

## ARCHAEOLOGY

# Indians Saw Supernova

The brightest celestial object other than the sun, probably ever seen by man, the supernova of July 4, 1054, was spotted by American Indians, cave paintings have revealed.

► DISCOVERY OF the brightest "new star" ever recorded by man was made by American Indians on July 4, 901 years ago, an archaeological survey by the Museum of Northern Arizona has revealed.

A heavenly body six times as bright as the planet Venus appeared to come between the earth and the crescent moon on July 4, 1054.

The event was set down by Japanese and Chinese astronomers in Oriental chronicles, but has not been included heretofore in astronomical records from any other part of the world.

Two pictographs of the same event were found, one cut into a Navaho Canyon wall, and the other drawn with a lump of hematite, a red iron-containing ore, on a cave wall at White Mesa, Ariz. These ancient astronomical pieces of art were the work of prehistoric Indians.

The object that made its spectacular appearance on July 4 so long ago is called a supernova. A nova or "new star" is not really new. Because of a sudden breakdown of the normally stable energy conditions in its interior, a nova abruptly flares up to thousands of times its normal brightness, so that a star never before visible from the earth bursts into brilliance.

The star that blazed on July 4, 1054, was not a nova but was a supernova, however. A supernova flares up to several million times its original brightness.

Oriental records show that the supernova of 1054 A.D. first became visible in the morning sky of July 4.

"Early on the morning of July 5, before dawn," Dr. William C. Miller of Mount Wilson and Palomar Observatories stated in the *Plateau* (June), journal of the Museum, "the crescent moon stood just two degrees north of the supernova, making a configuration of spectacular beauty. This supernova

was probably the brightest object other than the sun ever to have appeared in the sky in the memory of man."

The blazing star was so bright it was visible in daylight for 23 days and was seen at night for nearly two years. The gas blown out from the exploding star forms the Crab Nebula in the constellation of Taurus, the bull.

This nebula recently became of new interest to astronomers when they discovered it was a source of radio noise.

Astronomers tune their radio telescopes on the Crab Nebula to measure the extent of the sun's corona as the sun passes between the radio source and the earth.

The early American astronomical art first attracted the attention of archaeologists making the survey because it shows a crescent with a circle just below it. The crescent is not a common figure among petroglyphs and pictographs of northern Arizona.

The two prehistoric cliff sites at which the pictographs were found are both open to the south and have unobstructed views of the eastern sky. Careful search of the vicinity brought to light evidence that they were occupied at the time of the supernova.

Both pictographs show the crescent moon at the same phase and both show the circle, presumed to represent the supernova, south of the center of the moon, which agrees with the facts.

Science News Letter, July 9, 1955

## TECHNOLOGY

## Navy Finds Jets Can Dig Holes in Arctic

► JET ENGINES can dig holes in frozen ground. An arduous task by conventional methods, the process would be particularly useful for setting anchor posts and explosive charges in the Arctic.

Tests reported by the Office of Naval Research showed that holes six inches or less in diameter and as deep as 40 inches could be blown into the ground by the vibrating column of air. An eight-pound valveless engine with an extra long tail was used.

Wider holes were dug by augmented engines. In tests, both units easily penetrated eight inches of frozen ground and then dug into the ordinary ground below.

Directed downward, the jet loosens the earth and blows it away as the nozzle moves into the ground. As the hot gases hit the frozen ground, a rotating scraper frees the thawed earth.

Science News Letter, July 9, 1955

# Questions

ENGINEERING—How much congestion is relieved by extra lanes on hills for trucks? p. 21.

ENTOMOLOGY—What value to poultry breeding is the study of fruit flies? p. 25.

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## BIOCHEMISTRY

## Radiation-Killed Animals Are Harmless as Food

► FLESH OF livestock killed with lethal doses of cobalt 60 radiation apparently is harmless to dogs feeding on it, scientists at Oak Ridge National Laboratory, Tenn., have found.

Pure-blooded beagle and greyhound pups eating flesh from irradiated cattle and sheep showed no weight differences from normal growth of pups fed non-irradiated food. Blood tests did not vary from the normal picture, and autopsies failed to show pathological changes in the internal organs of the pups in the experiment.

R. H. Wasserman and B. F. Trum of the Agricultural Research Program at the atomic center, reported their research in *Science* (June 24).

Science News Letter, July 9, 1955

# GOLF: Your LEFT SHOULDER makes the amazing difference!

One of the most startling discoveries to emerge from wide research in the golf swing is that your game literally hinges on your left shoulder!

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