

METEOROLOGY

Control of Rainmaking

Government agencies vie for control of rainmaking research and activities. Strict federal licensing procedures urged.

► **STRICT FEDERAL** control of all rainmaking activities was being urged by two of the original rainmakers, Drs. Vincent Schaefer and Bernard Vonnegut of the General Electric Company. They testified before a joint meeting of three Senate subcommittees considering bills which would place research and control in rainmaking in government hands.

However, Assistant Chief Willard F. McDonald of the U. S. Weather Bureau, who also testified, did not think such strict control was necessary. He advocated "relatively simple and economic regulatory procedure" which would provide only that "specified large-scale activities" be suitably controlled and reported to the national government.

Dr. Vonnegut declared that he believed nobody should be allowed to use silver iodide to seed clouds for rainmaking purposes but the government. As for dry ice, he believed that could be used by private persons with a licensing procedure.

The scientist pointed to three benefits which he said could come from a federal program: 1. Control over the weather, increasing and reducing precipitation where desirable, 2. Alleviation of damaging storms, floods and hail, and 3. Alleviation of such aviation hazards as icing and poor visibility.

Mr. McDonald was more reserved as to the possible future of rainmaking. He placed the emphasis on the need for much more research into the problem. He asked that such a research program be placed in the hands of the Weather Bureau, pointing out that the Weather Bureau is charged by law as the meteorological arm of the government.

None of the three bills being considered would place rainmaking directly under control of the Weather Bureau. One centers it in the Agriculture Department, another in Interior. The third, however, sets up a new, independent federal commission, patterned after the Atomic Energy Commission.

The Weather Bureau would be connected with this new commission only through the presence of the Secretary of Commerce as one of five commissioners.

The Interior Department has made a bid to Congress for control of all research and experiments in rainmaking and asked for the right to engage in a research program for turning sea water into pure water.

Secretary Oscar Chapman and Assistant Secretary William E. Warne were among

the witnesses who testified on the rainmaking bills.

Little argument over Interior's jurisdiction over salt water purification was seen.

Assistant Secretary Warne, who is in charge of water and power development for the Interior Department, pointed out in his testimony that the Bonneville Power Administration, the Bureau of Reclamation, the Geological Survey and the Indian division—all in his department—have had an interest in research in rainmaking. He advocated that one department of the government handle such a research program, and that Interior be that department.

Mr. Warne also testified that the government should assume liability for damage done property as a result of such a research program.

As to regulation, Mr. Warne said that there were many hectic, unregulated operations in rainmaking going on, particularly in the West, and that these should be controlled.

Secretary Chapman, in advocating that his department be authorized to engage in an extensive research program in salt water purification, pointed out that during wartime the Armed Forces had developed purification apparatus sufficient to provide 1,000,000 men with their daily fresh water needs. However, he said, cost was not a factor in this operation.

"In the present national emergency," he said, "the need for additional domestic and industrial water supplies in the cities of the West may well become definite and pressing."

The Secretary said that present irrigation projects provided water to only about 21,000,000 acres of the 700,000,000 arid and semi-arid acres in this country. In much of that irrigated area, he declared, the ground water level is going down. To open up more land, new sources of water would eventually have to be found.

"Through development of economical methods for wholesale purification of ocean waters, new frontiers would be opened, not only in the western United States, but throughout the world," he told the Senators.

Science News Letter, March 24, 1951

MEDICINE

All Tumors Are Malignant or Benign

► **MANY PERSONS** are confused about the meaning of the word tumor. And when the doctor speaks of a benign tumor or a ma-

lignant tumor, they may be still further confused. Dr. Daniel Catlin of New York, in a report from the Medical Society of the County of New York, recently explained these words as follows:

"A tumor is any swelling or new growth occurring on or in the body. Tumors are lumps of living tissue which serve no useful function in the body and which may be harmful to good health.

"All tumors are divided into two groups, the benign and the malignant. A benign tumor is comparatively harmless; it grows slowly, pushes aside surrounding tissues, and does not spread to other parts of the body. A benign tumor is dangerous to life only when growing in some vital organ, such as the brain.

"A malignant tumor is a cancer. Unlike a benign tumor, a cancer can grow rapidly, destroy surrounding tissues, and often spread to distant parts of the body. A malignant tumor is dangerous to life wherever it may grow. Sometimes, it is very difficult to say whether a tumor is benign or malignant. Only thorough examination and special tests will determine the true nature of some tumors. The failure to distinguish between benign and malignant tumors in the early stages of growth may result in tragedy."

Going on to explain these malignant tumors, or cancers, he said:

"An early cancer is a solitary (or localized) malignant tumor which is often not too difficult to destroy. The early stage of cancer is a true emergency; prompt treatment is indicated. As a general rule, the earlier cancer is found, the more difficult it is to recognize. Failure of the patient to consult a physician and failure of the physician to recognize the signs of early cancer are two common causes of delay in receiving correct treatment. To cure an advanced cancer, which has already transferred tumor tissue to many parts of the body, is usually impossible. Unlike other important diseases, a cancer almost invariably causes the death of the patient unless it is completely removed or destroyed. The importance of early detection and early treatment cannot be overstressed; they are without doubt the most important factors in obtaining a cure."

Science News Letter, March 24, 1951

DENTISTRY

Magnetic False Teeth Are Held in Place

► **EMBEDDING** magnets in dentures is the idea of Ernst E. Goldschmidt, London, England. He received patent 2,543,773 for his invention which he claims will better hold dentures in their correct position in the mouth. He has designed dentures containing single and multiple artificial teeth and containing one or several magnets in different positions.

Science News Letter, March 24, 1951