

ASTRONOMY

Bright Comet Visible

► COMET AREND-ROLAND is now visible to the eye low in the northwest sky. It has a total brightness less than the faintest star in the Big Dipper. (See SNL, April 20, pp. 249 and 250, and April 6, p. 212.)

Although not as brilliant as originally predicted, it presents one of the most spectacular heavenly shows since Halley's comet in 1910.

Weather permitting, its tail can be seen stretching toward the northeast over an area equal to that covered by 50 full moons. It streams some 20,000,000 miles from the comet's head, about one-fifth of the distance from the earth to the sun.

Although its total naked-eye brightness is about magnitude four, the visibility of the head is much fainter. Shooting out from this nucleus in a direction nearly opposite from the tail is a slender jet caused by an eruption of gases from the comet's head. This jet is not curved by the sun's radiation pressure like the tail, but is a straight thin trail covering about the same area as eight full moons, or four degrees.

To see the comet, face northwest shortly after dark. Find the North Star (Polaris), then shift your eyes slightly to the left and directly down toward the horizon.

The first U. S. astronomer to spot Comet Arend-Roland after it receded from the

sun's glare was Dr. George Van Biesbroeck of Yerkes Observatory, who used the 82-inch telescope at McDonald Observatory in Texas.

The celestial visitor is a "long period" comet. That is, unlike Halley's—expected to be visible again late in this century—it may not return to the solar system's vicinity for a thousand years or more. Its brilliance will fade, as it climbs toward Ursa Major.

The head of comets is believed to be a hard core of ice and dust, what some astronomers have called "a brilliant display caused by almost nothing." The comet's tail is a diffuse misty halo forced in a direction away from the sun by solar radiation. Most of its mass, which is not much, is loosely bound together in the nucleus.

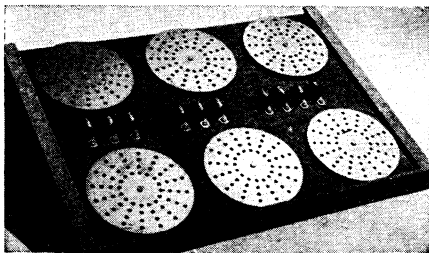
The jets seen shooting from a comet's head are thought to be a surface explosion of organic material. The tail's light results from the action of sunlight on the fine particles boiled out of the comet's head as it passes close to the sun.

This comet was also spotted by the radio waves it broadcasts. Dr. John D. Kraus of Ohio State University found it by this technique for the first time.

The comet's heavenly position on May 7, as astronomers state it, will be approximately five hours, nine minutes in right ascension and 61 degrees, 51 minutes in declination.

Science News Letter, May 4, 1957

Can you think faster than this Machine?



Control Panel of GENIAC set up to do a problem in check valve research.

Be careful before you answer. GENIAC, the first electrical brain construction kit, is equipped to play tic-tac-toe, cipher and encipher codes, convert from binary to decimal, reason in syllogisms, as well as add, subtract, multiply and divide. Specific problems in a variety of fields—actuarial, policy claim settlement, physics, etc., can be set up and solved with the components. Connections are solderless and are completely explained with templates in the manual. This covers 33 circuits and shows how new ones can be designed.

You will find building and using GENIACS a wonderful experience; one kit user wrote us: "this kit has opened up a new world of thinking to me." You actually see how computing, problem solving, and game play (Tic-tac-toe, nim, etc.) can be analyzed with Boolean Algebra and the algebraic solutions transformed directly into current diagrams. You create from over 400 specially designed and manufactured components a machine that solves problems faster than you can express them.

SEND for your GENIAC kit now. Only \$19.95 with over four hundred components and parts, fully illustrated manual and wiring diagrams. We guarantee that if you do not want to keep GENIAC after one week you can return it for full refund plus shipping costs.

MAIL THIS COUPON
SCIENCE KITS, Dept. SL-57-A, Oliver Garfield Co.
126 Lexington Ave., N. Y.

Please send me:

1 GENIAC Electric Brain Construction Kit and Manual

\$19.95 (East of Mississippi)
\$20.95 (Elsewhere in United States)
\$21.95 (Outside the United States)



SPANISH • FRENCH • JAPANESE
GERMAN • RUSSIAN • ITALIAN
MODERN GREEK • ICELANDIC

—any of 34 languages available AT HOME

With Linguaphone, The World's Standard Conversational Method, you bring 8 to 12 of the world's best native language teachers into your home.

You listen to life-like, conversational recordings for just 20 minutes a day. You hear men and women speak—YOU Understand—You SPEAK. Over a million home-study students of all ages. Write today for FREE Book and details of FREE TRIAL. No obligation. Linguaphone Institute, T-31-057 Radio City, New York 20, N. Y.

GEMSTONE COLLECTION: 30 Rough Specimens of Crystal Gems in individual compartments; pocket size, 4" x 5½"; contains gems from all over the world; Ruby, Aquamarine, Amethyst, etc. Price, \$3.75 prepaid.

Booklet: "Introduction to Geology for the Layman," 50¢.

New Catalogue in May, \$1.00

ECKERT MINERAL RESEARCH
PROSPECTORS SUPPLIES

110 EAST MAIN ST.
FLORENCE, COLORADO

Questions

CHEMISTRY—What was Pliny testing for when he made the first colorimetric analysis? p. 275.

MEDICINE—How can doctors detect silicosis? p. 281.

PUBLIC HEALTH—What do scientists mean by the "doubling dose" when they speak of the dangers of radiation? p. 279.

RADIO ASTRONOMY—What organization will manage the new radio telescope at Green Bank, Va.? p. 283.

TECHNOLOGY—What is the highest temperature that glass fibers now being made can withstand? p. 277.

PHOTOGRAPHS: Cover, George A. Smith; p. 275, American Museum of Natural History; p. 277, British Information Services; p. 279, Ferranti Ltd., England; p. 282, Brookhaven National Laboratory; p. 288, Girdwood and Allen.

ENTOMOLOGY

Longhorn Beetle Is One Of Our Summer Insects

See Front Cover

► ABOUT one inch long, this cloaked longhorn beetle, shown on the cover of this week's SCIENCE NEWS LETTER, is easily recognized by its distinctive coloring. The front part of its wing covers is orange-yellow while the rest of its body, including its long knotty horns, is a bright blue color.

Among the more than 13,000 species in the family Cerambycidae this beetle is among the most beautiful. Its scientific name is *Desmocerus palliatus*.

Large numbers of this family of beetles are attracted in early summer by flowering shrubs. The cloaked longhorn beetle is also known as the elder bush beetle because its larva bores into the pith of the elder bush.

Science News Letter, May 4, 1957

ACTS LIKE A MAGNET

Attracts birds — keeps them near, and happy!

Bower's BIRD BOWER

CAFETERIA WHERE BIRDS CAN EAT IN PEACE

CAT—, RAT—, WEATHERPROOF

A Beautiful Yard Ornament — This all-aluminum, rustless, bird-feeder doesn't fall apart when filling. Holds feed for DAYS. Feeds automatically. Kept clean. Feeding platform catches hulls. Polished roof, 15" dia.; polished platform, 12" dia.; over-all height, 10½". High quality, easy-to-fill, practical feeder will last lifetime. Ready to hang. Postpaid, only **\$9.95**

3-section, five-foot galvanized post, with foot-step and spearhead for pushing in ground. Extra, postpaid **\$2.00**

Satisfaction Guaranteed or Money Back

BOWER MANUFACTURING CO.

P. O. Box 5N Goshen, Indiana