

# Books of the Week

For the editorial information of our readers, books received for review since last week's issue 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. Request free publications direct from publisher, not from Science Service.

**ANIMALS AND THEIR TRAVELS: Migrations from One Region to Another**—Richard A. Martin—*Golden Press*, 56 p., photographs, maps by Ray Pioch, 50¢. Colorful book of interesting facts for young people and the general reader.

**ATMOSPHERIC CHEMISTRY OF CHLORINE AND SULFUR COMPOUNDS: Geophysical Monograph No. 3**—James P. Lodge Jr., Ed.—*Am. Geophysical Union*, 129 p., illus., \$5.50. Proceedings of a symposium discussing analytical methods, field techniques and engineering control, and atmospheric concentrations.

**THE BIOLOGY OF THE AMOEBIA**—Henry I. Hirschfeld, Ed.—*N. Y. Acad. of Sciences, Annals*, Vol. 78, Art. 2, 303 p., illus., paper, \$4.50. Deals with structural and taxonomic considerations, physical studies and cell division, cytochemistry and enzymes, and nuclear-cytoplasmic relationships.

**THE BOOK OF EXPERIMENTS**—Leonard de Vries, transl. from Dutch by Eric G. Breeze—*Murray, J. (Macmillan)*, 123 p., illus. by Joost van de Woestijne, \$3. Elementary experiments with air, sound, forces, heat, light and electricity, amusingly illustrated.

**THE CHEMISTRY OF ORGANIC COMPOUNDS: A Year's Course in Organic Chemistry**—James Bryant Conant and Albert Harold Blatt—*Macmillan*, 5th ed., 652 p., illus., \$7.75. First-year course, rewritten in the light of recent developments in chemistry.

**GRAM'S OUTER SPACE AND WORLD GLOBE HANDBOOK with Questions and Answer Quiz**—George F. Cram Co., 64 p., illus., paper, \$1. Useful for quick reference on distances in our solar system, sizes of planets, man-made satellites in orbit, data on the earth's shape, size and orbit, and the moon.

**ENGINES: Man's Use of Power, from the Water Wheel to the Atomic Pile**—L. Sprague de Camp—*Golden Press*, 56 p., illus. by Jack Coggins, 50¢. Factual book for young readers.

**FALLOUT FROM NUCLEAR TESTS AT THE NEVADA TEST SITE**—Gordon M. Dunning—*U. S. Atomic Energy Commission (Off. Tech. Serv.)*, 93 p., illus., paper, 90¢. Report on external gamma exposures, environmental contamination and estimated radiation doses from all nuclear tests.

**FLEXIBLE PAVEMENT DESIGN: Research and Development 1958**—Charles R. Foster and others—*Highway Res. Bd.*, Bull. 210, 61 p., illus., paper, \$1.20. Discussion of tests and programs.

**FLUIDIZATION**—Max Leva—*McGraw*, 327 p., illus., \$11.50. This reference volume for practicing engineers and students of chemical engi-

neering coordinates the developments of the past fifteen years.

**GEOLOGY OF THE LA VENTA BADLANDS, COLOMBIA, SOUTH AMERICA**—Robert W. Fields—*Univ. of Calif. Press*, 38 p., plates, paper, \$1. The stratigraphic section in this area comprises more than 700 meters of conglomerates, sand stones and silty claystones.

**GROUND WATER HYDROLOGY**—David Keith Todd—*Wiley*, 336 p., illus., \$10.75. Comprehensive account of the occurrence, distribution and movement of water below the surface in various regions of the United States.

**HANDBOOK ON GARDENING**—Victor H. Ries and others—*Brooklyn Botanic Garden*, 97 p., illus., paper, \$1. Answers hundreds of everyday problems facing both beginning and experienced gardeners, on selection of plants, garden practices, lawns, permanent plants and tips for pest control.

**HEMATOPOIETIC MECHANISMS**—Walter S. Root, Ed.—*N. Y. Acad. of Sciences, Annals*, Vol. 77, Art. 3, 413 p., illus., paper, \$5. Discusses techniques used in the quantitative study of blood cells, hormone control of blood cell formation, hemopoietin, and the life span of blood cells.

**INTRODUCTION TO MATHEMATICAL PHYSICS—William Band**—*Van Nostrand*, 326 p., \$7.25. Text for use in courses on theoretical physics for college senior and graduate students.

**A LABORATORY MANUAL OF Cryptobranchus Alleganiensis DAUDIN**—Hazel Elisabeth Branch—*Vantage*, 2nd ed., 79 p., illus. by author, \$2.95. A study of a genus of aquatic salamander, illustrating the anatomical change from lower to higher vertebrates.

**MAMMALS OF THE SAN FRANCISCO BAY REGION**—William D. and Elizabeth Berry—*Univ. of Calif. Press*, 72 p., illus. by William D. Berry, paper, \$1.50. Guide to the deer, rabbits, rodents, bats, opossums, shrews and other mammals of the region.

**THE MATH ENTERTAINER**—Philip Heafford—*Emerson*, 176 p., \$2.95. Mathematical teasers, traps and twisters for all those who love to solve problems.

**THE MOLECULAR BASIS OF EVOLUTION**—Christian B. Anfinsen—*Wiley*, 228 p., illus., \$7. Author proposes a biochemical approach to the study of evolution, which he considers as the integrated form of the sciences of genetics and protein chemistry.

**OUTLINE OF HISTOLOGY**—Margaret M. Hoskins and Gerrit Bevelander—*Mosby*, 4th ed., 112 p., illus., paper, \$4.75. Supplementary text on the structure of tissues and glands.

**PERSONNEL PRINCIPLES AND POLICIES: Modern Manpower Management**—Dale Yoder—*Prentice-*

*Hall*, 2nd ed., 599 p., \$9.25. Nontechnical introduction to leadership in employment relationships in a free society, for students not preparing for careers in management.

**PHYSICS**—Claude C. Boyd and M. Vere DeVault—*Steck*, 48 p., illus. by Don Collins, \$1.75. Elementary physics phenomena illustrated for children.

**PROCEEDINGS OF THE WORKSHOP ON DENTISTRY FOR THE HANDICAPPED**—Manuel M. Album, Ed.—*Nat. Soc. for Crippled Children & Adults*, 121 p., illus., paper, \$5. Papers on various aspects of treatment and the oral manifestations of cerebral palsy and mental retardation.

**PUEBLO DEL ARROYO CHACO CANYON, NEW MEXICO**—Neil M. Judd—*Smithsonian Inst.*, 222 p., illus., 55 plates, \$4.50. Fourth report on the findings of the National Geographic Society's Pueblo Bonito Expeditions, contributing to knowledge of Pueblo civilization at its height.

**RECENT PROGRESS IN THE ENDOCRINOLOGY OF REPRODUCTION**—Charles W. Lloyd, Ed.—*Academic*, 532 p., illus., \$12. Proceedings of the Conference held in Syracuse, N. Y., in 1958, which brought together basic investigators and clinicians for exchange of information and ideas on the endocrine aspects of reproduction.

**RECREATIONAL USE OF WILD LANDS**—C. Frank Brockman—*McGraw*, 346 p., illus., \$8.50. Textbook presenting a broad, basic outline of the background, importance, values, and fundamental requirements of the recreational management of wild lands. Bibliographies included.

**REPTILES AND AMPHIBIANS OF THE SAN FRANCISCO BAY REGION**—Robert C. Stebbins—*Univ. of Calif. Press*, 72 p., illus., paper, \$1.50. Guide to local turtles, lizards, snakes, salamanders and frogs.

**THE STUDY OF ROCKS IN THIN SECTION**—W. W. Moorhouse—*Harper*, 514 p., illus., \$8. Brief review of the methods of optical mineralogy, followed by descriptions of rock-forming minerals, identification tables and descriptions of the common rock types. Textbook and reference work for the practicing geologist.

**THERMODYNAMICS AND STATISTICAL THERMODYNAMICS**—John Geldart Aston and James Fritz—*Wiley*, 556 p., \$8.25. One-year graduate course covering the new statistical methods used for calculating thermodynamic properties of ideally gaseous organic compounds.

**THE VEGETATION OF NORTHERN MANITOBA, III: Studies in the Subarctic**—J. C. Ritchie—*Arctic Inst. of North America*, 56 p., illus., paper, \$2. Geographical study of the flora of subarctic Canada.

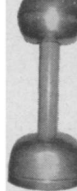
**THE VIRUSES: Biochemical, Biological, and Biophysical Properties, Vol. 3: ANIMAL VIRUSES**—F. M. Burnet and W. M. Stanley, Eds.—*Academic*, 428 p., illus., \$12. Systematically covers recent experimental work on viruses within and on the borderlines of biochemistry, biology and biophysics.

**A WAY OF LIFE AND SELECTED WRITINGS OF SIR WILLIAM OSLER, 12 July 1849 to 29 December 1919**—introd. by G. L. Keynes—*Dover*, 278 p., illus., paper, \$1.50. Reprint of 1951 edition entitled *Selected Writings of Sir William Osler*.

**WORLD LIST OF FUTURE INTERNATIONAL MEETINGS, June 1959-May 1962, Part I: Science, Technology, Agriculture and Medicine**—Inter-

## ELECTROSTATIC GENERATORS

(Van de Graaff Type)



**500,000 VOLTS.** This model available in kit form is over 3 feet tall and has a 15" diameter spherical charge collector. Kit includes 15" hemispheres, plastic tube, pulleys, bearings, belt, frame, and assembly directions.

\$29.80 Postpaid

**200,000 VOLTS.** This model (shown at left) is 17" high and has a 6 1/2" diameter spherical charge collector. Operates on 110 volt AC. Fully assembled, postpaid \$39.50. Kit form \$19.50. Other models to 1,000,000

**V. Vacuum Equipment.** Mech. pumps for pressure range 1 Atmosphere down to 150 Microns \$32.50. Diffusion pumps for pressure from 1mm Hg. down to .01 Microns \$25.00. McLeod gauges for range 1 Micron to 1000 Microns \$11. Write for free spec. sheets. Dept. SN

Morris & Lee, 439 Elm, Buffalo 3, N.Y.

## Win at Bridge

**A Bridge Manual for All, from Beginner to Club Player, by Bridge Pundit EWART KEMPSON, International Expert.**

A different method of teaching bridge. Discards "archaic" instruction. Explains the game briefly, then plunges directly into play, from which emerges winning theory. "Learn-by-Doing." Tells HOW to think about bridge, not WHAT to think. Shows how the Experts play with detailed explanations "WHY." Explains modern methods of Bidding, the principles of Attack and Defense, the Point-Count System of hand-valuation, etc., etc. Contains the KEMPSON CONVENTION.

Order now:

**CONTRACT BRIDGE** by Ewart Kempson

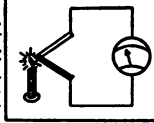
\$2.50 Postfree • 5-Day Money-Back Guarantee

EMERSON BOOKS, Inc., Dept. 737-L

251 West 19 Street, New York 11

## THERMO-ELECTRONICS

Successor to thermo-electricity. Change heat to electricity DIRECTLY—no acids, liquids, chemicals, moving parts or sunlight! Build or buy a thermo-electronic battery. Mail 25¢ today for information and sample thermo-electronic alloy.



HERMON E. COTTER

Dept. H. 15766 Blackstone, Detroit 23, Mich.

national Organizations Section, General Reference & Bibliography Div., Library of Congress—*Govt. Print. Off.*, 96 p., paper, 70¢, monthly, annual subscription \$7, foreign \$8.50. Records all meetings drawing on three or more nations, held anywhere in the world during the next three years, listing sponsors and addresses. Subject index.

Science News Letter, July 18, 1959

## MEDICINE

### Life Expectancy Not Cut By Intellectual Work

PROFESSORS do not die any earlier than streetcar conductors, a Swedish researcher reports.

Following a study of some 2,000 case histories, Prof. E. Ask-Upmark of Uppsala says that the intellectual strain to which professors are exposed does not increase the risk of brain tumors or cerebral hemorrhage. Causes of death were not different from those reported for persons in less intellectual work.

Actually, the "intellectuals" had a longer life-span, Prof. Ask-Upmark says in the *Journal of the American Medical Association* (June 27). Swedish professors with an average lifetime of 68 years and American professors with an average of 67 years lived longer than the streetcar conductors (61 years) or the typographers (58 years). About two-thirds of the American professors lived to 65, while only one-third of the Swedish conductors and typographers reached that age.

Analysis of the causes of death for 382 Swedish university scholars (mostly professors) showed 151 died from cardiovascular diseases, 53 from cerebrovascular diseases, 53 from malignant tumors and 34 from respiratory diseases.

Cases of tuberculosis, pulmonary cancer and suicide were few among the professors, Prof. Ask-Upmark reports.

Science News Letter, July 18, 1959

## GEOLOGY

### Aerial Color Photos May Find Underground Water

A UNIVERSITY OF NOTRE DAME geologist and his aviatrix wife have teamed up in an aerial color-photographic survey in northern Indiana. They hope to find a superior way for detecting underground water.

Working under a \$6,500 grant from the Office of Naval Research, Dr. and Mrs. Erhard M. Winkler are making their photographs with special camouflage-detection film provided by the Navy.

Black and white film has been used to find subsurface water. Differences in shades of gray indicate whether the soil is dry or moist from underlying water.

The glacial deposits of this area are typical of those in northern Europe and northern Asia, Dr. Winkler said. It may be possible to generalize the results of his study to a certain extent and apply them to other parts of the world.

In their two-year study, the Winklers hope to show that special color film is more sensitive in water detection.

Science News Letter, July 18, 1959

## BIOCHEMISTRY

### Baby Needs Less Food With Linoleic Acid

THE RIGHT AMOUNT of linoleic acid, an essential fatty acid found in milk, can reduce the amount of food needed to satisfy baby's hunger.

At the same time, a U. S. Department of Agriculture study showed, the usual weight gains will be maintained.

About four percent of the infant's total calories in linoleic acid is believed to be the optimum amount, the scientists found. This is the level found in human milk and is several times the amount in cow's milk. The body cannot manufacture linoleic acid, needed for such things as keeping the skin healthy, and it must be supplied in food, the researchers pointed out.

Working at the University of Texas School of Medicine, the researchers found that as linoleic-acid intake increased or decreased, the infants' food consumption changed in the opposite direction.

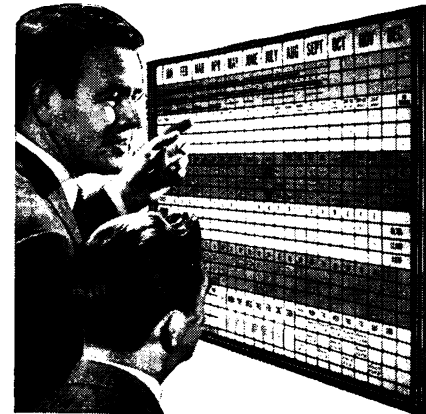
Infants kept in healthy condition on a diet of evaporated milk formula with added linoleic acid amounting to about one percent of the calories.

Cholesterol and total fatty-acids levels are relatively low in newborns as compared with those in their mothers.

Study is continuing on the effects of a mother's diet during the last three months of pregnancy on her blood serum fatty acid values just before, at, and after childbirth, as well as those of her infant at birth.

Science News Letter, July 18, 1959

### You Get Things Done With Boardmaster Visual Control



- ☆ Gives Graphic Picture of Your Operations —Spotlighted by Color
- ☆ Facts at a glance—Saves Time, Saves Money, Prevents Errors
- ☆ Simple to operate—Type or Write on Cards, Snap in Grooves
- ☆ Ideal for Production, Traffic, Inventory, Scheduling, Sales, Etc.
- ☆ Made of Metal, Compact and Attractive. Over 350,000 in Use

Full price \$49.50 with cards

**FREE** 24-PAGE BOOKLET NO. V-40 Without Obligation

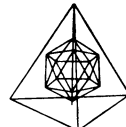
Write for Your Copy Today

**GRAPHIC SYSTEMS**

55 West 42nd Street • New York 36, N. Y.

## OPTICAL BARGAINS

### D-STIX CONSTRUCTION KITS



#### Visualize Ideas Fast!

Newest, handiest visualizing and demonstration tool for teachers—elementary, high school or college. Colored wood sticks 1/4" thick and "easy-on" rubber joints approx. 3/16" diam. fit together quickly to form all kinds of simple or complex shapes, structures. Ideal for teaching mathematics, chemistry, physics, design, engineering, architecture, abstract art—or for developing children's interest in form and structure. Work out geometric figures, molecular structures, structural members, configurations and perspectives, models of many types. 3-dimensional visualization adds interest—speeds understanding. Used by professional planners, designers, architects. Money-back guarantee.

Stock No. 70,209-Q (230 pcs) . . . . . \$3.00 ppd.  
Stock No. 70,210-Q (370 pcs) . . . . . \$5.00 ppd.

### BARGAIN-PRICED STETHOSCOPE



#### For Hobbyists, Schools

A real stethoscope at half the usual cost! Ideal for home craftsmen, hobbyists, schools, children. Listen to running machinery. Check on hard-to-hear motor noises, leakage of gas, air or fluid. Pick up heart beats of animals, insect noises, other "unhearable" sounds. Splendid for experiments, classroom use, animal husbandry. Hours of educational fun for adults, students and children. Excellent for auto repair, do-it-yourself projects. Sensitive, yet sturdily made to stand hard use. Money-back guarantee.

Stock No. 50,223-Q . . . . . \$2.95 postpaid  
Order by Stock Number. Send Check or M.O.

### REPLICA GRATING

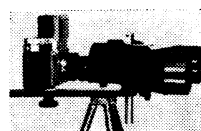
#### Low, Low Cost

Take Unusual Color Photos at Night

It's here—after decades of effort. Replica Grating—on film—at very low price. Breaks up white light into full spectrum colors. An exciting display. 13,400 lines per inch. Diffraction Grating has been used to answer more questions about the structure of the material world and the universe than any other single device. Use it for making spectroscopes, for experiments, as a fascinating novelty. First time available such large size—so cheaply. Comes in clear plastic protector.

Stock No. 50,202-Q . . . Includes 2 pieces 8" x 5 1/2" —1 transmission type, 1 reflecting type. \$2.00 Postpd.

### NEW BINOCULAR-TO-CAMERA HOLDER



#### For Exciting Telephoto Pictures

Bring distant objects 7 times nearer with a 35 mm. camera. 7x50 binocular and our NEW BINOCULAR-TO-CAMERA HOLDER. Ideal for long-range shots of wild life, ships, planes, people, etc. Camera and binoculars attach easily. Use any binocular or monocular—any camera, still or movie. Take color or black and white. Full directions for taking telephotos.

Stock No. 70,223-Q . . . . . \$11.50 postpaid

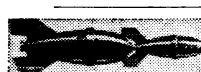
### Take Telephoto

#### Shots Thru

### 7x50 MONOCULAR

This is fine quality, American made instrument—war surplus! Actually 7x50 Binocular. Used for general observation both day and night and to take fascinating telephoto shots with your camera. Brand new, \$95 value. Due to Japanese competition we close these out at a bargain price. Directions and mounting hints included.

Stock No. 50,003-Q . . . . . \$15.00 Postpaid



### TWO-STAGE ROCKET TOY—

Simple, safe—demonstrates principles of jet rockets. Uses water and air as fuel. First stage soars up 200 to 300 ft.—then 2nd stage is automatically released, going still higher. A 2nd stage satellite is also included and may be substituted. Made of Butyrate plastic. Set includes fuel supply tank and air injection pump.

Stock No. 70,157-Q . . . . . \$2.98 postpd.

### FREE CATALOG-Q

100 Pages! Over 1000 Bargains!

America's No. 1 source of supply for science experimenters, hobbyists. Complete line of Astronomical Telescope parts and assembled Telescopes. Also huge selection of lenses, prisms, war surplus optical instruments, parts and accessories. Telescopes, microscopes, satellite scopes, binoculars, infrared stroboscopes, items for making "Science Fair" projects, etc. Request Catalog Q. Order by Stock No.—Send Check—Satisfaction Guaranteed.



**EDMUND SCIENTIFIC CO.**

BARRINGTON, NEW JERSEY