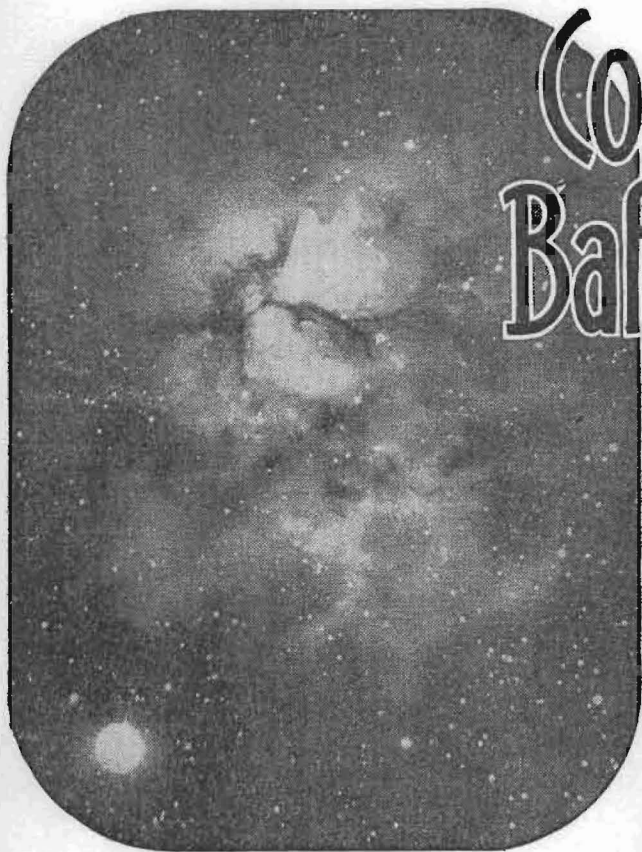


Cosmic Static Baffling Science



Mystery Radio Waves Bombarding Us From Outer Space May Be Signals From Another Planet — the Experts Admit They Don't Know

By **ROBERT D. POTTER**
Science Editor

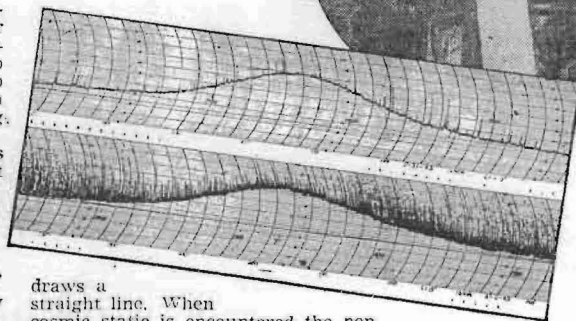
SCIENCE is baffled by mysterious radio waves from outer space that are pouring down upon the earth. They are similar to the waves that carry television, radio and radar signals and, for want of a better name, they are now being called "cosmic static."

Were they sent out as messages by the inhabitants of some distant planet, which is a member of some other solar system than our own and which is far beyond the range of our best telescopes? Or are they merely the result of some unexplained phenomenon far out in the Milky Way?

Science has no answer. Yet they are being detected at Wheaton, Ill., by Grote Reber, senior member of the Institute of Radio Engineers, with a huge sheet metal mirror over 31 feet in diameter.

Instead of gathering light rays from distant parts of space as telescope mirrors do, the metal mirror focuses the short radio waves on a sensitive antenna.

In operation the giant apparatus, shown on this page, slowly scans the sky, pointing at any spot visible in the heavens. When no cosmic static is intercepted the recorder merely



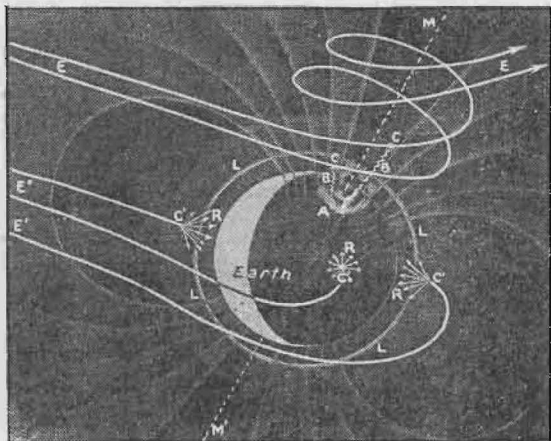
draws a straight line. When cosmic static is encountered the pen writes a wriggling wavy pattern.

So great is the amplification in the apparatus that man-made static generated by motor car ignition systems, or by opening and closing of light switches, can cause interference and put sharp spikes and bumps in the relatively smooth curve of the cosmic signals.

The mysterious and so far unintelligible waves have the frequency used for short wave radio transmission, television, radar, and frequency modulation (FM) radio. They really could be created in some man-made devices.

This thought has led to speculation about their origin, with the possibility that they were dispatched as messages from some other planet.

Mr. Reber's



The New Cosmic Static Is Quite Different From the Ordinary Cosmic Ray Particles That Bend When They Travel Through the Earth's Magnetic Field.

Near Chicago This Giant Radio Mirror Scans the Sky for Cosmic Signals That Make Records Shown at Left. The Strongest "Messages" Come From Sagittarius, Center of Our Universe, Whose Calcium Clouds Are Shown at Upper Left.

great radio detector shows the most intense waves come from the region of the sky in the

stellation of Sagittarius. It is in this same region of space astronomers believe is the "center" of the pinwheel-shaped galaxy of stars that contains the sun and earth.

Sagittarius is about 30,000 light-years away from the earth and it therefore takes light—and any radio waves generated there—30,000 years to reach us. Thus if the mystery waves were transmitted by a civilization on a planet near Sagittarius they must have been sent out into space some 30,000 years ago.

Is that civilization—if it ever existed—now dead? Or does it still exist so that man on earth might try to return the mystery signals? And will it exist for another 30,000 years, the time needed for man's messages to plunge back through space to the original transmitter?

Again science has no answer. It might be worth while to try the experiment and hope civilization on earth will remember—in the year 31945 A.D.—to see what happens.

The mysterious origin of cosmic static raises anew the idea that many stars of the universe may have planets just like those of our sun. This is the new "whirlpool" theory of planetary origin which Professor George Gamow of George Washington University recently explained for readers of *The American Weekly*.

Every star in its natural evolution, said Professor Gamow, would have planetary satellites and thus the pos-

sibilities are greatly increased that planets like the earth exist in great numbers in space.

If this is true, then perhaps many planets have living beings on them who might be either ahead, or behind, the earth in the development of creatures like man.

Perhaps the radio waves, which man calls static because they are a meaningless jumble and undeciphered, are really coded messages from other worlds. But all this is speculation at present, says Mr. Reber.

Best scientific explanation of cosmic static is that the stars are pouring out atoms of their substance into space; atoms often hit by the "bullets" of light radiation called photons. In these impacts the atoms in space are split apart into positive particles (protons) and negative electrical particles (electrons).

As the electrons approach the protons they are slowed down and their energy of motion is converted into radio waves.

This is no strange feat, for the oscillations of electrons in the antenna of any radio station create present-day broadcasting signals.

Broadcasting is achieved by transmitting on a single wavelength so that one can tune in different stations and not get the conglomerate scramble of signals from all stations at once.

The cosmic static waves, however, come in on all wavelengths as if they had a random origin in the splitting apart of atoms. It is for this reason, says Mr. Reber, that they would seem not to be messages from intelligent human beings on some yet unknown planet. But even he admits he does not know.