METEOROLOGY

Tornado-Like Weather

➤ WEATHER BUREAU EXPERTS for the first time will test on a large scale an automatic bell device that rings when tornado-brewing conditions exist.

On duty 24 hours a day, the instrument sounds off when a "pressure jump" occurs. Tornadoes are usually found embedded in the belt of thunderstorms called a squall line, and pressure jumps often precede the squall line.

Also for the first time this year, a daring pilot, Jim Cook, is flying a plane from Kansas City, Mo., into the squall lines where twisters are found. His craft is equipped with instruments to record wind speed, pressure changes, temperatures and moisture, information weathermen now lack in the immediate vicinity of a tornado's swooping funnel. So far, Mr. Cook has flown into two squall lines.

For the automatic network that started test operation this spring, the bell-ringing devices were set up 25 to 30 miles apart in Kansas, Missouri, Oklahoma and Texas. Installation started the week of May 7.

If the devices live up to hopes, more will go into operation next year. The 105 instruments are being installed in such places as police and fire stations, water plants and other places where people are on 24-hour duty and can telephone local Weather Bureau offices when the alarm bell rings as a pressure jump line passes.

One reason so little is known about tornadoes is that their scale is too small to be caught by Weather Bureau stations, which are about 200 miles apart, and too large for their formation, growth and death to be observed by a trained meteorologist, who might be able to see at most five miles under good conditions.

Both the airplane studies and the automatic bell are aimed at bridging this distance gap. Although Weather Bureau meteorologists can now pin down the areas of 100 miles or so in which tornadoes are likely to be born, their aim for the future is to pinpoint the danger regions within 15 or 20 miles.

Information gathered during the airplane flights, from the pressure jump occurrences, and from an intensive study of radar screens photographed when the tornadoes are in progress is helping to give a picture of a twister's life history.

Science News Letter, May 26, 1956

EDUCATION

Liberal Arts for Engineers

➤ ENGINEERING STUDENTS should have bigger doses of liberal arts in college, in the opinion of the great majority of engineering educators, the American Society for Engineering Education, Urbana, Ill., reports.

Although the educators agree on more humanities and social sciences for their students, they are not of one mind on how the liberal arts courses should be administered.

Many, the report states, are fearful attempts to add such courses to an already overcrowded curriculum might mean a weakening of technical education, or result in a watered-down liberal arts instruction.

A Society committee, which investigated the problem, points out that no standardized pattern for introducing more liberal arts at present would suit all engineering courses and schools.

The Committee recommends that "each institution take the steps necessary to hammer out for itself a feasible program appropriate to its own needs."

The basic findings from the Committee's study are:

1. That the engineering educators think their students would profit as professional men, as citizens and as individuals from a "fuller acquaintance" with the humanities and social sciences.

2. That many educators are "honestly" afraid that more courses in liberal arts would "jeopardize" the quality of the engineering teaching or lead to "superficiality" in the treatment of the humanities and social sciences.

3. That 30 or more engineering schools have already proved the fears of the educators groundless and have initiated planned programs providing a sound introduction to the humanities and social sciences and, at the same time, strengthening the engineering teaching.

Science News Letter, May 26, 1956

TECHNOLOGY

Color TV Screens May Be Printed

➤ THREE-COLOR TELEVISION screens may soon be produced by printing, Dr. Albert C. Zettlemoyer, chemistry professor at Lehigh University, Bethlehem, Pa., reported in Chicago.

He told a meeting of the Technical Association of the Graphic Arts that research at Lehigh on printing fluorescent pigments was aimed at using mechanical means to produce high-quality color TV screens.

Dr. Zettlemoyer said tests using methacrylate inks indicated offset letterpress would give satisfactory three-color phosphor screens. Radio Corporation of America cooperated in the research.

Science News Letter, May 26, 1956

● RADIO

Saturday, June 2, 1956, 1:45-2:00 p.m. EDT

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS Station.

Dr. Dudley Kirk, Population Council, Inc., New York, will discuss "World's Population Explosion."

RADIO ASTRONOMY

Radio Telescope Will Scan Sun's Atmosphere

➤ THE SUN will be scanned by 32 saucer-shaped radio telescopes lined up to form a huge cross in a two-acre meadow on the Stanford University campus, Stanford, Calif.

The new device will explore the sun's turbulent outer atmosphere, known as the chromosphere, invisible to the naked eye except at times of total solar eclipses.

Called a microwave spectroheliograph, it will pick up solar radio waves at a frequency of about 3,000 megacycles. Construction of the 32 "dishes" is financed by the Air Research and Development Command's Air Force Office of Scientific Research.

As the saucer-shaped antennas scan the sun's surface in the same way a television camera scans its subject, they yield a picture of the sun as it appears by 3,000-megacycle radio waves. Clouds will not affect the instrument's operation. About two hours will be needed to record the entire solar surface.

The device will "see" a solar region as small as three-thousandths of one square degree, according to Dr. R. N. Bracewell of Stanford's Radio Propagation Laboratory.

Science News Letter, May 26, 1956

VETERINARY MEDICINE

Farm Spring Clean-up Threat to Livestock

➤ THE ANNUAL SPRING CLEAN-UP on the farm brings a poisoning threat to livestock, the American Veterinary Medical Association warns farmers. Hazards and preventives given are:

Lead arsenate and some other fruit tree spray materials. Livestock should be kept out of orchards while spraying is in progress and should be guarded against other types of accidental spray poisoning.

Lead poisoning from paint, usually caused by animals licking freshly painted buildings or discarded paint containers. Careful disposal of paint containers or the use of non-lead paint will help avoid such poisoning.

Chemical seed treating materials. These usually contain arsenic or mercury compounds and livestock should not have access to them.

Chemical weed killers may cause changes in a plant that make the plant poisonous when eaten.

Science News Letter, May 26, 1956