

Ecology and Design

FRAMEWORKS FOR LEARNING



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CHAPTER 2

The Authority of Nature: Conflict, Confusion, and Renewal in Design, Planning, and Ecology

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Landscapes are shaped by rain and sun, plants and animals, human hands and minds. Whether wild or clipped, composed of curved lines or straight, living plants or plastic, every garden and every region is a product of natural phenomena and human artifice. It is impossible to make a landscape without expressing, however unconsciously, ideas about nature. For thousands of years, nature has been both mirror and model for landscape design, has been looked to for inspiration and guidance.¹ Many practitioners who established landscape architecture as a profession in the nineteenth century accepted George Perkins Marsh's (1864) challenge: "In reclaiming and reoccupying lands laid waste by human improvidence or malice . . . the task is to become a co-worker with nature in the reconstruction of the damaged fabric" (p. 35). Landscape architects have explored and debated what it means to design with nature for well over a century. Clarifying conflicts and dispelling confusion over the nature of nature and of landscape design and planning are essential to renewing both the discipline and the landscapes themselves. Fields such as conservation biology, restoration ecology, and ecological engineering, which have emerged in recent years, may learn from this cautionary tale.

Designers and planners who refer to their work as "natural" or "ecological" make ideas of nature central and explicit, citing nature as authority to justify decisions, to select some materials or plants and exclude others, for example, to arrange them in particular patterns, and tend the result in certain ways. Appealing to nature as the authority for landscape architecture has pitfalls that are often overlooked by advocates of "natural" gardens and ecologi-

cal planning and design. To describe one sort of landscape as natural implies that there are unnatural landscapes that are somehow different (and presumably wrong). Yet, over time and place, quite different sorts of landscapes have been claimed as natural, much the same way opposing nations claim to have God on their side. In fact, some designers invoke nature to call upon divine authority. To Frank Lloyd Wright, for example, nature was the manifestation of God: "Nature should be spelled with a capital 'N,' not because Nature is God but because all that we can learn of God we will learn from the body of God, which we call Nature."²

Now, too, the authority of science is cited to augment the authority of nature and God. Today, many landscape architects regard ecological science as an important source of principles for landscape design and planning. Indeed, the adoption of ideas from ecology contributed to a renewal of the discipline in the 1960s. Some, however, have embraced ecology as the primary authority for determining the "natural" (and therefore correct) way to design landscapes. To its most extreme practitioners, ecological design is deterministic, its "laws" couched in terms that recall religious dogma. This chapter should in no way be interpreted as a rejection of the approach launched at the University of Pennsylvania in the early 1960s and dubbed "ecological" design, but rather should be seen as an attempt to construct firmer ground for future discussions.³ What I am attacking here is dogma, and what I am urging is a more reasoned, inclusive approach, well cognizant of the problems inherent in appeals to authority in general and to nature in particular.

Debates over what constitutes a "truly ecological landscape architecture" have escalated in recent years, with various groups accusing each other of "nonecological" behavior, and with the phrase "nonecological" used by authors with divergent views. Chapters by various authors in Thompson and Steiner 1997, for example, reveal some of the conflict and confusion in the field, as well as some pitfalls of appealing to "ecology" or "nature" for authority in landscape design. There have been bitter quarrels among landscape architects over the proper materials, styles, and methods of "ecological" landscape design. Some advocate the exclusive use of native, as opposed to naturalized, plants, while others advocate naturalistic plantings regardless of species composition or ecological function. Some urge the eradication of "exotic" "invaders" and condemn others for planting naturalized, nonnative plants. Some conceal the artifice of their works; others celebrate the human ability to transform the landscape. Some privilege the role of reason in design and promote science as the sole source of truth about nature, while others prefer personal revelation and reject science as a way of knowing.⁴ Once confined to professional journals, such debates have spilled over into the popular press. "Attack of the Killer Weeds!" announced the cover of *The Philadelphia Inquirer Sunday Magazine* on June 30, 1996, alluding to the lead article,

"Aliens Among Us." Polemical rhetoric plays on fear of the alien, provokes opposition as well as support, and, ironically, obscures the real problems some species pose (Rodman 1993).

Such conflicts and the confusion they engender are about competing sources of authority and conflicting ideas of nature: whether humans are outside or inside nature, whether human impact is inevitably destructive or potentially beneficial, whether one can know an objective nature apart from human values. Anyone who invokes the authority of nature implies that he or she speaks for nature. But who confers that right and why? Some believe authority comes from traditional precedent: from the way things have "always" been done, or were done previously in some idealized period or exemplary models. Others derive authority from a rational system of rules or laws that can be proved or explained. Some are persuaded by the statements of a charismatic leader.⁵ Differences in basic assumptions are so fundamental they may make it impossible to resolve the conflicts, but it is possible to clarify differences and dispel confusion. Much confusion comes from launching the debate without defining its terms. What is nature anyway?

The Nature of Nature

Nature is an abstraction, a set of ideas for which many cultures have no one name, "a singular name for the real multiplicity of things and living processes" (Williams 1980). The singular quality of the word masks this multiplicity and implies that there is a single definition, an impression that is grossly misleading. A. O. Lovejoy identified sixty-six different senses of the words "nature" and "natural" as used in literature and philosophy from the Ancient Greeks to the eighteenth century (Lovejoy 1935). The abstract quality of the word strips nonhuman features and phenomena of agency, of exerting an active force upon the world, on the one hand, yet invites personification ("Nature's revenge"), on the other.

Nature is both given and constructed. There is always a tension between the autonomy of nonhuman features and phenomena and the meanings ascribed to them. Nature is the word Raymond Williams (1983) called "perhaps the most complex word in the language" (p. 219).⁶ It comes from the Latin *natura*, which comes in turn from *nasci*, to be born. Thus nature is linked to other words from the same root, such as nascent, innate, native, and nation. In English, as in French and Latin, the word "nature" originally described a quality—the essential or given character of something—then later became an independent noun. Williams identified two additional areas of meaning: "the inherent force which directs either the world or human beings or both" and "the material world itself, taken as including or not including human beings" (p. 219).

Nature is a mirror of and for culture. Ideas of nature reveal as much or more about human society as they do about nonhuman processes and features. Even as human cultures describe themselves as reflections of nature, their ideas of nature also mirror their culture. Lovejoy's review of the words "nature" and "natural" reveals how integral ideas of nature have been to religion, politics, and beliefs about what constitutes normal or abnormal, right or wrong behavior. Nor has science been immune to normative notions of nature. When ecologists once described the "harmony" of nature and the succession of plant "communities" from pioneers to stable climax forest, they were also describing a model for human society (see Worster 1979; Botkin 1990; Mitman 1992; Golley 1994). The shift in plant ecology from the dominance of Clements's association-unit theory prior to 1950 to that of Gleason's individualistic concept paralleled shifts in American culture (Barbour 1995). The idea of The Fall—of humanity expelled from paradise, a former state of grace within nature—has exerted a powerful influence on the imagination in Western cultures. Ecology, anthropology, and landscape architecture are laced with Edenic narratives, stories of an initial state of harmony, perfection, and innocence in which humans lived as one with other living creatures followed by the forced separation of humans from nature, often accompanied by nostalgia for the perfect past and a view of "native" peoples as living in a more worthy, morally superior relation to nature (Slater 1995).⁷

As products of culture, ideas of nature vary from people to people, place to place, period to period. Even in a particular time and place, what constitutes the "natural" way of doing things has been disputed. Frank Lloyd Wright and Jens Jensen, fellow residents of Chicago and Wisconsin, friends throughout most of their lives, agreed that nature was *the* authority for design and sought to express the moral messages or "sermons" they read in hills and valleys, rivers and trees (Jensen 1956). Despite this apparent common ground, the two men "argued incessantly about the nature of nature," about what form a "natural" garden should take (Tafel 1985, p. 152).⁸

Wright's understanding of nature was grounded in his family's Emersonian philosophy.⁹ He had contempt for "some sentimental feeling about animals and grass and trees and out-of-doors generally," as opposed to reverence for nature as an internal ideal, the very "nature" of God (Wright 1937, p. 163). To Wright, landscape was often an imperfect manifestation of nature; the task of the architect was to bring its outer form in closer conformity with an inner ideal, its *nature*, or essential characteristics. Wright derived his principles for design from the underlying *structure* of flowers, trees, and terrain, and his landscape designs were often abstract versions of regional landscapes of prairie or desert.

If Wright's obsession was to extract and express an ideal inner nature, Jensen's was to protect and promote the "native" features of regional land-

scapes. Jensen believed there was a correspondence between a region's climate, physiography, and flora and its human inhabitants; landscape fostered, then symbolized, a relationship between people and place. Unlike Wright, Jensen (1956) gave no impression in his published works that he believed humans could improve upon the "native" landscape: "Nature talks more finely and more deeply when left alone" (p. 94). He revered what he called the "primitive" and found his "main source of inspiration . . . in the unadulterated, untouched work of the great Master" (p. 23). These ideas led Jensen to imitate the outward appearance of the local landscape, its meadows, woodlands, and riverbanks: "Through generations of evolution our native landscape becomes a part of us, and out of this we may form fitting compositions for our people" (p. 21).

Many of Jensen's ideas, such as the relation he saw between nature and nation and his advocacy of native plants, were common ideas in Europe and North America.¹⁰ Contemporary ecological theories drew parallels between plant and animal "communities" and human communities and, in some cases, extended this analogy to justify certain human activities as "natural."¹¹ Ideas of the relationship between native plants and "folk," however, were carried to ideological extremes by German landscape architects under National Socialism.¹² The use of "native" plants and "natural" gardens to represent the Nazi political agenda should dispel forever the illusion of innocence surrounding the words nature, natural, and native and their application to garden design. Nature is one of the most powerfully loaded, ideological words in the English (and German) language.

"Nature" and "natural" are among the words landscape architects (and ecologists) use most frequently to justify their designs (or research) or to evoke a sense of "goodness," but they rarely examine or express precisely what the words mean to them, and they are generally ignorant of the ideological minefields they tread. Invoking nature, they imagine they are talking about a single phenomenon with universal meaning, when in fact their ideas may be entirely different from one another, even antithetical. At first, the abstraction of the word nature conceals differences. Then, when arguments inevitably ensue, it befuddles and confounds.

The Nature of Landscape Design and Planning

Landscape architects (and ecologists) hold strong ideas about nature; whatever it means to them, they tend to care about it, for the beliefs and values those ideas represent are usually at the heart of why they entered the profession. For the past thirteen years, I have asked my graduate students: What is nature? Their responses have included the following: Nature was given as a trust to humans by God; nature is trees and rocks, everything except humans

and the things humans make; nature is a place where one cannot see the hand of humans, a place to be alone; nature consists of creative and life-sustaining processes that connect everything in the physical and biological worlds, including humans; nature is a cultural construct with no meaning or existence outside human society; nature is something that cannot be known; Nature is God. While this is a broad range of definitions, it does not represent the full spectrum of possible answers; the experiential and spiritual aspects of nature are cited frequently, for example, and nature as material resource is rarely mentioned. For several years I asked students for their personal definition of nature on the first day of class, and then at the end of the course asked them to write a short paper defining nature once again. Their answers were more articulate and reflective, but rarely changed in substance from the first brief statement. I have concluded that ideas of nature are deeply held beliefs, closely tied to religious values, even for those people who do not consider themselves religious.¹³

Tensions and contradictions in landscape architecture also stem from inherent, unresolved conflicts among the disciplines from which it draws. The roots of landscape architecture lie in several constellations of disciplines: agriculture (gardening, horticulture, forestry); engineering; architecture and fine arts; science (ecology, geology). These constellations are based on disparate ideas about the relationships of humans to nonhuman features and phenomena. Agriculture, engineering, and architecture are founded on the idea that nature can be improved upon, whereas ecologists tend to be observers of, rather than actors upon, nature. To gardeners (and, by extension, to horticulturalists and foresters), humans are stewards who manage plants, animals, and their habitats for human ends, for sustenance and pleasure; nature is both material and process, something to be reckoned with. To most engineers, nature consists of forces to be controlled or overcome. Engineers such as Ken Wright of Denver, who has devised drainage and floodways that deflect or adjust to flowing water, are exceptional; so are architects such as the Australians Glenn Murcutt and Richard Le Plastrier, who regard landscape processes as active agents and design their buildings to respond to wind, water, light, and heat; and so are artists such as Robert Smithson, James Turrell, Alan Sonfist, Newton and Helen Harrison, and Doug Hollis, who engage processes of erosion, water flow, light, wind, sound, and plant growth in their works. To most artists and architects, however, nature is generally not an active agent, though it is a source of inspiration, of symbolic forms to be drawn upon, a scene to be represented, a site to be occupied and transformed, something perceived. On the other hand, despite growing interest in applied fields such as restoration ecology and conservation biology, many ecologists consider humans to be interlopers in nature and have focused mainly on wild and rural landscapes.

These differences among disciplines are emphasized further by the fact that members of each discipline recognize the validity of a different type of authority to defend understanding of the world and justify their actions. While most derive authority to some degree from tradition, systems of rules, and charismatic leadership, they give more or less weight to each of these types. Modern science, for example, is based on the idea of rational, systematic studies whose results can be replicated. Historians of science have demonstrated that scientific practice is also tradition-bound (until the next paradigm shift), its course swayed by the ideas of powerful personalities; nevertheless, rational proofs are recognized as the only legitimate authority. Architecture, on the other hand, has long acknowledged the authority traditionally vested in certain styles (e.g., classicism, the vernacular) and exemplary buildings (the Pantheon, the Villa Savoye). Most architects seek legitimacy for their buildings through reference to a stylistic tradition or original model. Artists have more license to flaunt authority than do architects or scientists; society does not hold artists as accountable for their works. Particularly in the twentieth century, artists gained authority through originality, the production of works unlike anything seen before.

Landscape architects have drawn broadly from other disciplines without examining and reconciling the beliefs and traditions upon which they are based.¹⁴ There is also a tendency to accord higher status to ideas generated in other disciplines, to cite authors from outside the field, but to ignore pertinent works in landscape architecture, and to draw freely from precedent without acknowledgment. Landscape architects fail repeatedly to build upon prior efforts and often reiterate ideas without advancing them significantly. The desire to be seen as original is typical of the field, and advocates of ecological design and planning are no exception. Ian McHarg ignored precedent when he asserted, as he has many times, "I invented ecological planning in the 1960s" (1997, p. 321). McHarg has made an enormous contribution to the theory and practice of landscape architecture, especially in the incorporation of ideas from ecology. The importance of his contributions is not diminished when seen in the context of work by others such as Phil Lewis, Angus Hills, and Artur Glickson (Glickson 1971) who pursued similar ideas from the 1950s and early 1960s, not to mention many prior figures, such as Patrick Geddes, Charles Eliot, and Warren Manning. This tradition was not acknowledged in the Department of Landscape Architecture and Regional Planning at the University of Pennsylvania when I was a student there in the early 1970s, nor did we draw from it in our work at Wallace McHarg Roberts and Todd during that period. Though both department and firm made numerous innovations, there were also many reinventions. Whether through honest oversight or deliberate disregard, failure to acknowledge precedents has prevented an appreciation for the evolution of ideas and practices in land-

scape architecture. Unless this habit is overcome, landscape architecture will not mature as a profession, and ecological design and planning will not mature as a field.¹⁵

The habit of borrowing theory and methods from other fields and applying them directly and uncritically to landscape architecture not only works against their integration, it often places these disparate ways of knowing and working in hostile juxtaposition. In graduate schools, it is not unusual to find students with backgrounds in horticulture, art, architecture, engineering, and ecology in the same class, and the faculty often includes members of several of these disciplines. At best, mating these fields in a single faculty is a rich marriage of ideas. At worst, it is a shotgun wedding where individuals cannot find common ground. Few have combined these roots successfully and inventively. The unresolved differences in academic departments over meanings of nature and ways of knowing have been played out in practice, producing a major muddle and too few built landscapes that fuse the contributions of art and science, gardening and engineering.

In 1957, Sylvia Crowe called landscape architecture a bridge between science and art, a profession whose greatest task was to "heal" the "breach between science and humanism, and between aesthetics and technology" (p. 4). Landscape architecture and its relation to allied disciplines was the subject of International Federation of Landscape Architects meetings during this period.¹⁶ Many years later, landscape architecture is still caught in the breach, struggling to construct a core that integrates its diverse roots rather than privileging one over the others. Each root is distinctive: each has an important contribution to designing, planning, and managing landscape.

In 1969, Ian McHarg's *Design with Nature* led to fundamental changes in the teaching and practice of landscape architecture. McHarg advocated the systematic application of a set of "rules" derived from ecological science and demonstrated the value of this approach in professional projects. His charismatic personality and polemical language captured the attention of the profession and public, attracted a large following, and were instrumental in the acceptance of ideas that had also been explored by others. Nearly thirty years later, many innovations once seen as radical are now common practice. The claim that science is the only defensible authority for landscape design, however, proved particularly damaging to discourse and practice in landscape architecture. When McHarg, for example, continues to use the words nature and ecology interchangeably, as an "imperative" or "command" for design, he brooks no dissent: "I conceive of non-ecological design as either capricious, arbitrary, or idiosyncratic, and it is certainly irrelevant. Non-ecological design and planning disdains reason and emphasizes intuition. It is anti-scientific by assertion" (McHarg 1997, p. 321). Such aggressive overstatements have pro-

voked equally dogmatic reactions from those who seek to promote landscape architecture as an art form. Provoked by such statements, many proponents of a new artistic thrust in landscape architecture chose to set this movement in opposition to "the ecological movement and its detrimental consequences for design." One article included gratuitous, unfounded attacks, some from critics who chose to remain anonymous, such as: "The so-called Penn School led by McHarg produced a generation of landscape graduates who did not build" (Boles 1989, p. 53). Statements such as these were retracted by the editors in a subsequent issue of the journal in response to letters to the editor.

Ecology as a science (a way of describing the world), ecology as a cause (a mandate for moral action), and ecology as an aesthetic (a norm for beauty) are often confused and conflated. McHarg (1997) does so when he calls ecology "not only an explanation, but also a command" (p. 321). As does his critic, 'James Corner,' when he offers an alternative "truly ecological practice of landscape architecture" and refers to "the processes of which ecology and creativity speak" as leading to "freedom" (1997, pp. 81, 102). It is important to distinguish the insights ecology yields as a description of the world, on the one hand, from how these insights have served as a source of prescriptive principles and aesthetic values, on the other. The perception of the world as a complex network of relations has been a major contribution of ecology, permitting us to see humans, ourselves, as but one part of that web. There has been a tendency, however, to move directly from these insights to prescription and proscription, citing ecology as an authority in much the same way that nature was employed in the past to derive laws for landscape design and to define a single aesthetic norm, in this case "the ecological aesthetic." Laurie Olin (1988) has criticized this approach as "a new deterministic and doctrinaire view of what is 'natural' and 'beautiful'" embodying a "chilling, close-minded stance of moral certitude" (p. 150).

Constructing Nature

Landscape architects construct nature both literally and figuratively, but the history of twentieth-century landscape architecture has been told largely as a history of forms rather than a history of ideas and rhetorical expression. This has been especially true of the history of "natural" or "ecological" design. Gardens of different periods built to imitate "nature" may appear similar, yet express different, even divergent, values and ideas. The Fens and Riverway in Boston and Columbus Park in Chicago, for example, were built to resemble "natural" scenery of their region, but the motivations that underlie them were quite different in several important respects. These projects are cited often as precedents and models for an ecological approach to landscape design without critically examining the values and motives that underlay them,

thereby further confounding the current confusion around issues of nature and authority.¹⁷

Boston's Fens and Riverway, designed by Frederick Law Olmsted, were built over nearly two decades (1880s–1890s), the first attempt anywhere, so far as I know, to construct a wetland.¹⁸ The function and the form of the Fens and Riverway were revolutionary; the "wild" appearance was in contrast to the prevailing formal or pastoral styles.¹⁹ These projects, built on the site of tidal flats and floodplains fouled by sewage and industrial effluent, were designed to purify water and protect adjacent land from flooding. They also incorporated an interceptor sewer, a parkway, and Boston's first streetcar line. Together, they formed a landscape *system* designed to accommodate the flow of water, removal of wastes, and movement of people; Olmsted conceived them as a new type of urban open space that he took care to distinguish from a park. This skeleton of woods and wetland, road, sewer, and public transit structured the growing city and its suburbs. The Fens and Riverway were a fusion of art, agriculture, engineering, and science. Olmsted's contemporaries knew that these parks were constructed, for they had seen and smelled the stinking, muddy mess the Fens replaced; the recognition of the transformation was part of their social meaning and aesthetic power.

Jens Jensen designed Columbus Park (1916) in Chicago thirty years later to "symbolize" a prairie landscape (1956, p. 76). He made a large meadow, excavated a meandering lagoon, and planted groves of trees as a representation of the Illinois landscape: prairie, prairie river, and forest edge. All the plants used in the park were native to Illinois; they "belonged," as Jensen (1956, p. 77) put it. In outward appearance, the "prairie river" looked much like the Fens, as testified by photographs taken of each within about a decade of construction. Both Olmsted and Jensen intended their projects to expose townspeople to what they saw as the beneficial influence of rural scenery, particularly those people who were unable to travel to far-off places and were barred from "neighboring fields, woods, pond-sides, river-banks, valleys, or hills" (Olmsted 1895, pp. 253–254). Despite these similarities, the aims of the two men and the goals of their projects were very different in important ways.

Jensen's agenda at Columbus Park and elsewhere was to bring people, especially "the growing minds" of youth, into contact with their "home environment," for he believed that "[w]e are molded into a people by the thing we live with day after day" (1956, p. 83). Every region should display the beauty of its local landscape: "This encourages each race, each country, each state, and each county to bring out the best within its borders" (1956, p. 46). Jensen elaborated on these ideas of "environmental influences" in *Siftings* (1956), where he attributed certain characteristics among populations of European countries and American regions to the influence of their land-

scapes. While he stressed that each regional landscape has its own beauty, he repeatedly revealed his prejudice for the superiority of northern regions and peoples with such statements as: "Environmental influences of the hot south have almost destroyed the strong and hardy characteristics of . . . northern people" (1956, p. 35). Jensen drew parallels between people and plants and advocated the sole use of species native to a place: "To me no plant is more refined than that which belongs. There is no comparison between native plants and those imported from foreign shores which are, and shall always remain so, novelties" (p. 45).

Like many of his contemporaries, Olmsted thought that environment influenced human behavior, but his views and focus were different from Jensen's. He believed that contemplation of "natural scenery" had beneficial physical, mental, and moral effects, and that the lack of such opportunity could lead to depression and mental illness.²⁰ In constructing "natural" scenery, Olmsted advocated the practice of mixing native and hardy exotic plants, as described in William Robinson's *The Wild Garden* (1870), and argued with Charles Sprague Sargent, who opposed using nonnative plants in the Riverway. The upshot was that only native species were planted on the Brookline side of the Riverway (where Sargent had the authority of approval), while a mixture of native and nonnative species were planted on the Boston side!²¹ The primary purpose of the Riverway was "to abate existing nuisances, avoid threatened dangers and provide for the permanent, wholesome and seemly disposition of the drainage of Muddy River Valley" (Olmsted 1881). The Fens and Riverway are an application of the ideas proposed by George Perkins Marsh in *Man and Nature* (1864). In reclaiming polluted tidal flats and derelict floodplain, Olmsted planned to "hasten the process already begun" by nature, thereby achieving more than the "unassisted processes of nature" as he would also do a few years later at Niagara Falls (Olmsted 1887, pp. 21, 8). He must have been familiar with Marsh's well-known book, which was reprinted several times in the nineteenth century. The attempt to manage landscape processes to restore land and water polluted by human wastes and to promote human health, safety, and welfare was what made these projects so significant. Such goals were largely absent from Jensen's work.

The natural garden movement in the early part of the twentieth century, of which Jensen was a proponent, and the ecological design movement of the latter part seem to have much in common. Both have stressed native plants and plant communities as material and model for garden design. Beyond these and other similarities, however, there are deep differences in the ideas of nature underlying the two movements. In the United States, natural garden design in the early twentieth century was part of the larger context of regionalism expressed in art, literature, and politics. American regionalism

was a populist movement that promoted the local roots of place and folk over the increasing power of the federal government, the growth of national corporations, and the influence of foreign styles (Dorman 1993). Jensen used regional landscapes and native plants to shape human society; he never discussed the value of plants, animals, or biological and physical processes apart from their significance for human purpose. This anthropocentric context is a contrast to late-twentieth-century environmentalism where animals, plants, and ecosystems may be accorded value, and even legal rights, not just for the present or future value they may have for humans, but also for themselves.²²

Reconstructing Nature, Recovering Landscape and Language, Renewing Landscape Architecture

The features and phenomena we refer to as nature are both given and constructed; authors from Cicero to Karl Marx have distinguished between a "first" and a "second" nature, where the first represents a nature unaltered by human labor. Cicero defined second nature thus: "We sow corn, we plant trees, we fertilize the soil by irrigation, we confine the rivers and straighten or divert their courses. In short, by means of our hands we try to create as it were a second nature within the natural world" (Hunt 1993, p. 312). John Dixon Hunt has reminded us that gardens have been called a "third nature," a self-conscious re-presentation of first and second natures, an artful interpretation "of a specific place . . . for specific people" (p. 325).

Today, many people are struggling to redefine nature, and the landscape reflects this struggle. There is no consensus. Is nature a sacred entity where humans are one with all living creatures, or a wilderness refuge requiring protection from man? Or is nature just a bunch of resources for human use? Is nature a web of processes that link garden, city, and globe? These different natures and others all coexist in contemporary society. They underlie whether and how people value and shape landscapes and gardens. Despite this range of ideas about the nature of nature, there is widespread international concern about the future environment and a growing sense that we need to reconstruct our conceptions of nature, to find ways of perceiving and relating to nonhuman features and phenomena that assert the dynamic autonomy of the nonhuman while they also affirm the importance of human needs and dreams.

Landscape architects have a potential contribution to this exploration, and the landscapes we shape are part of our discourse, ideas in the archaic sense of the word as "a visible representation of a conception."²³ Gardens have been a medium for working out fresh ideas and forms of human habitation, and they are particularly fertile ground for exploring relationships between the human and nonhuman. In the garden, there is a recognition of

constructedness and an attitude of beneficial management, as well as an acknowledgment that certain nonhuman phenomena are beyond human control. Gardens are never entirely predictable; one cultivates a garden with an acknowledgment of unforeseen circumstances. The garden, defined by *Webster's* as "a well-tended region," is a powerful metaphor for reconceiving cities and metropolitan regions; this metaphor was the inspiration for my first book, *The Granite Garden: Urban Nature and Human Design* (Spirn 1984).

A series of gardens on Bainbridge Island near Seattle makes the case for an artful, humanist environmentalism. These gardens, designed by Richard Haag for Bloedel Reserve, a place devoted to environmental education, transcend polemics and draw their power from ideas of nature, from past garden traditions, from art. The Bird Sanctuary, a dredged pond edged by trees, set between forest and meadow, is an "artful wilderness to perplex the scene," dug, planted, inhabited (Pope 1731). The pond's water is brownish-black; small islands make it appear larger. Red alders line the shore in clumps, like sprouts sprung up from the same old stump. The way that islands lie, poplars clump, and meadow slopes looks wild yet deliberate. A path in the sanctuary leads from pond through forest to the Anteroom, a wooded moss garden, where it winds around enormous tree stumps covered by thick moss. The Anteroom juxtaposes decay and rebirth; it celebrates both artful construction and organic regeneration, the power of life to renew a forest once cut for timber. From the Anteroom's moss garden, the path leads in to the Reflection Garden, a clearing in the forest bounded by a rectangular frame of clipped yew hedges, where a long rectangular pool reflects the dark forest and reveals the groundwater beneath the spongy turf. These gardens at Bloedel do not return the site to some imagined, ideal condition before humans cut the forest; rather, they create a garden where evidence of human use is incorporated into the whole. They are stories about the use, abuse, and renewal of landscape.

To call some landscapes "natural" and others "artificial" or "cultural" misses the truth that landscapes are never wholly one or the other. Cicero's "first nature" exists only as an ideal; there is no place unaltered by human activities. His "second nature" and Hunt's "third nature" are landscapes, the expression of actions and ideas in place. Landscape associates people and place. Danish *landskab*, German *landschaft*, Dutch *landschap*, and Old English *landscipe* combine two roots. *Land* means both a place and the people living there. *Skabe* and *schaffen* mean "to shape"; suffixes *-skab* and *-schaft*, as in the English *-ship*, also mean "association" or "partnership." Though no longer used in ordinary speech, the Dutch *schappen* conveys a magisterial sense of shaping, as in the biblical Creation.²⁴ Still strong in Scandinavian and German languages, these original meanings have all but disappeared from English. *Webster's Dictionary* defines landscape as static, "a picture representing a

section of natural, inland scenery, as of prairie, woodland, mountains . . . an expense of natural scenery seen by the eye in one view"; the *Oxford English Dictionary* traces the word to a Dutch painting term (*landskip*).²⁵ But landscape is not a mere visible surface, static composition, or passive backdrop to human theater; dictionaries should be revised and the older meanings revived. Landscape connotes a sense of both the given and the purposefully shaped and recovers the dynamic connection between place and those who dwell there.

Language has consequences. It structures how one thinks and what kinds of things one is able to express. If the language one uses is purely formal, one is predisposed to engage the formal; the language itself does not prompt one to incorporate other dimensions of planning, design, and management. Similarly, if one's language is purely functional, then formal concerns are less likely to receive explicit attention. Without a language that fuses form, feeling, meaning, and human and ecological function, it is difficult to address all these dimensions. Landscape architects need a language of design that represents the scope and concerns of the discipline. Designers and planners need a language that integrates natural processes and human purpose, a language that will enhance how one experiences and reads the landscape, and how one designs it, a language that will permit us to assess how well the landscapes we make satisfy our fundamental physical, social, and spiritual needs; a language that will link the everyday with art, the past with the future, and the scale of the garden with the scale of the region. My recent book, *The Language of Landscape*, describes such a language and reflects upon the kinds of places it could inspire us to create (Spirn 1998).

To recover the language of landscape is to discover and imagine new metaphors, to tell new stories, and to create new landscapes. John Berger describes, and photographer Jean Mohr illustrates, a language of lived experience with which to interpret the common and the particular across the gulf of different cultures (Berger and Mohr 1983). Gregory Bateson says that humans must learn to speak the language "in terms of which living things are organized" in order to read the world not as discrete things but as dynamic relations and to practice the art of managing complex, living systems (Bateson 1991, pp. 310–311, 253–257). Aldo Leopold writes of the need for humans to "think like a mountain," to escape the shortsightedness that threatens the larger habitats of which humans are part (Leopold 1966, pp. 129–133). The language of landscape is such a language: in terms of it the world is organized and living things behave, and humans can think like a mountain, shape landscapes that sustain human lives and the lives of other creatures as well, and foster identity and celebrate diversity.

The language of landscape is derived from the core activity of landscape architecture: artful shaping, from garden to region, to fulfill function and

express meaning. The roots of this theory are strong, deep, and varied, grounded in many fields, not just landscape architecture, but ecology, geology, geography, anthropology, history, art history, literature, and linguistics, among others. It is a radical theory: in the sense of being rooted in the basic elements of nature and human nature, in the sense of offering a perspective fundamentally different from any one individual root, and in demanding and enabling radical change in how we choose to think and act.

Human survival as a species depends upon adapting ourselves and our landscapes—settlements, buildings, rivers, fields, forests—in new, life-sustaining ways, shaping contexts that acknowledge connections to air, earth, water, life, and to each other, and that helps us feel and understand these connections, landscapes that are functional, sustainable, meaningful, and artful. Not everyone will be a farmer or a fisherman for whom landscape is livelihood, but all can learn to read landscape, to understand those readings, and to speak new wisdom into life in city, suburb, and countryside, to cultivate the power of landscape expression as if our life depends upon it.

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Notes

1. An earlier version of this essay was published in 1997 (Wolschke-Bulmahn 1997) and portions adapted in my book, *The Language of Landscape* (Spirn 1998). It is an extension of a chapter (Spirn 1995) for a book written with a group of scholars at the University of California Humanities Research Center in Irvine from January to June 1994 (Cronon 1995). For insights that inform this essay, I am indebted to my colleagues in the Irvine seminar: Michael Barbour, Ann Bermingham, Bill Cronon, Susan Davis, Giovanna Di Chiro, Jeff Ellis, Donna Haraway, Robert Harrison, Katherine Hayles, Carolyn Merchant, Ken Olwig, Jim Proctor, Jenny Price, Candace Slater, and Richard White, and to Mark Rose, Director of the Institute. I am also grateful to Paul Spirn, Carl Steinitz, Joachim Wolschke-Bulmahn, Kenneth Helphand, Bart Johnson, Kristina Hill, and anonymous readers for their comments on a preliminary version of this essay.
2. Quoted in Gill 1987, p. 22. Another version, almost word for word, is transcribed from a tape of August 4, 1957 (Pfeiffer 1987, p. 88). This is pure Emerson, who had written similar words more than 150 years earlier: "... the noblest ministry of nature is to stand as the apparition of God" (Emerson 1836, p. 77). Wright spoke with Mike Wallace in 1957 on the television program *The Mike*

Wallace Interview. "I've always considered myself deeply religious," said Wright. "Do you go to any specific church?" asked Wallace. Wright replied, "My church [pause], I put a capital 'N' on Nature and go there." Wright is a good example of a designer who appeals to divine authority through nature because he has written so extensively on the topic. Most designers who link the natural and the divine do so less explicitly. For a discussion of how ideas of nature are expressed in the work of Frank Lloyd Wright, see Spirn 1996.

3. Those familiar with landscape architecture will recognize that many of the figures quoted in this essay have been my colleagues at the University of Pennsylvania. I have great respect for each of them; all have made important contributions to the field through writing, teaching, and/or practice. Penn has been a center for the development and continuing evolution of this approach to landscape design.
4. This chapter does not discuss the full scope of the current controversy in landscape architecture over the conflicting authority of "nature" versus "culture," ecology versus art. I am just as critical of appeals to historical precedent or personal expression as authority for landscape design as I am of appeals to nature. Such a discussion is outside the scope of the essay, and I have treated the subject elsewhere (Spirn 1998).
5. See Max Weber's analysis of three forms of authority—traditional, legal-rational, and charismatic (Weber 1978). For an introduction to ideas of authority, see Boudon and Bourricaud 1989.
6. Many essays and entire books have been written on the origins, history, use, and significance of the word nature. See, for example, Williams 1980, Lewis 1967, Lovejoy 1935 and 1948, Collingwood 1945, Glacken 1967, Leiss 1974, Evernden 1992.
7. Slater traces Edenic narratives as they relate to the Biblical story of Genesis, but points out that such notions are not unique to the Judeo-Christian tradition. For a discussion of other religious traditions, see Pedersen 1995.
8. Also personal communication, Cornelia Brierly of the Taliesin Fellowship. Brierly was assigned to assist Jensen when he visited Taliesin.
9. See Cronon 1994 for an excellent discussion of the roots of Wright's philosophy.
10. Jensen was born of a Danish-speaking family in the Slesvig region—a border zone of northern Germany and southern Denmark. This region was politically and culturally contested ground for more than a century. Despite two good books on Jensen's life and work (Eaton 1964 and Grese 1992), his complex relationship to Danish and German ideas of nature and nation has not been fully explored (Wolschke-Bulmahn 1995), and it is beyond the scope of this chapter to do so. For perspectives on contemporary Danish and German ideas of nature and natural gardens, see Olwig 1980 and 1984, Wolschke-Bulmahn 1993. See also Waugh 1917 for a North American perspective, and Ruff 1979 for an introduction to the work of Jacques Thijssse, J. Landwehr, and the Dutch "Heem" (home) parks.
11. See Mitman 1992 for a history of the Chicago school of ecology and the interplay between science and a social philosophy that stressed the value of cooperation over conflict.

12. See Groening and Wolschke-Bulmahn 1992 for a discussion of ecological theory in Germany during the nineteenth and early twentieth centuries and parallels between the eradication of nonnative plants in Nazi Germany and the extermination of non-Aryan human populations. There is some evidence that Jensen was sympathetic to at least some of these ideas; see Wolschke-Bulmahn 1993.
13. By the age of twenty-five, most students' ideas of nature seem set or at least not modified greatly by a single course on the subject (they ranged in age from twenty-two to fifty; most were in their mid to late twenties). While largely North American, approximately one-third have been from other parts of the world, including Europe, the Middle East, Africa, Asia, South America, and Australia. Of the North Americans, most grew up in the suburbs or in rural areas; a higher proportion of foreign students are from cities.
14. Robert Riley and Brenda Brown have addressed this topic in an editorial (Riley and Brown 1995).
15. McHarg did always acknowledge his debt to Lewis Mumford and, late in life, spoke of the contributions of Charles Eliot and his peers Lawrence Halprin and Roberto Burle Marx.
16. Geoffrey Jellicoe portrayed the situation as "A Table for Eight," where the landscape architect shares concerns for shaping the environment with seven others: the philosopher, the town and country planner, the horticulturalist, the engineer, the architect, the sculptor, and the painter. Another essay by Francisco C. Cabral outlined a curriculum for landscape architecture that stresses the importance of science (ecology, geology, climate) and agriculture (horticulture, forestry), as well as architecture and fine arts (Crowe 1961).
17. Grese 1992 presents a useful comparison of the work of Olmsted and Jensen in this and other respects, but emphasizes similarities and does not probe their ideological differences.
18. My essay "Constructing Nature" treats material presented here in more detail (Spirn 1995).
19. The Ramble at Central Park was planted to appear "wild," but it was only a small part of the park. William Robinson, an English acquaintance of Olmsted, published his book *The Wild Garden* in 1870. Olmsted was undoubtedly also aware of Martin Johnson Heade's contemporary paintings depicting marshes along Boston's North Shore.
20. Such views were common at the time, and Olmsted discussed them frequently in relation to his work. See, for example, Olmsted 1865 and 1887.
21. See Zaitzevsky 1982, page 196, for quotations of Olmsted's and Sargent's disagreement on this subject.
22. See Scherer and Artig 1983. At its most extreme, contemporary environmentalism can even sound antibuman. Ian McHarg still refers to humans as a "planetary disease," the phrase he used in *Design with Nature* (1969). Despite misanthropic rhetoric, McHarg has close links to the earlier regionalist movement through his mentor Lewis Mumford.
23. From *idein*, "to see." *Webster's New International Dictionary*, second edition, unabridged (Merriam, 1955).
24. V. Dahlerup, *Ordbog over det Danske Sprog* (Nordisk, Copenhagen, 1931); J.

Grimm and W. Grimm, *Deutsches Wörterbuch* (Verlag von S. Hirzel, 1885); A. R. Borden Jr., *A Comprehensive Old English Dictionary* (University Press of America, 1982). For a review of the histories of the words *landscape*, *nature*, *land*, and *country* in English, German, and Scandinavian languages, see Olwig 1996. See also Jackson 1984, 3–8. I am grateful to Andre Wink for the translation and interpretation of J. Heinsios, *Woordenboek der Nederlandsche Taale* (Martinus Nijhoff, A. W. Sijthoff, 1916).

25. *Webster's New Universal Unabridged Dictionary* (New York: Simon and Schuster, 1983) and *Oxford English Dictionary* (Oxford: Oxford University Press, 1989).