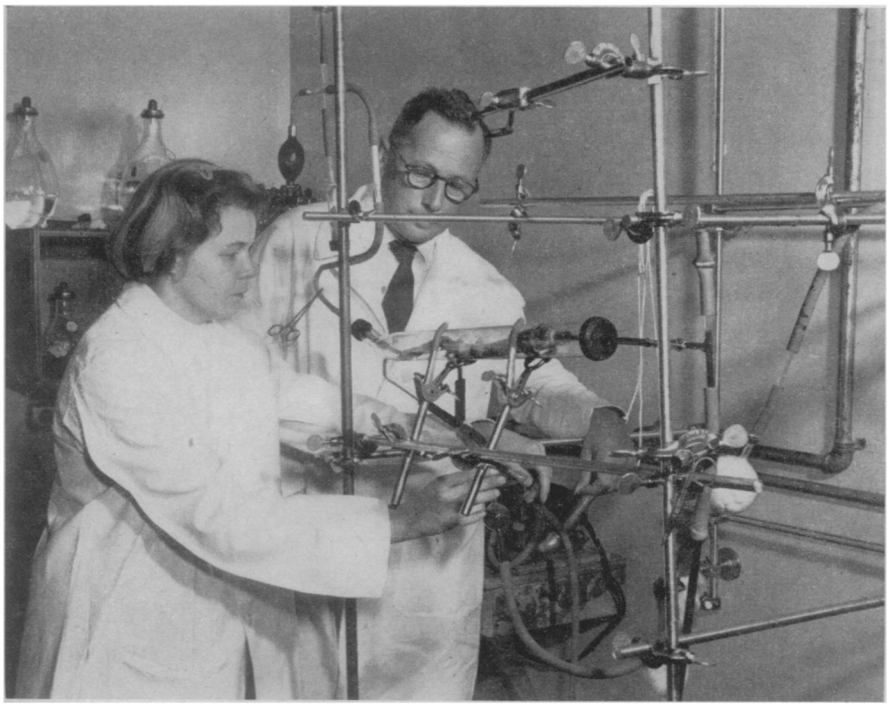

ATHEROSCLEROSIS RESEARCH—Husband and wife scientist team, Dr. and Mrs. N. T. Werthessen of Southwest Foundation for Research and Education, check a research project on atheroclerosis underway on the perfusion pump. The perfusion technique keeps organs alive and functioning outside the body. It employs a sterile technique, and the pump simulates normal body conditions through an artificial heart and lungs.

MARINE BIOLOGY

Sea Lamprey Permanent

➤ SEA LAMPREYS will never be completely eliminated from the Great Lakes, U. S. Department of Interior officials have concluded.

The best to be hoped for is that the destructive fish killers, which cost Great Lakes fishermen more than $5,000,000 annually in lost trout alone, will be reduced in numbers.

Federal money appropriated for control of the slender, sharp-toothed "vampire eels" will be used to set up electric barriers and to discover inexpensive poisons that will kill the lampreys but not the valuable fish.

The chemical conservationists think most promising is called 3-bromo-4-nitro-phenol. Small amounts are effective but expensive, and a way is now being sought to produce it economically.

Electric barriers hung into streams, looking like strings of dangling pipes, kill lampreys coming near them during upstream migrations. Other fish are not killed because they can detect the electric current in time to avoid the danger areas.

The big disadvantage of electric barriers is their failure to kill sea lampreys in early stages of development. Since five generations of lampreys can inhabit a single stream at one time, the search is being made for a weapon that will kill lampreys of all ages.

However, authorities believe electric barriers will be strung across Great Lakes area streams for a long time to come.

Sea lampreys look like eels, live like vampires, but are really fish. They fasten themselves to other fish, tear holes in them with rasping teeth, and suck blood until their victims become weak and die. They are only seven inches long, but one lamprey can destroy up to 20 pounds of fish a year.

They have virtually wiped out the lake trout industry in both Lakes Michigan and Huron, and are dangerously depleting the whitefish population.

The only reason trout fishing continues in Lake Superior is the early move to control the lampreys with electric barriers.

The lampreys first moved into the Great Lakes through the Welland Canal between Lakes Erie and Ontario in 1931, but since lampreys in the ocean are not particularly harmful to the fishing industry, little attention was paid them when they invaded our largest fresh water lakes.

They multiplied, no one knows exactly how fast, and by the early 1940's, the annual lake trout catch began dropping off sharply.

Science News Letter, June 9, 1956

AGRICULTURE

Full Corn Crop With Limited Irrigation

➤ CORN and tobacco crops require irrigation only during their stages of critical growth, the U. S. Department of Agriculture has reported.

Although corn crops are most abundant when irrigated all season, yields are 80% to 90% as high when the corn is watered only during the three-week period from the tasseling to the milk stage.

The Department of Agriculture experiments were conducted near Blacksburg, Va., during a two-year period. Although the research was confined to corn and burley tobacco, agriculture experts say the results apply to most small grains. Nebraska wheat farmers have traditionally irrigated only during the critical growth period during dry years.

The recent experiments are the first real proof scientists have had that full yields of corn are possible with limited watering.

Science News Letter, June 9, 1956

BIOCHEMISTRY

Morphine Antidote Leads To Pain-Killing Drug

➤ CHEMICAL REMODELING of a narcotic drug antidote has led to synthesis of a new and powerful pain-killer, called anileridine.

The new pain-killer was synthesized and developed by the following chemists and physicians of Merck Sharp and Dohme Research Laboratories, Rahway, N. J.: John Weijlard, Dr. Peter D. Orahovats, Alan P. Sullivan Jr., George Purdue, Dr. Frederick K. Heath and Dr. Karl Pfister III.

Tests with over 600 patients have confirmed animal studies showing anileridine to be powerful without causing such undesirable side effects as general depression and sedation, depression of breathing, lowering of blood pressure, nausea, vomiting and constipation.

Anileridine can be given by injection or by mouth. Its high degree of pain-killing ability when given by mouth is said to be "unique."

Because it does have addiction liability, although perhaps less than other potent drugs of its kind, it will be subject to Federal narcotic laws and should be used as cautiously as morphine-like drugs.

The new drug is not yet available except for clinical research. It will be marketed later this year under the name Leritine. Announcement of the drug's development is made in the *Journal of the American Chemical Society* (May 20).

Anileridine was created as a result of studies begun when Merck scientists found that N-allylnormorphine counteracted the toxic effects of narcotic drugs. Altering this chemical resulted in more potent pain-killers instead of better narcotic antidotes.

Science News Letter, June 9, 1956