I came to history late in life because I didn't much like it as a kid. My first career path after getting my PhD in Computer Science at Stanford was academic, and then for 16 years I was smitten by the entrepreneurship bug and co-founded two computer networking companies.

In 1994 I took a break from the startup world and returned to academia. I taught EE282 at Stanford, the same graduate course in computer architecture that I had taken 23 years earlier from the legendary Ed McCluskey. Of course the field had progressed enormously, and much of the material was new.

But I also discovered that, in the interim, history of the field had been largely removed from the curriculum. In 1971 we learned about memory paging by reading the original papers about the first computer that used it, the Ferranti/Manchester Atlas. Alas, in 1994 there were no historical papers on the reading list.

That seemed like a shame. After all, physicists learn about Newton, chemists learn about Lavoisier – why shouldn't computer scientists learn about Babbage, Turing, Von Neumann, and all the rest?

I couldn't single-handedly change the curriculum, so I looked for another way to bring history back. It seemed to me that the story could be told by a museum instead, and to a wider audience than computer science students. Silicon Valley, where I then lived, had become the center of the world for computers, so that was the natural place for it.
When my teaching gig was over in 1995, I began seriously talking about starting a computer museum, and worked on plans for its funding, location, and activities. I thought I would have to go it alone, but that was fine; I was used to startups. I wrote a series of white papers making the case for a museum (www.computerhistory.org/...), and shopped it around.

The Case for a Silicon Valley Computer Museum

The computer was not invented in the San Francisco Bay area, nor are most of the world’s computers built here. But few would argue with Silicon Valley’s claim to the title of intellectual capital of the computer business. The confluence of established companies, startups, venture capital firms, technology-friendly universities, and media coverage has caused the center of gravity to shift to this area.

Perhaps because the early development of computers was centered elsewhere, an appreciation of the history of computers has not been much expressed here until recently. That has changed, however, and the objective of this paper is to show that now is the time, and Silicon Valley is the place, to establish a major computer history center and the world’s premier display collection of computer memorabilia.

Surely, I thought, there must be other dedicated computer museums that I could model ours after. If we were starting a car museum, there would be hundreds to look at.

There weren’t. I visited the Smithsonian and was disappointed. I discovered there was only one potential model: The Computer Museum in Boston. In 1996 I visited TCM, and met Gwen Bell, and learned its story.

TCM had opened in 1979 in Marlboro as the "Digital Computer Museum" to do exactly what I wanted to do, but in the intervening years, after the move to downtown Boston, it had lost its way. The computer industry had largely left the area, and funding for computing history there was hard to come by. The museum was gradually morphing into a kids-oriented science center, competing with the much-larger Museum of Science in Boston. The back rooms Gwen showed me still contained a valuable collection of historic artifacts, but almost nobody got to see them. The big attraction was a larger-than-life "walk-through" personal computer that kids could climb on.

After I returned to California, Gordon came to visit me in my Menlo Park office with Carol Welsh, the only west coast employee of TCM. We spoke for several hours. Gwen and Gordon were still clearly devoted to TCM’s original history mission, and were disturbed by the changes. We began to hatch a plot.
Gordon basically said, "Don't start your own museum. Reboot what we started in Boston, but this time in Silicon Valley." Given Gordon's reputation and the headstart that TCM represented, it didn't take me long to accept that offer.

I abandoned my plans to start my own museum. Instead, I joined the board of Boston-based TCM specifically to found a subsidiary of it in Silicon Valley dedicated to computing history. We clearly saw the handwriting on the wall: the museum in Boston was headed downhill, and the Silicon Valley outpost, which we called "The Computer Museum History Center", was going to be the museum's future.

We hired Dag Spicer, a Stanford graduate student in the history of technology, as our first curator. We rented three temporary offices in a Santa Clara office park for Carol, Dag, Gwen, and me, and started planning.

Our immediate highest priority was to protect the collection from the problems that were sure to develop in Boston. I arranged free warehouse space at Moffett Field through a friend at NASA Ames, and in the fall of 1996 we loaded four full-size tractor-trailers and moved thousands of the most important artifacts of the computing revolution to the west coast. We filled most of Building 126 (a "temporary" building with a leaky roof dating from World War II), and also put some objects in the giant dirigible hangar next door.
We got dozens of volunteers involved, spent days cleaning and organizing, and created an amateurish but impressive "Visible Storage" exhibit.
In the meantime we plotted the museum’s future. Gwen Bell, who had run the Boston museum in the early days but now lived mostly in Los Altos, became my personal guiding light throughout the process. We not only did all our own fundraising to support the operation, but we also had to pay a 25% tithe on what we raised back to the ”mother ship” in Boston.

In 1997 The Computer Museum published a special version of its newsletter highlighting the establishment of the west coast History Center. It included a profile of me, which has special personal significance because one of the museum supporters on the mailing list, Donna Dubinsky, read it and decided she was interested in meeting me. Three years later we were married!

In 1999 the scene played out just as we had predicted: The Computer Museum in Boston closed to the public, and the corporation was dissolved. We incorporated as a new California non-profit and, after duly petitioning the Attorney General of Massachusetts, became the owner of the collection we had moved out west three years earlier. Possession, in this case, was more than 9/10ths of the law.

We kept the 7 trustees1 (out of 19) from the Boston corporation who were still fans of the history mission. We built a stronger board by adding 11 people2, many of whom had been involved with TCM earlier but had become disaffected. We hired more staff, ramped up fundraising, and started the process of becoming a real museum.

1 Sam Fuller, Gardner Hendrie, Dave House, Christine Hughes, Steve Kirsch, John Shoch, Len Shustek
2 Dave Anderson, Gordon Bell, Andy Cunningham, Peter Hirshberg, Chuck House Ike Nassi, Suhas Patil, Bernard Peuto, Bill Poduska, Grant Saviers, Pierluigi Zappacosta.
With the collection and governance in place, the next question was where the permanent facility should be. I had some initially promising conversations with Stanford University about locating on campus, but there were all sorts of complications with that.

Back at Moffett Field, NASA was planning to convert tens of acres into a research park whose central feature would be a public California Air and Space Center built inside the dirigible hangar.

NASA offered us a ground lease on two acres right in front of the hangar to build our museum on. It was an appealing prospect, because museums that cluster do well together. That became our plan of record.
We decided to execute in two phases. The first was to build a temporary "beta" building to house the collection and Visible Storage.

The second phase would be to build the permanent facility and convert the beta building into warehouse storage. We ran an architectural competition and got impressive submissions, complete with foam-core models, from three well-known architects.
Two things happened to derail that grand plan. The first was our discovery, which in retrospect should have been obvious, that NASA moves with the speed of a federal bureaucracy. Being startup folks, we didn't have the patience for that. Fifteen years later, in 2014, the NASA Moffett research park has yet to be built.

The second was economic: the 2001 dot-com bust happened, and suddenly there were attractive properties available all over Silicon Valley. There were dozens of "see-through" buildings in every commercial area from San Jose to San Francisco. We put our building plans on hold, did a search, and found the ideal property: the former sales and marketing headquarters of computer maker Silicon Graphics. It had been sold to a real estate investment company whose plan was to lease it until market prices came back up.
We negotiated with the seller and got them to agree to sell us the land and building right then for $25M. But where were we going to get the money?

Fundraising actually was going well, in large part due to the generous board and the spectacular fundraising abilities of Donna Dubinsky, who by then was a trustee. But in order to build an endowment that would help insure the long-term future of the institution, we were adhering to a self-imposed "50/50 rule" that reserved half of every capital campaign dollar for the endowment. We didn't yet have $25M of cash in the building fund, and we would have lost the building by waiting until we did.

The solution was to issue a $25M tax-free bond, which non-profits are entitled to do through a local government agency. The problem was to convince the board that it was a good idea.

Many of the trustees had scar tissue from the TCM Boston experience, where a capital campaign to retire the mortgage of less than a million dollar had failed. The board meeting on June 21, 2002 was the most difficult and tense one I had ever chaired, but in the end we got board approval, issued the bond, and purchased the building in October 2002.

We made building modifications, moved the collection out of Moffett Field warehouses, and created, thanks to our amazing VP of Collections and Exhibits Kirsten Tashev, a much more professional version of Visible Storage.
We continued to collect, of course. Eventually we ran out of room, so in 2008 we purchased a 25,000 square foot warehouse in Milpitas, 20 minutes away, to store the part of the growing collection that was not on display. For that, happily, we were able to pay cash!
While continuing to fundraise, we built temporary exhibits, like "Mastering The Game: A History of Computer Chess".

Finally, in 2011, we opened the large-scale permanent exhibit that we had been dreaming of for so many years: a 25,000 square foot extravaganza called "Revolution: The First 2000 Years of Computing".
The big exhibition has been spectacularly successful, but there have been many other accomplishments. We have restored old computers, built many temporary exhibits, created an innovative education program, put the Babbage Difference Engine on display, restarted the "Fellows" awards program, instituted a nationally-syndicated series of public programs, expanded the mission to include software, created a museum store and café, and put new energy behind the oral history program to preserve the first-person stories of the pioneers. And we are not at all finished; we have lots of plans for the future.

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In the early days of this adventure I used to say "we're a startup with a 20-year history" because of our roots in Boston. In 2014 we're not a startup anymore. In fact, we've just passed the halfway point: the original "history mission" has now spent more time in California\(^3\) than it did in Boston\(^4\). But TCM was our grandfather, and the source of our DNA.

There are many, many people who were important contributors to the Computer History Museum, and I apologize for not naming them all here. CHM has become an important world-class institution because of the amazing efforts over many years of the trustees, the staff, the volunteers, and our generous supporters. Thank you all!

-- Len Shustek, Chairman of the Board of Trustees of the Computer History Museum

\(^3\) 19 years from 1996 to 2014
\(^4\) 18 years from 1979 to 1996