C. Gordon Bell, Creator of a Personal Computer Prototype, Dies at 89

It cost $18,000 when it was introduced in 1965, but it bridged the world between room-size mainframes and the modern desktop.

By Glenn Rifkin

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C. Gordon Bell, a technology visionary whose computer designs for Digital Equipment Corporation fueled the emergence of the minicomputer industry in the 1960s, died on Friday at his home in Coronado, Calif. He was 89.

The cause was pneumonia, his family said in a statement.

Called the “Frank Lloyd Wright of computers” by Datamation magazine, Mr. Bell was the master architect in the effort to create smaller, affordable, interactive computers that could be clustered into a network. A virtuoso at computer architecture, he built the first time-sharing computer and championed efforts to build the Ethernet. He was among a handful of influential engineers whose designs formed the vital bridge between the room-size models of the mainframe era and the advent of the personal computer.

After stints at several other startup ventures, Mr. Bell became the head of the National Science Foundation’s computers and information science and engineering group, where he directed the effort to link the world’s supercomputers into a high-speed network that led directly to the development of the modern internet. He later joined Microsoft’s nascent research lab, where he remained for about 20 years before being named researcher emeritus.

In 1991, he was awarded the National Medal of Technology and Innovation.

“His main contribution was his vision of the future,” said David Cutler, a senior technical fellow at the Microsoft Research Lab and a leading software engineer, who worked with Mr. Bell at both Digital and Microsoft. “He always had a vision of where computing was going to go. He helped make computing much more widespread and more personal.”

At a time when computer companies like IBM were selling multimillion-dollar mainframe computers, Digital Equipment Corporation, which was founded and run by Kenneth Olsen, aimed at introducing smaller, powerful machines that could be purchased for a fraction of that cost. Mr. Bell was hired from the Massachusetts Institute of Technology campus in 1960 as the company’s second computer engineer. He designed all its early entrants into what was then called the minicomputer market.

Mr. Bell in 2003. “His main contribution,” a colleague said, “was his vision of the future.” Fairfax Media, via Getty Images

The PDP-8, a 12-bit computer introduced in 1965 with an $18,000 price tag, was considered the first successful minicomputer on the market. More important, Digital Equipment Corporation's minicomputers were sold to scientists, engineers and other users, who interacted directly with the machines in an era when corporate computers were off limits to such users, housed in glass-walled data centers under the watchful eye of specialists.

"All the D.E.C. machines were interactive, and we believed in having people talk directly to computers," Mr. Bell said in a 1985 interview with Computerworld, an industry publication. In this way, he presaged the coming personal computer revolution.

Under the often autocratic Mr. Olsen, the company was an engineering-oriented environment in which product lines drove the business, consensus emerged after loud and often caustic debate, and a matrixlike structure blurred the lines of management. This controlled chaos became a source of tremendous stress for Mr. Bell; he often butted heads with Mr. Olsen, who was known for keeping close tabs on the work of his engineers, much to Mr. Bell's chagrin.

Undone by the tension, Mr. Bell took what became a six-year sabbatical to teach at Carnegie Mellon University in Pittsburgh, but he returned to the company as vice president of engineering in 1972. Reinvigorated and brimming with new ideas, he oversaw the design of an entirely new computer architecture: The VAX 780, a fast, powerful and efficient minicomputer, was a huge success, fueling sales that by the early 1980s had made D.E.C. the world's second-largest computer maker.

"Gordon Bell was a giant in the computer industry," said Howard Anderson, founder of the Yankee Group, a technology industry research firm that tracked the market in that era. "I give him as much credit for D.E.C.'s success as Ken Olsen. He believed in the primacy of engineering talent, and he attracted some of the best engineers in the industry to D.E.C., which became a place of great ferment."

At D.E.C., the tension between Mr. Olsen and Mr. Bell again became unbearable. Stressed by the pressure to keep turning out winners and by Mr. Olsen's overbearing presence, Mr. Bell became quick to anger (he was known to throw

erasers at people in meetings) and left his engineers angry and confused. In March 1983, on a ski trip to Snowmass, Colo., with his wife and several of the company's top engineers, Mr. Bell suffered a massive heart attack in his ski chalet and might have died if not for the efforts of Bob Puffer, a company vice president, who revived him with CPR.

After months of recuperation, Mr. Bell returned to work but decided it was time to leave for good. Over the protests of several top company executives, he quit in the summer of 1983.

Mr. Bell in 1960, the year he joined Digital Equipment Corporation as the company's second computer engineer.
The Computer History Museum

Chester Gordon Bell was born on Aug. 19, 1934, in Kirksville, Mo., to Chester Bell, an electrician who owned an appliance store, and Lola (Gordon) Bell, who taught grade school.

He developed a congenital heart problem when he was 7 and spent much of the second grade at home, mostly in bed. He spent his confinement wiring circuits, running chemistry experiments and cutting out puzzles with a jigsaw. After he recovered, he spent countless hours in his father's shop learning about electrical repair. By age 12, he was a professional electrician — installing the first home dishwashers, fixing motors and tearing apart mechanical gadgets to rebuild them.

Mr. Bell graduated from M.I.T. in 1957 with a master's degree in electrical engineering. He then earned a Fulbright scholarship to the University of New South Wales in Australia, where he developed and taught the university's first graduate course in computer design. While there, he met Gwen Druyor, another Fulbright scholar, whom he marriedand with whom he would found the Computer History Museum in Boston. They divorced in 2002.

Though he returned to M.I.T. and worked toward a Ph.D., Mr. Bell abandoned that effort to join Digital Equipment Corporation. He had no interest in research, believing that it was an engineer's job to build things.

After he left the company, Mr. Bell was a founder of both Encore Computer and Ardent Computer. In 1986, he delved into the world of public policy when he joined the National Science Foundation and led the supercomputer networking effort that resulted in an early iteration of the internet called the National Research and Education Network. In 1987, he sponsored the ACM Gordon Bell Prize for work in parallel computing.

He eventually moved to California, where he became a Silicon Valley angel investor and, in 1991, an adviser to Microsoft, which was opening its first research lab in Redmond, Wash. Mr. Bell joined the Microsoft Research Silicon Valley Lab full time in 1995. There he worked on MyLifeBits, a database designed to capture all of his life's information — articles, books, CDs, letters, emails, music, home movies and videos — in a cloud-based digital database.

Mr. Bell is survived by his second wife, Sheridan Sinclaire-Bell, whom he married in 2009; his son, Brigham, and his daughter, Laura Bell, both from his first marriage; his stepdaughter, Logan Forbes; his sister, Sharon Smith; and four

grandchildren.

In the 1985 Computerworld interview, Mr. Bell explained his formula for repeated technology successes. “The trick in any technology,” he said, “is knowing when to get on the bandwagon, knowing when to push for change, and then knowing when it’s dead and time to get off.”

Alex Traub contributed reporting.

A correction was made on May 21, 2024*: An earlier version of this obituary misspelled the surname of Mr. Bell’s wife. She is Sheridan Sinclaire-Bell, not Sinclair-Bell.*
