

MEDICINE-GENETICS

Fire Slows Cancer Study

The Jackson Memorial Laboratory which was destroyed at Bar Harbor, Me., supplied many laboratories with specially bred mice needed for cancer research.

► **CANCER** research will be slowed for years to come as a result of the disastrous fire at Bar Harbor, Me. The flames that burned millionaires' villas brought loss to the entire world when they destroyed the modest brick building that was the Roscoe B. Jackson Memorial Laboratory.

Cancer researchers in countless laboratories depended on the Jackson Laboratory for the specially bred mice needed to test possible cancer cures and to probe deeper for knowledge of the causes of cancer. The Jackson Laboratory was furnishing some 50,000 mice a month to other laboratories.

In this mouse metropolis of 100,000 or more inbred mice were some that always, generation after generation, developed cancer of the breast. Other strains had been bred to develop cancer of the lungs, of the ovaries, of the liver and of the adrenal glands. Mice of the same strains, fortunately, are living in other laboratories now and can be bred to produce more of the same strains. But it will be at least two years before there are anything like enough of them. Meanwhile, cancer research projects all over this country and perhaps in other parts of the world will be stopped for lack of mice.

Irreplaceable, if it has been destroyed, is the unique collection of mouse genes, said to be the best in the world, which had been collected in the Jackson Laboratory. This collection was being used to study the location of the genes, or units of heredity, involved in cancer.

The Jackson Laboratory, besides its place in cancer research, was known as the mammalian genetics center of the world. Material accumulated for 45 years may have been lost. Other laboratories, even if they bred mice, did not keep the genetic material they developed, letting all of it be housed in the Jackson Laboratory.

This laboratory has contributed more fundamental information on cancer than any other laboratory in the world, one authority has declared. It was here that the milk factor in breast cancer was discovered. This factor, believed to be a virus, is present in the mouse mother's

milk and causes cancer in baby mice that suck the milk.

Here also were done fundamental studies on genetics, or inheritance; on the inheritance of size; on tumors of the adrenal glands which gave important information on the body's glands as well as on cancer.

Here transplantation of ovaries from one animal to another was first done and extensive studies made on transplantation of single eggs from the body of one mouse to another. If the animals in this study have been lost, it will be eight or ten years before the loss can be made up, because many of the animals are only now maturing and going on to the cancer age when they could give information for the fight against human cancer.

The Jackson Laboratory was founded by Dr. C. C. Little, its director, with money given by Mrs. Roscoe B. Jackson in honor of her husband, president of the Hudson Motor Co., who died of cancer.

One ray of hope is held by cancer researchers in the midst of their shock at the tragic loss to science and humanity in Bar Harbor. This is that someone may be inspired by the loss to give funds not only to rebuild the laboratory but to endow it so that it would be freed of the struggle for funds that has plagued it in the past.

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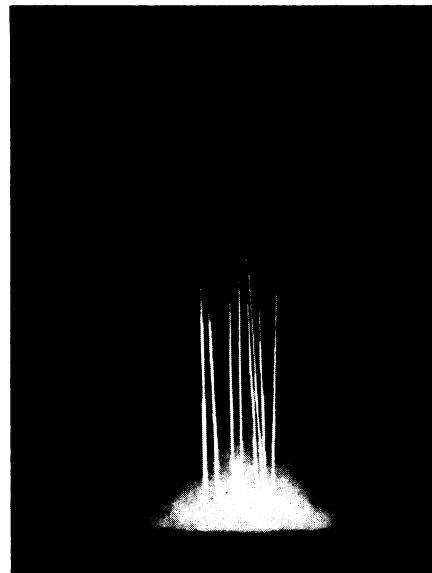
PHYSICS

New Instrument Measures Rocket Gas Temperature

► **NEW** instrument for "taking the temperature" of the exhaust flame of a rocket was revealed at the annual meeting of the Optical Society of America in Cincinnati.

The new instrument, called an absorption-emission pyrometer, will open up new research into rocket power by solving a difficult problem for scientists studying rockets.

Thermometers and other standard temperature-measuring devices are destroyed by heat of the exhaust flames,



SUPER-BAZOOKA EXPLOSIONS

—From hollow-ended charges in anti-submarine bombs they sent jets of flame to a height of 250 feet. These "hard" flames were each capable of piercing 23 inches of steel armor-plate, just as the jets from the much smaller charges in wartime bazooka projectiles could pierce the three or four inches of armor carried by a heavy tank. This photograph, which shows a group of these mines being fired simultaneously to test for mutual interference, won first prize in the color division of the first international competition in scientific photography. It was made by Dr. Thomas C. Poulter, associate director of the Armour Research Foundation.

which may be as high as 4,000 degrees Fahrenheit. Sodium line reversal, another technique for the measurement of the temperature, by spectroscopic means, requires addition of special materials to the fuel and an observer in a dangerous position near the motor.

Donald H. Jacobs of the aerophysics laboratory of North American Aviation, Inc., explained that his new pyrometer measures the temperature of the exhaust gases with an accuracy of one percent.

Two beams of light reaching a photoelectric cell are used in the instrument. One beam passes through the exhaust flame of the rocket, while the other reaches the photoelectric cell through a series of mirrors. Comparing these beams of light, scientists can calculate the temperature of the exhaust gases.

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