



UNDERWATER TELEVISION — For spying on fish 100 feet below the surface of Lake Minnewanka, Canada, scientists are using this lightweight TV camera.

ICHTHYOLOGY

Use TV to Spy on Fish

Canadian scientists have successfully used underwater television to study fish life. Apparatus, weighing only 300 pounds, has shown trout eggs to depth of 80 feet.

► **UNDERWATER TELEVISION** has been successfully used to study fish life and habitats 100 feet below the surface of a Canadian lake, Drs. J. P. Cuerrier, F. H. Schultz and V. E. F. Solman of the Canadian Wildlife Service report.

"The possible uses for underwater television in freshwater fisheries research are bounded only by one's imagination," Dr. Cuerrier said at the North American Wildlife Conference in Washington.

The apparatus used to televise the bottom of Lake Minnewanka was based on a large British underwater TV set used to locate the sunken submarine *Affray* in 1951.

The Canadian set weighs 300 pounds to the British model's almost half a ton. It is three feet long and one and one-half feet in diameter. Four sealed-beam spotlights furnish light in the murky depths. A half-inch plate glass window covers an opening in the front of the cylinder from which the TV camera lenses peer out.

The camera has two interchangeable

lenses, handled by remote control from the mother ship. Focusing and light are also done by remote control. Two propellers guide the cylinder backwards and forwards, as well as at an angle. A 500-foot coaxial cable connects the camera with the screen aboard the motor launch.

The first scientific result from TV exploration of Lake Minnewanka's depths, Dr. Cuerrier said, was to solve the problem of how deep the lake's trout spawn. The TV screen showed trout eggs to a depth of 80 feet.

Fish experts believed the lake's bottom had become covered with sand and gravel, destroying natural habitats of small fish. But a look at the bottom with underwater TV showed immediately that this is not the case.

Further examination of the lake depths revealed the distribution of bottom life. This would not have been possible by any other method, Dr. Cuerrier said.

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BIOLOGY

Bigger Vaccine Supply By Radiation Treatment

► **BIGGER SUPPLIES** of vaccine for typhus fever and possibly for virus diseases such as influenza may be obtained through radiation treatment of the germs as they grow on fertile hen's eggs.

This possibility is suggested by Dr. Donald Greiff of Saint Louis University, St. Louis, Mo.

The rate of growth of typhus germs on fertile eggs can be increased by radiation treatment, he reported to Phi Sigma, biology society, at Marquette University, Milwaukee. This increased growth should give more material for vaccine production.

Treatment with certain antibiotics, on the other hand, checked the growth of the germs.

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CHEMISTRY

Ceramic Fuel Forecast For Nuclear Power Plant

► **POWER PLANTS** of the future whose atomic fires are fed by ceramic materials and cooled by liquid metals have been forecast by Dr. L. R. McCreight of the Knolls Atomic Power Laboratory of Schenectady, N. Y.

Speaking before the American Chemical Society meeting in Los Angeles, Dr. McCreight stated that atomic reactors run to produce power for industrial use may develop such high temperatures that metal parts may need ceramic coatings to keep them from melting, and that ceramics are being studied for other uses, including fuel.

From these hints given in the paper, further developments may be suggested.

Classed as the most fire-resistant substances, ceramics would be the opposite of fuels from the conventional viewpoint. They represent metals which have already combined with all the oxygen they are capable of taking up. Nuclear fuels, however, do not operate on the principle of chemical combination, and thorium, at least, among possible nuclear fuels, is known to occur in the form of the refractory oxide. Economical use of such materials is seemingly under study in the development of a reactor which will produce useful power.

Science News Letter, March 21, 1953

INVENTION

Driver Training Device Keeps Auto in One Spot

► **A PLATFORM** to hold an automobile in one place while someone is learning to drive has been invented. Rollers hold the wheels while they are in motion and being turned by the student. Victor A. Wilson, Toronto, Can., received patent number 2,627,674.

Science News Letter, March 21, 1953