DONALD F. GALLOWAY

1913–1996

BY M. EUGENE MERCHANT

DONALD F. GALLOWAY, founder and retired director general of the Production Engineering Research Association of Great Britain, died on December 21, 1996, at the age of eighty-three. Don was born on March 22, 1913, in Birmingham, England. He received a thorough grounding in fundamental knowledge from his British secondary school education. Following this, Don first served an engineering apprenticeship with Birmingham Small Arms Machine Tools and then attended Birmingham Technical College. Upon graduation, he entered Cambridge University, but his studies there were interrupted as he took up an invitation to go briefly to Canada. When he returned, he resumed his pursuit of a university education in earnest, and earned a London External B.Sc. degree in engineering in 1936.

During his engineering studies, he developed a strong interest in manufacturing and decided to begin his career by employment in that industry. He therefore accepted an offer of employment at Birmingham Small Arms Machine Tool Company in the position of designer of machine tools. In 1937 he joined Dunlop Rubber Company, Birmingham, as a designer for plant automation. However, he soon began to realize that his real interest was to become involved in engineering research in the field of manufacturing. In 1939 he had the good fortune to secure a position as assistant director at the Institution of Pro
duction Engineers, the technical society serving engineers employed in the British manufacturing industry. This gave him the opportunity to simultaneously pursue graduate study, culminating in his being awarded a Ph.D., external, by London University in 1943. In 1944 he was made director of research at the Institution of Production Engineers.

By this time, Don’s interest in manufacturing research had sharpened still further, and he became particularly inquisitive about its effects on the manufacturing industry as whole. He therefore began to travel extensively on the European continent, as well as in Britain, to observe and discuss the research being done in this field in both industry and academia. This produced two outcomes that had salutary effects, not only on his career, but also on that of other manufacturing engineers worldwide. First, he had come to realize that world manufacturing industry of that time was in serious need of a highly competent source of industry-oriented manufacturing research and development, to increase its productivity and effectiveness. Second, through his travels he had become well acquainted with the leading people in manufacturing research in Britain and on the continent at that time, most of whom were engaged in such research in universities.

Regarding the first of these outcomes, Don, in his position as director of research at the Institution of Production Engineers, had already become extremely successful in planning and organizing industrial research and in promoting cooperation among engineering organizations and specialists in the field of manufacturing. As a result, he became convinced that industrial firms could benefit greatly from cooperative research on their common manufacturing problems. As a consequence of this conviction, together with his previously mentioned recognition of the serious need for a highly competent source of industry-oriented manufacturing research and development, in 1946 Don took the bold move of organizing and founding the now world-renowned Production Engineering Research Association (PERA) of Great Britain, headquartered in Melton Mowray, United Kingdom. He served as the director general of PERA until 1978, when he retired. Under his dynamic leadership, these famous PERA
laboratories came to serve the needs of thousands of factories spread among many countries throughout the world.

Don was always determined that the results of PERA’s research be properly applied in industry. As part of this philosophy, he persuaded the British government to take the unusual action of supporting various in-plant projects. For example, this included such programs as the PERA Mobile Demonstration Unit, which visited companies to introduce and demonstrate the new technologies and techniques that PERA’s research and development had developed. This program evolved into the Production Engineering Advisory Service, which provided advice and assistance covering the whole spectrum of manufacturing activities. Over the years, the PERA laboratories carried out extensive and highly productive cooperative manufacturing research and development for a great variety of manufacturing companies, to solve their manufacturing problems. In many cases, this yielded immense improvements in their productivity, profitability, and competitiveness. Eventually, PERA grew to become one of Europe’s leading multiskilled organizations specializing in management consulting, technology, business research, and training. Its staff of 400 operated from four sites in the United Kingdom and one office in Spain, assisting its worldwide client base with the development of competitive manufacturing and business strategies.

As for the second of the two outcomes referred to above, that of Don’s wide acquaintance with the leading people engaged in manufacturing research in Britain and on the continent, this also culminated in a highly beneficial event for manufacturing research. That event evolved from a close relationship that he developed in the late 1940s with three distinguished manufacturing researchers in three other countries. These were Professor E. Bickel of the Technical University of Zurich (Switzerland), Professor O. Peters of the Catholic University of Leuven (Belgium), and General P. Nicolau, director of the research arm of the French military (France). These three shared Don’s conviction that the development of new manufacturing technology was being hampered by the lack of appropriate manufacturing research. Further, they also all felt strongly that there was an urgent need for joint action in this area. They also realized that, in
view of the importance and scale of the problems to be tackled, only international cooperative action among manufacturing researchers would be effective. Discussions among the four resulted in their conception and establishment of a mechanism to accomplish just this. This was the foundation, in 1951, of the International Institution for Production Research (CIRP). Membership in this society was limited to leading manufacturing researchers from the various industrialized countries of the world, selected by vote of the members. This membership pattern was intended to ensure maximum efficiency in international communication, cooperation, and participation among the members, and has done so very effectively. The collective influence of that society, which now has members in thirty-eight countries, has had a unique and salutary impact on improvements in manufacturing operations, worldwide. Don was extremely active in it from the start and served as its president from 1959 to 1960.

Don was not only a capable executive and organizer, but also a capable researcher in his own right. He won early recognition for his landmark research on the drilling process, one of the most widely used and critical processes employed by the manufacturing industry worldwide. He also conducted very important original research on the effects of machine tool design, maintenance practices, and human factors on productivity of manufacturing operations. But he made important contributions to industrial productivity in many other ways as well and also received many awards and other recognition for his outstandingly effective efforts, in many fields, to advance the capabilities of the world manufacturing industry. Among his most significant publications are the following:

- “Production Engineering Research and Its Practical Applications in Britain.” American Society of Mechanical Engineers, 1956 (Calvin W. Rice Lecture).
• “Production Engineering Research and the Common Market,” *The Production Engineer*, 1951.

He was elected to the council of the Institution of Mechanical Engineers in 1950 and elected as its president in 1969. He was also a fellow of that institution and of the Institution of Production Engineers. In 1973 he helped organize the Engineers Registration Board, representing fifty-two English institutions, and was its chairman through 1979. He also served on the Council of Engineering Institutions from 1973 to 1978. He was awarded a CBE (Commander of the British Empire) by Queen Elizabeth II in 1962 in recognition of his service to the nation. In 1978 he was made an honorary member of the Society of Manufacturing Engineers (USA). In that same year, Don received the high honor of being chosen for membership in the newly formed Fellowship of Engineering (now the Royal Academy of Engineering), the British equivalent of the U.S. National Academy of Engineering and served as leader of its Group A (marine, mechanical, aeronautical, production engineering) during 1978 to 1979. After his retirement from PERA in 1978, he served as a private consultant, mostly at the governmental level, for seven countries in the Far East. He also was a leader in developing a national plan for improving productivity in the United Kingdom, based on his earlier work. He was elected to membership in the National Academy of Engineering, as a foreign associate, in 1984.

Don had an engaging personality and, in addition, a marvelous British-style sense of humor, making him very popular, not only with his male peers but also with their ladies. Don’s strong passion for manufacturing research, while being his most consuming one, was by no means his only one. He pursued a variety of others with great vigor throughout his full life. In his youth,
Don was a keen athlete and won several mile and half-mile events in the British Midlands Championships. He also enjoyed playing tennis. Later in life he became interested in farming and particularly in the breeding of pedigreed Galloway cattle, a hobby that persisted throughout most of the rest of his life. He also had a penchant for fine horses. He acquired a farm, named Roecliffe in Charnwood, located near Loughborough in Leicestershire, England, made it home for himself and his lovely wife, Toni, and stocked it with the finest of pedigreed Belted Galloways and some elegant riding horses. We remember with pleasure our many visits there, a part of each of which was always to be taken on a tour of its meadows, spiced with Don’s humor, to admire and enjoy the cattle and horses. Further, when he came to visit us in Ohio, a must of the visit was a tour into Kentucky to see the Man ‘o War’s statue and grave, visit the horse farms (where he had the most famous of the horses paraded out for him), and visit farms that bred Belted Galloway cattle.

Another of Don’s passions was CIRP, of which he was a cofounder. He lavished his time and effort on it to ensure its success. And when its annual General Assembly finally met for the first time in Britain, in 1958, he left no stone unturned to make it the most outstanding such meeting in that society’s history up to then. He unleashed the entire staff of PERA’s Conference Division on it, ensuring impeccable operation of both the technical sessions and programs and the social events, including the social programs for the ladies. To quote from the “Ladies Programs” portion of the written history of CIRP, “Justice was most assuredly done to ‘England’s Green and Pleasant Land’—to the ancient capitol of the British people sitting on the banks of the river Thames—to its abbeys, cathedrals, castles, stately homes, its universities, market towns and its storybook villages. Dr. and Mrs. Galloway were absolutely convinced that visitors to England could not have a good time, or understand what they were seeing or doing, without a few pointers; and a few pointers they were given—to put it modestly.” In 1968 the CIRP General Assembly was again held in Britain and once more Don and PERA hosted it. To again quote the CIRP history, “It would be safe to say that THE HIGHLIGHT of the meeting was the afternoon
the men and women spent at the farm of Dr. and Mrs. Galloway at Roecliffe in Charnwood. We wandered through the gray stone house which rose above terraced gardens. We admired the farm buildings and even strolled a distance to observe the magnificent herd of cattle grazing in the meadows—Belted Galloways, of course.”

Don and his wife, Toni, had one daughter, Toni Ann, who often attended the CIRP General Assemblies with them until she married. She and her husband, Anthony Charter, then moved to Hong Kong, where, until his recent retirement, he held the position of manager of the notorious old Kai Tak Hong Kong International Airport. Don’s wife, Toni, unfortunately died in 1984. He later remarried and, with his new wife, Mary, he created a new home and a lovely garden at Morcott in Rutland, England.

Don was a consummate engineer, an inspired and inspiring leader, and truly a gentleman and a scholar in every sense of those words! He is deeply missed, indeed, by all who knew him well.