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Developing Ecological Literacy for Citizen Action

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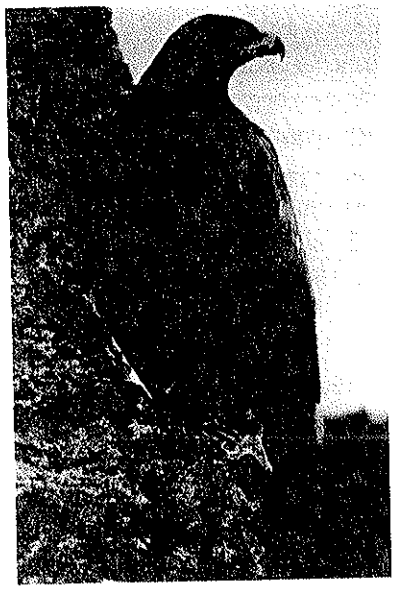

Public attention has recently focused upon the relevance of the education we provide to the roughly 14 million students enrolled at colleges and universities in the United States. The last time we experienced such probing public scrutiny – the 1960s – we responded by abolishing virtually all substantive graduation requirements, leaving the students to pull together courses and experiences from any of the several departments and schools offering anything deemed "relevant." The long-term results proved less than exemplary.

In the wake of the relevance movement, we sought to encourage and sustain new integrative studies programs with various foci, most of which developed around popular causes. Ethnic and women's studies, for example, derived substance and energy from the civil rights movement and brought new voices and perspectives into the dialogue on campus. Environmental studies claimed a prominent place as society began to discover the perils of uncontrolled resource depletion and the polluting effects of entrenched production methods and technologies. Some predicted at the time

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that environmental studies eventually would capture the academy, so critical was the need for action.[1]

Environmental studies majors as well as interdisciplinary programs were established, and some advocates envisioned that a mature discipline would soon emerge. Yet today, only 317 of 2,900 U.S. colleges and universities offer environmental science majors; about 200 more offer environmental studies programs; and only a handful have integrated environmental courses into general education.[3]

Despite the obvious and pressing need to ensure ecological literacy in an increasingly interdependent global society, the challenge has, in large measure, gone unanswered. (Major exceptions exist in the successful efforts of some schools of education and the K–12 sector to promote environmental education, and these are discussed below.) At least part of the explanation derives from the changing world conditions after 1970. The activism of the 1960s reflected the politics of an affluent society that was free to make choices about lifestyles. When that affluence began to erode before the pressures of the resource scarcity and political change of the 1970s, environmental concerns took a back seat to economic well-being.

The explosive confrontation that has pitted loggers in the American Northwest against the region's spotted owls epitomizes this clash of economy and ecology and illustrates vividly the critical need for environmental studies programs to clarify the issues. Our society needs a secure intellectual foundation from which to analyze and resolve questions of profound importance to all life on the globe, a perspective that transcends the concerns of any single species or interest group.

The need for action

The 1992 edition of *State of the World*, published annually by the Worldwatch Institute, attests to a worldwide renaissance of environmental concern. Sandra Pastel summarized the reasons for this concern:

- The protective ozone shield in heavily populated latitudes of the Northern Hemisphere is thinning twice as fast as scientists predicted it would just a few years ago.
- A minimum of 140 plant and animal species are condemned to extinction each day.
- Atmospheric levels of heat-trapping carbon dioxide are now 26 percent higher than the pre-industrial concentration, and they continue to climb.
- The earth's surface was warmer in 1990 than in any year since record keeping began in the mid-nineteenth century; we have experienced six of the seven warmest years on record since 1980.
- Forests are vanishing at a rate of 17 million hectares per year (an area about half the size of Finland).
- The world population is growing by 92 million people annually (approximately the population of Mexico); of this total, 88 million are being born in the developing world.[3]

Such apocalyptic facts can persuade even the most intractable among us of the need for action. But action of what sort and to what end?

As mentioned earlier, teacher preparation programs and teachers in the K–12 sector have been largely successful at keeping society aware of environmental concerns. Despite higher education's apparent lack of commitment and unwillingness to respond (with some

Deforestation is one of the main environmental threats confronting the world today. But this forest in Montana has remained virtually untouched by humans.

notable exceptions), succeeding generations of college students have voiced in ever-increasing numbers their desire for environmental education and action.

Now that the window of opportunity for curricular reform has opened again, we must act boldly. No one can deny the imperative for ecological literacy; too much is at stake. Sound public policy decisions in a democratic society require the active participation of an educated citizenry capable of both understanding the situation and distinguishing the public interest from private selfishness.

Colleges and universities have a critical role to play in helping our global society respond to this challenge. Wendell Berry once suggested that public causes and social movements tend to consist of a succession of fads and fashions unless public causes ultimately are made private and personal: "We don't live in the government or in institutions or in our public utterances and acts, and the environmental crisis has its roots in our *lives*. By the same token, environmental health will also be rooted in our lives."[3] Berry had in mind Kenneth Burke's axiom that "attitudes are incipient acts."[4] Unless and until we change the attitudes that inform our behavior, we will have little success in preventing or

halting the acts to which we object. The rising environmental awareness of entering college students at once corroborates that point and attests to the success of the K–12 sector's efforts to change attitudes.

Colleges and universities fulfill their missions by discovering, disseminating, and transfering knowledge and new techniques – that is, through research and creative activity, instruction, and service. It makes little sense to argue among ourselves about the relative importance of any one of these functions; all three are essential to ensuring ecological literacy in our global society.

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It is equally clear that we must avoid bickering about the "best" strategy. Some institutions may choose an integrative approach that looks toward the development of a new discipline; others may pursue the interdisciplinary merging of perspectives from a range of participants. All institutions, however, should seek to infuse environmental content into the curriculum, including general education programs. The vast majority of students will not pursue environmental programs or majors, but will gain their understanding of environmental issues and problems from their chosen major and general education and elective courses. If we intend to have an effect upon ecological literacy, we must do so through curricular diffusion and general education.

As we pursue ecological literacy, we must imagine the context of the coming century. We can no longer view the environment from a local, regional, or national perspective; the challenges of the future are truly global in scale. While that makes the task easier in some respects, it becomes more difficult in others. For, as we promote ecological literacy, we must also help our students appreciate the cultural perspectives of others situated differently around the world. In this regard, ecological literacy requires consideration of the human contingent within the global environment – international education at its best.

Lewis Thomas noted that humans have vacillated in their view of the relationships that exist between themselves and the natural world. For centuries, humans saw themselves as the masters of all things, with the natural world apparently created for their benefit. During the 1960s, the opposite perception emerged, as more people came to see humans as the despoilers of the earth, the only member of the animal kingdom willing to soil its own nest. However, that limited perspective rather quickly gave way to a more mature understanding that humans represent an important link in the natural world, fulfilling functions within it as vital as any other contingent. Thomas suggested that

> "This might turn out to be a special phase in the morphogenesis of the earth when it is necessary to have something like us, for a time anyway, to fetch and carry energy, look after new symbiotic arrangements, store up information for some future season, do a certain amount of ornamenting, maybe even carry seeds around the solar system."[7]

As he noted, we would all prefer that sort of "handyman for the earth role," and, given time, we might even develop a new understanding of the fragility and interdependence of all things in nature.[8] The level of understanding presumed by Thomas's insights requires that we inject substantive content about the environment into the curricula of all schools.

Thus, our environmental studies programs and courses must help people understand those interdependent relationships and the place of humans in nature. Rather than seeking to reestablish the primeval garden of the earth's pristine past, we must develop and implement sustainable technologies that will enable us to meet the needs of the world's population while also protecting the globe for future generations. If environmental studies provides us with the perspective, insights, and strategies to help us accomplish that objective, then it will have fulfilled its function within the curriculum. Conversely, if it cannot help us meet this challenge, then it has no place in the curriculum.

University requirements

At the University of Montana, we have offered an interdisciplinary master's program in environmental studies since the early 1970s. The program builds upon a biological sciences foundation and then merges integrative seminars with courses drawn from cooperating schools and departments across the campus. For the most part, the participating faculty also come from cooperating schools and departments (though we have permanently assigned at least two faculty members to the program). Thus, we have merged both disciplinary and interdisciplinary approaches.

The program flourished during the 1970s because it attracted institutional attention and extramural funding. A number of our students subsequently have attained distinction in the field and several faculty members have contributed significantly to the discovery and dissemination of environmental knowledge.[9] Despite the gradual encroachments of resource scarcity and societal preoccupation with concerns such as economic advantage, the program has persisted.

The program has two unique features: (1) its interdisciplinary structure and (2) its conceptual and advocacy requirements. Students select either a thesis or a professional paper option, with the former requiring 30 and the latter 36 semester credits, and they must complete six credits of methods courses to ensure the development of technical expertise in a chosen area; six credits in conceptual inquiry to articulate a basic philosophy with grounded assumptions and global comprehensiveness; six credits of advocacy preparation or an internship providing the opportunity to become familiar with organizational behavior, communications, or some other aspect of the analytical and presentational work that environmental professionals must perform regularly; six credits in environmental studies topical seminars designed to build upon and synthesize the insights and content of the formal coursework and the internship; either a thesis or a professional paper; and electives to fill out the program. This rigorous course of study involves close supervision by mentors from the cooperating schools and departments as well as the active engagement of the students.

The University of Montana also promotes the infusion of environmental studies courses *per se* as options within the general education program. To date, the faculty has declined to adopt a specific environmental studies requirement within general education, preferring instead to encourage and promote environmental awareness throughout the curriculum. The responsiveness of the students to environmental issues and concerns proves that this strategy has succeeded.

The approach adopted by the University of Montana is only one among many available to colleges and universities. The time seems right to renew our effort to structure educational programs that prepare students for the challenges of the twenty-first century. While the pioneers of the 1960s accomplished less with their initiatives than many had hoped and envisioned, they laid the foundation that will serve us well today, if we seize the opportunity. The need to act is even more urgent today than it was 30 years ago. In that regard, the success of colleges and universities in promoting ecological literacy will have a profound influence upon the maintenance of global well-being. ■

[1] Holly Brough, "Environmental Studies: Is It Academic?" *World Watch* 5(1, January–February 1992): 26–33.

[2] Ibid.

[3] Lester Brown, et. al., *State of the World: 1992*. (New York: W.W. Norton & Co., 1992), p. 3; and *Time* (17 February 1992): 60–68.

[4] Wendell Berry, "Think Small," *The Endangered Earth: Readings for Writers*, ed. Sarah Morgan and Dennis Okerstrom (Boston: Allyn & Bacon, 1992), pp. 417–425.

[5] Kenneth Burke, *Attitudes Toward History* (Boston: Beacon Press, 1961), p. 218.

[6] Editorial, *San Francisco Examiner* (9 February 1992), p. A-10.

[7] Lewis Thomas, "Natural Man," *Endangered Earth: Readings for Writers*, ed. Sarah Morgan and Dennis Okerstrom (Boston: Allyn & Bacon, 1992), pp. 105–108.

[8] Ibid.

[9] Richard Barrett, *International Dimensions of the Environmental Crisis* (Boulder: Westview Press, 1982).