

PHYSICS

**Discover Energy Unit
In Rotating Liquid Helium**

► THE SMALLEST indivisible unit, or quantum of energy, required to produce turbulence in rotating liquid helium has been detected for the first time.

It was discovered by Dr. W. F. Vinen of the Royal Society Mond Laboratory, University of Cambridge, England. He reports his method for spotting it in *Nature* (May 31).

Liquid helium is of particular interest to physicists because it is a substance that shows some quantum behavior on a large scale when it is cooled down to within about a degree of absolute zero, which is 459.7 degrees below zero Fahrenheit.

Other known quantum characteristics occur on the atomic scale where effects cannot be measured on an individual atom.

Dr. Vinen measured the circulation around a fine wire placed in rotating helium to obtain the first direct evidence for the quantum of circulation. He also studied the peculiar flow pattern of the very cold liquid.

Science News Letter, June 28, 1958

GEOPHYSICS

**IGY Scientists to Study
Columbus Day Eclipse**

► SIX TEAMS of United States scientists will travel to the Danger Islands in the South Pacific to take "full advantage" of a total solar eclipse due on Oct. 12, 1958.

The Columbus Day eclipse will provide the scientists with an opportunity to study characteristics of the sun and of relationships between the sun and the earth that cannot be duplicated in the laboratory.

The expedition to the Danger Islands, which lies in the path of the total eclipse, is described in the *International Geophysical Year Bulletin* (June) of the U. S. National Committee for the IGY.

"The total eclipse of the sun due on Oct. 12, 1958," the IGY scientists say, "occurs at an extremely opportune time for solar studies; the solar physics studies of the IGY will provide an abundance of data on the sun for long periods before and after the eclipse. It also occurs near a period of maximum solar activity, the most active solar maximum in recorded history."

In all, the IGY scientists on the expedition will mount four ground-based optical experiments, one rocket experiment, and one ground-based electronic experiment. Preparations for the scientific study have been underway since before July 1957.

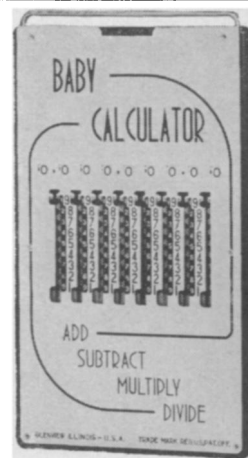
American scientists hope to arrive at the Danger Islands on Sept. 1, 1958. At the same time, at least two expeditions, and possibly three, will be carried out by other nations. The Japanese plan an extensive series of observations from a base on Suvarrow Island, several hundred miles east of the American site. Russia has indicated that it will send an eclipse expedition out, too, but has not said where it will be based. New Zealand will establish a base at Atofu, several hundred miles west of the American base.

Science News Letter, June 28, 1958

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