

In Appreciation: Robert Mills Gagne (1916 - 2002)

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Robert Mills Gagne died April 28, 2002, in Signal Mountain, Tennessee. He was in his eighty-sixth year of life. Gagne was one of the great bridge builders between laboratory and practice. He strove throughout his professional career to bring psychological science and its methods into the service of mankind and he succeeded splendidly.

Bob recognized his goals early in life. In his valedictory speech to his North Andover, Massachusetts, high school class in 1932, he said that psychology should be used to relieve the burdens of human life. Bob dedicated his intellect, his wide learning, his formidable energy, and his very considerable organizational skills to this premise. Gagne's contributions had a breadth and depth that was reminiscent of the great Renaissance figures: his genius touched the selection of air crews, human factors engineering, problem solving, training, and the education of children.

Bob's early experimental works on stimulus predifferentiation and on instructive sequencing broke new ground. He created and managed research organizations that pioneered important contributions to psychometrics, human factors design, and training, and developed innovative, research-tested materials for science and mathematics education. Gagne attracted outstanding psychological talent to those organizations and their success together with his teaching and writing helped to reawaken psychologists' interest in practical affairs.

Bob's published works exerted major influences on training methods and educational practices. He was the author of over a hundred articles and a number of books. Among the most important were *Essentials of Learning for Instruction* (1974) and *The Conditions of Learning* (1979) which went through four editions and was translated into several languages.

After receiving his bachelor's degree from Yale in 1937, where he was elected to Phi Beta Kappa, Gagne earned his PhD from Brown in 1940. There, together with his graduate advisor, Clarence H. Graham, he worked to bring the precise methods of vision research to the experimental study of learning processes.

Shortly after receiving his degree, while on the faculty of Connecticut College, Gagne was drafted into the Army Air Corps. This began a seminal period in his career. Working closely with three Olympian figures of modern applied psychology – Arthur Melton, James Gibson, and Paul Fitts – he contributed to the development of psychomotor tests for air crew classification, he worked on filmic tests of perceptual abilities, and participated in pioneering studies of human engineering.

After the war, Lt. Gagne returned to civilian life. Following a brief stint on the faculties of Pennsylvania State University and Connecticut College, he was invited by Arthur Melton to join what was to become the Air Force Personnel and Training Research Center. In that organization, Bob served first as research director of the Perceptual and Motor Skills Laboratory at Lackland Air Force Base in Texas, and later, as

technical director of the Maintenance Laboratory at Lowry Air Force Base in Colorado.

Guided by Gagne's vision, these organizations exerted tremendous influence on applied psychology both through their in-house research and through their sponsorship of major work at universities. Among their many contributions, these laboratories created new psychometrically-sophisticated selection tests, pioneered the uses of task analysis in training, and advanced the uses of films and other audio-visual methods in teaching. They were among the first to use teaching machines and programmed instruction with branching programs in practical training. The laboratories' work on problem solving, stimulated by immense difficulties in maintaining complex electronic devices such as the Q and K navigation systems, led to the development of early performance aids.

Engine-Charlie Wilson, a former CEO of General Motors, who was then Secretary of Defense, offered the enlightened opinion that basic research was "bunk," and so Gagne left the lab to become a professor of psychology in Princeton University in 1958. But the call of practical work yet undone was strong, and in 1962, he left Princeton to become director of research for the American Institute of Research, where he oversaw extensive contract-supported research on a broad range of practical problems including teaching and schooling.

Gagne was now an important voice in education. In 1966, he was called to the University of California in Berkeley, as professor of educational psychology and also presided there over the creation of the Far West Laboratory for Educational R&D. At Berkeley, he played an important role in the creation of a broad, new science curriculum and completed writing his important book, *The Conditions of Learning*.

Tempted by the possibilities of an academic institution strongly devoted to the fostering of instructional science, Bob moved to the Department of Educational Research in Florida State University. He helped to make FSU one of the important centers for research on instructional systems development. Gagne remained there until his retirement in 1986, except for brief excursions to the Institute for Advanced Studies in the Behavioral Science and to Monash University in Australia.

The world readily recognized Bob's many contributions. He was an APS Fellow and Charter Member. He was elected president of two APA divisions (Military and Educational Psychology), was vice-president of the psychology section of AAAS, and served as president of the American Educational Research Association. He was a member of the American Academy of Education. Other honors abounded, including the Eminent Lectureship Award of the American Society of Engineering Education, the Phi Delta Kappa Award for Distinguished Educational Research, the Cleveland E. Dodge Medal of Columbia University's Teachers College, the John Smyth Memorial Award of the Victorian Institute of Educational Research, APA's E.L. Thorndike Award for Distinguished Psychological Contributions to Education, and APA's Distinguished Scientific Award for the Applications of Psychology.

Behind Gagne's formidable professional accomplishments was not only a keen probing intellect but also a warm, sympathetic human being. His sure views of scientific problems were always open to other opinions and other ideas. He treated conflicting opinions with respect and generosity. Gagne demonstrated that precise scientific research can succeed in solving human problems even in very complex areas such as education and he blazed a trail for others who were inspired by his example.

Throughout his life, he was ably assisted by his wife Pat, whose sense of humor and unflappable

disposition helped to sustain Bob during the many challenges of his career. He is also survived by a son, Samuel T. Gagne of Marlboro, CT, a daughter Ellen Gagne, who is an educational psychologist in Bethesda, MD, and two grandchildren.