

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.

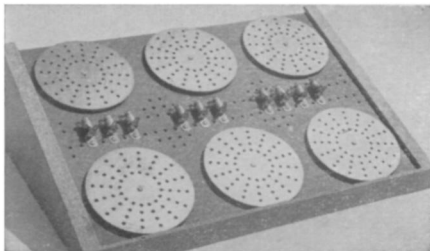
The jets seen shooting from a comet's head are thought to be a surface explosion of organic material. The tail's light results from the action of sunlight on the fine particles boiled out of the comet's head as it passes close to the sun.

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

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Questions

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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

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