

WRIST RADIO—While broadcasting into a wrist radio transmitter, James J. Sutherland of Sylvania Electric Products Inc. hears his own voice through the transistorized radio receiver he holds.

ENGINEERING

Niagara Water Diverted For Electric Power Station

See Front Cover

► ONE OF the gigantic tunnels that will divert one-fifth of the water flowing to Niagara Falls to the new \$300,000,000 electric power station being erected in Canada is shown on the cover of this week's SCIENCE NEWS LETTER.

The water will be taken from the Upper Niagara River, near Chippawa, two miles above the Falls. The twin tunnels will transport the water five and one-half miles, emptying it into a surface canal over two miles long for delivery to the power station.

The plant will have a generating capacity of 1,200,000 kilowatts, enough for the residential needs of a city the size of New York. Four of its 12 generating units are expected to be running next year, while the remainder will reach full operation by 1957.

The tunnels have a rough diameter of 51 feet. Built on Blaw-Knox Company's steel forms, the circular concrete linings are three feet thick, reducing the final diameter to 45 feet. The lining will require nearly 1,000,000 cubic yards of concrete, more than enough to build a sidewalk from Boston to San Francisco.

Water for the power station is made available by a United States-Canada treaty, which insures that at least 100,000 cubic feet of water per second must pass over the cataracts during the daytime hours of the mild-weather months.

Science News Letter, August 15, 1953

VETERINARY MEDICINE

Break Disease Deadlock

► THE DEADLOCK between Mexico and the United States over foot-and-mouth disease control methods, following the June outbreak in the state of Vera Cruz, has finally been broken.

Resolution of the bitter dispute cost compromises on both sides, but the major point of the United States, that exposed livestock should be slaughtered, seems to have carried.

The key clause in the Mexico-U. S. settlement over how to fight the dreaded livestock disease is "the use of the most practical methods in the 'evacuation' of the animals consistent with the need for absolute safety in preventing spread of the disease."

"Evacuation," it is reliably reported, seems to be a new way of saying "slaughter," a tabooed word in Mexico now. Foot-and-mouth disease, or aftosa, eradication by slaughter, the only certain control measure, was strongly opposed by Mexico, following the June outbreak, and led to the series of delicate negotiations just completed.

A change from past methods of control under the new agreement is that "evacuated" animals can be made into fish food, fertilizer, tankage and other commercial products after treatment to make the meat harmless. Previously, "evacuated" animals were destroyed.

Under the new plan, when all susceptible animals have been "evacuated" from the infected zone near Gutierrez Zamora, Vera Cruz, the joint Mexico-U. S. anti-aftosa commission will supervise complete disinfection of the area, including burning of pastures. Then test animals will be placed in the zone

to check on the success of the control measures before livestock is permitted in again.

Susceptible animals within a radius of about six to nine miles of the focus of infection will be vaccinated. Animals in a 15-mile radius will be held in strict quarantine until control has been achieved.

Science News Letter, August 15, 1953

PHARMACOLOGY

New Anesthetic Potency Is 1,000 Times Cocaine's

► POTENT LOCAL anesthetics can be made even more active by substituting sulfur for the carbonyl oxygen atom in the molecule, scientists at Sterling-Winthrop Research Institute, Rensselaer, N. Y., find.

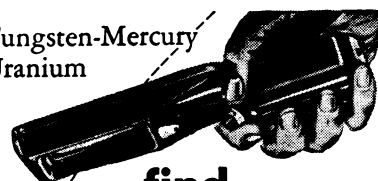
One of the new anesthetics they have produced is 1,000 times more active than cocaine when applied to the cornea of a rabbit's eye. When used as a spinal anesthetic for rabbits, anesthesia lasted twice as long, with about one three-hundredth the dose, as compared with procaine.

With the increase in potency went a greater margin of safety with regard both to irritating effects and general toxicity.

The new, potent local anesthetic is known so far only by the code name, WIN 4510. Details of its chemistry, testing and other related compounds are reported by Drs. F. P. Luduena, R. O. Clinton and S. C. Laskowski in *Science* (July 31).

Science News Letter, August 15, 1953

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Questions

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