

# 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.

**BRITAIN'S ATOMIC FACTORIES: The Story of Atomic Energy Production in Britain**—K. E. B. Jay—*Her Majesty's Stationery Office (British Information Services)*, 100 p., illus., paper, \$1.25. The reader can judge for himself whether this booklet lets him in on any dark secrets.

**THE CLIFF'S EDGE**—Marie Hackett—*McGraw-Hill*, 245 p., \$3.50. The story of what happens when the head of the family is stricken by mental illness, how he is treated, and the relief and happiness his recovery brings.

**THE DYNAMICS OF VIRUS AND RICKETTSIAL INFECTIONS: International Symposium**—Frank W. Hartman, Frank L. Horsfall, Jr., and John G. Kidd, Eds.—*Blakiston*, 461 p., illus., \$7.50. A review of current knowledge in the field.

**ELECTRONICS: A Textbook for Students in Science and Engineering**—Thomas Benjamin Brown—*Wiley*, 545 p., illus., \$7.50. Prepared to meet the needs of science and engineering students at George Washington University.

**ESSENTIALS OF ABNORMAL CHILD PSYCHOLOGY: A Survey Representing Twenty-five Years' Work in the Field of Child Psychology**—Ernest Harms—*Julian Press*, 265 p., illus., \$5.00. The author believes that a variety of different concepts, not any one unified psychotherapy, is the best means of helping a variety of people.

**TEN FOUNDING FATHERS OF THE ELECTRICAL SCIENCE**—Bern Dibner—*Burndy Library*, 46 p., illus., paper, \$1.00. It is to these men and probably a few others we owe the fact that we can push a few buttons and have available the power equivalent to 60 slaves.

**A GUIDE TO TECHNICAL WRITING**—W. George Crouch and Robert L. Zetler—*Ronald*, 2d ed., 441 p., illus., \$5.00. Designed for undergraduate students and also those in business and industry. The business letter and speaking techniques, as well as the technical article, are discussed.

**HEATING, VENTILATING, AIR CONDITIONING GUIDE 1954: Vol. 32**—W. S. Harris, Chairman—*American Society of Heating and Ventilating Engineers*, 1616 p., illus., \$10.00.

**INDIANS OF THE WESTERN FRONTIER: Paintings of George Catlin**—George I. Quimby—*Chicago Natural History Museum*, 78 p., illus., paper, 50 cents. First publication of a collection of paintings by the celebrated American artist, George Catlin, depicting Indians and west-

ern scenes, owned by the Chicago Natural History Museum.

**INTRODUCTION TO NUCLEAR ENGINEERING**—Richard Stephenson—*McGraw-Hill*, 387 p., illus., \$8.00. Although the original development of nuclear energy was the work of theoretical scientists, its further use is coming into the province of the engineer. This is a textbook for graduate engineers.

**MANUAL OF CHILD PSYCHOLOGY**—Leonard Carmichael, Ed.—*Wiley*, 2d ed., 1295 p., illus., \$12.00. An advanced level textbook, each chapter written by a recognized authority.

**THE NEOLITHIC CULTURES OF THE BRITISH ISLES: A Study of the Stone-Using Agricultural Communities of Britain in the Second Millennium B.C.**—Stuart Piggott—*Cambridge University Press*, 420 p., illus., \$13.50. The outcome of the author's study of the British Neolithic in the field and in museums over the past 20 years.

**NEW SENIOR SCIENCE**—George L. Bush and Will S. Thompson—*American Book*, 642 p., illus., \$4.28. A textbook for secondary schools

## PHYSICS

# Electric Currents in Space?

► FROM SPAGHETTI-LIKE patterns, whirling disks and liquid metals that behave like cold molasses, scientists are learning more about motions in the earth's core.

Other results expected from the laboratory studies, which give a miniature picture of previously unexplained forces at work in our part of the universe, include:

A new theory of how the solar system was formed, perhaps radically changed from existing ideas.

New insight into what causes the northern lights and the ionospheric storms that plague long-distance communications by short-wave radio.

An explanation for the tremendous energies of the cosmic rays ceaselessly bombarding the earth from somewhere in space and, perhaps, for their origin as well.

An understanding of the nature of the forces acting on the solar atmosphere, such as huge sunspots.

Although the laboratory equipment used in the studies is rather simple, the mathematics is very complicated, Dr. H. C. Alfvén of Sweden explained. Dr. Alfvén, now a visiting professor at the University of Maryland, reported the research at a National Science Foundation seminar in Washington.

To make their studies, scientists use a dish of liquid metal, generally the familiar mercury of the household thermometer, placed between the poles of a powerful magnet. Then they check carefully the patterns formed when tiny disks at the bottom of the dish are spun rapidly. Sometimes they use mirrors to keep track of the motions.

planned to meet the needs of pupils who do not expect to go to college.

**NUCLEAR RADIATION PHYSICS**—Ralph E. Lapp and Howard L. Andrews—*Prentice-Hall*, 2d ed., 532 p., illus., \$9.00. So much has happened in nuclear science since publication of the first edition that the book has been completely revised.

**PROCEEDINGS OF THE EASTERN JOINT COMPUTER CONFERENCE: Papers and Discussions Presented at the Joint IRE-AIEE-ACM Computer Conference, Washington, D. C., December 8-10, 1953**—*Institute of Radio Engineers*, 125 p., illus., paper, \$3.00.

**SOCIAL FEEDING BEHAVIOR OF BIRDS**—Austin L. Rand—*Chicago Natural History Museum, Fieldiana: Zoology*, Vol. 36, No. 1, 71 p., paper, \$1.00. Many of the behavior patterns of birds arise, the author thinks, from the basic similarity of birds and the recurrence of similar situations.

**SONGS AND STORIES OF THE CH'UAN MIAO**—David Crockett Graham—*Smithsonian*, 336 p., illus., paper, \$4.00. The Ch'uan Miao are a people who live in the mountainous borders of Szechwan, Kweichow and Yunnan Provinces, western China. The author visited their homes and collected a large part of the stories himself, although his travels were sometimes prevented by bands of brigands.

Science News Letter, April 24, 1954

## YOUR SKIN AND ITS CARE

By H. T. Behrman, M.D., and O. L. Levin, M.D.

Two dermatologists give you the up-to-date scientific facts. They tell you in detail exactly what to do to beautify and improve your skin, how to avoid or correct skin disorders, and how to deal with many skin problems as: Daily care of the face—**allergies—cosmetics—pimples—blackheads—acne—whiteheads—cysts—boils—oily skin—dry skin—chapping—poison ivy—gold sores—hives—superfluous hair—ringworm—miles—birthmarks—scars—warts—tumors—skin cancer—excessive sweating—etc.**

"The type of book to which the physician can refer his patients." — *Journal of the American Medical Association*.

"Accurate, unvarnished story of practical skin care." — *Connecticut State Medical Journal*.

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Their studies are called magneto-hydrodynamics, since they concern what happens when magnetic fields interact with fluid conductors of electricity. When the electrical conductor is a wire, its movement in a magnetic field is the source of most electric power generated for U. S. homes today.

Space, such as that between the earth and the sun, is also a good conductor. However, practically nothing is known about electric currents generated in space.

Mercury normally is a very "alive" metal, as anyone who has broken a mercury thermometer knows from watching the darting quicksilver disappear in floor cracks. However, in a powerful magnetic field, of the order of 15,000 gauss, it becomes very thick and viscous, and shows none of its usual quivering.

"Spaghetti," Dr. Alfvén explained, is a term he and his associates use when discussing magnetic lines of force found in some of their experiments. Magnetic lines of force are invisible, but their pattern is shown by iron filings sprinkled between the poles of a magnet.

If such lines are considered as hanging strings with matter glued to them, he said, then when one string is hit toward the next, the motion is transferred from the hit string to the next. With several strings in a row, the pattern formed by the invisible lines of force resembles spaghetti.

Science News Letter, April 24, 1954

Americans of all ages spend \$824,000 a day on hobbies that involve making models.