixture of helium and neon gases to produce its continuous beam. This kind of laser was invented by Dr. Ali Javan at Bell Telephone Laboratories. Its light is in the near infrared region of the spectrum.

• Science News Letter, 81:205 March 31, 1962

BACTERIOLOGY

Bacteria Frozen 50 Years In Antarctica Found Alive

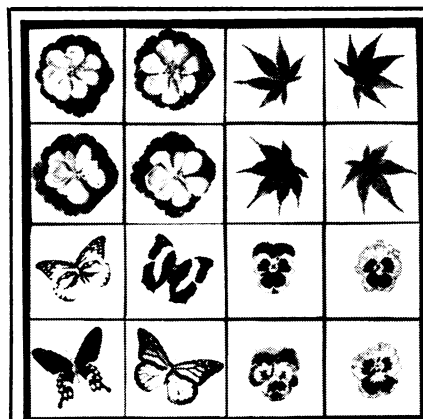
► **BACTERIA** frozen in the Antarctic ice for half a century have been found alive.

The bacteria were deposited in Antarctica by the expeditions of Robert Scott and Ernest H. Shackleton, just after the turn of the century. The discoverer, George H. Meyer, a University of Texas microbiologist, said that the history of the sites and the fact that the organisms were recovered from human excrement deep in the ice determined the age.

It is extremely unusual for microorganisms of this type to survive for a long time, the scientist remarked.

Mr. Meyer and Dr. Marie B. Morrow, University aerobiologist, are trying to learn the relationship between microorganisms and their environment, how they are influenced by solar irradiation, negative temperatures, desiccation and other conditions, and why they can survive in Antarctica.

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PROJECTS: SPACE

by Judith Viorst, Science Service

THE EXCITING STORY OF U. S. SPACE EXPLORATION WITH REPORTS ON FOURTEEN FASCINATING STUDENT SCIENCE PROJECTS IN SPACE AGE SCIENCE

Designed for the student and amateur scientist interested in reading about, experimenting and sharing in space research experiences . . . Written by Science Service with the technical assistance of the National Aeronautics and Space Administration.

