

ASTRONOMY

Short-Lived Explosions

➤ **SHORT-LIVED ATOMIC** explosions keep the well-known star Mira, first star to be recognized as a variable, in a state of constant upheaval. Sometimes they make the star burn thousands of times brighter than at other periods.

"The behavior of Mira is much more complex and less regular than was considered possible in a giant star 25 years ago," Dr. Alfred H. Joy, of Mount Wilson and Palomar Observatories of the Carnegie Institution of Washington and California Institute of Technology, told members of the American Astronomical Society, of which he is president, at the Cleveland meeting.

The star's actions are far too erratic for it to be a simple pulsating star. If such pulsations do take place, they are overshadowed by the effects of short-lived disturbances within the atmospheres of the star, Dr. Joy stated.

This enormous star, which is some 300,000,000 miles across, is in the constellation

of Cetus, the whale, now visible in the southwestern part of the evening sky. At maximum it is sometimes the brightest star in that part of the sky, at minimum it is far too faint to be seen with the naked eye. It takes some 330 days more or less for the star to brighten, then return to its minimum of about the ninth magnitude.

This star, ages ago named Mira, meaning "wonderful," has been studied thoroughly by Dr. Joy for many years. About three decades ago his studies suggested it had a companion that was large enough and bright enough to be seen. Its companion, a white dwarf of the tenth magnitude, was soon spotted.

Later in the meeting Dr. Paul W. Merrill and William Buscombe, also of Mount Wilson and Palomar Observatories, reported on changes in brightness of atomic absorption lines in the star's spectrum or fanned-out light.

Science News Letter, January 12, 1952

GENETICS

"Brain Food" Benefits

➤ **HEREDITY AND** sex influence brains in their use of a "brain food" chemical, glutamic acid.

This discovery may settle the controversy over the effects of glutamic acid on intelligence. It is reported by Dr. Benson E. Ginsburg of the University of Chicago and Dr. Eugene Roberts of Washington University.

Some scientists have reported in the past that glutamic acid raised the intelligence of feeble-minded children and experimental animals. Other scientists reported that when they tried this acid, it had no beneficial effect.

The studies reported to the American Association for the Advancement of Science meeting in Philadelphia were made with strains of mice that had different hereditary backgrounds.

Animals in one strain go into convulsions and die in response to a loud noise. When a single injection of glutamic acid was given to these mice, the number that went into convulsions in response to noise was drastically reduced. Injections of chemicals known to check the action of glutamic acid, on the other hand, increased the number of seizures in this strain.

Mice of another strain, with inherited resistance to sound-caused fits, were not affected by chemicals that checked glutamic acid action. But in this strain, males and females reacted differently to injections of glutamic acid.

In still another strain of mice, even more susceptible to loud noise than the first strain, glutamic acid had a much less beneficial effect. And in this strain, the females responded more to the acid than the males.

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