

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.

ADVANCES IN GENETICS, Vol. 10—E. W. Caspari and J. M. Thoday, Eds.—*Academic Press*, 429 p., illus., \$10. Treats aspects of chromosome breakage, genetics of transformation and genetic assimilation, among other subjects.

ADVANCES IN GEOPHYSICS, Vol. 8—H. E. Landsberg and J. Van Mieghem, Eds.—*Academic Press*, 392 p., illus., \$13. Covers indices of solar activity, ionospheric research by satellite, constant level balloon data, paleomagnetism and numerical prediction of storm surges.

BETWEEN EARTH AND SPACE—Clyde Orr, Jr.—*Collier Bks.*, 224 p., paper, 95¢. Nontechnical account of the atmosphere and its importance to man, reprint of 1959 edition.

CAPITAL PUNISHMENT: A World View—James Avery Joyce—*Nelson*, 288 p., \$5. International lawyer presents history of capital punishment and gives worldwide survey of legal execution as it is practised today, concluding that capital punishment is no longer a valid "social defense."

THE COMPLETE PEACE CORPS GUIDE—Roy Hoopes, introd. by R. Sargent Shriver—*Dial Press*, 180 p., \$3.50; paper, \$1.95. To answer specific questions about the origins, aims and operations of the program.

ELECTRONIC COMPUTERS: Fundamentals, Systems and Applications—Paul von Handel, Ed.—*Prentice-Hall*, 235 p., illus., \$13.50. Analysis of basic computer types, emphasizing principles and methods.

EXPERIMENTAL BIOLOGY FOR BOYS—Morris Goran—*Rider, J. F.*, 113 p., illus., \$3.45. Beginner's book, introducing concepts of biology and methods of experimentation.

EXPERIMENTAL CHEMISTRY FOR BOYS—Morris Goran—*Rider, J. F.*, 120 p., illus., \$3.45. Eighty experiments designed to show how to work with chemicals and how to solve problems the way scientists do.

EXPLORING THE METROPOLITAN COMMUNITY—John C. Bollens, Ed.—*Univ. of Calif. Press*, 492 p., illus., \$7.50. Presents major findings and methods of a comprehensive series of govern-

mental, social and economic studies of the St. Louis City-County area.

GAMES ANCIENT AND ORIENTAL AND HOW TO PLAY THEM—Edward Falkener—*Dover*, 366 p., illus., paper, \$1.85. Reprint, classical scholar's reconstruction of ancient Egyptian, Greek, Roman and Oriental board games and living board games not known in the Western World.

HOW HELICOPTERS ARE MADE—David C. Cooke—*Dodd*, 64 p., photographs, \$2.50. Shows boys the parts that go into the assembly of a helicopter.

INTRODUCTION TO ANIMAL VIROLOGY—A. P. Waterson—*Cambridge*, 96 p., illus., \$4. Brief and authoritative account of recent trends in virus research, which has come to regard viruses as abnormal transmissible cell components rather than microbes, as a result of advances in technique.

INTRODUCTION TO SPACE DYNAMICS—William Tyrrell Thomson—*Wiley*, 317 p., diagrams, \$11.50. Textbook develops mathematical procedures for such dynamic problems as motion in outer space, satellite orbits, gyrodynamic and space vehicle motion.

THE LAYMAN'S GUIDE TO PSYCHIATRY—James A. Brussel—*Barnes & Noble*, 235 p., paper, \$1.50. Outline of modern psychiatric knowledge, mental illness and the role of psychiatry.

LET'S READ: A Linguistic Approach—Leonard Bloomfield and Clarence L. Barnhart—*Wayne State Univ. Press*, 470 p., \$7.50. A scientific system of teaching reading based on the correlation of a sound image with its corresponding visual image, that is, with the spelling.

MATH WITHOUT NUMBERS—Edgar S. Bley—*Sterling*, 128 p., diagrams, \$2.50. Attempts through simple forms to explain logical relationships in geometric principles and set theory.

MAZES AND LABYRINTHS: A Book of Puzzles—Walter Sheperd—*Dover*, rev. ed., 122 p., illus., paper, \$1. Essay and 50 recreational mazes.

A NATURALIST IN ALASKA—Adolph Murie—*Devlin-Adair*, 302 p., illus. by Olaus J. Murie, photographs by author and Charles J. Ott, \$6.50. Concerns the domestic ways of grizzly bear, wolf, lynx, wolverine, Dall sheep, caribou and fox.

OBSERVATIONS ON PACIFIC CETACEANS OF CALIFORNIA AND MEXICAN WATERS—Kenneth S. Norris and John H. Prescott—*Univ. of Calif. Press*, 83 p., 41 plates, paper, \$2.25. Monograph describes sightings, morphology and behavior of porpoises and whales on the Pacific coast.

ORGANIZATION, AUTOMATION AND SOCIETY: The Scientific Revolution in Industry—Robert A. Brady—*Univ. of Calif. Press*, 481 p., \$8.50. Study concentrates on the given components of developments in industrial technology and fo-

cuses on the need to organize the productive resources of an economy in order to make full use of the potentialities of advances in science and technology.

PERCEVAL'S NARRATIVE: A Patient's Account of His Psychosis, 1830-1832—Gregory Bateson, Ed.—*Stanford Univ. Press*, 331 p., \$6.75. Perceptive autobiographical account of a schizophrenic with insights that have relevance and importance for modern psychiatry.

PLANT HUNTERS IN THE ANDES—T. Harper Goodspeed—*Univ. of Calif. Press*, rev. 2nd ed., 378 p., photographs, maps, \$7.50. Record of six University of California Botanical Garden Expeditions to Peru, Chile, Colombia, Bolivia, Argentina and Uruguay.

PROCEEDINGS OF THE TENTH PACIFIC NORTHWEST INDUSTRIAL WASTE CONFERENCE—Washington State Institute of Technology—*Wash. State Univ.*, 253 p., illus., paper, \$3. General and technical papers discussing air and water pollution problems and radioactive waste disposal.

PROTECTING YOUR HOME AGAINST TERMITES—Oscar Saxam—*Bookservice Pubs.*, 63 p., illus., paper, \$2. Do-it-yourself advice for different kinds of construction.

PSYCHOTHERAPY IN THE SOVIET UNION—V. N. Miassischev and others, transl. and ed. by Ralph B. Winn—*Philosophical Lib.*, 207 p., \$6. Collection of papers read at the 1956 conference on psychotherapy in the Soviet Union, many concerned with suggestion, hypnosis and speech therapy.

RAREFIED GAS DYNAMICS—L. Talbot, Ed.—*Academic Press*, 748 p., diagrams, \$19. Proceedings of the Second International Symposium on Rarefied Gas Dynamics, held at the University of California, Berkeley, in 1960.

THE ROLE OF THE FEDERAL GOVERNMENT IN FINANCING HIGHER EDUCATION—Alice M. Rivlin—*Brookings*, 179 p., \$3; paper, \$2. Monograph provides background on the role and history of federal programs and points out issues that must be resolved.

SCIENTIFIC BASIS OF ELECTRICAL ENGINEERING—James M. Ham and Gordon R. Slemmon—*Wiley*, 816 p., illus., \$9.95. Intended as a first course in electricity and electrical engineering at the university level for engineering and science students.

SELECTED PAPERS OF A. H. STURTEVANT GENETICS AND EVOLUTION—E. B. Lewis, Ed., foreword by G. W. Beadle—*Freeman*, 334 p., illus., \$7.50. Collection of important papers by an original member of the Morgan group of Drosophila workers, covering half a century of discoveries in the science of genetics.

SHARK FOR SALE—William Travis—*Rand McNally*, 181 p., photographs, \$4.95. About the adventurous and risky business of shark-fishing in the Indian Ocean.

SPECIALIZED SCIENCE INFORMATION SERVICES IN THE UNITED STATES: A Directory of Selected Specialized Information Services in the Physical and Biological Sciences—*National Science Foundation (GPO)*, 528 p., paper, \$1.75. Arranged by subject, gives brief descriptions of information service activities of 427 organizations or projects.

STABILITY BY LIAPUNOV'S DIRECT METHOD, WITH APPLICATIONS—Joseph La Salle and Solo-



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SCIENCE in CRIME DETECTION

by Nigel Morland

A fascinating, detailed account of the latest scientific methods of crime detection. Includes actual case histories of complicated crimes and how they were solved by the use of these methods. Shows how more and more the laboratory is becoming one of the most powerful of police weapons against criminals at work.

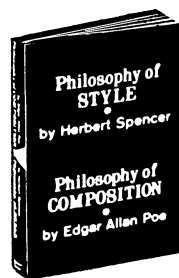
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mon Lefschetz—*Academic Press*, 134 p., diagrams, \$5.50. Monograph gives detailed and elementary account of Liapunov's direct (second) method for the study of nonlinear systems.

STORIES FROM UNDER THE SKY—John Madson—*Iowa State Univ. Press*, 205 p., illus., \$3.95. Stories about coons, shrews, mallards and other wildlife along the upper Mississippi.

SUPERSONIC AERODYNAMICS: A Theoretical Introduction—Edward R. C. Miles—*Dover*, 255 p., diagrams, paper, \$1.45. First published in 1950.

THEORY OF PSYCHOANALYTIC TECHNIQUE—Karl Menninger—*Science Editions*, 206 p., diagrams, paper, \$1.65. Reprint, explores the foundations of actual treatment techniques.

THERMODYNAMICS—Gilbert Newton Lewis and Merle Randall; rev. by Kenneth S. Pitzer and

Leo Brewer—*McGraw*, 2nd ed., 723 p., \$12.50. Updated classic in chemical literature, incorporates major advances in recent decades, presentation of material is designed as an introduction to research.

VACUUM TUBE CIRCUITS FOR THE ELECTRONIC EXPERIMENTER—Julian M. Sienkiewicz—*Ziff-Davis*, 177 p., illus., \$4.95. Explains operation of diodes, triodes, tetrodes and pentodes, covers construction practices and presents 50 basic vacuum tube circuits.

YOU CAN SURVIVE THE BOMB—Col. Mel Lawrence with John Clark Kimball—*Quadrangle Bks.*, 194 p., illus., \$3.95. Simply written, do-it-yourself advice, with appendix of tables on surface bursts and radii, shelter manufacturers, survival foods and civil defense offices.

• *Science News Letter*, 80:420 December 23, 1961

POLITICAL SCIENCE

U.S. Disarmament Goals

► THE UNITED STATES program for general and complete world disarmament eventually will require negotiations with all nations, including Red China. This is a fact of life recognized by the newly created Arms Control and Disarmament Agency.

"Obviously no meaningful arms reduction and disarmament agreement could be negotiated without every nation, including Red China, being a party to it," William C. Foster, head of the agency, acknowledged.

To get all nations to lay down their arms and give up force as a means of settling differences admittedly appears to be impossible. The role of the peacemaker has, in fact, been severely handicapped by the resumption of nuclear tests by Russia and continued failure to negotiate a nuclear test ban agreement between East and West, as well as the conflict in the Congo and Southeast Asia, the Berlin crisis, the French-Algerian dispute, the Portugal-Angola tensions, the unrest in Cuba and the Dominican Republic, the border clashes between Red China and India, and the lack of stability in the Middle East.

However, Mr. Foster's actions indicate that he firmly believes world disarmament not only is possible but that it can and, indeed, must be achieved. In the two months since his appointment, he has begun to set up the complex machinery to work out a detailed program for arms control, based on proposals made by the President before the United Nations in September, that can lead the way to total disarmament.

In formulating this program, he has assigned science and scientists a major role. "The age of atom and space, with both its promise and peril, is a creation of science and technology. The scientific community has, therefore, both the responsibility and the opportunity to make certain that their contributions may serve rather than destroy mankind," he said.

Preliminary research by the Agency's office of science and technology has suggested that, among other first step measures, arms limitation could usefully begin with strategic nuclear delivery vehicles with "inspection proportionate to disarmament."

The large size of nuclear delivery vehicles

and the sites required for effective delivery may make it possible to devise a system of inspection by means of satellites. Unmanned satellite inspectors, it may be assumed, know no party lines or political bias.

Inspection is the key to the whole problem of disarmament and the Agency's efforts in this area are to establish effective inspection systems whose objectivity is beyond question. A program for manned inspection teams, working within the framework of the United Nations on a rotating basis to assure impartiality, is under study. A limitation of arms under proper inspection could bring a halt to the continuing arms race, which already has dangerously reduced world stability and security, for it would set a pattern of adherence to agreements essential to mutual trust. Disarmament and even arms control, the Agency believes, must be done on a step-by-step basis.

While the Soviets are on record as opposed to any step-by-step disarmament program with inspection and have publicly taken the "all or nothing" approach, their representatives have conceded that disarmament cannot be implemented all at once and that first steps will have to be taken. In fact, Aleksei Adzhubei, editor of *Izvestia* and Premier Khrushchev's son-in-law, told President Kennedy last month that "the Soviet Government does not exclude the possibility of reaching agreement on a number of measures which may decrease the danger of war and which could be effected in the nearest future."

The measures Adzhubei proposed included, among others, the freezing of military budgets, renunciation of the use of nuclear weapons, the establishment of a nuclear free zone, and a nonaggression pact between NATO and Warsaw pact countries.

Any meaningful agreement on arms control, however limited, between the Soviet Union and the United States in which countries from both East and West will participate conceivably could be extended by similar arrangements between NATO and the Warsaw Pact countries. President Kennedy is known to favor improved relations between these two blocs and told Khrushchev's son-in-law, "I think it would

be helpful if NATO and the Warsaw Pact engaged in a commitment to live in peace with each other." The Administration has publicly recognized that such an agreement could mean a decline in the military buildup on both sides. It might, eventually, even mean the elimination of nuclear arms on a global basis.

The establishment of a nuclear free zone in Central Europe, as proposed under the Polish Rapacki plan favored by the Soviet Union, is too limited to be significant, it is believed. As has been noted, the countries involved—Poland, Czechoslovakia, East Germany and West Germany—presently have no nuclear capability. For denuclearization to be practical in any sense, it must be applied to an area as wide and far reaching as the firing range of an ICBM. And the U.S. disarmament agency intends for any denuclearization plan it may propose to be eminently practical.

The arms control and disarmament goals of the United States already have been defined many times by the President. Their achievement now is Mr. Foster's responsibility. To aid him, the Administration and Congress have made it possible for him to draw upon any Government agency and resource needed.

• *Science News Letter*, 80:421 December 23, 1961

PUBLIC SAFETY

U.S. Accidents Take 90,000 Lives Annually

► ACCIDENTS annually take a toll of 90,000 human lives and disable 9,000,000 in the United States, the National Safety Council reported.

Most of this tragic waste of life and limb can be prevented, the Council studies have shown, and prevention can begin in the home where many of the accidents occur. The principal victims of home accidents are persons under five and over 65.

The Council, a non-profit organization now in its 48th year, was chartered by Congress in 1953. Working with industry, state and municipal authorities, and civic groups, it has been responsible for the dramatic decline in accident death rates in the last generation.

In the last ten years, there has been a 7% reduction in the number of disabling on-the-job injuries per 100,000 workers.

For the last seven years work deaths have been constant in spite of a 9% increase in the nation's total work force and the introduction of many new technologies and materials. Most large companies have worked with the Council on safety programs, but similar programs must be instituted in the many small companies that do not have them, the Council states.

Howard Pyle, National Safety Council president, has said that "an accident statistic is a single human tragedy multiplied to a point of indifference." He pointed out that news and national sympathy will be concerned with one man or a family in danger, but taken as a whole 90,000 deaths move people less. The aim of the Council is to combat this indifference.

• *Science News Letter*, 80:421 December 23, 1961