

## ASTRONOMY

**Bright Comet Found  
In Constellation Corona**

► A BRIGHT comet was found the evening of Nov. 22 in the constellation of Corona, the northern crown, by an amateur astronomer, Clarence L. Friend, of Escondido, Calif., according to a telegraphic report to Science Service.

The comet was comparatively bright, being of the seventh magnitude, just too faint to be seen with the naked eye.

Because of its brightness, this comet is probably not a periodic comet, although a few faint ones are due about this time.

The seventh magnitude comet was independently located by another amateur astronomer, Leslie C. Peltier of Delphos, Ohio. Both amateurs are credited with discovering several comets. Plates taken the evening of Nov. 24 at the Harvard Observatory confirm the existence of this bright heavenly traveler.

Comet Friend, when located on Nov. 22, had a right ascension of 16 hours, 20 minutes, and a declination of 30 degrees north. Located in the constellation of Corona, the northern crown, it now has moved to the constellation of Hercules.

The comet was moving slowly toward the sun, and could be seen only shortly before sunrise and just after sunset.

*Science News Letter, December 8, 1945*

## SEISMOLOGY

**Severe Earthquake Had  
Epicenter in Oman Gulf**

► THE VERY SEVERE earthquake in southwestern Asia, of which only fragmentary reports have been filtering into the news, had its epicenter under the Gulf of Oman, between the southeastern corner of Iran and the opposite corner of the Arabian peninsula. This is the body of water where Sindbad the Sailor had many of his troubles. An earthquake between its confining shores could easily enough have launched a tidal wave that would be felt at Bombay, and Karachi, India, on the opposite side of the Arabian Sea; nearer shores may have been even more heavily battered.

Approximate location of the epicenter was determined by seismologists of the U. S. Coast and Geodetic Survey only after reports had been gathered by Science Service from a wide network of observatories, all the way from Massachusetts to Australia and from Alaska to New Zealand.

The provisional "fix" places the epicenter somewhere in the neighborhood of latitude 23 degrees north, longitude 60 degrees east. Time of origin was 4:56.9 p.m., EST, on Nov. 27, or 1:56.9 a.m., local time, on Nov. 28.

Overseas seismological stations reporting were those of Riverview College, Sydney, N.S.W., Australia; the Dominion Observatory, Wellington, New Zealand, and the U. S. Coast and Geodetic Survey observatory on the campus of the University of Hawaii at Honolulu. North American stations were those of the California Institute of Technology at Pasadena; the Jesuit Seismological Association at Georgetown University, Weston College in Massachusetts, and Spring Hill College near Mobile, Ala.; and the U. S. Coast and Geodetic Survey stations at Sitka and College, Alaska, and Tucson, Ariz.

*Science News Letter, December 8, 1945*

## TECHNOLOGY

**Shells of Hen's Eggs Are  
Like Those of Dinosaur**

► SHELLS of eggs laid by barnyard hens today have the same crystalline structure as those laid by giant ostriches 100,000 years ago and those laid by dinosaurs approximately 100,000,000 years before our time.

That evolution throughout the centuries has had little effect on eggshells is demonstrated by X-ray diffraction patterns made by Prof. Bertram E. Warren of the Massachusetts Institute of Technology. Diffraction patterns tell more about crystals than chemical analyses because the same chemical compound may have several different crystalline forms.

The position and relative intensities of the diffraction lines, characteristic of the particular crystal structure, are used to identify crystals, just as fingerprints identify individuals, reports *Technology Review*. The diffraction pattern is made by sending a beam of X-rays through a small lump of pulverized shell. Each plane of the crystal separates the rays into a cone of light. These cones, striking the photographic film, produce the pattern, which is symmetrical about its center.

The giant ostrich and dinosaur eggshells have the same calcite structure as Iceland spar and chalk whiting. The same calcite form of crystal also was found in oystershells and lobster claws.

*Science News Letter, December 8, 1945*

**IN SCIEN**

## CHEMISTRY-ZOOLOGY

**DDT Found Poisonous  
To Minute Crustacean**

► USE OF DDT to kill mosquito larvae in ponds and streams may result indirectly in reducing the fish catch, it is indicated by experiments of Prof. Bertil G. Anderson of the Franz Theodore Stone Laboratory of Ohio State University and of West Virginia University.

Prof. Anderson's experiments were on *Daphnia*, often called water-flea, an almost microscopic crustacean, distantly related to lobsters and crabs. Despite its minute size, *Daphnia* is important to fresh-water fisheries because it swarms in immense numbers, is eaten by small fish, which in turn are eaten by larger game fish such as bass and pickerel.

"It was found," Prof. Anderson reports, "in all but one instance, that 50% of the *Daphnia* were immobilized by concentrations of over one part per billion in 32 hours or less. Concentrations from one to one hundred parts per billion immobilized the animals in periods between 16 and 32 hours. Animals in concentrations of less than one part per billion survived as long as the controls in Lake Erie water alone. Some experiments were run as long as 130 hours.

"These results may be of significance in relation to using DDT for mosquito control, since in many localities it is essential that the zooplankton be protected."

*Science News Letter, December 8, 1945*

## PHYSICS

**Hundred Million Volt  
"Atom Smasher" Proposed**

► A NEW kind of "atom-smasher" in the form of an electron accelerator which could be built more cheaply and efficiently than the betatron to produce electron streams of more than 100,000,000 volts was described to the American Physical Society in St. Louis, by Dr. J. R. Woodyard of Purdue University.

The proposed apparatus is a cavity resonator consisting of a long cylinder oscillating in a high order longitudinal electric mode. Its resonator would be driven in short bursts instead of continuously to reduce power requirements.

*Science News Letter, December 8, 1945*

# CE FIELDS

## HORTICULTURE

### "Peace" Rose Chosen as All-America Selection

► "PEACE," a gorgeous new rose variety, has been named as the All-America rose selection for 1946 by a committee representing a group of seed and flower trade associations. Its flowers are described as starting with big yellow buds that open into unusually large blossoms with pink edges on their petals and a pink flush suffusing the general yellow hue. Later in summer the yellow turns to a creamy or alabaster white.

"Peace" is a plant of robust growth, as anything bearing that name needs to be in these uncertain days. The stems are long and stout, the leaves large, dark-green, strong-textured and resistant to fungus diseases.

The new rose was originated in France by Francis Meilland. A few plants were started in this country, and official trials were carried on during the course of the war. The stock has now been increased to a point where general distribution has become possible.

Other All-America selections for 1946 include several new petunia varieties and a new snap bean named Longreen.

*Science News Letter, December 8, 1945*

## GENERAL SCIENCE

### Selective Service Policy Would Defer Scientists

► SCIENTISTS and students of science and engineering are now able to secure draft deferment in order to resume or continue their work, according to information obtained from Selective Service by Benjamin Wermiel, official of the National Roster of Scientific and Specialized Personnel.

A memorandum has gone out from Selective Service Headquarters to local boards telling them that individuals should now be considered for deferment for four different classes of reasons.

1. Graduate students may, under the new policy, continue their training for graduate degrees in science or engineering.

2. Individuals may be deferred so that they may teach science or engineering. This will help in handling the problem

of the training of returning veterans.

3. Individuals may be deferred so that they may teach and do research at a university in science or engineering.

4. Undergraduate students in science or engineering may go back to college to complete their work for a bachelor's degree provided they have completed their junior year and have contributed two years or more of research to the war effort.

This new policy of Selective Service is expected to help greatly to relieve the critical shortage of scientists revealed by Dr. Vannevar Bush in his report last July to the President, as director of the Office of Scientific Research and Development.

*Science News Letter, December 8, 1945*

## CHEMISTRY

### Oil-Cracking Catalyst Formed in Tiny Balls

► TINY BALLS instead of tiny doughnut-shaped particles resulted from dropping a solution containing a new oil-cracking catalyst down a 200-foot elevator shaft in Chicago. The experiment was performed to find a way of making spherical particles of the catalyst instead of the usual ring-like particles resulting from other methods.

High-octane gasoline is made by cracking petroleum oils with a catalyst, a substance that has a chemical effect on the oils but does not itself undergo change. It is used over and over again, however, and finally wears away to dust. Tons are used annually, therefore the loss is appreciable.

The experiment was carried out by scientists of the Standard Oil Company of Indiana. One method of preparing a new catalyst studied by them is to spray it as a solution into a tower and then collect the fine solid particles at the bottom. Under a microscope, these particles are found to be tiny rings or doughnuts. The scientists knew that these ring-shaped particles would wear out more rapidly than spherical particles would.

The experiment in the elevator tower was a success; the particles resulting were tiny balls. The scientists are not certain that a 200-foot tower will be required, however, but think that perhaps spherical particles can be obtained by a lesser drop provided an upward current of warm air is used to dry the particles quickly.

*Science News Letter, December 8, 1945*

## INVENTION

### Power-Driven Chute For Unloading Coal

► COAL DELIVERIES, though anxiously sought, are frequently terrible nuisances when they finally come: the dirty black mountain, dumped unceremoniously on the sidewalk, being shoveled down the coal-hole or lugged in, a basket a time, on the shoulders of smudged and dusty laborers, is a too-familiar experience.

To obviate all this is the objective of a new power-driven conveyor chute, on which U. S. patent 2,389,779 has been granted to Eugene H. Heller of Arlington Heights, Ill. To make his chute rugged enough for its job, Mr. Heller has built it rather heavy. To make it maneuverable he has provided a pair of retractile wheels, on which it may be trundled to and from its carrying position on one side of the truck body. Once it is wheeled into unloading position, the drive pulley of its conveyor belt is hooked onto a power takeoff from the truck's motor, which will keep the coal moving rapidly through the chute when the end-gate is opened and it pours into the receiving hopper.

*Science News Letter, December 8, 1945*

## PHYSICS

### Stereophon System Now Available to Public

► INFORMATION concerning a German system for sound recording on film, together with details and diagrams, has been made available to the American public by the U. S. Department of Commerce. It is known as the Stereophon system.

It was developed by a German physicist, Dr. Carlheinz Becker, who started work on it in 1938 and proceeded without Nazi interference until 1942. Then he was ordered to convert the system into an explosion power recorder, for which it was well suited in many respects.

The Stereophon system is reported as having the important advantage of giving excellent three-channel reproduction of dynamic range and low noise level with the use of sound track having a total width of only 2.65 millimeters. It has a signal frequency range of 23 to 10,000 cycles, and a dynamic range of 60 decibels without resort to expansion and compression.

*Science News Letter, December 8, 1945*