
TRIBUTE

Remembering Rosalie Bertell, the “Anti-nuclear Nun”

It is with great sadness that we note the passing of Dr. Rosalie Bertell, eminent environmental health expert and activist, world-renown authority on the effects of low-level radiation, author, deeply compassionate advocate for environmental justice, uncompromising truth-teller, winner of numerous international awards, and sister of the Grey Nuns of the Sacred Heart. Dr. Bertell had been battling cancer for two years and died on June 14, 2012 at the age of 83 from advanced chronic obstructive pulmonary disease.

After receiving her Ph.D. in biometrics in 1966, Dr. Bertell worked as an environmental epidemiologist and biometrician. She used her expertise to make complex technical medical and statistical information, as it related to environmental exposures, understandable to communities under assault in order to assist them in their struggle. After discovering low-level radiation exposure caused a significant increase in leukemia cases in three states between 1959 and 1962 as a senior research scientist at the Roswell Park Memorial Institute in Buffalo, she came up against the nuclear establishment. Dr. Bertell continued to work to expose the dangers of radiation and toxic pollution for the rest of her life.

In 1986, the year the Chernobyl disaster spread radioactivity throughout the northern hemisphere, Dr. Bertell won a Right Livelihood Award along with Dr. Alice Stewart, the British physician and epidemiologist who discovered the link between X-rays of pregnant women and cancer in their children, “. . . for raising public awareness about the destruction of the biosphere and human gene pool, especially by low-level radiation.”

Dr. Bertell worked tirelessly to provide expert assistance to those assaulted by radioactive contamination and industrial poisons throughout the world. She helped victims of toxic chemical pollution at Love Canal and those suffering from Chernobyl’s radioactive scourge. She set up the International Medical Commission on Bhopal, which provided medical care to those harmed in the Bhopal disaster in India. She worked with the people of Rongelap Atoll in the Marshall Islands, who were victims of U.S. atom bomb testing in the Pacific from 1946–1958, and set up a program of medical assistance. She helped the people of the Philippines in their struggle with problems resulting from toxic waste that the U.S. military left at their

abandoned Subic and Clark military bases. She worked with the government of Ireland to hold Britain responsible for the radioactive pollution of the Irish Sea, and assisted Gulf War veterans and Iraqi citizens in dealing with Gulf War Syndrome.

Upon the news of her death, Ole von Uexkull, Executive Director of the Right Livelihood Award Foundation, said: "Rosalie Bertell was a pioneer of science for the people. She always put her vast knowledge at the service of the public and its right to know, and she never shied away from conflicts with powerful interests."

Born in 1929 in Buffalo, New York, Rosalie Bertell was the third of four children. Her father, who never finished high school, taught himself advanced math, physics and optics, and designed the submarine periscope systems used in World War II. He became the president of the Standard Mirror Co. of Buffalo, where he invented the day-night mirror, which is universally used in cars today. As a child, Rosalie excelled in math and used to help him by doing ten-year financial projections for his company.

When she finished high school, she was offered a math scholarship from a college in Buffalo. In 1951 after college, she decided to join the Carmelite monastery, a contemplative Catholic religious community in Barre, Vermont. Needing to raise \$2,000 to enter, she took a job with Bell Aircraft and found herself doing basic research on guided missile systems, complete with FBI security clearance. During one missile test, the testers couldn't tell if the missile had flipped upside down or not, a crucial piece of information, since they needed to know whether the instruments were accurately recording data about the orientation of the missiles in flight. Rosalie solved that problem.

At the Carmelite monastery, the nuns did everything themselves, from digging their own 4-foot-deep irrigation trenches, laying pipes for their own irrigation system, putting in cement walks, doing the plumbing and basic electricity, to making their own sandals out of hemp. Though the work was physically challenging, it gave her plenty of opportunity to think about her time at Bell Aircraft and reexamine the need for those weapons and whether it was possible for people to live nonviolently.

A bout of pneumonia when she was just six days old left Rosalie physically frail throughout her life, and the physical demands of life with the Carmelites proved too much. After five years she left and subsequently joined the Grey Nuns of the Sacred Heart, a Catholic order with a tradition of teaching and social work. She also went back to school and in 1959 got her Master's degree in mathematics from the Catholic University of America in Washington, DC. In 1963, she was offered a National Institute of Health grant for a doctoral program in mathematics as part of a national initiative to encourage mathematicians to study biology and biological applications. Three years later, she completed her Ph.D. in biometrics with minors in biology and biochemistry from the Catholic University.

A postdoctoral grant from New York State brought her back to Buffalo to work at the Roswell Park Memorial Institute, the first medical facility in the United States dedicated to cancer research and treatment. Her job was to figure out what was causing an increase in leukemia, as recorded in tumor registries from New York, Maryland, and Minnesota, all of whom had laws requiring doctors to report leukemia cases. This was the Tri-state Leukemia Study.

Researchers had collected comprehensive information that included family background, what people’s parents and grandparents had died of, the patients’ own medical history, their employment history, each place they had lived, whether they had pets or were exposed to farm animals, and more. The information also included each individual’s history of medical X-rays, and after four years of combing through the data, Dr. Bertell said it became obvious to her and her colleagues that the radiation exposure from diagnostic medical X-rays was the culprit. This finding took her by surprise, since everyone had been told for decades that low levels of radiation were harmless.

In 1974, a nuclear power plant was proposed next to a farm growing food for a major baby food company near Buffalo, and a citizens’ organization asked her to testify at a public hearing on the plant. Her testimony on the dangers of low-level radiation was so compelling that the county legislature killed the plant by passing a moratorium against nuclear power—the first time public opposition had stopped a nuclear plant in the U.S. But this victory earned her the wrath of the nuclear establishment, and after a campaign of intimidation and attempts to discredit her research as well as the cancellation of funding for the Tri-State Leukemia Study, she resigned from Roswell in 1978.

Within a few months, she organized the non-profit Ministry of Concern for Public Health and offered her services as a radiation health consultant with the intent of supporting independent researchers battling the nuclear industry. In 1984, she set up the International Institute of Concern for Public Health (IICPH) in Toronto, Canada, an organization that continued to serve as institutional support for her work long after she retired as its president in 1996. Other organizations she helped form include the Geneva-based International Commission of Health Professionals (in 1985); the International Associates for Community Health in Orkney, Scotland in 1986; and in 2000, the International Physicians for Humanitarian Medicine in Geneva. She also served as a consultant to the U.S. Nuclear Regulatory Commission, the U.S. Environmental Protection Agency, and Health Canada.

Following the Three Mile Island accident in March 1979, Dr. Bertell was appointed to the Citizen’s Advisory Council, which was supposed to work with the President’s Commission on the Accident at Three Mile Island. This blue ribbon commission, also known as the Kemeny Commission, was set up by then President Jimmy Carter. She complained bitterly that members of the advisory committee were not given full access to all of the information and thus were being denied the truth

about the accident. In a notarized statement in 1998, after a Pennsylvania judge had dismissed a class-action lawsuit by approximately 2,000 Three Mile Island victims, Dr. Bertell accused President Carter of covering up the truth and urged him to come forth with all the facts about the accident, which time and a sustained misinformation campaign have greatly downplayed.

Dr. Bertell challenged the self-proclaimed authority of the official organizations tasked by the nuclear establishment to set radiation standards, such as the International Commission on Radiological Protection (ICRP), the International Atomic Energy Agency (IAEA), and others whose missions are to promote nuclear power and weapons technologies. She served on the European Committee on Radiation Risk (ECRR), which formed in 1997 in response to the European Commission Basic Safety Standards' Directive on Radiological Protection 96/29/Euratom. This directive set a legal contamination level for radioactive materials released into the commercial recycling stream. She co-authored both the 2003 Recommendations of the European Committee on Radiation Risk and the 2010 update that critiqued the inadequate but legal government standards for exposure to ionizing radiation, and opposed setting a clearance level for allowing nuclear waste into commerce by way of recycling.

She authored more than 100 scientific papers and was editor-in-chief of the journal *International Perspectives in Public Health*. Her books include *No Immediate Danger: Prognosis for a Radioactive Earth* (1985), *Handbook for Estimating Health Effects from Exposure to Ionizing Radiation* (1986), and *Planet Earth: The Latest Weapon of War* (2000). *Planet Earth* explores the enormous threat from the military's unending pursuit of power with high-tech weapons that use the Earth itself as a weapon and how these new weapons destabilize the delicate natural balance of the Earth's ecosystems and will result in widespread environmental, economic, and social devastation. In 2010, she wrote a paper, "A New Understanding of Breast Cancer and Alternatives to Mammography," that describes both new discoveries in physics that challenge the conventional understanding of what causes the vast majority of cancers and a promising, non-invasive technology to successfully treat them.

Dr. Bertell earned nine honorary doctorates and numerous awards. Aside from the Right Livelihood Award, she also received the World Federalist Peace Award; the Health Innovator Award from the Ontario Premier's Council on Health; the United Nations Environment Program Global 500 Award; and the Sean MacBride International Peace Prize. She was also selected as one of the 1,000 Peace Women nominated for the Nobel Peace Prize in 2005.

Rosalie had a profound and abiding love of life, unending awe and wonder about God's creation, our Earth, a deep sense of community, and a strong sense of outrage at threats to life, the Earth, and humanity. She fervently believed that health was a human right and devoted herself to working to achieve a world in harmony

where all life would flourish. She saw the military and much that it protects as the biggest threat to life, health, and world peace.

I was honored to know and work with Rosalie, and we were privileged to publish her. Two book reviews that she submitted before her death appear in this issue. May those of us who were blessed to work with her gather the strength, clarity, and courage to extend her work in the world.

—Karen Charman*

Reference

- R. Bertell. 2010. A new understanding of breast cancer and alternatives to mammography. *Canadian Woman Studies/Les Cahiers de la Femme* 28 (2.3).

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