

Dr. Edward Teller: a brief biography

Born in Hungary in 1908, Edward Teller went to Germany when he was 18 to study mathematics, chemistry, and physics at Karlsruhe, Leipzig, and Göttingen—and to escape the anti-Semitic regime of Miklós Horthy, which had ousted the equally repressive Hungarian Bolsheviks. In Germany he discussed the frontiers of physics with the leading physicists of the time—Arnold Sommerfeld, Werner Heisenberg, Erwin Schrödinger, Albert Einstein, Max Born, and Max Planck. Hitler's anti-Semitism interrupted these studies, and after a year in Denmark working with Niels Bohr, Teller came to the United States in 1935 to assume a professorship in physics at George Washington University. He brought with him his new bride, Mici, the younger sister of a close childhood friend.

During the Manhattan Project, Teller was involved in the construction of the first atomic bomb and is known familiarly as the "father of the H-bomb." After the war, he taught physics at the University of Chicago and then became associated with the new Lawrence Livermore Laboratory, first as a consultant and later as associate director until 1975.

Teller's theoretical work has been wide-ranging, from the structure of the nucleus, to fusion power, to peaceful nuclear explosions, to reactor safety systems. It is in the political arena, however, that Teller made his mark internationally as an advocate of a strong defense (as opposed to arms control), an opponent of classification in science, and a proponent of atoms for peace to raise the living standards in the developing sector. With his characteristic

pungent wit, Teller told his biographers: ". . . I still believe that a physicist should be a physicist and not a politician, but I did become a politician, and I became one in self-defense. Now I know that self-defense, in some cases, justifies murder. Whether it ever justifies becoming a micro-politician, I don't know."

Because of his H-bomb "child," Teller was reviled by the liberal academic community as a warmonger who wanted to drop bombs on civilians, while J. Robert Oppenheimer, his boss in the Manhattan Project, is touted as the peacenik. In reality, it was Teller who counseled against dropping the atomic bomb on Hiroshima and Nagasaki, while Oppenheimer advised bombing Japan without warning.

Teller argued during and after the war for the development of the more powerful hydrogen bomb, because he wanted to push the technology as far and as fast as it would go for scientific reasons. He also knew that this was exactly what the Soviets were doing. Because he and his family had suffered directly under communist rule, Teller maintained a more realistic view of the Soviet empire and its arms control promises than his Pugwash colleagues. In 1953, Teller incurred the wrath of many fellow scientists and friends by testifying at hearings on Oppenheimer's security clearance that he thought Oppenheimer's postwar opposition to H-bomb development had delayed the development of the thermonuclear bomb about four years. Interestingly, these same scientists who ostracized Teller at that time, 30 years later opposed Teller on the SDI.

When asked, at a talk on beam defense at the Center for Strategic and International Studies in January 1983, why he made no mention of how a crash program to develop beam technologies would force a revival of the economy, Teller replied, "Economics is not my cup of tea."

on the back for excellent, persistent staff work, but does not represent my original discovery in any strict sense of discovery.

What I accomplished, as no one had accomplished this before me, was to prove the economic feasibility of a high rate of technological attrition in deployment of SDI. My proof of feasibility involved the following points:

- 1) Just as the Apollo Project had more than paid for itself through technological spill-overs into the U.S. economy, so the SDI would pay for itself.

For example: In my design, we would spend about \$1 trillion (1982 dollars), in total, for successive deployment of Mark I, Mark II, Mark III, and Mark IV global strategic defense by approximately the year

A.D. 2000. The net cost of this would be less than zero, because the increased tax-revenue of the federal government, generated by SDI "spill-over," would be far more than \$1 trillion spent.

In this sense of SDI as "a commercial proposition," SDI is not an added expense, but is a sound investment, which will pay the government back several times more than the total paid-out investment.

We can spend for such SDI all day long, and be the richer, the more we spend.

- 2) Provided the overwhelming majority of SDI weapons is based on advanced physics principles, rather than Daniel O. Graham's technologically obsolete, and unworkable "kinetic-energy weapons," it will be far cheaper to kill a thermonuclear missile than to