

Reason and Reenchantment in Cultural Change

Sustainability in Higher Education

by Peggy F. Barlett

At this critical historical juncture of environmental degradation, awareness of needed cultural change, and an emerging sustainability movement, attention to “reenchantment”—the phenomena of sensory, emotional, and nonrational ways of connecting with the earth’s living systems—strengthens our professional understanding as educators as well as our ability to contribute to institutional change. Research among participants in the Piedmont Project—a faculty development program for sustainability across the curriculum at Emory University—and among sustainability leaders in higher education across North America shows that wonder, delight, awe, and meaning are linked to both personal and political spheres of action. The experience of reenchantment can be understood in seven dimensions and provides restorative moments, fosters creativity for change, and supports a revised worldview. A stereoscopic paradigm that combines reason and reenchantment will serve an anthropology that seeks to think, in Roy Rappaport’s words, “not merely *about* the world but on *behalf* of the world.”

Sustainability has emerged as the challenge for our time. Mass media report the seas warming, glaciers melting, malarial mosquitoes moving into new latitudes, and species extinction occurring more rapidly than we can comprehend. The high resource use and attendant pollution of the industrial way of life is accompanied by measures of rising inequality and is on a collision course with the earth’s capacity to sustain its life systems (Rappaport 1979; *Scientific American* 2006). Political and economic institutions, both national and international, are implicated in producing the crisis, and it is no surprise that they struggle to respond (Fischer and Hajer 1995, 5). How, then, can social science contribute to expanded awareness of the issues and galvanize constructive action?

One approach is to incorporate sustainability principles into education. At Emory University in Atlanta, faculty members in a curriculum development program (the Piedmont Project) seek ways to incorporate these issues into courses in diverse fields: history, law, chemistry, business, public health, languages, religion, literature, sociology, and the arts. In a two-day workshop, they deepen their knowledge of the campus ecosystem and enjoy heightened sensory awareness in nearby woods. For most faculty, the workshop stimulates cur-

riculum innovations and new personal actions, both at the household level and at work. Participants had the following comments about the project:

The Piedmont Project workshop has probably been the most meaningful and deeply satisfying experience I have had . . . to shape my course . . . as well as reevaluate my role as an educator.

I realized we ought to work to make this place [the college] a sustainable way of living.

It really did change the way I think.

Experiences with different levels of change emerging from the Piedmont Project (Eisen and Barlett 2006) stimulated the research on Emory faculty and North American sustainability leaders reported here.

A number of writers from diverse fields have argued for the necessity of expanding the dominant scientific paradigm of an objective relationship with the natural world (based on science and the use of reason) to include a more personal reconnection with the living earth (Abram 1996). Separate from the rational, but not incompatible with it, this way of knowing involves a sensory, affective engagement that includes dimensions of wonder and delight and embraces an identity that includes connections to other species and the earth’s living systems. Called by many an “enchanted” or “reenchanted” relationship with the earth (Berman 1981;

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Griffin 1988; Gablik 1991; Tacey 2000), it offers an alternative path to engagement with the issues of sustainability. This article attempts to refine our understandings of the experience of reenchantment and proposes that combining reason and reenchantment—a stereoscopic vision—expands our capacity to respond effectively to sustainability challenges through increased awareness and political action.

The Higher Education Context: Levels of Transformation

Higher education is an arena many of us know well, and it provides a good laboratory for innovation in sustainability and an opportunity to document and assess the process of social transformation. Colleges and universities in the United States have generally lagged behind sustainability leaders in business (<http://www.greenbiz.com>), government (NCDENR, DPPEA 1999; Office of the Governor, New Jersey 2002), and civil society (<http://www.newdream.org>), but the tide is turning, and the legitimacy of the cultural change needed is beginning to be acknowledged. Although colleges and universities are inherently conservative and highly fragmented institutions (Cortese 1992; Milbrath 1984), in the United States, they are now catching up with the sustainability efforts of pioneering international schools, such as Malardalen University in Sweden, the University of New South Wales in Australia, and the University of British Columbia in Canada. The American Association of Sustainability in Higher Education formed in 2005, and regional groups are also emerging, such as the New Jersey Higher Education Partnership for Sustainability, which coordinated adoption of Kyoto guidelines for greenhouse gas reduction among the 42 higher education institutions of New Jersey (<http://www.njheps.org>).

Higher education contributes to cultural change toward sustainability through curriculum, research, operations, and community outreach (Barlett and Chase 2004a; Cortese 1992). Many institutions recognize their substantial economic impact as large employers and purchasers as well as their influence on local and regional policies. Universities are now creating sustainability and environmental research centers, and more formal curriculum changes in graduation requirements, certificates, minors, and majors are emerging across the country. Student-led efforts abound. Yet anyone involved in higher education would have to admit that most student behavior with regard to sustainability is unchanged, most faculty are not engaged, most trustees do not see sustainability as a high priority, and—to choose only one indicator—most campuses remain massive greenhouse gas generators. Although anthropologists have made significant contributions to engagement with sustainability (Puntenney 1995; Wikan 1995; Boyer 1997; McCabe 2003; DeLind and Link 2004; Haenn and Wilk 2006; Crate and Hitchcock 2008), for the

most part, awareness and action are at an early stage in most of the institutions of higher education in the United States.¹

Thomas Princen (2005) points out that sustainability requires not only an awareness of the risks and pitfalls of our current path but also a new set of organizing principles as well as mechanisms of restraint by which decisions to live within our biological limits can be encouraged and enforced. He argues in particular for replacing the contemporary celebration of growth with a new ethic of sufficiency and attention to what is enough and what is too much (p. 18). How do we support this and other dimensions of the transformation of consumer society and the development of the organizational scaffold for a new society?

Change of such magnitude still begins with the formation of nodes of awareness and consensus—Mead's small groups of committed citizens²—followed by political coalitions and then structural change. This process, of course, occurs within a global context of increasing resource scarcity and competition, ecosystem degradation, risk, and sectors of resultant economic and political stress, which provide continuing pressure for change. Everett Rogers's (1971) diffusion-of-innovations model suggests that an innovative group of faculty, administrators, staff, and students who are persuaded that change toward sustainability is needed and who are willing to experiment with behavioral shifts can lay the foundation for a deeper transformation (Sharp 2002).³ Within institutions, including higher education, the early stage of effort then turns on how to increase the acceptability of change among an expanding number of trendsetters positively engaged with the new perspective (Arensberg and Niehoff 1971; Atkisson 1999; Becker and Jahn 1999; Rogers 1971).

Some academics express uneasiness about such a focus on individual change (Dryzek 1997; Kovel 2002; Puntenney 1995). Dryzek, who favors an approach that challenges entrenched economic and political structures of capitalism with collective action and a clear political agenda, doubts that an approach to social change that begins with individuals and their worldviews will be effective, even labeling it somewhat dismissively as "green romanticism" (Dryzek 1997, 155). However, although history shows that collective action is an

1. This article was originally written in summer 2006, and there has been rapid change on many fronts as the publication process has unfolded.

2. Margaret Mead's famous quote is "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

3. Many early critics of Rogers pointed out that his model was politically naive and expected "useful" innovations to be adopted regardless of social stratification and unequal opportunity as well as political repression or other cultural factors. Such objections are equally relevant in higher education today, yet the basic approach is useful. Although curmudgeons and reactionaries, as well as mainstreamers, may at first be opposed, if a change is seen to be useful, it will spread from early adopters to those who modify the ideas within leading sectors of the university and eventually to the mainstreamers, who will follow the trendsetters.

essential stage of any social movement, there is no shortcut in the early stages for building awareness and new behaviors, as stated by one leader, “One person at a time—and get to the people at the top.”⁴

Sustainability leaders on many U.S. campuses recognize that getting faculty involved is one of their toughest challenges (Barlett and Chase 2004a; Orr 1993; Sharp 2002). The workload, the reward system, time constraints, and selection for those who enjoy highly focused academic expertise all militate against campus involvement. For these reasons, it is particularly useful to explore the impact of the Piedmont Project at Emory University, one of the few faculty development efforts around the country that is focused on sustainability and has been in existence for more than five years.⁵

Systems Thinking, Reason, and Reenchantment

What constitutes evidence, in campus culture, of a growing awareness of sustainability and environmental issues? Eckstein and Throgmorton (2003, 4) articulate the currently accepted definition that sustainability is the “necessary and difficult struggle to find a balance between competing legitimate claims for economic growth, environmental health, and social justice.” This is somewhat clearer than the often-cited Brundtland definition: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland 1987, 43). Neither definition, however, offers much precision or guidance about who defines needs and how inequities across regions and generations might be balanced (Acsehrad 1999; Tsing 1997). Richard Norgaard (1994, 16, 23–31) therefore argues that sustainable development cannot be defined operationally but will emerge in a coevolutionary *process* of interacting systems of human cultures and ecological processes (also see Brunckhorst 2000). Values and belief systems, social institutions, and the material conditions of technology and production are all implicated in this coevolutionary process (Redcliff 1987).

A first step toward greater awareness of sustainability challenges is a worldview that sees one’s own circumstances in the context of wider systems of ecological, social, and economic interaction (Atkisson 1999; Devall and Sessions 1985; Røling 2005; Senge 1990; Thomashow 2002). So-called systems thinking is a philosophical shift that acknowledges human dependence on larger processes of living things. I en-

countered an example of systems thinking when I joined a watershed alliance and learned about the negative impacts on stream organisms of the oily runoff from parking lots. Biological information raised new questions about what happens to the oil I put in my car, which is harmful to streams whether it drips out or burns up in the engine (and comes down in the rain). The sudden realization that there is no “away” to which to throw my used motor oil—or anything else—is a common epiphany of systems thinking. This example of expanded systems thinking emerged from new scientific information, what I call here “reason,” the study of biological and social processes. Enhanced knowledge of phenomena such as acid rain, the health impacts of smog, and carbon dioxide emissions, as well as positive stories about fair-trade cooperatives and organic food production systems, all support awareness of sustainability challenges. Such approaches are the dominant paradigm in American society and are, as well, the norm in higher education. In most institutions of contemporary Western society, science is “the secure route to knowledge” (Dryzek 1997, 153).

Weber argues that one of the hallmarks of modernity is the dominance of reason and that objective study of natural phenomena became valued over spiritual connectedness. Weber calls this the disenchantment of the world and argues that the process preceded modernity but that the dominance of secular rationality and intellectual reason over magical thinking came to its peak with the modern era (Gerth and Mills 1958). Both a result and a presupposition of modern society (Griffin 1988, 2), cultural suppression of feeling in relation to nature and the removal of divinity were never complete, but the priority of reason and scientific knowledge was established, and intellectual culture became “steadfastly secular” (Tacey 2000, 2; also see Bennett 2001, 59; Latour 1993; Saler 2006).

Recent writers from fields as diverse as philosophy, history, art, theology, anthropology, sociology, biology, and psychology have reacted against the disenchantment of modernity and have suggested that the scientific, linear, and rational paradigms of knowledge can be augmented by neglected dimensions of wonder, delight, and spiritual relationship (Bonnett 2002; Bowers 1999; Røling 2005; Satterfield 1997; Thomashow 1995; Uhl 2004). Reenchantment involves dimensions of fascination, mystery, delight, and awe (Murray 1971). It evokes elusive dimensions of reality that are hard to put into words and that resist easy translation into the language of an academic journal or even an ethnographic interview (Anderson 1996). Attention to sensory, embodied experience can provoke resistance or even disdain as well as the shock of recognition (Saler 2006; Stoller 1997). It can also provide a means by which knowledge is joined to action as the academy begins to think “not merely *about* the world but on *behalf* of the world” (Rappaport 1994, 292).

“Enchantment means being outside oneself and then returned to oneself augmented,” says theologian Albert Raboteau (1995, 396). An enchanted sense of the natural world is

4. Jane Bennett (2001, 10) echoes this concern: “the quest for enchantment is always suspect, for it signals only a longing to forget about injustice, sink into naivete and escape from politics.” Instead, the Piedmont Project experience and Bennett’s work both suggest that becoming responsive to the natural world makes us “better able to enact the minimization of harm and suffering” (p. 157).

5. See also Barlett and Rappaport (n.d.), which reports on the long-term impact of the Tufts University Institute of the Environment, a pioneer in working with faculty toward sustainability.

common for many in childhood, he argues, “lost in the moments of the day” (p. 393). Raboteau emphasizes the importance of fantasy and connection to spirit, a sense of the glory of nature in the solitary rambles of a child. But the experience is not simply a romantic idealization; there is also an awareness of danger and drama. With age, he argues, wonder dims, and the awe “and intense apprehension, the keen taste of beauty and poignancy that can break us into tears—all that diminishes. In part, we lose enchantment with the world because we lose touch with nature . . . insulated physically and emotionally from the natural environment” (p. 393; also see Lippard 1997; Louv 2005). Enchantment requires the tension of discipline, routine, and a regimen of learning to keep “from fracturing into escapism, nostalgia, or sentimentality” (Raboteau 1995, 397; Gablik 1991). Raboteau (1995, 397) calls for the recovery of enchantment and the interconnectedness of “both worlds, the ordinary and the world of mystery, sacrificing neither for the other.”

Paul Stoller (1997, 136) seeks to reintegrate the experience of the sensuous body into the full account of anthropological fieldwork, not only to enhance his descriptive power as an ethnographer but also to allow his work to stir imagination and spark creativity (also see Schneider 1993). Albert Einstein (1931, 194) agrees, “The most beautiful experience we can have is the mysterious. It is the fundamental emotion that stands at the cradle of true art and true science.”

Morris Berman, in *The Reenchantment of the World* (1981, 274), also calls for a post-Cartesian research paradigm to reintegrate the secular and the sacred, fact and values. In a cybernetic, process-oriented mode of investigation, artistic/aesthetic appreciation and rational analysis can be combined and can reinforce each other (p. 274). As culture attempts to fit in with nature, not master it, Berman foresees a declining dominance of technology and the emergence of a more localized, bioregionally adapted culture that “employs for its cognition a body of metaphor drawn from and structured in relation to that ecosystem,” which includes “awakening to ecstasy” in relation with the natural world (pp. 294, 286). David Griffin echoes this call for a worldview with binary vision, a necessary corrective to the Weberian disenchantment of the world, that “allows us to *feel* at home in the universe and also points to how we should behave if we are to *be* at home in it” (as summarized by Toulmin 1982, 224, 276; also see Gablik 1991; Griffin 1988).

Heidegger’s notion of “dwelling” is commonly evoked: the feeling of being “at home” on earth that includes a connectedness to the larger cosmos, which Heidegger called living “in front of the divine” (Mugerauer 1994, 72). “Dwelling assigns importance to forms of consciousness with which individuals perceive and apprehend geographical space . . . the lived relationships that people maintain with places” (Basso 1996, 106). Dwelling for Heidegger requires recovery of connection to place, to care for the earth, and to efforts to preserve it. Dwelling focuses on “people’s relations to the world, motivated by concern and subsequent involvement” (Gray 1999,

449). Aboriginal leader Nganyinytja asks (Tacey 2000, 250), “If we cease to listen to the land, how can we hear each other?” David Tacey agrees: “We cannot urge each other to care about the environment unless we have, at our deepest levels, experienced a fundamental redefinition of our human identity . . . a sense of our primal at-one-ment with the created world” (p. 176). He locates this concern for the environment in an ethic of care for social-justice issues as well: “Ecological common sense resides in an all-encompassing inclusiveness, a refusal to designate the world as a reality apart from the self or beyond the self’s care or concern” (p. 163).

E. N. Anderson would agree. In his review of the cultural strategies used in societies around the world to enforce moral codes and encourage ecologically enlightened long-term behavior, he found that “Any management strategy that does not take human feelings into account simply will not work” (Anderson 1996, 13). He argues that environmentally sustaining resource-management practices are based on an ideology in which “intensely emotional and personal material about animals and plants is highly structured into a simple, memorable worldview that is dramatically heightened in myth and ritual” (p. 72). Such an ideology is impotent, however, without a system of rules and a hierarchy of leaders to enforce it, in other words, a community and a political process (p. 72).⁶ “We are not simply turning *from* the destructive forces and habits of Western culture. We are turning *toward* a new vision of humans’ place within the whole” (Schauffler 2003, 5).

These writers argue that recovery of an engaged, relational experience of nature is not only a necessary corrective to some of the excesses and ills of modern industrial society but also a positive step toward the imagination needed for the cultural transformation we face. Joyful and creative, such experiences can provide a more positive, compelling, restorative river of energy for the hard work of cultural transformation toward sustainability. An ethical plea for behavior change grounded in a scientific approach is usually linked to fear or dread. Such emotions, it has been argued, are not a sound basis for motivating long-term change (Elgin 1993; Thomashow 1995). Bringing together a scientific, knowledge-based approach and a deeply personal, reenchanting sense of connectedness with the natural world unleashes creativity and innovation on which to base our future adaptations and political coalitions.

I prefer to use the term “reenchantment” to describe the process by which nonrational, experiential, deeply meaningful

6. In her assessment of political action around environmental issues in the United Kingdom, Kay Milton (2002, 91) also concludes that experience in the natural world induces emotion, an essential component of identity and an aspect of social action often underplayed in academic debates that favor rational, scientific discourse. Michael Saler also notes that enchantment can be seen as delusion, a negative form of the wonder, curiosity, or engagement that Schneider (1993) and others who are exploring enchantment within modernity have found to be important (Saler 2006). This negative dimension of the term is less relevant for the phenomenon I wish to address.

relations with nature are reconstructed as a legitimate part of our contemporary worldview. Stereoscopic vision for sustainability builds on the tradition of John Dewey and Liberty Hyde Bailey in educational and agricultural reform, respectively, leaders who also advocated combining utilitarian, rationalist, technological approaches with aesthetic, ethical, spiritual, and experiential relations with other forms of life (Minteer 2006). Reverence for the earth, they argued, produces both good farmers and good citizens.

Virginia Nazarea's work on seed savers introduces the practical consequences of a stereoscopic view of reason and reenchantment. She calls for "airing out our ponderous paradigms and admitting elements of fascination, surprise, and joy" in order to foster the "quirkiness," the unexpected or visionary alternatives that can provide solutions for the sustainability dilemmas we face (Nazarea 2005, 26, 144). Reenchantment offers a cultural parallel to the biological process of "jumping genes" in maize identified by Nobel Prize winner Barbara McClintock (Nazarea 2005, 36). McClintock showed that jumping genes introduce "interesting chaos into the genome" at moments of unexpected danger or serious organismic stress (p. 36). Fostering imagination, playfulness, and joyful irreverence not only may detach us from our old habits of consumption, self-definition, and repetitious behaviors but may offer the seeds of new discoveries, perceptions, and alignments. Using these perspectives, I now turn to the challenge of understanding the experiences of faculty participants in the Piedmont Project.

Evidence from the Piedmont Project at Emory University

The Piedmont Project is a faculty development program for curriculum change, modeled on the Ponderosa Project at Northern Arizona University (Chase and Rowland 2004; Eisen and Barlett 2006). Faculty are chosen through a competitive application process and receive a small stipend in return for developing a new course or creating a new module for an existing course that connects sustainability and environmental issues to their own fields. Each year, the project brings 20 faculty together for a two-day May workshop followed by independent work over the summer to prepare a new syllabus. Participants discuss pedagogical changes with colleagues during a field trip in August and at a March dinner, reflecting on the experience as well as their intellectual growth process. In some years, monthly lunch discussions and campus lectures have supported continued learning on sustainability-related topics.

The two-day Piedmont Project workshop is reported by many faculty to be a powerful experience (Barlett 2005*b*). Short presentations by experts stimulate ideas for possible course connections, and small- and large-group discussions deepen awareness of pedagogical possibilities. Lunchtime woods walks provide a recreational respite; teach ecology; expose faculty to little-known woods around the campus;

illustrate thorny local issues of water quality, air pollution, erosion, runoff, invasive species, and the challenges of restoration; and provide examples of effective campus action in governance and sustainability-related policies.

Evidence of the impact of the Piedmont Project was obtained from a variety of sources over a number of years. Short e-mail feedback has been obtained immediately after each workshop since the beginning of the program in 2001. The most detailed data for this study come from 37 interviews of roughly an hour to two hours with the first two cohorts. These interviews were carried out one year after the May workshop (i.e., in 2002 and 2003) and gathered information about what issues and experiences were still salient and whether there had been any spin-off effects on professional or personal lives. Because of rapport established with participants through the workshop—and through longer-term campus connections in some cases—most of these interviews moved quickly to a level of comfort with issues of personal change and meaning.

Three other data sets inform this analysis of the Piedmont Project. To understand some contrasts between the kinds of people who sign up for curriculum development around environmental or sustainability issues and the general pool of faculty, I drew a stratified random sample of 20 faculty as a control group and interviewed them in 2003.⁷ In 2006, all 90 Piedmont Project participants from the first five cohorts were surveyed in greater depth by e-mail, and 82% responded ($n = 74$). Observations in a range of campus activities were also important.⁸ The self-report of participants undoubtedly

7. The stratified random sample of 20 faculty was selected to be proportional to the number of project participants in the four professional schools and the three divisions of the colleges (humanities, social sciences, and natural sciences). The 20 members of the control group were drawn from the faculty telephone book, which lists names by department in Emory College, Oxford College, and the law, theology, business, and public health schools. At that time, there had been no Piedmont Project participant from medicine, nursing, or allied health, so these divisions were not included. Faculty names were numbered, and a random-number table was used to select 20 names. Full-time tenure-track and non-tenure-track lecturers, Emory's two primary categories of employee teaching staff, were the subjects of the research, but emeriti, temporary faculty, and administrators were excluded. When the random numbers for the control group led to a Piedmont Project participant or when the designee declined, the next person in numerical order was chosen. When 18 interviews had been completed, the last two interviewees were chosen by academic division, rank, and gender so that the control group was as close as possible to the proportions of the faculty as a whole. Most interviews were carried out in the faculty member's office, but one who was out of the country was interviewed by telephone. As I explained the purpose of the control group, I emphasized that I wanted to understand the full range of experiences and opinions about environmental issues and sustainability among Emory faculty and that I was not looking for a particular pattern or perspective.

8. Charles Lewis warns us that much of our relationship with the natural world is not cognitive. A "body experience," as a response to landscape may not be accessible through an interview or a question (Lewis 1996, 46). I agree and therefore find the extent to which reenchantment emerges in the conscious mind to be important evidence of its salience.

underplays the importance of other variables, especially the changing momentum toward sustainability on campus and nationally, and there is probably some bias in favor of enthusiasm toward the project when speaking with one of the project's coleaders. However, a number of interviewees did not hesitate to critique the project, and the range of opinions and experiences expressed was broad.

Expanded Systems Thinking and Connection to Personal and Community Action

Piedmont Project participants readily reported examples of expanded systems thinking and an ethic of care.

What the Piedmont Project did most significantly is reinsert the need to think about human connections and shared responsibilities into our thinking about the environment. I feel closer, more connected to and responsible for my environment—human as well as animal and vegetal—as a result of my involvement with this Project and the people in it.

[I'm] worrying more now about what I throw out. Wondering where does it go? I see the street lined with washers, dryers, stoves, air conditioning, hoses. Sooner or later, that all has to be a problem.

The project was great fun and had a lasting impact on the way I look at the Emory campus. I used to see the green spaces between the buildings . . . [as] pretty, but unremarkable, stretches of undeveloped land. Now I see embattled ecosystems and think of how these natural environments enhance our campus and need to be protected and restored.

As social science often can show, new knowledge and perspectives do not always translate into behavior (Edwards et al. 2000; Oreg and Katz-Gerro 2006; Dietz, Stern, and Guagnano 1998). In understanding faculty change toward a more engaged stance on sustainability issues, many theoretical threads can be brought to bear, from symbolic interactionism and identity to discourse analysis. New behaviors can become part of established habits, building on past experiences as well as the interpretations placed on those experiences, and they can also languish (McKenzie-Mohr and Smith 1999). To find some straightforward measures of the multiple influences on behavior, I asked in the interviews with the first two cohorts whether the Piedmont Project had "affected your daily habits." At a later point in the conversation, we discussed a checklist of daily life habits at home, at work, and in the community, such as recycling, using public transportation, water conservation, and ways to reduce household consumption. There was great variability within the group in home contexts, life-course stage, family dynamics, social-class expectations about consumption, and personal preferences, and I found considerable variation in levels of awareness or commitment to sustainability-oriented practices.

Almost half of the participants reported that the workshop had led them to undertake some new kind of action within the subsequent year, and that number increased as the years went on.⁹ Some reported household changes, such as reductions in electricity use, improved family recycling, and a shift to water-conserving native species in the yard. One person was struck by how time in nature had slowly been lost from family vacation habits and reported a renewed commitment to environmental recreation. Another had second thoughts about her home purchase in a sprawling suburb: "I got really upset about where I'm living. . . . I ask myself now: 'What was I thinking?' I didn't see the big picture. It made me sad."

Making the effort to share new perspectives with others is an important way to consolidate shifts in identity and to solidify new behaviors (Cobern et al. 1995). In the first two cohorts, 81% of participants reported sharing what they had learned with husbands, wives, children, colleagues, and friends.

Yes, with [department colleague]. And with my in-laws, yes. And with my neighbors about the heat island effect: I was spouting off.

The workshop was a gold mine of information. . . . I mainline that stuff. [In camping last summer with family] I've pointed out to my children, "That's a tulip poplar" [til they get annoyed with me].

I talked with my hiking group about environmental issues. It was *empowering!* Expressing views and hearing others' views—I didn't do that before. . . . I've always been politically neutral and . . . now I can *talk* about issues. I read new books—I have some *authority* about these issues.

Especially in this last quote, one can see identity being reshaped and reinforced through a willingness to pass on what was learned.

In the five cohorts surveyed by e-mail, 78% of participants reported that they had become more aware of sustainability and environmental issues at the office: "I have become fanatic about turning off lights in my building"; "I have encouraged people in our office to recycle more." The project "help[ed] in designing green building"; "[I am] more interested in 'slow food' and agricultural practices." Examples of other changes mentioned were walking to work, reduced paper use, increased recycling, turning off computers, and using influence as department chair to encourage change among colleagues.

New behaviors were reported at home and in personal lives by 73%. "I now work on my condo board to control water runoff." "I take my son and other children on more nature hikes." "It now affects where I book my vacations. I look for

9. Seven of the 20 who said there had been no change in their home life were already active and aware. For example, one person said, "Growing up in the sixties and seventies, I've been very aware of environmental issues my whole life and, when able, I've recycled, turned off lights, used natural light instead of artificial, set computers to go to sleep automatically, etc.," and thus office and work life had not changed.

places that don't seem to put a burden on their environment and look like they are constructed with minimal environmental disruption." "We recycle at least 90% of our household waste." It seems clear that the combination of activities of the Piedmont Project builds "reflexive competence" in the local bioregional landscape, strengthening new relationships to resource use (Brunckhorst 2005, 33).

The transition from personal action to political and institutional work is also significant. When Emory began a university-wide strategic planning effort in 2004, Piedmont Project participants and those they influenced brought forward sustainability as a concern. Sustainability was later adopted as a core principle of the university, and an Office of Sustainability Initiatives was created (Emory University Sustainability Committee 2006). Some participants also volunteered to work on university committees, helped create the Friends of Emory Forest, or helped with student environmental groups. Project faculty in year three became very interested in Atlanta water issues, and after a field trip to a water treatment plant, taught a cross-disciplinary course on water using literature, science, and philosophy. A campuswide symposium followed, and the heightened interest led to the development of a comprehensive stormwater management plan for the university (Eisen and Barlett 2006).

New political action within the Atlanta area is another dimension of change. The suburbanite with second thoughts organized a citizens' group to advocate against further sprawl. "I got involved because I had been in Piedmont. It made a really, really big impact." Another couple began to be active in community meetings on zoning and other political issues connected to the environment. "It changed my priorities. . . . It increased our neighborhood activism."

Dimensions of Impact: Community, Scientific Knowledge, and Place

For a time-constrained, research-oriented faculty, this record of change toward systems thinking and action, both within personal life and in the community, shows significant impact. Especially because the Piedmont Project did not seek directly to promote action but rather focused on curriculum and pedagogy, what accounts for the power of the shifts? In the participants' accounts and in the process of change over the past seven years, it is clear that the combination of reason and reenchantment is important. When participants talk about the experience, three things are emphasized: the supportive community that emerged, the new knowledge they enjoyed learning, and the new connections to place.

The emphasis on supportive community signals that participants felt safe to enjoy the group context that enhanced growth (Barlett and Chase 2004b; Bowers 1999; Thomashow 2002). In the five cohorts surveyed, 96% of participants indicated that the Piedmont Project had strengthened their sense of community, and 85% indicated that the issue of community was very or quite important to them. Many com-

ments echoed the person who said that connections with colleagues was the "best part of the program—most lasting." The group context supported intellectual growth and respected very different starting points in knowledge about sustainability issues (Barlett and Rappaport n.d.).

Meeting people at the workshop and knowing that there's a serious intellectual and personal commitment far beyond the micro world of [my department]. That's so encouraging. Departments' and people's commitment, intellectually and personally. To meet people who have been thinking about this stuff since I was in elementary school—wow! And they know a lot. . . . It makes other faculty feel not alone.

The excitement of having all those people in all those disciplines interested in environmental issues, that was a *huge* thing for me.

Important to the success of the dialogue were the format and tone of the workshop, which encourage respectful engagement of colleagues across fields and a democratic ethos that puts aside competitive hierarchy and academic rank (Barlett and Eisen 2002).

One of the best benefits I've seen in the Piedmont Project is that it provides a forum for people to talk, learn, without needing to be "the expert." It's a place to actually be safely curious.

Information, new knowledge, and debate about the issues were also central to the impact of the workshop.

I enjoyed the talks. They woke me up right away . . . getting at the issues. I was not well equipped [and I] became more aware.

The workshop built on the bedrock of the academy: intellectual curiosity and the satisfaction of learning.

For one language professor, the names of local plants and animals were important: "The lectures and explanations, and I guess I should say the *names*, definitely showed me I should learn factual things. It becomes more concrete and maybe means more to me." Another participant said,

I was very envious of the botanist, naming plants and knowing how they grow. I bought a house last year, and I still can't name all the plants in the yard. [*Did the experience shift your sense of place?*] I think so. Funny, it all comes back to the house. I can now walk a lot . . . and we walk, thinking about the urban environment and the natural world.

The third powerful aspect of the workshop was the embodied learning from lunchtime woods walks (Barlett 2005a, 2005b). When one Piedmont project participant was interviewed (a year after the workshop) and asked, "What stands out for you, when you think back on the workshop?" she abruptly sat tall in the chair and exclaimed,

The walk in the woods! It was all great. . . . The walk was the most different and really informative. It makes for more

fun in daily life in the future. It was great. Eloise [the guide] was really fabulous.

Other participants had similar reflections.

Looking at the trees—and just slowing down, taking our time—it was invaluable to me.

But the most fun thing was the experiential thing. . . . It was something new. And being in a city with woods; that's really unusual. The experience was operating on many levels.

Being outside together . . . it was great. I'd love to see tons more.

The time-out or pause of the lunchtime nature walks contrasted with the time compression of university life (Rappaport 1971; Robertson 1992). The canopy of trees and filtered light are restorative, and the mild exercise is stimulating. The woods walks were full of ecological science but also the smells, sights, and sounds of deep forest and rushing creek. The guide's stories of beech trees, rare lilies, and beetle pollination opened doors to new knowledge and new perspectives on the "vacant lots" around the campus. Barry Lopez suggests that this information has an aspect of reenchantment as well; the power of naming is that the relationships revealed "hold the human imagination." Naming conveys "the existence and substance of myriad relations" that take a lifetime to learn (Lopez 1998, 149).

Beyond the intellectual stimulation and camaraderie, the Piedmont Project creates meaning through embodied learning (Abram 1996; Lakoff and Johnson 1999, 565–66; Low and Altman 1992; Lewis 2000; Thrift 2000).¹⁰ Reason and reenchantment are combined to encourage new perspectives on the campus, and local headlines are now understood within larger systems not only of knowledge but also of meaning.

Reenchantment and Dimensions of Relationship to Nature

As we discussed aspects of the Piedmont Project, individuals emphasized different aspects of the experience: ethical issues, childhood attachments to nature, or the aesthetic experience in the woods. Their words echoed the categories of environmental values and discourses described by Dryzek (1997), Kellert (1993), and Kempton, Boster, and Hartley (1999). I found seven distinct dimensions of the experience of reenchantment that are, for some, nested or connected. For others, they are a sequence. A deep understanding of the components

10. Cognitive neuroscience adds to our understanding of the Piedmont Project. Varela (1992, 331) would suggest that the woods walks stimulate a readiness to perceive information from our surrounding environments. Our openness to sensory stimulation is enhanced by and our cognitive structures are bound up with this embodied perception. Both are necessary to prepare for a behavioral action. The current situation and one's history of past actions all influence the next selection for action. See also Shepard (1977) and Mike (2000).

of reenchantment helps explain why a two-day workshop still resonates powerfully five years later, even for those faculty members whose research or teaching has little connection to sustainability or environmental issues. Many people struggle to find adequate—and acceptable—language. I have chosen some of the clearest statements to illustrate the seven dimensions of reenchantment.

Moments of Sensory Expansion

A deeper, nonrational experience of nature often begins with an expanded sensory experience. Attention to the five senses and to the aesthetic dimensions of nature brings a quiet joy or a profound connection to the sensual, alive, awake world. "Yes, . . . smells of nature and earth are big for me." One scientist described his attachment to "the high Rockies" as

really romantic . . . one of the most beautiful areas of the country. . . . My first exposure to this unbridled splendor that could be the outdoors. Snowcapped mountains, rivers you can drink from, a lake, horses that don't need saddles to ride, horses that will swim in the lake with you.

A professor whose attachment is to western prairies said

It's there that goodness and beauty are intrinsic . . . it's connected to moral goodness. It needs no explanation. . . . The sky is wonderful; and the prairies *smell* a certain way. I don't like to talk about it—it's like a poem. After you analyze it, you hate it. I want to keep it primal, I guess.

A bike rider who described his reasons for biking began with the power of the physical experience:

The space around you, feeling the breeze, realizing there's a hill there, and you can't just push on the accelerator as you would in a car. Connectedness to your body.

The Piedmont Project reinforces an acceptance of emotional, physical, and aesthetic connections, not through lecture or even advocacy but by the simple enjoyment of the rustle of wind through tall trees, the cool of a glade on a hot day, and a story that this spot would have been destroyed by a new building were it not for faculty who fought for a less harmful location. Wonder at the protective spines of a tree trunk communicates more forcefully than any lecture that the intact ecosystems of our campus contain mysteries and are a resource to be balanced and protected against other interests.

Lost in Wonder, Awe

Another layer of the reenchanting experience in nature is a sense of being outside oneself, caught up, or "lost in wonder." Loss of control is critical; the experience happens but cannot be planned or willed. There are moments when awareness is seized, says Keith Basso (1996, 107), "when individuals step back from the flow of everyday experience . . . their relationships are most richly lived and surely felt."

I spent a lot of time outside, every day. Walks with my family every day. Camp in the summer . . . made an immeasurable difference in my life. I still remember the first time I slept out under the stars, the most wondrous and awesome moment. I remember it as yesterday.”

My faith is very important to me and I really am awed by it all . . . creation and how wonderful each flower, bird, butterfly, frog, turtle [is]. What a gift. I am totally thankful for those experiences and realize they do not come often . . . what a gift!

The sense of the mysterious. . . . I consider it to be more outside the “conventional,” and especially the academic/intellectual thinking mode, and to actually be the “normal” way for humans.

Peace, Serenity, Restoration

Some people report that time in nature and their connections to wild spaces or gardens have an important positive mental or physical health effect. They feel more serene, more at peace; time in nature can restore their faculties or help them sort out a problem. Kaplan and Kaplan’s (1989) research suggests that it is the quality of sensory stimulation without focused attention that is the most psychologically restorative dimension of this time in the natural world. In a study of more than 4,000 members of the American Horticultural Society, Charles Lewis and Rachel Kaplan found that gardeners seek “an inner sense of serenity,” “a peacefulness and tranquility” as their most important reward (Lewis 1996, 53).

[As a child], when I felt disconnected to life . . . I rode my bike to the lake. It would restore my soul.

Also, God in nature. If I was struggling [as a child], I’d go to the woods. . . . It’s my way of dealing with troubling times.

I restore daily my intellect and get most productive thoughts at Lullwater [a wooded area of campus]. This is integral to my scholarly life. . . . I did this before, but now recognize it as a practice made possible by inclusion of places like Lullwater in our campus.

Attachment to Life, Identification with Living Systems

After these experiences—perhaps once on a special vacation trip, or daily as a roaming child in the woods—there emerges a new context for the self, a shift in identity. Earth becomes *home*, and one feels a belonging to larger systems of living things. People report feeling themselves to be part of the web of life, even to the point of feeling a kind of “at-one-ness” with the earth. The expanded experience creates its own deep meaning of attachment to living things, to the breathing cosmos (Abram 1996):

I know that I am but a tiny fragment to nature, but I feel I’m a necessary fragment because I feel I have earned my place in nature by respecting it.

Any of the first four aspects of reenchantment—the sensory experience, being lost in wonder, a sense of peace and restoration, and a shifted identity and attachment to living things—take on deeper meanings when connected to childhood experiences or religious, ethical, or moral commitments or connections with social-justice issues. Individuals reported that one and sometimes all of these connections were important to them, depending on personality and upbringing, as they reflected on the Piedmont Project or their other experiences with nature.

Connection to Childhood Experiences

Connection to childhood experiences is one of the commonly reported dimensions of meaning. An adult experience in nature calls up positive, memorable, and important experiences from a formative phase of growing up. There is a delight in making this connection, and both the memory and the current experience in nature are enhanced.

I grew up on the edge of town, on the side of a hill . . . so spent a lot of time in those woods. . . . [When reading literature,] I always had a response to that kind of imagery—yes, I know those hills.

When I was young, I wanted to be a botanist in the Amazon—that’s my connection with nature, trees, living things. . . . [The woods walks] brought me back to that memory, to nature. You’ve forgotten! I said to myself. . . . My favorite outing and still my favorite memory was when I was ten and I was the eldest, early on a Sunday morning, we’d walk to the park, myself and two brothers and sisters. . . . We’d play around, it was safe. We’d walk by ourselves. . . . That was my favorite natural encounter.

Connection to Religious, Moral, or Ethical Commitments

For some, the experience in nature connects directly with moral precepts for living, personal commitments, or ethical guidelines that are now seen as implicated with the reality of the living world in a new way. A few people reported that nature experiences for them were caught up with prior commitments to social-justice issues.

In high school, environmentalism was part of social protest movements that I was attracted to. . . . I organized recycling efforts in town. I saw this as part of alternatives to corporate dominance in the world, part of antiwar protests.

One person who shifted a work habit to reduce environmental impacts said,

It’s part of a larger claim that I want to be a good neighbor and have that play out in everyday practice. . . . I prefer

[my old habit], but I recognize that this is costly to the rest of what I might call “my neighbors,” if the environment can be personified that way. So it shifts from being a good thing to do to being a moral obligation. . . . The big shift comes when the environment becomes more personified, as opposed to abstract. It’s not incidental anymore. I feel an obligation to care about the place where I am.

Others reported a more explicitly religious dimension.

The Piedmont Project concretized [my faith] . . . which emphasizes service to others, others before self. That’s the origin for me. But the Piedmont Project translated it into a more concrete form.

When I get home from work . . . I ride by lakes, watch the cows graze. Also, as a theologian, the old gospel creation. The environment as sanctuary, as a place to worship.

Deepened Sense of Care

The breakthrough in empathy that an experience of reenchanting nature brings, the powerful experience of the webs of life, is often transferred to a deeper ethic of care for living things. This deeper sense of care, however, can also emerge from the rational, scientific perception of the wonders of the universe.

On my way home, I go past Peavine Creek, and it feels like a creek I have responsibility for. In my neighborhood . . . it’s Emory’s Creek.

My personal connection to the natural world has always been strong, arising out of my childhood experience. Piedmont helped me want to be more responsible for the natural world and to give back to the natural world, as it has given me so much.

In contrast to those who reported one or more of these seven aspects of reenchantment, some individuals emphasized the satisfactions of scientific knowledge but had little interest in other ways of connecting to the natural world.¹¹ For them, reason alone provided sufficient opportunity for curiosity and delight (see Satterfield 1997). Other individuals reported that the natural world was an attractive locale for exercise, sports, hiking, and physical activity. They enjoyed the scenery as sightseers but did not feel an expanded relationship with natural systems or any shift in identity.

I played outside all the time . . . my mother thought it was healthier to be outside. We played in the woods, built huts. . . . [My] love of nature came from that. I feel very comfortable, peaceful in a wooded setting.

I was a Boy Scout and did a lot of camping but there was not a particular place I was attached to.

11. Some people also resist relationships with forms of nature coded as “dangerous” or “dirty” (Macnaghten and Urry 2000, 174–75).

While it is possible that the very private aspects of a deeper connection with nature or the lack of a common cultural vocabulary led to underreporting of the elements of reenchantment, the interviews more strongly suggest that there is variability in faculty predispositions, experiences, and hence worldviews. In contrast to the assumptions of writers about reenchantment who see it as necessary or desirable for all, some Piedmont Project participants are comfortable with their socialization to a rational, scientific worldview, and they do not seek—and may not be open to—a deeper relationship with the natural world. The implication of such variability is that it is important to offer multiple paths to expanded awareness of sustainability issues. The power of the Piedmont Project experience seems to come from the combination of activities that reflect a stereoscopic perspective, the combination of reason and reenchantment. Those individuals who are more inclined to one perspective or the other are offered some activities that speak to their dispositions.

Reenchantment and Action

Does a more reenchanting experience in nature matter? Many writers argue that deep emotional roots in place are among the most potent platforms for action and heighten the potential for personal change and lasting commitment, but few have presented evidence (Bennett 2001; Castells 1997; Milton 2002; Thayer 2003; Thrift 2004). To assess connections between reenchantment and action, I first categorized the two interviewed participant cohorts into two rough groups, those who showed more energy and concern in their personal habits to live more sustainably ($n = 15$) and those who were less energetic, informed, and concerned ($n = 21$). Because self-report is not highly reliable for assessing household habits—and I found that self-labeling and self-assessment was often at considerable variance with a checklist of basic household practices in both directions—the data warrant only a rough dichotomization.¹² Interviewees were also coded into three groups based on their experiences with nature: those reporting very limited experiences (and none that bear any resemblance to reenchantment) made up one group ($n = 9$); those having had some experiences, but mainly recreational, were the second ($n = 16$); and those who reported deep connectedness with the wonder, beauty, or meaningfulness of nature were the third ($n = 11$). Table 1 shows a very interesting correlation

12. Some faculty members reached this point of the interview and exclaimed, “Oh, no, I’m terrible.” The checklist of issues, however, showed that they were in fact well informed and made many environmentally conscious choices. Others felt that they were quite conscientious but said no to many of the practices listed. I was not particularly interested at the time in using the checklist for an overall assessment. Rather, I wanted to learn more about general levels of awareness of household practices and the kinds of roadblocks perceived to improving them. I had hoped to find a few key markers, issues, or habits that would be useful for future research, but I found instead that there is huge variability by class, age, background, household roles, and living situations.

Table 1. Connection with Nature and Household Habits, Piedmont Project Participants 2001–2002 (*n* = 37)

	No or Little Connection with Nature	Some Connection, Mostly Recreational	Strong Connection with Reenchanted Nature
Weaker sustainability-related household habits	8	10	3
Stronger sustainability-related household habits	1	6	9

Note: $\chi^2 = 8.93$, *df* = 2, *P* = 0.01.

between a reenchanted connection with nature and stronger sustainability-related daily-life choices.

I then carried out the same analysis for the 20 faculty in the control group, which reveals a similar pattern. Table 2 combines the two groups and shows a statistically significant pattern in which those with a stronger connection with the beauty, power, and meaningfulness of nature were more likely to have stronger household habits, while those with little or no connection were unlikely to have strong habits. Those who had only recreational connections to nature were split between the two groups.

Table 2 shows that a strong experience of connection with nature does not lead automatically to careful household practices. Of the seven people (out of 22) who experienced a close relationship with nature but had weaker household habits, most were not very aware of environmental issues. Several things seem to interrupt the expression of environmental concern in daily life: an intense focus on career and professional accomplishments, complex household negotiations, and spouses with different values. What is striking, however, is that the reverse correlation is rare. A weak sense of connectedness with nature is generally found with weaker sustainability-related household habits. The one person out of 12 who has strong habits but who does not report a reenchanted connection with nature has strong commitments to social justice, and his conscientious behavior came from values of equity and fairness. Thus, building a more reenchanted relationship with nature may be a valuable component of a sustainability effort, but it is not sufficient for all individuals.

Evidence from Sustainability Leaders in Higher Education

The same patterns emerge in conversations with 25 leaders of the sustainability movement, the final part of the exploration of reason and reenchancement. Many Piedmont Project

participants are newcomers to issues of sustainability, but these leaders have made substantial commitments as a central part of their professional lives. I carried out interviews during campus visits and/or in subsequent phone calls in 2005 and 2006 with pioneer faculty or sustainability officers at colleges and universities around the United States and Canada. Our discussions explored how they understood their paths to leadership and their current careers. While such conversations are only a short engagement with meaning and the complexities of interpretation and action, they were useful in pointing to some key directions to understand life trajectories (T. Wojciechowski, unpublished manuscript). These leaders in campus action reported four major kinds of formative life experiences (and some reported more than one), and these influences echo the findings from the Piedmont Project.

Almost half credited their scientific and intellectual interests as the root of their current work. From the natural and social sciences, medicine, public health, and engineering, they loved the puzzles and challenges presented by environmental issues in their fields. Often, this scientific engagement went back into childhood and was separate from any kind of social action or environmental project. A number of these leaders shifted from an earlier phase of pure research or “problem recognition” to more applied or “solution-oriented” efforts. Some of the more senior leaders became committed to action for campus change after several earlier career phases.

I got involved in energy issues in school [as an intellectual area of study] and became a consultant with [firm], and it was through practice that I became involved, around compliance challenges. . . . A growing awareness [of environmental harms], but I wasn’t in a policy role and couldn’t do much.

I didn’t love nature in an emotional way. To me, it was truth revealed by science.

Table 2. Connection with Nature and Household Habits, Combined (*n* = 57)

	No or Little Connection with Nature	Some Connection, Mostly Recreational	Strong Connection with Reenchanted Nature
Weaker sustainability-related household habits	11	14	7
Stronger sustainability-related household habits	1	9	15

Note: $\chi^2 = 11.65$, *df* = 2, *P* = 0.003.

I'm an unreconstructed rationalist.

An equal number of sustainability leaders pointed to a deep sensory attachment to nature as the root of their commitment to their current work, and their accounts weave together enhanced sensory perception, wonder, peace, awe, and close identification with the natural world.

Our backyard was very wild . . . then on weekends, we'd go to . . . an estuary on the ocean. There were marshes and feral spaces. . . . [It was] about belonging to the earth. . . . At times, a complete sensual immersion.

At the end of my [suburban housing] development, there was a woods. A creek ran through that, and there was a log cabin back there and a fresh spring that we drank from. I literally lived much of my childhood and early adolescence by that spring. . . . A sense of intimacy . . . day by day, hour by hour, we had a sense of the changes going on there. What was happening to that snake and her baby snake. How hot the temperature was before the snake would come out. . . . Really attending to a place.

For example, [as a child], I could look at moths . . . and there's a sense of fascination and wonderment and the beauty of it. I felt a sense of awe and reverence. . . . Looking up at the Milky Way . . . just feeling small—but I don't mean that in a bad way—the extraordinary expansiveness of it, and my own little tiny life among all the amazing stuff going on is something I always felt.

A few individuals echoed the Piedmont Project participants whose nature connection is recreational but not particularly reenacted. "I liked the outdoors, but I wasn't conscious, though. It's not like I was in tune with nature or listened to the birds or anything." "I was definitely not the bug boy! But I was always comfortable in the woods." In contrast, one leader grew up spending summers on a lake and still goes there regularly. "I have a mystic attachment to it—it recharges the batteries. . . . It's almost a religious experience." Having read Rachel Carson as a child and heard Jacques Cousteau warn that humankind was ruining the seas, this individual also observed degradation along the eastern seaboard. "I observed the changes. I had a global perspective."

Another leader emphasized the restorative quality of his sensory relationship with nature, something he developed much later in life, on his oceanfront every night: "It's like a drug. I get a wonderful feeling of calm. It feels nice, smells nice, sounds nice."

Another important path to sustainability work comes through intellectual and ethical attachments to social justice, economic development, and the social side of sustainability. Nine of the 25 leaders reported formative experiences in developing countries in high school, college, graduate school, or the Peace Corps. They had strong interests in economic development issues and were jolted by the inequity they saw. Globalization pressures and population issues topped the list

of their concerns. From these more social and ethical aspects of sustainability, they were drawn into their current work.

I'm a pretty—not just moral—but moralistic kind of person. I feel very deep within me that I don't want to be party to something that is stupid, bad, or wrong. What we're doing with respect to the environment is folly, and I don't want any part of it. . . . I put myself out for what I believe.

This individual has clearly moved from an ethic of care to campus action but from an ethical, social-justice stance, not from an emotional connection with living systems. Such cases support the thesis that reenchantment is an important pathway to care and engaged action but not the only such pathway.

Finally, the experiences of a smaller group of five individuals point to the importance of a mentor. They had only tangential interests in environmental issues until they were educated by a professor, a farmer, or a wilderness-experience leader who galvanized their interests in a new direction. Sometimes, they were "roped into" a local effort to save an area or stop a project: "And I was hooked by all this. And the science was fascinating." In two cases, a key transition came when they testified publicly at a hearing even though they had not previously been involved or concerned. These individuals echo the importance of the Piedmont Project community, the safe social framework that encourages risk taking and personal growth. Although the importance of a supportive community was not emphasized in most accounts, the social context was just at the edge of the narrative. Often there was a group effort, several new friends, or an organization that provided the container for the awakening to systems thinking and sustainability issues.

Unlike the transition to sustainable agriculture among the Practical Farmers of Iowa (Bell 2004), sustainability interests did not come as a rupture for most of these leaders. "It was more an awakening," said one scientist who was very influenced by the book *Stalking the Wild Asparagus*. Most became gradually aware, growing in readiness to act. "I think things sometimes go along, developing, but they're not visible . . . and then they spill over and we call it a rupture," said one social scientist. For a few, a threatened job or a health crisis provoked a reassessment that led to new efforts to transform the college or university. For most, however, leadership emerged as an evolutionary process, an accumulation of concerns and opportunities. Also notable in their accounts is that very few leaders described their sustainability interests or new roles as emerging out of a particular environmental crisis, loss, or fear. Although they all expressed fears—or even anger—about the fate of the earth, the movement toward leadership and action, at least on a conscious level, was positive: intellectual excitement, a profound relationship with nature, a caring for others around the world, or admiration for a mentor.

These accounts of 25 pathbreakers suggest that the Piedmont Project may succeed because it combines new intellectual understandings of sustainability, opportunities for won-

der and aesthetic appreciation of nature, opportunities to be outdoors with charismatic mentors, and ways to see daily actions and institutional decisions as connected to the public good. It is clear that aspects of the reenchantment of nature are important for a significant sector of sustainability leaders as well as for faculty. A deepened relationship with the natural world may be more likely to foster an ethic of care and actions that move the university and the surrounding community toward the personal changes and political alliances that will make up the shift to sustainability. One leader concluded, about the work at her university,

The thing that brings people in is fun, creativity, imagination, quality of life—not degradation, crisis, black cloud.

In describing the goals of a project to document local citizens' attachment to a particular area of the state, one leader said,

Care, belonging, nurturing, connecting at a deeper level and expressing it. . . . Place is about sensitivity, aesthetics. It's based on bodies, experiences—based on things you can't quantify . . . art and expression.

Another campus leader recounted the challenge of moving toward societal sustainability.

This work involves the heart and the head and the hands. And the rapport with all these people is really beautiful. . . . When I was in college, the question burned into my mind: if you can't address this in the university, who can? Universities have the money, the intellectual horsepower, the responsibility for the education, the investment pool, and they're invested in the intergenerational. If they can't, you have to accept that you're not going to be able to do this.

Conclusion

Higher education and other institutions of industrial society have begun to accept responsibility and to act vigorously in the cultural transformation necessary for a more sustainable relationship with the earth's ecosystems. Evidence from the university context presented here suggests that an intersubjective stance of connection and relationship with living systems—called reenchantment—complements the scientific approach based on a linear, rational way of knowing. Building on the work of writers in diverse fields of social science, humanities, and natural science, I have described reenchantment as the process by which nonrational, experiential, and deeply meaningful relations with nature are reconstructed as a legitimate component of a contemporary worldview and a basis for action toward a more sustainable society.

Reenchantment begins with moments of sensory and aesthetic expansion, the experience of being outside oneself or caught up in wonder, and a positive mental or physical effect described as peacefulness, serenity, or joy. These experiences offer a different context for the self, an identity as a part of

a web of living things. Their power comes from echoes not only of childhood experiences in nature but also of moral precepts, religious commitments, and personal ethics. Such relationships are often expressed in a deepened ethic of care for the earth and caretaking of particular locales. These dimensions of reenchantment are for some people a sequence—from experience to action—and for others nested or only partly articulated.

Reenchantment fosters imagination, playfulness, and creativity that offers new discoveries and new alignments for action. These kinds of experience strengthen the foundation for the emergence of coalitions to create policies that constrain unsustainable economic and political forces (Princen's [2005] mechanisms of restraint). Although much of higher education is only slowly moving toward more sustainable functioning and faculty are often considered a difficult sector to engage, evidence from a faculty development program at Emory University (the Piedmont Project) shows that a combination of reason and reenchantment can have considerable impact. The opening workshop of the project builds a safe community that fosters learning in several modalities and leads individuals to broaden their awareness of the earth's living systems and to shift their own sense of place and identity. Interviews, surveys, and observations of 90 faculty and a control group found that heightened systems thinking translates into changed daily habits for many and new political action for some: actions at home and at the office, as well as within the university and the city, were reported. Evidence from the Piedmont Project faculty shows that those who describe their experience with nature as reenchanting are more likely than those who do not to have stronger sustainability-related household habits. Research among campus sustainability leaders around North America confirms that both reason and reenchantment were important in their choices to take stands within their institutions.

The particular format of the Piedmont Project is not the only way that principles of community, place, reason, and reenchantment can usefully inform each other. Any group—academic or otherwise—that is grappling with cultural change toward sustainability can apply a stereoscopic paradigm to draw in the broadest possible group and honor diverse ways of knowing. Once a supportive and safe learning environment that includes respected mentors has been created, the scientific approach can be expanded with opportunities to enhance and validate a more connected relationship with the natural world. Making visible what is hidden—watersheds, wildlife habitat—can also enhance daily-life perceptions. Heightened sensory experiences, restorative moments that support creativity and wonder, and deepened meaning through ethical and religious connections or childhood memories all support new awareness, identity, and action.

Attention to the often-neglected affective and nonrational dimensions of reenchantment benefits anthropologists and others who seek to understand humankind in this critical moment in the earth's history. Although a willingness to af-

filiate with other living things (Kellert and Wilson 1993) is not present among all Piedmont Project participants and may not be a universal experience, relations with place (Barlett 2005c) are powerful and often-neglected aspects of contemporary life.

Much remains to be learned about human experiences with natural systems in contemporary industrial societies, and a stereoscopic perspective—using reason and reenchantment—has the potential to strengthen both scholarship and the effectiveness of cultural-change efforts. More than a decade ago, Roy Rappaport (1994, 255) wrote that the reconciliation of science and humanistic values “is one of the most profound and difficult problems now facing humanity.” The experience at Emory and other universities suggests that the experience of reenchantment contributes to that reconciliation and fosters a more compelling, joyful, and meaningful transformation toward a sustainable society.

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Comments

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This paper is valuable for several reasons. First, it carries anthropology back to North American communities and to academia. Second, it deals with the serious issue of sustainability in academia. Third, it takes emotions seriously, including “ineffable” ones such as awe and enchantment.

Early anthropology, especially in the Americas, was notably concerned with religion and religious feelings and with emotion and deep personal experience in general (see, e.g., James Mooney 1896; Paul Radin 1927, 1957). Personal narratives, including long accounts of religious experience, were recorded (e.g., Jenness 1955). Often, indigenous ethnographers collected very detailed and emotionally intense accounts (e.g., Rasmussen 1931, 1932). Many ethnographers collected long accounts of vision quests and other deeply personal experiences.

Since those days, anthropology, and indeed social science, has often neglected the more ineffable and emotional sides

of life. This stems from a number of factors. First, these aspects of life are difficult to study. Second, the social sciences have tended to buy into materialist views, either what Marxists used to call “vulgar materialism” or an extreme form of rational-choice theory that regards only individual material maximization (IMM) as basic and worthy of attention. Such rationalist-materialist views and their attendant neglect of emotion have been devastatingly critiqued lately, not only in anthropology (Milton 2002) but also in political science (Taylor 2006), economics (Frank 1988; Green and Shapiro 1994), and sociology (Stets and Turner 2006). These works should end once and for all the idea that an adequate account of human action is supplied by IMM.

Third, much of modern anthropology has dealt largely with “critiques” of anthropological writing and “representation.” When ethnographic subjects are mentioned at all, they are generally portrayed as mere victims of neocolonialism, neoliberalism, globalization, or some other undefinable polysyllabic abstraction.

To this, ecological anthropology has been a vitally important corrective. Barlett’s work is exemplary. One may also mention recent books that extensively quote the strikingly aware, nuanced, and politically insightful reflections of traditional people, such as Stuart Kirsch’s *Reverse Anthropology* (2006; see also West 2006 and many other works). Several new works deal with total personal responses to landscapes and the cultural differences that can affect this (e.g., Nadasdy 2004; Rose 2000; Strang 1997). Work on landscapes has brought cultural anthropologists, archaeologists, and geographers together, and much of this work involves awareness of emotion and passion (see, e.g., Feld and Basso 1996).

Humans are creatures of emotion, reason, and physical sensation. These are all integrated into experience and processed as such. We plan and decide on this basis. Culture can come only from communicating experience in interpersonal contexts. Among other things, this means that cultural change will not come from purely rational political action. People need to precommit. Without personal involvement at all levels, humans will not make major changes.

One wonders what emotions are cross-culturally identifiable in environmental settings. Barlett does not provide enough phenomenological accounts of enchantment, wonder, or other feelings to show how they would relate to Navaho *hozho* (harmony), Maya *yakuntah* (love), or the deep and complex sense of “country” in Australian Aboriginal thought. In fact, few anthropological accounts tell us much about how people feel about their landscapes; Barlett is more detailed than most. Few other cultures seem to use words equivalent to “awe,” “wonder,” or “enchantment.” Do they simply label the same feelings in different ways? Or are the feelings different? My sense from wide field experience is that the labels differ more than the feelings, but there is much more to learn about this.

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Barlett tackles one of the most difficult challenges of our time: how to move sustainability from the periphery to the center of attention and action in higher education and beyond. Confronting modernity's power to render human-nature relations as mechanistic, sterile, and distant, especially in this moment of extreme disenchantment, she pursues ways of human re-identification and intellectual-emotional reattachment with Earth's bios. Sustainability courses and programs attract students (and yes, faculty) longing to forge deeper mystical-material ties foreshadowed in the ancient Greek construct *oikos*; Barlett shows some of the struggles for rekindling a contemporary reenchantment. Nevertheless, the world's current alienations are as profoundly social as they are ecological. They stem primarily from global capital movements that dominate compliant states and weaken national and local institutions while destroying many more livelihoods than they create. Indeed, a major attraction of the sustainability and reenchantment paradigms is that, like the premodern *oikos* construct, they propose a relevant postmodern ontology of an indissoluble social-natural reality. While occasionally acknowledging such sustainability connections, Barlett insists on reducing reenchantment to an awe of nonhuman nature. Her study, limited to her Emory colleagues, emphasizes an urban professional pathway to sustainability: wonderment of nature leads to transformed awareness of systemic connections, which leads to sustainable behaviors. Her Cartesian theoretical and methodological strictures miss humans-in-and-of-nature realities and lead to practical and political perspectives that constrain the possibilities for multiple sustainability praxes.

With regard to theory, I agree that systems thought, while merely one of a great plurality of cultural logics subsumed by "reason," is a convenient, if deceptively ahistorical, starting point for academics and informed publics to begin fashioning mutually comprehensible sustainability discourses. Here the "science versus humanities" barriers could have been softened had Barlett turned to such writings as anthropologist Gregory Bateson's (1972) famous metalogues in *Steps to an Ecology of Mind*; physicist Fritjof Capra's (1996, 2002) exquisite explorations of nature's diverse yet parallel patternings in mind, body, and trees; or even ecologist E. O. Wilson's *Biophilia* (1984) and *Consilience* (1998). As each reaches for a reenchanted awareness of humanity's place in Earth's complex web, their language often shifts from cybernetics to narrative, prose, and even verse. Barlett's insistence on formal "scientific" writing seems to straitjacket her ethnographic account of the joyous and aesthetic moments experienced by her Emory study participants.

Unfortunately, this writing style is inevitably tied to Barlett's use of the modernization paradigm, which lacks the dialectical interplay of internally related elements needed to elucidate a hypothesized reenchantment for sustainability. She tries to explain cultural change through Everett Rogers's innovation theories. These focused excessively on individual achievement for modernist capitalist development rather than any sustainability for a common good. Such methodological individualism presents two serious problems. First, it denies the power of social class, caste, ethnicity, and gender to shape change. Apparently, it also allows Barlett to rely on individual innovations of leaders (not commoners) and the testimony from social elites (the Emory faculty) who will lead sustainability "one at a time," hardly the basis for solidarity needed in a democratic, bottom-up social movement. In this regard, I wonder if Barlett's theoretical position leads her to the politically questionable stance of praising the sustainability of business leaders (and their <http://www.greenbiz.com> website), rather than decrying the corporate takeover of the world's official sustainable-development process chronicled in *Earthsummit.biz* (Bruno and Karliner 2002).

Barlett's second theoretical problem is scarce acknowledgment of the fundamentally *social* (and cultural) character of individual perceptions regarding nature and, ipso facto, of learning that is crucial for the forging of new identities, solidarities, and movements for transformative change. Tellingly, she barely notes the fact of a necessary sociality in her colleagues' establishment of the safe community that grounds the possibility that "individual" curiosity, learning, joy, and wonder about the Emory forest will occur.

My methodological comment concerns Barlett's choice of the faculty at her university to study. Had she also studied members of an Atlanta social-justice group at Emory, for example, it is likely that many more responses would have corresponded to those of her reported minority sample. They would likely locate the sense of reenchantment in being a part of an exciting solidarity group or perhaps in working to achieve a new way of sharing scarce resources in a low-income neighborhood. Here, social motivation can lead to such ecologically sustainable positions as "living simply so that others may simply live." I am suggesting that the multiple motivational pathways to sustainability, some based more on equity than on ecology, are inevitably tied more to one's experienced social and place-oriented relations (working class, single woman, urban, etc.) and experiences than to mere individual responses.

Peggy Barlett has opened an important discussion about reenchantment's potential for learning about and forging sustainability movements. Overcoming natural and social estrangements in thought, feeling, and practical activity should lead us to a more robust attainment of both.

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Significant contributors to diminishing sustainability are loss of ecosystem functions, natural-resource degradation, and overconsumption associated with detached lifestyles, detached government policies, and detached administration. Property and tenure systems, while useful for regulating resource access, are implemented in ways that also fragment ecosystems and the way we think about them. Globalization of culture, society, and commodities has accelerated the disconnection and disenchantment of people and their environment—their landscapes of “home.”

The major impediments are not deficient ecological knowledge but the values, attitudes, and institutions producing management practices that fragment and inhibit relationships for engagement and collaboration toward sustainable environmental and resource management. Peggy Barlett’s examination of “Reason and Reenchantment in Cultural Change” provides valuable insights for enhancing motivation, momentum, and action toward more environmentally sustainable practice individually and corporately. While Barlett’s case study is the Piedmont development program for incorporating sustainability across the Emory University curriculum, the lessons are widely applicable. On the basis of a few principles drawn from current theory in sustainability sciences, I suggest wider applications. This comment is stimulated by two themes of Barlett’s paper that I believe are particularly important for cultural change and engagement with environmental issues. These are the “place” context and the necessity of multiple scales of engagement for environmental management toward sustainability. These issues are necessary inclusions in cohesive, interdisciplinary educational curricula, but it is more broadly important to include them in current and future systems of planning, policy making, and governance. In building on Barlett’s thesis, I see in this approach a practical notion of “reasonable reenchantment” for the facilitation of widely sustainability policy and action at appropriate scales of civic engagement and ecosystem function. Such a wide application might be underpinned by “systems” theory, “place” theory, and landscape ecology sciences (Pattee 1973; Berkes and Folke 1998; Brunckhorst 2000). Effective and efficient action will develop through informal and formal institutions for collective engagement and decision making at the appropriate levels to deal with environmental sustainability.

Landscapes are products of social-ecological systems’ interactions. Humans create landscapes both in their minds (social constructs) and physically by their interactions with other ecosystem processes. This landscape theater of interactions creates the self-defining “on-ground” context, a “place” of value, meaning, and attachment (Brandenburg and

Carroll 1995; Cheng, Kruger, and Daniels 2003). A landscape might serve as a contested space or to naturalize dominant property relations and, ultimately, graphically display the results of social-ecological systems’ interactions, but none of these can be disentangled from the place in which they are positioned (Parisi et al. 2004; Brunckhorst and Reeve 2006).

Landscapes are also an emergent property of social-ecological systems’ interactions. This characteristic is particularly significant for sustainable futures. In systems theory, landscapes are an evolving manifestation of interdependent social-ecological interactions that cannot be broken down to causal elements but by their nature as systems generate operational contexts integrating cross-scale interactions of resource use, property rights, agency jurisdictions, policy applications, social networks, and community interactions entwined with ecological patterns and processes. Understanding local systems and their interactions in the context of larger systems allows us to see processes that materialize at broader landscape scales but cannot otherwise be seen at a local scale. Indeed, emergent properties of social-ecological systems’ interactions are often at the heart of sustainability issues, but time lags lead to emergence of these issues as “surprises” (e.g., vegetation clearing leading to the “sudden” appearance of saline degraded soils decades later). Social-ecological systems also possess self-organizing capacities responsive to pressures of change. Emergence can therefore contribute adaptive capacities, producing more ecologically compatible and resilient conditions (Berkes and Folke 1998).

Landscapes are therefore in constant motion; change begets change among components. Histories of policies, land uses, customs, and other institutions shape present landscapes and change the way we perceive them and act toward them in future policies and practices. In this way, social-ecological systems’ interdependencies, operating across spatial and institutional scales, influence coevolution of future landscapes and institutions. Responses and reorganization influence landscape patterns and processes (at various scales) along with institutions (at various levels), which in turn shape geographies of “place” attachment and community engagement along with other emergent conditions that feed back into the motion of change (fig. 1).

Nested, networked systems of people, place, and environment interactions need to be understood as “reason” in policy and planning for adaptation toward sustainability. Institutional levels, biogeographic scales of ecological process and pattern, and community identity with landscape and resources are all important in providing context and understanding for sustainable resource governance (Brunckhorst and Reeve 2006). Understanding and identifying with local to regional ecosystem processes, through “reason and reenchantment,” can contribute to multiscale (local to regional) reengagement with the environment, facilitating collective action to restore and sustain ecological systems and, in turn, building the reflexive competence of communities toward sustainable futures (Brunckhorst 2005).

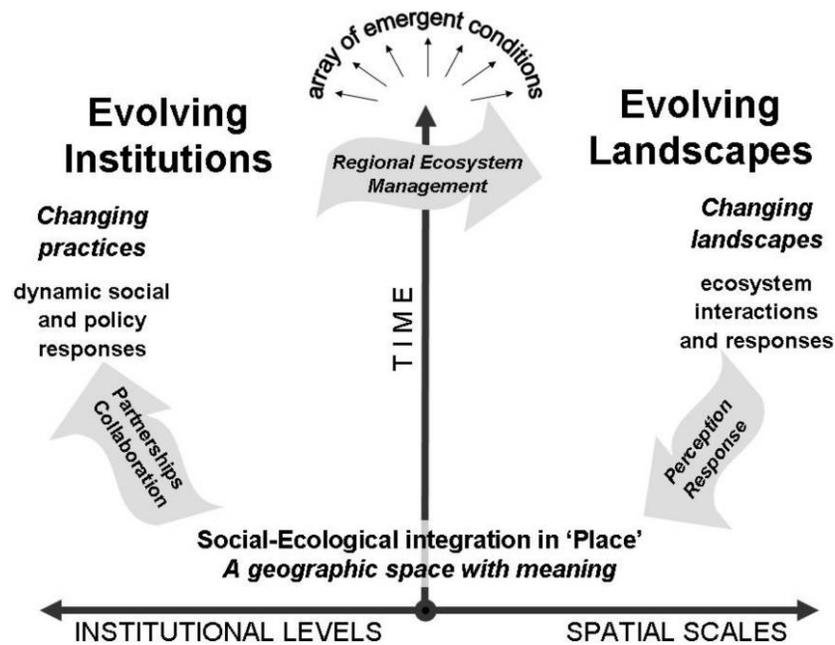


Figure 1. Social-ecological systems' interdependencies operating across spatial and institutional scales influence the form of future landscapes and institutions but also create identity and meaningful place contexts, valuable in motivating and merging "reenchantment" with reasoned, collective action toward sustainability (after Brunckhorst 2008, 3).

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To paraphrase philosopher Richard Rorty, fundamental social change occurs not when people argue well but when they *speak differently*. Peggy Barlett's article shows how, when so many of us in the environmental sciences keep honing our arguments (and amassing data and refining the models), others are creating a language, indeed a consciousness, for fundamental change. And it is fundamental societal shifts, in my view, that are needed to match the fundamental biophysical shifts now underway, with more to come. From emergent diseases and rising sea levels to peak oil and the collapse of the confidence game known as high finance, those who can speak differently will be the thought leaders and will, eventually, influence the political leaders.

Perhaps most significantly, Barlett finds that there is no one right path to reenchantment, but many: "intellectual excitement, a profound relationship with nature, a caring for others around the world, or admiration for a mentor." Yet I suspect that some paths are both necessary and harder to pursue. For instance, intellectual excitement and mentoring are common on campus but can be found on Wall Street and in Silicon Valley, too. Relations of care or with nature are

needed but harder to come by in such places, suggesting that sustainability strategies must find entry points. In some organizations, child and elder care may be entry points. In others, it might be the "practical arts"—hunting, fishing, gathering, farming, gardening—that academics, stock market traders, and high-tech entrepreneurs tend to ignore or dismiss.

Social change also requires a theory of change, however implicit. In this article, on the face of it, that theory goes something like this: reenchantment enables individuals to act on their beliefs and concerns about the environment; as more people so act, a foundation for political action is established from which society changes. What I find most instructive and inspiring about the Piedmont Project, however, is not the individual stories of awakening but the fact that some group of individuals took the initiative to create the project in the first place. In fact, it is their stories that I would like to hear because it is they who went beyond individual awakening and individual action (better household behavior, for example) to collective action, the real foundation for social change.

I offer a few thoughts on extending the project, both conceptually and in practice. First, because reenchantment is proposed as a "legitimate component of a contemporary worldview," we might look for other sources of that legitimacy. Might there be, for instance, patterns of work, including work found on campus, from landscaping to researching, from

plumbing to budgeting, that mimic the rhythms of nature and thus are self-limiting, like nature? I am thinking here of the human propensity to shift back and forth from the creative to the menial, from the stimulating to the restorative, focusing intently on each. Highlighting such work patterns could help delegitimize the frantic, efficiency-obsessed, multitasking ethos all too common in academe while legitimizing those patterns that are creative and restrained.

A second possible avenue for extension would be to examine extant worldviews, including those normally associated with the contemporary consumerist, expansionist, nature-depreciating order. Here we might search for elements consonant with reenchantment. I am thinking, for example, of classic finance (not to be confused with the high finance and high jinks of Wall Street), where simple maxims still ring true: spend the interest, not the principal; save for a rainy day; spend within one's means; don't put all your eggs in one basket; balance the budget. Or, in engineering, a new car part may be designed to withstand all expected stresses but be built 50% stronger, as a safety margin "just in case." That margin is what restrained, and potentially sustainable, resource use is about. My premise here is that worldviews rarely arise *de novo* or shift radically on their own (or by sheer will, let alone by being "incentivized"). So a change in worldview is most likely when elements of existing worldviews can be extracted.

A third avenue for extension would be to involve actors of disparate backgrounds. If a transformative worldview is to be constructed, one that promises to transform self and society, it should make sense to the nature lover, the simple-living advocate, and the environmentalist on the one hand and to the logger, the hunter, and the industrialist on the other. After all, it is generally the latter group that is already connected, via work, to the ecological world, and not always in exploitative ways. Once again, both groups can be found on a campus, but mutually respectful conversations between them are few and far between. A starting point, as Barlett suggests, would be these groups' "relations with place [which] are powerful and often neglected aspects of contemporary life." Conversations about such relations would, I am guessing, help us all speak differently.

Reply

I am grateful to the commentators for their rich, multidisciplinary insights. Gene Anderson's historical contextualization of my work points to the disjuncture in our disciplinary attention to emotion, experience, and wonder, and several commentators join his call for renewed research in these directions. More extensive phenomenological accounts of relations with the natural world would be not only very interesting but also useful in understanding the cross-cultural human condition more deeply. My own experience is that it

will take some work to find better ways to talk about such issues and that only when they are found will we be able to assess whether the feelings of reenchantment differ across groups or if only the expression of the experience differs.

Jeff Boyer is right that my treatment of the political economy of both modernity's disenchantment of nature and the sustainability paradigm's reenchantment is thin, mostly from space constraints. But he oversimplifies my argument by summarizing an urban professional pathway to sustainability as always beginning with wonder and awe. I point out multiple pathways, and some begin with social-justice and economic-development concerns. He rightly points out that Cartesian perspectives mark aspects of my analysis. Because one of my goals is to find language to begin "fashioning mutually comprehensible sustainability discourses" (in his words), I see no alternative as I seek to suggest the value of a stereoscopic approach of reason and reenchantment to a broad audience. His assertion that this language presents a challenge to an accurate embrace of "humans-in-and-of-nature realities" is, however, a good point.

I have turned to Rogers's innovation theory in order to understand the early stages of individual transformation toward the sustainability paradigm, but I do not mean to imply that it is a sufficient tool for understanding later stages of a social movement. Class, ethnicity, and gender did not prove useful in understanding patterns within my study population, but as our focus broadens to more widespread societal phenomena of engagement with and resistance to sustainability, other less individualistic tools will become appropriate. My positive mention of sustainability leadership in business is a response to my experience that many faculty are unaware of the risk taking and innovation in that group, although it is undeniably true that there is also much to criticize.

I agree strongly with Boyer's point about the importance of the social context of learning but neglected it here because I have emphasized it elsewhere (Barlett and Chase 2004a, 17; Barlett 2004, 2005a, 20, 2005b; Barlett and Eisen 2002; Barlett and Rappaport n.d.). As for Boyer's expectations of how different social groups at Emory or in Atlanta would express or enact their engagements with sustainability and the natural world, I look forward to reading the advances in our understanding that such research will bring.

David Brunckhorst's cogent focus on landscape and ecosystem processes draws useful attention to the multiple scales of analysis possible in pursuing the research agenda suggested by Boyer and Anderson (and Princen). Both Boyer and Brunckhorst see interdependent social-ecological interactions as central to movement toward sustainability, but Boyer expects that there will be causal elements in class and power dynamics both to explain past outcomes and to shape future ones. While I value the broad emphasis on interdependencies and multiple scales, it may not offer much guidance to emerging leaders who wish to foster creativity toward sustainability in planning, policy, and governance.

Those political/institutional topics have been the focus of

Thomas Princen's work as well, and I appreciate the several ways he extends my argument. The issue of more and less useful entry points for supporting a reenchanting relationship of the natural world reminds me that childhood "roaming" in the outdoors was important for almost all the 25 campus sustainability leaders I interviewed. It will be helpful to identify others. I also find useful the suggestion to seek to identify patterns of work that are self-limiting and legitimize restraint in order to support the paradigm shift in our academic lives. Wuthnow (1996) offers one approach to recalibrating our received moral compass in ways that support a more sustainable society. Many grassroots groups have worked with this rhetoric, and for political reasons, such work is urgent. At Emory, we are developing as part of our sustainability efforts a program called "Emory as Place" that echoes Brunckhorst's attention to geographical space with meaning, offering walking tours and service projects to ground students, faculty, and staff in the social and natural history of our place. We have drawn inspiration from Thayer's watershed tours at the University of California, Davis. Princen's comments about work rhythms, restoration, and creativity offer useful language to name what we are trying to accomplish (<http://www.emory.edu/sustainability>). Finally, I have found that sharp class and race barriers in Atlanta can indeed be transcended in conversations about place—and about local food. I look forward to hearing more from our colleagues and students on all these issues.

—Peggy B. Barlett

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