Convocation Speech “Aims of Education”
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First, I want to thank President Struppa and Provost Bouchard for inviting me to speak. I also want to thank them for the dedicated and visionary work they are doing. It’s hard to say “No” to Daniele. His enthusiasm and warmth are like magnets to all who are around him. I also want to thank Dean Michael Ibba and Professor Andrew Jordan and the many administrators who work so hard to make this a wonderful university.

It is a delight to see all your faces this evening. You are at the outset of a journey filled with wonder, hard work, new relationships and infinite possibilities.

I have been asked to speak about the “Aims of Education”. Put another way, why are you here? Some of you are, perhaps, asking philosophically, “Why am I here?”. Some of you may be asking existentially, “Why am I here?” Some of you, seeing a future of unbounded freedom, are now looking at your parents and asking, “Why are you here?” and some of you, in a couple of weeks, will be asking your parents “Why aren’t you here?” So, why are you here?

Let’s consider a little Greek philosophy. Plato and Socrates sum up the aims of education in a single sentence, “The purpose of education is… to gain knowledge”. Need I say more? Well, yes, because I’m supposed to give a 10-12 minute speech. Proceeding, Aristotle tells us, “The happy life is thought to be one of excellence… if eudaemonia, or happiness, is activity in accordance with excellence, it is reasonable that it should be in accordance with the highest excellence; and this will be that of the best thing in us.” What is Eudaemonia? It sounds a little like a disease. “What’s wrong with her?”, “Eudaemonia”, “What’s that?”, “She feels a sense of well being, happiness and self-fulfillment as she strives to do well academically”, “UGGHH, that sounds awful! I hope it’s not contagious!” “Yeah, me too!”. I want to speak to those who aren’t afraid of contracting a serious case of academic eudaemonia. So here are some things that I have learned that helped me find happiness during my academic pursuits.

The first piece of advice for eudaemonia is: prioritize, focus and then have fun. Why prioritize and focus? We live in the age of distraction and addiction. Many years ago, I discovered “The Age of Empires” the video game. I couldn’t stop playing it. I could play for 18 hours a day. I would say, as many of you do, before starting, “I will only play for 20 minutes”, but six hours later, I would still be there. My work was suffering, my family life was suffering, my responsibilities were suffering etc. I finally just had to stop cold turkey. Even though I still want to play it, I just can’t and don’t.

Addictions are real. They can make your lives miserable, make your homework seem endless, sap your relationships, strain your resources, shun academic integrity and most importantly make your lives unpleasant. As many as 50% of young people

report that they are addicted to the internet in one form or another. If you can't stop scrolling through Tiktok or Instagram or stop checking your feeds or playing World of Warcraft, I recommend getting some counseling. There are excellent counseling services at the university.

If you are easily distracted, I recommend removing distractions, such as turning on the quiet mode on your phone, or even better, leave it at home and go to the library to study with a dedicated friend. This is how you can follow Aristotle's plea to do your education in "accordance with the highest excellence". Otherwise, an hour-long homework can suddenly turn into 3 hours or you will procrastinate until late at night making your lives miserable. You will be surprised at how much additional freedom you can then enjoy with friends or do meaningful activities.

The second piece of advice for eudaemonia is: embrace the challenge. One of the conventional pieces of wisdom is that you do what you are good at or what is easiest. Why? Who says? We aren't just water flowing down the path of least resistance. Often when people hear that I am a physicist, its like a dementor entered the room. Their throats tighten, their eyes fill with fear, all future hopes of happiness seem to flee away and they hear a distant scream from the time they worked the whole night through and were unable to finish a physics assignment. They gulp, start quivering and say, "Physics was so hard for me" to which I reply, "FFFbbbbtttt, WHAT?! Physics is a cake walk for me." Okay, not really, I usually respond, "Yeah, it's hard for me too". During the first year of my undergraduate, I was a chemistry major. I could see that chemistry and I weren't going to be on the best of terms. I took a two year break to serve a mission for my church. At the end of my mission, I needed to decide my major before reentering university. I chose physics, not because I was good at it (I had only had one remedial course in physics), but based on two quotes, one from a friend "Quantum Mechanics is weird" (weird sounds cool) and one from Einstein "I want to know what God knows" (wow, sounds amazing). But it wasn't easy, nor did I fly through it. There were plenty of gut-check moments. Vectors were hard, quantum mechanics was hard, electricity and magnetism was hard, thermodynamics was hard, solid state was hard, pretty much everything was hard. I remember getting a homework back that had a vector problem in it and the professor said, "Do you know what that is?" "A vector?", "A dyad, it's a dyad", "cool! a dyad". I still don't know what a dyad is. My graduate quantum teacher allowed me to pass the class, not through merit, but through mercy. I was like the boy in the Far Side comic who asked the teacher, "May I be excused, my brain is full" Even geniuses like President Struppa and Andrew Jordan sometimes need time to digest new things. I took calculus three times, once in high school, once before my mission and once after. I finally gained an intuition for it the third time. I hope President Struppa isn't second-guessing his invitation to invite me to speak.

Physics started to make sense for me during my PhD research. By the time I finished, one of the professors, from whom I had taken graduate electricity and magnetism came to me and said pointing to my thesis, "This is surprising!". Since I passed, I assume that statement was a compliment. Ironically, I have since taught graduate quantum mechanics half a dozen times, multiple graduate quantum optics courses and enjoyed a career of exciting discoveries in physics. Physics is still hard

for me, but I love it. Embrace the challenge. The only difference between you and your professors is that they have had more time to think about the topic they are teaching.

The third piece of advice for eudaemonia is: learn the box, before you think outside of it using your unique gifts and talents. In order to think outside the box, you need to know what is in the box. You are going to have many academic boxes placed before you. Look inside, understand their contents, find the boundaries. You can't think "outside the box" in an academic field where you don't even know the box. For example, I'm not going to make any revolutionary breakthroughs in heart surgery, because I have no idea what is involved in heart surgery. Frankly, I don't want to learn heart surgery, because I would probably pass out 100 times in the process.

Once you've learned the box, you can start modifying that box. I had a PhD student, who had not done very well in his graduate physics courses, but he came highly recommended. He spent a lot of time learning the intricacies of the research field of digital signal processing even rewriting lengthy, well-established computer code in another language to make sure he understood. One day, he proposed a new way of solving what was, at the time, considered to be a very hard problem in remote sensing. I am ashamed to admit this, but I discounted his idea, because he hadn't done particularly well in his courses. What he proposed was revolutionary in his field. I had heard two famous physicists/computer scientists pontificate on the difficulties of solving this hard problem. He solved it in an ingenious way that circumvented the expected paths and allowed for incredible new capabiliti. He learned the box, then using his unique skills, he solved the problem.

Fourth: money is important, but it's not everything. Of course we want you to be active, contributing members of society. It's very hard to do that without an income. In a highly specialized industrial society, a good income usually requires significant education. However, if you're only going to school to get a fast car and a big house, you won't find eudaemonia. Happiness, self-fulfillment and well-being in life are found in important relationships with others (like family), service, gratitude and importantly in life-long learning. Your university years can build important foundations in all these areas.

I, along with the administration, your teachers and your parents want you to find happiness and fulfillment, "eudaemonia" while you undertake your studies here at Chapman. We are delighted to have you and wish you the best in your education. I look forward to teaching and learning from you. Thank you.