

CHAPTER NINE

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Forests and Trees

I AM convinced," Aldo Leopold wrote in 1941, "that most Americans have no idea what a decent forest looks like. The only way to tell them is to show them" (Leopold, 1991, p. 294). Imagine, however, if we were unable to show them little more than a few acid-drenched, biologically impoverished remnant forests or industrial forests where trees are grown like corn. This is no longer the hypothetical nightmare that it once seemed to be. Excessive logging, corporate monocultures, agriculture, urbanization, road building, recreational development, and air pollution are reducing forested areas around the world and radically undermining the integrity of those that remain. The Amazon is being lost at a rate of approximately 15,000 square kilometers each year (Skole and Tucker, 1993). At present rates of logging, tropical forests of Southeast Asia and Africa will disappear in a matter of decades. Preparations are under way to cut the great boreal forests of Russia. The United States is now engaged in a contentious debate about whether we should save the last 5% to 8% of the ancient forests in the Northwest or preserve one final decade or so of logging jobs. The U.S. Forest Service plans to cut 91,000 of the best 100,000 acres of the Tongass Forest in Alaska. Acid rain continues to work its damage on Appalachian forests and those of central Europe. The unknown effects of global warming and increased ultraviolet radiation loom on the horizon. Overall, the world loses 37,000,000 acres of forest each year (Perlin, 1989, p. 15). Chateaubriand's old lament that forests precede civilization and deserts follow is now a global reality.

More is at stake, however, than the fate of an economic resource. With only pathetic remnants of once majestic forests, how will we instill

the idea of "decent" forests in the young, whose minds are increasingly warped by television, Nintendo, MTV, shopping malls, freeways, and those sensory deprivation chambers we call suburbs? We are never more than one generation away from losing the idea of forests as places of wildness and ecstasy, mystery and renewal, as well as the knowledge of their importance for human survival. We can now foresee a time, not far off, when no one virtually anywhere will remember the aboriginal forest. But the power behind the idea of decent forests depends on the experience of decent forests, not on secondhand, bookish abstractions.

How should teachers and educational institutions respond to the worldwide decline in forests? There is good reason to believe that the question has not yet been asked in the upper echelons of higher education. Officials at the University of California, Santa Cruz, for example, recently announced plans to sell off 440 acres of forest, which includes 50 acres of old growth redwood trees, some that are more than 700 years old (*San Francisco Chronicle*, April 24, 1993). The land had been donated to the University of California in 1942 by a retired professor and his wife. The news account does not describe the donors' expectations about the use of the land or any restrictions on its resale. The tract is now worth an estimated \$1,000,000. Not surprisingly, the decision was motivated by budget cuts imposed by the state of California amounting to over \$11,000,000 on the Santa Cruz campus alone. By selling the land, the university can reduce its management costs by \$25,000 per year, eliminate any potential liabilities attached to the land, and get a one-time windfall amounting to 9% of its budget deficit.

The news account ends by noting that "the deans of all the academic divisions . . . have reviewed the proposal to sell and have found that there is no academic interest to be served by retaining the property." As one administrator put it, "the University is an educational institution, not a biodiversity organization." The executive director of the Save-the-Redwoods League, John B. Dewitt, disagrees, saying that the "university should retain the property for the benefit and use of the students and faculty . . . for research and recreation," apparently an outdated view of research, recreation, and institutional purposes.

I know neither the particular land in question, nor the financial details of the case beyond what is contained in the newspaper account. I do know, however, that the story is increasingly familiar. More and more colleges and universities are willing to sell off natural areas in their possession and use the proceeds for what administrators regard as more prac-

tical purposes. A few have participated in large-scale commercial developments on university-owned lands. Such actions say more than any number of glossy publications or learned speeches about the real institutional priorities that apparently do not have much to do with trees, forests, and biodiversity. Land holdings, including those in forested land, are appraised mostly for their cash value, not for their value in preserving biodiversity or in educating the young about forests.

Intended or not, decisions to sell off natural lands do have an effect that can be rightly described as educational. Colleges and universities educate by what they do as well as by what they say. Students no doubt will observe that when the going gets a wee bit tough, their intellectual mentors and role models regard natural lands and whatever biological diversity they hold as expendable. They will note that those presuming to educate them rarely see any serious educational value in wild lands or even in ancient trees that contain enough genetic information to fill the college library several times over. Whether outraged or apathetic, they will see that universities, which pay their chief executive officers, various deans, and football coaches six-figure salaries, can seldom find the relatively small amounts of money necessary to manage increasingly rare natural areas. Students may even note the discrepancy in the minute efforts to fund such things as opposed to the effort exerted to fund, say, campus parking facilities. The alert may also correlate such decisions with the manifest decline in their life prospects. All of this provides a liberal education in how educational institutions work and how sometimes they do not work for the good of the world the students will inherit.

The willingness of institutions to preserve natural areas is, however, only a small part of a larger problem. In a culture that regards land as a commodity, it is easy to think of forests and natural areas as merely resources expendable to support other, and more serious, things. This attitude reflects a deep conflict between humankind and forests as old as civilization itself. In *The Epic of Gilgamesh* (circa 4700 B.C., republished in Sandars, 1972), the hero kills the appointed guardian of the forests so that he can "strip the mountains of their cover." By cutting down the cedar forest, he intends to "leave behind . . . an enduring name." The angry gods' reprisal, predictably, takes the form of a series of ecological curses. "It is a sorry fact of history," in Robert Harrison's (1992) words, "that human beings have never ceased reenacting the gesture of Gilgamesh" (p. 18). The epic and its historical reenactment through the ages is a story of violence and madness. The same can be said about the destruc-

tion of forests in our time. Forests have been a mirror of sorts, reflecting back whatever humans wished to see. Minds receptive to mystery, like that of John Muir, have seen forests as sacred places. Thoroughly utilitarian minds see little more than something to sell, whether board feet or visitor days. University administrators hard pressed for cash see windfall profits. But whatever our rationalizations and practical material needs, "there is too often," in Harrison's words, "a deliberate rage and vengeance at work in the assault on nature and its species" (p. 18).

In the coming century humankind will need healthy forests more than ever, both for practical reasons of survival and to preserve sanity, an utterly practical reason. The effort to rethink ancient habits and antagonisms must begin with a different kind of education in which forests become a significant part of the general curriculum. That will require confronting paradoxes deeply embedded in the curriculum about forests and their relation to human progress.

Madav Gadgil and Ramachandra Guha (1992) describe two such paradoxes, the first of which has to do with the fact that

hunter-gatherers live *in* in the forest, agriculturalists live adjacent to but within *striking distance* of the forest, and urban-industrial men live *away* from the forest. Paradoxically, the more the spatial separation from the forest the greater the impact on its ecology, and the further removed the actors from the consequences of this impact! (p. 52)

In other words, forests out of sight are forests out of mind. Civilization was planted in a clearing both literally and figuratively. As civilization grew, forests receded, becoming ever more peripheral to our imagination and to our sense of reality. Our use of forests, accordingly, has become increasingly mindless, driven by large impersonal forces that undermine our long-term prospects.

The second paradox is even more threatening to our established academic ways:

The faster the development of formal, scientific knowledge about the composition and functioning of forest types, the faster the rate of deforestation. . . . the belief that science provides an infallible guide has nonetheless encouraged major interventions in natural ecosystems, and these have had unanticipated and usually unfortunate consequences. The history of both fisheries and forest management are replete with illustrations of the failure of sustained-yield methods to

forestall ecological collapse. . . . *Religion and custom as ideologies of resource use are perhaps better adapted to deal with a situation of imperfect knowledge than a supposedly 'scientific' resource management* [emphasis added]. (Gadgil and Guha, 1992, p. 52)

In other words, in dealing with complex systems about which we know relatively little, humility that leaves a large margin for error is smart over the long haul. "The forest," according to Richard Manning (1992), "is a wonder beyond our comprehension" (p. 171). Much of it will remain beyond our comprehension, science notwithstanding. Accordingly, we will need a different manner of thinking about forests that acknowledges forthrightly the limits of our knowledge and our inconsistency in using what knowledge we do have.

The observations of Gadgil and Guha have significant implications for education. Resolution of their first paradox requires bringing trees to the forefront of our consciousness. This can be done first by changing the philosophy of landscape management in which trees on the campus are regarded as little more than decoration. Most colleges and universities intend their campuses to look like country clubs, weedless and biologically sterile places maintained by an unholy array of chemicals. Campus landscapes ought to be more imaginatively designed to promote biological diversity and ecological resilience and to raise the collective ecological IQ of the campus community. Campuses ought to be maintained as natural areas that harbor biological diversity. The institutional calendar might also include annual celebrations around tree planting and landscape restoration. Who knows, perhaps even administrators in vulnerable moments might be persuaded to take a walk in a woods!

Resolution of Gadgil and Guha's second paradox will require the integration of forests throughout the curriculum so that all students know beyond any shadow of a doubt how their prospects are intertwined with those of forests. A generation that will need the ecological services of forests more than any previous generation will need a deeper comprehension of how forests work (Maser, 1989). They will need better political and social mechanisms to protect forests, now vulnerable to the tragedy of the commons on a global scale. They will need an honest economics that accounts for all the values of forests (O'Toole, 1988; Panayotou and Ashton, 1992; Repetto and Gillis, 1988). They will need to know the historical relationship between forests and their own history (Williams, 1989). They will need to know a great deal about the practical

uses of trees in working landscapes (Smith, 1988). They will need to understand the relationship between forests and the evolution of the human mind (Harrison, 1992). They will need a larger idea of forests and wildness than that contained in the industrial worldview (Oelschlaeger, 1991). They will also need stories and myths that give purpose and meaning to the experience of forests (Giono, 1985). And they will need the example of mentors willing to fight for every tree, woods, scrap of remaining wildness, and decent forest.

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