



John F. Murray

DONALD N. FREY

1923–2010

Elected in 1967

“Development of gas turbine engines.”

BY JULIO M. OTTINO

DONALD NELSON FREY, the engineer who led the design and development of the Ford Mustang, died March 5, 2010, in Evanston, Illinois. He was 86.

Don’s career took several turns—from an officer in the US Army to vice president for Ford Motor Company, CEO of Bell & Howell, and professor at Northwestern University. Whether it was creating a new product or redesigning a company, Don became known as the go-to man for innovation.

It seemed a career as an engineer was inevitable for Don—he was born March 13, 1923, to Edward Muir Luken Frey and Margaret Bryden (née Nelson) Frey, alumni of the School of Mines and Metallurgy at the University of Missouri. His father was chief metallurgist at a John Deere plant in Waterloo, Iowa, where Don and his brother Stuart grew up.

Don earned a scholarship to Michigan State, where he studied metallurgical engineering. After a brief stint during World War II as a gun control instructor, he transferred to the University of Michigan and earned his bachelor’s degree in metallurgy (1947), master’s in systems engineering (1949), and PhD in metallurgical engineering (1950).

He started out in academia as a professor at Michigan that same year, but thought he wasn’t ready for that position yet.

“At the age of 28, I was only a few years older than the kids I was teaching, and maybe one chapter ahead in the book,” he recalled. “It seemed to me that the real engineering professor would be someone who practiced in the real world, then came back to teach.”

When the Ford Motor Company offered him a job at its new research laboratory, Don first turned it down. The recruiter wouldn’t give up, however, and when he asked Don what it would take to get him, Don responded with the biggest salary he could think of—\$10,000 (the average US family income at the time was about \$4,200). Ford agreed, and Don set off on a track that would eventually lead him to change the industry.

He worked in the lab for six years before becoming director of the Research Office, where he was involved in finding an alternative to the piston engine (a solution, it turned out, was elusive). In 1957 he transferred to be executive engineer in the Car-product Engineering Office, where he quickly went from a position that made sure all the parts fit together to product planning manager for the entire division. “The guy who gets the job done is the guy who gets promoted,” he later said.

It was in this position that Don made one of his few professional missteps: the 1961 Thunderbird, which, in his own words, was “noisy, it was shaky, it was a dog.” But the gaffe made way for his ultimate professional accomplishment.

In early 1961 Don got the idea to create a new kind of sports car, which Ford hadn’t done in more than five years. He later gave his children credit for the idea. “I clearly remember sitting around the dining room table and my kids saying, ‘Dad, your cars stink. They’re terrible. There’s no pizzazz.’”

He charged Ford designers with creating a fresh two-seater design, but Lee Iacocca, then general manager of the Ford division, said the car needed a backseat for the kids and a dog. So began the two men’s partnership, which gained importance when it came to convincing Henry Ford to produce their new vehicle, dubbed the Mustang. Against them was a market research study that said the company would sell only 86,000 Mustangs in the first year. Don and Iacocca thought otherwise. “In a case like this, the judgment has to come from your gut,”

Don remembered. “You say something’s right or it’s not right. You just know if it’s going to work.” The new model was introduced at the New York World’s Fair in April 1964—and Ford sold 418,000 Mustangs in the first year. It is still considered one of the best new car rollouts in history.

Don left Ford in 1968. Looking back, he said the Mustang was not what he considered his greatest accomplishment. It was more important that he helped improve the safety of vehicles by introducing disc brakes and radial ply tires. “We saved lives by the thousands,” he said.

He went on to serve as chief operating officer of General Cable before becoming chief executive officer at Bell & Howell, where he oversaw the company’s switch from creating motion picture cameras to manufacturing video cassettes.

For his accomplishments he was elected to the National Academy of Engineering in 1967 and received the National Medal of Technology in 1990. He was also recognized with the “Man of the Year” award from the Weizmann Institute of Science and honorary doctorates from the University of Missouri and University of Michigan.

He was elected to the NAE Council (1972–74) and appointed to several NAE and National Research Council activities, among them the Advisory Committee on Technology and Society (1987–92), Time Horizons and Technology Investments Committee (chair, 1990–92), Task Force on Rights and Responsibilities of Multinational Corporations in a World of Technological Interdependence (chair, 1993–97), and Committee for Visionary Manufacturing Challenges (1996–98).

In his golden years he returned to his academic roots. In 1988 he became a professor of industrial engineering and management sciences in the McCormick School of Engineering and Applied Science at Northwestern University. He taught graduate courses in innovation and entrepreneurship and information systems, as well as engineering design and communication to first-year engineers “to keep my foot in reality.” He observed in 2004 that “I teach from experience. For me, teaching and innovation depend on one another. I don’t know how to separate them.”

He also mentored several doctoral students. “He was always willing to take students who had rather unique ideas, rather unique perspectives. He took on ideas that looked like they would take a lifetime to complete,” said former student Chris Scherpereel in a 2004 *Northwestern* alumni magazine article. “He guided you to focus but still maintain your intellectual curiosity. That is his greatest strength, guiding that entrepreneurial spirit in his students.”

In 2001 Don established the annual Margaret and Muir Frey Memorial Prize for Innovation and Creativity in honor of his parents. It honors the best innovative or creative-integrative senior capstone projects at McCormick.

Don never stopped loving the product that gave him his big break—the Mustang. Late in life he still had one of the originals—a two-tone merlot and white 1964 1/2—and, as his son Christopher told the *New York Times*, he still liked to drive it fast.

He is survived by his fourth wife, Kay Everly, from whom he was separated; sons Christopher and Donald Jr.; daughters Margaret Walton, Catherine McNair, and Elizabeth Sullivan; his brother, Stuart, who was also a top executive at Ford; nine grandchildren; and six great-grandchildren.

