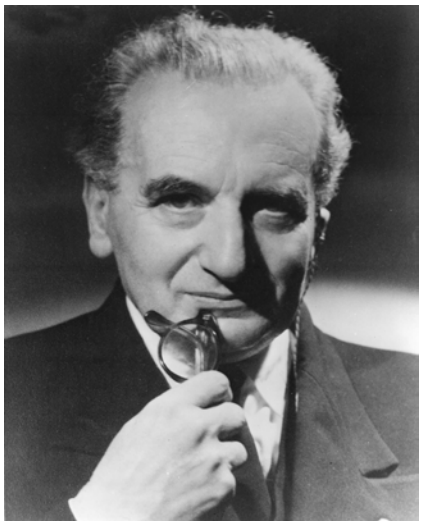
MEDALIST FOR 1955

For long-continued leadership in the development of aerodynamic theory and its application to the practical problems of flight, in education in the aeronautical sciences, and in stimulating international cooperation in aeronautical research.



THEODORE VON KARMAN

Theodore von Karman, sometimes called the father of modern aerodynamics, was born in Budapest, Hungary, May 11, 1881, and was graduated as a mechanical engineer from the Budapest Technical University in 1902. In 1906 he enrolled as an advanced student at the University of Gottingen, one of his teachers being Ludwig Prandtl, and received his PhD degree in 1908. In 1912 he became Professor of Aeronautics and Mechanics at the University of Aachen and head of that University's Aeronautical Institute.

In 1926 the Guggenheim Fund for the Promotion of Aeronautics brought von Karman to the United States for a series of lectures and to advise on the design of the Guggenheim Aeronautical Laboratories at California Institute of Technology. He returned in 1928 to act as Research Associate at Caltech, and in 1930 became Director of the Guggenheim Aeronautical Laboratories.

At Caltech he headed the Army Air Corps Jet Propulsion Project, later sponsored jointly by the Air Force and the Ordnance Department. His ideas started research on the Bell X-l, the first plane to break the sound barrier. He became consultant to the Army Air Forces and advisor to the Wright-Patterson Air Force Base. The Army Ordnance Department also began utilizing his services in 1938. When the Scien-tific Advisory Committee was founded in 1940 he became a member. In 1944 he organized the Scientific Advisory Group of the Army Air Forces, later the Air Force Scientific Advisory Board, and was its chairman until 1954.

In the early 1940's he tried to persuade American corporations to manufacture rockets for the Armed Forces. None was interested, so von Karman and four Caltech associates raised $8,700 and started the Aerojet Engineering Corporation (now Aerojet-General Corporation) in Azusa, California. By 1963 Aerojet-General had become one of the country's 100 largest industrial corporations.

Von Karman became Professor Emeritus at California Institute of Technology in 1949. On his recommendation the Scientific Advisory Board sponsored a meeting of the major aeronautical research establishments of NATO countries, and out of this came NATO's Advisory Group for Aeronautical Research and Development (AGARD), with von Karman as Chairman. He was President of Honor of the International Union of Theoretical and Applied Mechanics, a member of the International Council of the Aeronautical Sciences, and Director of the International Academy of Astronautics. He was the first recipient of the National Medal of Science, presented to him by President Kennedy on February 18, 1963.

Von Karman made important contributions to applied mathematics, physics, strength of materials, stress analysis, theory of elasticity, monocoque structures, vibrations, mechanics of ideal, viscous, and compressible fluids, turbulence, aero-dynamics of aircraft, hydrodynamics of planing surfaces, and heat transfer. Many theories bear his name, such as the Karman Vortex Street, formulated in 1911. He died on May 7, 1963, at Aachen, Germany.