



Alfred L. Parme

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1909–1992

BY ANTON TEDESKO

ALFRED L. PARME, a distinguished structural engineer consultant, died in La Jolla, California, on June 28, 1992. He was born in Nice, France, on April 5, 1909. His mother, Fedora Glasse, a native of New York City, was the daughter of a skilled chef. With her father she made numerous trips to France where she met Louis Parme, a young Italian wigmaker-hairdresser, whom she married. Louis went to New York to establish a business, while Fedora remained in Nice where Alfred was born. He came to New York with his mother before World War I and became a U.S. citizen at the age of eight.

Alfred attended a Catholic boarding school while his father trained him in haircutting and styling design. His family ran a hairdressing establishment and young Alfred, as expected by his parents, became a ladies' hairdresser. He was in his early twenties when he decided to quit and pursue an engineering education. This decision caused a break with his father.

Al Parme had outstanding mathematical ability. During the summers he was in demand as a navigator on racing boats for the Long Island Sound and Bermuda races because of his ability to visualize all the complexities of the vectors of wind and tide.

With little money of his own and no high school diploma, he studied for and passed a college entrance exam at Cornell University, where he was admitted to the school of engineering.

While earning a livelihood, he completed the four-year civil engineering course in three years. In later years he attended courses and taught at the Illinois Institute of Technology.

Parme started his professional career with a New York engineering firm on the Santee Cooper Project (hydraulic and hydro-electric work), and he assisted in the design of powerhouses and arch dams. Out of this work evolved a time-saving new method of designing arch dams. Subsequently, Parme joined the Corps of Engineers at Binghamton, New York, where he worked for three years as assistant engineer on the structural design of hydraulic structures. The work also involved feasibility studies of earth dams and investigations on the rate of consolidation and the shear stresses that developed in soft foundations. Among the concrete structures designed were intake towers, spillways, floodwalls, and large tunnels. In latter stages of this work, Parme was entrusted with the supervision of other engineers and the establishment of design procedures.

In 1940 he became a member of the technical staff of the Portland Cement Association (PCA), where he remained for twenty-eight years, except for limited leaves of absence. During such absences he served as consulting engineer with Overseas Consultant Inc. of New York City and was responsible for the design of the first arch dam in Japan and the training of Japanese engineers in methods of investigation of arch dams and the problems associated with the yielding of their foundations. During World War II, he served for two years as a senior stress analyst at Republic Aviation Corporation. He supervised the analysis of indeterminate structures and also provided assistance in solving the more difficult stress problems. He was in charge of the structural design for the XT-84, the company's first jet plane.

At the PCA in Chicago, he was the structural engineer in charge of technical publications and development of design techniques. He assisted practicing engineers on unusual structures requiring specialized knowledge beyond the skills of the average practitioner. He made contributions of an original nature to the design of storage tanks, rigid frame bridges, domes, and shells. It was during this period that he wrote the

180-page manual for the design of cylindrical shell roofs, which is known as the American Society of Civil Engineers (ASCE) Manual 131. He advanced to be manager of the PCA's twenty-man Structural Bureau working on a technical level interspersed with promotional activity.

After a few years he created another position for himself: he became PCA's director of advanced engineering. As head of this special group, he was responsible for maintaining PCA's leadership in structural design. New methods of design were developed, which have become classics in their field. During eight years of its existence, his small select group published more than twenty advanced engineering bulletins, and in addition Parme continued to serve as consultant on unusual projects.

In 1962 he was elected village trustee of Glenview, Illinois, the town where he lived with his family. In 1968 he left the PCA and moved to California where he investigated the earthquake stability of California dams and operated as an independent consultant to government, industry, and many consulting firms. He also worked on the handbooks of the Prestressing Concrete Institute and the Concrete Reinforcing Steel Institute.

Alfred Parme made outstanding contributions to the theory and practical design of concrete shells, arch dams, nuclear containment vessels, prestressed concrete structures, high-rise buildings, hangars, tanks, and industrial buildings. He was involved in the seismic design of dams in Turkey, California, and Japan. Al Parme was a pioneer in the development of methods of analysis and design of thin concrete shell structures. His influential technical publications on cylindrical shells, folded plates, and hyperbolic and elliptical paraboloids formed the basis for the design of many concrete shells constructed in the United States. His ability to integrate the theoretical, applied, and practical aspects of analysis, and design and construction of all types, was a unique and rare quality seldom found in one individual.

It might be said that Parme's life was an example of the American self-made man. A transformation took place during his life from that of a rough-edged, sometimes unmannerly engineer to that of a competent diplomatic leader of courtly

manner and appearance. He was a highly respected participant at domestic and international engineering meetings, which he attended at times as a U.S. representative. Abroad he frequently was addressed as "professor" or "doctor," as people assumed that someone with his knowledge, ability, and competence must have acquired a title.

Among the awards Al Parme received are the Moisseiff Award and the Rickey Medal of the ASCE; the Fuertes Medal of Cornell University; the Martin P. Korn Award of the Prestressed Concrete Institute; and the Alfred E. Lindau Award of the American Concrete Institute. Parme was a cofounder and a vice-president of the International Association for Shell and Spatial Structures (IASS). He also served as a member or chairman of numerous technical committees, including the Earthquake Engineering Research Institute. In 1974 he was elected to the National Academy of Engineering.

Al Parme enjoyed working with his hands, and he enjoyed his garden. He bought a small cabin at Mammoth Lakes in the Sierras. Although he did not ski, he loved to go there with his family for spring skiing. They also used the cabin as a summer home base for hiking and camping. One can visualize Al sitting in front of the cabin with a pipe in his mouth and a book on history in his hand.

Al died after a long illness. He is survived by Ann Banas Parme, to whom he was happily married for forty-four years, and by his four children and seven grandchildren.

