

Shea, Ed.—*Wiley*, 468 p., diagrams, \$12.00. Covering transistor theory and its proper application in typical circuits.

THE UNITED NATIONS AND ECONOMIC AND SOCIAL CO-OPERATION—Robert E. Asher, Walter M. Kotschnig, William Adams Brown, Jr. and Associates—*Brookings Institution*, 561 p., paper, \$2.50. One section of the book is devoted to education, science and culture and the activities of UNESCO.

UNSETTLED CHILDREN AND THEIR FAMILIES—D. H. Stott—*Philosophical Library*, 240 p., \$6.00. Telling of the studies that are being made at the University of Bristol, England, leading to an understanding of the emotionally upset or "unsettled" children and how to help them before they become delinquent.

UNSTABLE CHEMICAL SPECIES: Free Radicals, Ions, and Excited Molecules—Henry C. Thacher, Jr., Ed.—*New York Academy of Sciences, Annals Volume 67, Art. 9*, 223 p., illus., paper, \$4.00. The behavior of unstable species is of great practical importance in the design of nuclear powered aircraft and satellites.

URBAN ARTERIAL PLANNING—Arthur T. Row and others—*Highway Research Board, Bulletin 153*, 43 p., illus., paper, 90 cents. Telling how to study the patterns of where people want to go and how to provide for their travel needs.

VETERINARY GUIDE FOR FARMERS—G. W. Stamm, edited by Dallas S. Burch—*Windsor Press*, 3d ed., 384 p., illus., \$3.95. A practical book for farmers telling such simple things as how to take an animal's temperature and pulse as well as telling how to diagnose and treat ordinary diseases and what to do when the animal has young.

VIRUSES IN SEARCH OF DISEASE—Robert J. Huebner, Chairman—*New York Academy of Sciences, Annals Volume 67, Art. 8*, 237 p., illus., paper, \$5.00. Papers delivered in a conference in May, 1956.

WHAT IS MARRIAGE COUNSELING?—David R. Mace—*Public Affairs Committee, Public Affairs Pamphlet No. 250*, 28 p., illus., paper, 25 cents. Telling troubled couples how to get help in making the most of their marriage and what a marriage counselor can do for them, where to find one, and what it will cost.

YOUTH AND CRIME: Proceedings of the Law Enforcement Institute Held at New York University—Frank J. Cohen, Ed.—*International Universities Press*, 273 p., \$6.00. Papers presented at a conference that struggled with the problem of how to prevent or cure juvenile delinquency.

Science News Letter, June 29, 1957

#### TECHNOLOGY

### Astronomer Invents Textile Wrinkle Measurer

► AN ASTRONOMY professor has presented the textile industry with its first wrinkle-measuring instrument.

Developed by Columbia University professor Lloyd Motz, the device can determine comparative wrinkling of fabrics or can compare a fabric with a standard for wrinklelessness.

The "Fabricometer," as it is called, is designed so movements of a probe caused by wrinkles deflect the light beam from the face of a photoelectric cell. Since a voltmeter is connected with the cell, direct readings of the size and number of wrinkles along the test line are recorded.

Science News Letter, June 29, 1957

#### ASTRONOMY

## Comet's Tail Explained

► THE STRANGE SUNWARD tail of the brightest naked-eye comet since Halley's, Comet Arend-Roland, consisted of small particles seen edge-on, an American astronomer reports.

Comet Arend-Roland, first sighted last November by two Belgian astronomers, was seen by millions about the end of April when it shown brightly in the northwest sky. It startled many by having two tails, a conventional one pushed away from the comet's core by sunlight, and a surprising one, a long slender jet pointed directly toward the sun. (See SNL, May 11, p. 303.)

Dr. Fred L. Whipple, director of the Smithsonian Astrophysical Observatory, Cambridge, Mass., says "no extraordinary" theory is needed to account for the growth of the sunward tail by more than 10,000,000 miles in a few days and its rapid decline. The tail "almost certainly" resulted from the concentration of debris driven out of the comet by the sun's heat, then strewn over an area in the orbital plane.

When viewed at an angle, Dr. Whipple reports in *Nature* (June 15), the material could not be observed easily. However, when seen edge-on, as it was when the earth crossed the plane of the comet's orbit on April 25, the material showed up clearly as a line of considerable intensity.

The sunward jet of Comet Arend-Roland developed from a diffuse fan-shape on April 22 to a long narrow spike covering many millions of miles on April 25. By April 29, the jet disappeared because the particles were too far apart to be seen after the earth had moved out of the plane of the comet's orbit.

Dr. Whipple reports that the fine debris

spread out in the plane of the orbit and seen as the sunward tail was ejected from the comet's central part or nucleus.

Comets are believed to be a swarm of small and widely separated solid bodies held loosely together by mutual attraction, a flying gravel bank paying a brief visit to the sun's vicinity.

Science News Letter, June 29, 1957

## Do You Know?

Minute dosage of several new *insecticides* has been shown seriously to reduce reproductive rates in game birds.

The *nutria*, a South American rodent that has become established in the U.S., is a vegetarian and as such is in direct competition with migratory waterfowl and muskrats for feed.

Today, working *women* take home one-fifth of this country's total wages and salaries.

*Asparagus* is an herbaceous perennial which means that the tops die down during the winter but the roots remain alive.

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## Questions

AERONAUTICS—How does the new jet engine, the J79, overcome the problem of "stall barrier"? p. 405.

BIOLOGY—Which foods fed to experimental animals did scientists find had the greatest radioactive contamination? p. 409.

CHEMISTRY—What common, every-day food provided the raw material for making diamonds? p. 406.

GEOPHYSICS—How do scientists expect to determine whether the auroras occur simultaneously in the Northern and Southern Hemispheres? p. 407.

PUBLIC HEALTH—What drug is recommended as a substitute for penicillin in mastitis preparations given to cows? p. 403.

PHOTOGRAPHS Cover, U. S. Navy; p. 403, U. S. Air Force; p. 405, F.C. Livingstone; p. 408, Abbott Laboratories; p. 412, Bakelite Company.