

## GEOLOGY

# Argon Helps Date Rocks

►THE AGE of "young" rocks, that is rocks that are only a million or so years old can now be told accurately.

Previously geologists could not be sure of the age of rocks less than a hundred million years old.

In the past geologists have used chiefly the radioactive decay of uranium into lead for dating.

This involves much work, is not as accurate as scientists desire and does not work well on younger rock.

So scientists have developed potassium-argon dating. Potassium 40 decays through radioactivity into argon, and the rate at which argon accumulates in rocks from this decay is known.

In one test, a rock sample is dissolved in molten sodium hydroxide. This releases argon, which is collected and measured. By determining how much argon is released, the scientists can then determine how old the rock is.

In addition to providing a measure of age for younger rocks, the technique has other advantages over uranium-lead dating. It is simple, rapid and accurate. Small samples can be used.

## BIOCHEMISTRY

## Clue to Mystery Bacilli That Resemble TB Germs

►MYSTERY BACILLI that resemble tuberculosis germs but do not produce the disease have been found to contain a chemical component not found in the tubercle bacillus, Dr. Floyd M. Feldmann, medical director of the National Tuberculosis Association, has reported.

These mystery bacilli are coughed up by patients suspected of having tuberculosis and they resemble tuberculosis bacilli in many ways, including having the same staining characteristics.

When grown in the laboratory, however, they produce colonies that are much more colorful than the faint-cream tubercle bacillus, ranging from yellow to deep orange. They do not produce progressive disease in guinea pigs.

Using new chemical and physical techniques, Drs. Donald W. Smith, University of Wisconsin, and H. M. Randall, University of Michigan, analyzed several strains of the mystery bacilli to find out how they differed from disease-producing ones. They found that all strains analyzed thus far have contained a chemical component not found in the tubercle bacilli, and have named it "compound G."

They are attempting to devise a simple test for detecting it in the microorganisms coughed up by patients.

"Such a test would obviously be a great help to the doctor treating the patient," said Dr. Feldmann.

Science News Letter, December 29, 1956

One disadvantage is that the argon leaks out of some minerals, such as feldspar, making their dating difficult.

The method has been used to test several sites in California by University of California scientists John H. Reynolds, Carniss H. Curtis, Jack F. Evernden and Joseph I. Lipson. Two sites, a million and a half years old, whose ages were fairly well established by other evidence, were accurately measured.

The scientists have also dated formations of granodiorite on the Farallon Islands, off the Golden Gate, at about 90,000,000 years and granitic samples from Yosemite Valley at 80,000,000 to 95,000,000 years.

Glauconite samples from oil well cores are now being tested with the hope that accurate measures of the sequence of the strata can be made. These are formations believed to be in the 10,000,000 to 90,000,000 year range.

Four graduate students, William Eisenhardt, Peter Wygle, Stanley E. Cebull and Allen Ryall, assisted in the investigation.

Science News Letter, December 29, 1956

## BIOCHEMISTRY

## Gray Hair Caused by Too Little Lysine

►A CLUE to what makes hair turn gray may have been found in experiments with lysine, one of the amino acids produced by the digestion of protein.

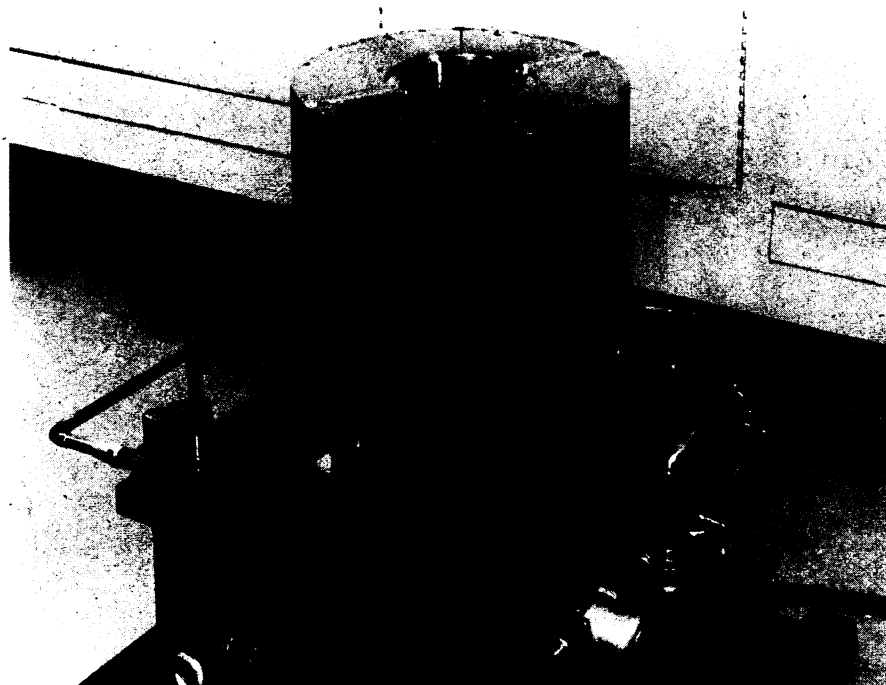
Lysine, long known to be necessary for proper growth in experimental rats, is also necessary to keep black rats from turning gray, Dr. F. H. Kratzer and Pran Vohra of the University of California at Davis report in *Science* (Dec. 7).

They found that when black male rats were fed a diet deficient in lysine, the animals grew a coat of hair that was much finer in texture and lighter in color than the hair of a group of rats receiving supplemental lysine.

This effect would have been difficult to notice in earlier studies, they report, because only albino or white rats had been used before to determine the effects of lysine.

Too little lysine also causes a loss of pigment in turkey feathers, they found. The scientists believe the lysine plays some part in the animal's production of melanin, the dark pigment found in the skin and hair.

Science News Letter, December 29, 1956



"HYDRO" REACTOR—The Los Alamos Scientific Laboratory's latest critical assembly machine, "Hydro," is shown in this photograph. The central cavity, a stainless steel can extending part way down into the larger tank, contains the fissionable material. A similar cavity on the under side permits insertion of a polyethylene cylinder that acts as a control rod. Ordinary water is circulated between the two inner ends and in the space around them. The intense source of fission neutrons is designed to operate at three kilowatts, compared to the few watts of previous air-cooled machines. It was designed with a flat top to permit easy installation of experimental equipment.