

## METEOROLOGY

# See Farmers Fleeced

Some commercial rainmakers may ignore "if" clauses in report to President that rainfall can be increased up to 17% under certain conditions in Pacific Coast areas.

► FLEECING FARMERS, particularly in the Midwest, of hundreds of thousands of dollars may well be the short-range effect of a report to the President that rainfall can be increased nine percent to 17% under special circumstances.

Some commercial rainmakers, hoping to make a quick profit, could point to these official Government figures as assurance their cloud-seeding operations will work, conveniently ignoring the many "if" clauses also included in the report.

Although the President's Advisory Committee on Weather Control concluded precipitation can be increased somewhat by throwing silver iodide into certain kinds of clouds, this applies only to specific Pacific Coast areas.

Prospects for making rain or snow in other parts of the country are considerably less promising.

One difficulty in settling the question of whether man can change rainfall amounts is lack of knowledge of, or adequate theory to predict, what would have occurred if there had been no seeding.

Using statistical averages can help overcome this difficulty, but then the problem becomes one of how to select the pertinent figures and how to manipulate them.

Results different statisticians obtain with the same set of figures have been known not only to differ, but to be opposing.

This can be particularly true when dealing with data concerning weather. Also records are often inadequate for proper analysis.

An aid in solving the problem would be to seed clouds or not seed them according to instructions drawn up using the impartial laws of chance. Prospects are not good, however, for persuading commercial operators and the farmers and public utilities companies who pay them to adopt this method, which many scientists believe is the only one that will some day solve the problem.

Other Government agencies and universities under contract to them have seeded or not seeded clouds in their experiments according to the laws of chance. Evaluations of such experiments in the United States have not shown results that could be definitely traced to the seeding.

The Advisory Committee has so far limited its studies to commercial operations, but is expected soon to start re-evaluation of public experiments, conducted for shorter time periods than the commercial ones.

The group was set up to recommend to the President and to Congress the extent to which the Federal Government should

experiment with, engage in or regulate attempts to increase precipitation or otherwise affect the weather. It is headed by Capt. Howard T. Orville, retired Naval officer now affiliated with Friez Instrument Division of Bendix Aviation, Baltimore.

Science News Letter, February 25, 1956

## MEDICINE

## Artery Hardening In All Mammals

► ALL MAMMALS apparently suffer from hardening of the arteries.

The typical thickening of the arteries in arteriosclerosis has been found in such diverse species as dogs, cats, lions, tigers, elephants, birds, horses, cows, baboons, gorillas and llamas.

In some of the species coronary attacks bringing death have been observed, followed by finding microscopic lesions on the arterial wall.

Demonstration of arteriosclerosis in all of the above named species has been made by Dr. Stuart Lindsay, pathologist in the University of California School of Medicine. Dr. Lindsay presented his results at the meeting of the Pacific Coast Section of the Society for Experimental Biology and Medicine in San Francisco. The session was dedicated to the late Dr. James F. Rinehart, professor of pathology in the School.

Dr. Lindsay obtained many of his arterial tissues from zoo keepers over the country and abroad. The gorilla was "Bushman," and the elephant was "Marge" of the San Francisco zoo, both of whom died of heart attacks.

The pathologist said that arteriosclerosis became worse with age in all animals.

The scientist also said that the lesions always started with deterioration of the interior lining of the blood vessel, the intima, followed by deposition of mucoid substances on the points of deterioration. There was little or no deposition of fatty material, even late in the disease.

Fatty deposits did not seem to play a role in death in the animals. Death came, rather, from the primary mucoid lesions.

Although fatty deposits do not seem to be important in animals and are not involved in the early stages in man, they are important in the later stages and in causing death in man.

Until recently it was conceded that the fatty deposits started the disease as well as caused nearly all of the blood vessel thickening.

Science News Letter, February 25, 1956



**JET PART OF FUTURE**—This lacy honeycomb of metal will be used as the core of jet engine components of the future. It will be produced at one facility of General Electric's new aircraft propulsion development laboratories at Evendale, Ohio.

## METEOROLOGY

## Improve Balloon for Recording Weather

### See Front Cover

► AN IMPROVED version of balloons used to record upper-air weather data is shown on the cover of this week's SCIENCE NEWS LETTER as it is being inflated with hydrogen gas through a 90-foot long sleeve.

Such balloons are widely used by the Weather Bureau, Air Force and Navy to gather meteorological data from high altitudes.

One of the Navy's, launched from Oppama, Japan, was blown off course about mid-February and floated the wrong way, drifting over Siberia instead of the Pacific.

Russia had previously protested that the United States was launching the balloons loaded with radio equipment and cameras for "spying" behind the Iron Curtain.

Secretary of State Dulles denied the charge, and the U. S. told the United Nations that the protests were "based on misconstruction of facts."

The U. S. statement said balloons that happened to drift over Russia were used only for meteorological purposes.

Air Secretary Donald A. Quarles also denied the charge. He said photographic and radio equipment carried by some of the balloons was solely to meet research needs.

Washington observers suggested the Russian protest was a move to confuse weather reconnaissance balloons with low-flying leaflet balloons sent over Iron Curtain countries by a non-governmental agency.

Science News Letter, February 25, 1956