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AMINO RESINS—John F. Blais—Reinhold, 220 p., illus., \$4.95. Covers urea and melamine resins, and the newer ethylene urea and benzo-guanamine.

ARITHMETIC FOR BEGINNERS—Brenda Lansdown—Grosset, 69 p., illus. by Cynthia and Alvin Koehler, \$2. Concept of numbers for the very young.

BIRDS OF ROCKLAND COUNTY AND THE HUDSON HIGHLANDS—Rockland Audubon Soc., rev. ed., 48 p., illus., paper, \$1.15. Lists 267 species.

THE CATHODE-RAY TUBE AND ITS APPLICATIONS—G. Paif and O. H. Davie—Reinhold, 3rd ed., 433 p., illus., \$9.50. Uses of tube in oscillography, brought up to date.

CHALLENGE TO WORLD LEADERSHIP—Howard G. Kurtz—Public Affairs Press, 24 p., paper, 50¢. Analysis of U. S.-U. S. S. R. relations and debate.

CHEMICAL CALCULATIONS—H. V. Anderson—McGraw, 305 p., paper, \$2.75. Emphasis on solving problems, reprint.

THE CHEMICAL INDUSTRY FACTS BOOK 1960-61—Manufacturing Chemists' Assn., 4th ed., 163 p., illus., \$1.25.

CHILDREN'S VIEWS OF THEMSELVES—Ira J. Gordon—Assn. for Childhood Educ., 36 p., illus., paper, 75¢. On the role of self-estimate in young children.

CONCRETE PAVEMENT: Subbase and Joint Construction—Phil Fordyce and others—Highway Res. Bd., Bull. 229, illus., paper, \$1.

THE CORRESPONDENCE OF ISAAC NEWTON, Vol. I: 1661-1675—H. W. Turnbull, Ed., introd. by E. N. da C. Andrade—Cambridge Univ. Press for The Royal Society, 468 p., illus., \$25. For students of Newton and his times.

DICTIONARY OF AERONAUTICAL ENGINEERING—J. L. Naylor—Philosophical Lib., 318 p., illus., \$10. Terms of aerodynamics, aircraft design, propulsion, electronic engineering, materials, mathematics and flight.

ENERGY AND SOCIETY: The Relation between Energy, Social Change, and Economic Development—Fred Cottrell—McGraw, 330 p., paper, \$2.95. Reprint, 1955 edition.

THE FIRST BOOK OF NATIONAL MONUMENTS—Norman Lobsenz—Watts, F., 90 p., photographs, \$1.95. A guide with map, addresses and descriptions.

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FLUORINE AND DENTAL HEALTH: The Pharmacology and Toxicology of Fluorine—Joseph C. Muhler and Maynard K. Hine, Eds.—Indiana Univ. Press, 216 p., \$5. Authoritative, fully indexed, bibliography.

HANDBOOK OF BUSINESS MATHEMATICS—William R. Minrath—Van Nostrand, 658 p., \$9.85. Contains practical methods for every type of calculation.

HEALTH STATISTICS: Children and Youth, selected health characteristics, United States, July 1957-June 1958—Public Health Service (GPO), 46 p., paper, 35¢.

HIGHWAYS AND ECONOMIC DEVELOPMENT—J. H. Lemly and others—Highway Res. Bd.,

Bull. 227, 88 p., illus., paper, \$1.60. On changes in land use and value.

MATHEMATICS IN EVERYDAY THINGS—William C. Vergara—Harper, 301 p., 54 diagrams, \$3.95. Relates fundamentals of mathematics to common occurrences in question-and-answer form, for the general reader.

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1000 CALIFORNIA PLACE NAMES: Their Origin and Meaning—Erwin G. Guddé—Univ. of Calif. Press, rev. ed., 96 p., paper, \$1.25.

ORGANIC CHEMISTRY—Donald J. Cram and George S. Hammond—McGraw, 712 p., \$8.50. Beginning text with subject matter organized according to class of compounds.

PETROLEUM GEOLOGY—Kenneth K. Landes—Wiley, 2nd ed., 443 p., illus., \$9.50. Completely rewritten and brought up to date.

PHOTOGRAMMETRY: Developments and Applications, 1959—E. T. Bowen and others—Highway Res. Bd., 68 p., illus., paper, \$1.20.

PROCEEDINGS OF THE THIRD REGIONAL TECHNICAL CONFERENCE ON WATER RESOURCES DEVELOPMENT IN ASIA AND THE FAR EAST—United Nations (Columbia Univ. Press), 173 p., paper, \$1.75. Flood Control Series No. 13.

REPORT OF THE FIRST INSTITUTE ON CLINICAL TEACHING—Helen Hofer Gee and Julius B. Richmond, Eds.—Assn. of Am. Medical Colleges, 263 p., \$3; paper, \$2. Sixth AAMC Teaching Institute proceedings.

REPRODUCTIVE PHYSIOLOGY AND PROTEIN NUTRITION—James H. Leatham, Ed.—Rutgers Univ. Press, 65 p., paper, \$2. Conference papers on the influence of nutrition on hormone action.

ROBERT H. LOWIE, ETHNOLOGIST: A Personal Record—Robert H. Lowie—Univ. of Calif. Press, 198 p., photographs, \$5. Autobiography of a career, essentially about field work and the lessons it taught.

RUSSIAN TURNWORD: Basic Conversation Box—Taplinger, \$1.95. 150 Russian-English flip-cards.

SCIENTIFIC MANPOWER 1958: Papers of Seventh Conference and Symposium on Demographic and Sociological Aspects of Scientific Manpower—National Science Foundation, 87 p., paper, free upon request direct to publisher.

SCORING HUMAN MOTIVES: A Manual—John Dollard and Frank Auld, Jr.—Yale Univ. Press, 452 p., \$9.50. Presents method for studying the psychotherapeutic process within the pa-

tient by scoring in categories what the patient says.

SUBSURFACE GEOLOGY IN PETROLEUM EXPLORATION: A Symposium—John D. Haun and L. W. LeRoy, Eds.—*Colo. School of Mines*, 887 p., illus., \$10. Reference work on subsurface exploration.

A TECHNICAL WRITER'S HANDBOOK FOR TECHNICIANS, ENGINEERS, EDUCATORS, BUSINESSMEN AND SCIENTISTS—Margaret Norgaard—*Harper*, 241 p., \$3.75.

UNIVERSITY MATHEMATICS: A Textbook for Students of Science & Engineering—Joseph Blakey—*Philosophical Lib.*, 2nd ed., 581 p., \$10. First-year London University course.

WINDOW IN THE SKY: The Story of Our Upper Atmosphere—Homer E. Newell, Jr.—*McGraw*, 116 p., illus. by Gustav Schrotter, \$2.75. Concise introduction to the phenomena of outer space.

Science News Letter, December 12, 1959

ENGINEERING

Heat and Drag Impact On Spaceships Studied

JUST HOW much heat and drag are exerted on a spaceship, satellite or meteor by the impact of invisible particles in the thin upper atmosphere will be studied during the next three years by Dr. Eldon L. Knuth of the University of California, Los Angeles, under a \$75,800 grant by the National Science Foundation.

The UCLA engineering professor's laboratory investigations into these momentum- and energy-transfer problems may help determine the body construction and flight paths of future spaceships and satellites.

To simulate the conditions of a space vehicle moving at 25,000 feet per second above an altitude of 100 miles, Dr. Knuth will shoot beams of molecules at various metal, glass, and other solid surfaces.

Previous laboratory experiments along this line have been handicapped because of the low speed and intensity of the beams. Dr. Knuth plans to raise their energy range, using an electric arc to heat the molecules above 15,000 degrees Fahrenheit, and a supersonic nozzle to direct the molecules and increase their intensity.

Besides its immediate practical application, Dr. Knuth's study may throw additional light on what happens chemically when molecules collide with other molecules.

Taking part in the project also will be Dr. Andrew Charwat, associate professor of engineering, and several graduate students.

Science News Letter, December 12, 1959

Do You Know

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Great Britain is totally lacking in natural gas resources.

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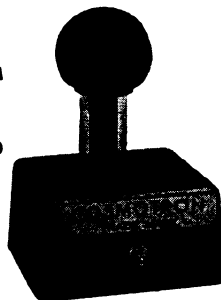
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