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Walter Orr Roberts Is Dead at 74; Expert on Climate's Effect on Life

Walter Orr Roberts, the founder of the National Center for Atmospheric Research, who was one of the first scientists to warn that technology was changing the earth's climate, died of cancer on Monday in Boulder, Colo. He was 74 years old.

In 1960, Dr. Roberts assembled a team at the Boulder center to study climate, not merely as a collection of weather reports but as a complex force influencing the progress of life on earth. He was president emeritus of the center's governing organization, the University Corporation for Atmospheric Research, at the time of his death.

Thomas Levenson, author of "Ice Time: Climate, Science and Life on Earth," described Dr. Roberts as one of a handful who nurtured and defined the science of climatology.

"His contributions were not in scientific experiments," said John Firor, director of advanced studies at the center, "but in creating organizations that could study the earth's climate and atmosphere, and the problems that impact the future of the world.

'International Science Statesman'

"Walt was a generalist who understood how science fit into society, an institution builder and an internationalist who used science to further international relations."

Dr. Roberts once said: "No field of science offers a greater potential for the good of all mankind. The sky is quite literally the limit."

Harlan Cleveland, retired dean of the Hubert H. Humphrey School of Public Affairs at the University of Minnesota and a former ambassador to NATO, called Dr. Roberts "an international science statesman"

"Walter Roberts was always looking at every problem more comprehensively than anybody else I've ever known," he said. "He had a feel for the scientific enterprise as a whole and the contributions that it could make to society."

Two years ago, Dr. Roberts and the former astronaut Russell Schweickart started an international computer dialogue between American and Soviet scientists called Greenhouse/Glasnost to study global warming.

"He was a man of enduring optimism, who believed very strongly in grappling with real issues," Mr. Schweickart said.

Observer of the Sun

Walter Orr Roberts was born Aug. 20, 1915, in West Bridgewater, Mass., the son of a farmer. He received a master's degree from Harvard University in 1940 and a doctorate in astronomy from Harvard in 1943.

He married Janet Smock in June 1940. A month later the newlyweds headed west to Climax, Colo., to set up the first solar coronagraph in the Western Hemisphere. A coronagraph is a telescope with a circular disc that covers the Sun, allowing the viewer to study its gaseous outer halo, called the corona. With it he discovered that strong coronal flares were followed by radio fadeouts several days later. His observations and daily reports on solar activity were important to military communications during World War II.

In 1946, his one-man station 11,500 feet up in the Rockies was reorganized as Harvard's High Altitude Observatory, now affiliated with the University of Colorado. The world's largest coronagraph was built there in the 1950's.

Food, Climate and the Future

It was during his early years in Colorado that Dr. Roberts started thinking about the relationship of the sun to the earth's changing climate. His concerns ranged from global warming and nuclear winter to famine and the world's rapidly rising population.

From 1974 to 1981 he directed the program on food, climate and the world's future for the Aspen Institute for Humanistic Studies. In 1984 he wrote "The Cold and the Dark," with Paul R. Ehrlich, Carl Sagan and Donald Kennedy.

Mr. Cleveland said Dr. Roberts had a special interest in the people and culture of the Bering Strait and often piloted his own plane there.

Dr. Roberts was a former president of the American Association for the Advancement of Science and received several major awards and honorary degrees, including the Smithsonian Institution's Hodgkins Medal. Last year he was the first scientist to receive the United Nations Environmental Leadership Medal.

Dr. Roberts is survived by his wife, Janet; three sons, David of Cambridge, Mass., and Alan and Jonathan of Boulder; a daughter, Jennifer McCarthy of Albuquerque, N.M., and two grandchildren. A memorial service will be held at 2 P.M. Saturday at the National Center for Atmospheric Research.

Photo: Walter Orr Roberts (1961)