

Aims of Education 2015

## Broaden Your Path

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Good evening students, parents, and colleagues. It is an honor to deliver this year's Aims of Education address. I'd like to begin with a story.

In the summer of 1995, I did something crazy. I boarded a plane bound for the north slope of Alaska. After several hours bumping through the air on a small propeller plane, I arrived at the one room airport in Deadhorse, and boarded a van with 6 other ecologists. We would be spending the summer at the Toolik Field Station, a research station situated along the Trans-Alaska pipeline somewhere between Prudhoe Bay and Fairbanks; quite literally, in the middle of nowhere. I had just finished my junior year at UC Berkeley and I was going to help a graduate student with research assessing the effect of climate change on tundra vegetation. We began the 5 hour drive to the research station. We were on the road less than one minute when an enormous brown creature came out of nowhere and ran across the road just in front of the van. "What was that?" a few of us shouted in unison. "That was a grizzly bear" said the driver. My heart began to race. What had I gotten myself into? Why had I chosen to spend my summer in a place where grizzlies walk about freely?

We continued our trek to the field station, passing through the town of Deadhorse itself. I noticed several tall metal poles featuring alarm sirens at intervals alongside the road. "What is the alarm system for?" I asked the driver. "Bears" he answered. "Well," I said. "We should tell someone about the grizzly we just passed." The driver gave me a polite smile and said "The alarm system is for polar bears." For those of you who don't know, polar bears are more dangerous than grizzlies.

I grew up in a concrete jungle, not a remote, verdant landscape inhabited by man-eating wildlife. I had observed polar bears from a safe distance at zoos. I had never been hiking. I had never contemplated how a tree worked. I was way out of my comfort zone and I was terrified. But my

internship that summer was the single greatest experience of my college career.

In Alaska, I helicoptered over white glaciers laced with blue-grey meltwater. I witnessed herds of caribou running across the tundra. I was also driven to tears by the constant humming of thousands of mosquitos on my headnet every day in the field.

Alaska was the wildest and most beautiful place I had ever seen. And it was here, not in any lecture hall or library, that I discovered my passion for biology. I was stunned by the amazing wildlife and scenery, but it was the plants I fell in love with. Even in 1995 the effects of climate change on the tundra ecosystem were clear. Today, my research program at Chapman focuses on understanding how plant communities respond to environmental change and how to restore damaged ecosystems. I am doing what I love and I discovered my passion by pushing myself out of my comfort zone and going on an adventure.

As first-year students, you are about to embark on an exciting journey. My message to you is to broaden your path. While you are at Chapman, keep your eyes open, take advantage of opportunities, and keep an open mind. Even if this pushes you out of your comfort zone.

Many of you are entering Chapman with a plan, and that's wonderful. You may want to be a doctor, a film producer, or start your own company. Some of you may have formulated this plan when you were seven years old. My experience as a faculty advisor tells me that many of you will leave Chapman with a different goal. For example, a large percentage of incoming Biology majors want to be doctors, but the fact is that very few of them will end up in medical school. I won't lie, getting to medical school is hard and some students will be discouraged by this. However, most students who don't go to med school will make this decision willingly, happily even. Somewhere along the way, they will find something that they are more passionate about. But you can't find that alternate passion unless you broaden your path.

Apply for that internship at the nonprofit organization, take that marine biology course, minor in business, attend a social justice retreat. You can't find that alternate passion unless you broaden your path.

After 4 years at Chapman you may discover that your career path has not changed. That's fantastic. However, by taking a broad path, your ramblings along the way will make you more well-rounded or, at the very least, more interesting at dinner parties.

It's normal to change your mind about your major and your career path. I speak from personal experience. As a first-year student I wanted to go to medical school – mostly because I liked science and I didn't know what else was out there. I would have been a terrible doctor, I can't stand the sight of blood. Because I broadened my path, I went to Alaska, and it changed my life forever.

I'm far from the only person whose life has been changed by a broadening of path. In 1831, a young man with plans to become a minister, but who'd nurtured an interest in plants and animals, boarded HMS *Beagle* as the ship naturalist. He was excited by the chance to catalog new life forms in South America, and to see remote parts of the world before beginning his career. The trip had other plans for him. Here's what we wrote about it, long after:

The voyage of the *Beagle* has been by far the most important event in my life, and has determined my whole career; yet it depended on so small a circumstance as my uncle offering to drive me thirty miles to Shrewsbury, which few uncles would have done, and on such a trifle as the shape of my nose. I have always felt that I owe to the voyage the first real training or education of my mind; I was led to attend closely to several branches of natural history, and thus my powers of observation were improved, though they were always fairly developed.

That young man was of course Charles Darwin, the father of evolutionary biology. At the time, ocean travel was less secure than it is now. Passengers had to cope with scurvy, pirates, and the unpredictable wrath of the sea. History would be vastly different if he had not had the motivation to further his education or the courage to board that ship.

Before Darwin embarked on this famous voyage, he already had a solid understanding of plant and animal systematics. But he intended to further his education by cataloging new organisms or, to put it another way, generate new knowledge.

This brings me to my next point. It is widely believed that students are the recipients of knowledge. At Chapman, we encourage you to generate your own. There is a movement afoot here at Chapman and throughout the country to do away with the passive lecture and to create active classrooms where students employ critical thinking skills to solve real world problems. You will have many opportunities at Chapman to generate your own knowledge, inside and outside of the classroom.

As you now know, participating in research as an undergraduate played a pivotal role in my career development. One of my great joys as a professor is to carry this forward by mentoring students. Chapman has a dynamic undergraduate research program where students work closely with faculty on a diverse array of research projects and creative activities. In my lab, students conduct their own research projects and become the experts on a topic. When they present their work during their senior year, they know more about that project than anyone in the room. Generating knowledge is challenging, students are often filled with self-doubt. However, converting students to scientists involves taking that leap.

Chapman's mission statement is "to provide personalized education of distinction that leads to inquiring, ethical and productive lives as global citizens." This extends education beyond academics. We want you to learn outside of the classroom, to study abroad, to befriend someone from another culture. For many of you, this will push you out of your comfort zone.

My message to you is to embrace your fears, take chances, broaden your path. I promise you the outcome can't be worse than finding yourself face to face with a polar bear.

I want to close with some words from one of my favorite writers, Annie Dillard, who has an amazing gift for capturing the beauty and awe of nature. She wrote this:

"There is always an enormous temptation in all of life to diddle around making itsy-bitsy friends and meals and journeys for itsy-bitsy years

on end. It is so self-conscious, so apparently moral, simply to step aside from the gaps where the creeks and winds pour down, saying, I never merited this grace, quite rightly, and then to sulk along the rest of your days on the edge of rage. I won't have it. The world is wilder than that in all directions, more dangerous and bitter, more extravagant and bright.

“Go up into the gaps. If you can find them; they shift and vanish too. Stalk the gaps. Squeak into a gap in the soil, turn, and unlock – more than a maple – a universe. This is how you spend this afternoon, and tomorrow morning, and tomorrow afternoon. *Spend* the afternoon. You can't take it with you.”