

Blue light produces the central dot. The halo is due to red light being photographed out of focus.

Senor Haro's first red star was so red that the central dot was entirely absent. Closest approach in redness to this star was one discovered in 1935 by Drs. F. K. Edmondson and A. M. Rogers, then at Lowell Observatory.

*Science News Letter, July 8, 1944*

## Unusual Double Stars

► UNUSUAL double stars in Cassiopeia, now visible toward the north in the evening sky, are believed to furnish further evidence in the evolution of nebulous matter in space into full-fledged stars.

The stars, known as SX and RX Cassiopeiae, are variable stars which owe their apparent changes in brightness to the fact that they are double. The components of both of these stars are large, giant stars, one a white A-type star and the other a yellow G-type star.

Discoveries reported to the meeting by Dr. Sergei Gaposchkin of Harvard Observatory indicate that the A-type white star in each case seems considerably smaller in photographic light than in visual or yellow light, an effect usually caused by stars of small nuclei being surrounded by extended atmospheres.

Entirely independent observations have been made on RX and SX Cassiopeiae by Dr. Otto Struve of the Yerkes and McDonald Observatories of the Universities of Chicago and Texas, who found the A-type star in each case surrounded by a thick envelope of nebulosity. It is probable that the envelope engulfs the entire system, including the giant G star.

Study of these stars is complicated by their being double, but a discovery of this kind could probably not have been made for a single star. Further complications in the case of RX Cassiopeiae arise from the fact that one of the two stars (which one is not known) every 517 days undergoes a rhythmic fluctuation in brightness which can be attributed only to physical changes within the star itself.

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## Pleiades Are Receding

► THE STARS of the Pleiades, or Seven Sisters, are speeding away from the solar system at about five miles each second, according to a paper sent by Dr. J. A. Pearce, director of the Dominion Astrophysical Observatory at Victoria, British Columbia, for presentation before the

meeting. This figure agrees quite well with estimates based on the apparent motion of the stars across the sky.

At least six of the stars of this famous group, located in the shoulder of Taurus, the Bull, are visible to the naked eye. People with very keen eyesight can spot possibly 12 stars in all. But the cluster of stars, packed together about 30 times more densely than are the stars in the vicinity of the sun, is estimated to comprise at least 500 stars.

"Their spectra are exceedingly difficult to measure accurately," Dr. Pearce reported, "the spectral lines being very wide, nebulous and lacking in contrast. In general, for each star, only six or seven diffuse lines of hydrogen and helium are available for measurement. The poor quality of the spectral lines undoubtedly has discouraged students of stellar motion, leaving the motion of the cluster an unsolved problem."

The brightest stars of the cluster, although extremely blue stars, should be classed as dwarfs like the sun, Dr. Pearce believes. Alcyone, the brightest Pleiad, outshines the sun 730 times. On the average, however, the 12 stars visible without a telescope are only 200 times as bright as the sun, which makes their luminosities quite low for blue stars. The average diameter of these particular stars is only 2.6 times that of the sun.

The comparatively small diameter combined with the rapid rotation of these particular stars is believed to be largely responsible for the unusually diffuse character of their spectral lines.

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### MILITARY SCIENCE

## New Army Camouflage Net Resembles Woman's Veil

► A NEW TYPE open-mesh weave camouflage head net for use with the steel helmet and its plastic liner has been designed by the Quartermaster Corps and the Corps of Engineers of the War Department.

The netting is a modification of a type developed by the engineers for camouflaging field guns and artillery emplacements in theaters of operation, and can be manufactured on lace-making machines and certain types of knitting machines.

The head net has an elastic band attached to the net fabric which fits over the helmet liner and holds the net in place, while the net itself drapes over the outer steel helmet like a veil on a woman's hat. The ends hang down to cover either the face or the back of

the head and neck, to break up their characteristic outline. It can be worn either with the helmet or with the liner alone.

The mesh is large enough to permit leaves or twigs to be placed in the openings to blend into surroundings.

The net is treated with a mildew-proofing agent.

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