
CHARLES M. VEST



COURTESY OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

9 SEPTEMBER 1941 · 12 DECEMBER 2013

THE FIRST TIME I met Chuck Vest was in a large auditorium at MIT in the autumn of 1990 when Chuck and his wife, Becky, were being introduced to the MIT community. I remember being immediately impressed with Chuck's warmth, sense of humor, and kind of Midwest folksiness. On the one hand, I thought that his was exactly the type of leadership MIT needed at that stage in the institute's history. On the other hand, I knew MIT could be a harsh, arrogant place, with often unrealistically high expectations placed on people; insiders refer to MIT as a "praise-free zone." I wondered how this gentle man from West Virginia would fare in this challenging community. It turns out that I had no reason to worry because underneath this gentle exterior was a core of steel that enabled Chuck to act with great courage in even the most challenging of circumstances.

Chuck Vest served with great distinction as the president of MIT from 1990–2004. This term was followed by 6 years as the president of the National Academy of Engineering (NAE). He played important leadership roles both at MIT and on the national stage, in particular making major social justice contributions for low-income students, especially those of color, and women in the academy. In addition, he became the face of science and engineering in Washington DC when our community badly needed to repair its relationships with our Washington representatives.

* * * *

Charles "Chuck" Marsteller Vest grew up in an academic family in Morgantown, West Virginia. His father, known affectionately as "ML," was a professor of mathematics at West Virginia University (WVU). ML was notorious for having academic standards that were, in the words of John Curry, one of his undergraduate students, "somewhere near the heavens." Chuck graduated from WVU in 1963 with a Bachelor of Science degree in Mechanical Engineering. One of his fellow students at WVU, Dorothy Manning, says of Chuck in those days: "Yet, with all that brilliance, he was always humble, a little shy, always kind and encouraging to others, self-effacing, a little grin, a twinkle in his eye, humor, and caring for others." This is exactly the same Chuck Vest who became such a great national leader in higher education. It was at WVU that Chuck met his beloved wife, Becky.

In 1963, Chuck and Becky moved from Morgantown to Ann Arbor, Michigan, where Chuck began his graduate education in mechanical engineering at the University of Michigan. Chuck received his M.S. in 1964 and his Ph.D. in 1967; he then joined the Michigan faculty as an assistant professor in 1968. While there, he carried out research on

heat transfer and, importantly, engineering applications of laser optics and holography. He was promoted to the rank of associate professor in 1972 and to full professor in 1977. Four years later, Chuck began the transition from a career as a teacher and researcher to one as an academic administrator. At Michigan, he served successively as associate dean of engineering, dean of engineering, and, finally, provost and vice president for academic affairs.

The call from MIT came in 1990. As he said in his inaugural address, Chuck viewed the presidency of MIT as a call to national service—a statement that turned out to be more true than any of us attending his inauguration could have imagined. Chuck then began to put together his own leadership team. On the academic side, this included Mark Wrighton as Provost, Joel Moses as Dean of Engineering, Philip Khoury as the Dean of Humanities and Social Sciences, and myself as Dean of Science. Later appointees included Bob Brown as Provost, Larry Bacow as Chancellor, and Alice Gast as Vice President for Research. Chuck was a great teacher as evidenced by the fact that five of his appointees went on to lead major universities across the United States, Canada, and Great Britain: Wrighton at Washington University in St. Louis; myself at the University of Toronto and UC Berkeley; Bacow at Tufts University; Brown at Boston University; and Gast at Lehigh and Imperial College, London.

Any doubts that anyone may have had about Chuck's ability to lead MIT were immediately wiped out by his bold action on the so-called "overlap suit." The Justice Department had accused top private universities of violating antitrust statutes by sharing information about applicants' financial needs. While other university leaders were collapsing under the government pressure and signing consent decrees, Chuck understood that this sharing of information was really about access to higher education by the underserved, particularly underrepresented minorities. Accordingly, he led MIT to trial and won, enabling colleges committed to need-based aid to exchange certain data; this victory also led to legislation permitting colleges to adopt a common methodology for measuring need. In one stroke, Chuck Vest had become my hero.

One of the important challenges that Chuck took on was rebuilding public understanding of and support for higher education and research. He became a regular presence in Washington, championing research, science, and innovative partnerships among universities, government, and industry. He did so in a bipartisan way, including developing a close friendship with Newt Gingrich. I remember well Chuck showing off various MIT-produced scientific "toys" that he was taking off to Washington to give to Newt. Chuck also went around MIT grilling

people like me about great unsolved fundamental scientific challenges in our fields. This line of questioning led to Chuck's list of the 10 great scientific challenges of our time. His purpose, of course, was to demonstrate that scientific research was more vital than ever and needed robust government support.

After his great triumph with the overlap suit, Chuck encountered an internal challenge at MIT that was less salubrious. The MIT Corporation decided that MIT needed to modernize its financial and administrative systems—that is, become more like a well-run corporation than a loosely managed, inefficient university. Chuck took up the mantle and launched a major effort in “Reengineering,” which created significant tensions between the senior administration and both the faculty and administrative staff. Some felt that Chuck's very presidency was at risk. I happened to be one who felt that MIT's greatness, in fact, rested on some of these inefficiencies and that the social costs of reengineering may well outweigh any monetary gains. I was not shy in voicing my concerns; at one point, I even wondered if Chuck might ask me to step down as Dean of Science if I did not get in line. However, he was a much bigger person than that, and in the end, I survived and so did reengineering. It is one of the great ironies in my own professional life that in my capacity as Chancellor of UC Berkeley after the unconscionable budget cuts by the state government, I had to lead a major reengineering effort at Berkeley, in that case called “Operational Excellence.” Everything that I had learned from Chuck at MIT about change management was invaluable in our efforts at Berkeley.

While the drama surrounding reengineering was going on in the foreground, one of the most important events in Chuck's service was taking form in the background. Specifically, in 1994, 15 senior women faculty in the School of Science came together to share their experiences, many of them quite desultory. These women came to me as Dean of Science, urging me to address what they viewed as systemic discrimination against women faculty in the School of Science. I immediately went to Chuck for guidance, and he urged me to address their concerns head on. If we were discriminating against our women faculty, either consciously or unconsciously, we needed to understand this and seek out appropriate remedies. Accordingly, after a long and stressful process, in 1995 I was able to establish a committee chaired by Professor Nancy Hopkins tasked with investigating the status of women faculty in my school. The first report, which came in preliminary form in 1996, was both shocking and utterly persuasive. Chuck and I decided to start implementing remedies immediately, which we did with some success. I appointed a second committee, chaired by Professor Molly Potter, to follow up this pioneering first study.

Much of the information in these first two reports was obtained from interviews, which were conducted with the promise of confidentiality. The reports, among other things, documented specific inappropriate behaviors by individual faculty. Thus, the reports could not be released publicly. However, several of the women faculty understood clearly that what had been learned in the MIT School of Science was by no means restricted to MIT and indeed was both a national and international phenomenon. Therefore, it was essential that a version of the report be produced that could be distributed broadly, and they did just that. It was in the foreword of this document, first reported in the March 1999 MIT Faculty Newsletter, that Chuck made his famous statement: "I have always believed that contemporary gender discrimination within universities is part reality and part perception. True, but now I understand that reality is by far the greater part of the balance." This frank, courageous statement by the president of one of our country's great universities echoed around the world. Its effects are still being felt today. Chuck, with the support of then-Provost Bob Brown, extended these studies to all five Schools at MIT and formed a consortium of nine leading universities to address the issue of gender discrimination in universities. Academia has not been the same since.

Additionally, in the foreground during this period was MIT's response to the death of a freshman, Scott Krueger, following a fraternity initiation event involving alcohol. In the press and courts, as well as within the MIT community, the institute was highly criticized for its policy of allowing freshmen to rush, join, and move into fraternities during their first weeks on campus, under conditions of minimal supervision. Other members of the MIT community, especially alumni who had lived in fraternities as students, valued this option for housing. Chuck had to deal with these internal differences at MIT, as well as face the reality of this student's tragic death. Chuck's first step was to confront the grief and anger of the Krueger family by attending Scott's funeral (against the advice of local police who warned that his safety could not be assured). Not long after, he agreed to mediation with the family (again despite warnings that mediation was rarely successful in such circumstances). The mediation did succeed, however, primarily because of Chuck's forthrightness in expressing regret and determination to improve supervision of MIT freshmen. Once more, Chuck's decency and humanity shone through.

Chuck provided similar leadership in his support of the research enterprise. In the early '90s, the then-chair-of-biology, Phillip Sharp, and I decided that MIT's impact in the field of neuroscience was far below what it needed to be. Accordingly, Phil and I established a committee to explore the research frontiers in neuroscience and

recommend how we could go about addressing these challenges at MIT. The committee produced a compelling report, but one that required structural changes within MIT and acquisition of significant new resources. One of Chuck's special talents as a leader was that he was able to both identify and assess important new initiatives, as well as lead their implementation. He did this brilliantly for neuroscience, ultimately raising hundreds of millions of dollars and helping to create (1) the Center for Learning and Memory in 1994, which evolved into the Picower Institute for Learning and Memory in 2002, initially led by Nobel laureate Susumu Tonegawa; and (2) the McGovern Institute for Brain Research in 2000, initially led by Nobel laureate Phillip Sharp. MIT went from being a secondary player in neuroscience to a world-leading research center.

Chuck's talent for identifying, assessing, and then leading important new initiatives was most dramatically illustrated in the MIT Open Course Ware (OCW) program. In the late-1990s, many universities were establishing e-learning programs with the intent of reaping significant new revenues. Chuck, together with Provost Bob Brown and Chancellor Larry Bacow, was extremely skeptical about the idea of commercializing MIT courses, and accordingly, as academics often do, they established a faculty committee to consider possible strategies for MIT in the Internet learning world. This committee, named the Lifelong Learning Committee, came to the bold conclusion after much study that MIT should put every single one of its courses online and make them available for free. At that time, this idea was audacious beyond belief. The chair of the committee, Professor Dick Yue, said, "The idea is simple: to publish all of our course materials online and make them widely available to everyone." He took this idea to Bob, Larry, and Chuck, and Chuck's instant response was: "That is brilliant." Chuck immediately arranged to have breakfast with Bill Bowen, the then-president of the Mellon Foundation, to present this idea to him. Bill, in turn, saw the brilliance of the idea and promised that Mellon would provide the necessary seed funds to launch OCW. They then approached the Hewlett Foundation, who similarly understood the importance of the MIT OCW initiative and committed foundational resources. OCW was launched in 2001; today there are materials from 2,150 MIT courses available online through OCW, and so far, there have been 125,000,000 visitors. The brave new world of Massive Open Online Courses, the so-called MOOCs, emerged from MIT's OCW. Without Chuck Vest, this may never have happened, or at least would have been delayed many years.

The accomplishments above are among the many important contributions that Chuck made to research and education at MIT. However,

in parallel with this, he also played a critical leadership role in science and technology at the national level. Chuck was a regular presence in Washington. He logged more than 100 visits to the nation's capital, personally conferring with some 250 officials during his time as MIT's president. Near the beginning of his service at MIT, Chuck established the MIT Washington Office and recruited the inimitable Jack Crowley to lead it. One lesson that many of us learned from Chuck is that in Washington, it is not all about senators and congressmen: much of the real work is done by staffers. In the words of Bill Bonvillian, the current director of the MIT Washington Office: "Chuck knew where much of the real work was done, and purposely got to know the staff handling science and technology issues. It was easy for him, because that was him—no standing on ceremony, no pretense, just his honesty and forthrightness." It is largely because of the efforts of Chuck and his ally, Norm Augustine, the former CEO of Lockheed Martin, that Congress passed and President Bush signed the America COMPETES Act.

Chuck served on a wide variety of important committees in Washington, beginning with the President's Council of Advisors on Science and Technology. At the request of President Bill Clinton, he chaired the Committee on the Redesign of the International Space Station, which revitalized the space station at a time when its future was in question. President Clinton said of Chuck: "He served with distinction as an ambassador and spokesman for science in Washington, advocating tirelessly for the essential role of research in our economic growth and national security."

Perhaps his most challenging assignment was serving on the 2004 bipartisan Commission on the Intelligence Capabilities of the United States regarding Weapons of Mass Destruction. The commission ultimately concluded that in reporting the presence of nuclear, chemical, and biological weapons of mass destruction prior to the U.S. invasion of Iraq in 2003, the U.S. intelligence agencies were "dead wrong" and their collected information was "worthless or misleading"—quite an astonishing and brave conclusion for a committee established by the president of the United States. Chuck also chaired the Task Force on the Future of Science Programs at the Department of Energy. I served on that committee at Chuck's behest and was able to witness firsthand the consummate skill that Chuck exhibited in dealing with staff and senators alike. Specifically, he was remarkably resistant to the inevitable political pressures to arrive at certain conclusions and not others.

Academia is filled with exceptionally gifted people. Many will not hesitate to let you know immediately just how brilliant they are. Chuck was equally intelligent but took the exact opposite approach. He was humble to a fault, but all you had to do was listen to him to realize just

how gifted he was. It was this innate humility that made Chuck so effective in Washington.

One might ask how Chuck himself looked on university leadership. In 2000, when I was preparing to leave MIT to assume the presidency of the University of Toronto, Chuck dropped by my office to offer his advice. He said: “Bob, I have only two pieces of advice for you. First, being president of a university is not a job—it is a life. Second, even when you are off the record, you are on the record.” Both proved to be remarkably true.

In 2007, Chuck was elected president of the NAE and vice chair of the National Research Council. In the words of Dan Mote, the current president of the NAE:

Chuck promoted evergreen programs on the Grand Challenges for Engineering which spawned Grand Challenge Summits at universities around the U.S., a Global Grand Challenges Symposium and fostered better public understanding of engineering and its importance to the well-being of the nations and the world. He also expanded the NAE Frontiers of Engineering program by creating bilateral Frontiers of Engineering symposia with China and the European Union and initiated the Frontiers of Engineering education symposium series. He initiated a major NAE effort to understand the nexus between manufacturing, design, and innovation to the prosperity of our nation. Chuck became the spokesperson for engineering by illuminating the forces reshaping the landscape of engineering nationally and globally, including its practice, education and future.

In 2006, Chuck was awarded the National Medal of Technology and Innovation by President Bush and the Vannevar Bush Award by the National Science Board.

Chuck was deeply devoted to his wife, Becky; his daughter and son-in-law, Kemper Vest Gay and John Gay; his son and daughter-in-law, John and Christina Vest; and grandchildren Mary and Robert Gay and Ameri and Charles Vest. He took great pride in the accomplishments of his children and grandchildren. I remember well a conversation that I had with Chuck when we discovered that we had grandchildren on the same soccer team in Arlington, Virginia; we both expressed our pride in our emerging soccer stars. Chuck was particularly devoted to Becky, to whom he was married for more than 50 years. During Chuck’s presidency at MIT, Becky suffered a serious illness, and Chuck stepped in to care for her with extraordinary tenderness, just as Becky did for Chuck when he fell ill in the time leading up to his death. Theirs was a true partnership

On 29 August 2012, a number of us who were close to Chuck received a shocking e-mail from him. In it, Chuck reported that after experiencing some very modest symptoms, he had gone for a check-up and a CT scan revealed that he had pancreatic cancer. In describing his plan for treatment, he expressed both confidence in his medical team and optimism that his treatment would be successful. Unfortunately, as so often happens with pancreatic cancer, even the best medical team in the world could not effect a cure. Chuck dealt with the challenges in his treatment remarkably well, viewing them with the objective eye of the consummate engineer that he was.

It was characteristic of Chuck that when he first learned about his cancer, he said that he was not afraid of dying. Rather, he was still focused on higher education and the nation. Larry Bacow met with Chuck just 2 weeks before he finally passed away. Chuck talked about the state of higher education, the challenges in governance of our great universities, and the eroding public support for higher education broadly and research universities in particular. He was our national leader right to the very end. Chuck finally passed away on 12 December 2013, less than a year and a half after the initial diagnosis. We all lost a wonderful friend and the greatest leader of higher education of our era.

Elected 2008

ROBERT J. BIRGENEAU

Chancellor Emeritus

Arnold and Barbara Silverman Distinguished Professor of Physics,
Materials Science and Engineering, and Public Policy
University of California, Berkeley

President Emeritus

University of Toronto

Professor of Physics, Emeritus

Massachusetts Institute of Technology

ACKNOWLEDGEMENTS

I would like to thank Larry Bacow, Rosalind Williams, and Mary Catherine Birgeneau for their many contributions to this memoir. I also want to acknowledge the excellent article written by Steve Bradt, the Director of News in the MIT News Office, from which some of the content in this essay was extracted.

