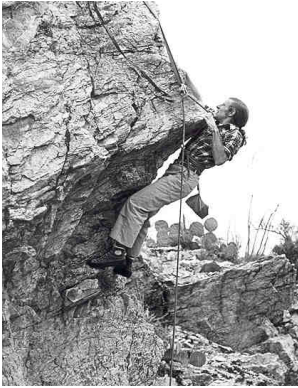


John Hayes, PhD, 1984



What influenced your decision to attend graduate school at OSC?

After my undergraduate degrees in physics and astronomy, I went to Penn State to study Physics with a vague notion that I wanted to get into astronomy. After receiving my first OSA Journal and reading the cover article about image subtraction using interferometry by a guy named Jim Wyant, I realized that what I really liked about Astronomy and Physics was actually optics and engineering. So I left Penn State for Arizona to become a student at OSC and the rest is history.

What do you wish you would have known your first day of graduate school? Was there anything you wish you had done to prepare more for graduate school?

Technically I was reasonably well prepared; although, I wish that I had learned more about electronics. The big revelation came when I realized that some of the things that I blew off as a physics student such as writing skills were actually pretty important! After submitting my first written assignment to my advisor (by then, Jim Wyant), he returned it with every misspelled word circled in red and editing marks everywhere. The message was crystal clear and after that, I worked really hard to never to turn in anything with a misspelling, poor grammar, or missing punctuation. Later in life, that lesson paid off when I wrote proposals, professional papers, user manuals, and marketing materials. I even spent five years working for fun as a professional writer for an aviation magazine. Jim never said a word about it but all of those red circles, arrows, and correction marks on that one paper were all I needed to 'hear.'

Which classes did you find most enjoyable? Which ones did you find most difficult?

All of the classical optics courses—including optical design, Fourier optics, and optical testing—were my favorites! I had so much fun when I took the optical shop class that I almost forgot about all of my other classes. I struggled a bit through the quantum and laser physics courses, but the toughest of all was a two-semester Electricity & Magnetism (E&M) course out of Jackson while I was studying physics. I actually did pretty well, but sadly—after all these years of disuse—it has turned back into Greek.

And speaking of Greek, I dodged a bullet when the foreign language requirement was dropped late during my first year at OSC; otherwise, I would have been doomed. I eventually learned a bit of German while on business trips but back then I was a lousy language student because I no interest in it.

Was there an individual (professor, advisor, staff, friend, family member) who played a particularly important role in your education?

More than anyone, Jim Wyant was the most powerful force in my education. He was my professor, my advisor, a mentor, a business partner and ultimately a friend. I had so much fun as a student at OSC that he finally had to start a company so that he could give me a job just to get me out of there! That's actually why WYKO was started. 😊

What was your research while attending OSC?

I worked on using microprocessors and phase shifting interferometry with digital sensors to develop linear methods for automatically figuring optical surfaces. Back then we were working with 8-bit processors in kit computers and newly developed, very primitive 100 x 100 sensor arrays in cameras that we had to build ourselves. I remember telling John Loomis (another grad student at the time) that I was building a computer controlled polishing machine and his response was, 'Do you ever expect to graduate?' At the time it seemed like a pretty ambitious project.

What was the cost of rent in Tucson while you were in school?

I can't remember the cost of rent but my graduate stipend for the entire school year was about \$6,000, and all of my living expenses had to come out of that.

If you owned a car during graduate school, what year and model was it?

I started with a bicycle but eventually bought a used 1969 VW bug. I think that it cost \$600. I spent a lot of time working on it and because the body was so rusted out, I repainted it using a bucket of white paint and a brush. The old red vinyl seats were so torn up that I used T-shirts as seat covers. It had pretty good tires and I lifted the rear end so that I could drive it on rough dirt roads. It had a very 'free-spirited' ambiance. It was always parked in the sun and I can still remember how it smelled of oil, gas and outgassing vinyl.

What was your favorite restaurant/student hangout near campus?

Crossroads Mexican food down by the dog track was popular and we used to dance to the street mariachis that would come in and play La Bamba.

What did you do for fun during your time in graduate school?

I started to rock climbing with five other OSC grad students who were into it (John Rogers, George Lawrence, Katie Underwood, Bernard Bell and Larry Johnson). One time, we even climbed the Meinel building late at night. That route was in the left facing corner to the right of the door to the shipping yard in the original building (I think that we rated it 5.9).

I also got into country western dancing. There was a big craze that went through Tucson in those years and there were a lot of places to dance. The same folks that were climbing were also dancing. We had a blast and it was fantastic exercise!

What was most memorable about your commencement ceremony?

It was a bit anti-climactic that after all that work, I didn't attend. I was already off on to the next thing—WYKO.

At the time of your graduation, what were the most sought-after jobs/most popular industries/most popular companies?

During my time at OSC, Viet Nam was a recent memory. So, a lot of us used to joke about graduating and going to work for 'Tarantula Napalm'—our name for the defense industry. And, indeed a lot of my classmates went into the defense and aerospace industries. Active optics for delivering large pulses of energy on a distant target (AKA laser weapons) was a growing field back then. The other big areas of employment included optical data storage, optical communications and solid-state laser technologies.

What was your first job after graduation?

I became an optical engineer at WYKO designing and testing products.

What was the most significant world event during your time in graduate school. How were you affected by this event?

I recall being a bit concerned that President Regan's election might end the world; but, in hindsight, he was pretty moderate by today's standards.

Was there a campus or community event in Tucson that was especially important to you?

I remember the rodeo parade, Tucson Meet Yourself, the Greek festival and a bunch of minor campus events, but none were especially important to me.

What advice would you give to this year's graduating class?

Be passionate and do what you love, and you'll never work a day in your life.