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Breakthrough ideas

Stint in WWII operations research unit was just the beginning

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With today's focus on nontraditional actuarial work, the image of the "traditional" actuary might be an unquestioned cliché: working in the "back office" for one or a very few insurance companies regularly and steadily, every single day, for an entire career. What many might not know is that the careers of some so-called traditional actuaries took dramatic turns.

One such actuary is John Boermeester, who retired in 1975 after 44 years with John Hancock Mutual Life Insurance. Boermeester was one of an elite group of actuaries who were asked to step out of their daily roles and into a special research assignment in World War II.

They were members of the U.S. Navy's Operations Research Group (ORG), a civilian unit formed to analyze military operations to determine what methods and procedures would have the maximum impact with minimum loss. Boermeester is mentioned in the book *Our Yesterdays* (E.J. Moorhead, Society of Actuaries, 1989), in which the ORG is described as multidisciplinary but whose organizers were interested in hiring physicists. A personal

Setting the pace

This story is part of a series that periodically highlights personal careers and offers new perspectives on actuarial job paths.

letter from actuary Nathan F. Jones is quoted, saying "I had the impression that in the beginning, (ORG leaders) thought that actuaries might be useful as routine statistical clerks. ... I am glad to say they found that actuaries were useful far beyond that."

Boermeester moved to Washington to join the ORG "right after Pearl Harbor" in 1942 and served through November 1945. Among his ORG colleagues was physicist William Shockley, who shared a Nobel Prize for inventing the transistor, and many other physicists from institutions including the Massachusetts Institute of Technology.

Boermeester said actuaries and physicists worked side by side, conferring in teams. "We were privy to top secret information sent to us from all over the world by our espionage system," Boermeester said. "We heard broadcasts made by the Nazis, and we knew when the Allies were launching operations to invade the French Coast."

The ORG was first focused on submarine warfare, but its mission soon grew to cover virtually all aspects of the war. Defense correspondent Andrew Wilson of the *London Times* is quoted as saying, "By the time the war ended, there was scarcely a field of military activity on the Allied side that had not been profoundly affected by operational research. Its impact ranged from improvements in tank gunnery and field engineering to the complete recasting of aid and naval procurement programmes" (*World War II: America at War*, Norman Polmar and Thomas B. Allen, Random House, 1991).

Beyond the ORG

After contributing to the war effort, Boermeester not only returned to his work developing reserve requirements for the Hancock but also began contributing to the profession. He wrote or coauthored eight papers, including three published in the *Transactions*.

Boermeester's 1956 paper, "Frequency Distribution of Mortality Costs," in the *Transactions* marked a



John M. Boermeester

historic turn for the profession. "The paper suggested for the first time the use of simulations for solving actuarial problems involving uncertainties," said Jim Hickman, dean emeritus and professor, University of Wisconsin School of Business. "It sounds simple today, but using computers to solve problems involving random numbers was a breakthrough idea. That paper served as the basis for many others' work on simulations. Forty years ago, John began a pattern of thought that developed and grew. Today, it's the way actuaries naturally tackle many problems."

In a rapidly changing world, actuaries are looking at their skills and thinking about their futures. As 1996-97 SOA President David Holland reminded members at the 1997 annual meeting, "the consulting mathematician, the model builders, the collectors and interpreters of data are our real spiritual ancestors." John Boermeester can be seen as an actuary who is a "spiritual ancestor" of actuaries today and in the future. His contributions helped make the profession what it is now and will be in the future.