

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.

ANNUAL REVIEW OF PSYCHOLOGY, Vol. 12—Paul R. Farnsworth, Olga McNemar and Quinn McNemar, Eds.—*Annual Reviews*, 553 p., \$7. Reviews the year's literature in such areas as developmental psychology, brain functions, and concept formation.

ARCHAEOLOGY IN CHINA—William Watson—*Parrish (Taplinger)*, 32 p. text, 123 plates, \$15. More than 140 photographs of some of the most important recent archaeological discoveries of the Bronze-Age river valley civilizations in China, comparable in technical knowledge and social development to the ancient civilizations of the Nile and Euphrates.

AN ATLAS OF JUVENILE MMPI PROFILES—Starke R. Hathaway and Elio D. Monachesi—*Univ. of Minn. Press*, 402 p., \$8. Provides brief case histories of 1,088 adolescent boys and girls with their accompanying Minnesota Multiphasic Personality Inventory data.

AUTOMATION IN EDUCATION: Machines and Men as Teachers and Learners—Eugene Galanter, Ernst Z. Rothkopf and Laurence Siegel—*Teachers College Record*, 27 p., 50¢. Reprint from December 1960 issue.

THE AUTOMOBILE ENGINE—William Weinstein—*Chilton Co.*, 623 p., illus., \$7.95. Word-and-picture description of all phases of the modern automobile engine, with glossary.

BASIC TRANSISTORS—Alexander Schure—*Rider, J. F.*, 146 p., illus., \$5.50; paper, \$3.95. Simplified, highly pictorialized text.

BIOLOGICAL CLOCKS: Cold Spring Harbor Symposia on Quantitative Biology, Vol. XXV—Erwin Bunning and others; Leonora Frisch, Ed.—*Biological Lab., L. I. Biol. Assn.*, 530 p., illus., \$12. Leading investigators report on phenomena of time measurement in plants and animals.

BLIND JACK—Stephanie Ryder, foreword by Maurice Burton—*Houghton*, 145 p., photographs by Jane Burton, \$3.25. Day-to-day observations of a blind jackdaw.

THE CITY IN HISTORY: Its Origins, Its Trans-

formations and Its Prospects—Lewis Mumford—*Harcourt*, 657 p., photographs, \$11.50. Follows the development of the forms and functions of the city through succeeding urban cultures, from Egypt and Greece to our time.

CLOSED CIRCUIT RESPIRATORY SYSTEMS SYMPOSIUM—Life Support Systems Laboratory—WADD-USAF (OTS), 470 p., illus., paper, \$6. Papers representing the most advanced state of the art.

DICTIONARY OF MECHANICAL ENGINEERING—Alfred del Vecchio—*Philosophical Lib.*, 346 p., \$6. Definitions in the fields of architecture, automatic controls, fuels and combustion, and engineering mechanics.

THE EARTH'S PROBLEM CLIMATES—Glenn T. Trewartha—*Univ. of Wis. Press*, 334 p., illus., \$7.50. Analysis of those climates of the world which do not conform to standard pattern and explanation of their characteristics.

EDUCATION ASSOCIATIONS: Education Directory, 1960-1961, Part 4—Bobbie Doud—*Office of Education (GPO)*, 117 p., paper, 50¢. Lists national, regional, state, religious and international education associations.

THE EDUCATION OF NATIONS: A Comparison in Historical Perspective—Robert Ulich—*Harvard Univ. Press*, 325 p., \$6.75. Combines historical and comparative approach in showing the forces that have molded the educational ideals and systems of England, France, Germany, the United States and Russia.

ENGLISH ABSTRACTS OF SELECTED ARTICLES FROM SOVIET BLOC AND MAINLAND CHINA TECHNICAL JOURNALS, No. 1. Series I: Physics, Geophysics, Astrophysics, Astronomy, Astronautics, and Applied Mathematics. Series II: Chemistry, Chemicals and Chemical Products. Series III: Metallurgy, Metals, Metal Products and Nonmetallic Minerals—Dept. of Commerce (OTS), 45 p., 18 p., 22 p., paper, subscription for six issues: \$9, \$6, \$18. Abstracts of translated articles selected for their particular interest to American scientists and industry.

ENGLISH ABSTRACTS OF SELECTED ARTICLES FROM SOVIET BLOC AND MAINLAND CHINA TECHNICAL JOURNALS, No. 1. Series IV: Engineering (Mechanical, Electrical, Aeronautical, Nuclear, Petroleum, Structural and Civil) Machinery and Equipment (General and Special Purpose). Series V: Communications, Transportation, Navigation, Electrical and Electronic Equipment, Systems and Devices, Including Aircraft

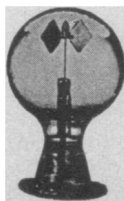
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A FORWARD STRATEGY FOR AMERICA—Robert Strausz-Hupe, William R. Kintner and Stefan P. Possony—*Harper*, 451 p., \$5.95. Based on research, studies and seminars, the authors propose a program for a national strategy in the next decade.

FOURIER TRANSFORMS—Richard Goldberg—*Cambridge Univ. Press*, 76 p., \$3.75. Background on classical theorems concerning Fourier transforms on the real line.

FREE RADICALS IN BIOLOGICAL SYSTEMS—M. S. Blois, Jr. and others—*Academic*, 387 p., illus., \$14.50. Proceedings of symposium held at Stanford University in 1960.

GAS CHROMATOGRAPHY—Henry J. Noebels, R. F. Wall and Nathaniel Brenner, Eds.—*Academic*, 463 p., illus., \$16. Proceedings of the Second International Symposium held under the auspices of the Analysis Instrumentation Division of the Instrument Society of America, June, 1959.

GLOSSARY OF GENETICS AND OTHER BIOLOGICAL TERMS—Russell B. Clapper—*Vantage*, 200 p., \$3.95. Covers the fields of genetics, cytology, plant and animal breeding.

THE GOLDEN PICTURE BOOK OF NATURE WALKS—Clara Hussong—*Golden Press*, 58 p., illus. by Marjorie Hartwell, \$1.50. Shows children what they can see on a hike in each of the four seasons.

THE HEART OF THE FOREST—Adrian Cowell—*Knopf*, 238 p., photographs by author, \$5. Account of exploratory journey among the tribes living in the remote Xingá River Basin of the Amazon jungle.

HUMAN DECISIONS IN COMPLEX SYSTEMS—Warren S. McCulloch, Ed.—*N.Y. Acad. of Sciences, Annals*, Vol. 89, Art. 5, 180 p., illus., paper, \$3.50. Papers on such subjects as human decisions in missile systems, and characteristics of choice behavior in risky situations.

HUMAN ORGANISM—Russell Myles De Coursey—*McGraw*, 2nd ed., 661 p., illus., \$7.50. Revised text presents aspects of chemistry and physics that apply to physiology, and emphasizes basic problems of cellular physiology.

INDUSTRIAL ORGANIC NITROGEN COMPOUNDS—Melvin J. Astle—*Reinhold*, 392 p., \$14. Summarizes the chemistry of most of the organic nitrogen compounds used in industry.

AN INTRODUCTION TO ELECTROTECHNOLOGY—S. J. Kowalski—*Rider, J. F.*, 316 p., \$7. Practical course in A-C and D-C electricity.

THE JOURNAL OF TRAUMA, Vol. 1, No. 1—Rudolf J. Noer, Ed.—*Williams & Wilkins*, 83 p., illus., paper, \$2.50; bi-monthly, \$10 per year. Official journal of the American Association for the Surgery of Trauma.

LABORATORY WORKBOOK FOR BASIC PHYSICS—Alexander Efron—*Rider, J. F.*, 207 p., illus., paper, \$2.50. Complete unit of student activity in physics.

LEIBNIZ—Herbert Wildon Carr—*Dover*, 222 p., paper, \$1.35. Reprint of 1929 edition.

LET'S FIND OUT WHAT ELECTRICITY DOES—Martha and Charles Shapp—*Watts, F.*, 42 p., illus. by Ida Scheib, \$1.95. Vocabulary limited to 100 words.

LET'S FIND OUT WHAT'S LIGHT AND WHAT'S HEAVY—Martha and Charles Shapp—*Watts, F.*, 41 p., illus. by Ida Scheib, \$1.98. For the very young.

THE LOST PHARAHOES—Leonard Cottrell—*Holt, Rinehart & Winston*, 250 p., illus., \$5. Amateur archaeologist tells vividly of the ancient Egyptian civilization some 5,000 years ago.

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MY FRIENDS THE DOCTORS—Sigmund L. Wilens—*Athenum*, 245 p., \$5. Pathologist's story of the part pathology has played in the development of modern medicine and the present role of pathologists.

THE NATION'S SAFETY AND ARMS CONTROL—Arthur T. Hadley—*Viking*, 160 p., \$3. Background information, based on recent studies, of the problem of American security in the "kilometron age".

NUCLEAR SCIENCES ABSTRACTS 1960; Annual Index, Part 1: Corporate Author Index, Personal Author Index, Report Number Index. Part 2: Subject Index.—Office of Technical Information—*US AEC (GPO)*, 754 p., 758 p., paper, \$4.25 each.

THE NUMBER STORY—Herta Taussig Freitag and Arthur N. Freitag—*Nat. Council of Teachers of Mathematics*, 76 p., illus., paper, \$1. Introduces students to historical development of numerals and numeration, methods of computation, and rational, irrational and complex numbers we use today.

ORSTED and the Discovery of Electromagnetism—Bern Dibner—*Burndy Lib.*, 46 p., illus., \$2. Illustrated with reproductions of original material, this monograph pieces together the history of the Danish professor of physics who in 1820 first demonstrated the link between electricity and magnetism.

PALMS—Desmond Muirhead—*King, Dale Stuart*, 140 p., illus., \$3.20; paper, \$1.95. About origin, identification, cultivation and care of palms.

PROBING THE ATMOSPHERE: The Story of Meteorology—Louis Wolfe—*Putnam*, 160 p., illus. by M. Barnett, \$2.95. For boys and girls.

PROGRESS IN ENDOCRINOLOGY, Part II: Biochemistry and Biological Actions of Steroids and Other Hormones—K. Fotherby and others, Eds.—*Cambridge Univ. Press*, 167 p., illus., \$8.50. Contains symposium on the relationship of the endocrine system to cancer.

THE PSYCHOANALYTIC STUDY OF SOCIETY, Vol. I—Warner Muensterberger and Sidney Axelrad, Eds.—*Int. Univ. Press*, 384 p., \$7.50. Continuation of five-volume series "Psychoanalysis and the Social Sciences."

PSYCHOTHERAPY WITH SCHIZOPHRENICS: A Reappraisal—Joseph G. Dawson, Herbert K. Stone and Nicholas P. Dellis, Eds.—*La. State Univ. Press*, 156 p., \$5. Presents the views of a group of practicing psychotherapists.

REVIEW OF THE NATIONAL RESEARCH COUNCIL, 1960—E. W. R. Steacie, Pres.—*Nat. Res. Council, Canada (Queen's Printer)*, 354 p., paper, 75¢. Contains reports on research in the Canadian science and Canadian engineering laboratories.

RING OF BRIGHT WATER—Gavin Maxwell—*Dutton*, 211 p., photographs, drawings, \$5. About life among the animals on the northwest coast of Scotland, mainly about otters.

SAY IT CORRECTLY IN RUSSIAN—Helen Michailoff—*Dover*, 32 p., paper, 33½ rpm record, \$1. One 14-minute spoken language lesson of useful phrases for the tourist.

THE SEAWAY STORY—Carleton Mabee—*Macmillan*, 301 p., illus., \$5.95. Annotated account of the conception, promotion and operation of one of the key arteries of world commerce, partially based on interviews.

SECRETS OF MINOS: Sir Arthur Evans' Discoveries at Crete—Alan Honour, foreword by John H. Young—*Whittlesey House*, 187 p., illus., \$3.25. Tells young people about the Englishman who was the first to uncover remains of the ancient Minoan civilization at Knossos.

THE STANDARD GUIDE TO MEXICO, 1961-1962—Lawrence and Sylvia Martin—*Funk*, 297 p., maps, paper, \$1.95. Up-to-date travel guide.

THE STANDARD GUIDE TO THE CARIBBEAN, 1961-62—Lawrence and Sylvia Martin—*Funk*, 335 p., maps, paper, \$1.95. Revised travel guide.

THE STRANGE STORY OF THE QUANTUM: An Account for the General Reader of the Growth of the Ideas Underlying Our Present Atomic Knowledge—Banesh Hoffmann—*Dover*, 2nd ed., 285 p., illus., paper, \$1.45. Reprint.

THE STRUCTURE OF THE EYE—George K. Smelser, Ed.—*Academic*, 570 p., illus., \$15. Symposium papers and discussions on the fine structure of ocular tissues by leaders in electron microscopy from three continents.

STUDY ABROAD, 1960-1961: International Handbook, Fellowships, Scholarships, Educational Exchange—*Unesco (Internat'l Doc. Serv.)*, 12th ed., 766 p., paper, \$3. Information on some 100,000 individual international study grants, with statistical commentary.

TEXAS FOSSILS: An Amateur Collector's Handbook—William H. Matthews III—*Bur. of Economic Geology, Univ. of Tex.*, 123 p., illus., paper, \$1. Good sample of regional guide to classification.

THERMODYNAMICS—Gilbert Newton Lewis and

INVENTION

Patents of the Week

A jet device for undersea propulsion and a kind of Submarine decoys have been patented. A ground control system for airplanes and an oil-well rig are other recent inventions.

➤ **THE JET AGE** will soon invade the ocean depths when a patent issued to one of America's top outer space experts is applied.

Dr. Fritz Zwicky, astrophysicist at the California Institute of Technology, has patented a device (No. 2,974,626) that opens up new realms in the undersea world. Sneaky torpedoes tracking and destroying enemy ships, submarines quickly but silently darting through the murky depths and jet-assisted take-offs for deep sea exploration are envisioned in the patent assigned to Aerojet-General Corporation.

Objects are propelled through the water by an explosive chemical reaction generating tremendous energy. Strong chemicals, such as metal hydrides, are used to react violently with water, forming gases that make a hasty exit through the exhaust nozzle. The pressure force "pushes" the object through the water.

A "school" of submarine decoys surrounding a real submarine could help cut down the submarine (not the missile) gap between the Russians and the United States. A decoy (No. 2,975,396) patented for the U. S. Navy sends out signals, imitating a submarine, to enemy search craft cutting through the waters overhead. Ship instruments, recording the "blips" on a sonar screen, pinpoint the non-existent submarine and the real submarine slips away undetected. By shutting off the signals periodically, the searchers think they have lost the "submarine," inventor Richard A. Mueller of San Diego stated in his patent.

A portable, simplified ground control system providing flying and taxi information for airplanes won patent No. 2,975,413 assigned to Gilfillan Bros. Inc., Los Angeles.

Merle Randall, rev. by Kenneth S. Pitzer and Leo Brewer—*McGraw*, 2nd ed., 723 p., \$12.50. Updated textbook for advanced chemical courses.

TIME-HARMONIC ELECTROMAGNETIC FIELDS—Roger F. Harrington—*McGraw*, 480 p., illus., \$13.50. Graduate course, presents mathematical techniques for handling electromagnetic engineering problems.

THE TRACHTENBERG SPEED SYSTEM OF BASIC MATHEMATICS—Transl. and adapted by Ann Cutler and Rudolph McShane—*Doubleday*, 270 p., \$4.95. A high-speed system for mental calculation that claims a high degree of accuracy.

THE TRAINING OF PSYCHOTHERAPISTS: A Multi-disciplinary Approach—Nicholas P. Dellis and Herbert K. Stone—*La. State Univ. Press*, 195 p., \$5. Symposium papers and their discussion.

WASTE DISPOSAL IN THE MARINE ENVIRONMENT: Proceedings of the First International Conference—E. A. Pearson, Ed.—*Pergamon*, 569 p., illus., \$12.50. Papers presented by leading authorities covering such aspects as public health, nearshore oceanography, and effects on marine biota.

• Science News Letter, 79:204 April 1, 1961

The compact radar unit is ideal for small airports where space is valuable. Seven California scientists who combined their talents to produce the invention are: Robert W. Landee, James R. Deen, John J. Fling, Robert G. Shaw, Ronald R. Davis, James K. Johnston, and Paul L. Bennett.

An oil-well rig that can be lifted by helicopter over mountains and other rough terrain to the remotest areas not reached by roads was patented by Homer J. Wool-slayer, Calvin L. Turner and Cecil Jenkins of Tulsa, Okla. The invention, patent No. 2,974,760, was assigned to Lee C. Moore Corporation. Oil rig sections, identical except for the top and bottom of the rig, are carried by cable and stacked like building blocks, one on top of the other, in another location. The bottom section of the old rig becomes the top of the new rig.

A device controlling the flow of traffic into unattended parking lots has been patented. A car running over a treadle switch lifts up a gate, permitting the driver to pass through. Another treadle switch closes the gate behind him. Other means, not covered by the invention, can be used to keep out persons who do not have permission to park in the lot. The invention, Eugene T. Mahoney of Chicago, Ill., assigned patent rights of patent No. 2,975,350 to Johnson Fare Box Company, also of Chicago.

A system (patent No. 2,974,441) by which toys can be remotely controlled by children, was patented by Helmut Denner of Aargau, Switzerland. Toys, such as automobiles, can veer to the left or right, or back up, to a child's delight, by a simple command into a microphone.

• Science News Letter, 79:205 April 1, 1961