

ASTRONOMY

Nova Among New Objects

► A NOVA, or new star, blazed forth in the heavens the night of July 4-5, to give bright celestial fireworks.

The nova is in the constellation of Scorpio, the scorpion, visible low on the southern horizon in the early evening hours. Now of magnitude seven and a half, it is just a bit fainter than the sixth magnitude that marks the dimmest stars visible to the naked eye. It can be seen with binoculars or a small telescope, however.

Three nights prior to the Fourth of July, there were no stars visible brighter than magnitude 13 at the spot where the nova blazed forth. Thus the new star increased at least 400 times in brightness in three days, and it may have flared up as much as 10,000 times in brightness.

The nova was discovered by Guillermo Haro and Lauro Herrera of the Observatorio Astrofisico Nacional, Tonanzintla, Puebla, Mexico. From this area, the constellation of Scorpio is nearly overhead. The astronomers report the nova's position as 17 hours, 50 minutes in right ascension, minus 36 degrees 15 seconds in declination, based on the 1875 equinox.

Because the constellation is quite far south, only those who live south of the 40th parallel, about on a line from Philadelphia to Denver, can see the nova when away from city lights.

About 100 novae are believed to occur in our Milky Way galaxy every year, but only a few of these are spotted.

News of the nova's discovery was bulletined to astronomers across the country by Harvard College Observatory, clearing house for astronomical observation in the Western Hemisphere.

Harvard astronomers also reported that the astronomer Abbott of Athens Observatory, Greece, has found a new object in the southwestern sky, in the constellation of Virgo, the virgin, very close to the planet Saturn.

The Abbott object is the second object discovered in this region of the sky in less than two weeks.

Two European astronomers have independently discovered the new comet in the constellation of Virgo, the virgin. (See SNL, July 10, p. 27.)

The independent discovery was made jointly by astronomers L. Kresak and M. Vozarova, both of Skalnaté Pleso Observatory in Czechoslovakia, who spotted the comet on June 30, one day after it was found by Leslie C. Peltier of Delphos, Ohio.

The two European astronomers report the comet is of tenth magnitude, Mlle. J. M. Vinter Hansen of Copenhagen cabled Harvard College Observatory.

Science News Letter, July 17, 1954

TECHNOLOGY

Detonator for Sabotage

► DETAILS OF an ingenious detonator widely used in sabotage in World War II have recently been revealed with the announcement that Canadian physicist A. J. G. Langley has been given a cash award by Great Britain.

The miniature "time pencil" detonator invented by Mr. Langley, who did research for the British Navy throughout the war and now lives in Ottawa, was made by the million. The Royal Commission on Awards to Inventors has recognized the value of the invention to the Allies.

Only five inches long and as thin as a pencil, the tiny detonator is handy to secrete and carry. It operates very simply. It is detonated by a spring held in restraint by a wire. This wire passes through a thin-walled metal chamber containing a vial of copper chloride solution.

When the soft chamber walls are crushed between the fingers, the glass breaks, and the copper chloride solution eats through the release wire. By varying the concentration of copper chloride, the explosion can be timed anywhere between 30 minutes and 24 hours after the vial is crushed.

Over 15,000,000 "time pencil" detonators were made during the war. They were secretly delivered to saboteurs throughout

Europe, who attached them to dynamite and many types of bombs. With a chamber of magnesium or aluminum, they were also used as incendiaries.

Since the war, Mr. Langley has been director of scientific intelligence at Canada's Defense Research Board. He is now executive assistant to the general manager of Computing Devices of Canada Ltd., Ottawa.

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TECHNOLOGY

Navigation Instrument Made for Arctic Use

► A NAVIGATIONAL instrument that is not fooled when the sun sets has been developed for the Air Force and Navy to use in the Arctic where the sun can wheel around all day without breaking over the horizon.

Believed to be a valuable instrument for commercial airlines now charting great-circle paths to Europe over Arctic wastes, the "Sky Compass" works on polarized light from the sun. This light can be present even though the sun has set.

In latitudes above 70 degrees, standard sextants cannot be used satisfactorily for

navigation because they depend upon a sun sighting. At night, they work on the planets or the stars. However, in the Arctic twilight, the sun may be below the horizon, yet there may be so much light that stars and planets are obscured. Magnetic compasses also are unreliable in this area.

The new device was developed by the Kollsman Instrument Corporation, New York. The airplane navigator looks into a periscope-like device and rotates the instrument. He sees changing patterns as he watches, and when the field view suddenly goes gray, he has reached the "match point," which permits him to read the plane's true heading.

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