

Phi Beta Kappa Initiation Address

Wednesday June 4, 2014

Good afternoon. My name is Stefano Profumo, and I am a Professor of Physics here at UCSC.

As you can gather from my name and from my accent, I am originally from Italy, where I did all of my schooling. When I started my academic career, as a post-doctoral researcher, here in the United States I had no idea what all of these “Three Greek Letters” societies were. Luckily, I ended up marrying a beautiful American woman, who not only is an academic (she is in fact a Professor here at UCSC), but who is also an alumna of the College of William and Mary (where, I understand, Phi Beta Kappa was founded), and also a Phi Beta Kappa member. So I got some insider information...

As an Italian, I always tease my wife on the notion of all things “historical” in America. Almost all human artifacts in California are a couple centuries younger than the house I grew up in in Italy. My dad couldn’t even plough one of the fields around our house in Italy because they had discovered a Roman cemetery there (to his great scorn).

Yet, something as old as 1776 is old. Even for Italian standards! Phi Beta Kappa is old, AND impressive: 17 U.S. Presidents, 38 U.S. Supreme Court Justices, and 136 Nobel Laureates (of which 40 in my field of Physics) have been inducted members of what I understand is considered the “nation's most prestigious honor society”. In fact, even our Department Chair, Professor Michael Dine, is a member of Phi Beta Kappa! A society that according to its motto maintains that “Love of Learning is the guide of life”. Beautiful. Inspiring.

So it is an honor for me to be here this afternoon, and it is my great pleasure to extend my very sincere congratulations to all those of you being inducted today into Phi Beta Kappa. This is a major accomplishment, something for which you should be justifiably proud for the rest of your lives, and something for which your parents should be justifiably proud.

As I mentioned, I went to college in Italy. College in Italy is different from here. One difference is that if you study physics you ONLY study physics. The “breadth requirement” is a lab course if you’re a theorist, and a theory course if you’re an experimentalist. And this was MY DREAM. I loved physics in high school. I wanted to do ONLY PHYSICS in college. Given that intellectual breadth is a staple of Phi Beta Kappa, I’m not sure I would have qualified to be inducted as a member... but, be it as it may...

I went to college in Pisa, the city of the leaning tower, in what is considered an “elite” university, called Scuola Normale. You’ve got a week-long entrance exam with three written tests, taken by about 400 prospective students. Scuola Normale then admits about 8 physics students per year. If you get in, it sounds like a really sweet deal: they pay your tuition, room and board. They even give you a salary! But the students are held to the highest academic standards, and there’s an often insane, and unhealthy competition among Scuola Normale students. I ended up doing my master thesis on the most challenging possible topic I could find in theoretical physics, feeling that I had to PROVE something. It didn’t have anything to do with data, with reality. I was really NOT enjoying doing research.

When I graduated I thought I HATED physics. And I thought, that my parents wanted me to have a career in the corporate world, and definitely not in academia. Shortly after graduation I was recruited by a top management consulting company, McKinsey, and I was thrilled about the radical change in my career.

It was 2002, and those were pretty tough times. McKinsey consultants were hired to go into big companies, where they were told by the CEO to cut, say, 20% of the workforce, and to find people to sack. But I REALLY wanted to like that job! It was so hard to come to terms with the fact that it was CLEARLY not for me. It was hard to listen to my gut feeling, which was CRYSTAL CLEAR: I had to give physics a second chance!

And I did. Following the advice of a particle physics experimentalist, I decided to completely switch topics, move away from Pisa for grad school, and work on dark matter. And I still work on dark matter, after more than 12 years. Haven’t found it yet, but I love what I do. It’s been a great journey, and in the process not only did I fall in love with physics again, but also with this country and with my beautiful American wife. And, frankly, I think I have the best possible job!

Folks, as you near the end of your college experience, you face a decisive moment in your life: you will soon have to make decisions. And making decisions sucks. It sucks because we are thinking beings, we are intellectuals, we were trained to make informed choices. We like variables that we can actually control, outcomes we can predict. Unfortunately, life is not like that!

But we do have beacons. One of the beacons I had in my life was to be honest with myself, with how I felt about what I was doing. Letting go of what I thought OTHER PEOPLE wanted me to do. Let me quote great physicist Richard Feynman (I'll do it again later). Feynman said: "You have no responsibility to live up to what other people think you ought to accomplish. I have no responsibility to be like they expect me to be. It's THEIR MISTAKE, not my failing."

I'm really excited about my research, and I hope I convey some of this excitement to my students in my lectures, and more directly to those who do research with me. This is a very exciting time for research in my field, particle physics: the discovery of the Higgs, where many UCSC faculty played a key role; there have been multiple experimental and observational signals that might originate from dark matter. Dark matter might well be the portal to new physics, beyond what we call the "standard model", a theory which we know is incomplete. And we at UCSC are leaders in this field, at many levels: 1. observation; 2. theory; 3. phenomenology; 4. simulations. The very paradigm of cold dark matter was invented here by my colleague Joel Primack, together with our chancellor George Blumenthal and Astronomy professor Sandy Faber.

I think it's great when you experience an environment where people do cutting edge research. It's great when your teacher is not just repeating notions produced by others; she or he is actively engaged in PRODUCING those notions, in writing the next chapter in this great book of science, of knowledge. I hope you have or you will experience some of this excitement while here at UCSC, at a premier RESEARCH university. "Love of Learning, love of knowledge is the guide of life" says your society's motto. And it doesn't get much better than producing new, original knowledge, being the first to understand, to truly learn about new, previously mysterious phenomena.

At McKinsey, the only thing that kept me going was having a good salary. And I did! I was quite good at the job, but it truly felt what I like to call “prostitution of the mind”. My intellect was serving a cause that I had no interest in, that didn’t mean anything more than a way to earn a good wage. Scientific research is not like that. I care about what I do, and I choose to do it, just like you chose the advisor and topic you worked on. I truly wonder what the dark matter is. We’re talking 80% of the matter in the Universe! I’m really curious about what the heck it is, I want to find out, I’m so excited about the question my research deals with!

So embrace this decisive moment of your life. Yes, you will soon have to make decisions, important decisions, decisions that will uniquely shape your life. And the process sucks! HOWEVER, I am sure that in this process you will cherish having experienced here at UCSC what original thought is, how creative imagination works, and, finally, what it means to make “love of knowledge the guide of life”.

And I do think there is a most important beacon in this rough waters of making decisions in life. Call it heart. Call it guts. It’s a matter of asking yourself: “Do I love what I’m doing?” “Am I passionate about what I do?” “Is the notion of Monday morning acceptable?” It’s a matter of being honest with yourself, and to be brave about the consequences. Let me quote Feynman one last time: “Physics isn't the most important thing. Love is.”

So, take your destiny in your hands. Work hard. Go out there. Make some damage, make a difference. And enjoy the process!

Before concluding my remarks today, I need to say something on behalf of all the faculty and staff of UC Santa Cruz: You make us all VERY PROUD! And I know that there are many more achievements in store for each one of you, so please keep us posted on your future successes so that we can continue to feel the warmth we are enjoying with you today.

Congratulations to all the 2014 inductees in the UCSC chapter of Phi Beta Kappa!