

## SEISMOLOGY

# Quake Was Similar to One That Ruined Brilliant Knossos

## Repeated Aftershocks Indicate Violence of Disturbance In Which Hundreds of Lives Were Lost on Coast of Greece

**T**HE EARTHQUAKE that worked ruin in various Greek towns on Monday, Sept. 26, originated under the Aegean sea a little distance off the coast, according to calculations made by the U. S. Coast and Geodetic Survey and the Jesuit Seismological Association, based on data received by Science Service from a number of observatories.

The approximate location of the epicenter was in latitude 39.5 degrees north, longitude 24 degrees east, and the time of origin was 2:20.6 p. m., eastern standard time. All instrumental records indicated an earthquake of terrific violence, scientists of the Coast and Geodetic Survey said. Aftershocks continued to record themselves on seismographs in this country for several days after the principal disturbance. It is unusual for instruments so far away to record aftershocks, of even a severe quake.

An earthquake similar to this one is believed by many archaeologists to have been the ruin of one of the most brilliant civilizations the world has ever seen, which thrived over three thousand years ago on the nearby island of Crete. Knossos, its capital and chief cultural center, was blotted out suddenly about 1200 B. C., a hundred years or so after Tut-Ankh-Amon died in Egypt. The mighty ruins show evidences of the work of a terrific earthquake.

It may be that the earthquake itself did so much damage and killed so many of the people that the survivors were never able to rebuild their city, or it may be that they were so weakened and disorganized—perhaps by the wiping out of the ruling family—that they could not offer adequate resistance either to pestilence or to the marauding bands of sea rovers. Tyre and Sidon were tall cities even then, and the early Greeks on the mainland had learned how to build the ships that later carried them to the siege and sacking of Troy. In those lawless days all sailors were pirates, and a rich city broken open by an earthquake invited plunderers as a burst grape gathers wasps. Whatever happened, the earthquake came, and after it passed the

city of Knossos did not rise again.

Knossos had, however, survived earlier earthquakes, signs in its stones indicate. Crete, and indeed the whole eastern Mediterranean region, is an earthquake area of the first order, and the ancient Cretans had to repair damages caused by shocks several times during the centuries of their splendor. They had something worth repairing, too, for the palace of Minos, the great Cretan monarch, was one of the marvels of antiquity even in its ruins. Among other "modern" improvements it had bathtubs and an elaborate system of stone drains, some of which still function in carrying off rain-water, in spite of all the earthquakes that have shaken them.

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## PHYSICS

### Crystals to Be Studied at Extreme Low Temperatures

**C**REATION of extreme low temperatures to within 1.5 degrees Centigrade of absolute zero is to be undertaken this winter in a series of experiments that may lead California Institute of Technology physicists to the discovery of fundamental laws governing the internal structure of solid matter.

Dr. Alexander Goetz, associate professor of physics, visited Europe this

summer where he studied the technique of producing low temperatures.

Dr. Goetz anticipates that this frigid method attack will allow the study of the crystal structure of metals in their least disturbed state. This is considered essential to discovering fundamental laws, as the crystal structure is more or less disturbed at increasingly higher temperatures. The experiments are expected to have practical value in metallurgy.

Dr. Goetz also plans to observe how the disappearance of electrical resistance in the cold state will affect other electrical properties of metals.

To obtain the cold temperature that will approximate the coolness of interstellar space, he will employ helium liquefied under extremely high pressures.

Temperatures for the experiment will be stepped down from that of liquid air, 182 degrees below zero Centigrade, to liquid hydrogen that enjoys a chilly temperature of 250 degrees below zero.

It is hoped to obtain the first liquid helium by Christmas.

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## SEISMOLOGY

### Earthquake Shakes Sea Floor Near Japan

**A**N EARTHQUAKE very remote from the scene of destruction on the coast of Greece occurred at 12:45 p. m., eastern standard time, on Thursday, Sept. 29. The bottom of the Pacific ocean east of Japan was shaken, according to a tentative determination made by the U. S. Coast and Geodetic Survey on the basis of data obtained by Science Service. The approximate location of the epicenter was in latitude forty degrees north, longitude one hundred fifty degrees east.

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