IN MEMORIAM

Robert Wilensky
Professor Emeritus of Electrical Engineering and Computer Science
UC Berkeley
1951-2013

Robert Wilensky's career at UC Berkeley spanned 28 years, beginning in 1978 when he joined the faculty in Computer Science to his retirement as Professor in 2007. He was additionally a professor at the School of Information and Management Sciences (now the School of Information), which he helped form.

Wilensky was born March 26, 1951, in Brooklyn, New York. He received his bachelor's degree in mathematics and his Ph.D. in computer science in 1972 and 1978, respectively, from Yale University. After graduating from Yale, Wilensky moved to California to join UC Berkeley.

In 2005, Wilensky went on medical leave, but remained quite active during that time and worked to complete a new book on advanced programming techniques. Wilensky suffered a debilitating cardiac arrest in October 2006, and he retired shortly thereafter. He remained substantially disabled until his death in March, 2013. This memorial is a account of his academic career until 2006.

Initially Wilensky continued research in the direction of his thesis work on natural language processing and planning and symbolic artificial intelligence (AI). His program UC (for Unix Consultant) combined natural language processing with an underlying information system that constituted an expert on the UNIX computer operating system, and more particularly included a collection of concepts for goals and necessary plans to achieve those goals that might be useful for human users of computers.

In his early years on the faculty Wilensky also took up the challenge of initiating academic research and graduate teaching in AI at UCB, an essential component required of top- ranked computer science schools of the day but largely lacking at Berkeley at that time. He was successful in both raising UC Berkeley's profile as well as increasing UC's participation in the considerable federal funding in this field. Esquire magazine journalist Frank Rose visited Berkeley in the early phases of this activity and chronicled faculty and student activities in Wilensky's AI Research group resulting in his 1984 book, Into the Heart of the Mind: An American Quest for Artificial Intelligence (Harper and Row).

Controversy is never far from the surface in artificial intelligence – a field whose name was deliberately chosen to be provocative. In fact Wilensky was a fan of the Terminator movies – opining that Arnold Schwarzenegger was ideally cast as an artificial intelligence/ killer robot from the future. More academically, Wilensky entered into the fray sparring with philosophers – notably including Berkeley's Professor John Searle, who took up the question of defining intelligence. Could a computer system ever be intelligent by his definition? For the most part, Searle's insistence that computer programs could never exhibit intentionality did not seem to cause problems for AI research, even if it appeared to be considerable fodder for thought

experiments. In these circles Wilensky wrote eloquently as a champion of a particular "systems argument" against Searle's so- called "Chinese Room" scenario. The issues still seem to provoke controversy.

The 2011 computer program "Watson" exhibited championship behavior on the television program "Jeopardy" capable of answering general knowledge questions phrased in English, for the quiz show Jeopardy. Watson includes several technologies championed by Wilensky through his work on natural language processing and structured data knowledge representation.

Wilensky served as Computer Science Division Chair from 1993 to1997, a period in which critical decisions were made in the move to the newly- completed Soda Hall. In particular, Wilensky worked on solidifying a foundation for industrial partnerships including donations to UC and sharing of research, and pushed for the continued expansion of the computer science faculty. This was a critical time in which research relied ever more on advanced networked computer workstations obtained through donations. Wilensky also served as director of the Berkeley Cognitive Science Program, director of the Berkeley Artificial Intelligence Research Project, and board member of the International Computer Science Institute.

In 1994, NSF, DARPA and NASA funded six university- based projects in a $30 million Phase 1 Digital Libraries Initiative, with Wilensky instrumental as the principal investigator at Berkeley. He continued to lead the project for the expanded second phase in 1999, with added participation of the National Library of Medicine, the Library of Congress, the National Endowment for the Humanities, the National Archives and the Smithsonian Institution.

At Berkeley Wilensky coordinated activities over a number of departments, industrial partners, non- profits and government organizations, including the Museum of Vertebrate Zoology, the Jepson Herbarium , the UCB Library, the Instructional Technology Program, CalFlora, the California Academy of Sciences, the Fine Arts Museums of San Francisco, the California Department of Fish and Game, Xerox, HP, IBM, NEC, Sun, Microsoft, and Sharp, as well as other UC campuses.

Wilensky was influential in many of the sub- projects, but with his students he especially explored the determination of reliability of information, people, and services-- including new models of scientific knowledge dissemination capable of supplementing or supplanting traditional publication models. (How? Good papers are ones good reviewers rate highly. Good reviewers are the ones that rate papers accurately.) Analogous notions can be applied to restaurant reviews or EBay auctions as well, where quality filtering is increasingly important to separate out incidental or deliberate misinformation.

Another idea Wilensky promoted was "multivalent" documents: on- line data bases for biology, geography, environment, art, etc., where different "levels" of information, correlated by (for example) geographic location can be selectively combined and viewed, an idea evident in Google Earth, or maps that support GPS, as well as overlay of traffic congestion, restaurant locations and other data. Another aspect was the browsing of image collections by image content, presaging yet again a technology emerging in today's web searching. Wilensky also promoted the development of personal libraries, a concept which now appears in a somewhat mutated form as blogs and supporting techniques such as Tumblr.com). It is remarkable to see that with the passage of a few years, research ideas from the digital library project have evolved into conveniences we now take for granted and extend far beyond the traditional library model.

In addition to numerous technical publications, Wilensky published two books on the programming language LISP, and had almost completed another book manuscript when he suffered his cardiac arrest.

Wilensky was demanding of excellence in his students, and a skilled expositor in lectures and writing. He was known for vivid presentations and quick wit. In a 1996 speech he quipped, "We've heard that a million monkeys at a million keyboards could produce the Complete Works of Shakespeare; now, thanks to the Internet, we know this is not true."

Among the honors bestowed upon Wilensky was being named Fellow of the Association for Computing Machinery (ACM) in recognition for his research contributions to the areas of natural language processing and digital libraries, as well as for his outstanding leadership in computer science. In addition, he was an honorary member of the Golden Key National Honor Society, and a Fellow of the American Association for Artificial Intelligence. He served as an ACM National Lecturer.

He died at the Alta Bates Summit Medical Center in Oakland on Friday, March 15, 2013 of a bacterial infection.

He is survived by his wife of 17 years, Ann Danforth of Berkeley; his daughter Mia, 15, and son Eli, 12; his mother, Neesa Wilensky of Brooklyn, NY; and his sister, Sandra W. Cohen of Memphis, Tenn.

Richard J. Fateman