The New York Times http://nyti.ms/2auPWcv

TECHNOLOGY

Seymour Papert, 88, Dies; Saw Education's Future in Computers

By GLENN RIFKIN AUG. 1, 2016

Seymour Papert, a visionary educator and mathematician who well before the advent of the personal computer foresaw children using computers as instruments for learning and enhancing creativity, died on Sunday at his home in Blue Hill, Me. He was 88.

His death was announced by the Logo Foundation, a nonprofit educational organization that he co-founded. His wife, the Russia scholar and author Suzanne Massie, said the cause was complications of a series of kidney and bladder infections.

Dr. Papert (pronounced PAP-ert), who was born in South Africa, was one of the leading educational theorists of the last half-century and a co-director of the renowned Artificial Intelligence Laboratory at the Massachusetts Institute of Technology. In some circles he was considered the world's foremost expert on how technology can provide new ways for children to learn.

In the pencil-and-paper world of the 1960s classroom, Dr. Papert envisioned a computing device on every desk and an internetlike environment in which vast amounts of printed material would be available to children. He put his ideas into practice, creating in the late '60s a computer programming language, called Logo, to teach children how to use computers.

It was after visiting Dr. Papert at M.I.T. that the computer science pioneer Alan Kay sketched out a prototype for the laptop computer.

Colleagues and students revered him. "Seymour Papert was the first person to see that the computer could be used to support children's learning and development," Mitchel Resnick, an M.I.T. professor and a former student of Dr. Papert's, said in an interview. "He had a vision that the computer could allow children to actively construct knowledge."

Gary Stager, an educator who worked with him, said Dr. Papert's "singular genius was recognizing the power computers held as objects to think with."

Many of Dr. Papert's theories about children's education were inspired by his former colleague Jean Piaget, the Swiss developmental psychologist whose study of child development has often been compared to Freud's work in its influence on the science of human intelligence. In turn, a generation of educators and technology pioneers were influenced by Dr. Papert's work.

That work was cut short in December 2006, when, at 78, while attending a conference in Hanoi, Vietnam, he was hit by a motorcycle. The collision left him with severe brain and kidney damage. After a long hospital stay, he returned to his home in Maine, where Ms. Massie and his caregivers used techniques drawn from his own learning theories to try to return him to a normal life.

In extolling the power of computers to enhance learning, Dr. Papert was similarly outspoken about what he believed were the failings of traditional education systems.

In an article in Wired magazine in 1993, he dismissed the three R's — reading, 'riting and 'rithmetic — as outmoded.

"But looking forward," he wrote, "we can formulate new arguments beyond the imagination of 19th-century thinkers, who could hardly have conjured images of media that would provide modes of accessing and manipulating knowledge radically different than those offered by the R's."

He added, "In the past, education adapted the mind to a very restricted set of available media; in the future, it will adapt media to serve the needs and tastes of each individual mind."

He developed a theory, called "constructionism" — contrasting it with what he called "instructionism" — to describe the way in which students can build knowledge by working with concrete materials rather than abstract propositions; that is, by creating artifacts they can share.

He explained his idea by way of an anecdote in the introduction to "Constructionism," a 1991 book written with Idit Harel, an Israeli technology entrepreneur.

While working on a math project in a junior high school in Lexington, Mass., more than 20 years before, Dr. Papert said, he would pass an art class every day.

"For a while, I dropped in periodically to watch students working on soap sculptures and mused about ways in which this was not like a math class," he wrote. "In the math class, students are generally given little problems which they solve or don't solve pretty well on the fly.

"In this particular art class they were all carving soap," he continued, "but what each student carved came from wherever fancy is bred, and the project was not done and dropped but continued for many weeks. It allowed time to think, to dream, to gaze, to get a new idea and try it and drop it or persist, time to talk, to see other people's work and their reaction to yours — not unlike mathematics as it is for the mathematician, but quite unlike math as it is in junior high school."

Seymour Aubrey Papert was born on Feb. 29, 1928 , in Pretoria, South Africa. His father was an entomologist who explored the bush trails along the east coast of southern Africa studying the tsetse fly, with his young family in tow. They were often the only white people to be found in the area.

As he grew older he became repelled by apartheid, and after meeting Nelson Mandela before Mandela was imprisoned, he began a lifetime of social activism. He also displayed a talent for mathematics, which he pursued in college, earning doctorates from the University of the Witwatersrand in South Africa and the University of Cambridge in England.

Perhaps his most critical formative period was at the University of Geneva, where, after his doctoral work, Dr. Papert spent four years exploring both mathematics and

children's learning as a researcher for Dr. Piaget. In 1960, he met the M.I.T. computer science genius Marvin Minsky at a London symposium and became obsessed with technology's impact on education.

Four years later he joined the M.I.T. faculty and immediately delved into artificial intelligence research with Dr. Minsky, a partnership that would last for decades. Dr. Minsky and John McCarthy had founded the Artificial Intelligence Group in 1959; when it became an official M.I.T. laboratory in 1968, Dr. Minsky and Dr. Papert served as co-directors. As co-authors, their signature book was "Perceptrons: An Introduction to Computational Geometry," a now-classic work on artificial intelligence published in 1969. (The perceptron is an artificial neural network.)

On his own, Dr. Papert also wrote "Mindstorms: Children, Computers and Powerful Ideas" (1980), his seminal work on technology and learning. The book, translated into 22 languages, maintained that technology, rather than threatening traditional education, could enhance and support the type of learning educators believed in.

Nicholas Negroponte, the founder of M.I.T.'s Media Lab, where Dr. Papert was among the original faculty members, said Dr. Papert's influence on his colleagues was enormous. He referred to Dr. Minsky and Dr. Kay as "giants who stood on Seymour's shoulders."

Dr. Kay himself said of Dr. Papert in an email, "Most of my ideas about computers and education for children started with his ideas."

Dr. Papert was an adviser to Oscar Arias Sánchez, the president of Costa Rica who was given the Nobel Peace Prize in 1987 for brokering an end to civil wars in the region. When Mr. Arias became president in the mid-1980s, Dr. Papert helped him modernize the country's educational system.

He retired from the faculty at M.I.T. in 1996 but continued to work there as a lecturer and consultant to doctoral students.

After moving to the coast of Maine, Dr. Papert teamed up with Gov. Angus King to provide computers for every seventh- and eighth-grade student in the state's school system. From 1999 to 2002 he worked with the Maine Youth Center, a detention center

for teenagers in South Portland, to create a model for what schools of the future might look like.

He was married four times. He married Ms. Massie, a writer and specialist in Russian affairs and culture, in 1992. She survives him, along with a daughter, Artemis Papert, from his second marriage; a sister, Joan Papert; a brother, Alan; three stepchildren; and seven step-grandchildren.

"He had the curiosity, openness and desire to learn of a child," Ms. Massie said of her husband. "He never lost that."

Correction: August 1, 2016

Because of an editing error, an earlier version of this obituary misidentified the marriage from which Dr. Papert's daughter, Artemis, was born. It was his second marriage, not his first.

A version of this article appears in print on August 2, 2016, on page A21 of the New York edition with the headline: Seymour Papert, 88, Dies; Saw Tech as a Learning Tool.