

ASTRONOMY

New Star Bursts Forth In Constellation of the Eagle

Aquila, Setting For Famous 1918 Nova, Scene of New Eighth Magnitude Star High in Southwest Near Altair

A NEW star or nova has burst forth in the constellation of Aquila, the Eagle, the International Astronomical Union's central bureau at the University of Copenhagen has been informed by Nils Tamm at the Kvistaberg Private Observatory in Bro, Sweden.

The new Nova Aquilae is now of the eighth magnitude and not visible to the naked eye. News of its discovery was cabled to observatories of the world.

The brightening of this star takes on added interest because the most famous nova of this century, Nova Aquilae of 1918, was in the same constellation.

The nova is high in the southwestern evening heavens, not far from Altair, seventh brightest star seen from this part of the earth.

The brightening of a star signals a gigantic outburst which if it had occurred to the sun would have immediately wiped out the earth and other planets. One or more expanding shells of gas rush away from a nova at immense speeds. Nova Lacertae rose in June of this year to be as bright as the Pole Star, and Nova Herculis discovered in December, 1934, was even brighter (See *SNL*, Dec. 29, 1934, and June 27, 1936).

The nova in Aquila was photographed on the night of September 20 by Harvard Observatory, and evidence that the star is expanding was discovered. On photographic plates, Nova Aquilae was of the twelfth magnitude on June 22, about tenth magnitude on July 22 and about ninth magnitude on Aug. 17.

Science News Letter, October 3, 1936

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New Comet Discovered In South Africa

A NEW comet was discovered in the constellation of Aquarius in the southern evening sky on Sept. 20 at the Union Observatory, Johannesburg, South Africa, by Dr. Cyril Jackson.

It is faint and diffuse with no nucleus. Astronomers rate it as twelfth magnitude. News of its discovery was cabled to observatories by the International

Astronomical Union's bureau at the University of Copenhagen.

Whether Jackson comet will grow brighter can be determined only when more and later observations are made so that an orbit can be computed.

The astronomical position of the new comet is approximately right ascension 23 hours and south declination 12 degrees 47 minutes.

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First Photographs Taken On Mount Palomar

TO Dr. Fritz Zwicky, associate professor of theoretical physics at California Institute of Technology, goes the distinction of making the first astronomical photographs at the Astrophysical Observatory, the future home of the great 200-inch telescope.

Working with a Schmidt-type camera, a small auxiliary observing unit for the future world's largest astronomical eye, Dr. Zwicky is taking focus photographs of the sky to be used in adjusting the mechanisms of the larger instruments yet to be installed. A month will be required for this work.

A battery of trucks has started to haul from Los Angeles the 500 tons of steel for the side walls of the 200-inch dome. First ten loads of the six trucks and five trailers will be equipment for swinging the steel into place.

So steep is the road up the mountain that the filled trailers are left at the foot while the trucks go up alone. When empty, they return and haul up the trailers.

Grinding of the great 200-inch disk has been started at California Institute of Technology in Pasadena. Three months will be required to give it a flat surface, first. Then the disk will be turned over and another six months spent in grinding the back. Only then will the long, delicate and tedious job of grinding the face to the proper curvature be undertaken.

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FROM SILVER DUST

Tiny particles you cannot see produce this visible picture. The enlargements on the facing page show you how it is done.

PHOTOGRAPHY

Silver You Cannot See Makes Images You Can

EVERY time you take a snapshot on your camera at home billions of things happen. Why? Because billions of tiny crystals of light-sensitive silver bromide on the gelatin surface of the film in your camera change when the light strikes them. Those little crystals are embedded in a gelatin layer, like fruit in some of the popular gelatin desserts on the family table.

Developing the film, as it is called, changes the particles struck by the light rays into black metallic silver. It is the gradation from pure black, through the various shades of grays to pure white which produces the shade tones of the final printed picture.

Take a microscope, however, and go into the Lilliputian land of the silver grains you cannot see but which make the images that you can, and there you will find that truly the myriad host of particles is present.

The accompanying pictures, showing successive enlargement and magnification which prove the truth of this statement, are from scientists of the Eastman Kodak Company. The first picture (shown above) shows the young lady as you normally see her on a photographic print, except that the picture is taken from a positive motion picture film. In the second view she takes on something of her photographic granular structure which seems like a good case of freckles in the summer time.

But keep watching her left eye as in the third picture. Yes, the shadow of the