

## ASTRONOMY

# Trace in Heavens of Greatest Stellar Explosion Ever Seen

## Remnant of What Was Probably Famous Nova of 1604 Found in Small Fan-Shaped Cloud on Infra-Red Photos

A REMNANT of what was probably one of the brightest "temporary" stars on record—the famous nova observed by Kepler in 1604—has been discovered by Dr. Walter Baade of the Mount Wilson Observatory. The object is very close to the position given by Kepler and resembles a small fan-shaped cloud. It is clearly visible on photographs taken in red light but very faint on the ordinary plates sensitive only to blue light. This probably explains why repeated attempts in the past to locate the star have failed.

The star suddenly blazed out in 1604 and for several weeks was as bright as the planet Jupiter. For nearly two years it was studied by the great astronomer,

Kepler, until it faded from sight. Although Kepler left careful records of the star's position and brightness, repeated search centuries later with the most powerful telescopes failed to locate the object.

Kepler's nova is of extraordinary interest in that it was undoubtedly a supernova, a type of nova far brighter than the ordinary temporary stars. It is believed to have been the third supernova to appear in our galactic system in the last 900 years. Before the outburst the supernova may have been just an ordinary star, but afterwards for a brief time it often emits as much light as ten million stars like our own sun.

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are amplified 20 times, which brings the recording into plain view, and the apparatus is arranged to minimize pickup of the mother's electrocardiogram.

The small 12-pound amplifier of standard radio parts is simple to operate and can be easily carried with the electrocardiograph.

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In Florida swamps there are oysters that live in trees.



## SCIENCE CLUBS OF AMERICA

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### NEWS OF CLUBS

SALISBURY MILLS, N. Y.—Model airplanes, astronomy and photography, are chief pursuits of the Science Club at Salisbury Mills School, sponsored by Frederic C. Freer, principal and head of the science department.

Editorial Note: It is recommended that those interested in model airplane building try their hands at the production of true scale models. The U. S. Navy would like to see American model makers standardize constructions on a scale of 1 to 72; that is, one inch in the model should represent six feet on the full-sized craft. Such small models demand delicacy of manipulation but they serve a distinct purpose in that a group of such scale models, all suspended by threads from the ceiling, will give the viewer an excellent comparison of the relative sizes of various airplanes.

Beginning February 9 the Science Page, released to newspapers by Science Service, sponsor of Science Clubs of America, will show full-size drawings of scale models. We recommend that these accurate drawings be used for the solid wood constructions. A set of finished models will be useful to airplane spotters.

NEW YORK, N. Y.—Much interesting experimental work can be performed on the kitchen or dining room table, as Ira J. Laufer, president of the Junior Research Society, and his father have learned. Ira had an idea he could advance the study of living organisms and believed he could find a number of friends who had similar inclinations. Ira's father was kindly disposed toward a plan for forming a club. Canvassing his neighborhood, Ira soon got a group of young fellows of his age together. Now they mess up the tables in Ira's home, but make sure that everything is cleaned up afterward. All this makes father, Irving Laufer, very happy because—you see—he is the sponsor.

## MEDICINE

# Make Electric Recordings of Unborn Baby's Heart

ELECTRIC recordings of the heart beats of an unborn baby can now be made successfully for practical purposes. A technique for this is announced by Dr. Arthur J. Geiger, Dr. Willys M. Monroe, and Dr. Allan V. N. Goodyer, of Yale University School of Medicine, in the proceedings of the Society for Experimental Biology and Medicine. (December)

Doctors have tried for years to obtain electrocardiograms of the unborn baby's heart beats, although these graphic recordings of the electric current produced by the heart muscle contraction have

long been used in studying heart disease.

A method of securing reliable records of the fetal heart beat from the sixth month of pregnancy and occasionally earlier has also been reported by Dr. Hubert Mann and Dr. Phineas Bernstein, of New York (*American Heart Journal*, September).

The new technic, the Yale investigators report, enables the doctor to tell promptly whether a woman is about to become a mother or whether she has a tumor. It does not give "false positive" results and takes less time than mouse or other biological tests for pregnancy.

"Will it be twins?" can be answered much earlier than by any other method of examination.

In their work the Yale doctors use a single stage resistance-coupled amplifier with a conventional portable electrocardiograph. The electric current accompanying the unborn baby's heart beats is picked up by disk electrodes placed on the mother's abdomen. They

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SCIENCE NEWS LETTER  
1719 N St., N. W. Washington, D. C.

**NEW BETHLEHEM, Pa.**—In the Retort and Scalpel Club at New Bethlehem High School, each member is required to complete one laboratory project each year. The club expects to enter several exhibits at the Science and Engineering Fair to be held at the Buhl Planetarium, Pittsburgh, and also hopes to conduct and sponsor a Science Fair in New Bethlehem. The club is affiliated with the Pennsylvania Junior Academy of Science as well as with Science Clubs of America and is sponsored by Lloyd S. Bromley, science teacher.

**SUPERIOR, Nebr.**—Cutting slots into an old Ford motor so that everyone can see all moving and working parts is a task being done by Keith Semke of the Superior High School Science Club sponsored by Glenn R. Yont, science instructor. Some members of the same club are taking fingerprints and sending them to the F.B.I.; others are working on by-products of coal, preparing simple cosmetics or conducting experiments in photography, radio and taxidermy.

**FREEPORT, Ill.**—Membership in the Freeport Nature Club, even though established at the Freeport High School, is not limited to high school students. The club maintains a nature trail and goes in for nature hikes for the study of birds, flowers and trees. This year the members expect to hold an Open House exhibit during which individual and club projects will be displayed. The sponsor is Thomas G. Spring, biology teacher.

**MONTPELIER, Vt.**—A great deal of fun is had at Quiz Contests conducted regularly by the Science Forum at St. Michael's High School, sponsored by Sister M. Annunciata, science teacher. Members attack scientific subjects in more thorough and earnest fashion, however, when apparatus are constructed, papers are read and discussed and science demonstrations are given. Subjects covered are chemistry, physics and biology. A local science fair will be held in May where a display of exhibits will be arranged and lectures will be presented by young scientists. This club is also affiliated

with the Vermont Chapter of the Catholic Round Table of Science.

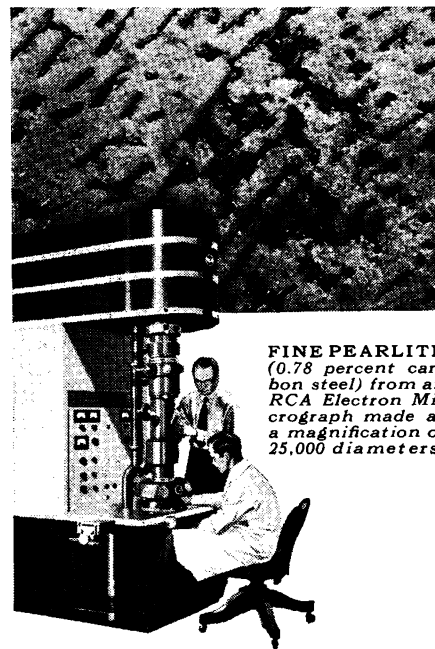
**POMPTON LAKES, N. J.**—The Science Club at Pompton Lakes High School, sponsored by Edmond Geisler, science teacher, is really a combination of two clubs under one charter. There is a Science Club proper which holds weekly meetings for discussion of the latest developments in science as reported by Science Service. Talks and demonstrations are given at the same time. Some members are establishing for the school a mineral collection of specimens from the rich Franklin and Patterson areas. Others are working on projects outside of school for display at the annual school exhibit. The second division is the Camera Club, which under the direction of Mr. Toan, has its own fully-equipped darkrooms. It recently spent a "Photographic Day" at the Bronx Zoo. The club also is affiliated with The American Institute Science and Engineering Clubs.

**COMMERCE, Texas**—The Star-Gazers Club at the Demonstration School (Junior High) of East Texas State Teachers College, meets bi-weekly at the home of a member, who acts as host and produces the program for the evening. In addition, field trips are made and laboratory demonstrations are given. The club is sponsored by E. H. Watson, director of the Demonstration School.

**JOHNSTOWN, Pa.**—The Johnstown Junior Academy of Science, formed at Central High School, puts on assembly programs and hopes to sponsor a Science Congress this spring. Plans are now under way for presentation of papers at the State Meeting. Exhibits are being built for display at the Pittsburgh Science Fair. This very active group of 90 members is sponsored by Sophie M. Moiles, head of the science department.

*Clubs are invited to become affiliated with SCA for a nominal \$2 for 20 members or less. You can become an associate of SCA for 25 cents. Address: Science Clubs of America, 1719 N St., N.W., Washington, D. C.*

## NEW SECRETS OF METALLURGY



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CHEMISTRY—ENTOMOLOGY

# Ammunition For Insect War Found in South's Own Soil

**A**MMUNITION for the South's unending war of defense against alien insect invaders can be found in the South's own soil, Dr. A. A. Nikitin, research chemist of the Tennessee Copper Company, told the meeting of the American Association for the Advancement of Science in Dallas.

Boll weevil, potato leaf hopper, Mexican bean beetle, Japanese beetle, white-fringed beetle and many other divisions of the enemy hordes can be fought and routed with dusts containing talc or fine white clay mined in the hills of Georgia and Carolinas, combined with copper compounds and other poisonous chemicals.

Even without the poisons, the white dusts alone will repel many of the pests, making them seek their food elsewhere than on valuable crop plants, Dr. Nikitin stated. This repellent effect is especially valuable against sucking insects like the leaf hoppers, which are very difficult to poison.

By diluting the poisonous compounds, these dust materials make the costly chemicals go much farther. For example, a 20-pound charge of copper arsenate dust will contain 16 pounds of clay or talc and only four pounds of the arsenate itself.

Extension of the dusting counter-attack against insect pests, and against fungi that cause diseases as well, is important in the present war emergency, when production of all crops must be increased, the speaker pointed out. Southern farmers have been used to dusting their cotton fields, but have clung to the idea that other crops can be protected only by spraying. Spraying equipment is elaborate and expensive, and may be hard to get in any case on account of priorities, whereas dusting can be carried on with the simplest kind of equipment. A 10-cent flour sieve, or even a common cotton sack, will serve if nothing else is available.

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