

# Books of the Week

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**ADVANCES IN ECOLOGICAL RESEARCH**, Vol. 2—J. B. Cragg, Ed.—Academic Press, 264 p., \$0.50. Among topics reviewed are the processes involved in natural control of insects, the use of statistics in phytosociology, and litter production in forests of the world.

**ALLYLIC RESINS AND MONOMERS**—Harry Raech, Jr.—Reinhold, 223 p., illus., \$12.50. Up-to-date treatment of subject, with laboratory and field data, covering in detail the many applications of this class of thermosetting resins from cast optics to decorative laminates and missile parts.

**AMERICANS IN BLACK AFRICA UP TO 1865**—Clarence C. Clendenen and Peter Duignan—Hoover Institution, 109 p., paper, \$1.50. Monograph presents a synthesis of historical sources on United States activity in Africa.

**ANALYSIS AND SYNTHESIS OF LINEAR TIME-VARIABLE SYSTEMS**—Allen R. Stubberud—Univ. of Calif. Press, 108 p., \$4.75. Treats the problem of analyzing and synthesizing physical systems, focusing especially on the synthesis of feedback systems.

**ARCHEOLOGY OF THE YAKUTAT BAY AREA, ALASKA**—Frederica de Laguna, Francis A. Riddell and others—Smithsonian Institution (GPO), 245 p., 19 plates, illus., \$3.25. Report on archeological and ethnological field researches tracing the development and decline of northern Tlingit culture.

**AUTOMATIC METHODS IN VOLUMETRIC ANALYSIS**—D. C. M. Squirrel, preface by J. Haslam—Van Nostrand, 201 p., plates, diagrams, \$6.75. Emphasizing methods, the book illustrates the type of volumetric analysis in which partial or complete automation has advantages.

**BEHAVIOR AND PROPERTIES OF REFRACTORY METALS**—T. E. Tietz and J. W. Wilson—Stanford Univ. Press, 419 p., illus., \$13.50. Emphasis is placed on the mechanical behavior and properties of chromium, columbium, molybdenum, rhenium, tantalum, tungsten and vanadium.

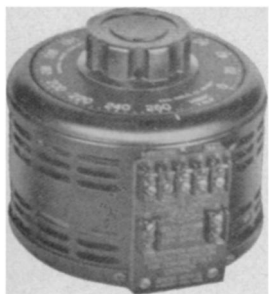
**BIOASTRONAUTICS DATA BOOK**—Paul Webb, Ed.—NASA (GPO), 400 p., illus., paper, \$2.25. Presents in graphic form a concise summary of the state of the art in applied physiology and space medicine.

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**THE CHEMICAL FORMULARY:** A Collection of Valuable, Timely, Practical, Commercial Formulae and Recipes for Making Thousands of Products in Many Fields of Industry, Vol. XII—H. Bennett, Ed.-in-Chief—Chemical Pub. Co., 502 p., \$8. A collection of new, up-to-date formulae in food products, ink, cosmetics and other fields.

**CHEMICALS IN THE NATIONAL ECONOMY**—Jules Backman—Manuf. Chemists' Assn., 75 p., illus., paper, 50¢ direct to publisher, 1825 Connecticut Ave., N.W., Washington, D.C. About the productivity and products of the U.S. chemical industry.

**A CHINESE VILLAGE:** Taitou, Shantung Province—Martin C. Yang—Columbia Univ. Press, 275 p., illus., maps, paper, \$2.25. A study in cultural anthropology, first published in 1945, presenting in detail life in a typical village in one of China's oldest agricultural regions.

**THE ELEMENTARY MATHEMATICS OF THE ATOM**—Irving Adler—Day, 147 p., diagrams by Ruth Adler, \$4.50. Without resort to calculus, this book develops the molecular theory of matter, the periodic table of elements, and the Bohr model of the atom.

**EMBRYOLOGY OF THE OVARY AND TESTIS:** Homo Sapiens and Macaca Mulatta—Gertrude van Wagenen and Miriam E. Simpson—Yale Univ. Press, 256 p., 11"x13", illus., \$7.50. Anatomical atlas presenting in chronological series development phases of differentiation of the two species together, both male and female.

**EXPERIMENTAL ENTOMOLOGY**—Kenneth W. Cummins and others—Reinhold Pub. Co., 176 p., illus., \$6.50. Makes available in book form a successful laboratory program emphasizing the use of living insects, and experimental techniques in the laboratory.

**FRESH-WATER FISHING ILLUSTRATED:** How to Catch Fish in the West—Morie Morrison—Lane Bks., 80 p., illus. by author, paper, \$1.95. Tells fisherman how to outwit the gamefish of the West, and gives state-by-state fishing information.

**HELPING A MENTAL PATIENT AT HOME**—National Assn. for Mental Health, 23 p., illus., paper, 15¢ direct to publisher, 10 Columbus Circle, New York 19, N.Y. Booklet frankly discusses family feelings and questions, and offers helpful suggestions for specific problems.

**HEREDITY AND HUMAN LIFE**—Hampton L. Carson—Columbia Univ. Press, 218 p., illus., paper, \$1.95. Reprint (1963), clarifies for the general reader the processes of heredity and evolution and their effect upon the individual.

**AN INTRODUCTION TO BRAZIL**—Charles Wagley—Columbia Univ. Press, 322 p., photographs, paper, \$2.25. First published in 1963, presents a study in depth by social anthropologist.

**IRONMAKING CONFERENCE 1963**, Iron and Steel Division: 22nd Proceedings—D. H. Regelin and W. D. Gifford, Eds.—Am. Inst. of Mining, Metallurgical and Petroleum Engineers, (Gordon & Breach) 600 p., illus., \$15. A record of technological developments in blast furnace productivity, burden material preparation, and coke and coal preparation and transportation.

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**THE MATHEMATICS OF MATRICES:** A First Book of Matrix Theory and Linear Algebra—Philip J. Davis—Blaisdell Pub. Co., 348 p., illus., \$7.50. Designed as a course for high school seniors or freshmen in college.

**MEMORY:** A Contribution to Experimental Psychology—Hermann Ebbinghaus, new introd. by Ernest R. Hilgard—Dover, 123 p., paper, \$1.50. Reprint of first English translation (1913) of German book originally published in 1885.

**NASA CONTRIBUTIONS TO THE TECHNOLOGY OF INORGANIC COATINGS**—Jerry D. Plunkett—NASA (GPO), 260 p., illus., paper, \$1. Makes available technical know-how gained from space research in the field of thermal control coatings, thermal insulation coatings and methods of applying coatings to substrates.

**NATIONAL SCIENCE FOUNDATION:** Fourteenth Annual Report for the Fiscal Year Ended June 30, 1964—Leland J. Haworth, Dir.—GPO, 128 p., paper, 45¢. The director's statement and reports on program activities of the National Science Foundation.

**NATIONAL SCIENCE FOUNDATION:** Grants and Awards for the Fiscal Year Ended June 30, 1964—GPO, 260 p., paper, \$1. Lists basic research support for individual projects in the biological, physical and social sciences, basic engineering research, grants to specialized research facilities, national research programs, to science information services and science education programs.

**THE NATURAL HISTORY OF AGGRESSION:** Proceedings of a Symposium held at the British Museum in 1963—J. D. Carthy and F. J. Ebling, Eds.—Academic Press, 159 p., \$5. Contributions deal with aggressive behavior in insects, birds and mammals, with special attention to man.

**NATURALISTIC BEHAVIOR OF NONHUMAN PRIMATES**—C. R. Carpenter—Pa. State Univ. Press, 454 p., illus., \$9.50. Brings together eight naturalistic field studies which have become a part of the basic scientific literature of the field of primatology and of other related sciences.

**OPEN SPACE AND PEACE:** A Symposium on Effects of Observation—Frederick J. Ossgenbeck and Patricia C. Kroeck, Eds.—Hoover Institution, 227 p., illus., \$8. Deals with the realm of international relationships and implications of the possible uses of orbiting satellites.

**OPERATIONS RESEARCH: Process and Strategy**—David S. Stoller—Univ. of Calif. Press, 159 p., \$5. Deals with characteristics of operations research problems, with emphasis on the theory of queues and games of strategy.

**THE PAPERMAKERS**—Leonard Everett Fisher—Watts, F., 46 p., illus. by author, \$2.65. A handsome book for young readers about the colonial craft of handmade paper.

**POLYOMINOES**—Solomon W. Golomb—Scribner, 182 p., 190 diagrams by Warren Lusbaugh, \$5.95. A mathematical recreation book, includes 12 durable pentominoes to invite experimentation with problems of combinatorial geometry.

**PROGRAMMED PHYSICS, Part I: Mechanics**—Alexander Joseph and Daniel J. Lechy—Wiley, 436 p., diagrams, paper, \$4.95. First of four books which together will constitute text for a one-year programmed course in senior high school or freshman college physics.

**PROJECT APOLLO:** Mission to the Moon—Charles Coombs—Morrow, 96 p., 34 photographic illus., \$2.95. Explains the project to young readers.

**QUANTITATIVE EVALUATION OF PREDICTED RESERVES OF OIL AND GAS**—N. I. Buyalov and others, transl. from Russian—Consultants, 69 p., illus., paper, \$12.50. About calculating predicted oil and gas reserves, methods of preparing maps and related studies.

**RACE:** The History of an Idea in America—Thomas F. Gossett—Southern Methodist Univ. Press, 512 p., \$6.95. This study explores how ideas of race have affected currents of thought in America and attempts to describe what was happening in race relations at the time the theorists were propagating their doctrines. The book received 1964 Phi Beta Kappa Prize.

**RAPID MIXING AND SAMPLING TECHNIQUES IN BIOCHEMISTRY**—Britton Chance and others, Eds.—Academic Press, 400 p., illus., \$9. Proceedings of the First International Colloquium covering both, rapid flow methods, and rapid stopping and sampling techniques.

**RELIABILITY OF SHELL BUCKLING PREDICTIONS**—William A. Little—M.I.T. Press, 178 p., illus., \$10. This study examines the reliability of small-scale plastic models in the determination of elastic buckling pressures of thin-shell structures.

**SATELLITE ENVIRONMENT HANDBOOK**—Francis S. Johnson, Ed.—Stanford Univ. Press, 2nd ed., 193 p., illus., \$7.50. Summarizes available data describing the geophysical environment encountered by artificial satellites, including ionospheric thermal noise, VLF emissions and extraterrestrial radio sources.

**SCIENCE HORIZONS:** The Physical World—Franklyn M. Branley, Milton O. Pella and John Urban—Ginn, 564 p., illus., \$4.56. Presents solid science information in readable fashion at the eighth grade level, includes suggestions for investigations.

**THE SCIENTIFIC INVESTIGATOR**—Richard O. Arther—Thomas, C. C., 236 p., photographs, \$8.75. Explains in nontechnical language how the laboratory can help solve criminal cases.

**THE SEMI-ARTIFICIAL MAN: A Dawning Revolution in Medicine**—Harold M. Schmeck, Jr.—Walker & Co., 224 p., \$5. A readable survey of the field of surgical transplantation, the transplantation of organs from one individual to another and the development of artificial substitutes for functioning parts of the human body.

**A SOPHISTICATE'S PRIMER OF RELATIVITY**—P. W. Bridgman—Harper, 164 p., paper, \$1.35. Reprint (1962).

**THE STORY OF OPTOMETRY**—James R. Gregg—Ronald Press, 305 p., illus., \$5.50. History of the skills and technological advances in understanding and improving man's vision.

**TECHNICAL INFORMATION CENTER ADMINISTRATION: TICA Conference, Drexel Institute of Technology, 1964**—Arthur W. Elias, Ed.—Spartan Bks., 171 p., illus., \$6.75. Includes papers on training, research, abstracting and indexing control, and on computer management in information centers.

**TERATOLOGY: Principles and Techniques**—James G. Wilson and Josef Warkany, Eds.—Univ. of Chicago Press, 279 p., illus., \$5.50. Based on lectures and demonstrations given at 1964 workshop concerned with biological malformations in embryos and factors influencing teratogenic response to drugs.

**THAT MAN MAY SURVIVE**—Alan Bateman and others, preface by Everett R. Clinchy, Pres.—Institute on Man and Science, 64 p., paper, 50¢ direct to publisher, Rensselaerville, N.Y. Contains digest of the Institute's teaching on the public understanding of science, and the taped conversations of nine scientists on the subject of conservation.

**TO THE ZOO IN A PLASTIC BOX**—John & George Newmark—Random House, 240 p., photographs, \$3.95. Amusingly written account by two brothers who collect insects and other creatures for the London Zoo.

**TWO GROUP REACTOR THEORY**—J. L. Meem—Gordon & Breach, 417 p., diagrams, \$20.50. This two-semester text for graduate students in nuclear engineering emphasizes the engineering analysis of reactors rather than fundamental reactor physics.

• Science News Letter, 87:156 March 6, 1965

#### PHYSIOLOGY

### Men, Mink and Cattle Have Same Rare Ills

► CERTAIN INDIVIDUALS of humans, mink and cattle have similar abnormal white blood cells that make them tend to have light hair or fur and to make them susceptible to bacterial diseases.

The white blood cells of the rare and beautiful Aleutian mink and those found in a little-known and fatal condition of humans known as the Chediak-Higashi syndrome resemble each other. This remarkable similarity was found by scientists at the Fur Animal Disease Research Laboratory, part of the research section of the U.S. Department of Agriculture, and the Department of Veterinary Pathology at Washington State University.

Like the Aleutian mink, persons with the rare syndrome are partially albino, having light hair, pink eyes and an abnormal sensitivity to bright light. They are also highly susceptible to bacterial infection, and most die before they are seven years old.

The same type of white blood cells are found in the world's only herd of partial albino Hereford cattle at Washington State University. They have grey eyes and avoid bright sunlight.

In all three mammals—man, mink and cattle—the abnormal coloring and white blood cells are inherited through genes that are recessive and not sex-linked. In other words, either male or female may have the rare condition if both parents are carriers.

Granules were found in the white blood cells of these individuals which do not function normally in the process of destroying

bacteria as they enter the cells, reported the scientists. They apparently fail to release special enzymes to destroy the bacteria.

In addition, many of the group are also "bleeders."

Research on the white blood cells of the Aleutian mink was begun because the animal proved so difficult to raise. The family line started from a mutation that suddenly appeared in a single mink on a western Oregon ranch in 1941. Today, one of the rare creatures may bring thousands of dollars.

• Science News Letter, 87:157 March 6, 1965

#### SURGERY

### Ear Cartilage Supplies 'Spare Parts' for Repair

► THE SMALL FRONT cartilage flap over the opening to the ear can be considered a storehouse of "spare parts" for repairing defects in the hearing apparatus.

The cartilage, known as the tragus, is covered by a versatile tissue called the perichondrium, which has proved excellent for grafting purposes in middle ear surgery.

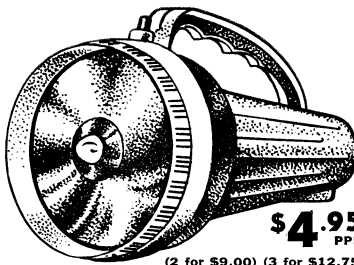
Drs. Victor Goodhill, Seymour J. Brockman and Irwin Harris of the University of California at Los Angeles Medical School and Cedars of Lebanon Hospital, report successful use of this tissue in more than 200 cases of reconstructive middle ear surgery.

This "all purpose" tissue can be used in repairing punctured eardrums as well as in more extensive procedures involving rebuilding of the entire middle ear to restore its function in the transmission of sound.

Perichondrium from the tragus appears to be superior to other tissues, such as vein, fat and skin, which have been used in the past for such grafts. It is conveniently located in the operative site and is available in adequate amounts.

• Science News Letter, 87:157 March 6, 1965

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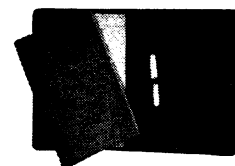
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