

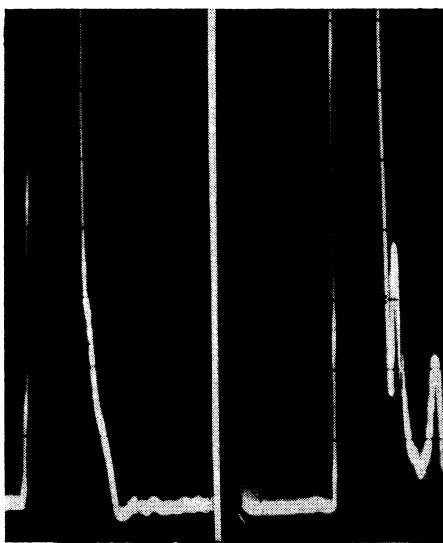
FROM CANADA

Sound assesses fish

Ultrasonic energy can be used to tell if meat or fish have ever been frozen, according to scientists at Canada's National Research Council in Ottawa, Ontario.

The studies are part of a program on methods for determining the quality of fish for the Canadian Fisheries Research Board. One of the requests by this agency was for a simple method of showing whether fish had been previously frozen and for how long.

The propagation of ultrasound depends on the physical properties and structure of the material through which it goes. If tissue is affected by the freezing process, the ultrasound should reveal the changes. With this in mind



Trace of fresh (left) and thawed fish.

Dr. David Makow of the Research Council and Manfred Freese of the Fisheries Board experimented with microsecond ultrasound pulses at a frequency of 3 million to 5 million cycles a second.

A definite correlation was found between freezing history of the sample and the number and amplitude of the received echoes. The thawed fish tissue gave a pattern of large amplitude and number.

The work was extended to determine whether similar effects could be obtained with meat. Samples of filet mignon were tested and the echo patterns had similar characteristics as those obtained in the fish tests. The equipment used in the test consists of a small tank of water, an ultrasonic transducer, a transmitter and receiver and an oscilloscope. The sample is placed into the tank with the transducer and the sound pulses are aimed at the tissue. The echoes are then amplified in the receiver and displayed as a pattern on the oscilloscope screen. *Tom Weissmann*

FROM GENEVA

20,000 lives a year

European nations could save up to 20,000 lives a year simply and cheaply by organizing in each city an emergency service for heart attack and stroke victims, according to a team of World Health Organization experts.

Almost 40 percent of these unfortunate cases die in the hospital because of late arrival, the doctors find. Usually they are men in the prime of life, brought in with excruciating chest pain.

The reception period itself is often fatal, concludes an expert panel report to the United Nations' medical agency. The mental strain is dangerous if a victim is left alone or with an amateur or aide for even a few minutes.

In one study of sudden death to heart failure, 22 of 171 fatalities happened on the stretcher, or in the corridor or waiting room.

A good city set-up could also be life-saving for victims of road accidents, drowning, or electric shock, the consultants suggest. They surveyed the medical literature and visited European clinics. Their recommendations go to all the European health ministries.

They praise a Russian system and urge not only advanced nations but the developing ones, to imitate it.

Every large Russian city, they say, is divided into heart attack zones of about a million people. Each zone gets a special medical team.

Whenever someone collapses, a bystander rings the service. It dispatches a doctor and if he diagnoses a heart crisis he calls the zone unit and treats the victim until hospitalization.

A specialized ambulance brings another doctor and assistant. The Soviets have trained many hundreds of such medical assistants to help doctors treat the 230 million Russians.

Treatment continues in transit, because the ambulance is equipped with laboratory apparatus for various blood counts, electrocardiograph, oxygen, surgical tools for direct massage of the heart and a defibrillator to stop flutters. *David Alan Ehrlich*

JAPAN

Canada-Japan deal

Japanese power producers have concluded a deal for Canadian uranium which is believed to be worth between \$250 million and \$300 million.

The Japanese will buy 31 million pounds of uranium concentrates between 1969 and 1979. The material is to be supplied by Denison Mines Ltd. and Rio Algon Mines Ltd. subject to government approval, expected to be only a formality.

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