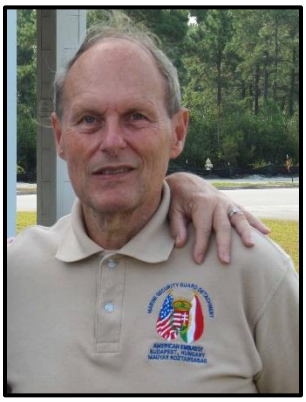
# *Larry Reeker Class of 1961*

# *Ephrata Alumni Association Noted Alumni*



Larry moved to Ephrata at age three, the only child of parents Mary and Walt Reeker. He was an outstanding student in all grades of Ephrata schools, lettering in tennis, and graduating as salutatorian and outgoing SGA president.

He accepted a full scholarship to Yale University, and he studied math and linguistics, receiving his bachelor's degree in only three years, in 1964.

He then accepted a graduate assistantship to Carnegie-Melon University in Pittsburgh, studying under the mentorship of Herbert Simon, who received the Nobel Prize in economics in 1978 but whose principal interest was the computer simulation of human cognition (AI, or artificial intelligence) a field in which Larry was keenly interested. Larry completed his Ph.D. dissertation in 1974, which connected AI and linguistics, entitled, *The Problem-solving Theory of Syntactic Acquisition*. This study made waves in computer science.

Even before his completion, Larry began working in computer science departments of major universities, increasing his responsibility and leadership with each step: The Ohio State University (Assistant Professor, 1968-73); the University of Oregon (Associate Professor, 1973-75); The University of Arizona, Tucson (Associate Professor, 1975-78), The University of Queensland, Brisbane (Reader and Department Head, 1978-82), and Tulane University, New Orleans (Professor and Department Head, 1982-85. This experience helped him develop administrative skills and build a network of professional colleagues.

In 1985, Larry moved to Washington, DC to work at a succession of organizations involved in computer science and artificial intelligence: The BDM Corporation as Vice President and Senior Principal, 1985-89 (BDM did technical research for different federal agencies, but particularly for the Department of Defense); the Institute of Defense Analysis 1989-98; in 1994-98, also at the National Science Foundation (NSF) as Director of the Knowledge Models and Cognitive System Program; and Computer Scientist and Director of the Information Technology Laboratory at the National Institute of Science and Technology (NIST), 1998-2009.

As an AI expert within various government agencies, Larry was often called to serve on panels recommending research and applications in AI for the federal government. **Thus, Larry Reeker became one of the U. S. Government's most important leaders for artificial intelligence for over a quarter century, until 2009.**

Larry retired from NIST because of early-onset dementia, He died in Wilmington, NC on April 6th 2012, He is buried in the Ephrata Cemetery, next to his parents.

Linda and Larry in 2011

Larry and Fanily in 1972

## Larry Reeker: A Remembrance from a Colleague

I am professor emeritus at the Department of Computer Science and Engineering at the Ohio State University in Columbus, OH. This short note describes my long acquaintance with Larry Reeker. This is not to be taken as a comprehensive account of Larry's intellectual achievements, let alone a personal biography. This is simply the recollections of a friend who was in the same broad research area – artificial intelligence, more broadly computational sciences – who stayed in touch with Larry over several decades.

I first met Larry Reeker when I joined Ohio State as an Assistant Professor in the Fall of 1969 – Larry was already on the faculty. We hit it off right away as both personal friends and researchers with common interest in Artificial Intelligence. When I first met him, he was in the final stages of finishing up his Ph. D. at Carnegie Mellon University, under Herbert Simon, who would go on to win a Nobel Prize in Economics in 1978. Larry's Ph. D thesis, completed in 1974, was at the intersection of Artificial Intelligence and Linguistics, and was entitled, "The problem-solving theory of syntactic acquisition." In it he produced a computer model of how syntax – grammar – of a natural language might be learned, say by a child, by the same processes that the child might use for general intelligent behavior. This approach was in contrast to the dominant view in Linguistics at that time, namely, that human acquisition of grammar takes place by special-purpose mechanisms specific to language. The paper made waves in artificial intelligence circles, not so much in Linguistics. Later researchers combined the insights about problem solving generated by Artificial Intelligence and the ideas from Linguistics to produce stronger theories about grammar acquisition. In that sense, Larry's thesis was indeed a pioneer.

When he was at OSU, he and I co-authored a paper on the degree to which the highest goal of Artificial Intelligence, viz., producing a computer intelligence that was as good as human intelligence, was possible. That paper, called "Artificial Intelligence: A Case for Agnosticism," was published in 1974.

Larry left OSU in the early 70's first as a faculty member at the University of Arizona and then to academia in Australia where he was a chair of a department of computer science for many years. Larry retained his interest in problems of formal grammars throughout his life. He continued to be active in Computational Linguistics publishing many research papers in this area.

I had lost touch with him when he went off to Australia. On his return from Australia, he took a series of research positions at high tech companies and organizations, including such distinguished places as Institute for Defense Analysis and National Institute of Standards and Technology. In both places, he was head of departments that provided leadership in many areas of computer science and technology to the U. S. Government. Because of our diverging interest and lack of colocation, we didn't talk often, but we retained a warm friendship through the years. One way in which he kept our contacts and discussions alive was by inviting me to give talks at the Institute for Defense Analysis and National Institute of Standards and Technology. My understanding is that he provided great leadership at those institutions, not least by using his broad knowledge about the field and acquaintances to have a series of lectures by invitees that gave the people at these institutions a highly curated view of the field of computer science. He was also on the scientific advisory committees of various Government research programs, such as a Army Research Laboratory program on Advanced Decision Architectures Collaborative Technology Alliance. It was clear that his advice was highly valued by others in the U.S. Government.

If my relationship with Larry was typical, Larry was avid for new knowledge and respectful of a diversity of approaches to complex problems. He had a great sense of where the field was going, and he could use his wide circle of acquaintances in the field to bring leadership to the technology groups he managed.

I was always proud to call him a friend. We retained a warm relationship over 30 years, and both of our faces would break into smiles when we'd meet each other over the years.

# Larry H. Reeker
## Reminescence by David Lee
## Additions by George Moyer, Kirk Hall and Bill Roberts

Larry Reeker, the only child of Mary and Walter Reeker, was born in Spokane on February 2, 1943. The family moved to Ephrata when Larry was three- years old, where he attended schools from kindergarten through high school. Larry was the first person my age I knew outside of my family, and we attended school and church mostly together through the 5th grade. He was recognized as a brilliant student at every level, even helping Don Hollingsworth teach beginning algebra in the ninth grade! In high school Larry was the academic leader among a group of gifted students; he raised the bar for all of us. He was active in high school government, and he was elected student body president his senior year. He also lettered in tennis each year. He was active in 4H and Luther League, and travelled back east to attend conferences for both organizations. He was also a clever trickster, as the time he snuck some limburger cheese onto one of the hall radiators, stinking up the school.

As salutatorian he received a full scholarship to attend Yale University. At Yale, Larry focused on mathematics and linguistics, graduating in only three years, in 1964. Subsequently, he received an assistantship to study computer science at Carnegie-Mellon University in Pittsburgh, under the guidance of Herbert Simon, who received the Nobel Prize in economics in 1978, but his principal interest was the computer simulation of human cognition (AI, or artificial intelligence) a field Larry was keenly interested

in. Under the mentorship of Simon, Larry completed his Ph.D. thesis in 1974, which connected AI and linguistics, entitled, *The Problem-solving Theory of Syntactic Acquisition*. "In short, he produced a computer model of how syntax—grammar—might be learned say by a child, through the same processes that the child might use for general intelligence. This approach differed from the dominant view in linguistics at that time, namely that human acquisition of grammar takes place by special-purpose mechanisms specific to language. His paper made waves in artificial intelligence circles, but not so much in linguistics. Later researchers combined the insights about problem solving generated by AI and the ideas from linguistics to produce stronger theories about grammar acquisition. In that sense, Larry's thesis was indeed pioneering" (a quote by a colleague, B. Chandrasekharan and personal friend of mine and Larry's). His research, from the cognitive human side versus the machine programming side in AI, continued throughout his career.

As a Ph.D. candidate, but without a completed dissertation, Larry accepted a position in the departments of Computer Science and Linguistics at Ohio State University in Columbus in 1968. I spent a lot of time with him then, as I was a post-doctoral fellow there from 1970-72. Larry and family attended my wedding in Columbus. Larry worked at OSU until 1973, and then joined the Computer Science Department at the University of Oregon, with his Ph.D. from Carnegie-Mellon in hand. It was very unusual to keep an academic position, and then be promoted at a university, without a Ph.D.

Larry then worked at a succession of universities, with higher positions and growing responsibilities: The University of Arizona, Tucson (Associate Professor, 1975-78), The University of Queensland, Brisbane (Reader and Department Head, 1978-82), and Tulane University, New Orleans (Professor and Department Head, 1982-85. He also built a network of collaborators, participated in conferences, and wrote seminal papers on artificial intelligence.

Larry's father was ill with dementia for years (I remember visiting him with my dad at the home in Soap lake) and he died in 1981. Larry's mother lived outside of Ephrata, and Larry moved her to an assisted living place in DC shortly after he moved there. She lived there under Larry's close watch until her death in 1997. Larry took me to meet her in a visit around 1995, and I visited Larry on other occasions in DC.

In 1985, Larry moved to Washington, DC, working for organizations important in the early development and applications of artificial intelligence. First, he joined the Braddock, Dunn & McDonald (BDM) Corporation as Vice President and Senior Principal, 1985-89. BDM did technical research for different federal agencies, but particularly for the Department of Defense. His classified research on defense-related projects led him to the Institute of Defense Analysis 1989-98. In 1994-98, he also worked at the National Science Foundation (NSF) as Director of the Knowledge Models and Cognitive System Program, which led to his final government position of Computer Scientist and Director of the Information Technology Laboratory at the National Institute of Science and Technology (NIST), 1998-2009. As an AI expert within various government agencies, Larry was often called to serve on panels recommending research and applications in AI for the federal government. **Thus, Larry Reeker became one of the U. S. Government's most important leaders for artificial intelligence for over a quarter century, until 2009.**

Larry's retirement from NIST was initiated when he became aware of his declining intellectual skills due to early onset dementia for which he succumbed on April 6, 2012, in Wilmington, NC. His five children from two marriages were with him frequently towards the end of his life. In his last years, three EHS classmates also visited him: Kirk Hall, David Lee, and Bill Roberts. He is buried in the Ephrata Cemetery, next to his parents.

Submitted by David Lee