

## GENERAL SCIENCE

# 1956 Science Review

**Menace of radiation realized by world, while big question is whether anything will be done about it, such as stopping bomb testing.**

*This summary of the year's happenings in the world of science is limited by space to just the highlights. Most of the events are described in detail in the pages of SCIENCE NEWS LETTER for the current year. If you wish to refer to any particular report, you may find it readily through the index. (See SNL, June 30, and also the issue that will appear next week, Dec. 29.) If you want more information about any item in the summary, send 25 cents to help cover answering costs for each item about which more information is requested.*

## By SCIENCE SERVICE STAFF

► **THERE WAS** a growing awareness during the past year throughout the world that mankind may be poisoning the heredity of the human race through insistence upon testing even more devastating atomic and hydrogen bombs.

This danger, subject of national and international concern and inquiry, played a role in the presidential election campaigns.

Two major scientific reports, one in America and the other in England, considering the possibilities, and the whole matter of radiation from sources other than bombs as well, were brought to scientific and public attention.

What is done about it in the coming year and after may determine whether 1956 was a turning point in handling this potential danger.

Although considered probable in past years, the year 1956 gave greater hope that the immense power of the H-bomb reaction can be harnessed for the peaceful uses of power to give the world the possibility of overcoming virtually forever the danger of a famine of harnessed energy.

The methods of confining and using the conversion of deuterium, which is relatively plentiful in the sea, and other light elements, into energy, with control of immense temperatures and energy output, were most explicitly discussed as the result of Russian research.

Hidden by America's atomic secrecy, we can be confident that equivalent or greater progress is being achieved in the United States.

In man's conquest of matter and its fundamental particles, the anti-neutron was discovered, and the discovery of the neutrino reported previously was confirmed.

The whole concept of an anti-universe, opposite in sign to the matter around us and of which we are composed, received added support. Scientists speculated on another cosmos made of anti-matter, or on great galaxies of anti-matter stars that would clash in tremendous explosions if they should ever come close to our part of the universe.

As to the universe seen by powerful tele-

scopic tools for light and radio capturing used by astronomers, the rate at which it is expanding may be slowing down at the most distant points visible to us. There is, however, fresh evidence from radio frequency shifts that the universe is expanding.

The latest indication of the expanding universe is from the collision of two galaxies a hundred million light years away that signal this by a change in the frequency of the radio waves received on earth.

A device for increasing the effectiveness of telescopes, called the image multiplier, which applies electronic methods to telescopic light-gathering, came closer to realization. It promises to make existing telescopes more powerful by many, many fold.

We learned a little more about the planets of the solar system. Radio waves were picked up from Mars and Venus just as many other heavenly objects are now known by their radio emissions.

Tested upon ordinary telephone lines was a device that in a few years may allow you to see over your telephone, point to point, the way you use long distance. This outgrowth of TV was proved practical on transcontinental circuits.

In medicine, large scale research was accelerated on a chemical agent for treating cancer, but no drug or virus of outstanding promise was announced.

The particular place in the nervous sys-

tem that is hit in multiple sclerosis was discovered to be the glial cell, a possible step toward a new attack on this disease.

In important research on viruses, two viruses were crossed and a hybrid produced, an achievement that has implications in understanding and combating such disease-causing entities.

The widespread program for exploring the earth that takes the form of the International Geophysical Year accelerated as the beginning date of July 1 of next year approached.

There was announced a chemical test for schizophrenia, and the evaluation and production of tranquilizing and other drugs for mental illness continued.

Modern man has existed for more than 50,000 years, possibly for 100,000 years, it was indicated by dating of glaciations by chemical methods.

An admitted 2,100 miles per hour and an altitude of 126,000 feet resulted in the loss of the U. S. X-2 experimental plane, as man pushed upward and faster.

How fast, far and high missiles travel is secret, due to defense considerations of our armed forces, but immense effort and financial support are being expended.

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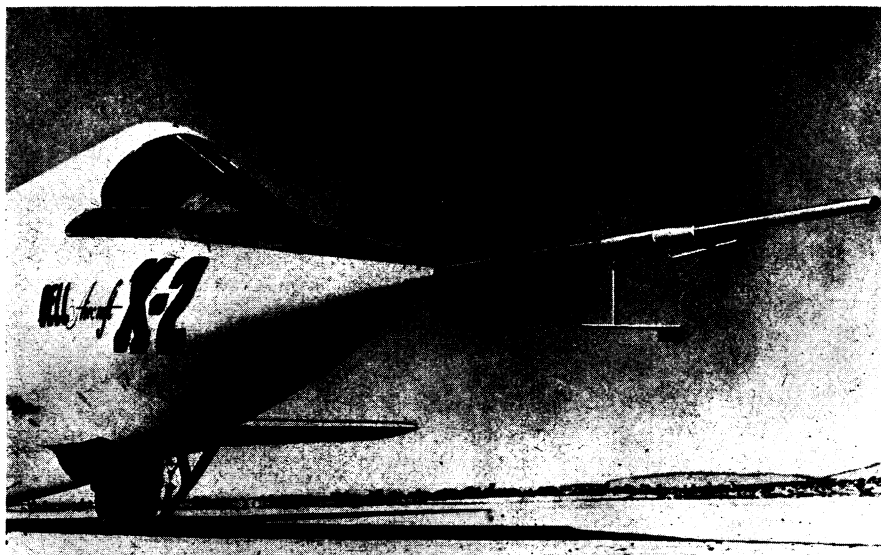
## AERONAUTICS

### Plane Sets Speed and Altitude Records, Crashes

Unofficial speed and altitude records at 2,100 miles per hour and 126,000 feet were set by the experimental Bell X-2 before it crashed.

A wind tunnel that can test full-scale jet engines, rockets, airplanes and other flying structures at up to 2,400 miles per hour under conditions up to 100,000-foot altitude was put into service at the N.A.C.A. Lewis Flight Propulsion Laboratory, Cleveland.

A new wind tunnel with speeds up to Mach 5



**X-2 EXPERIMENTAL PLANE**—This aircraft set a new speed record on the flight that resulted in its destruction. The Bell X-2 was designed to crack the thermal barrier, and was reported unofficially to have reached a speed of 2,100 miles per hour and an altitude of 126,000 feet before it crashed.