Aftermath of World War II: Science speaks to power

(As published in The Oak Ridger's Historically Speaking column the week of July 6, 2020)

This is the fourth and final article in the series Carolyn Krause has researched regarding some often-overlooked perceptions of the Nuclear Age. She has explored aspects of the Manhattan Project and the resulting legacy that many see as opposed to the standard and accepted perceptions, especially as to the use of the atomic bomb. Enjoy this final look at the more recent history of the Nuclear Age.

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Should nuclear energy with its promises and perils be controlled by the military or by civilians? Because of the devastation of two world wars and the inevitability of a nuclear arms race after the detonation of the first atomic bombs, is world government needed to ensure peace? Should scientists be advisers only to governments or should they be trusted as advocates for public policies? In the aftermath of World War II, these questions were being addressed in Oak Ridge, as well as in our nation and world.

In his 1994 book "The First Nuclear Era," Alvin Weinberg (director of Oak Ridge National Laboratory from 1955 to 1973) stated that, shortly after the bomb was dropped on Hiroshima, Japan, in August 1945, he became involved in advocating certain policies. At the time he had been living in Oak Ridge for about three months, having come here from the Manhattan Project's Metallurgical Laboratory in Chicago.

"Soon after Hiroshima," he wrote, "Harry Brown and Joel Rush organized a group to consider what the Oak Ridge scientists ought to do about atomic energy and the bomb. Harry proposed that we organize what became the Federation of Atomic Scientists (FATS) to serve as the conduit through which the scientists' views about nuclear energy and the bomb could be transmitted to the public and to the politicians.

"As one of the organizers of the FATS, I lobbied Congress on behalf of the McMahon Act, and against the May-Johnson Act (in the somewhat naïve belief that nuclear energy would be less dangerous if controlled by a civilian commission responsible for filling requirements set by the military, than if the enterprise were kept under a single administrator, presumably General Leslie Groves). I spoke about the bomb to Congress, to Rotary clubs, and on nuclear Chautauquas – always saying that we have entered a new era in which war was no longer rational."

As it turned out, the McMahon Act (officially called the Atomic Energy Act of 1946) was passed by the Congress, creating the U.S. Atomic Energy Commission and ruling that the development of nuclear weapons and nuclear power would be under civilian rather than military control.

Another distinguished Oak Ridger, Karl Z. Morgan, the "Father of Health Physics" and the first director of ORNL's Health Physics Division, wrote in his 1999 memoir, "The Angry Genie: One Man's Walk through the Nuclear Age," that many scientists felt the need in the aftermath of World War II to speak out on public policies related to scientific and technological developments. Morgan was one of the many Manhattan Project scientists who wanted the United States to demonstrate to Japanese leaders the destructive power of the first atomic bomb in a deserted rather than a populated place.

"Immediately after the atomic bombing of the two Japanese cities, scores of scientists who had actively participated in the development of the atomic bomb publicly expressed their outrage," Morgan wrote. "We emphasized that our country could not possibly possess a monopoly in the development and use of this terrible weapon. We argued that the only hope for the future was to work for a lasting world peace.

"A group of us from Oak Ridge traveled to various cities giving lectures and calling for the strengthening of the United Nations to enable it to maintain world peace. Sen. Estes Kefauver (1903-63) served as our political leader and proved to be a forceful one.

"Kefauver, from Tennessee, offered bills to modernize Congress and wrote an article titled 'Twentieth Century Congress' that attracted much attention. He strongly supported efforts to create the United

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Nations. A world statesman before his time, he attempted to strengthen the United Nations and served as a major catalyst for the World Federalist Movement.

"I lectured in several cities and met with some persons of world renown to discuss strengthening and restructuring the United Nations. I emphasized that a nation's partial loss of sovereignty would represent a negligible price to prevent the entire loss of civilization as we know it.

"The two most famous scientists with whom I met in these discussions were Niels Bohr and Albert Einstein, recipients of the Nobel Prize in physics in 1922 and 1921, respectively. I talked at length with Bohr one evening in Copenhagen around 1947. He favored strengthening the United Nations but expressed skepticism regarding the possibility of accomplishing this in our lifetime.

"Einstein invited me to his home in Princeton in the winter of 1947. In this simple frame structure at 112 Mercer St., we sat before his open fireplace and discussed the urgency of getting our message to the world community before it was too late."

The fates of the Federation of Atomic Scientists and the World Federalist Movement since the mid-1940s are described on the Internet.

The Federation of Atomic Scientists, founded in 1945 and originally dubbed "the scientist's lobby," was renamed the Federation of American Scientists (FAS). It focuses much of its efforts on nuclear arms control and security, but it also addresses issues involving information technologies, science policy and the environment. Its strategies include research, advocacy, outreach and grassroots organizing.

In the 1950s, there were approximately 30 chapters, but by 1970 only two remained—one of which, the Boston chapter, called itself the Union of Concerned Scientists. The FAS website (fas.org) is a comprehensive source of information on global military technologies, intelligence, terrorism and other areas of science and society.

A 15-year-old paper on the website, according to Wikipedia, "argues that the infrastructure for providing science and technology advice to Congress and the President is in a state of crisis. It asserts that sound policy needs sound science advice. However, this claim raises the question of where scientists stop acting as advisers (that is, providing balanced, 'objective' information) and start acting as advocates (promoting a course of action that serves the scientific community but may not align with common interests)."

The World Federalist Movement, which was first started in 1937 by two famous peace-loving feminists and female suffragists, is a global citizens movement that advocates the establishment of a global federal system of strengthened and democratic global institutions subjected to the principles of subsidiarity, solidarity and democracy. Famous advocates of world federalism included Albert Einstein, Mahatma Gandhi, Martin Luther King Jr. and Winston Churchill.

The movement's members were concerned that the structure of the new United Nations was too similar to the League of Nations, which had failed to prevent World War II. Some 30,000 to 50,000 federalists support proposals for several new institutions, such as a commission on sustainable development, an international development authority, a standing peacekeeping corps and an international criminal court.

Advocates of world federalism have stated: "We believe that this global level of government, which is presently lacking, is the key to ensuring a peaceful and prosperous future for all of humanity. Over the past few decades, civilization has reached a point where our major problems are now global — including poverty, inequality, war, terrorism, famine, climate change, overpopulation and pandemics. However, our institutions have not kept pace with these changes and remain rooted at the national level."

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Another major global problem today is the threat of nuclear war (e.g., concerns about Iran and North Korea). Weinberg, who was long "aware of the terrible moral problems posed by the bomb," pondered the political and moral issues raised by the bomb after retiring in 1985 as director of the Institute for Energy Analysis at Oak Ridge Associated Universities.

"The central question was, and still is, Can the threat of mutually assured destruction (MAD) be counted on to deter nuclear war forever? Humankind will never forget how to make nuclear bombs."

Weinberg noted that Nobelist Eugene Wigner, his friend and colleague who was ORNL research director in 1946-47, "favored a morally more acceptable approach in which U.S. defenses could be active (antiballistic missiles) or passive (civil defense). In Wigner's vision such defensive deployment would convert MAD to MAS – mutually assured survival."

The problem is that America's antiballistic missiles likely will be unable to intercept Russia's new Avangard missiles. These hypersonic missiles can move more than five times the speed of sound and maneuver unpredictably. The nuclear arms race, like the debates about the A-bomb, goes on.

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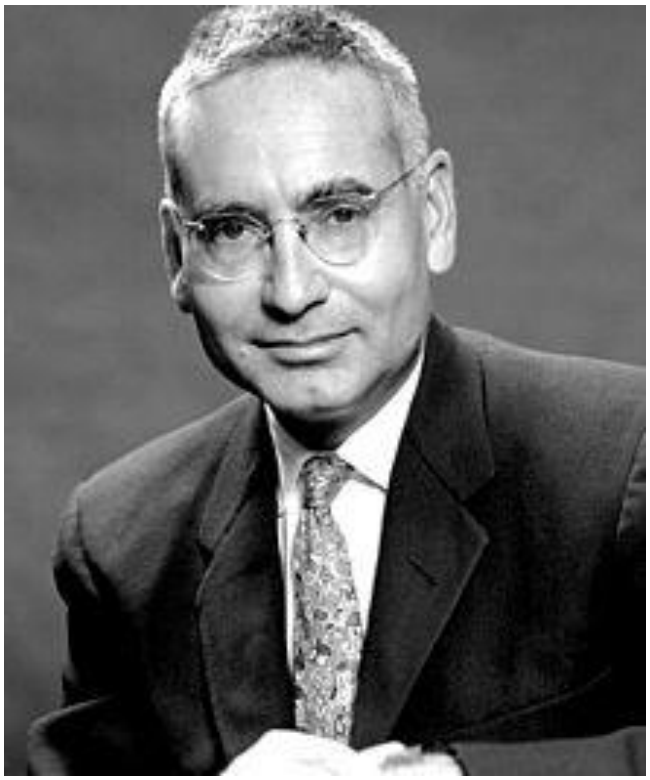
Once again Carolyn Krause has brought us a fresh look at a most important subject. She has focused on much of what has happened since the Manhattan Project regarding nuclear weapons and the continuing struggles associated with the Cold War and beyond.



Alvin Weinberg

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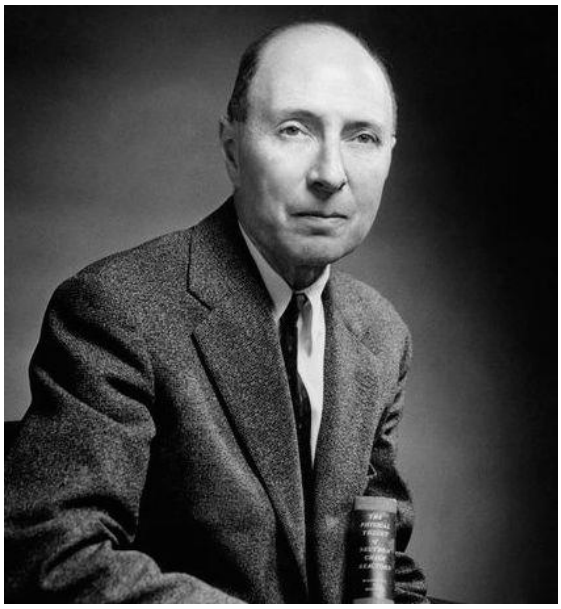

Eugene Wigner

Karl Morgan