

Faculty Speaker
The College of Forest Resources, University of Washington
Commencement, June 8, 2007

One credential that Dr. Bare didn't mention is that in High School, I was vice-president of the Latin Scrabble Club. That legacy both brands me as a true geek, and left me with a habit of seeking out the Latin roots of important words, a word like education. The term education comes from Latin, *e-ducare*, to lead out, to lead beyond the limits of our present understanding to make a contribution. You graduating students began that enterprise when you entered the College and participated in its mission - to be led towards making a contribution to our knowledge of forests, and to provide leadership for environmental and natural resources issues.

In less than 60 minutes, you will officially end your education at the UW CFR. But you will officially begin the next phase of your education. Each of you will face the challenge of how to continue to go beyond limits of present understanding but free of the classes and seminars you have had at this institution.

Some of you already know what your next steps will be: going for your PhD in another graduate school, working for the US Forest Service, raising trees and children on a family tree farm, joining a consulting firm, or monitoring the health of urban trees. The specifics actually don't matter. What does matter is that you find something that will lead you out to make a contribution to your profession and your life.

Twenty-three years ago, at my own graduation from the College, I shared your task of finding my own ways to contribute. My professors had filled me with the knowledge and enthusiasm of their own specialties: Tom Hinckley and tree physiology, Bob Edmonds and tree pathology, Graham Allen and creativity. In the course of my education, I found my own area to grow into -- the study of forest canopies -- specifically, understanding the ecological roles of treetop plants and animals in tropical and temperate rainforest ecosystems.

When I was getting my degree, this was a brand new area of study, barely recognized as a legitimate field within mainstream ecology. However, now, after 25 yrs of climbing trees on 5 continents, the emerging field of canopy studies has blended with cutting edge forest ecology, contributing to our knowledge of such critical topics as biodiversity, climate change, and sustainability of forests. All of these topics now find an institutional home at the College. For example, the Wind River Canopy Crane Research Facility, envisioned and implemented by the upward-looking Jerry Franklin, with contributions from College faculty and an international cadre of researchers has expanded our limits on these topics by looking above and beyond the forest floor.

Over the years, trees have not only provided me with a rich academic frontier, but also as guides in more personal realms. Now, at middle age, I find that the entities that provide insights into my life, and inspiration for leadership, are trees. Not Bushes, but trees.

I am not alone in this. Many people within and outside the profession of studying trees look to trees for education about their lives. The German writer, Herman Hesse, articulated this in his essay, "On Trees":

For me, trees have always been the most penetrating preachers. I revere them when they live in tribes and families, in forests and groves, and when they stand alone, like great, solitary men, like Beethoven and Nietzsche. Whoever knows how to speak to them, whoever knows

how to listen to them, can learn the truth. They do not preach learning and precepts, they preach the ancient law of life.

What “laws of life” can trees teach us? There are three that relate to today’s graduation event. They relate to my own life, to the life of the College, and perhaps, to the lives of you graduating students.

The first law of life that comes from trees is about how to take next steps, to move from the known to the unknown, just as you are today. I have learned this by climbing trees and observing their structure and how they grow. Trees have a branching, dendritic structure, like rivers, like blood vessels, like our nervous system. We think of trees as the most sedentary of creatures, rooted to the ground, stuck in their adulthood to the spot where their seeds happened to fall in their infancy. But in fact, they are highly dynamic.

Think of how a tree grows. Trees grow from their own tips, gaining access to light and energy in the airspace at the outermost edges of their crowns. Each spring, their new buds branch out into a new skypatch from where they were before. The new twigs are directly nurtured by the minerals and water that come from the soil in which the tree is rooted. Their connection to the soil provides resources for the next year’s growth, and the next, and the next. Thus, seemingly sedentary trees lead themselves out - educate themselves -- from the dark crown interior to their new skypatch of light. This also lets them contribute to the whole ecosystem – more photosynthetic surface for the creation of oxygen, more seeds for birds and mammals, more carbon dioxide removed from the atmosphere.

What does this teach me about taking next steps and making contributions? When I use a tree as a model for my own growth, I must have the courage to stretch myself at my tips, to reach out and beyond. When I was at the College, filling up with teachings from Drs. Hinckley, Edmonds, and Allan, I had to grow my own branches into the skypatch of canopy studies, a field in which my professors had no background. But I also had to stay connected to my roots, to draw from the knowledge they provided, and which has allowed me to make my own small contribution to the academic world.

The College has followed this model as well. Over the last 20 years, I have observed it stretch itself, incorporating new fields of forest resources into its curriculum and research programs – canopy studies, riparian research, restoration ecology, wildlife science, sustainable resource management. I admire the way a seemingly sedentary institution, potentially bound by its historical roots in traditional academics and forest extraction, has grown into the light. It now occupies a critical skypatch in the forest of natural resource use institutions.

A second law of life from trees is about time and endurance. The word “tree” is derived from the Sanskrit word “deru”, which means solid and strong, and from which the words endure, continue, truth, and trust are derived. Trees teach me that growing something of weight and depth and trust in this world takes time, both sweet times and hard times. In his essay, Hesse wrote:

When a tree is cut down and reveals its naked death-wound to the sun, one can read its whole history in the luminous, inscribed disk of its trunk: in the rings of its years, its scars, all the struggle, all the suffering, all the sickness, all the happiness and prosperity stand truly written, the narrow years and the luxurious years, the attacks withstood, the storms endured.

From these arboreal time markers, I learn that the matrix of time is made of thin rings and fat ones, difficult times, and easy times. Just as trees take time to develop, so do many human endeavors, such as the getting of a degree, the publishing of a dissertation, the creation of a productive tree farm, the

establishment of a lumber mill business, the raising of children, the making of a useful academic career.

To me, with an impatient human's life span, I have had to learn from trees that for some endeavors, I must take a long-term perspective. When I get an idea for my next cool canopy research project, I must remember the treesworth of time it will take for completion: reviewing the literature, writing a proposal, revising it, implementing the fieldwork, training students, collecting and analyzing the data, writing a manuscript, revising it, and finally – witnessing the completed work that may inform or inspire others in their education. I must remember Hesse's narrow and luxurious disks.

The College, too, has been and must be patient about the changes it has wrought and the growth it has made: forging a strategic plan, garnering support for new programs and dismantling others; raising funds from public and private sources, being inclusive of but not submissive to industry and legislators; hiring faculty in new fields, and evaluating progress with an objectivity and vision. The College administrators and faculty, too, must bring Hesse's luminous disks to their meetings.

A third law of life that trees teach me is that everything is complex. All of nature – including humans can be many things at once. As children, we are taught that there must be a good and bad, right and wrong. But there are subtleties in every element of our lives that make things both more interesting and more needful of thoughtful consideration and compassion.

To me, one of the most compelling characteristics of trees is this complexity – the combination of two seemingly contradictory elements – their tremendous strength and frightening fragility. Trees are awesomely strong - tropical trees withstand hurricane force winds; urban trees endure the insults of pollution, of soil compaction, of genetic isolation from their species. Our own Douglas fir trees support multi-story structures with a single beam of their heartwood.

Yet a tree is simultaneously so very fragile - it can succumb to a bark beetle or a chainsaw one-thousandth of its size; a tropical fig tree species will go extinct if we pump enough carbon dioxide into the atmosphere to raise the global temperature a single degree, or if the population of its wasp pollinator is depressed because of the fragmentation of surrounding forests.

That combination of strength and fragility trees– why does it draw us to trees? I think because we recognize ourselves in that combination. We are strong, yet we are also fragile.

That is true for me. I am strong. I swing from one tall tree crown to another on a rope no thicker than your thumb. I run 3 miles every single day, I have climbed to the top of Mt. Rainier. I have given birth to and raised two children. But I am fragile, too. It took me four attempts to get to the top of Mt. Rainier. I have given birth to two children and the knowledge that I can protect them from almost nothing in this universe – makes me fragile and vulnerable to every real and imagined danger in the world.

The College is strong and fragile. The wood and cement of its buildings are as substantial as when I was here 25 yrs ago. The faculty continue to produce amazing research and students. But the CFR is also fragile. It depends on the whims of a state legislature and federal research budgets that are determined by... Bushes, not trees.

So how did trees help me in my education after we leave the College? First, when I choose to branch out, I need not be afraid, but it is a good idea to stay connected to my roots. Second, I must accept that

many endeavors take time, time made up of lean rings and fat rings. Third, all entities – trees, humans, institutions -- encompass contrasts and complexity – and demand thoughtfulness and compassion.

I make one last observation, which emerged from my current perspective, two decades out from my own graduation. You must find your own skypatch to grow into. We graduation speakers, faculty, parents, and fellow students cannot tell you who or what your next educator should be.

Why? Because what your professors and parents won't necessarily work for you. Because my favorite quote from Herman Hesse may not be your favorite quotation. My passion for exploring the treetops may not be yours. You must not just find your next teacher, but you must become your own teacher, your own educator.

With less than 50 minutes to go, this task of finding your own leader sounds fearsome, and it is – but it is nothing beyond what you can do. Like me, and like the College, you can find your way. You can branch out because you have strong roots nurtured and watered by the faculty and staff and students and trees of this great College. You have lots of time – time that is made of narrow rings and luxurious ones. You may be young, inexperienced, and fragile, but you are also strong.

To close, I draw on Herman Hesse, who connected trees with finding one's own way:

So the tree rustles in the evening. Trees have longer thoughts, long-breathing and restful, just as they have longer lives than ours. Whoever has learned how to listen to trees no longer wants to be a tree. He wants to be nothing except what he is. That is home. That is happiness.

I wish each of you that happiness. I am excited to think about which skypatch each of you will grow into – with endurance, patience, fragility, strength, and beauty – like a tree.

---Nalini M. Nadkarni
Member of the Faculty
The Evergreen State College