

Dr. EUGENE MERCHANT
(A Giant in the Manufacturing Industry)

Steve Krar

Dr. M. Eugene Merchant, Senior Consultant, Machining Xcellence. For more than 61 years, Dr. M. Eugene Merchant had been one of the world's most influential people in the field of manufacturing and was referred to as **The Philosopher of Manufacturing**. Dr. Merchant received his BSME from the University of Vermont. In 1936, Gene began a graduate fellowship sponsored by the former Cincinnati Milling Machine Co and then Cincinnati Milacron. Working under Hans Ernst, Milacron's director of research, he started analyzing the nature of friction between the metal-cutting tool and the chip being removed from the workpiece by it. Conceived more than 50 years ago. Merchant's thesis work developed a mathematical model of the metal cutting processing that is still taught today by universities all over the world.

From there, Gene completed his post-graduate work and was awarded a Sc.D. Advanced Level Science and Mathematics degree from the University of Cincinnati. Dr. Merchant then moved on to harnessing the power of computers. More than forty years ago, he visualized today's computer-integrated manufacturing systems and was a driving force in productivity improvement that have played a major role in creating the standard of living Americans enjoy today.

Dr. Merchant was one of the world's most influential manufacturing leaders of his time. In recognition of his lifetime contributions to enhancing the competitiveness of manufacturers, in 1986, the American Society of Mechanical Engineers, jointly with the Society of Manufacturing Engineers, established "**The M. Eugene Merchant Manufacturing Medal**." This award is presented to the individual who has significant influence and responsibility for improving the productivity and efficiency (either by research or by the implementation of research) of manufacturing operations.

Dr. Merchant worked at Milacron nearly 50 years, until he reached the mandatory retirement age of 70, but he didn't retire. At 91, this mild-mannered scientist still came to work every day as a senior machining advisor at TechSolve, and still traveled around the world to help manufacturers and the people who work for them. "The technology, and the application of it, as great as it is, will be crippled if you do not also engineer the application of human resources that

are to be used in that technology," he says. "Only then will technology perform at its full potential".

Gene Merchant was one of those scientists whose concentration extended beyond their specialty. Merchant became one of the world's leading philosophers of modern manufacturing. As soon as the electronics revolution was beginning, Merchant recognized early that the computer had great potential for manufacturing. He pursued and preached the virtues of computer-integrated manufacturing and soon became an international authority on the subject. Merchant has been quoted as saying, "The era ahead should be exciting for all people and we look forward to it with great enthusiasm."

Gene is one of only 25 people who have been inducted into the Automation Hall of Fame at the Museum of Science and Industry in Chicago. That is just one of dozens of awards that Dr. Merchant has collected over the years. Every year since 1986, for example, the American Society of Mechanical Engineers, jointly with the Society of Manufacturing Engineers, has presented an award for improving the productivity and efficiency of manufacturing that is named for Dr. Merchant. We have all benefited from the higher standard of living made possible by the efficiency improvements his work has produced.

At the spry age of 91, Dr. Merchant still spent a few hours a day as a senior advisor at TechSolve. He was well known for passing his vast knowledge on to young researchers and engineers.

Steve Krar's personal notes

I had the pleasure of first meeting Dr. Merchant at Cincinnati Milacron in Cincinnati, Ohio while attending an Ontario Technical Teacher's four-week course on Advanced Manufacturing Technologies in July 1961. His presentation to the teachers was on the Physics of Metal Cutting, a study he pioneered that has become the bible for metal cutting throughout the world.

I met him again in the fall of 1989 after his retirement from Cincinnati Milacron, at MetCut Research in Cincinnati where he was acting as a consultant to industry on manufacturing

problems. Ernie Ratterman, Mr. Superabrasive in the world, and I visited him at MetCut for help on problems General Electric had with machining hard-to-cut materials with superabrasive tools.

I had the occasion to meet him again at TechSolve in Cincinnati in August 2002 when I interviewed him on his life's activities and the contributions he had made for the advancement of manufacturing for the Canadian Advanced Manufacturing magazine. He was a spry gentleman of 91 and talked freely about manufacturing yet seemed to downplay his invaluable role in bringing it to the high levels it had reached.

I must end this on a sad note, because Dr. Merchant passed away a few years later and many, especially those who were associated with manufacturing throughout the world, mourned his passing.