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# Tinkering telescoped into stardom

By Andrew Bagnato

When Grote Reber built the world's first radio telescope behind his Wheaton home 47 years ago, his neighbors were a little concerned about what he was up to.

"There was a great curiosity as to what this contraption was," Reber, 74, recalled Tuesday. "People thought I was trying to influence the weather or make it rain."

No one, not even a dreamer like Reber, could have known that the 28-foot parabola made of 2-by-4s and sheet metal and maneuvered with a Model-T engine would be the forerunner of the television satellite dishes that dot the landscape of suburban and rural America.

The radio astronomer left Wheaton in 1948 to set up shop in Hawaii and later Australia, where there was less interference from man-made radio signals.

He was in Wheaton this week to be honored in an area where he wasn't understood 50 years ago. Reber was inducted into the Du Page Heritage Gallery,

Continued on page 12

**From Page 1**

# Telescope

**Continued from page 1**

joining such Wheaton luminaries as football great Harold "Red" Grange and evangelist Billy Graham.

Ironically, the progeny of Reber's invention, the television satellite dish, is heavily regulated in his hometown. A Wheaton ordinance prohibits the installation of satellite dishes in front or side yards and on top of houses, said City Manager Don Rose.

"The assumption is that if they're in the back yard, they won't be visible to the public," he said, adding that the city gets angry calls from neighbors whenever a resident installs a dish.

Besides giving Wheaton something to regulate, Reber's work has influenced a generation of radio astronomers, and his original dish has been installed in the front yard of the National Radio Astronomy Observatory in Green Bank, W.Va.

"Reber didn't discover radio astronomy," said George Seielstad, director of the national observatory in West Virginia. "But he was the only person in the world who pursued it. He did it on his own, with no support, in his own back yard. He did truly admirable work."

A radio telescope essentially is a radio antenna tuned to cosmic noises. The noises it detects are radio waves emitted from objects in space, both inside and outside the galaxy, of which the Earth's solar system is a tiny part.

Radio waves are able to penetrate the dust of interstellar space and the smog of Earth's atmosphere that restrict optical observations. Radio astronomers monitor the radio waves to discover clues to the origin of matter and the universe.

Reber, in a short-sleeved yellow shirt, orange tie and blue pants, addressed that very question Tuesday in a lecture before half a dozen students in the Crawford Auditorium at the Illinois Institute of Technology. The white-haired, well-tanned former professor and graduate of the Illinois Institute of Technology, a member of the school's hall of fame, decried the widely held belief among scientists that a magnificent explosion, or "big bang," created the universe.

Instead, Reber supports what he calls the "tired light theory." According to his "cogitations," as he calls them, what appears to be the movement of protons is actually a weakening of the light given off by the particles as they travel through space.

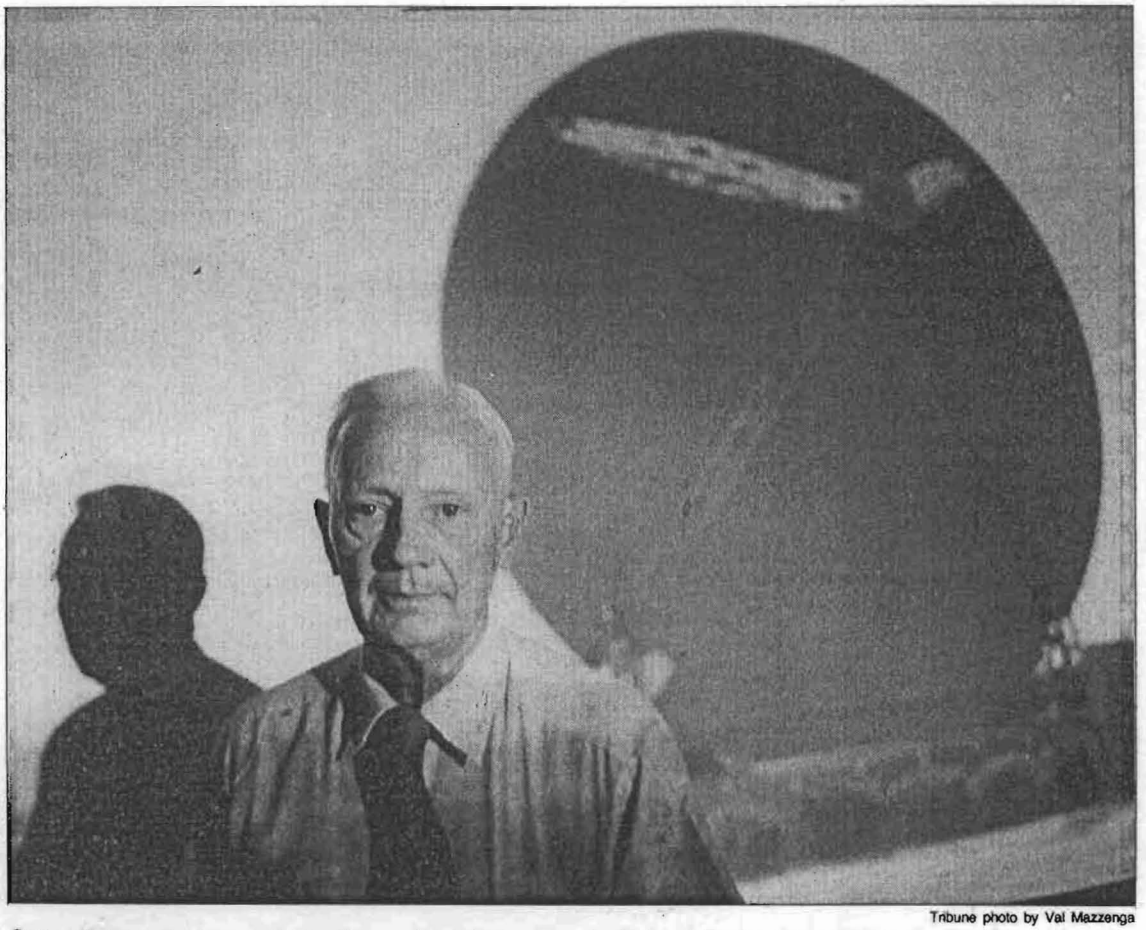
Reber concedes that his theory has few believers.

Reber continues to track the stars from a 300-acre spread in the remoteness of Tasmania, an Australian state. There, under skies as free from man-made radio frequencies as any on Earth, Reber works with a large-scale version of his satellite dish. He has built a circular array of eight-story poles connected by 57 miles of wire that are remote-controlled, allowing Reber to "tilt" the wires to pick up radio beams as they bombard Earth from millions of miles away.

His only neighbors on the island are 980 residents and about a quarter of a million sheep and cattle. None of the few ranch hands who gallop past his property ask him what he's doing.

If they did ask, he would tell them he is working on a new radio map of the universe as detected from the Southern Hemisphere. Because radio waves cannot bend around the curve of the Earth, Reber relies on a partner in Canada to help him map the universe as it appears from the Northern Hemisphere.

Reber said he is not willing to rest on his scientific laurels. "Good science is finding a situation where nobody's done anything," he said. "I don't follow the herd."



Tribune photo by Val Mazzenga

Grote Reber, designer of the first radio telescope, showing slides during his lecture Tuesday at Illinois Institute of Technology: "I was an opportunist. I enter these things not expecting anything."