

Thanks, Tim, for the introduction. Tim and I go way back, all the way to elementary school, so we know a lot about each other, good and bad, a situation I like to think of as mutually assured destruction.

Thanks to the Department for giving me this Distinguished Alumni award, I guess this proves that looks and personality are not part of the selection criteria.

I had a great experience matriculating at Virginia Tech, back when electronic calculators were the hot new technology.

The most impactful class I took at Tech was Matrix Methods, taught by Dr. Siegfried Holzer. In that class we developed a matrix based frame solution program, in Fortran, using punch cards, and I thought that was just about the coolest thing ever. To be able to use a computer to accurately predict how a structure would behave, I thought that was just incredible.

When I graduated I was all set to take a job with Exxon in New Jersey, but this company out in California offered me an interview trip, so I thought why not, a free trip to California. So in December of 1980, I left the cold and ice of Blacksburg to visit Fluor Corporation, in warm and sunny Irvine, California. I was just blown away with the facility and the people, everything, so of course I took the job. So my plan was to work in California for a year or two, then come back east where I belonged. Once I got out there, everyone told me if you stay two years you'll stay for good. I also married a tall, blonde volleyball playing California girl, my wife Lisa of 25 years, so needless to say, I wasn't coming back.

So anyway, Fluor is a huge company with huge projects, and when I started working there I was assigned to a project with about 50 other structural engineers. Now when I was in school I had visions of designing skyscrapers, wearing a hardhat, pointing at things with rolled up blueprints. Well, when you're an entry level structural engineer at a big company like Fluor, you don't get to do stuff like that. The project I was on was a refinery project in Saudi Arabia, and part of the project involved fabricating pipe racks at a shipyard in Japan, and then shipping them to the project in Saudi Arabia. My assignment was to calculate the center of gravity for each pipe rack. The first one I did was fairly interesting and the second one wasn't too bad either. The next 300 got to be rather tedious. I was expected to crank out 3 or 4 of these a day, and after I programmed my Texas Instruments calculator to do the calcs for me I could knock them out in about 10 minutes each, so I was excruciatingly bored and about as far away from designing skyscrapers as I possibly could have been.

As it happens, an internal job posting appearing for a position with the computer group, looking for someone to help support and enhance Fluor's mainframe structural analysis program, a program called SAP4.

I remembered my experience in matrix methods so I went for it. Thanks in part to my Virginia Tech Masters degree, I got it. In retrospect that was a major pivot in my life, had I not made that job switch I probably would have left Fluor and possibly come back east.

Around the mid 1980's personal computers were getting popular so Fluor got a bunch of them and just sort of sprinkled them around the company; nobody really knew what to do with them. I was given the job of figuring out if these new gadgets had any use for structural engineering. I ended up writing a small frame analysis program for the PC and the Fluor engineering group loved it. My name and phone number were on the start screen for the program, in case anyone had questions about it, and when I started getting calls from engineers who didn't even work at Fluor I knew we had something. I went to my managers and suggested we start selling the program commercially and was immediately shut down, so I decided to give the software business a shot on my own.

So I left Fluor, cashed out my retirement account, and started RISA Technologies, independent developer of structural design software. It took me about a year, with a few stops along the way, to create the first version of RISA-2D.

After I completed RISA-2D I went door to door among structural engineering offices in Southern California trying to sell it. It's incredible how motivating no income and a shrinking savings account can be.

As it turned out I was able to sell RISA-2D to most of them. This was a big step because at this point I knew I might actually be able to support myself writing structural design software.

The next big step was writing RISA-3D, which I finished in 1993. Once I started selling RISA-3D the company really started growing and I was able to finally start hiring other engineers; RISA-3D has been the focus of the company ever since.

Today RISA-3D is the most widely used structural analysis program in the United States and it has been for the last ten years. Fluor Daniel, my old employer, is now one of my biggest clients. It can all be traced back to that matrix methods class with Dr. Holzer. I sure hope what Dr. Holzer taught me was accurate because that knowledge, through RISA software, has impacted the design of many thousands of structures.

Thank you.