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## John Major Fowler

Science education advocate John Major Fowler died peacefully on 8 April 2014 at home in Silver Spring, Maryland, after a long illness.

John was born on 4 February 1926 into a Quaker family in Eufaula, Alabama. He attended Earlham College and obtained his degree in physics in 1949. He received his MS in physics from the University of Oklahoma in 1950 and his PhD from the Johns Hopkins University in 1954. He then became a research associate at Washington University in St. Louis (WUSTL), where he was appointed to the faculty in 1956 and granted tenure in 1961.

Before becoming a full-time faculty member, John became concerned about the possible health effects of the debris from nuclear weapons tests. Those explosions produced fission products, including the radioactive isotopes strontium-90 and iodine-131, that were carried far from the Nevada test site and entered the food chain primarily through milk. The concentration of  $^{90}\text{Sr}$  found in St. Louis milk was among the highest in the US and attracted widespread concern.

In 1956 John and WUSTL pathologist Walter Bauer, a fellow Quaker, began giving lectures about fallout, radioactivity, and the biological effects of ionizing radiation. They spoke to Rotary and Kiwanis Clubs, parent-teacher associations, church groups, and, as John described their audiences, "anyone who would listen." In trying to explain complex technical issues to non-scientists, they recognized they had a professional obligation to reach out beyond academic circles.

John joined with other concerned scientists, including Edward Condon, chairman of the WUSTL department of physics, and Barry Commoner, a WUSTL professor of botany, to form the Greater St. Louis Citizens' Committee for Nuclear Information in 1958. A major CNI project to draw attention to the possible health hazards of radioactive fallout was the Baby Tooth Survey (BTS). Scientists in the WUSTL School of Dental Medicine analyzed baby teeth collected by CNI volunteers and found a steady increase in the  $^{90}\text{Sr}$



John Major Fowler

content. Public concern over fallout, based largely on the efforts of CNI and similar groups, led the US to adopt the Limited Test Ban Treaty in 1963.

In 1962, as president of CNI, John provided testimony related to radioactive fallout before the Congressional Joint Committee on Atomic Energy. He was also the editor of *Fallout: A Study of Superbombs, Strontium 90, and Survival* (Basic Books, 1960), one of the earliest books on the subject.

While John was deeply involved in CNI, he was also engaged in a major curriculum change at WUSTL, which occurred during the post-Sputnik years when curriculum revision was attracting federal funding and considerable interest. John and Edward Lambe were teaching an introductory physics course and realized that the available textbooks gave scant attention to modern topics such as special relativity and nuclear physics. They designed a new course, produced the first volume of a modern textbook, saw to the overhaul of the freshman labs, and built new lecture demonstration hardware. After more than 50 years, many of their innovations are still in use.

The massive redesign effort undoubtedly helped set John on his long-term career of curriculum reform and the teaching of physics. After leaving WUSTL in 1965, he became director of

the NSF-supported Commission on College Physics. With strong support from the commissioners and CCP staff members, John exerted a major influence on the programs of the American Association of Physics Teachers (AAPT) to improve education techniques and materials in college physics. He remained with the CCP until NSF terminated the project in 1972.

John served as a visiting professor at the University of Maryland from 1967 until 1974. He then served for 10 years as director of special projects and publications at the National Science Teachers Association.

From 1983 to 1993, John was a project director of the NSF-administered Presidential Awards for Excellence in Mathematics and Science Teaching. In 1985 John founded the Triangle Coalition for Science and Technology Education, a nonprofit that aims to make the public literate in science, technology, engineering, and mathematics (STEM); he served as its director until 1994. In 1990 the Triangle Coalition began operating the Albert Einstein Distinguished Educator Fellowship Program, which sends STEM teachers to Washington, DC, to work in a federal agency or congressional office for 11 months.

John's contributions to physics education were recognized in 1969 when he was awarded the Robert A. Millikan Medal by the AAPT for "notable and intellectually creative contributions to the teaching of physics."

John would be pleased to be remembered for his contributions to physics education and to the formation of CNI, which helped lead to the implementation of the Limited Test Ban Treaty, rather than for his following the physicist's usual path to a faculty position.

We will miss John, a man of great dignity and a quiet demeanor.

**John Layman**

University of Maryland  
College Park

**Michael Friedlander**

Washington University in St. Louis  
St. Louis, Missouri ■

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