

MARINE BIOLOGY

Fisheries Revolution

Experiments show that fish can be attracted into nets by electric currents. Two electro-fishing devices, one of which stuns heavy tuna, are now in production in Europe.

► FISHING WITH electricity promises to revolutionize the commercial fisheries industry. Experiments in attracting schools of fish into nets or traps by electric current are progressing rapidly in several countries.

A German scientist, Dr. Konrad O. Kreutzer, is responsible for most of the electro-fishing advances this side of the Iron Curtain. From a converted German mine sweeper Dr. Kreutzer has been testing the reaction of herring to a positive electrical pole, with encouraging success.

Under the stern of his ship Dr. Kreutzer attached a large sheet of metal to act as a negative pole or cathode. About 60 feet from the ship he suspended by buoys another metal sheet, the positive pole or anode, and connected the two with an insulated wire.

Live herring were then released in the water between the poles. Each time the current was switched on, the herring swam directly towards the positive pole. When the current was turned off, they resumed swimming in their original directions.

At last report, Dr. Kreutzer had not actually tried to catch fish with the device. He said he was then interested mainly in proving that fish could be attracted by electric currents in the open sea, which he has done. But it would seem a simple step to surround the pole with a net to trap the fish brought to it.

Similar experiments are going on in the United States, but only on a laboratory scale so far.

Dr. W. N. Kellogg, animal psychologist, has been directing experiments at the Oceanographic Institute, Florida State University, on the reaction of mullets and other species to electrical stimulation.

On the West Coast, the California Co-operative Sardine Research Program has discovered that sardines can be directed over zigzag paths by changing the position of the positive pole of electric current in water.

The U. S. Fish and Wildlife Service is closely watching developments in electro-fishing techniques, looking for ways to step up the efficiency of American fishermen.

Scattered reports from the USSR indicate that the Russians are busy on the electro-fishing problem. A Soviet twist is, reportedly, to attract fish to the boat by electric current, and then pull them into the craft by suction. This possibility is being considered by other fisheries experts, too.

Two of Dr. Kreutzer's electro-fishing devices are already in limited commercial production in Europe. One is a miniature version of the apparatus used in his herring

experiments, which is employed in fresh water. Another device is a hook that stuns a fish with electricity when he bites. Tuna fishing in the north seas of Europe is often done by lines. As their tunas average around 275 pounds each, the advantage of having to pull in an unconscious fish over a live and fighting one is obvious.

As one fisheries expert said, compared to the great advances in agricultural techniques over the last century, the fisheries of the world are still in the "stone age."

But electro-fishing and other improvements now being quietly investigated in laboratories and experimental ships over the world promise to change this situation soon.

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MEDICINE

Drug Treatment of TB Takes 8 to 10 Months

► A COMBINATION of isoniazid and streptomycin may become the "drug program par excellence" for treatment of tuberculosis of the lungs, Capt. Forrest W. Pitts and Col. Carl W. Tempel of the Army Medical Corps predicted at the meeting of

the American Association for the Advancement of Science in St. Louis.

Isoniazid is the synthetic anti-TB chemical announced last year. The Army doctors call the isoniazid-streptomycin combination "one of the most promising drug regimens on the horizon," but point out that final opinion must be reserved until the combination has been tried on more patients over a longer time.

Until isoniazid was available, streptomycin every third day with para-aminosalicylic acid daily was found the best method of treatment.

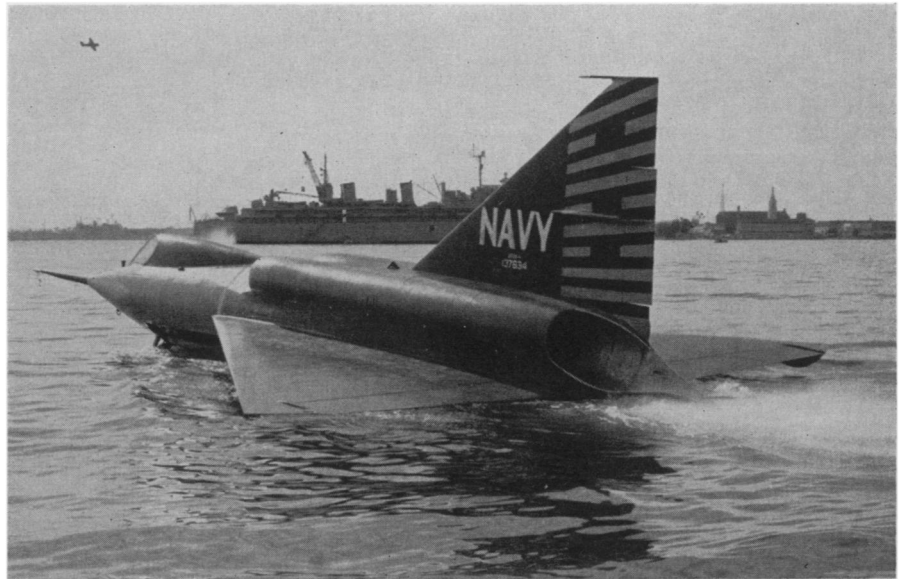
Results of drug treatment are often dramatic, but drug treatment alone is not curative and must be integrated with an overall program of bed rest and medical collapse of the lungs or surgical measures as the individual patient requires, the Army doctors pointed out.

For most patients with extensive TB of the lungs, drug treatment must be given for at least eight to 10 months continuously. It is most effective against disease of recent origin, that is, of less than six to 12 months duration.

The Army doctors reported results with six anti-TB drugs tested by a methodical pattern. Findings covered 834 patients, part of a group of about 1,500, who have been treated with one or another of the six drugs at Fitzsimons Army Hospital, Denver, since 1947.

The six drugs are: streptomycin; para-aminosalicylic acid, known as PAS for short; amithiozone, a German drug known also as TB-1; viomycin; terramycin, and isoniazid. The drugs were tried alone and in combination.

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DELTA WING "SEA DART"—The Navy's revolutionary water based jet fighter, the XF2Y-1, has successfully passed its initial taxiing tests. The plane is the first jet fighter designed to land and take off from water as well as the first to use water skis to ease its water landings and take-offs. It is not expected to operate from the open sea like a carrier plane, but from protected waters.