

## ● Earth Trembles

Information collected by Science Service from seismological observatories resulted in the location by U. S. Coast and Geodetic Survey of the following preliminary epicenter:

Friday, October 11, 1:41 p.m., EST

Southern Chile. Latitude, near 45 degrees south. Longitude, 73 degrees west. Strong.

For stations cooperating with Science Service, the Coast and Geodetic Survey, and the Jesuit Seismological Association in reporting earthquakes recorded on their seismographs, see *SNL*, Feb. 24.

or photoelectric cell. The photoelectric pick-up is placed on a standard dictaphone machine, replacing original equipment. The photoelectric pick-up is in turn connected to a recorder. Sound from the wax cylinder can thus be transcribed from the cylinder onto a flat disk type record, from which any number of additional impressions can be made.

Instead of the usual phonograph needle, which would gouge and destroy the sound groove of a frail cylinder, the device has a sapphire stylus which needs only to float gently in the grooves. As it does this, it sways a tiny mirror from six to seven thousandths of an inch thick. This mirror reflects light rays, directed on it by a tiny bulb, onto a photoelectric cell. The cell translates the light rays into energy which sets up the sound vibrations.

The new device reveals vividly that the weak feature of old-fashioned scratchy, gurgling phonograph music was due, not

to the recording itself, but to the reproducing machine.

The horn was too small to reproduce the lower frequencies, and the mechanized part would not reproduce the upper frequencies. Listening to an old cylinder record of "Rocked in the Cradle of the Deep," as played back on an old tin-horn phonograph, the quartet seemed to have trouble diving for low notes and voices faded in critical moments. The same record now transcribed to a flat

disk and played with modern reproducing equipment shows that the quartet was not floundering, or suffering from a bad cold. The music is heard, as people of the early twentieth century had no chance to hear it—though it was there all the time on the cylinder.

The Library of Congress hopes that Americans who have old cylinder records may add them to the musical archives for study.

*Science News Letter, October 12, 1940*

### PUBLIC HEALTH

## Plan Large Scale Tests for Infantile Paralysis Immunity

**L**ARGE scale tests of the population for susceptibility to infantile paralysis may soon get under way as a result of research Dr. Charles Armstrong, of the U. S. National Institute of Health, reported to the American Public Health Association at Detroit. New knowledge of use in fighting the disease would be gained.

Dr. Armstrong's discovery that mice and cotton rats instead of the more expensive monkeys can be used for testing a person's immunity or lack of it to this crippling childhood ailment would make such mass tests possible. Search for a possible chemical remedy for the disease will also be speeded through this discovery.

The still unsolved mystery of why older persons and those living in institutions generally develop resistance to infantile paralysis may be explained by making tests on large numbers of the population. With monkeys only a few immunity tests can be made because of the expense. The largest number made in one study with monkeys was about 80, whereas Dr. Armstrong has already made 293 since discovering that cotton rats and mice can be used.

The test consists in mixing serum from the tested person's blood with infantile paralysis virus and injecting it into the rat or mouse or monkey. If the animal fails to get the disease, the person's blood contained virus-neutralizing material, indicating that that person was immune to the disease. Heretofore only monkeys were used because no other animal had been found susceptible to the disease except man and monkeys.

Frequent tests of a group of people checked against their histories of almost

unnoticed illnesses such as slight colds, or of contacts with infantile paralysis patients would also shed light on the question of how and why some people acquire immunity or resistance to this disease while others do not.

If resistance is acquired through age alone, as has been suggested by recent experiments, and not by building up resistance through a sort of natural vaccination with small doses of the virus, the mouse or cotton rat tests might show the exact age at which immunity does develop. Then scientists could study other changes occurring at such an age which might carry with them ability to develop resistance to infantile paralysis and from this, possibly, develop a means of protecting against the disease at any age.

These and other possibilities seem to open up from the beginning steps which Dr. Armstrong reported.

*Science News Letter, October 19, 1940*

No one has seen the bottom of an *oil well*, but a pressure core barrel may bring samples of the underground reservoir up to the laboratory for study.

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