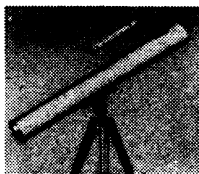


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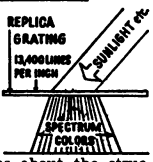


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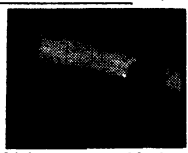


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## TECHNOLOGY

### "Brain" Navigates High-Speed Planes

➤ A NAVIGATIONAL "brain" that helps control the flight of high-speed planes through such intricate patterns as over-the-shoulder and toss bombing, Immelman turns and Cuban-eights has been developed by General Electric's Instrument Department in West Lynn, Mass.

Known as the SR-1 Master Flight Reference System, the new device integrates and feeds a mass of electronic navigational information to various equipment controlling an aircraft's attitude.

Highly sensitive gyros and other precision components enable the system to sense very accurately changes in an aircraft's roll, yaw and pitch. These changes are then converted into multiple signals and relayed automatically to aircraft radar, autopilot, dead-reckoning and navigational computers, bombing equipment and all-attitude indicators.

Science News Letter, February 7, 1959

## METEOROLOGY

### Experts Predict Success In Weather Modification

➤ PROSPECTS look good for weather modification in the future and the United States should start now to make plans for that time.

Three speakers stressed this theme at a public lecture sponsored by Resources for the Future, Inc., in Washington, D. C. Dr. Horace R. Byers, chairman of the University of Chicago's meteorology department, said that progress in scientific weather modification has been distressingly slow in the past dozen years.

The slow progress, he charged, resulted from trying to apply immediately principles too poorly understood, instead of performing the research necessary to understand the atmospheric processes involved.

However, Dr. Byers reported, hydrogen bomb explosions are now releasing energy in about the same amounts as the energy released by small tropical storms. This means that weather modification is "coming within our grasp."

Dr. Edward A. Ackerman, deputy executive officer of the Carnegie Institution of Washington, called for a long-range program aimed at obtaining a working understanding of the "vast, very complex hydrodynamic system that flows around" the earth, resulting in weather and climate. He suggested responsibility for such a program be placed with an international planning and review board of meteorologists.

By doing so, Dr. Ackerman said, the U. S. can "show scientific leadership" that could forestall later problems in diplomacy. Ideas that may seem visionary today, he concluded, may be "tomorrow's weapon or tomorrow's disaster."

Sen. Clinton P. Anderson (D-N. Mex.) noted that climate control, or weather modification, may well be the "ultimate weapon."

Weather warfare, he said, could be so applied that the operator of the modification could not only damage his opponent but escape undamaged himself, which cannot be said of multi-megaton thermonuclear blasts.

These are the "very real sociological and political implications of weather modification," Sen. Anderson said, and the economic implications are inseparable from these two.

He pointed out that it would not take long to bring the U. S. "to her knees" if another country could deny us at will our drinking water or our wheat crop, could alternately freeze or burn us, flood our cities and scorch our farms.

Sen. Anderson warned against "toying prematurely" with such a diabolical weapon, and urged a high priority program for the study of weather control.

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