

of Technology Servomechanisms Laboratory. The machine can take a strip of punched tape and automatically mill a complete machine part. If the product begins to vary from the product "described" by holes in the tape, the machine makes corrections.

The advantage of many of the complex automatic machines lies in their versatility. They can be switched from the production of one part to another merely by changing the tape that instructs them.

Although American industry still is far from being "automatized," it nevertheless seems headed in that direction. Machines now are being thought about, talked about and experimented with that even may be

able to do paper work which up to now could be done only by humans. Such machines may come in handy in payroll and accounting departments of medium-sized and large companies.

Other machines have been devised to predict the weather, to control the flow of a big city's traffic, to count paper money, to sort lemons according to color, to solve test mazes set for them in the laboratory, and to play ticktacktoe.

One British-built electronic device, affectionately known as the Madam II, can even sing "God Save the Queen," when given a coded version of the score. No record or phonograph is in the machine.

Science News Letter, February 7, 1953

METEOROLOGY

# Sun Affects Weather

► TERRIFIC BURSTS of energy from the sun in the form of solar flares must have an effect on earth's weather, but nobody knows just what that effect is.

This was the consensus of the opinions of meteorologists, astronomers and other scientists who spent a full day discussing solar-weather relationships at the meeting of the American Meteorological Society in New York.

Dr. Donald H. Menzel, Harvard College Observatory astrophysicist, pointed out that the quality and quantity of solar radiation vary appreciably through the sunspot cycle, and that the energy sent out during these fluctuations certainly reaches the upper layers of the earth's atmosphere.

A pronounced effect is observed on the earth's magnetic field which can be seen in the aurora borealis, he said. However, so far as direct effects on the weather at the earth's surface are concerned, Dr. Menzel said that it is too early for these effects to be determined. He called for more studies of the relationships between solar activity and the weather.

Dr. Bernard Haurwitz, head of the meteorology department at New York University and a long-time student of solar weather relationships, was pessimistic about the ability now to establish such a direct

relationship. A theory he propounded six years ago that the energy resulting from solar flares may heat the ozone high in our atmosphere which in turn heats the air we breathe is, he said, probably no longer valid.

Two recent cases of remarkable increases in temperature immediately following solar flares make his theory no longer good precisely because the increases were so large. Solar flares could not by themselves have brought about these changes in the earth's temperature, he said.

Dr. Haurwitz emphasized that, so far, there are few, if any, acceptable observations which show direct relationships between solar activity and the weather.

However, Dr. Joseph Kaplan and Hilda Kallman of the University of California at Los Angeles described what they said was a new mechanism by which increases in ultraviolet radiations from the sun are felt low in the earth's atmosphere. In this process, they said, the ultraviolet is transformed into absorbable infrared.

Science News Letter, February 7, 1953

GENETICS

## Resistance to Leukemia In Mother Mouse's Milk

► LEUKEMIA, CANCER of the blood, is influenced, in mice at least, by a maternal resistance factor, or MRF.

This was reported by Dr. L. W. Law of the National Cancer Institute, Bethesda, Md., to the New York Academy of Sciences conference on parental age and characteristics of the offspring.

The leukemia-resistance factor is contributed both before birth and through the mothers' milk by the mother mouse low in tendency to get leukemia, Dr. Law said. However, no factor that tends to bring on leukemia, similar to the factor in the milk of mother mammals that is tumor-inducing, has been found in the low-leukemia mice.

Science News Letter, February 7, 1953

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