

Thanks for the kind words. This is all very moving.

When I think about the people I have worked with and learned from over the years, it is overwhelming. I have been blessed with a lifetime of my teachers and then my students, postdocs, and colleagues. Collaborations give access to folks who somehow always seem to be smarter and have skills and knowledge I don't, and also life-long friendships. Specifics are required in a speech so it is not just hot air, and if I mention three such people, others might feel neglected, so I won't do that. And going on and on about the marvels of computational biology in a 3-day conference about computational biology seems a bit superfluous.

So how about being 80 years old? Because that's all I have to go on about. The Texas singer-songwriter Guy Clark had a song "Desperados Waiting for a Train" about a grandson and his grandfather with the lines:

*One day I looked up and he's pushin' eighty
So why's he all dressed up like them old men?*

And it is not really a shock to find myself one of them old men but looking in the mirror I wonder: How the heck did this happen? Was I just not paying attention? But there I am. Old men have lists about how the world has gone to hell in a handbasket (women seem to be less afflicted by this). Today that is not a short list, but I want to avoid that litany.

Much has changed since I started and here is one of them ---My mentors published about 1 paper per year. They were thinking all the time, and their papers were not minimal publishable units! My PhD advisor had a paper which among other things established the unexpected relationship between Shannon entropy and Hausdorff-Besicovitch dimension. It was not a long paper but understanding it took days, with some serious background. As a student, it took me weeks. People wrote papers following tangents from his work.

I had 5 publishable efforts when I got my PhD. Zero submitted. Two from my masters, one from Bell Labs, one from the Michigan Hi-way dept, and my PhD thesis. People got jobs with no publications! Today that would be unacceptable. You could say it's better or it's worse but nothing stays the same. Being less tracked gave me freedom that I see less of today. But the first NSF grant proposal I saw was one I wrote so it cuts both ways. Don't be too hard on the past because tomorrow the present will look easy or stupid or immoral or glorious. And I ask you: what will today look like in 50 years?! Be cautious!

Recently I answered some questions from City University of Hong Kong for an article. One of them was *"Throughout your career, what has been the greatest challenge, and how did you overcome it?"* I choose the difficulties both Smith and I had to publish our initial work. An editor in his rejection letter said our paper satisfied neither mathematicians nor biologists. I used the word "metric" in the title and a referee said we should read about metric spaces. My Los Alamos colleague was furious. It was like telling an English professor there is something called words and they should consult a dictionary for more about them. But it's understandable-----work that is different and falls between subjects often has little genuine content. Unless it does! Smith had ambitions and insisted we submit to fancy journals. I had a 3-step summary of rejections from the journal **Nature**--- (1) This work is of no importance or interest to **Nature**. (2) I forget this part. (3) To close, your research has already appeared multiple times in **Nature** so it is not new. In logic if you start with a contradiction you can conclude anything. **Nature** wanted us to go away and not bother them. The answer of how I overcame that it was to submit and revise and resubmit (repeat as necessary), and not to care much about how prestigious the journals were. Do the work, get it out there, go on to the next thing. Forget performance measurements, H-factors and impact factors.

This goes for hires too. You should read their work and listen carefully to make good choices. I am struck that successful faculty at USC often were hired young and were not doing the standard usual work in their areas. Examples:

Arieh Warshel, Chemistry. With a Nobel still sees himself as outsider and underdog.
Len Adelman, Computer Science. RSA encryption, DNA computing
Caleb Finch, Gerontology. Pioneer of the biology of aging
Simon Tavare, Mathematics and Biology. Coalescents, cancer modelling
Aimee Bender, English. The Peculiar Sadness of Lemon Cake

I believe such faculty are how a university's identity is created. Senior recruits also can be transformational: Mark Kac in Mathematics and Kevin Starr in History made USC a better university. But this is not always the case and mistakes in high level hires are serious. I have a recent example but this goes on my "old man ranting" list and I said I would not do that. Apologies.

USC accommodated computational biology before it had a name. In truth USC did not know what it was in for when they hired me. We took a random and sometimes painful walk through USC's organizational structures. Now there is a new Department of Quantitative and Computational Biology at USC and similar departments are appearing all around the globe. Helping Remo Rohs get the undergraduate QBIO degree started was a true joy---the students would object to a class because it was too easy and they didn't learn anything. These extraordinary students truly give me hope for the future.

Thanks to you all for being with me in what has been and continues to be a great adventure!