Acid rain report

The *Joint Report of the Special Envoys on Acid Rain,* prepared by former Ontario Premier Bill Davis and US envoy Drew Lewis who were appointed at the Canada-US leaders' summit in Quebec City in March (see *Canada Weekly,* April 3, 1985), recommends $5 billion be spent by the United States government and industry over five years to investigate technologies for reducing acid emissions.

The report also includes a strong statement describing acid rain as an increasingly serious problem in Canada and the US and recommends that bilateral machinery be set up to permit more detailed discussion of the cross-border pollution issue.

Commenting on the report, Kenneth Brynaert, vice-president of the Canadian Wildlife Federation said "this is a step forward from researching whether acid rain is a real environmental problem, and the envoys' report does set the political stage for those who want to pressure the US government into taking the needed action, and setting clean-up targets".

Acid rain is caused when sulphur and nitrogen oxides are emitted by coal-fired power plants, smelters, cars and trucks. The pollution, carried long distances by the wind, turns into sulphuric and nitric acid in the air and falls as acid rain, snow and grit.

About half the acid rain pollution falling on Canada is emitted by US sources. It is considered by many Canadians as the country's most severe environmental problem because it destroys the life-sustaining capacity of inland lakes, stunts the growth of Canadian forests, corrodes property and buildings and can damage human health.

Canada is committed to cutting acid-pollution emissions from domestic sources in half by 1994. In February 1985, the Canadian government announced a $150-million agreement with the six eastern provinces to cut Canadian sources of acid rain by 50 per cent within the decade. The Quebec government has also announced regulations for polluters to meet the Canadian goal and in December the Ontario government announced a 67 per cent cutback on the four major sources of pollution in the province.

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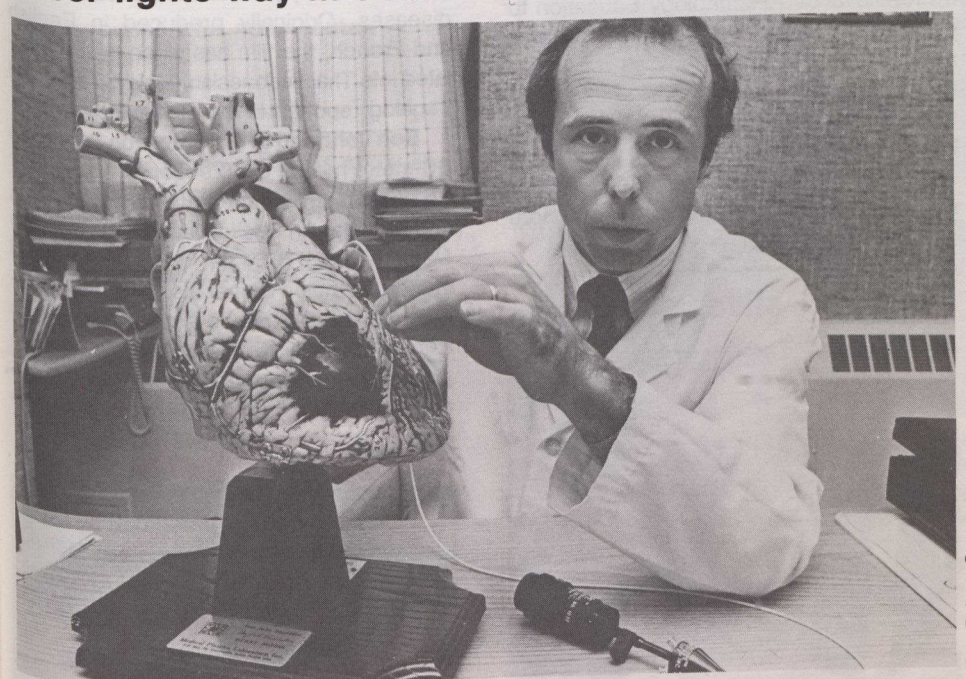
Dr. Tony Blouin with the Biology Department at Dalhousie University in Halifax, Nova Scotia, demonstrates how a plastic cylinder called a Van Dorn sampler, is used in a lake to collect phytoplankton samples, which are then analyzed for acidity levels.

Laser lights way in treatment of artery disease



Ron Poling: Canapress

Dr. Higginson uses a model of the human heart to describe the new treatment.

Researchers at three leading Canadian institutions, the Heart Institute at the Ottawa Civic Hospital, the National Research Council and the Ontario Heart Foundation, are experimenting with a special laser called an excimer and are concurrently developing a fibre-optic wave guide called an optoscope to treat atherosclerosis (hardening of the arteries) without complicated surgery.

Based on some two years of research, cardiologist Dr. Lyle Higginson, hopes to experiment with the device during surgery "within the next one to two years" to remove disease-causing plaque from artery walls.

Atherosclerosis is a leading cause of death among adults in North America and current medical treatments often require complicated surgery and are limited by the extent of the disease.

In laser research for treatment of the disease, light is piped to fatty deposits in the arteries to vaporize them. However, as the heat and energy from conventional lasers is very intense, researchers have encountered major problems with the healing and burning of surrounding arterial tissue.

The excimer, made by Lumonics Inc. of Kanata, Ontario, is considered a breakthrough in the use of lasers for treating atherosclerosis. According to Dr. Higginson "the excimer laser operates at a much shorter wavelength" than the three types of conventional gas lasers, "resulting in less charring of arterial tissue".

Initially, it is expected the excimer laser will be used on atherosclerosis of the femoral artery, the main artery of the leg. In this step, the laser would be used with a bypass graft or balloon angioplasty, two of the current common ways of treating the disease.

The next step would be to use the excimer and the optoscope together. In the process, the optical fibre would be threaded into the artery and guided to the blockage for treatment with the excimer.

The eventual objective of the reseachers is to perform laser angioplasty in the laboratory, without surgery or general anaesthesia, but "that is many years away", said Dr. Higginson.