

“A Dynamic Life Path and True Learning,” Commencement Speech
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Colleges of BSS and ECSCM, 21 May 2016

Today is such an honor—47 years ago I was at this same place, graduating from Chico State. I thank the College of Behavioral and Social Sciences and the College of Engineering, Computer Science, and Construction Management for asking me to say a few words. Chico State is the arena where master teachers taught me the tools to shape my life.

Today we honor learning—true learning represents a change in behavior not just knowledge acquisition. Imagine earning an “A” on a water efficiency/conservation exam and then going home and wasting water. No learning took place.

President Zingg said many times and again in the Spring issue of *Chico Statements*, “action without understanding has no meaning, understanding without action has no consequence.” A change in behavior shows the experience is absorbed, is embraced, and becomes a part of your evolving being. Learning is realizing the impact of the surrounding systems on you and your impact on surrounding systems.

I feel that education leads to an expanding passion. Ideally, teachers impart such passion about life, the world, and the Biosphere. What I describe is not a path defined by arrival points or destinations, like a series of bus stops, with a bank next door to collect student loan payments. Rather, real life is a complex journey, as we evolve and continue to change behavior—as we take conscious, deliberate actions.

We are programmed for success, the product of approximately 3.6 billion years of life’s affirmative action, each species reaching a “yes–no” point and moving to “yes,” and continuing forward...a “no” was a species’ end. Our species DNA has a powerful memory of this “yes” journey. It makes no sense to limit this progression—to be the species that says “no.” All this is within our genome. We all possess such potential, far beyond our present circumstances—beyond our imaginations. Define your path, embrace the challenges you face, and continue your movement forward.

I mentioned the Biosphere, this narrow envelop that cradles life upon which our existence depends. We are Earthlings—we are part of nature. Civilization began a process of distancing us from this reality—giving us an illusion of freedom from nature. E.O. Wilson the famed biologist, reports that one gram of soil (1/28th of an ounce), contains ten billion bacteria, representing 6000 species, all relatively intact and ancient—some 700 species form a bacterial ecosystem in our mouths! Yet, only 10% of the all lifeforms on Earth are presently identified. Whatever path we choose, whatever our beliefs, we must absorb the reality of life on this planet—this is our Spaceship Earth.

The air I inhale to propel these words, presently contains 408 ppm carbon dioxide. When I entered the classroom on the first day of my professorship in 1970, the atmosphere contained 319 ppm; compared to this 408 ppm today. If you first came to Chico in 2010, Earth's atmosphere held 392 ppm—the rate of increase is accelerating. Yet, CO₂ was never more than 300 ppm in the last 800,000 years. Each intake of this greenhouse gas component reminds us of our interconnection and impact on Earth systems.

Science labels this biogenic Epoch on the geological time scale, the Anthropocene, in recognition of human impacts on Earth systems; beginning about the time of agricultural domestication and forest clearing, and intensifying with the industrial revolution and the burning of fossil fuels. This reality must drive our positive action, as we witness record-breaking temperatures, global climate change, shifting habitats, and oceanic warming and acidification.

My point is that we exist in the Biosphere, we are the Earthlings, regardless of all other pursuits, recognition of this fact is critical for a sustainable civilization.

Today, on this note in your life's symphony, you have the breadth of a liberal education. This holistic basis is important; providing the context for life. It can be a shock to graduate and stroll into the Bidwell Park forest and not find your major anywhere! Instead of labeled subdivisions and academic departments, you find in nature a complex of interacting forces, a dynamic equilibrium of processes—as though the world is in reality, interdisciplinary. Further movement along your path will develop depth, specific to your field of study—the next progression stemming from a liberal education.

Years ago, one of my teachers explained the three spheres of learning: first, you know what you know, that core of information within. As you expand this sphere, it rapidly increases what you know you don't know. Each answer triggers many questions—like some mystical well where the more you draw from it, the more there is to draw and the deeper the well becomes. After writing 34 textbooks, I find myself in a growing spiral of relative ignorance—so many new questions! Finally, all learning action attacks the outer realm, of what you don't know you don't know, for this is where the frontier resides—which, if the process is working right, should always appear in retreat, motivating us forward!

To underscore my definition of life's path as a continuum, consider this: tomorrow morning take some time and a big broadsheet of paper, and plot out the summer, next fall, and the years ahead; use a pencil so you can erase and change and push into territory you don't know you don't know. Do something deliberate in the morning relative to your path. *Google* one of the subjects of your next set of classes in grad school; read the web site for that college, e-mail one of the teachers. Or, start compiling your list for filling job applications and interviews and internships. Or, buy a book in your field or profession and begin reading. As you can sense, I am a total advocate of being proactive!

There are economic and political interests manipulating pop culture to drift people toward cynicism and turn life into a disconnected 'selfie' moment. These forces want you to feel that information is depressing, and must be avoided....they will supply you with trivia and crap information and distraction, and a false sense of what is important. They will take care of things, and here's a pill for something, and a new 2000-Cal. burger choice, and a faster car.

The truth—Learning is a change in behavior; and, critical thinking is you gaining control of the learning process; with these tools, a conscious, deliberate personal path is yours. Be awake, really awake—this is not depressing—this is fully empowering.

You sit here today in the midst of this ritual, empowered and ready for what is to come! Embrace the mystery and grandeur of it all! You are empowered! Bless each of you in your journey!....Carpe Diem, seize the day!....Namaste.