IN LOCO NATURAE

BY BRUCE HANNON

One impulse from a vernal wood
May teach you more of man of
moral evil and of good Than all the
sages can.

-WORDSWORTH,
The Tables Turned, 1798

In years past, universities acted on behalf of the parents of the students in matters that reached beyond the classroom, taking an active interest in the moral development of their students while they were enrolled on campus; that is, we stood *in loco parentis-in* the place of parents. Today, even though the university takes a less active role in moral matters and does not tell students what they can do outside the classroom, *institutions still expect faculty and staff* members to *behave according to* basic standards of civility and, in appropriate settings, to share their own moral judgments and uncertainties with their students. The hope, I imagine, is to instruct by setting good examples. We teach morals mainly by showing.

Since its founding, the university also has been caught up in another set of obligations. By the very nature of maintaining a physical facility, it acts *in loco naturae,* in place of nature. We manage thousands of acres of land, dominating and shaping the land more severely than we have ever dominated our students. Here, too, we act as role models, conveying powerful messages about how humans can and should interact with the land. The character and status of campus vegetation, the relation of this vegetation with the walkways, buildings, streams, parking lots and streets, and the naturalness of the campus aesthetic-all of these elements proclaim influential messages about nature's status on our campuses, at the confluence of knowledge and wisdom. Whether we know it or not-whether we like it or not-students absorb these messages and carry them outward, putting them to use as they act upon and recast the environment. In their professional and personal lives, in corporate board rooms and government offices, on front lawns and at country clubs, influenced by the forms they have seen and learned here, our former students will shape the landscapes of the future.

But in their years on campus have these students absorbed messages that promote the health of the land`? Have they been taught to respond to nature, to move with and not against it? Have we shown them how to respect and become a part of nature, rather than become an unrestrained controller and inadvertent destroyer of it? We've tried for centuries to dominate campus nature without success; having struggled with that lesson ourselves, shouldn't we pass along some wisdom to our students? Don't we need to engage them in a dialogue about the rightful links between them and the rest of nature?

This dialogue should begin, I submit, in the classroom that is our outdoor campus environment. If we want to take advantage of this opportunity to teach, if we want to convey these ideas, we must relate to our campus landscape in far different ways from what we do now. We need to convey far different aesthetic pictures-pictures that reflect the qualities of nature that prevailed long ago: vegetative diversity of native species, mature in age and pattern; unstraightened, undredged streams; a landscape with room for many native birds and animals.

Inherent in this view that I propose is the old axiom: Nature-as-measure. Shall we ever know the full truth of this statement? All around us-in our rising concern for the environment, in our intensifying search for ways to live sustainably-there is evidence that we are turning to nature as a suitable measure and allotting it more room in our system of beliefs. Could we be learning, finally, that humans need nature and are actually a part of nature? Are we, like Wordsworth, coming to think of nature as our counselor, inspiration, and confessor?

At most universities, we teach our students about everything in the nation, the world, the universe-everything, except the history of the very ground, the place on which they stand. We teach our students to be upwardly mobile transients but not how to become native to a

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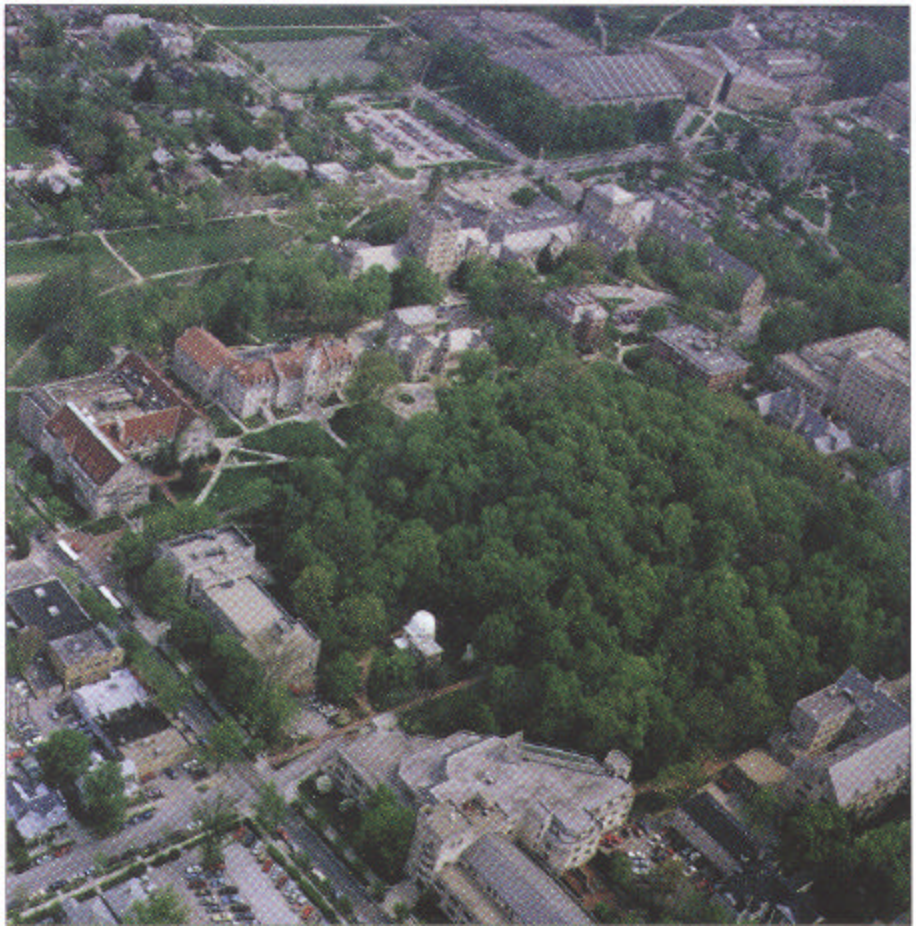

*The woodland campus of Indiana Univer**sity at Bloomington reflects the** results* of ***an institutional philosophy that has sought to preserve the area's native wooded landscape.*** *The centerpiece of the campus,* ***Dunn's Woods (pictured here) has remained much as it was*** *where the site was chosen for the university in 1884.*

(Photo, left, by Mark Simons; photo, above, by Beverly Sympson: Indiana University Photographic services)

place: we teach them to be apart, from nature rather than a part of it. This is our fundamental error.

On many campuses, we see planted trees and shrubs, mostly non-native species, evenly spaced in surveyor-straight rows for as far as building placement will allow. We find plants in same-age, same-species subsets, following practices that nature abhors. Manicured lawns, protected by posts and chains, are trimmed with gas-guzzling machines and sprayed with dangerous chemicals. Buildings extend to the very edges of local creeks, now lined with concrete and steel. So many parking lots punctuate the campus landscape that we have lost all semblance of cohesive greenness. What we seem to be saying, loud and clear, is that this is how nature looks when properly tamed. Alma Mater seems to whisper, "Note how ably we control it! This is nature's proper form: bent completely to our will."

Day in, day out, these unnatural landscapes are educating our students in unfortunate, pernicious ways. So complete is the educational process that 1, as a teacher, shrink back in both horror and envy at the effectiveness of the messages we send. We are imprinting on the minds of the leaders of tomorrow a landscape that is artificial and unhealthy, and they will carry this image to the corners of the earth. One cannot help but wonder: Why are campus planners doing this?

> *It has come to this-that the lover of art is one, and nature another, though true art is but an expression of our love of nature. It is monstrous when one cares but little about trees and much about Corinthian columns, and yet this is exceedingly common.*
>
> *-From the journal of*
> *Henry David Thoreau*
> *October 1854*

Through time, our treatment of the landscape has been guided by a series of philosophies. The first might be called the majestic, exemplified by the formal gardens of the kings. According to this view, classic formality and full domination of nature was also a signal to those outside the kingly cortege of the king's wealth, power, and control. Formal gardens stood as a warning against challenges to that power. A king who possessed control over nature could control his subjects as well.

In medieval times, peasants had the run of the wild woods and streams. Only the king could afford the costly layout and maintenance of gardens, fountains, and pools. Only royalty had the means to control nature, to force anthropocentric order upon nature's seeming chaos, to bring *civilization* to the wilderness. Governments assumed this role after they usurped the functions of kings, maintaining many of the old Palace Gardens while imposing vestiges of this landscape-control mentality on city streets and parks.

In America, the message was not lost. Here was a vast wilderness, crying out to be tamed and used. The majestic view became professionalized in the emergence of landscape architects, with their theory of vegetation and its subservient relation to the built environment. Jefferson's theory of landscape democracy became embodied in the American Lawn and Park and Campus, with the mandatory clearing of the land for bluegrass and sculpted trees. Today we accept with little question the artificiality of the maple-lined street, the roar of the chain saw and the lawn mower, the smell of pesticides, and the sight of

Michigan State University rejects the majestic domination of nature embodied in most campus landscapes, celebrates ; the native vegetation with its arboretum-like appearance.

(Bruce Fox Photos, University Relations, Michigan State University)

the concrete-lined stream. It all seems *so ...natural.*

This first intellectual phase in our treatment of the landscape merged into a second, which might be called the pic*turesque,* in which the guiding concepts became ones of romantic informality and of imaginary nature, as exemplified by the English and Japanese gardens. These garden concepts were essentially independent of scale and therefore lent themselves to use by landowners small and large. The concept of control over nature was still part and parcel of this practice, but the process had been individualized and democratized, scaled for ubiquitous displacement of the natural landscape.

The third view of the landscape is the modern *ecological* one, which has been around for years but is far from widespread. Here the standard of beauty is the natural. In the short run, the ecological view may be more difficult to implement initially than the majestic or the picturesque ones. In the long run, however, the ecological landscape is self-maintaining and, therefore, a less costly alternative. Constructing ecological landscapes requires a deep understanding of the processes of nature, of what nature would be doing if we humans, in Aldo Leopold's words from *A Sand County Almanac*, changed from "conqueror of the land-community to plain member and citizen of it" (Harrisburg, PA: Stackpole Books, 1990). Landscape management of this type is intelligence-intensive rather than control-intensive. It requires an understanding of the reasons for species and age diversity of plants, of the role of animals and insects, of the characteristics of the soil and climate. Perhaps most of all, the practice of ecological landscaping requires reaching for greater humility; we must learn to help nature make its own connections and at its own rate.

Despite the powerful dominance of capitalism and technology, an alternative strand of thought, a more humble strand, has been slowly increasing over the several centuries since Copernicus demonstrated that the earth is not really the center of the universe; since Darwin postulated that man did not spring upon the earth wholly formed from the finger of God; and finally, since Aldo Leopold showed us that we are part of a living system upon which we are dependent and which depends on us, and that it is incumbent upon us to develop a corresponding ethic if we wish to continue to

be a responsible part of this system. On campus-indoors and outdoors-that trend needs to continue.

SOME UNNATURAL CAMPUS LANDSCAPES

Over the years, I have visited many campuses in the United States and abroad. From my travels, two Midwestern universities stand out as partial exceptions to the rule of majestic domination. Indiana University at Bloomington allows a forest to stand on its central quadrangle; the administrators are unworried-and perhaps even happy-that nature retains a strong hold on this place. Although perhaps too zoo-like in its arboretum appearance, Michigan State University likewise celebrates its vegetation. These two campuses, and others like them, have made efforts to preserve and restore the natural.

Far more typical of campuses, however, is my own, where efforts to dominate nature have been more forceful and unrelenting. The outdoor environment at the University of Illinois, Urbana-Champaign today has its own version of beauty-a human-created one-the product of generations of campus planning. Perhaps the original planners felt the need to mimic the agricultural Landscape nearby; perhaps they felt the need to bring formality, discipline, and sobriety to the newly plowed prairie. Whatever the early motives, today's planners see the campus environment as a formal, ceremonial, majestic space, and they strive to keep it that way. Buildings are aligned and like-colored. The straight rows of trees are of uniform age and species-often species that are not indigenous to this area-and they lack associated vegetation as would occur in nature. In this unnatural setting, droughts, disease, and extremes of heat and cold inflict a recurring, deadly toll. With additional stress from nearby construction and recurring insect infestation, these exotic species soon die, and the landscape is recast, yet again, into a juvenile state. Buildings are surrounded by miles of low, evergreen hedges, trimmed-at an enormous cost-to the string-line by an army of workers with electric clippers. For trees and shrubs, this campus is an unhealthy home. It is as though our pioneer founders loathed the very soil that gave them life-aspired for some thing distant, exotic, not fully understood, but presumably better.

The history of our main quadrangle over the last 135 years offers a vivid case study of failed but continuing efforts to resist nature's norms. First planted in American elms around the turn of the century, the quad was laid bare in the mid-1950s by Dutch elm disease. The elm was not a commercially useful tree, and no protective practices were then known, but the main problem was less the choice of species than the decision to use a single species-all subject to a single disease. What a costly lesson, and yet a lesson unlearned. The quad (and much of the rest of the campus) was soon replanted in honey locust, a short-lived, hybrid, prairie invader tree. Today, most of these trees are also dead or dying. Their replacements are a variety of oaks, some not suited to campus conditions. These replacements vary in age only because the locust trees are not all dying at once. Nature is forcing us, unknowingly, into a modest degree of variety. But we still have not learned the lesson. Like the former trees, these oaks are planted in surveyor-straight, north-south, east-west rows around the edges of the quad and on the building side of the quad sidewalks.

Our main quad is sprayed regularly with fungicides and insecticides, in part to deal with the unintended consequences of frequent watering. To "protect" those who use this lawn, 2-inch by 3-inch signs are placed about the quad after each spraying, rather like the warnings on cigarette packs. But students sit and lie on the lawn despite the signs. To truly protect student health, shouldn't we cordon off this quad with yellow tape until the danger passes?

The south quad was lined with London plane trees, indistinguishable by the novice from the local sycamores. These trees literally froze and split in one of our recent severe, but not atypical, Midwestern winters. Now this quad is lined with a few other species, all the same age, all in north-south, east-west rows.

The newest quadrangle, the north quad, is lined with sets of single-species, same-age trees planted in rows. The entrance to the famous Beckman Institute is ranked with rows of Bradford pear, a notoriously short-lived tree whose branches are susceptible to our not infrequent ice storms. Another central campus street is lined with tulip trees, all the same age. The ground around these trees is paved right up to the base of the tree, leaving little room for water and air to reach the roots. Regularly trimmed of dead branches at great cost, the trees are replaced with new tulip trees as they die. As dying sweet gums are cut down on the main quad, yet another street has just been replanted with the same trees, a species well north of its natural range. The main campus thoroughfare now sports red oaks, a native species. But red oaks planted by nature rarely appear in such density, or such uniformity of age, and are never aligned along compass azimuths.

As a result of the insensitive and uncoordinated activities of university planners and construction contractors, trees are often weakened through root damage or water deprivation so that they succumb more easily to disease and drought. Tree loss is most often blamed on weather or insects, but this is much like saying that an AIDS victim died of pneumonia or that a DUI auto accident victim succumbed to excessive deceleration.

The campus visitor can only wonder what religious or social practice this ceremonial landscape is meant to observe. Why not more Bur oaks-a splendid tree originally found here, on the forest-prairie edge, and very adaptable for the environment on our campus? Why not cottonwood trees, those giants of the wet-prairie edge? Why not stands of prairie grasses and flowers? We have, after all, nearly 250 native species to choose from. Why can't we survey the soil conditions throughout campus and then ecologically design the vegetative system that can most rapidly grow into some rough approximation of the original state? Why can't we break the pattern of planting trees in rows with even spacing? Why can't we plant trees in the *middle* of the various quads? Why can't we have sectors of the campus converted into landscapes that are specifically adaptable for the area around the typical suburban home? For example, the university maintains as a memorial the original Mumford home, now surrounded by large campus buildings. The yard to this home could be used to grow original prairie vegetation.

Part of the campus landscape problem is caused by the decision long ago

to feature the automobile on campus. Perhaps we felt that a campus in such a severe climate ought to have some compensatory perks. Whatever the reason, the parking lot has become a major impediment to the development of a more natural landscape here, a fact easily confirmed by comparing street-level and aerial photos taken throughout the years. Early streets, before they were widened to accommodate auto parking, were fully shaded by arching trees. Parking fees that are far below the cost of new parking bring high demand for spaces and unclear planning priorities.

One glance at the creek on the part of campus housing the engineering college reminds one of an industrial area in decline: nearly vertical banks of either stacked recycled concrete or metal sheeting. Mature streamside trees are long gone, including those that could be seen a few years ago, dying in their concrete tubs. How many thousands of engineering students pass this creek every day, accumulating a view of how the university values and treats a creek? What better means could we devise to educate our students in how to abuse and disdain nature? How many hours of classroom instruction would it take to convey a message so effectively?

WHY DON'T CAMPUS MEMBERS NOTICE OR SEEM TO CARE?

Scientists and scholars have curiosity and observational powers that exceed the norm-traits that allow them to pursue their hunches through the tangle of the unknown and to arrive at successful and useful conclusions. Why is it, then, that scientists and scholars at most universities are not curious about their campus environment? Is it because the vegetative backdrop seems so inanimate that we soon view it as just so much extra theater scenery? Does our disinterest arise because the landscape looks like our neighborhoods and homes, because we have finally fully assented to our own aesthetic standard: trees-as-lawn-furniture,grass-as-carpet,creeks-as-sewers? Does our tendency to think in the abstract-the result of achieving literacy and numeracy - destroy our ability to read or even notice our surrounding environment? Do we feel that we have no time to spend correcting such things? After all, "If I don't get tenured (get promoted, graduate), I won't be able to stay here. If I do get tenure, I won't have time to do anything but work to be a full professor, to gain a new position...," and so on. But if this is our line of reasoning, it is, I suggest, a faulty one. Wherever people work together to effect change, fundamental ideas spring forth. The rate of learning is increased. New viewpoints on old ideas are found. Management, organizing, communication, and other social skills improve. Priorities become clearer. All of this can enhance the student's educational experience.

No more important place can be found for nature than in the midst of our place of learning on the landscape of our campuses.

How, then, might a university proceed toward a more natural campus landscape? The place to begin, I recommend, is to understand and embrace five principles:

- Nature must be respected if we expect to thrive as a species.
- Nature provides its own aesthetic standard.
- The outdoor campus environment is a "classroom," an integral part of our educational system.
- Landscapes are good teachers.
- The duty to ensure good lessons from this campus outdoor classroom rests with faculty, staff, students, and alumni.

1. Respecting Nature. Our religions have variously preached separation, dominance, stewardship, and responsibility toward nature (nature-as-child). But if we are to become more responsible members of the larger natural community, we must give nature more independence than any of these viewpoints allow; we must view nature as subject more than object, allowing it to unfold and evolve in accordance with its own rules (nature-as-family). Are we not plainly dominating nature far too much for our own good? Are we not too much of a presence on the earth? I submit that we either must learn to diminish our numbers, our per capita consumption, and the landscape-degrading qualities of our technologies, or we must expect and prepare for more disease, more fighting over scarce resources, more Somalias, and more powerful and pervasive incidences of dictatorial leadership. Nature is not a neutral referee of human conflict; it will strike anyone who deviates too far from its mandates. But if we study nature and follow it, it can help guide us away from such gloomy prospects. We can learn from nature because its processes have endured and thrived, which is what we too seek to do. To begin this journey, we must acknowledge the existence and vital importance of this guide-we must study it, learn from it and come to respect its processes.

2. Natural Aesthetic Standards. Evidence is mounting that humans have a distinct need for nature, an affinity for life-a biophilia, to use E. O. Wilson's term. From this love flows the desire to imitate. Mimicry of the natural is what I mean by urging us to use nature as our measure, but we cannot use as measure something that is no longer present or part of our everyday lives. To learn from nature, we must recreate it, or more accurately, let it recreate itself in our midst. No more important place can be found for nature than in the midst of our place of learning-on the landscape of our campuses.

No one knows enough about nature to distinguish finely between the natural and the unnatural, or to recreate a natural community by deliberate human intervention. We must allow nature to surprise us as it follows its own course. To begin this process we should recreate the landscape's original physical conditions as much as possible: its soil horizons, its drainage and fire patterns, and its microclimates. Having done this, we must have faith that the very stuff that then emerges will be nature. When we already know some of what nature would do in a place, we can help the successional processes along by adding long-lived native plants, and where possible, restoring natural drainage.

For decades, campus landscape architects have been the bearers of the

current aesthetic standard. As these come and go, the prevailing standard changes from one artificial construct to another. Landscape architects view the landscape as their canvas, with vegetation as their palette. As they paint the landscape with vegetation, adding paving blocks and other unnatural lines, they impose their own standards of beauty upon it. Yet their creation does not last because it is not ecologically whole. The nature-as-measure approach-a natural campus classroom plan-calls for a reversal of this design process. Nature itself, not some fleeting human aesthetic ideal, must authenticate the planning process.

3. Campus Outdoors-As-Classroom. Campus landscape design is important because of the simple, unavoidable reality that it conveys messages to students and campus visitors; like it or not, it is part of the educational process-part of the process by which we show the world how humans ought to dwell on the land. If we are to communicate sound messages from our landscape, we must take several steps:

• We must ourselves learn as much as possible about the natural ecosystem that once existed in the campus place.

• Where possible, we must restore the original land forms and drainage patterns, precisely where the students live and study, not on remote outposts of the campus.

• We must use local native species to the greatest possible extent, in their natural accord, matching species with species and with micro soil and climate conditions.

• We must be willing to restore the process of natural selection to its presettlement course; that is, we must be patient.

• We must do what we can to acquaint students (and alumni) with the processes that are occurring before their eyes.

4. Contrast-As-Teacher. The restoration process must begin from the current landscape. A usable plan, of course, must accommodate buildings and walkways, bike trails and vehicular passageways between most of these buildings: not all of the campus can be restored to a natural landscape. But we can and should maximize the natural content of the campus landscape, keeping to a minimum the manicured bluegrass vista. We can and should abandon our decades-long celebration of the parking space per faculty member, the straight-line grand allees,and the regimented, stand-alone trees.

Nature-as-measure does not condemn all human artistry-it simply limits the materials used and alters the guiding methodology. The inevitable contrast of the resulting natural and human landscapes-humans using the land while leaving ample room for nature-serves as the most efficient of all teachers.

5. Consensus. Faculty and students together must learn to take charge of the campus classroom landscape. No longer can the landscape be viewed as "administrivia" adequately handled behind the scenes-it is simply too important. Restoration and explanation of the landscape is not a second-class campus duty, like running the motor pool or the power plant. Furthermore, alumni must learn to memorialize landscapes and not just bricks and mortar.

To the greatest extent possible, the landscape design process should involve both faculty and students in the planning and execution of, the restoration of, and teaching from the campus classroom landscape. Students and faculty would literally bond to this landscape. They would care for it and teach and learn from it. They would help to ensure that the balance of values was achieved, maintained, and conveyed. In time, the landscape could become the one constant that alumni could find when returning to campus after many years.

An ecological campus landscape, once established, is likely to be less costly to maintain. More vitally, it will foster memories, impressions, and values that most of us want our students to carry forth from their alma mater: memories of a landscape based on cooperation and humility rather than control and arrogance; a landscape that is symbiotic rather than merely symbolic; above all, a landscape that is self-sustaining and healthy and does justice to the earth.

Integrity is wholeness, the
greatest beauty is
Organic wholeness,
the wholeness of life and things, the divine beauty of the universe. Love that, Not man apart from that ....

-ROBINSON JEFFERS,
The Answer, 193