KARMAN 1963

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Nation Honors Von Karman

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Dr. Theodore von Karman, the first recipient of the National Medal of Science, is a composite of those seemingly contradictory characteristics that often signal the well-rounded man.

President Kennedy presents the award to the short, white-haired scientist today. It is the first congressionally sanctioned recognition of the giants of American science. But the recipient is essentially a product of pre-World War I European civilization.

Dr. von Karman often fills the role of the absent-minded professor, leaving behind him a trail of forgotten papers, hats and coats.

But his sense of the pragmatic has stood the test of the American competitive system. With an initial investment of $1,250, he organized Aerojet Engineering Corp. when United States capitalists showed no interest in rocketry. The company is now Aerojet-General Corp.; Dr. von Karman is its chief consultant and chairman of its technical advisory board.

Esoteric Ideas

His place in the history books is securely based on the development of such esoteric ideas as the Karman double-modulus theory of columns, the Karman similarity theory of turbulence, and the Karman vortex trail.

But discuss Dr. von Karman with one of his intimate colleagues and he will speak with most feeling about evenings with the bachelor at the scientist's ranch house in Pasadena, Calif. There, as one put it, "surrounded by cultural objects collected in travels around the world, the conversation turns to art, philosophy, politics and other human affairs, and all are given a fresher and more profound significance."

Dr. von Karman has a speaking knowledge of English, Hungarian, German, Spanish, Italian and Yiddish.

Aristocratic Birth

But the important things in science that he wishes to communicate are put down mostly in the international symbols of mathematics. They form the "meat" of some 100 books and professional papers he has written.

—AP Photo

DR. THEODORE VON KARMAN

Dr. von Karman, who will be 82 next May, was born in the intellectual aristocracy of the old Austro-Hungarian empire. His father was a philosophy professor who founded the Hungarian state school system.

After early training at the Royal Technical University in Budapest, he took his doctorate at the University of Goettingen, Germany, in 1908.

It was at Goettingen that he began developing his vortex theory, which now forms part of the foundation for aerodynamics. He became director of Germany's new aeronautic institute at the University of Aachen.

During World War I, he was a consultant to the builders of flying machines, Junkers and Zeppelins. As a lieutenant in the Austro-Hungarian aviation corps, he helped develop the system for adapting machine guns to air combat.

Came to United States

For years, academic circles in this country tried to persuade Dr. von Karman to settle in the United States. He finally agreed in 1928 and became a research associate at the California Institute of Technology. Later he became director of Cal-Tech's Guggenheim Aeronautical Laboratories and its Jet Propulsion Laboratory.

He started the research on the Bell X-8, which became the first plane to break the sound barrier. He helped design the hydrodynamic systems for the Grand Coulee Dam and helped compute the optimum dimensions of the huge lens for Mount Palomar's telescope.

In 1941, he investigated the collapse in a high wind of the Tacoma Narrows Bridge and found that the builder had neglected to allow for the Karman vortex trail.

The citation for the medal of science award to Dr. von Karman reads: "For leadership in the science, and engineering basic to aeronautics, for distinguished counsel to the armed services, and for promoting international co-operation in science and engineering."

Services Are Secret

Dr. von Karman became a United States citizen in 1936. Details of his "distinguished counsel" to United States armed forces are shrouded in official secrecy. It is no secret, however, that the Jet Propulsion Laboratory, which he headed, was essentially a "think factory" for the United States Air Force, and much of the basic work of putting the United States in space was done there.

Since 1952, Dr. von Karman has been chairman of the advisory group for aeronautical research and development of NATO. He also manages to edit a scientific journal; act as scientific director, General Applied Science Laboratories, Inc.; director of the International Academy of Astronautics, and chairman of the board of direction of the Training Center for Experimental Aerodynamics in Belgium.

The time not otherwise accounted for is spent on personal projects: Collecting antiques, taking color movies, conversing with his friends and thinking about such intriguing long-range ideas as an anti-gravity force.