

## VOLCANOLOGY

## Scientist Braves Desert to Study 200 Extinct Volcanoes

**E**XPLORING one of the most extensive volcanic areas in North America, Dr. Nicolai Kerensky, Russian scientist, is now charting more than 200 extinct craters along the Gulf of California. The region is 300 miles southwest of Tucson, Ariz., and lies partly in the United States and partly in Mexico.

"Besides mapping this virtually unknown country, I am going to study these eruptions as an example of the cooling of the earth's crust," he reported before he left Tucson. "I hope also through excavations and the study of the Hiatic Ootam, a vanishing tribe of Root Eaters, to trace the history of man, both past and present, in this sun-seared land."

The region is exceedingly dry. It is uninhabited except for about twenty of the Hiatic Ootam, who live on the roots of the bistak, a parasite of the *Coldenia* shrub, which will grow in the sand with only two or three inches of water a year. The trip is therefore a dangerous one. Six persons have become lost and died there of thirst during the last five years. The tinajas, the water holes, are far apart and often dry. The heat is also excessive, the temperature averaging 110 degrees Fahrenheit.

## AGRICULTURE

## Crop Control Of the Future Will Strive For Increase

**W**HILE potato growers have been making known their wishes for smaller crops and larger profits, despite an apparent reluctance on the part of the AAA, chemical industry is looking forward to a time when a controlled agriculture will be adjusting its production in the opposite direction, in order to feed factories that will be even hungrier for corn and cotton than pigs and people are.

A glimpse of this coming alliance between industry and agriculture was given at Cornell University by L. F. Livingston, president of the American Society of Agricultural Engineers.

Speaking of the AAA program, Mr. Livingston said, "It was a situation with-

On a previous expedition three years ago Dr. Kerensky mapped the Amphitheater, a huge crater which measures a mile across and a fourth of a mile deep, and some eighteen other smaller cones. He also charted several lakes of lava and a "frozen" river which is a half mile wide and eight miles long.

He estimates that when this land was in eruption, the earth tremors shook California, Utah, Arizona, New Mexico, Western Texas and the West Coast of Mexico. The area extends for 200 square miles.

The craters have been the Mecca of the Papago Indian religion for many centuries, the Indians believing that Itoi, their principal god, lives on one of the peaks. They have made pilgrimages to the region since time immemorial and carried salt back from the nearby deposits to exchange with other tribes.

The only other scientific expedition to enter the country was when Dr. William T. Hornaday led a party in 1911 which mapped Pinacate crater, the largest of the 200. It is more than two miles in diameter and 1,000 feet deep.

*Science News Letter, October 19, 1935*

"dry ice" out of by-products of the industrial fermentation of corn.

Even now, more than ten per cent. of the corn crop has as its market the factory, Mr. Livingston said, and "uses for corn are being urged that, if adopted, would consume the entire present crop without leaving one ear for one Iowa hog."

### Research the Key

Scientific research, the speaker indicated, is the key to the chemical hook-up between industry and the farm of the future. The great industrial firms are bringing their research resources to bear on farm problems, joining forces with the research work of Federal and State governments, which have long been in the field. The industrialists are doing this because they realize that the farmer is not only a prime source of raw materials for their plants but also because it has become inescapably evident that the great farm market is indispensable to a stable industrial prosperity.

"We are in the early dawn of a new golden era in agriculture. The first signs of that dawn are already streaking the sky."

*Science News Letter, October 19, 1935*

## PHYSICS

## Radium Given to Bohr to Honor his 50th Birthday

**A**S A GIFT upon his fiftieth birthday, Prof. Niels Bohr, leading Danish scientist, one of the creators of the new physics and Nobelist, was presented one hundred thousand kroner (\$22,500) for the purchase of half a gram of radium. The precious element will be used by Prof. Bohr in his private scientific research upon the constitution of matter.

Eight industrial firms and ten scientific foundations of Denmark joined in making the gift to Prof. Bohr.

Radium constantly disintegrates and shoots off powerful atomic projectiles and rays. Prof. Bohr will use these in bombarding the atoms of various elements to discover how they are put together.

Colleagues in science from all over the world sent messages of congratulation to Prof. Bohr.

"Original researches like those of Bohr are a bulwark against the destruction of our culture by fanaticism," Prof. Albert Einstein wrote from America.

"Bohr's achievements are epochmaking and have had an outstanding effect on the advance of physics," Lord Ruth-

erford of Cambridge University, England, said.

Prof. Werner Heisenberg, German physicist, said: "The Bohr Institute is the world center of modern atomic research."

Prof. Max Planck of Germany wrote: "Bohr's research has given a new turn to scientific evolution."

Prof. Georg von Hevesy, German discoverer of the chemical element hafnium, commended Bohr's warm personality and declared him to be a "historical phenomenon" as a thinker.

The co-discoverer of artificial radioactivity, Mme. Irene Curie-Joliot, also daughter of the isolators of radium, wrote from Paris: "Bohr is one of the great masters of theoretical physics."

*Science News Letter, October 19, 1935*

ART

## Delicate Art Works Copied By New Four-Cent Process

**B**EAUTIFUL sculptured art works, that never before could be reproduced for fear of damaging the delicate surface, can be copied safely by an ingenious and inexpensive new process.

The process, devised by Lamont Moore of the Newark Museum staff, has been successfully tried first in making a cast of a famous ancient Indian sculpture, the head of a Mayan corn god belonging to Peabody Museum, Cambridge, Mass.

Knowing that beautiful colors painted on the corn god's image would be ruined if ever oil or grease were applied, as is necessary in making an ordinary plaster of Paris mould, Mr. Moore determined to find a way to produce the copy that his museum wanted for exhibit.

His process, evolved after many experiments, is to stretch several layers of ordinary paper handkerchiefs over the surface to be copied. Over this soft layer, which protects and fits to the sculptured contours, he criss-crosses narrow gummed paper until three layers of the gummed strips have been built up over the features, forming a perfect mask. The mask is lifted from the sculpture, and greased, shellacked, and plastered in preparation for use as a mould.

Cost of making such a mould, Mr. Moore finds, is only about four cents, and some 15 reproductions can be cast from it. An experienced worker can make a mould by this process in eight hours or less.

*Science News Letter, October 19, 1935*



### MAKING A MASK

*Lamont Moore, of the Newark Museum, demonstrates his method of copying delicate art works in the inexpensive medium of tissue paper.*

MEDICINE

## New Blood Test Reveals Approach of Lead Poisoning

**A** TEST which shows the approach of lead poisoning before the disease has actually developed was reported by Drs. Carey P. McCord and F. R. Holden and Jan Johnston of the Industrial Health Conservancy Laboratories, Cincinnati, to the American Public Health Association.

The test is particularly valuable in protecting industrial workers who are exposed to lead in the course of their work. By means of the test, which is called the basophilic aggregation test, the physician can tell whether or not lead poisoning is the early prospective lot of the individual being examined.

"In this test," Dr. McCord explained, "counts are made of embryonic blood cells which in normal persons rarely exceed one per cent. of the total number of red cells in the blood, but which in the case of lead poisoning may amount to much higher percentages, such as 4, 6 or 10 per cent."

An extensive lead poisoning epidemic which took place in the automobile industry in 1934 and 1935 provided an

opportunity for evaluating the new diagnostic procedure. In this epidemic 8,000 tests were made with results more than 95 per cent. accurate.

The epidemic resulted from the use of metallic lead in automobile body production, it was explained.

Lead in the form of dust and fumes was inhaled by exposed workers, with the result that many hundreds were injured by this industrial intoxication. The total number of persons either affected with clinical lead poisoning or who evinced evidences of lead absorption is not known for the entire industry, but it has been set approximately at 4,000.

This epidemic of lead poisoning has led to many changes in manufacturing processes in order to obviate repetition of this occupational disease outbreak. Already in many automobile plants control appliances and practices have been installed sufficient to make unlikely any large number of poisoning cases during the approaching automobile manufacturing season.

*Science News Letter, October 19, 1935*