

## RADIO

**More Power Packed Into Ultra-Short-Wave Radio**

**A** METHOD for packing more power into ultra-short radio waves, the form of transmission which is now the subject of intensive research throughout the world, was reported to the Institute of Radio Engineers meeting in Pittsburgh by H. N. Kozanowski of the Westinghouse Electric and Manufacturing Company.

Many radio engineers interpret Mr. Kozanowski's achievement as a step toward static-free and fadeless radio. Because ultra-short waves travel in a straight line and can be focused, it has been predicted that they will largely overcome these two bugaboos of the longer waves now used for broadcasting. One of their great disadvantages has been the limited power with which they could be used.

The new development, however, makes possible an output of at least five watts from a 60-centimeter wavelength transmitter while, according to published literature, the energy available in this range has been only a fraction of a watt, Mr. Kozanowski said.

The bringing of a piece of metal near vacuum tubes of an ordinary transmitter resulted in this discovery. Mr. Kozanowski noticed that the metal had to be in certain very exact positions to increase the output. He incorporated this idea in his new set by setting up a sliding coupling of metal tubing between the plate and filament circuits of his vacuum tubes.

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## PUBLIC HEALTH

**Warning Issued Against Home-Canned Vegetables**

**W**ARNING against home-canned vegetables which may contain the deadly botulinus germ was issued by Dr. Karl F. Meyer, director of the George Williams Hooper Foundation for Medical Research of the University of California, at the meeting of the American College of Physicians.

"All home-canned vegetables and other non-acid foods should be thoroughly boiled before use," Dr. Meyer declared. "The person who opens the container and prepares the contents for the table should be familiar with the standards of quality and should ruthlessly discard any product which has

leaky lids, an 'off odor' or other signs of spoilage. Food commercially preserved in the United States has not been connected with any of the recognized cases of botulism since 1925," he stated.

Dr. Meyer strongly criticized the custom of serving home-canned string beans and other vegetables cold as salads, often heavily seasoned with vinegar or other dressings which disguise any suspicious odors.

Public health workers now advocate home preservation of non-acid foods by drying, by curing in 10 per cent. brine, or by pickling in acidified brine.

"Aside from being simple and inexpensive," said Dr. Meyer, "these methods have the one great advantage that the food is not ready to be served from the jar, but requires thorough soaking in water and sometimes subsequent boiling—the greatest safety device against botulism."

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## ARCHAEOLOGY

**Piled Ceremonial Stones Found on Waterless Mesa**

**P**ILES of stones raised for unknown ceremonies by long-departed Indians have been discovered in a waterless, rugged mesaland of northern Lower California.

Upon learning of the existence of the ceremonial stones from W. D. Sullivan who discovered them, Malcolm J. Rogers of the San Diego Museum set out with Mr. Sullivan to investigate the site.

"Eighty miles southwest of Mexicali, Lower California, we found numerous small piles of lava blocks, two to three feet high, scattered usually without order over an area of four square miles," said Mr. Rogers in a statement to Science Service.

Mr. Rogers identifies the stone piles as the work of an early pre-Yuman culture, the same which he traced throughout the lower Colorado River basin. Modern Yuman tribes inhabit the extreme Southwest of the United States and parts of Lower California.

The pre-Yuman people who set up the ceremonial stones lived near them in the inhospitable region. The explorers found circular clearings on gravel mesas which Mr. Rogers identified as house-sites. All traces of weapons or household equipment of the people have vanished, save for crude, unretouched stone flakes.

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**IN SCIENCE**

## ZOOLOGY

**Alarm Clocks Protect Goldfish From Herons**

**T**HE WORLD has been made safe for the goldfish in the public squares of Alameda, Calif., by alarm clocks.

Not long ago the California Division of Fish and Game received an emergency call to protect these goldfish from a colony of black-crowned night herons which were preying upon them. E. L. Sumner, Jr., assistant bird and mammal zoologist, was sent to the rescue. Potatoes and other hard objects hurled at the herons made no impression. The use of guns did not seem in order, and the zoologist was in a quandary.

Finally inspiration came. One morning he overslept, and he thought of the usefulness of an alarm clock. This started a new train of thought and forthwith he secured four of these noise-makers and strung them in the tall tree in which the herons had been dozing all day after using the goldfish pools as a night club. The alarms were set to go off at half-hour intervals.

After a week of sleepless days the herons gave up the battle and retired in disorder. They have not been seen since.

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## ARCHAEOLOGY

**Scientist Excavates Ruins Of 1,000 Year Old Pueblo**

**R**UINS of an Indian pueblo big enough to have sheltered 2,000 people have been excavated near Rodeo, N. M., by Dr. Byron Cummings of the University of Arizona. The San Simon Valley, in which the ruins lie, is a place seldom visited, and until this time the existence of old Indian villages there has not been generally known.

The pueblo spreads over 12 acres of the great wash. Parts of the structures were uncovered as a result of recent floods. The style of the ruins is pronounced similar to the famous pueblo at Casa Grande, in Arizona.

Dr. Cummings tentatively sets 1,000 years as the age of the settlement.

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# CE FIELDS

ASTRONOMY

## New Comet Discovered by South African Astronomer

**A** COMET, probably new to the heavens, was recently discovered at the Cape of Good Hope Royal Observatory, South Africa, by Astronomer Houghton, Dr. Harold Spencer Jones, director of the observatory, reported today to the central astronomical bureau at Copenhagen. Houghton comet, as it will be called, was of the ninth magnitude, not visible to the naked eye. It was located in the southern heavens, not far from the south pole of the skies, and south of the constellation of Musca, the fly, which is the only group of stars named after an insect. American observatories have been notified of the discovery through Harvard College Observatory.

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METEOROLOGY

## March Weather Map Reverses Colors

**B**LACK is white and white has turned black on the country's weather map for March, which has just been issued by the U. S. Weather Bureau.

The great central and eastern sections of the United States averaged as much below normal in temperature during the past month as they have been above normal for almost a year. While the East got cooler, the Far West warmed up. Pacific coast states, which have experienced an abnormally cold winter, were several degrees warmer than normal during March, the chart shows. The last month of normal temperature east of the Rocky Mountains was August, 1931. With the exception of March, the last month that averaged temperatures cooler than normal was May, 1931.

The exceptional cold spell during the first part of March drove temperatures far below normal over the greater part of the country and forced the frost line much farther south than it had been at any time during the winter. Freezing weather or killing frost was felt in

nearly all of Florida and over the entire state of Texas.

The rainfall chart for March is also characterized by freakish features. Following heavy precipitation during the winter, no water fell last month in portions of Southern California, New Mexico and Arizona.

But just about 200 miles east of the line of zero rainfall in New Mexico, there is a spot of twice normal precipitation. And about 300 miles farther east only ten per cent. of normal rain fell. This dry area extends over large portions of Oklahoma, Kansas, Missouri, Nebraska and neighboring states.

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METEOROLOGY

## Tumbled Snowflakes Turn Into Double Cone Shape

**H**OW the double-cone-shaped snowflakes which are frequently seen in autumn and early spring snowfalls are formed is explained in a brief note in *Science*. The writer was the late Wilson A. Bentley of Jericho, Vt., who died a short time ago.

These curious flakes, Mr. Bentley wrote, always come out of cumulonimbus clouds, that is, snow-clouds at moderate heights. They usually fall when the temperature at the ground is above freezing, from 34 to 44 degrees Fahrenheit. They have a granular texture and are built up mainly from countless undercooled cloud droplets that have frozen loosely together.

Mr. Bentley held the opinion that these double-conical flakes start with an ordinary snowflake as a nucleus. The nuclear snowflake is of the type most commonly formed at the lower elevations, a more or less finely-branched, flat, six-pointed star. Tumbled about in the whirling upward currents of air within the cloud, it becomes thickly coated on both sides with frozen cloud droplets or granular snow. It now begins to fall with the denser side turned downwards, and since it falls faster than the cloud droplets, it overtakes some of them and attaches them to its lower surface, forming light granular material. The gravitational balance is thereby disturbed, and what was the lighter, upper side becomes the heavier. The flake therefore turns over and falls with this side downward, repeating the droplet-capturing and granule-forming process. In this way the original flat flake builds up a little pyramid or cone on both its sides.

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MEDICINE

## New German Cancer Test Reported Successful

**C**ANCER, it is claimed, can be detected by a serum reaction discovered by Dr. H. J. Fuchs of Berlin. The reaction is based on the fact that fibrin from the blood of a person without cancer is broken down or digested by the serum of the blood of a person with cancer, with the production of some non-protein nitrogenous substances which can be detected by suitable chemical means.

The method as it was described by Dr. Fuchs required special apparatus and some special training for the observer, which tend to prevent its general use.

Prof. M. von Falkenhausen of the University of Breslau, Germany, now reports a simplification of the method that may make it possible for other observers to test its validity. He has introduced into the reaction a colorimetric procedure which he states makes the method more exact and at the same time much simpler to carry out. He reports a series of eighty cases in which the reaction was used and in which there was not a single failure in the diagnosis. In some of the cases the reaction was negative and in these subsequent surgical operation or medical treatment established the correctness of the diagnosis.

Prof. von Falkenhausen gives a preliminary description of his method in the *Deutsche Medizinische Wochenschrift* and promises a fuller paper later. He believes that his method will be of great assistance to physicians in the campaign against cancer.

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ARCHAEOLOGY

## New Indian Tomb Yields Striking Artifact

See Front Cover

**T**HE FIRST picture to reach the United States of one of the most striking art objects recovered from Indian tombs recently opened at Guerrero, Mexico, is shown on the cover of this week's SCIENCE NEWS LETTER. The vessel was photographed just as it was taken from the tomb, with earth still clinging to it. The style is said to be similar to that of the Toltecs, powerful Mexican Indian tribe which attained a high civilization about the time of the Middle Ages.

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