

ASTRONOMY

Young Stellar Twins

Yerkes astronomers discover two of the youngest stars in the Milky Way galaxy, rushing away from their birthplace with equally high speeds but in opposite directions.

► YOUNG STELLAR twins behaving as if they have had a violent spat and never want to see each other again have been spotted in the heavens by astronomers.

The twin stars were born in the Orion Nebula some 2,600,000 years ago, making them among the youngest stars in the Milky Way galaxy. This is the first time astronomers have detected such a twin birth in our galaxy.

Since the two stars have very high speeds, exactly equal but in opposite directions, they could have been born in a giant explosion of some kind. They might be fragments escaping from a stellar catastrophe in some not yet understood fashion.

With respect to their place of birth, the young stars are dashing away from each other at the rate of 76 miles a second. The speed of other stars of the same type in the Orion group is only about five miles per second.

From their motions now, astronomers can predict where the two have come from. About 2,600,000 years ago, Drs. A. Blaauw and W. W. Morgan of Yerkes Observatory calculate, they were both at a place where there is a lot of interstellar material, the Orion Nebula. This, they believe, is where the stars were formed, and they have been rushing away from each other since then, until now they are about 6,000 million miles from each other.

Such recent formation of stars in a cloud of interstellar material is in line with the theory of Drs. H. Bondi and T. Gold of Cambridge University, England, that there is continual creation of matter in the universe.

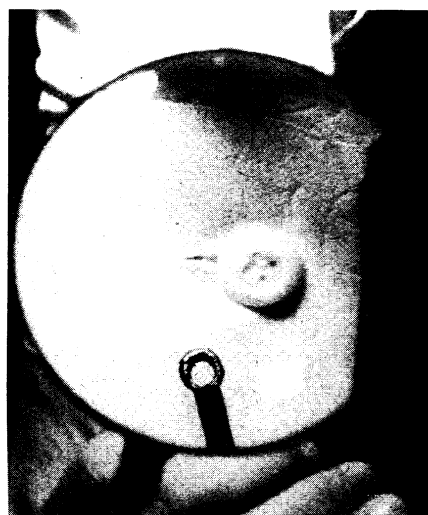
This suggestion is still being hotly debated by scientists. Drs. Blaauw and Morgan point out that further study of early-type stars such as the present strange pair might throw some light on stellar evolution.

Astronomers know the two stars as "mu Columbae" and "AE Aurigae." These names tab the first as a rather faint star in the constellation of Columba, the dove, and the second as a certain variable in the constellation of Auriga, the charioteer.

The Great Nebula of Orion, in the familiar winter constellation, is the middle of the three faint stars in a row that form this hypothetical warrior's sword. The Great Nebula of Orion is the biggest and brightest of the nebulae, visible to the naked eye as a hazy blur.

Dr. D. L. Harris of the Lowell Observatory, Flagstaff, Ariz., has measured the color of mu Columbae. Although the star is some 12,000 million miles from the earth, there is remarkably little absorption of its light across all that space, Drs. Blaauw and Morgan report in the *Astrophysical Journal* (May).

Science News Letter, July 17, 1954



TINY AMPLIFIER—In spite of its extremely small size, the core of this copper-wound doughnut is a very sensitive amplifier of weak energy signals.

ELECTRONICS

Midget Metal Doughnut Masters Big Machines

► A TINY metal doughnut smaller than a shirt button has been made the successful master of mammoth machines.

It is a magnetic amplifier and uses pulses of electricity. General Electric engineers said it is highly sensitive to temperature changes. It will react when someone lights a cigarette in the same room with it.

The "Mighty Midget" consists of two fine copper wires wound on a magnetic core. Several units are hooked together to boost a tiny signal to a level that can be used by ordinary magnetic amplifiers, such as the ones in control systems of jet planes, rockets and electronic computers.

Science News Letter, July 17, 1954

MEDICINE

Use BAL to Save Lives

► THE WAR gas antidote, dimercaprol, better known as BAL, short for British Anti-Lewisite, is now credited with saving the lives of several persons poisoned by nickel carbonyl, and with helping toward the recovery of many others.

This appears in what is believed to be the first report of the use of BAL in nickel poisoning, made by Drs. F. William Sunderman and John F. Kincaid of Jefferson Medical College and of Rohm and Haas Company, Philadelphia, in the *Journal of the American Medical Association* (July 3).

The war gas antidote was given to 32 of the 100 men exposed to nickel carbonyl during repair of a reactor in an oxo plant of one of the large oil refineries in Texas. Of the 32 given BAL, 31 survived.

Following the BAL treatment there was an increased excretion of nickel in the urine and a marked decrease in concentration of nickel in the blood.

Of the 100 persons exposed, 31 were so

sick they had to be sent to the hospital and two of these died.

Only one of the 32 patients given BAL was treated promptly. This was a chemist who developed acute symptoms of nickel poisoning the evening after exposure and was started on BAL treatment the following day. In the other cases, BAL treatment was not started until five or more days after exposure to the poisonous fumes.

A feature of nickel carbonyl poisoning is that the first symptoms, generally headache and dizziness, are usually mild and disappear as soon as the victim is removed to uncontaminated air. This is true even when the victim has gotten so big a dose of the fumes that he subsequently dies.

From ten hours to eight days later, a paroxysm of coughing heralds development of the delayed and more severe reactions. These include extreme weakness and fatigue and labored breathing.

Science News Letter, July 17, 1954

ARCHAEOLOGY

Find Canal System of 5000 B.C. Mesopotamia

► A CANAL system, 100 miles long, that paralleled the Euphrates River in ancient Mesopotamia has been uncovered by scientists after having been hidden by desert sands for 6,000 years.

The find was announced by Prof. Albrecht Goetze of Yale, also director of the Baghdad School of the American Schools of Oriental Research.

The canals, discovered during an expedition to Iraq headed by Thorkild Jacobsen of the University of Chicago's Oriental Institute, furnished water for cultivated areas which supported the Mesopotamian civilization of 4000 to 5000 B.C. The canals also were used for traveling from one town to another.

Science News Letter, July 17, 1954