

DMS Class Day 2009

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Graduate Student Speech

Dr. Ingber, Dean Green, Dean Pogue, faculty members of the Dartmouth Medical School, honored guests, fellow members of the class of 2009, and ladies and gentlemen. It is such an honor to represent my fellow graduate students in delivering this class-day address. This is an occasion of great joy and I congratulate every member of the graduating class for their outstanding achievements.

Fellow graduate students, whether or not we fully realize it yet, we are each about to walk on this stage to be awarded the Ph.D. (or a Philosophy Doctorate) degree. And I am certain that each one of us is joyful and maybe even proud of their perseverance and achievements up till this point. Yet, I want to ask you a question that has baffled me for quite sometime: *"What does it mean to have a Ph.D. degree?"* It might be easier for our fellow M.D. degree recipients today to answer this question as they are each becoming physicians dedicated to alleviating the pain and suffering of humankind. The same applies to others who are receiving their doctorate degrees such as the J.D. and Pharm.D. and who have well defined career paths. This leaves us wondering, what is it that we have learned to become? The lack of a clear definition and an immediate answer may have led many of our friends to comment about the potential esoteric nature of our endeavor. Some of my friends have even approached me and wittingly said that Ph.D. stands for *Permanent Head Damage*. I knew of course their comments were not mean-spirited yet they underscored their lack of immediate and practical appreciation for the meaning and values acquired during the Ph.D. training. And this is exactly why I am standing here before you today, using the past four years as a metric to give you an answer as I have experienced it.

To me, the Ph.D. training is simply a way of nurturing one of our most basic and fundamental instincts as human beings: Curiosity! It is a mean to reconnect with our intense and vivid childhood instincts: to understand HOW and WHY the world works around us. If you take a moment and reflect upon the first ten years of your life, a couple of decades back (yes, two decades!) and remember how often you asked your parents: *how is the radio made? Or why is the sky blue?* You will quickly realize the intense satisfaction you got when you knew the answer to a begging question. And even more satisfying, was the feeling when you figured this answer by yourself.

This is exactly what we have been doing over the past few years, here at Dartmouth, but in a more structured, and if I may say, academic way. We learned how to ask questions, only in ways that lends them to scientific and empirical investigation. We tackled big problems, which at first seemed irresolvable, by dividing them into smaller questions approaching one at a time. In short, we revived our basic childhood instincts of curiosity in order to add to the collective knowledge of humankind. Who would ever forget the thrill of the moment when they discovered something for the first time and stayed in lab until the break of dawn, or when they found an answer to their long-sought after scientific problem? Who can deny the immense satisfaction earned when they realized they were the first person in the ENTIRE world to discover something novel? One time, Professor Geoffried Schatz, an inspirational speaker, gave a lecture, here, at Dartmouth Medical School entitled "*How to Succeed in Science*". One of his most useful statements describing scientific investigation was his claim that "*A successful scientific career comes from a state of mind of controlled chaos*". Indeed, I would like to propose that the chaos is a remnant of our childhood while the control comes with our academic training!

We all enjoy satisfying our curiosity but practically speaking what good does it serve our world? I may argue that without cultivating this basic instinct we, as a species, may not have lasted for very long. For instance, without scientific investigation, we would easily become unaware of the repercussions of our actions on the planet on which we live. On another note, it is needless for me to emphasize the importance of the impact biomedical scientific discoveries have on advancing healthcare and discovering cures for many human disease. I would put forward, however, that our ability to cure hundreds of diseases may have been the result of an accident and not intention; a result from a discovery that was not necessarily fueled by the motivation to cure these diseases by themselves but rather to find out how the human body operates and how the cell works. It was the product of serendipity and curiosity. I urge you not to undermine the value and worth of pursuing our curiosity for its own sake. We know so little of what surrounds us that we cannot anticipate where our journey for the quest of knowledge will take us.

However, as we embark on this journey, we must not forget that we are not alone. Most of us will likely pursue careers that revolve around the good cause of discovering new cures for human illnesses. To achieve this goal, we must combine our curiosity with constructive collaborative efforts. And, as I am

speaking to an audience of future physicians and scientists, I would like to take this opportunity to highlight the importance of cross-talk between these two disciplines. The future of healthcare is not the responsibility of only one discipline. During the past few decades medicine and science have grown ever closer to each other. While they are each unique and distinct, they heavily depend on each other. And I feel lucky having spent the past few years of my life at a place like Dartmouth where inter-disciplinary boundaries are easily crossed. What makes this place unique is this intimate environment that allowed me to interact with people from various disciplines. When I first joined the Ph.D. program at DMS, I was worried of losing the breadth of education I had acquired as an undergraduate student by now focusing on solving a single specialized problem. I soon realized however, that while maintaining focus is of utmost importance during the Ph.D. training, of equal importance is relating the impact of what we do to broader questions and other fields.

A while back, a professor once told me that graduate students and medical students are like *Homo Sapiens* and Neanderthals. He was referring to the lack of interaction between the two groups of students. I was disappointed he did not specifically mention which group were the Neanderthals. But, in all fairness, at Dartmouth, my experience can only attest to the contrary. And, I strongly hope that we can bring this culture of closeness and collaboration to our future respective careers.

I will thus fondly remember and cherish my time at Dartmouth. I will always appreciate the guidance and friendship of my thesis advisor, Professor Duane Compton (thank you, Duane!), my fellow lab mates (Sarah, Swapna, Emily, Amity, Neil, Lily, and Marianna), fellow classmates, and the faculty members. I would also like to thank members of the MD-PhD program at Dartmouth Medical School, its success is a witness of the dynamic and collaborative nature of our medical school. I cannot end without saying thank you to my parents, family members, and to all of those whom I have come to know and love in this beautiful place.

My dear friends and colleagues, what we know is only a small fraction of what we do not know. The sphere of potential knowledge is boundless and as a result, we will never be out of work! So please, sit back, let your minds wander in the endlessness of our universe and enjoy a ride that is full of serendipity.

Thank you!