

MEMORIAL RESOLUTION

GEORGE ELMER FORSYTHE (1917 – 1972)

George E. Forsythe, Professor and Chairman of the Department of Computer Science, died on April 9, 1972, at the age of 55. He founded the Stanford Computer Science Department, one of the first such departments in the nation, on January 1, 1965. His wise counsel, friendly encouragement and inspiring leadership will be sorely missed by his colleagues and his many friends in and outside the department.

George was born on January 8, 1917, in State College, Pennsylvania, and moved as a small boy with his family to Ann Arbor, Michigan. His undergraduate work was at Swarthmore College, where he majored in Mathematics. His experience there had a strong influence on his life. His graduate study was in Mathematics at Brown University where he received his M.S. in 1938 and his Ph.D. in 1941. He then came to Stanford but his first year here was interrupted by service in the Air Force, in which he became a meteorologist. His interest in his fellow students and in education manifested itself very early and he became co-author of an outstanding book on meteorology. Following his service in the Air Force his interest in numerical mathematics and computation developed rapidly. He spent a year at Boeing where he introduced what may have been the first use of automatic computing in that company. He spent several years in the Institute for Numerical Analysis of the National Bureau of Standards, a special section located on the campus of the University of California, Los Angeles. He joined the Institute because he wanted to watch the development of the Standards Western Automatic Computer (SWAC), one of the first of the digital computers. He had many interesting tales to tell of these early days of computing.

Stanford acquired its first computer in 1953, and research and instruction in numerical mathematics and computation began to develop. Soon after this the Mathematics Department began to search for new leadership in this field, and George Forsythe was the unanimous choice of the faculty. It was in 1957 that he returned to Stanford, joining once again the Mathematics Department, this time as Professor. He quickly saw the need for more emphasis on numerical mathematics and computing and was a strong advocate of more involvement in these areas. He was an inspiring and persuasive leader, with an unrivaled sense of timing. He saw the Computer Revolution developing and the need for more study, research, and teaching in the computer area. He conceived it as related to but still different from the traditional emphasis in mathematics; thus, he became convinced of the need for adding scholars well-versed in this area to the faculty. Under his leadership, the Computer Science Division of the Mathematics Department was formed in 1961, and he began the slow process of gathering an outstanding group of colleagues.

The culmination of this effort was the founding of the Computer Science Department on January 1, 1965, by which time he had succeeded in attracting a nucleus of leading computer scientists. Under his dynamic leadership and foresight the department developed into one of the outstanding Computer Science Departments in the nation. George was very skillful in bringing together many diverse points of view. He captured the loyalty of his colleagues. He was a

master at resolving differences between people with different views. Of all his professional activities, building, and leading the department was closest to his heart. He did, however, contribute his leadership to Stanford in other but related tasks. He served as Director of the Stanford Computation Center from 1961 to 1965. He played a major role insuring effective interaction between the University and the distinguished computer experts from education,, government, and industry on the Computer Science Advisory Committee. During his last two years he was chairman of the Presidential Committee on Computation Facilities and the leading voice in urging that greater attention be given to effective use of computers at Stanford.

George had a nationwide influence on Computer Science education. The emergence of a discipline of Computer Science is due to his efforts more than to those of any other single person. As editor of the Algorithms Department of the Communications of the Association for Computing Machinery, a prominent journal, he made of technical computer science publications. He served a term as President of the Association for Computing Machinery from 1964 to 1966. His influence on computer education and other activities in the computer area continued long after his term of office was ended.

In his research, lectures, and publications, he tried to serve as the mediator between the theoretical mathematician, the application-minded engineer and the numerical analyst who had to cooperate with both and had to utilize their knowledge and experience in order to help them in solving their problems. He was the author of two books in this vein: Finite-Difference Methods for Partial Differential Equations (with Wolfgang Wasow), John Wiley, New York, 1960, and Computer Solution of Linear Algebraic Systems (with Cleve B. Moler), Prentice-Hall, New Jersey, 1967. Both of these books have been translated into Russian and Japanese and the latter one also into German. His judgment on the practical possibilities and potentials of theoretical procedures in mathematics were highly appreciated by his colleagues in pure mathematics and his criticism was always stimulating and helpful.

George was always most concerned with students' welfare, making all of his vast library of books and reprints freely available to them as well as to his colleagues. In any discussion with his colleagues he was a strong advocate of what he felt would most benefit the students. Their progress and development were his constant concern. Perhaps the most visible and enduring evidence of his influence on other people is to be seen in the significant contributions that have been made and are being made by the students whose research he guided. He was never too busy to see and encourage them, and he chose their problems wisely. He instilled in them a fine feeling for the techniques of research so that most of them have continued to work in important areas. The influence of his students on the direction of research in numerical analysis and on the development of computer science has been remarkable.

He enjoyed an active life, continuing to play tennis until only a few weeks before his death. He was also a jogger and a hiker. He loved the out-of-doors. He and his wife Sandra, were married on the same day that he received his Ph.D. She shared his interests in computation and shared with him early experiences in using SWAC. While George was developing Computer Science education at the college level, Sandra was also actively pioneering this area at the high school level and continues to pursue this activity. Together they enjoyed travelling in many countries and hiking in the High Sierras. In addition to his wife, George is survived by his son Warren (Tuck), who is a graduate student of botany at the University of Montana, and by his daughter, Diana, a graduate student of anthropology at Cornell.

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