

Aims of Education XI 2003-04  
Detours: Your Route to Success  
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Foreword by President James L. Doti

First presented in 1993, the annual Aims of Education Address has become a Chapman University tradition. Each year I have the honor of selecting a faculty member to deliver this address to new students and their parents at Fall Orientation. The idea behind the Aims of Education is to spotlight the quest for knowledge and the search for truth, through the perspectives of faculty members representing our wide range of disciplines.

This year I selected Dr. Anuradha Prakash, associate professor of food science and nutrition and the recipient of the 2003-2004 Wang-Fradkin Award, Chapman's highest academic honor. One of Chapman's most dynamic professors, Dr. Prakash and her students made news worldwide by winning a national food product development competition for NASA. Under her training and leadership, the students created a product that could find its way into outer space. Not only does she inspire future scientists to set high goals, she also reflects credit on Chapman University.

In her address, Dr. Prakash plays on this year's Orientation theme – "Detours" – to share the story of her path to discovering a love of science and inquiry. I am sure you will enjoy this heart-warming address, through which she inspires students to take advantage of the educational opportunities available to them and Chapman and to look at the detours of life as new beginnings.

-James L. Doti President of Chapman University

Detours: Your Route to Success

Fellow Students, let me be one of the first faculty members to officially welcome you to Chapman University. You are our youngest, largest, and brightest freshman class, and we are glad that you have decided to share this critical phase of your life with us. Coming to Chapman might have been your first major independent decision as an adult, and you are probably contemplating whether you made the right choice. I am sure you have many reservations at this moment and many questions about what is expected of you, what college will be like, will you survive the dorm mate assigned to you, will you be able to swallow dorm food? The answers are yes, yes, probably not, and the food is fine. If you infer from this that I cannot answer too many questions except when it comes to food, you are quite right. I certainly cannot answer all your questions, but I can give you an idea of what to expect from us, what we expect from you and, most importantly, what a Chapman education is about.

Four years from now you will be considered "college educated." But how will you know if you are educated enough? Will the degree that Chapman will award to you one happy day certify, "Here is an educated person?" Will it be your GPA? You have just been through four years of high school, are you not considered educated?

I ask these questions because, despite many years of formal education, I still feel that I need more knowledge. I have a lot to learn. I would like to learn French,

play the piano, travel to Africa, take a class on Asian Art and one in Russian Literature. It doesn't look like I will be done anytime soon. It seems that every time I take one class, I find three more that I see myself taking. It has been the same way in terms of what I have wanted to do.

When I was quite young, I wanted to be a science teacher. I have tried to remember if it was any particular topic or incident that captured my curiosity. Unfortunately, my parents cannot remember anything that I did as an infant that would point to my interest in science. But I can remember my 6<sup>th</sup> grade science teacher, who taught us a little geology, some chemistry and biology. She had a powerful hold on us. I understood her language and I soaked up that information like a sponge. To me it seemed that if I knew everything she knew about science and if I could communicate like she did, I would become just like her and life would be fine. Then just before high school, the Concorde flew into Bombay. I (and many girls my age) wanted to be flight attendants (or air hostesses as they were called then) and travel the world on the Concorde. Have you heard of the music group ABBA? They came into town at the same time, but I never imagined singing like them.

I always had images in my mind of what I would be or look like when I grew up and these images have changed with time. In high school, I moved away from science somewhat and saw myself as a dutiful wife and nurturing mother, taking care of my household with an educated efficiency. Surely societal influence played a major role in this image. In later years I toyed for some time with making Indian dance my profession but I realized it is a hobby for me. After high school I wanted to join the emerging ranks of Indian career women and go to an office everyday, carrying a briefcase. But on the train to college every morning, I overheard their conversations, and realized that the 9 to 5 corporate life was not to my taste. In college, I was able to combine my interests in science and health, and I wanted to be a nutritionist. I would wear a lab coat and treat women and children in the rural area and eradicate all signs of malnutrition from the village assigned to me. However, when I got to Ohio State University as a graduate student, I discovered the field of food science and it clicked almost immediately. It felt true to me, this combination of chemistry, food, and health issues. So, here I am; I have come full circle to be a science teacher. Most of these different paths were detours, with seemingly little connection. Yet each one has enriched me and shaped me.

But let me ask you. What is the image you have of yourself four years from now? Do you see yourself as a teacher making a difference in our children's lives? Do you visualize a physician, discovering new cures for cancer? I am sure there are some of you who see yourselves behind a camera, making the next great American epic. You may even have multiple images – businessperson during the day, actor at night. Are there dual images in your mind: environmental activist or Peace Corps volunteer?

Regardless of what image you have now, I strongly believe that you will consider other images during your four years here and definitely in life after college. Or it might get blurry and even disappear altogether in a few years to be replaced by something completely different. Life happens and you are forced to consider alternatives. The education you receive here at Chapman will prepare you for all of

the images that you have entertained as well as those yet to come and any and all of life's detours.

"Detours" is the theme of this year's orientation. The mention of "detours" often conjures images of inconvenience, uncertainties, wasted time, setbacks and traffic jams. But consider this: In most cases, detours are paths around construction work. And construction implies new structures or fixing of older ones. To someone with a positive attitude, detours indicate growth and new beginnings. At Chapman, you will be making many detours as you navigate your way across campus. In our case, the detours today allow construction of a new, state-of-the-art Leatherby Libraries, the Ken and Toni Oliphant Music Hall and the Interfaith Center with the Wallace All Faith Chapel. These are detours we look forward to, although, no doubt, we will be glad when they are gone. Don't fear them; let them enrich your lives. Your detour might be a class you sign up for at the last minute to satisfy a general education requirement, or one that emerges from a conversation you have with a professor you happen to sit next to in the cafeteria. Your education here will prepare you to accept uncertainties and to make good decisions every time a random situation forces you to take a detour.

We will not have you be passive reservoirs that we fill with data. We will not allow you to simply accept knowledge. Rather, we want you to analyze and evaluate, to question if it does not compute. And once you start thinking critically, you will educate yourself and never stop doing so. This knowledge will be sweet, and you will begin to savor and seek it out.

Yes, you will major in a particular field, but in the next four years we will work hard to expose you to a variety of subjects. Through dialogue and involvement, we will introduce you to different lines of thought, and we will have done our jobs when you develop your own way of thinking and question ours. We need you to keep us honest. A liberal arts education implies freedom from unexamined opinions, prejudices, and ignorance. It trains you to be conscious of the world around you. And if you are mindful of the world, then you will be involved, and you will make a difference.

At Chapman, we are committed to a powerful liberal arts curriculum. A set of thirteen first principles that articulate our expectations of a Chapman graduate has guided our general education core. One of the 13 first principles requires that a Chapman graduate be able to use ethical analysis and moral reasoning in the pursuit of a more just and humane world. This objective is directly related to Chapman's mission statement and the notion of global citizenship. Global citizenship means more than just having knowledge of global issues such as global warming or the rules of international business. It is about understanding one's own position and role in relation to a wider world. Global citizenship means having respect for and valuing diversity, for being outraged at social injustice and for taking responsibility of our actions.

A global dimension to your education will enable you to understand the plight of refugees, to comprehend how a change in the Tokyo Nikkei stock exchange affects the NASDAQ index. It will make you sick when you think of what is happening in Liberia and Iraq and Israel and kindle hope when you assess the impacts of sustainable efforts on rainforest conservation in Brazil. My generation

has not done well at fostering peace; in fact, strife rages in every corner of the globe. I am sorry that we bequeath this to you, but you and your peers around the world are our hope for peace.

You get this global dimension by taking classes in world cultures and, even better, taking the opportunity to travel to various countries through travel courses and study abroad experiences. A colleague and I accompanied a group of students to Costa Rica on a three-week immersion trip last January, and each of us returned with an altered world view, a new understanding of society, culture, political systems, hunger and environmental issues. Once you have this type of exposure, you'll compel yourself to do something about it. Then you will not tolerate the manipulation of innocent people for political gain or wanton destruction of our natural wonders. You will be a global citizen. Talking about citizenship, at some point in the next four years most of you will be able to vote. Recent trends indicate that fewer than 25 percent of you will exercise your right to vote. Why? Is it because people don't care or is it because they think it will not make a difference? The political situation in California is a disaster and voter apathy has a lot to do with it. Democrats point fingers at Republicans and vice versa, but all of us are to blame. Guess who inherits this chaos, not to mention the budget deficit? And who has to fix it? It will fall on you. We are educating you, our next generation of leaders, so we'd better do it right.

Let us pretend that after listening to me you promise to vote in the upcoming recall election for governor. How will you choose your candidate from the list of 135 or so candidates? Blindfold yourself and mark a spot on the foot-long ballot or count down 13 names to select the unlucky person? Or would you choose the candidate whom your parents vote for? Can you express your reasons for your political affiliation? Here is a chance to figure that out. Take a class in political philosophy that will help you determine your political values.

Let's talk about a much easier subject: science. We begin life with a curiosity about the natural world around us. I believe that we are all natural scientists at some level. Most of you will decide to specialize in different fields and become laymen when it comes to science. We don't mean for you all to become scientists, but we want you to be scientifically literate. This means that you understand the fundamental principles of science and the scientific method that is grounded in empirical observation, intervention, and objective interpretation. Then you can make sense of scientific arguments when they are presented to you.

And you will face an increasing number of perplexing scientific issues in the years ahead. Should cloning of all organisms be banned? Or just human cloning? Should we use stem cell technology? What about genetically modified food products? Last year, the African country of Zambia banned donations of U.S. corn because the corn was genetically modified. This occurred despite the fact that the country was reeling from a serious drought and people were dying from hunger. Its reasoning was that the U.S. was trying to unload unsafe corn under the guise of humanitarian aid. What is your opinion? On a scientific level, is genetically modified food safe? Is the Zambian government justified in claiming that genetically modified foods have not been sufficiently tested for safety? Or was their action a politically motivated ploy against multi-national companies producing genetically modified

seeds for economic benefit? These are complex issues that cannot be viewed from a single perspective. They have tremendous sociological, legal, and economic ramifications that affect us all and an understanding of science will guide you through this maze of issues.

Our intrinsic curiosity about the natural world and a sense of awe at how it works are just as important as the civic reasons for understanding science. In the last century, we have explored the farthest limits of our galaxy and the deepest reaches of the atom. Ironically, as we expand the limits of our understanding and inch closer to a unifying theory of everything in existence, we raise even more questions. The more we have learned, the more we become aware of how little we know. This is the attraction of science.

Surely, you have seen shapes in clouds – clouds that are shaped like dogs, maybe continents. Have you wondered why the shapes are never the same? Why is it that we cannot predict the weather or the size of the next wave in the ocean? These are what we call disordered systems. Today, scientists use Chaos Theory to explain such random phenomenon. Paradoxically, we can predict chaos. So we can predict something that tells us that nothing is truly predictable. Chaos has order. It can be visualized in the unpredictable shifts of colors and patterns of a child's kaleidoscope, or in the colors of the rainbow. Allow us to share the beautiful and challenging world of science with you. We will reveal the fundamental laws of nature that determine how the world operates, and we can explain how a butterfly flapping its wings in Bangkok can cause snow in Florida. You can start by taking science 100: "Foundations of Science." It will introduce you to the robust and intriguing theories of contemporary science. Like a chaos theorist, even if I am given every detail of your lives, I cannot predict what direction each of your lives will take. But I can predict that you will experience random events and be forced to take detours.

This is an exciting time in your life, and I must admit that I am a bit envious, but I'm also honored because you will allow me to be a part of your life, and I will learn with you. You bring a fresh perspective and vitality to our campus. Students who are curious, motivated, interested and not overly preoccupied with grades make for an ideal class. Your intellectual engagements with the faculty and interactions both in and outside the classroom will reinvigorate our interests in our chosen fields of study. We will do our best to bring them alive for you, encouraging you as you proceed with us over these next four years.

So here is your first and last college assignment. When you woke up this morning who did you see in the mirror four years from now? Write down the images you have visualized for yourself. Then put this piece of paper in a special place you will not forget. Every year from now, review the images and evaluate how they have changed. Share your metamorphosis with your advisor; no doubt your education here will play a major role in your transformation. Comparing the images you have now with the ones you will have in four years will be a rewarding personal discovery.

We look forward to having you in our classes. I wish you peace and good health. And, once again, welcome to Chapman.

About the Speaker  
Associate Professor  
Anuradha Prakash, Ph.D.

Anuradha Prakash, Ph.D., is chair of the Chapman University Department of Physical Sciences and an associate professor of Food Science and Nutrition. After earning a doctorate in food science and technology at the Ohio State University, Dr. Prakash spent several years at the U.S. Army Natick RD&E Center, Natick, Mass., researching microwave freeze-drying and validating microwave sterilization for army rations. She has expertise in the areas of food processing and preservation, specifically microwave processing and food irradiation. Her current research focus is on the use of various technologies to enhance the safety and shelf life of fresh cut fruits and vegetables and ready-to-eat meals. Since joining the Chapman faculty in 1995 she has won several grants enabling both research and community outreach to focus on science education. Dr. Prakash has a keen interest in issues of food availability and security in developing countries and incidence of hunger and malnutrition.