

Dr. John von Neumann
Inducted 1997



Dr. John von Neumann was born 28 December 1903 in Budapest, Hungary. He entered college and graduated from the Swiss Federal Institute of Technology with a degree in chemical engineering degree in 1925. The following year he earned a doctorate in mathematics from the University of Budapest. He subsequently taught at the University of Berlin until 1930, when Princeton University invited him to lecture on mathematical physics. While at Princeton, the founders of the newly created Institute for Advanced Study asked him to accept a chair in mathematics, which he did in 1933. John von Neumann became a United States citizen in 1937. In 1943 von Neumann began working on the Manhattan Project, where he tackled the immense calculations and formulas required for construction of an atomic bomb. Faced with that daunting task, he became interested in using machines for complicated numerical calculations and resolution of specific mathematical problems. During and after the war Dr. von Neumann's interest in computers grew, and he contributed extensively to the construction of the first modern computers.

In 1953 Trevor Gardner asked him to chair a series of Air Force advisory groups in the fields of missile technology and nuclear physics. In June the panel met in Los Alamos, New Mexico, to discuss the plausibility of mounting nuclear weapons on intercontinental ballistic missiles. The panel determined a hydrogen bomb of 3000 or fewer pounds could retain an explosive power of two-megatons and easily destroy everything within a range of 3.2-4.5 miles. The panel's findings excited military and political officials and provided an impetus for further missile research and development.

Later in 1953 Trevor Gardner created the Air Force Strategic Missiles Evaluation Committee, commonly known as the "Teapot Committee." Under Dr. von Neumann's direction the committee evaluated the Snark, Navaho, and Atlas strategic missile programs. The committee made recommendations to improve all three missiles, but preferred the Atlas ICBM to the others, believing the Atlas missile to have the best reliability and least vulnerability of the three. The "Teapot Committee" provided an additional impetus for the Atlas program when they expressed concern about Soviet advances in missile technology. With intelligence received from German scientists released by the Soviets after 1951 and other intelligence sources within the government, the committee members believed the Russians were several years ahead of the United States in missile development. Dr. von Neumann predicted that by the late 1950s the Soviets would have an operational ICBM and improved technology capable of defeating U.S. strategic bombers. At its current rate of development, the Atlas missile program was scheduled for earliest operational duty in the early 1960s. To forestall a "missile gap" and catch up to the Soviet missile program, the committee members decided the Air Force needed an organization of specialists dedicated to overseeing the construction of the Atlas missile. As a direct result of committee recommendations, the Air Force created the Western Development Division under Brigadier General Bernard A. Schriever. The WDD assigned highest priority to Atlas research and worked closely with the Ramo-Wooldridge Corporation to ensure a coordinated, expeditious effort in developing the missile.

To retain "Teapot Committee" expertise Trevor Gardner asked Dr. von Neumann to chair the Atlas (later ICBM) Scientific Advisory Committee in 1954. The new committee acquired the task of monitoring and accelerating Atlas missile development. To accomplish this, they attracted talented scientists and engineers to the program. Over the next few years his committee provided technical advice to all of the military branches and the Office of the Secretary of Defense.

Under Dr. von Neumann's direction the ICBM Scientific Advisory Committee spearheaded significant advancements in the Air Force missile program. They suggested developing a back up ICBM for Atlas that eventually became the Titan ICBM program. In 1955 the committee discussed the possibility of developing an intermediate range ballistic missile. At first the Air Force was reluctant to start an IRBM program because it might delay the construction of the Atlas missile. The committee, however, convinced them that IRBM technology could fall out of the new Titan program and Atlas could remain a separate entity. After reviewing the committee's proposal, the Air Force initiated the Thor IRBM program. That same year President Eisenhower appointed him to the Atomic Energy Commission and in 1956, the AEC awarded him the Enrico Fermi Award for his work in the field of nuclear science.

Dr. von Neumann continued his work on projects in both the civilian and military sectors until his death from cancer on 8 February 1957.