



# NATIONAL TRUST

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21 King Street E., Toronto, Ontario M5C 1B3, Telephone (416) 361-3611

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*Posted 27/1/88 74¢, Rec'd?*

Mr. Grote Reber  
BOTHWELL, Tazmania  
Australia 7230

Dear Mr. Reber:

I hope that you will not mind my writing you, and you probably won't remember me, but I opened your account at our then (18 Bloor St. W.) Branch in my capacity as Assistant Branch Manager and I left the Branch in early 1978.

I am still with National Trust but at the executive branch, 21 King St. E., and while reading the Sunday Star last weekend, happened across this article.

I have thought often of my former clients at Bloor Street and so, of course, of yourself and couldn't help but ensure that you saw this.

Best Wishes!

Yours truly

(Miss) R. Parmeter  
Assistant Branch Manager

Encl.

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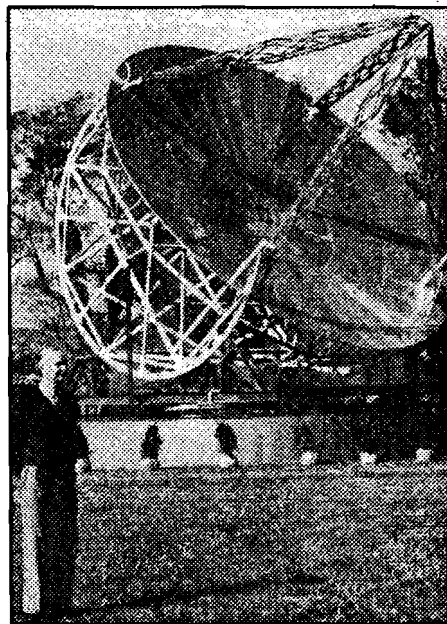
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# First radio astronomer was backyard amateur

**T**ODAY, hundreds of astronomers scan the heavens with giant radio telescopes capable of recording invisible radiation from celestial gas clouds in far-flung galaxies or measuring clock-like pulses from twirling neutron stars. Towering as high as a 10-storey building, a modern dish-shaped radio telescope moves with the precision of a timepiece and detects the natural whispers of the universe that reach Earth in intensities measured in millionths of a billionth of a watt.

But 50 years ago there was only one radio telescope on Earth. And it was not located at an isolated observatory, nor was it operated by a university astronomy department. It was a humble lattice of 2 by 4 lumber supporting a 31-foot diameter dish made from 45 pieces of sheet metal. It sat like a colossal bird bath in the suburban Chicago backyard of Grote Reber, an electrical engineer and amateur astronomer. Reber designed and built it himself in 1937. It was the prototype radio telescope; most modern ones are scaled-up versions of Reber's original design. During the next two years he used it to make the first radio map of the Milky Way.



**Astronomy pioneer:** Grote Reber beside a reconstruction of his historic telescope.

Before he built the telescope, Reber had written to all the top astronomers in America suggesting that they be the first to build a radio telescope, and that he, with his background in designing radio receivers, could provide the expertise. Nobody was interested. "They all turned me down," Reber recalled at a conference recently, "so I did it myself."

For nearly a decade Reber was the only radio astronomer in the world. When he submitted his discoveries in a research paper to the *Astrophysical Journal* in 1939, the editor couldn't find a single scientist qualified to check it. "The astronomers couldn't understand the radio engineering and the radio engineers couldn't understand the astronomy," Reber said.

To the editor's credit, the article was published and is now a landmark in 20th century astronomical discovery. Reber was the first to intentionally map the sky's radio contours, although a few years earlier a Bell Laboratories engineer, Karl Jansky, had detected radio transmissions from outer space rather than natural low-temperature emissions from the Milky Way.

Reber read about the discovery in the newspapers and heard Jansky interviewed on radio. Jansky soon went on to other research at Bell Labs, but nobody picked up the ball. That's when Reber started writing to the observatory directors, got frustrated and did it himself.

Reber is now 76 but far from retired. He is currently working on frontier radio astronomy projects at the Herzberg Institute for Astrophysics of the National Research Council in Ottawa. A few weeks ago radio astronomers from across Canada and the United States gathered at the Herzberg Institute to celebrate the 50th anniversary of Reber's telescope and his subsequent detection of the Milky Way's "cosmic static," as he called it at the time. John Kraus of Ohio State University said Reber was "the right person in the right place at the right time doing the right thing. He was a one-man self-supporting scientific lab."

Even today Reber is involved in a research area everyone else is ignoring. This time it is long-wave radio astronomy. More about this in next week's column.